September 28, 2023 File No. 2522268.00

Ms. Allison Rathsack, Project Manager Dane County Department of Waste & Renewables 1919 Alliant Energy Center Way Madison, WI 53713

Subject: Preliminary Reduced WisDOT Pond B Footprint Evaluation

Proposed Dane County Landfill No. 3 - 7101 US Highway 12&18, Madison, WI

Dear Ms. Rathsack:

As requested, SCS Engineers (SCS) conducted a preliminary evaluation of the Wisconsin Department of Transportation (WisDOT) Pond B built as part of the CTH AB Interchange Project and adjacent to the proposed Dane County Landfill No. 3 site (Proposed Landfill). The purpose of the evaluation was to determine if a portion of Pond B could be reduced to improve access to the Proposed Landfill, developed as part of a future Sustainability Campus while still meeting applicable storm water performance standards and not adversely impact upstream and downstream storm water features.

This letter summarizes our approach, key assumptions, and results of the evaluation.

PRELIMINARY POND B FOOTPRINT REDUCTION EVALUATION

Approach

To determine if the footprint of Pond B could be reduced, SCS:

- Started with the storm water model from Tetra Tech, with adjustments made by SCS to correct discrepancies for post-development conditions of the WisDOT Project. The minor adjustments for post-development conditions are described in **Attachment 1**.
- Modified the drainage area to Pond B for development of the Sustainability Campus assuming:
 - Five acres of pervious area are converted to 5 acres of impervious area. This
 assumption is intended to reflect an assumed 5 acres of the Sustainability Campus
 draining to Pond B, provided by Dane County.
 - None of the proposed landfill was yet constructed. This is conservative as a portion of the Proposed Landfill lies within the drainage area to Pond B. As the Proposed Landfill is developed, runoff from the Proposed Landfill will be directed to a new pond and the drainage area to Pond B will be reduced.
- Modified the southeast portion of the footprint of Pond B to provide additional space for access roads into the Sustainability Campus.



- Ran the HydroCAD model to evaluate the performance of Pond B and potential impacts
 to upstream and downstream features for the storm events that the features were
 originally designed for. In addition, the performance of Pond B was evaluated for
 compliance with the City and County performance standards.
- Modified the top of berm height and emergency spillway design on Pond B with the reduced footprint size until the performance standards were met while not causing overtopping of upstream or downstream features.

Key Assumptions

Below are key assumptions for the preliminary evaluation:

- Our evaluation utilized the following storm water models as a basis for the evaluation:
 - Pre-development conditions: SCS used the pre-development storm water model prepared by SEH for the WisDOT Project.
 - Post-development conditions: SCS used the Tetra Tech model developed on behalf of Dane County Waste & Renewables Department, which was based on the SEH post-development storm water model for the WisDOT Project. Tetra Tech made some minor revisions to the SEH model including adjustments to the rainfall depths, storm events evaluated, and acreage changes in subcatchments. SCS made additional adjustments to correct discrepancies for the post-development conditions, as described in Attachment 1.
- The evaluation considers a 5-acre, impervious area from the Sustainability Campus and the existing drainage area within the footprint of the Proposed Landfill flowing into the WisDOT Pond B. This reflects the largest anticipated area drainage to Pond B throughout the construction of the Sustainability Campus. As the Proposed Landfill is developed, less area will contribute storm water to the pond, compared to the existing drainage area prior to the Proposed Landfill development.
- The following proposed modifications can be made to Pond B:
 - Raise the perimeter berm, extending around the entire Pond B, by 1 foot to an elevation of 878.00 feet mean sea level (MSL) from the current elevation of 877.00 feet MSL.
 - Raise the bottom of the emergency spillway by 0.40 foot to an elevation of 876.40 feet MSL from the current elevation of 876.00 feet MSL.
- Other assumptions are included in the storm water calculations write-up included in
 Attachment 1.

Results

Based on preliminary modeling, Pond B can be reduced and still meet the following performance criteria:

- Upstream and downstream features do not overtop for the storm events that they were originally designed for.
- The discharge rate comparison is met for the required storm events (1-, 2-, 5-, 10-, 100-, and 200-year, 24-hour storms).
- Reduced Pond B can meet the required water quality (total suspended solids and total phosphorus) performance standards.
- Pond B does not overtop the pond crest elevation up to and including the 500-year,
 24-hour storm event.

Summarized below are the Pond B modifications that were made to adjust the Pond B geometry, peak elevation, and emergency spillway to achieve the performance criteria:

- The perimeter berm was raised to elevation 878.00 feet MSL.
- The bottom of the emergency spillway was modified to elevation 876.40 feet MSL.
- The footprint of Pond B was modified as shown on Figure 2 in **Attachment 1**, with the surface area of each Pond B contour shown below for the original design and modified design. Plan Sheet 3 in the CUP plan set also shows the original footprint of Pond B, as well as the reduced footprint resulting from this analysis.

Table 1 - WisDOT Pond B Elevation - Surface Area Comparison								
Elevation Original WisDOT Pond B Design SCS Reduced WisDOT Pond								
(ft. MSL)	Surface Area (acres)	Design Surface Area (acres)						
871.00	3.033	2.930						
872.00	3.251	3.134						
872.50	5.890	5.890						
873.00	6.982	6.100						
874.00	7.226	6.376						
875.00	7.473	6.599						
876.00	7.748	6.861						
877.00	7.991	7.228						
878.00	N/A	7.451						

With the reduced footprint shown on Figure 2 in **Attachment 1** and the Pond B design modifications described in the Key Assumptions section above, the pre- vs. post-development peak discharge rates and water quality standards will continue to be met, as summarized in the storm water calculations package included in **Attachment 1**.

CONCLUSION

Based on the preliminary modeling and assumptions, the Pond B footprint can be reduced as shown on Figure 2 in **Attachment 1** and Plan Sheet 3 of the CUP plan set while maintaining compliance with

Ms. Allison Rathsack September 28, 2023 Page 4

applicable storm water regulations. Additional verification of Pond B sizing and performance will be performed as the Sustainability Campus designs progress.

If you have any questions, please contact Betsy at 608.333.5408 or bpowers@scsengineers.com.

Sincerely,

Spencer J. LaBelle

Senior Project Professional

SCS Engineers

Betsy Powers, PE

Vice President

SCS Engineers

Enclosure: Attachment 1 - Storm Water Management Calculations

SJL/AJR/MRH/BLP

Attachment 1 Storm Water Management Calculations

	SHEET NO.	1 of 4				
	CALC. NO.					
REV. NO.			2			
	ВҮ	SJL	DATE	9/11/23		
	CHK'D.	MRH	DATE	9/25/23		

Job No.	25222268.00	Job	Proposed Landfill No. 3
Client	Dane County	Subject	WisDOT Pond B Evaluation

Storm Water Management Calculations

Purpose:

The purpose of the WisDOT Pond B evaluation is to demonstrate an acceptable design of a reduced WisDOT Pond B footprint using the following performance criteria:

- Upstream and downstream features do not overtop for the storm events that they were original designed for (up to the 100-year, 24-hour storm)
- The discharge rate comparison (pre-development vs post-development) is met for the required storm events (1-, 2-, 5-, 10-, 100-, and 200-year, 24-hour storms) at the Ag Ditch outfall
- The discharge rate comparison (pre-development vs post-development) is met for the 100-year, 24 hour storm event at the Existing Depression #2.
- The WisDOT Pond B does not overtop the pond crest elevation up to and including the 500-year, 24-hour storm event
- Reduce Total Suspended Solids (TSS) by at least 80% and Total Phosphorus (TP) by at least 54%

The calculations support the capacity check of the Reduced WisDOT Pond B design for a storm water model that reflects the largest anticipated area draining to the pond throughout the construction of the Proposed Landfill and Sustainability Campus, based on a currently assumed 5 acres of Sustainability Campus contributing to the pond as directed by Dane County and the existing drainage area within the footprint of the Proposed Landfill flowing into Pond B. As the Proposed Landfill is developed, less area will contribute storm water to the pond, compared to the existing drainage area prior to the Proposed Landfill development.

The performance criteria must be met for the model scenario to be considered an acceptable design.

Approach:

Hydrograph Generation

HydroCAD was used to model the pre-development condition and post-development model scenarios. The pre-development conditions were modeled by SEH as part of the County Trunk Highway (CTH) AB and US Highway 12/18 interchange project (WisDOT Project).

The post-development model was also prepared by Tetra Tech with adjustments made by SCS Engineers to correct discrepancies.

- In the post-development model, SCS created a new subcatchment for the Sustainability Campus adjusted a subcatchment area (YH2-A), adjusted the WisDOT Pond B outlet structure elevation and pond geometry inputs based on the final WisDOT design plans.
- For both the pre-development and post-development models, SCS updated the rainfall depths to match those specified in the City of Madison ordinance.

The hydrographs for the storm water model were generated using TR-20 methodologies. The models were designed to simulate the surface runoff response of a watershed to a precipitation event. Input parameters for the models include precipitation depth for the design storm events from the City of Madison storm water requirements established in Chapter 37.09(3)(c)(2)(a-h), contributing drainage areas, runoff curve numbers, and time of concentration.

WinSLAMM Analysis

WinSLAMM was used to model the TSS and TP reduction. The Scenario 3 model prepared by Vierbicher, which was based on SEH model, was used with the same modifications noted above to correct discrepancies. Pond B was modified to account for the reduced basin size and proposed changes to the emergency spillway and top of berm elevation.

SHEET NO.	2 of 4				
CALC. NO.					
REV. NO.		2			
BY	SJL	DATE	9/11/23		
CHK'D.	MRH	DATE	9/25/23		

Job No.	25222268.00	Job	Proposed Landfill No. 3
Client	Dane County	Subject	WisDOT Pond B Evaluation

Reduced WisDOT Pond B Evaluation

The Reduced WisDOT Pond B is the only storm water feature evaluated as part of this calculation. The evaluation considers the performance criteria described above. HydroCAD was used to model the runoff flow through the Reduced WisDOT Pond B (as determined by the Hydrograph Generation model).

Key Assumptions:

- Drainage areas and time of concentration flow paths for the pre-development and postdevelopment conditions are shown in **Figure 1** and **Figure 2**.
- The discharge comparison location for the pre-development vs. post-development model scenarios is the Ag Ditch #4 location in which the initial SEH model utilized.
- An MSE4 rainfall distribution was used based on the City of Madison, Chapter 37.09(3)(c)(2) requirement. A summary of the storm event depths is provided below:

Storm Event	Depth (in)
1-year, 24-hour	2.49
2-year, 24-hour	2.84
5-year, 24-hour	3.45
10-year, 24-hour	4.09
100-year, 24-hour	6.66
200-year, 24-hour	7.53
500-year, 24-hour	8.94

• Runoff curve numbers for subcatchments changed by SCS Engineers were based on tables presented in Urban Hydrology for Small Watersheds, as summarized below.

Cover Type	CN
Urban Industrial Run-off	91 – Urban Industrial, 72% impervious, hydrologic soil
	group (HSG) C

Other assumptions are included with the calculations attached to this appendix.

Results:

Hydrograph Generation

The hydrograph modeling results for all modeled storm events are included in the pre-development and post-development model Hydrograph Generation section.

Reduced WisDOT Pond B Evaluation

As shown in the attached post-development storm water model, upstream and downstream features do not overtop for the storm events that they were original designed for (up to the 100-year, 24-hour storm). The Reduced WisDOT Pond B has the capacity to meet the discharge comparison requirements summarized below and does not overtop the pond crest elevation up to and including the 500-year, 24-hour storm event. Refer to the Pre-development and Post-development Hydrograph Generation attachments for the detailed ouput.

Job

Subject

Job No. 25222268.00

Dane County

Client

	SHEET NO.	3 of 4					
	CALC. NO.						
REV. NO.			2				
	ВҮ	SJL	DATE	9/11/23			
	CHK'D.	MRH	DATE	9/25/23			

Storm Water Model Evaluation Summary									
Storm Event	Pre-Development Conditions	•							
	Discharge Rate (cfs) to	Discharge Rate (cfs) to	Elevation (ft. MSL)						
	Ag Ditch #4	Ag Ditch #4	Crest = 878.00						
1-year, 24-hour	30.15	25.13	872.60						
2-year, 24-hour	41.71	34.29	872.82						
5-year, 24-hour	63.97	52.13	873.22						
10-year, 24-hour	89.77	73.43	873.63						
100-year, 24-hour	210.27	200.42	876.19						
200-year, 24-hour	508.42	241.65	876.91						
500-year, 24-hour	N/A	N/A	877.52						

Proposed Landfill No. 3

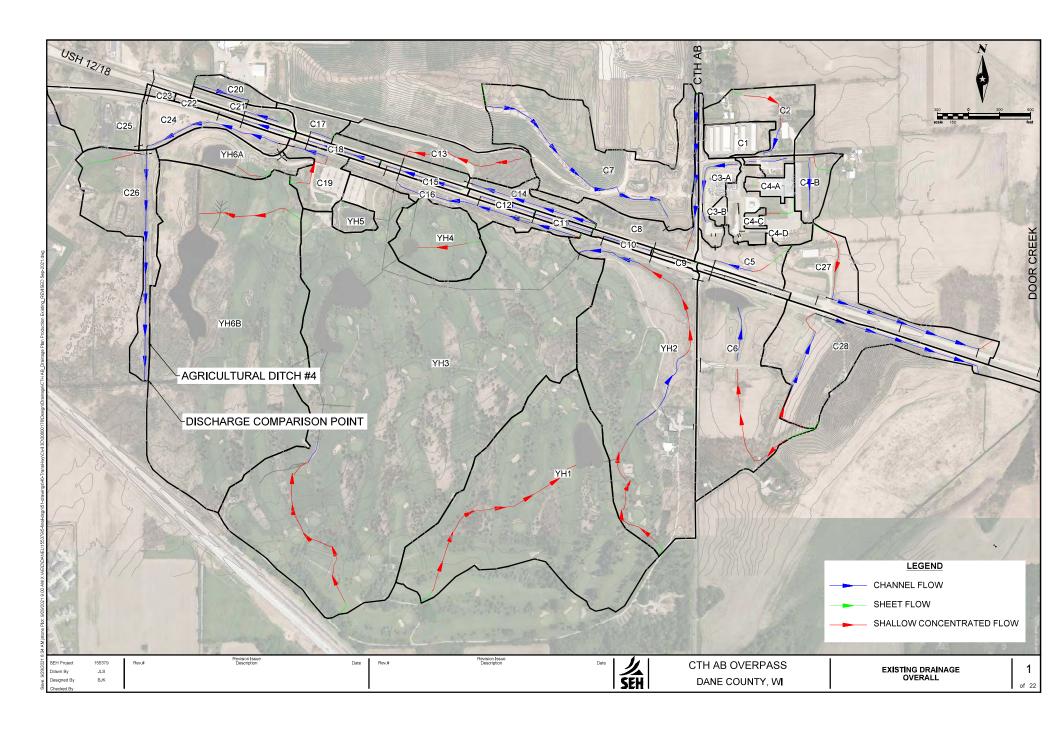
WisDOT Pond B Evaluation

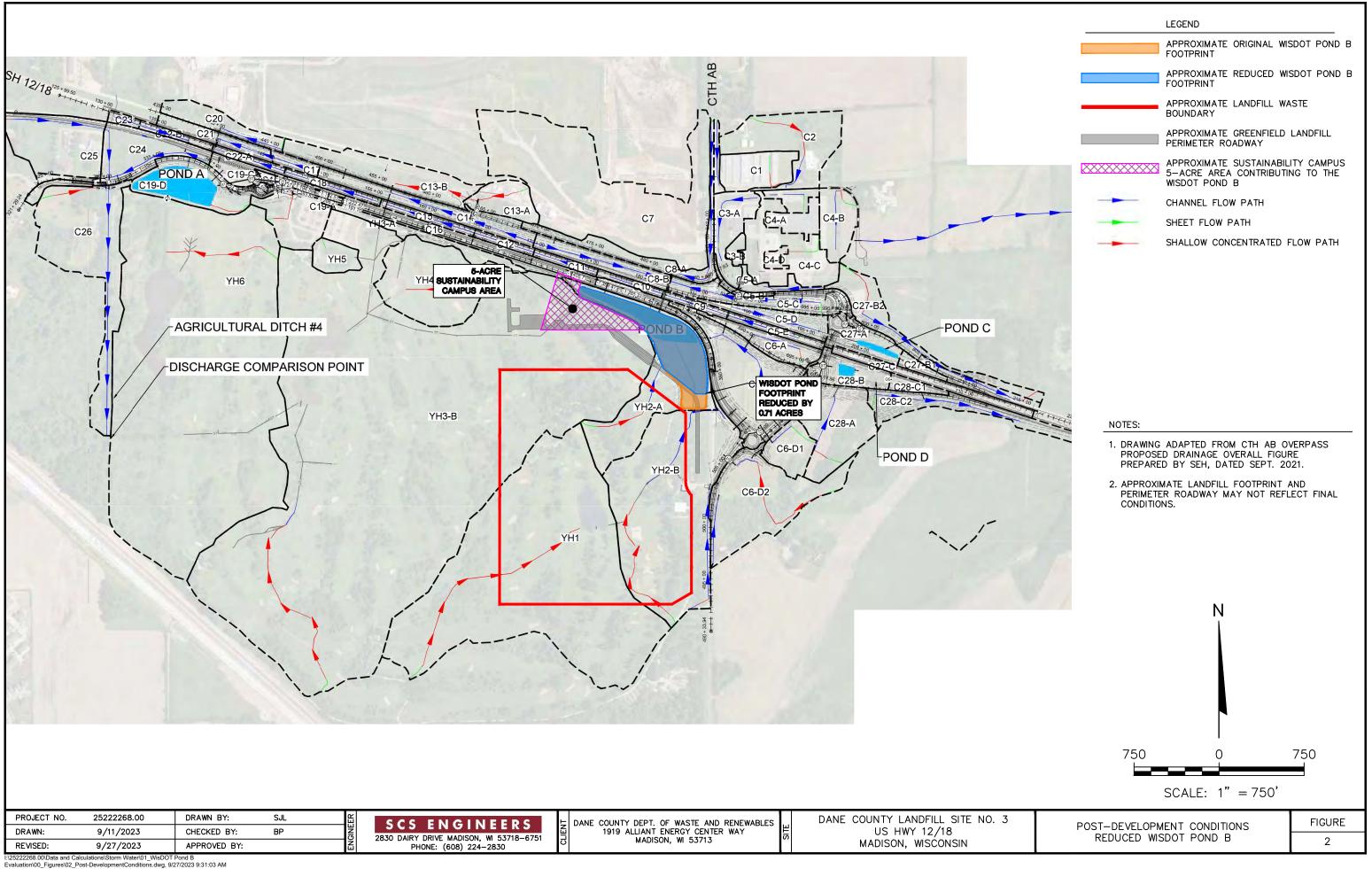
The pre- and post-development 100-year, 24-hour discharge rate at the Existing Depression #2 and WisDOT Pond B are as follows:

- Pre-development at Existing Depression #2 = 111.96 cfs
- Post-development from Reduced WisDOT Pond B = 66.30 cfs

The Reduced WisDOT Pond B removes 84.3% TSS and 64.6% TP, meeting the minimum standards (refer to the WinSLAMM model attachment for detailed results).

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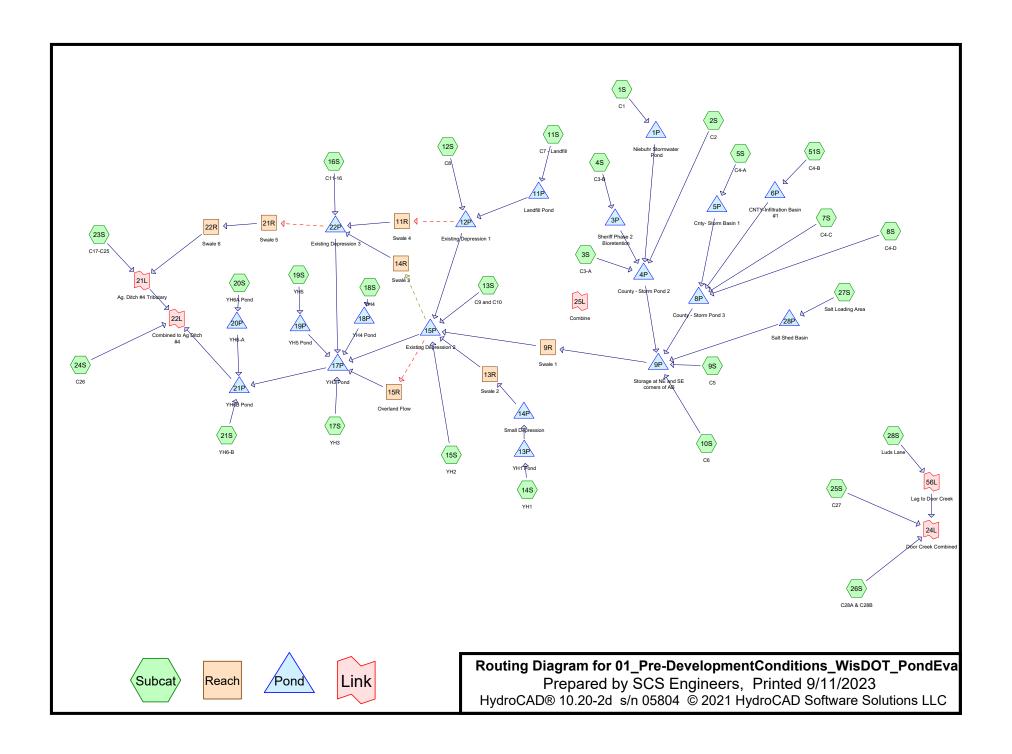


HydroCAD Output Files

- Pre-Development Conditions Model
- Post-Development Conditions Model

HydroCAD Output Files

• Pre-Development Conditions Model



01_Pre-DevelopmentConditions_WisDOT_PondEvalPrepared by SCS Engineers HydroCAD® 10.20-2d s/n 05804 © 2021 HydroCAD Software Solutions LLC

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Rainfall Events Listing (selected events)

Event#	Event	Storm Type	Curve	Mode	Duration	B/B	Depth	AMC
	Name				(hours)		(inches)	
1	1-yr	MSE 24-hr	4	Default	24.00	1	2.49	2
2	2-yr	MSE 24-hr	4	Default	24.00	1	2.84	2
3	5-yr	MSE 24-hr	4	Default	24.00	1	3.45	2
4	10-yr	MSE 24-hr	4	Default	24.00	1	4.09	2
5	100-yr	MSE 24-hr	4	Default	24.00	1	6.66	2
6	200-yr	MSE 24-hr	4	Default	24.00	1	7.53	2

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Page 2

Summary for Subcatchment 1S: C1

Runoff = 10.37 cfs @ 12.13 hrs, Volume= 0.534 af, Depth= 1.37"

Routed to Pond 1P: Niebuhr Stormwater Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	ription		
*	3.	370	98				
	1.	300	61	>75%	√ Grass co	over, Good	d, HSG B
	4.670 88 Weighted Average					age	
	1.	1.300 27.84% Pervious Area				us Area	
	3.370 72.16% Impervious Area			6% Imperv	ious Area		
	Tc (min)	Leng		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
_		(lee	ι)	(II/II)	(IVSEC)	(CIS)	
	6.0						Direct Entry,

Summary for Subcatchment 2S: C2

Runoff = 1.89 cfs @ 12.55 hrs, Volume= 0.286 af, Depth= 0.35"

Routed to Pond 4P: County - Storm Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac) C	N Des	cription		
*	1.	020 9	98			
	5.655 61 >75% Gra				over. Good	. HSG B
					omb., Goo	
*					R + CR, Go	
_				ghted Aver		
		7 4 5 (,	3% Pervio	•	
		020			/ious Area	
	١.	020	10.4	70 IIIIpei	nous Alea	
	Тс	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	Boomphon
_	7.9	91	0.0830	0.19	(3.5)	Sheet Flow,
	1.5	01	0.0000	0.10		Grass: Dense n= 0.240 P2= 2.84"
	6.4	59	0.0300	0.15		Sheet Flow,
	0.4	33	0.0000	0.10		Cultivated: Residue>20% n= 0.170 P2= 2.84"
	11.9	573	0.0080	0.80		Shallow Concentrated Flow,
	11.9	373	0.0000	0.00		· · · · · · · · · · · · · · · · · · ·
	3.3	337	0.0030	1.69	11 17	Cultivated Straight Rows Kv= 9.0 fps Channel Flow,
	3.3	331	0.0030	1.09	11.17	Area= 6.6 sf Perim= 13.4' r= 0.49' n= 0.030
	4.4	224	0.0050	2.24	10.40	
	1.1	224	0.0050	3.31	10.40	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
_						n= 0.020 Corrugated PE, corrugated interior
_	20.6	1 201	Total			n= 0.020 Corrugated PE, corrugated interior

30.6 1,284 Total

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Summary for Subcatchment 3S: C3-A

Runoff = 7.53 cfs @ 12.35 hrs, Volume= 0.687 af, Depth= 1.17"

Routed to Pond 4P: County - Storm Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac) C	N Desc	cription		
*)8 74 >759	% Grass c	over, Good	, HSG B
	0.	273	98 Wate	er Surface	, HSG B	
	7.043 8		35 Weig	ghted Aver	rage	
	3.	870	54.9	5% Pervio	us Area	
	3.	173	45.0	5% Imper	vious Area	
	Тс	Length	Slope	Velocity		Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	12.1	86	0.0260	0.12		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.84"
	0.9	68	0.0220	1.25		Sheet Flow,
	0.4	4 000	0.0050	4.00	45.40	Smooth surfaces n= 0.011 P2= 2.84"
	9.1	1,026	0.0050	1.88	15.43	•
						Bot.W=0.00' D=1.00' Z= 8.2 '/' Top.W=16.40'
	4.4	224	0.0050	0.76	0.00	n= 0.035
	1.4	224	0.0050	2.76	8.66	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.024
	0.1	59	0.0056	7.06	49.91	Pipe Channel,
	0.1	33	0.0000	7.00	49.91	36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'
						n= 0.013
_	23.6	1,463	Total			0.0.0
	20.0	1,400	i otai			

Summary for Subcatchment 4S: C3-B

Runoff = 2.06 cfs @ 12.13 hrs, Volume= 0.110 af, Depth= 1.77" Routed to Pond 3P : Sheriff Phase 2 Bioretention

	Area (ac)	CN	Description
*	0.580	98	
*	0.165	74	>75% Grass cover, Good, HSG B
	0.745	93	Weighted Average
	0.165		22.15% Pervious Area
	0.580		77.85% Impervious Area

01_Pre-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 1-yr Rainfall=2.49"

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry,

Summary for Subcatchment 5S: C4-A

Runoff = 6.36 cfs @ 12.13 hrs, Volume= 0.344 af, Depth= 1.86"

Routed to Pond 5P: Cnty-Storm Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription		
*	2.	010	98				
	0.	210	61	>75%	% Grass co	over, Good	H, HSG B
	2.220 94 Weighted Average						
	0.210 9.46% Pervious Area						
	2.010			90.5	4% Imperv	ious Area	
	Тс	Lengt	th S	Slope	Velocity	Capacity	Description
	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 7S: C4-C

Runoff = 1.08 cfs @ 12.14 hrs, Volume= 0.055 af, Depth= 0.99"

Routed to Pond 8P: County - Storm Pond 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription		
*	0.	230	98				
*	0.	440	74	>759	% Grass co	over, Good	I, HSG B
	0.670 82 Weighted Average				ghted Aver	age	
	0.440 65.67% Pervious Area					us Area	
	0.230		34.33% Impervious Area				
	Tc	Leng	•	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 8S: C4-D

Runoff = 19.99 cfs @ 12.13 hrs, Volume= 1.030 af, Depth= 1.37" Routed to Pond 8P : County - Storm Pond 3

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MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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	Area (a	ıc)	CN	Desc	cription					
*	6.03	30	98							
	2.03	30	61	>75%	% Grass co	over, Good	I, HSG B			
*	0.64	40	74	>75%	75% Grass cover, Good, HSG C					
	0.30	00	98	Wate	er Surface,	HSG B				
	9.000 88 Weighted Average									
	2.6	70		29.6	7% Pervio	us Area				
	6.33	30		70.3	70.33% Impervious Area					
	Tc l	₋engtl	n	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	6.0						Direct Entry,			

Summary for Subcatchment 9S: C5

Runoff = 5.70 cfs @ 12.27 hrs, Volume= 0.466 af, Depth= 0.69"

Routed to Pond 9P: Storage at NE and SE corners of AB

	Area (ac)		CN Des	cription				
*	2.	270	98					
	2.	940	61 >75	% Grass c	over, Good	, HSG B		
	0.	144		75% Grass cover, Good, HSG C				
*					R + CR, Go	od, HSG B		
	0.	494	86 Fallo	ow, bare so	oil, HSG B			
	8.	125	76 Wei	ghted Aver	age			
		855		6% Pervio				
	2.	270	27.9	4% Imper	vious Area			
	-		01		0 "	D		
	Tc	Length			Capacity	Description		
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	1.9	220	0.0370	1.94		Sheet Flow,		
	8.7	90	0.0060	0.45		Smooth surfaces n= 0.011 P2= 2.84"		
	0.7	80	0.0260	0.15		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.84"		
	2.5	188	0.0200	1.27		Shallow Concentrated Flow,		
	2.5	100	0.0200	1.21		Cultivated Straight Rows Kv= 9.0 fps		
	2.3	380	0.0090	2.70	59.39	Trap/Vee/Rect Channel Flow,		
	2.0	000	0.0000	2.10	00.00	Bot.W=4.00' D=1.00' Z= 6.0 & 30.0 '/' Top.W=40.00'		
						n= 0.035		
	1.0	193	0.0010	3.23	22.85	Pipe Channel,		
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'		
						n= 0.012		
	16.4	1,061	Total					

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Summary for Subcatchment 10S: C6

Runoff = 6.71 cfs @ 12.93 hrs, Volume= 1.300 af, Depth= 0.45"

Routed to Pond 9P: Storage at NE and SE corners of AB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area (ac)		CN	Des	cription						
*	1.	864	98								
	7.	605	61	>759	% Grass co	over, Good	, HSG B				
	5.	438				over, Good					
	5.852					s/grass comb., Good, HSG B					
*	_	844		Row crops, SR + CR, Good, HSG B							
*		269		Row crops, SR + CR, Good, HSG C							
_		750		Water Surface, HSG B							
	_	622		•	ghted Aver	•					
		.008			5% Pervio						
	2.	614		7.55	% Impervi	ous Area					
	-	1 41	. 01		V/-1	0 :1	December				
	Tc	Length		ope	Velocity	Capacity	Description				
_	(min)	(feet		ft/ft)	(ft/sec)	(cfs)	01 (5)				
	26.9	300) 0.1	190	0.19		Sheet Flow,				
	6.6	201	395 0.0400		0 1.00		Woods: Light underbrush n= 0.400 P2= 2.84"				
	0.0	390	595 0.0400		1.00		Shallow Concentrated Flow, Woodland Kv= 5.0 fps				
	3.5	218	3 N N	440	1.05		Shallow Concentrated Flow,				
	0.0	210	0.0	770	1.00		Woodland Kv= 5.0 fps				
	15.6	688	3 0.0	067	0.74		Shallow Concentrated Flow,				
					• • • • • • • • • • • • • • • • • • • •		Cultivated Straight Rows Kv= 9.0 fps				
	0.5	74	1 0.0	050	2.65	8.32					
							24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
							n= 0.025				
	3.7	529	0.0	060	2.41	38.62	Trap/Vee/Rect Channel Flow,				
							Bot.W=0.00' D=1.00' Z= 16.0 '/' Top.W=32.00'				
_							n= 0.030				
	56.8	2,204	4 Tot	tal							

Summary for Subcatchment 11S: C7 - Landfill

Runoff = 32.57 cfs @ 12.19 hrs, Volume= 2.095 af, Depth= 0.88"

Routed to Pond 11P: Landfill Pond

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_	Area	(ac)	CN	Des	Description							
	0.	0.440 96 Gravel surface, HSG B										
	27.730 80 >75% Grass cover, Good, HSG D											
_	0.330 98 Water Surface, HSG B											
	28.500 80 Weighted Average											
	28.170 98.84% Pervious Area					us Area						
	0.	330		1.16	1.16% Impervious Area							
	Tc	Leng	ıth	Slope	Velocity	Capacity	Description					
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)						
	11 0						Direct Entry	TOC from Landfill's SWMP				

11.0

Direct Entry, TOC from Landfill's Swift

Summary for Subcatchment 12S: C8

5.01 cfs @ 12.19 hrs, Volume= Runoff

0.352 af, Depth= 0.49"

Routed to Pond 12P: Existing Depression 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac) (CN Des	cription						
*	1.	380	98							
	4.420 61		61 >75	% Grass c	over, Good	, HSG B				
	0.	200	74 >75	>75% Grass cover, Good, HSG C						
	2.	540	72 Woo	ods/grass o	comb., Goo	d, HSG C				
_	0.	150	98 Wat	er Surface	, HSG B					
	8.	690	71 Wei	Weighted Average						
	7.	160	82.3	9% Pervio	us Area					
	1.	530	17.6	31% Imper	∕ious Area					
	_									
	Tc	Length	•	•	Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	0.6	31	0.0140	0.89		Sheet Flow,				
						Smooth surfaces n= 0.011 P2= 2.84"				
	1.6	10	0.0520	0.10		Sheet Flow,				
		4 000	0.0470		44.70	Grass: Dense n= 0.240 P2= 2.84"				
	5.6	1,329	0.0170	3.93	11.78	Trap/Vee/Rect Channel Flow,				
						Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00'				
	4 7	400	0.0500	4.04		n= 0.030				
	1.7	168	0.0530	1.61		Shallow Concentrated Flow,				
_						Short Grass Pasture Kv= 7.0 fps				
	9.5	1,538	Total							

Summary for Subcatchment 13S: C9 and C10

3.87 cfs @ 12.13 hrs, Volume=

0.199 af, Depth= 1.37"

Routed to Pond 15P: Existing Depression 2

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	Area (a	ac) (CN	Desc	ription		
*	1.2	15	98				
	0.3	66	61	>75%	% Grass co	over, Good	d, HSG B
	0.1	60	74	>75%	√ Grass co	over, Good	d, HSG C
	1.7	41	88	Weig	hted Aver	age	
	0.526 30.21% Pervious Area						
	1.215 69.79% Impervious Area					ious Area	
	Tc (min)	Length (feet)		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	6.0	• '		, ,	•	, ,	Direct Entry,

Summary for Subcatchment 14S: YH1

Runoff = 8.90 cfs @ 12.99 hrs, Volume= 1.949 af, Depth= 0.35"

Routed to Pond 13P: YH1 Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

Area	(ac)	CN	Desc	cription						
22.	700	61	>75%	% Grass c	over, Good	, HSG B				
27.	890	74	>75%	% Grass c	over, Good	, HSG C				
4.	830	48	Brus	Brush, Good, HSG B						
8.	800	65	Brus	Brush, Good, HSG C						
2.	180	98	Wate	er Surface	, HSG B					
66.	400	67	Weig	hted Aver	age					
64.	220		96.7	2% Pervio	us Area					
2.	2.180			% Impervi	ous Area					
Tc	Length		lope	Velocity	Capacity	Description				
(min)	(feet) (ft/ft)	(ft/sec)	(cfs)					
21.0	150	0.0	200	0.12		Sheet Flow,				
						Grass: Dense n= 0.240 P2= 2.84"				
36.9	2,018	0.0	170	0.91		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
57.9	2,168	3 Tot	tal							

Summary for Subcatchment 15S: YH2

Runoff = 5.00 cfs @ 12.97 hrs, Volume= 1.243 af, Depth= 0.24"

Routed to Pond 15P: Existing Depression 2

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Area	(ac) C	N Desc	cription					
* 4.	098 9	8						
19.	840 6	31 >759	>75% Grass cover, Good, HSG B					
10.	130 7	'4 >75°	>75% Grass cover, Good, HSG C					
4.	830 5	8 Woo	Woods/grass comb., Good, HSG B					
			Brush, Good, HSG B					
10.	280 6	55 Brus	h, Good, I	HSG C				
_			hted Aver					
_	880		9% Pervio					
4.	098	6.61	% Impervi	ous Area				
т.	1 41.	01	V / . I ! f	0	Describetion			
	Length	Slope		Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	Oh a st Elem			
15.4	150	0.0430	0.16		Sheet Flow,			
17.0	1 216	0.0000	1 17		Grass: Dense n= 0.240 P2= 2.84"			
17.3	1,216	0.0280	1.17		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps			
0.7	206	0.0100	4.91	3.86	• • • • • • • • • • • • • • • • • • •			
0.7	200	0.0100	4.31	3.00	12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'			
					n= 0.012			
1.6	234	0.0040	2.38	38.12				
1.0	201	0.0010	2.00	00.12	Bot.W=8.00' D=1.00' Z= 8.0 '/' Top.W=24.00'			
					n= 0.030			
0.1	35	0.0140	9.23	29.00				
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
					n= 0.012			
3.8	591	0.0130	2.58	51.61	Trap/Vee/Rect Channel Flow,			
					Bot.W=10.00' D=1.00' Z= 10.0 '/' Top.W=30.00'			
					n= 0.050			
8.3	745	0.0100	1.50		Shallow Concentrated Flow,			
					Grassed Waterway Kv= 15.0 fps			
4.9	608	0.0080	2.09	36.53	Trap/Vee/Rect Channel Flow,			
					Bot.W=10.00' D=1.00' Z= 10.0 & 5.0 '/' Top.W=25.00'			
					n= 0.050			
52.1	3,785	Total						

Summary for Subcatchment 16S: C11-16

Runoff = 9.90 cfs @ 12.27 hrs, Volume= 0.966 af, Depth= 0.38" Routed to Pond 22P : Existing Depression 3

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	Area	(ac)	CN	Desc	cription				
*	5.	910	98						
	18.	130	61	>75% Grass cover, Good, HSG B					
	1.	510	74	>75% Grass cover, Good, HSG C					
	3.	010	55	Woo	ds, Good,	HSG B			
	0.	570	70	Woods, Good, HSG C					
_	1.	090	48	Brus	Brush, Good, HSG B				
	30.	220	68	Weig	ghted Aver	age			
	24.	310		80.4	4% Pervio	us Area			
	5.	5.910		19.5	6% Imperv	/ious Area			
	Тс	Length		Slope	•	Capacity	Description		
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	0.3	23	0.0	0530	1.43		Sheet Flow,		
							Smooth surfaces n= 0.011 P2= 2.84"		
	2.5	23	3 0.0	0920	0.15		Sheet Flow,		
		_					Grass: Dense n= 0.240 P2= 2.84"		
	0.6	64	0.0	0120	1.64		Shallow Concentrated Flow,		
	44.0	4 00-		0070	0.70	40.00	Grassed Waterway Kv= 15.0 fps		
	11.0	1,807	0.0	0078	2.73	16.93	Trap/Vee/Rect Channel Flow,		
							Bot.W=0.00' D=1.00' Z= 4.8 & 7.6 '/' Top.W=12.40'		
	44.4	4.045					n= 0.030		
	14.4	1,917	' lo	otal					

Summary for Subcatchment 17S: YH3

Runoff = 12.41 cfs @ 12.93 hrs, Volume= 3.192 af, Depth= 0.22"

Routed to Pond 17P: YH3 Pond

	Area (ac)	CN	Description
*	2.600	98	
	106.380	61	>75% Grass cover, Good, HSG B
	26.310	74	>75% Grass cover, Good, HSG C
	31.110	48	Brush, Good, HSG B
	6.590	65	Brush, Good, HSG C
	4.200	98	Water Surface, HSG B
	177.190	62	Weighted Average
	170.390		96.16% Pervious Area
	6.800		3.84% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.8	150	0.0230	0.13		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.84"
25.0	1,662	0.0250	1.11		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
1.2	219	0.0090	2.95	29.50	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 10.0 '/' Top.W=20.00'
					n= 0.030
2.5	885	0.0110	5.98	7.34	Pipe Channel,
					15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'
					n= 0.012
48.5	2,916	Total			

Summary for Subcatchment 18S: YH4

Runoff = 2.09 cfs @ 12.41 hrs, Volume= 0.299 af, Depth= 0.29"

Routed to Pond 18P: YH4 Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

 Area	(ac) (CN	Desc	cription				
9.	9.630 61 >75% Grass cover, Good, HSG B							
2.	070	74	>75%	% Grass co	over, Good	, HSG C		
 0.	520	98	Wate	er Surface,	, HSG A			
 12.	220	65	Weig	hted Aver	age			
11.	700		95.7	4% Pervio	us Area			
0.	520		4.26	4.26% Impervious Area				
				•				
Tc	Length	ı S	lope	Velocity	Capacity	Description		
(min)	(feet)		(ft/ft)	(ft/sec)	(cfs)	'		
13.0	150	0.0	0660	0.19	• •	Sheet Flow,		
						Grass: Dense n= 0.240 P2= 2.84"		
8.6	470	0.0	170	0.91		Shallow Concentrated Flow,		
						Short Grass Pasture Kv= 7.0 fps		
21.6	620	To	tal			· •		

Summary for Subcatchment 19S: YH5

Runoff = 3.15 cfs @ 12.15 hrs, Volume= 0.173 af, Depth= 0.88"

Routed to Pond 19P: YH5 Pond

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	Area	(ac)	CN	Desc	ription								
*	0.	330	98										
	1.	130	61										
	0.	890	98	Wate	er Surface	, HSG A							
	2.	350	80	Weig	hted Aver	age							
	1.	130		48.0	9% Pervio	us Area							
1.220 51.91% I				51.9	1% Imper\	/ious Area							
	Tc (min)	Lengt		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description						
	0.2	1	1 (0.0300	0.98		Sheet Flow,						
	7.1	8	37 (0.1000	0.20		Smooth surfaces n= 0.011 P2= 2.84" Sheet Flow, Grass: Dense n= 0.240 P2= 2.84"						
	7.3	9	8	Total									

Summary for Subcatchment 20S: YH6A Pond

Runoff = 5.99 cfs @ 12.26 hrs, Volume= 0.487 af, Depth= 0.64"

Routed to Pond 20P: YH6-A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription		
*	0.	780	98				
	2.	870	61	>75%	√ Grass co	over, Good	, HSG B
	4.	020	73	Brus	h, Good, F	HSG D	
	1.	400	98	Wate	er Surface	, HSG C	
	9.	070	75	Weig	hted Aver	age	
	6.	890		75.9	6% Pervio	us Area	
	2.	180		24.04	4% Imper	/ious Area	
	Tc (min)	Lengt (feet		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	12.3	15	0 0.	.0750	0.20		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.84"
	3.4	28	5 0.	.0390	1.38		Shallow Concentrated Flow,
_							Short Grass Pasture Kv= 7.0 fps
	15.7	43	5 T	otal			

Summary for Subcatchment 21S: YH6-B

Runoff = 15.78 cfs @ 12.62 hrs, Volume= 2.670 af, Depth= 0.32"

Routed to Pond 21P: YH6B Pond

01_Pre-DevelopmentConditions_WisDOT_PondEvalPrepared by SCS Engineers

MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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	Area	(ac) (CN [Desc	cription				
54.330 61 >75% Grass cover, Good,							, HSG B		
	4.	340	48 E	Brus	h, Good, F	HSG B			
	7.	610	65 E	Brus	h, Good, F	HSG C			
	26.	640	73 E	Brush, Good, HSG D					
_	6.	480	98 \	Wate	er Surface,	, HSG A			
	99.	400	66 \	Weig	hted Aver	age			
	92.	920	ę	93.48	8% Pervio	us Area			
	6.	480	(6.529	% Impervi	ous Area			
	Tc	Length		ope	Velocity	Capacity	Description		
_	(min)	(feet)	(fl	t/ft)	(ft/sec)	(cfs)			
	19.2	150	0.02	250	0.13		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.84"		
	15.4	889	0.01	190	0.96		Shallow Concentrated Flow,		
							Short Grass Pasture Kv= 7.0 fps		
	34.6	1,039	Tota	al					

Summary for Subcatchment 23S: C17-C25

Runoff = 19.00 cfs @ 12.53 hrs, Volume= 2.301 af, Depth= 0.73"

Routed to Link 21L : Ag. Ditch #4 Tributary

	Area (ac)	CN	Description
*	12.460	98	
	16.840	61	>75% Grass cover, Good, HSG B
	0.360	74	>75% Grass cover, Good, HSG C
	7.960	80	>75% Grass cover, Good, HSG D
	37.620	77	Weighted Average
	25.160		66.88% Pervious Area
	12.460		33.12% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.6	150	0.0720	0.20		Sheet Flow,
2.1	129	0.0210	1.01		Grass: Dense n= 0.240 P2= 2.84" Shallow Concentrated Flow,
'	120	0.0210	1.01		Short Grass Pasture Kv= 7.0 fps
2.8	318	0.0087	1.89		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
0.3	79	0.0830	4.32		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
1.6	341	0.0180	3.54	17.33	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 6.0 & 3.8 '/' Top.W=9.80'
					n= 0.035
0.5	150	0.0050	5.52	17.33	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.012
14.6	1,367	0.0035	1.56	7.81	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 5.0 '/' Top.W=10.00'
					n= 0.035
34.5	2,534	Total			

Summary for Subcatchment 24S: C26

Runoff = 2.16 cfs @ 13.15 hrs, Volume= 0.525 af, Depth= 0.35"

Routed to Link 22L: Combined to Ag Ditch #4

	Area (ac)	CN	Description
*	0.360	98	
	0.140	61	>75% Grass cover, Good, HSG B
	0.040	74	>75% Grass cover, Good, HSG C
	3.940	48	Brush, Good, HSG B
	1.810	65	Brush, Good, HSG C
	11.600	73	Brush, Good, HSG D
	17.890	67	Weighted Average
	17.530		97.99% Pervious Area
	0.360		2.01% Impervious Area

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T (mir	c Leng	gth et)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.	0 1	50	0.0110	0.06	, ,	Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.84"
9.	7 3	880	0.0170	0.65		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
0.	4	58	0.0050	2.76	8.66	Pipe Channel, CMP_Round 24"
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.024
0.	2	59	0.0260	4.99	29.91	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'
						n= 0.030
19.	.3 2,1	77	0.0007	1.88	53.14	Trap/Vee/Rect Channel Flow,
						Bot.W=4.00' D=3.00' Z= 1.8 '/' Top.W=14.80'
						n= 0.030
69.	6 2,8	324	Total			

Summary for Subcatchment 25S: C27

noff = 5.63 cfs @ 12.54 hrs, Volume= Routed to Link 24L : Door Creek Combined Runoff

0.753 af, Depth= 0.52"

	Area	(ac) C	N Des	cription		
*	3.	827	98 impe	ervious		
	8.	477	61 >75°	% Grass c	over, Good	, HSG B
	0.	289	74 >75	% Grass c	over, Good	, HSG C
	0.	246			over, Good	
*					R + CR, Go	
*						od, HSG C
_	0.	490	86 Fallo	ow, bare so	oil, HSG B	
				ghted Aver	_	
		432	_	3% Pervio		
	3.	827	22.1	7% Imper	vious Area	
	т.	ما اسم می ا	Clana	\/alaaitu	Consoitu	December
	Tc (min)	Length		Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	Oh aat Flans
	13.5	150	0.0300	0.18		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.84"
	2.3	150	0.0140	1.06		Shallow Concentrated Flow,
	2.5	130	0.0140	1.00		Cultivated Straight Rows Kv= 9.0 fps
	10.3	482	0.0125	0.78		Shallow Concentrated Flow,
	10.0	102	0.0120	0.10		Short Grass Pasture Kv= 7.0 fps
	7.6	1,570	0.0125	3.45	18.44	•
		,				Bot.W=0.00' D=1.00' Z= 4.0 & 6.7 '/' Top.W=10.70'
						n= 0.030
	0.6	163	0.0800	4.24		Shallow Concentrated Flow,
_						Grassed Waterway Kv= 15.0 fps
	34.3	2.515	Total			

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Summary for Subcatchment 26S: C28A & C28B

Runoff = 2.80 cfs @ 12.65 hrs, Volume= 0.518 af, Depth= 0.29"

Routed to Link 24L: Door Creek Combined

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

_	Area	(ac) C	N Desc	cription		
*	1.	598 9	98 impe	rvious		
	6.	420	31 >7 ⁵ 9	% Grass co	over, Good	, HSG B
	1.	116 8	30 >759	% Grass co	over, Good	, HSG D
	6.	805	55 Woo	ds, Good,	HSG B	
*	5.	229	70 Row	crops, SR	R + CR, Goo	od, HSG B
	21.	168 6	35 Weig	ghted Aver	age	
	19.	570	92.4	5% Pervio	us Area	
	1.	598	7.55	% Impervi	ous Area	
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	16.1	150	0.1070	0.16		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.84"
	1.2	150	0.1730	2.08		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	3.6	365	0.0360	1.71		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	5.3	651	0.0120	2.04	16.34	•
						Area= 8.0 sf Perim= 16.1' r= 0.50' n= 0.050
	2.6	273	0.0390	1.78		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	7.8	1,714	0.0140	3.67	25.72	•
_						Area= 7.0 sf Perim= 14.1' r= 0.50' n= 0.030
	36.6	3,303	Total			

Summary for Subcatchment 27S: Salt Loading Area

Runoff = 0.49 cfs @ 12.13 hrs, Volume= 0.026 af, Depth= 1.52"

Routed to Pond 28P: Salt Shed Basin

	Area (sf)	CN	Description
*	4,694	98	
*	4,130	80	>75% Grass cover, Good, compacted, HSG C
	8,824	90	Weighted Average
	4,130		46.80% Pervious Area
	4,694		53.20% Impervious Area

01_Pre-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
6.0					Direct Entry,

Summary for Subcatchment 28S: Luds Lane

Runoff = 0.07 cfs @ 12.29 hrs, Volume= 0.012 af, Depth= 0.19"

Routed to Link 56L: Lag to Door Creek

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

Area	(ac) C	N Des	cription					
0.	750 6	31 >75°	% Grass co	over, Good	, HSG B			
0.	750	100.	00% Pervi	ous Area				
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
11.3	71	0.0210	0.10		Sheet Flow, Grass: Dense	n= 0.240	P2= 2.84"	

Summary for Subcatchment 51S: C4-B

Runoff = 3.01 cfs @ 12.35 hrs, Volume= 0.284 af, Depth= 0.73"

Routed to Pond 6P: CNTY-Infiltration Basin #1

	Area	(ac)	CN	Desc	cription		
*	1.	550	98				
	1.	935	61	>75%	% Grass co	over, Good	, HSG B
	1.	155	74	>75%	% Grass co	over, Good	, HSG C
_	4.	640	77	Weig	hted Aver	age	
		090		_	9% Pervio	•	
	_	550		33.4	1% Imperv	ious Area	
	Tc	Length	n S	Slope	Velocity	Capacity	Description
	(min)	(feet		(ft/ft)	(ft/sec)	(cfs)	'
_	17.1	150	0.0	0330	0.15	, ,	Sheet Flow,
					00		Grass: Dense n= 0.240 P2= 2.84"
	1.7	129	0.0	0310	1.23		Shallow Concentrated Flow,
		,			0		Short Grass Pasture Kv= 7.0 fps
	3.2	522	2 0.0	0082	2.69	16.15	Trap/Vee/Rect Channel Flow,
	3.2	02.	_				Bot.W=2.00' D=1.00' Z= 4.0 '/' Top.W=10.00'
							n= 0.035
	22.0	801	l To	otal			

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Summary for Reach 9R: Swale 1

Inflow Area = 81.683 ac, 28.47% Impervious, Inflow Depth > 0.67" for 1-yr event

Inflow = 8.97 cfs @ 13.99 hrs, Volume= 4.532 af

Outflow = 8.85 cfs @ 14.25 hrs, Volume= 4.525 af, Atten= 1%, Lag= 16.0 min

Routed to Pond 15P: Existing Depression 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.11 fps, Min. Travel Time= 17.1 min

Avg. Velocity = 0.67 fps, Avg. Travel Time= 28.1 min

Peak Storage= 9,072 cf @ 14.25 hrs

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Average Depth at Peak Storage= 0.89', Surface Width= 17.86' Bank-Full Depth= 5.00' Flow Area= 250.0 sf, Capacity= 874.22 cfs

 $0.00' \times 5.00'$ deep channel, n= 0.050

Side Slope Z-value= 10.0 '/' Top Width= 100.00'

Length= 1,137.0' Slope= 0.0041 '/'

Inlet Invert= 874.89', Outlet Invert= 870.22'



Summary for Reach 11R: Swale 4

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \overline{@}$ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Pond 22P: Existing Depression 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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= 3.00' Flow Area= 55.8 sf, Capacity= 189.41 cfs

0.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 7.8 4.6 '/' Top Width= 37.20'

Length= 1,795.0' Slope= 0.0028 '/'

Inlet Invert= 868.00', Outlet Invert= 863.00'

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Summary for Reach 13R: Swale 2

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 0.23" for 1-yr event

Inflow = 0.99 cfs @ 20.43 hrs, Volume= 1.267 af

Outflow = 0.99 cfs @ 21.22 hrs, Volume= 1.221 af, Atten= 0%, Lag= 47.6 min

Routed to Pond 15P: Existing Depression 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.66 fps, Min. Travel Time= 65.5 min

Avg. Velocity = 0.55 fps, Avg. Travel Time= 78.6 min

Peak Storage= 3,875 cf @ 21.22 hrs

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Average Depth at Peak Storage= 0.13', Surface Width= 12.64' Bank-Full Depth= 3.00' Flow Area= 120.0 sf, Capacity= 466.95 cfs

10.00' x 3.00' deep channel, n= 0.050

Side Slope Z-value= 10.0 '/' Top Width= 70.00'

Length= 2,591.9' Slope= 0.0084 '/'

Inlet Invert= 892.00', Outlet Invert= 870.22'



Summary for Reach 14R: Swale 3

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \overline{@}$ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Pond 22P: Existing Depression 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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= 3.00' Flow Area= 58.1 sf, Capacity= 290.70 cfs

0.00' x 3.00' deep channel, n= 0.035

Side Slope Z-value= 4.5 8.4 '/' Top Width= 38.70'

Length= 1,492.0' Slope= 0.0082 '/'

Inlet Invert= 877.30', Outlet Invert= 865.00'



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Summary for Reach 15R: Overland Flow

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 Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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

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Average Depth at Peak Storage= 0.00'

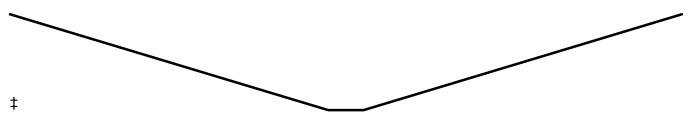
Bank-Full Depth= 3.00' Flow Area= 300.0 sf, Capacity= 1,718.10 cfs

10.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 30.0 '/' Top Width= 190.00'

Length= 2,474.0' Slope= 0.0073 '/'

Inlet Invert= 876.00', Outlet Invert= 858.00'



Summary for Reach 21R: Swale 5

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 22R: Swale 6

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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= 3.00' Flow Area= 30.6 sf, Capacity= 111.43 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.030

Side Slope Z-value= 3.9 2.9 '/' Top Width= 20.40'

Length= 690.6' Slope= 0.0033 '/'

Inlet Invert= 863.60', Outlet Invert= 861.30'

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Summary for Reach 22R: Swale 6

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \bigcirc 0.00 \text{ hrs}$, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Link 21L : Ag. Ditch #4 Tributary

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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'

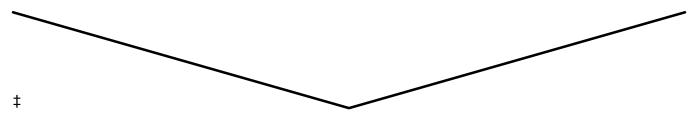
Bank-Full Depth= 3.00' Flow Area= 45.0 sf, Capacity= 168.82 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.030

Side Slope Z-value= 5.0 '/' Top Width= 30.00'

Length= 1,370.6' Slope= 0.0034 '/'

Inlet Invert= 861.30', Outlet Invert= 856.60'



Summary for Pond 1P: Niebuhr Stormwater Pond

Inflow Area = 4.670 ac, 72.16% Impervious, Inflow Depth = 1.37" for 1-yr event

Inflow = 10.37 cfs @ 12.13 hrs, Volume= 0.534 af

Outflow = 1.39 cfs @ 12.58 hrs, Volume= 0.533 af, Atten= 87%, Lag= 27.0 min

Primary = 1.39 cfs @ 12.58 hrs, Volume= 0.533 af

Routed to Pond 4P: County - Storm Pond 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 884.41' @ 12.58 hrs Surf.Area= 16,427 sf Storage= 10,204 cf

Plug-Flow detention time= 98.5 min calculated for 0.533 af (100% of inflow)

Center-of-Mass det. time= 97.0 min (909.8 - 812.8)

Volume	Invert	Avail.Storage	Storage Description
#1	882.60'	54,584 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
882.60	0	0	0
883.00	275	55	55
884.00	9,336	4,806	4,860
885.00	26,430	17,883	22,743
886.00	37,251	31,841	54,584

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MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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Device	Routing	Invert	Outlet Devices
#1	Primary	883.00'	Special & User-Defined
			Head (feet) 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90
			1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10
			2.20 2.30 2.40 2.50
			Disch. (cfs) 0.000 0.030 0.070 0.140 0.210 0.290 0.380 0.480
			0.590 0.700 0.830 0.950 1.080 1.220 1.370 1.520 1.670 1.830
			1.990 2.160 2.330 2.510 2.690 2.880 3.070 3.260
#2	Primary	885.50'	10.0' 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=1.39 cfs @ 12.58 hrs HW=884.41' TW=877.88' (Dynamic Tailwater)

-1=Special & User-Defined (Custom Controls 1.39 cfs)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: Sheriff Phase 2 Bioretention

Inflow Area = 0.745 ac, 77.85% Impervious, Inflow Depth = 1.77" for 1-yr event

Inflow = 2.06 cfs @ 12.13 hrs, Volume= 0.110 af

Outflow = 0.16 cfs @ 13.07 hrs, Volume= 0.059 af, Atten= 92%, Lag= 56.5 min

Discarded = 0.01 cfs @ 13.07 hrs, Volume= 0.022 af Primary = 0.15 cfs @ 13.07 hrs, Volume= 0.036 af

Routed to Pond 4P: County - Storm Pond 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 880.63' @ 13.07 hrs Surf.Area= 3,234 sf Storage= 3,068 cf

Plug-Flow detention time= 395.3 min calculated for 0.059 af (53% of inflow)

Center-of-Mass det. time= 303.9 min (1,096.7 - 792.7)

Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	879.5	8,28	89 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
Clavatio		Curf Araa	Ina Ctara	Cum Stara	
Elevatio		Surf.Area	Inc.Store	Cum.Store	
(fee	t)	(sq-ft)	(cubic-feet)	(cubic-feet)	
879.5	0	2,225	0	0	
880.0	0	2,651	1,219	1,219	
881.0	0	3,579	3,115	4,334	
881.5	0	4,080	1,915	6,249	
882.0	0	4,080	2,040	8,289	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	879.50'	12.0" Round	l Culvert	
	J		L= 34.0' CP	P, square edge h	neadwall, Ke= 0.500
					879.00' S= 0.0147 '/' Cc= 0.900
			n= 0.013. Flo	ow Area= 0.79 sf	
#2	Device 1	880.50'	•		e/Grate C= 0.600
		300.00		ir flow at low hea	

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#3	Device 1	881.00'	24.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	881.50'	10.0' long x 2.0' 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
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32
#5	Discarded	879.50'	0.500 in/hr Exfiltration over Surface area above 879.50'
			Conductivity to Groundwater Elevation = 875.00'
			Excluded Surface area = 2,225 sf

Discarded OutFlow Max=0.01 cfs @ 13.07 hrs HW=880.63' (Free Discharge) 5=Exfiltration (Controls 0.01 cfs)

Primary OutFlow Max=0.15 cfs @ 13.07 hrs HW=880.63' TW=878.06' (Dynamic Tailwater)

-1=Culvert (Passes 0.15 cfs of 3.00 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.15 cfs @ 1.15 fps)

-3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: County - Storm Pond 2

22.203 ac, 36.68% Impervious, Inflow Depth = 0.83" for 1-yr event Inflow Area =

10.25 cfs @ 12.38 hrs, Volume= Inflow 1.542 af

3.26 cfs @ 13.44 hrs, Volume= Outflow 1.542 af, Atten= 68%, Lag= 63.4 min

0.13 cfs @ 11.45 hrs, Volume= Discarded = 0.176 af Primary 3.13 cfs @ 13.44 hrs, Volume= 1.367 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 878.08' @ 13.44 hrs Surf.Area= 0.631 ac Storage= 0.472 af

0.688

0.803

0.918

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 106.6 min (985.0 - 878.4)

0.757

0.850

0.986

879.00

00.088

881.00

Volume	Invert	Avail.Storage	Storage Des	cription		
#1	877.20'	2.829 af	Custom Sta	ge Data ((Prismatic) Listed b	pelow
Elevation	Surf.Are	ea Inc.St	ore Cum	.Store		
(feet)	(acre	es) (acre-fe	eet) (acre	e-feet)		
877.20	0.2	53 0.0	000	0.000		
877.37	0.2	58 0.0	043	0.043		
877.38	0.5	77 0.0	004	0.048		
878.00	0.62	20 0.3	371	0.419		

1.107

1.911

2.829

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Device	Routing	Invert	Outlet Devices
#1	Primary	877.12'	15.0" Round Culvert X 2.00 L= 39.2' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 877.12' / 877.06' S= 0.0015 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	877.20'	Special & User-Defined Head (feet) 0.00 0.20 0.40 0.60 0.80 1.00 Disch. (cfs) 0.000 0.340 0.960 1.760 2.710 3.790
#3	Device 1	878.20'	30.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#4 #5	Discarded Primary		0.13 cfs Exfiltration at all elevations 30.0' long x 6.0' 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 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.13 cfs @ 11.45 hrs HW=877.24' (Free Discharge) **4=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=3.13 cfs @ 13.44 hrs HW=878.08' TW=876.75' (Dynamic Tailwater)

-1=Culvert (Passes 3.13 cfs of 4.20 cfs potential flow)

2=Special & User-Defined (Custom Controls 3.13 cfs)
3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5P: Cnty-Storm Basin 1

Inflow Area =	2.220 ac, 90.54% Impervious, Inflow Do	epth = 1.86" for 1-yr event		
Inflow =	6.36 cfs @ 12.13 hrs, Volume=	0.344 af		
Outflow =	5.34 cfs @ 12.17 hrs, Volume=	0.312 af, Atten= 16%, Lag= 2.3 min		
Discarded =	0.03 cfs @ 12.17 hrs, Volume=	0.032 af		
Primary =	5.31 cfs @ 12.17 hrs, Volume=	0.280 af		
Routed to Pond 8P : County - Storm Pond 3				

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 881.77' @ 12.17 hrs Surf.Area= 3,641 sf Storage= 4,996 cf

Plug-Flow detention time= 134.9 min calculated for 0.312 af (91% of inflow) Center-of-Mass det. time= 92.4 min (880.1 - 787.7)

Volume	Invert	Avail.Storage	Storage Description
#1	879.72'	10.756 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
879.72	1,306	0	0
880.00	1,599	407	407
881.00	2,711	2,155	2,562
882.00	3,924	3,318	5,879
883.00	5,830	4,877	10,756

Device	Routing	Invert	Outlet Devices
#1	Primary	879.72'	18.0" Round Culvert
	·		L= 66.5' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 879.72' / 878.47' S= 0.0188 '/' Cc= 0.900
			n= 0.013, Flow Area= 1.77 sf
#2	Device 1	880.72'	6.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#3	Device 1	881.50'	36.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	882.74'	10.0' long x 4.0' 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 5.00 5.50
			Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66
			2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#5	Discarded	879.72'	0.500 in/hr Exfiltration over Surface area above 879.72'
			Conductivity to Groundwater Elevation = 875.00'
			Excluded Surface area = 1,306 sf

Discarded OutFlow Max=0.03 cfs @ 12.17 hrs HW=881.77' (Free Discharge) **5=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=5.30 cfs @ 12.17 hrs HW=881.77' TW=878.31' (Dynamic Tailwater)

-1=Culvert (Passes 5.30 cfs of 9.69 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 1.07 cfs @ 4.28 fps)

3=Orifice/Grate (Weir Controls 4.23 cfs @ 1.69 fps)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 6P: CNTY-Infiltration Basin #1

Inflow Area = 4.640 ac, 33.41% Impervious, Inflow Depth = 0.73" for 1-yr event

3.01 cfs @ 12.35 hrs, Volume= Inflow 0.284 af

Outflow 0.40 cfs @ 13.72 hrs, Volume= 0.207 af, Atten= 87%, Lag= 82.2 min

Discarded = 0.05 cfs @ 13.72 hrs, Volume= 0.066 af Primary 0.35 cfs @ 13.72 hrs, Volume= 0.141 af

Routed to Pond 8P: County - Storm Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 882.08' @ 13.72 hrs Surf.Area= 6,853 sf Storage= 6,524 cf

Plug-Flow detention time= 344.6 min calculated for 0.207 af (73% of inflow)

Center-of-Mass det. time= 253.1 min (1,116.0 - 862.8)

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Volume	Invert	Avail.Sto	rage Storage	Description	
#1	880.71'	30,08	88 cf Custon	n Stage Data (Prism	atic)Listed below (Recalc)
Elevatio		urf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
880.7	71	3,155	0	0	
881.0	00	3,568	975	975	
882.0	00	6,526	5,047	6,022	
883.0	-	10,890	8,708	14,730	
884.0	00	19,826	15,358	30,088	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	880.71'	12.0" Round	d Culvert	
			Inlet / Outlet		ing, Ke= 0.500 28' S= 0.0083 '/' Cc= 0.900
#2	Device 1	881.71'	,	ow Area= 0.79 sf 0" H Vert. Orifice/Gr	rato C= 0.600
#2	Device i	001.71		eir flow at low heads	ate C= 0.000
#3	Device 1	882.71'		Orifice/Grate C= 0.	600
				eir flow at low heads	
#4	Primary	883.49'			Crested Rectangular Weir
			Head (feet) (1.00 1.20 1.40 1.60 1.80 2.00
					2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.	•	2.00 2.70 2.77 2.03 2.00
#5	Discarded	880.71'			face area above 880.71'
			Conductivity	to Groundwater Eleva	ation = 875.00'
			Excluded Sur	rface area = 3,155 sf	

Discarded OutFlow Max=0.05 cfs @ 13.72 hrs HW=882.08' (Free Discharge) **5=Exfiltration** (Controls 0.05 cfs)

Primary OutFlow Max=0.35 cfs @ 13.72 hrs HW=882.08' TW=878.36' (Dynamic Tailwater)

_1=Culvert (Passes 0.35 cfs of 3.18 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.35 cfs @ 1.94 fps)

-3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 8P: County - Storm Pond 3

Inflow Area = 16.530 ac, 61.22% Impervious, Inflow Depth = 1.09" for 1-yr event

Inflow = 25.77 cfs @ 12.14 hrs, Volume= 1.506 af

Outflow = 4.83 cfs @ 12.51 hrs, Volume= 1.478 af, Atten= 81%, Lag= 22.0 min

Primary = 4.83 cfs @ 12.51 hrs, Volume= 1.478 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 878.66' @ 12.51 hrs Surf.Area= 19,801 sf Storage= 25,374 cf

Plug-Flow detention time= 146.4 min calculated for 1.477 af (98% of inflow) Center-of-Mass det. time= 135.6 min (969.4 - 833.7)

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Volume	Inver	t Avail.Sto	rage Storag	e Description	
#1	877.19)' 101,76	64 cf Custo	m Stage Data (Pi	rismatic)Listed below (Recalc)
Elevatio (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
877.1		14,796	0	0	
878.0		17,475	13,070	13,070	
879.0		20,998	19,237	32,306	
880.0		24,807	22,903	55,209	
881.0		33,736	29,272	84,480	
881.5		35,400	17,284	101,764	
Device	Routing	Invert	Outlet Device	:es	
#1	Primary	877.20'		nd Culvert X 2.00	
#1	Fillilary	011.20	L= 31.8' Cl Inlet / Outlet	PP, end-section c	onforming to fill, Ke= 0.500 877.00' S= 0.0063 '/' Cc= 0.900
#2	Device 1	877.20'	Special & L Head (feet) 2.00	Jser-Defined 0.00 0.20 0.40 0.000 0.100 0.4	0.60 0.80 1.00 1.20 1.40 1.60 1.80 00 0.800 1.500 2.500 3.400 4.500
#3	Device 1	879.20'	68.0' long : Head (feet) 2.50 3.00 3	x 2.0' breadth Br 0.20 0.40 0.60 3.50 sh) 2.54 2.61 2.	oad-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 1.80 2.00 61 2.60 2.66 2.70 2.77 2.89 2.88
#4	Primary	880.00'	30.0' long : Head (feet) 2.50 3.00 3 Coef. (Engli	x 6.0' breadth Br 0.20 0.40 0.60 3.50 4.00 4.50 5	70 2.68 2.68 2.67 2.65 2.65 2.65

Primary OutFlow Max=4.83 cfs @ 12.51 hrs HW=878.66' TW=876.14' (Dynamic Tailwater)

1=Culvert (Passes 4.83 cfs of 11.92 cfs potential flow)

2=Special & User-Defined (Custom Controls 4.83 cfs)

-3=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 9P: Storage at NE and SE corners of AB

Inflow Area = 81.683 ac, 28.47% Impervious, Inflow Depth > 0.68" for 1-yr event

Inflow = 15.28 cfs @ 12.87 hrs, Volume= 4.623 af

Outflow = 8.97 cfs @ 13.99 hrs, Volume= 4.532 af, Atten= 41%, Lag= 67.0 min

Primary = 8.97 cfs @ 13.99 hrs, Volume= 4.532 af

Routed to Reach 9R: Swale 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

01_Pre-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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Starting Elev= 875.66' Surf.Area= 32,564 sf Storage= 19,458 cf

Peak Elev= 876.82' @ 14.03 hrs Surf.Area= 58,833 sf Storage= 69,735 cf (50,277 cf above start)

Plug-Flow detention time= 197.1 min calculated for 4.086 af (88% of inflow)

Center-of-Mass det. time= 107.7 min (1,052.4 - 944.7)

Volume	Inve	ert Avail.Sto	rage Storage	Description		
#1	875.0	0' 640,02	22 cf Custom	cf Custom Stage Data (Prismatic)Listed below (Recalc)		
Elevation		Surf.Area	Inc.Store	Cum.Store		
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)		
875.0	00	26,400	0	0		
876.0	00	35,739	31,070	31,070		
877.0	00	63,982	49,861	80,930		
878.0	00	141,395	102,689	183,619		
879.0	00	231,121	186,258	369,877		
880.0	00	309,169	270,145	640,022		
Device	Routing	Invert	Outlet Device	S		
#1	Primary	875.66'	36.0" Round	Culvert		

L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 875.66' / 874.89' S= 0.0077 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=8.97 cfs @ 13.99 hrs HW=876.82' TW=875.78' (Dynamic Tailwater) 1=Culvert (Outlet Controls 8.97 cfs @ 5.29 fps)

Summary for Pond 11P: Landfill Pond

Inflow Area = 28.500 ac, 1.16% Impervious, Inflow Depth = 0.88" for 1-yr event

Inflow = 32.57 cfs @ 12.19 hrs, Volume= 2.095 af

Outflow = 2.15 cfs @ 13.69 hrs, Volume= 1.757 af, Atten= 93%, Lag= 89.8 min

Primary = 2.15 cfs @ 13.69 hrs, Volume= 1.757 af

Routed to Pond 12P: Existing Depression 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 879.95' @ 13.69 hrs Surf.Area= 0.654 ac Storage= 1.244 af

Plug-Flow detention time= 518.9 min calculated for 1.757 af (84% of inflow)

Center-of-Mass det. time= 453.3 min (1,296.3 - 843.0)

Volume	Invert	Avail.Storage	Storage Description
#1	877.33'	6.106 af	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
877.33	0.334	0.000	0.000
878.00	0.401	0.246	0.246
879.00	0.497	0.449	0.695
880.00	0.661	0.579	1.274
881.00	0.952	0.806	2.081
882.00	1.214	1.083	3.164
883.00	1.487	1.350	4.514
884.00	1.697	1.592	6.106

Device	Routing	Invert	Outlet Devices
#1	Primary	877.33'	18.0" Round Culvert
			L= 69.6' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 877.33' / 875.77' S= 0.0224 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.33'	1.0" Vert. Orifice/Grate X 7.00 C= 0.600
			Limited to weir flow at low heads
#3	Device 1	877.68'	1.0" Vert. Orifice/Grate X 8.00 C= 0.600
			Limited to weir flow at low heads
#4	Device 1	878.03'	1.0" Vert. Orifice/Grate X 9.00 C= 0.600
			Limited to weir flow at low heads
#5	Device 1	879.77'	18.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#6	Primary	882.66'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.15 cfs @ 13.69 hrs HW=879.95' TW=875.00' (Dynamic Tailwater)

-1=Culvert (Passes 2.15 cfs of 11.65 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.30 cfs @ 7.74 fps)

-3=Orifice/Grate (Orifice Controls 0.31 cfs @ 7.19 fps)

-4=Orifice/Grate (Orifice Controls 0.32 cfs @ 6.61 fps)

5=Orifice/Grate (Weir Controls 1.22 cfs @ 1.40 fps)

-6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 12P: Existing Depression 1

37.190 ac, 5.00% Impervious, Inflow Depth > 0.68" for 1-yr event Inflow Area =

Inflow 5.53 cfs @ 12.19 hrs, Volume= 2.109 af

5.26 cfs @ 12.22 hrs, Volume= Outflow 2.109 af, Atten= 5%, Lag= 1.8 min

5.26 cfs @ 12.22 hrs, Volume= 2.109 af Primary

Routed to Pond 15P: Existing Depression 2

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 11R: Swale 4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 875.00' @ 12.22 hrs Storage= 41 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 0.0 min (1,225.6 - 1,225.6)

MSE 24-hr 4 1-yr Rainfall=2.49"

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Volume	Inve	rt Avail.Sto	rage	Storage Description
#1	875.0	0' 174,69	99 cf	Custom Stage DataListed below
Elevatio	on C	um.Store		
(fee	t) (c	ubic-feet)		
875.0	00	0		
876.0	00	65,278		
877.0	00	110,909		
878.0	00	136,383		
879.0	00	156,855		
880.0	00	174,699		
Device	Routing	Invert	Outl	et Devices
#1	Primary	874.12'	36.0	" Round Culvert L= 100.2' Ke= 0.200
	•		Inlet	/ Outlet Invert= 874.12' / 873.48' S= 0.0064 '/' Cc= 0.900
			n=0	0.012, Flow Area= 7.07 sf

Head (feet) 0.00 0.10 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Disch. (cfs) 0.000 0.010 0.060 0.350 1.040 2.230 4.050 6.580

Primary OutFlow Max=5.26 cfs @ 12.22 hrs HW=875.00' TW=871.36' (Dynamic Tailwater) 1=Culvert (Barrel Controls 5.26 cfs @ 4.56 fps)

9.930 14.170 19.400 25.690

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=875.00' TW=868.00' (Dynamic Tailwater) 2=Swale to West (Controls 0.00 cfs)

Summary for Pond 13P: YH1 Pond

66.400 ac, 3.28% Impervious, Inflow Depth = 0.35" for 1-yr event Inflow Area =

8.90 cfs @ 12.99 hrs, Volume= 1.949 af Inflow =

1.00 cfs @ 19.49 hrs, Volume= 1.00 cfs @ 19.49 hrs, Volume= Outflow 1.313 af, Atten= 89%, Lag= 390.3 min

Primary 1.313 af

Routed to Pond 14P: Small Depression

#2

Secondary

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 895.55' @ 19.49 hrs Surf.Area= 98,598 sf Storage= 53,558 cf

878.00' **Swale to West**

Plug-Flow detention time= 554.9 min calculated for 1.313 af (67% of inflow)

Center-of-Mass det. time= 442.0 min (1,377.7 - 935.7)

Volume	Invert	Avail.Storage	Storage Description
#1	895.00'	437,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
895.00	94,949	0	0
896.00	101,543	98,246	98,246
897.00	159,762	130,653	228,899
898.00	257,486	208,624	437,523

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Device	Routing	Invert	Outlet Devices
#1	Primary	895.00'	12.0" Round Culvert
	-		L= 140.0' RCP, mitered to conform to fill, Ke= 0.700
			Inlet / Outlet Invert= 895.00' / 894.00' S= 0.0071 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Primary	897.00'	10.0' long x 100.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=1.00 cfs @ 19.49 hrs HW=895.55' TW=894.51' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 1.00 cfs @ 2.23 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 14P: Small Depression

66.400 ac, 3.28% Impervious, Inflow Depth > 0.24" for 1-yr event Inflow Area =

1.00 cfs @ 19.49 hrs, Volume= Inflow = 1.313 af

Outflow 0.99 cfs @ 20.43 hrs, Volume= 1.267 af, Atten= 1%, Lag= 56.2 min

0.99 cfs @ 20.43 hrs, Volume= Primary 1.267 af

Routed to Reach 13R: Swale 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 894.51' @ 20.43 hrs Surf.Area= 10,465 sf Storage= 4,180 cf

Plug-Flow detention time= 75.9 min calculated for 1.266 af (96% of inflow)

Center-of-Mass det. time= 49.4 min (1,427.1 - 1,377.7)

Volume	Inve	ert Avail.Sto	rage Storage	Description		
#1	894.0	00' 33,8	74 cf Custom	cf Custom Stage Data (Prismatic)Listed below (Recalc)		
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)		
894.0	00	5,815	Ó	0		
895.0	00	14,871	10,343	10,343		
896.0	00	32,190	23,531	33,874		
Device	Routing	Invert	Outlet Devices	S		
#1	Primary	894.00'	12.0" Round	Culvert		
#2	Primary	895.50'	Inlet / Outlet In n= 0.012, Flo 25.0' long x 4 Head (feet) 0	nvert= 894.00' / 8 w Area= 0.79 sf 40.0' breadth B i .20 0.40 0.60 (rojecting, Ke= 0.500 892.00' S= 0.0098'/' Cc= 0.900 road-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 70 2.64 2.63 2.64 2.64 2.63	

Primary OutFlow Max=0.99 cfs @ 20.43 hrs HW=894.51' TW=892.13' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 0.99 cfs @ 2.44 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Summary for Pond 15P: Existing Depression 2

Inflow Area = 248.992 ac, 13.10% Impervious, Inflow Depth > 0.45" for 1-yr event

Inflow = 14.26 cfs @ 13.80 hrs, Volume= 9.297 af

Outflow = 9.00 cfs @ 16.43 hrs, Volume= 9.266 af, Atten= 37%, Lag= 157.9 min

Primary = 9.00 cfs @ 16.43 hrs, Volume= 9.266 af

Routed to Pond 17P: YH3 Pond

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Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 15R: Overland Flow

Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 14R: Swale 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 874.62' @ 16.43 hrs Surf.Area= 33,855 sf Storage= 47,466 cf

Plug-Flow detention time= 45.6 min calculated for 9.264 af (100% of inflow)

Center-of-Mass det. time= 42.3 min (1,180.3 - 1,138.0)

Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	870.0	0' 530,8	88 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
870.0	00	1,053	0	0	
873.0	00	9,397	15,675	15,675	
874.0	00	20,404	14,901	30,576	
875.0	00	42,009	31,207	61,782	
876.0	00	89,975	65,992	127,774	
877.0	00	205,811	147,893	275,667	
878.0	00	304,631	255,221	530,888	
Device	Routing	Invert	Outlet Device	s	
#1	Primary	870.22'	18.0" Round	Culvert	

			•
#1	Primary	870.22'	18.0" Round Culvert
	•		L= 2,314.0' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 870.22' / 858.00' S= 0.0053 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Secondary	877.00'	120.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Tertiary	877.30'	Special & User-Defined
			Head (feet) 0.00 0.10 0.20 0.30 0.40 0.60 0.80 1.00
			Disch. (cfs) 0.000 0.030 0.200 0.570 1.230 3.610 7.780 14.110

Primary OutFlow Max=9.00 cfs @ 16.43 hrs HW=874.62' TW=859.03' (Dynamic Tailwater) 1=Culvert (Barrel Controls 9.00 cfs @ 5.09 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=870.00' TW=876.00' (Dynamic Tailwater) 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=870.00' TW=877.30' (Dynamic Tailwater)

3=Special & User-Defined (Controls 0.00 cfs)

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Summary for Pond 17P: YH3 Pond

Inflow Area = 470.972 ac, 9.99% Impervious, Inflow Depth > 0.33" for 1-yr event

Inflow 20.64 cfs @ 13.09 hrs, Volume= 12.782 af

8.77 cfs @ 21.46 hrs, Volume= Outflow 9.610 af, Atten= 58%, Lag= 502.2 min

Primary = 8.77 cfs @ 21.46 hrs, Volume= 9.610 af

Routed to Pond 21P: YH6B Pond

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 859.39' @ 21.46 hrs Surf.Area= 200,223 sf Storage= 262,950 cf

Plug-Flow detention time= 445.7 min calculated for 9.610 af (75% of inflow)

Center-of-Mass det. time= 300.7 min (1,428.2 - 1,127.6)

Volume	Inv	ert Avail.Sto	rage Storage	Description	
#1	858.	00' 1,137,52	23 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
Elevation	on	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
858.0	00	182,909	0	0	
859.0	00	191,060	186,985	186,985	
860.0	00	214,659	202,860	389,844	
861.0	00	320,867	267,763	657,607	
862.0	00	638,965	479,916	1,137,523	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	858.00'	36.0" Round	l Culvert	
					projecting, Ke= 0.500
			Inlet / Outlet I	nvert= 858.00' /	855.00' S= 0.0028 '/' Cc= 0.900
			,	ow Area= 7.07 sf	
#2	Primary	860.50'	125.0' long 3	k 60.0' breadth	Broad-Crested Rectangular Weir

Primary OutFlow Max=8.77 cfs @ 21.46 hrs HW=859.39' TW=856.66' (Dynamic Tailwater)

-1=Culvert (Outlet Controls 8.77 cfs @ 4.02 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 18P: YH4 Pond

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Inflow Area = 12.220 ac, 4.26% Impervious, Inflow Depth = 0.29" for 1-yr event

2.09 cfs @ 12.41 hrs, Volume= Inflow = 0.299 af

Outflow = 0.22 cfs @ 15.74 hrs, Volume= 0.241 af, Atten= 90%, Lag= 199.8 min

Primary 0.22 cfs @ 15.74 hrs, Volume= 0.241 af

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 861.30' @ 15.74 hrs Surf.Area= 24,296 sf Storage= 6,856 cf

Plug-Flow detention time= 433.9 min calculated for 0.241 af (81% of inflow)

Center-of-Mass det. time= 355.8 min (1,268.7 - 912.9)

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MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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Volume	Inv	ert Avail.Sto	rage Storage	e Description		
#1	861.0	00' 64,00	01 cf Custon	n Stage Data (P	rismatic)Listed below (Recalc)	
Elevation (fee	et)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)		
861.0	-	21,906	0	0		
862.0	-	29,959	25,933	25,933		
863.0	00	46,178	38,069	64,001		
Device	Routing	Invert	Outlet Device	es		
#1	Primary	861.00'	8.0" Round	Culvert		
#2	,		L= 248.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 861.00' / 859.76' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf 20.0' long x 50.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63			

Primary OutFlow Max=0.22 cfs @ 15.74 hrs HW=861.30' TW=858.93' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 0.22 cfs @ 2.15 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 19P: YH5 Pond

Inflow Area = 2.350 ac, 51.91% Impervious, Inflow Depth = 0.88" for 1-yr event

Inflow = 3.15 cfs @ 12.15 hrs, Volume= 0.173 af

Outflow = 0.05 cfs @ 19.55 hrs, Volume= 0.082 af, Atten= 98%, Lag= 444.0 min

Primary = 0.05 cfs @ 19.55 hrs, Volume= 0.082 af

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 865.15' @ 19.55 hrs Surf.Area= 39,537 sf Storage= 5,728 cf

Plug-Flow detention time= 658.7 min calculated for 0.082 af (48% of inflow)

Center-of-Mass det. time= 547.1 min (1,386.7 - 839.6)

Volume	Inv	ert Avail.Sto	orage Storage	Description	
#1	865.	00' 93,4	14 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
865.0	00	38,602	0	0	
866.0	00	44,980	41,791	41,791	
867.0	00	58,266	51,623	93,414	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	866.50'			road-Crested Rectangular Weir
#2	Primary	865.00'	Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63 8.0" Round Culvert		

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L= 170.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 865.00' / 864.15' S= 0.0050 '/' Cc= 0.900 n= 0.012. Flow Area= 0.35 sf

Primary OutFlow Max=0.05 cfs @ 19.55 hrs HW=865.15' TW=859.32' (Dynamic Tailwater)

-1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Barrel Controls 0.05 cfs @ 1.44 fps)

Summary for Pond 20P: YH6-A

Inflow Area = 9.070 ac, 24.04% Impervious, Inflow Depth = 0.64" for 1-yr event

Inflow 5.99 cfs @ 12.26 hrs, Volume= 0.487 af

Outflow 1.58 cfs @ 12.46 hrs, Volume= 0.482 af, Atten= 74%, Lag= 12.2 min

Primary 1.58 cfs @ 12.46 hrs, Volume= 0.482 af

Routed to Pond 21P: YH6B Pond

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Starting Elev= 856.60' Surf.Area= 60,840 sf Storage= 127,764 cf

Peak Elev= 856.70' @ 13.01 hrs Surf.Area= 61.811 sf Storage= 133,968 cf (6,204 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= 131.4 min (995.1 - 863.7)

Volume	Invert	Avail.S	torage	Storage	e Description			
#1	854.50'	667	,659 cf	Custon	Custom Stage Data (Prismatic)Listed below (Recalc)			
Elevation	Surf	.Area	Inc	Store	Cum.Store			
(feet)		sq-ft)		c-feet)	(cubic-feet)			
854.50	6(0,840	•	0	0			
856.60	60	0,840	12	27,764	127,764			
857.00	64	4,679	2	25,104	152,868			
858.00	7:	3,339	6	89,009	221,877			
859.00	90	0,134	3	31,737	303,613			
860.00	109	9,122	ç	9,628	403,241			
861.00	129	9,626	11	19,374	522,615			
862.00	160	0,461	14	15,044	667,659			
D	4							

Routing Invert Device Outlet Devices #1 Primary 854.50' 18.0" Round Culvert

> L= 55.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 854.50' / 854.22' S= 0.0051 '/' Cc= 0.900

n= 0.024, Flow Area= 1.77 sf

Primary OutFlow Max=1.56 cfs @ 12.46 hrs HW=856.68' TW=856.62' (Dynamic Tailwater) 1=Culvert (Outlet Controls 1.56 cfs @ 0.89 fps)

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Summary for Pond 21P: YH6B Pond

Inflow Area = 579.442 ac, 9.62% Impervious, Inflow Depth > 0.26" for 1-yr event

Inflow 17.30 cfs @ 12.61 hrs, Volume= 12.761 af

Outflow 10.42 cfs @ 13.15 hrs, Volume= 12.736 af, Atten= 40%, Lag= 32.2 min

Primary 10.42 cfs @ 13.15 hrs, Volume= 12.736 af

Routed to Link 22L: Combined to Ag Ditch #4

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Invert

Volume

Routing by Dyn-Stor-Ind method. Time Span= 0.00-36.00 hrs. dt= 0.01 hrs

Starting Elev= 856.60' Surf.Area= 282,460 sf Storage= 556,446 cf

Peak Elev= 856.67' @ 13.15 hrs Surf.Area= 285,327 sf Storage= 575,118 cf (18,671 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 20.2 min (1,325.6 - 1,305.4)

V 0.01110		,a	rio. ago	010.491	2 2 2 2 2 2 1 1 p 11 2 1 1	
#1	854.63'	2,032	,289 cf	Custor	n Stage Data (P	Prismatic)Listed below (Recalc)
Elevation	Surf.	Area	Inc	.Store	Cum.Store	
(feet)	(9	sq-ft)	(cubio	c-feet)	(cubic-feet)	
854.63	282	2,460		0	0	
856.60	282	2,460	55	6,446	556,446	
857.00	299	,898	11	6,472	672,918	
858.00	336	6,652	31	8,275	991,193	
859.00	486	,957	41	1,805	1,402,997	
860.00	771	,626	62	29,292	2,032,289	

Device Routing Invert Outlet Devices #1

42.0" Round Culvert X 2.00 Primary 854.63' L= 28.0' CMP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900

n= 0.024, Flow Area= 9.62 sf

Primary OutFlow Max=10.42 cfs @ 13.15 hrs HW=856.67' TW=856.60' (Dynamic Tailwater) 1=Culvert (Outlet Controls 10.42 cfs @ 1.29 fps)

Summary for Pond 22P: Existing Depression 3

30.220 ac, 19.56% Impervious, Inflow Depth = 0.38" for 1-yr event Inflow Area =

Inflow 9.90 cfs @ 12.27 hrs, Volume= 0.966 af

0.00 hrs, Volume= Outflow 0.00 cfs @ 0.000 af, Atten= 100%, Lag= 0.0 min

0.00 hrs, Volume= Primary 0.00 cfs @ 0.000 af

Routed to Pond 17P: YH3 Pond

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 21R: Swale 5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 862.76' @ 24.81 hrs Surf.Area= 1.216 ac Storage= 0.966 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= (not calculated: no outflow)

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Volume	Invert A	vail.Stora	ge Stor	age Description
#1	860.00'	12.833	af Cus	tom Stage Data (Prismatic)Listed below (Recalc)
Elevation			c.Store	Cum.Store
(fee			re-feet)	(acre-feet)
860.0			0.000	0.000
861.0			0.011	0.011
862.0			0.283	0.294
863.0	-		0.987	1.281
864.0			1.910	3.191
865.0			2.630	5.821
866.0			3.179	9.000
867.0	00 4.172		3.833	12.833
Device	Routing	Invert	Outlet D	evices
#1	Primary	862.84'	12.0" R	ound Culvert
	•		L= 30.7'	RCP, sq.cut end projecting, Ke= 0.500
			Inlet / O	utlet Invert= 862.84' / 861.39' S= 0.0472 '/' Cc= 0.900
				2, Flow Area= 0.79 sf
#2	Primary	865.74'		ng x 12.0' breadth Broad-Crested Rectangular Weir
			,	eet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
				nglish) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#3	Secondary	863.60'		ROW to West
			,	eet) 0.00 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.20 2.4	
				ofs) 0.000 0.630 1.850 4.000 7.240 11.780 17.770 25.370
			34.720	45.990 59.290 74.770

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=860.00' TW=858.00' (Dynamic Tailwater) 1=Culvert (Controls 0.00 cfs)

2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=860.00' TW=863.60' (Dynamic Tailwater) 3=Swale in ROW to West (Controls 0.00 cfs)

Summary for Pond 28P: Salt Shed Basin

Inflow Area = 0.203 ac, 53.20% Impervious, Inflow Depth = 1.52" for 1-yr event

Inflow = 0.49 cfs @ 12.13 hrs, Volume= 0.026 af

Outflow = 0.10 cfs @ 12.42 hrs, Volume= 0.013 af, Atten= 79%, Lag= 17.3 min

Primary = 0.10 cfs @ 12.42 hrs, Volume= 0.013 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 882.85' @ 12.42 hrs Surf.Area= 717 sf Storage= 601 cf

Plug-Flow detention time= 203.5 min calculated for 0.013 af (49% of inflow) Center-of-Mass det. time= 107.7 min (913.2 - 805.5)

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Volume	Invert	Avail.Sto	rage Storage I	Description				
#1	881.50'	1,16	3 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)			
Elevatio	n Sı	ırf.Area	Inc.Store	Cum.Store				
(fee	t)	(sq-ft)	(cubic-feet)	(cubic-feet)				
881.50		212	0	0				
882.0	0	363	144	144				
883.00		781	572	716				
883.5	0	1,009	448	1,163				
Device	Routing	Invert	Outlet Devices	3				
#1	Primary	881.50'	6.0" Round Culvert					
			L= 134.0' RCP, sq.cut end projecting, Ke= 0.500					
			Inlet / Outlet Invert= 881.50' / 880.80' S= 0.0052 '/' Cc= 0.900					
			n= 0.013, Flov	w Area= 0.20 st	f			
#2	Device 1	882.80'		Prifice/Grate (0.000			
			Limited to weir	flow at low hea	ads			
#3	Primary	883.00'			ad-Crested Rectangular Weir			
					0.80 1.00 1.20 1.40 1.60 1.80 2.00			
			2.50 3.00 3.5	-				
			, ,	,	61 2.60 2.66 2.70 2.77 2.89 2.88			
			2.85 3.07 3.2	0 3.32				

Primary OutFlow Max=0.10 cfs @ 12.42 hrs HW=882.85' TW=876.05' (Dynamic Tailwater)

1=Culvert (Passes 0.10 cfs of 0.56 cfs potential flow)

2=Orifice/Grate (Weir Controls 0.10 cfs @ 0.71 fps)

-3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link 21L: Ag. Ditch #4 Tributary

Inflow Area = 37.620 ac, 33.12% Impervious, Inflow Depth = 0.73" for 1-yr event

Inflow = 19.00 cfs @ 12.53 hrs, Volume= 2.301 af

Primary = 18.99 cfs @ 12.79 hrs, Volume= 2.301 af, Atten= 0%, Lag= 15.8 min

Routed to Link 22L: Combined to Ag Ditch #4

Primary outflow = Inflow delayed by 15.8 min, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 22L: Combined to Ag Ditch #4

Inflow Area = 634.952 ac, 10.79% Impervious, Inflow Depth > 0.29" for 1-yr event

Inflow = 30.15 cfs @ 12.81 hrs, Volume= 15.563 af

Primary = 30.15 cfs @ 12.81 hrs, Volume= 15.563 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Fixed water surface Elevation= 856.60'

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MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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Summary for Link 24L: Door Creek Combined

Inflow Area = 39.177 ac, 13.85% Impervious, Inflow Depth = 0.39" for 1-yr event

Inflow = 8.30 cfs @ 12.61 hrs, Volume= 1.283 af

Primary = 8.30 cfs @ 12.61 hrs, Volume= 1.283 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 25L: Combine

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 56L: Lag to Door Creek

Inflow Area = 0.750 ac, 0.00% Impervious, Inflow Depth = 0.19" for 1-yr event

Inflow = 0.07 cfs @ 12.29 hrs, Volume= 0.012 af

Primary = 0.07 cfs @ 12.72 hrs, Volume= 0.012 af, Atten= 0%, Lag= 25.7 min

Routed to Link 24L: Door Creek Combined

Primary outflow = Inflow delayed by 25.6 min, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Summary for Subcatchment 1S: C1

Runoff = 12.59 cfs @ 12.13 hrs, Volume= 0.653 af, Depth= 1.68"

Routed to Pond 1P: Niebuhr Stormwater Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	ription		
*	3.	370	98				
	1.	300	61	>75%	√ Grass co	over, Good,	d, HSG B
	4.670 88 Weighted Average						
	1.	300		27.8	4% Pervio	us Area	
	3.370 72.16%				3% Imperv	ious Area	
	Тс	Lengt	h S	Slope	Velocity	Capacity	Description
_	(min)	(feet	t)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry.

Summary for Subcatchment 2S: C2

Runoff = 3.06 cfs @ 12.51 hrs, Volume= 0.412 af, Depth= 0.51"

Routed to Pond 4P : County - Storm Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area (ac)		N Des	cription						
*	1.020 9		98							
	5.655 61		31 >75°	>75% Grass cover, Good, HSG B						
	0.			Woods/grass comb., Good, HSG B						
*	2.			Row crops, SR + CR, Good, HSG B						
				ghted Aver	•	,				
		725	,	3% Pervio						
		020		_	ious Area					
	••	020		. ,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
	Тс	Length	Slope	Velocity	Capacity	Description				
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	1				
	7.9	91	0.0830	0.19	, ,	Sheet Flow,				
						Grass: Dense n= 0.240 P2= 2.84"				
	6.4	59	0.0300	0.15		Sheet Flow,				
						Cultivated: Residue>20% n= 0.170 P2= 2.84"				
	11.9	573	0.0080	0.80		Shallow Concentrated Flow,				
						Cultivated Straight Rows Kv= 9.0 fps				
	3.3	337	0.0030	1.69	11.17	Channel Flow,				
						Area= 6.6 sf Perim= 13.4' r= 0.49' n= 0.030				
	1.1	224	0.0050	3.31	10.40	Pipe Channel,				
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
						n= 0.020 Corrugated PE, corrugated interior				
	20.6	1 201	Total							

30.6 1,284 Total

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Summary for Subcatchment 3S: C3-A

Runoff = 9.40 cfs @ 12.35 hrs, Volume= 0.854 af, Depth= 1.45"

Routed to Pond 4P: County - Storm Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac) C	N Desc	cription					
*	2.	900 9	98						
*	3.	870 7	'4 >75°	% Grass c	over, Good	, HSG B			
	0.	273	8 Wate	Vater Surface, HSG B					
	7.	043 8	35 Weig	hted Aver	age				
	3.	870	54.9	5% Pervio	us Area				
	3.	173	45.0	5% Imperv	/ious Area				
	Tc	Length	Slope	Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	12.1	86	0.0260	0.12		Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.84"			
	0.9	68	0.0220	1.25		Sheet Flow,			
						Smooth surfaces n= 0.011 P2= 2.84"			
	9.1	1,026	0.0050	1.88	15.43	•			
						Bot.W=0.00' D=1.00' Z= 8.2 '/' Top.W=16.40'			
						n= 0.035			
	1.4	224	0.0050	2.76	8.66	Pipe Channel,			
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
						n= 0.024			
	0.1	59	0.0056	7.06	49.91	Pipe Channel,			
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'			
_						n= 0.013			
	23.6	1,463	Total						

Summary for Subcatchment 4S: C3-B

Runoff = 2.42 cfs @ 12.13 hrs, Volume= 0.130 af, Depth= 2.10" Routed to Pond 3P : Sheriff Phase 2 Bioretention

	Area (ac)	CN	Description
*	0.580	98	
*	0.165	74	>75% Grass cover, Good, HSG B
	0.745	93	Weighted Average
	0.165		22.15% Pervious Area
	0.580		77.85% Impervious Area

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MSE 24-hr 4 2-yr Rainfall=2.84"

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	Tc	Length	Slope	Velocity	Capacity	Description
(r	nin)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	6.0					Direct Entry,

Summary for Subcatchment 5S: C4-A

Runoff = 7.44 cfs @ 12.13 hrs, Volume= 0.406 af, Depth= 2.20"

Routed to Pond 5P: Cnty-Storm Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	cription						
*	2.	010	98								
	0.	210	61	>75%	% Grass co	over, Good	d, HSG B				
	2.220 94 Weighted Average										
	0.	210		9.46	% Perviou	s Area					
	2.010			90.5	4% Imperv	ious Area					
	Tc	Lengt		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
	(min)	(fee	ι)	(11/11)	(It/Sec)	(CIS)					
	6.0						Direct Entry,				

Summary for Subcatchment 7S: C4-C

Runoff = 1.37 cfs @ 12.14 hrs, Volume= 0.070 af, Depth= 1.25"

Routed to Pond 8P: County - Storm Pond 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	Description					
*	0.	230	98							
*	0.	440	74	>759	% Grass co	over, Good	I, HSG B			
	0.670 82 Weighted Average					age				
	0.440 65.67% Pervious Area									
	0.230			34.3	3% Imper	∕ious Area				
	Tc	Leng	•	Slope	Velocity	Capacity	Description			
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	6.0						Direct Entry,			

Summary for Subcatchment 8S: C4-D

Runoff = 24.27 cfs @ 12.13 hrs, Volume= 1.258 af, Depth= 1.68"

Routed to Pond 8P : County - Storm Pond 3

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MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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	Area	(ac)	CN	Desc	cription						
*	6.	030	98								
	2.	030	61	>759	% Grass co	over, Good	H, HSG B				
*	0.	640	74	>759	% Grass co	over, Good	I, HSG C				
	0.	300	98	Wate	er Surface,	, HSG B					
	9.000 88 Weighted Average										
	2.	670		29.6	7% Pervio	us Area					
	6.	330		70.3	3% Imperv	∕ious Area					
	Тс	Leng	jth	Slope	Velocity	Capacity	Description				
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)					
	6.0						Direct Entry,				

Summary for Subcatchment 9S: C5

Runoff = 7.77 cfs @ 12.26 hrs, Volume= 0.615 af, Depth= 0.91"

Routed to Pond 9P: Storage at NE and SE corners of AB

	Area (ac)		N Des	cription					
*	2.	270 9	98						
	2.	940 6	31 >75°	>75% Grass cover, Good, HSG B					
	0.144 74		74 >75°	>75% Grass cover, Good, HSG C					
*	2.	277			R + CR, Goo	od, HSG B			
_	0.	494 8	36 Fallo	w, bare so	oil, HSG B				
	8.	125	76 Weig	ghted Aver	age				
	5.	855	72.0	6% Pervio	us Area				
	2.	270	27.9	4% Imper	∕ious Area				
	Tc	Length	Slope	•	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	1.9	220	0.0370	1.94		Sheet Flow,			
						Smooth surfaces n= 0.011 P2= 2.84"			
	8.7	80	0.0260	0.15		Sheet Flow,			
		400		4.07		Cultivated: Residue>20% n= 0.170 P2= 2.84"			
	2.5	188	0.0200	1.27		Shallow Concentrated Flow,			
	0.0	000	0.0000	0.70	50.00	Cultivated Straight Rows Kv= 9.0 fps			
	2.3	380	0.0090	2.70	59.39	Trap/Vee/Rect Channel Flow,			
						Bot.W=4.00' D=1.00' Z= 6.0 & 30.0 '/' Top.W=40.00'			
	4.0	400	0.0040	2.22	22.05	n= 0.035			
	1.0	193	0.0010	3.23	22.85	Pipe Channel,			
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.012			
_	10.1	4 004	Takal			11- 0.012			
	16.4	1,061	Total						

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MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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Summary for Subcatchment 10S: C6

Runoff = 10.05 cfs @ 12.87 hrs, Volume= 1.810 af, Depth= 0.63"

Routed to Pond 9P: Storage at NE and SE corners of AB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area (ac)		CN	Des	cription					
*	1.	864	98							
	7.	605	61	>75% Grass cover, Good, HSG B						
	5.438 74			>75% Grass cover, Good, HSG C						
	5.	852		Woods/grass comb., Good, HSG B						
*	_	844		Row crops, SR + CR, Good, HSG B						
*		269				t + CR, God	od, HSG C			
_		750		Water Surface, HSG B						
	_	622		Weighted Average						
		.008			5% Pervio					
	2.	614		7.55	% Impervi	ous Area				
	-	1 41	. 01		V/-1	0 :	December			
	Tc	Length		ope	Velocity	Capacity	Description			
_	(min)	(feet		ft/ft)	(ft/sec)	(cfs)	01 (5)			
	26.9	300) 0.1	190	0.19		Sheet Flow,			
	6.6	398	- 00	400	1.00		Woods: Light underbrush n= 0.400 P2= 2.84"			
	0.0	390	0.0	400	1.00		Shallow Concentrated Flow, Woodland Kv= 5.0 fps			
	3.5	218	3 N N	440	1.05		Shallow Concentrated Flow,			
	0.0	210	0.0	770	1.00		Woodland Kv= 5.0 fps			
	15.6	688	3 0.0	067	0.74		Shallow Concentrated Flow,			
					• • • • • • • • • • • • • • • • • • • •		Cultivated Straight Rows Kv= 9.0 fps			
	0.5	74	1 0.0	050	2.65	8.32				
							24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
							n= 0.025			
	3.7	529	0.0	060	2.41	38.62	Trap/Vee/Rect Channel Flow,			
							Bot.W=0.00' D=1.00' Z= 16.0 '/' Top.W=32.00'			
_							n= 0.030			
	56.8	2,204	4 Tot	tal						

Summary for Subcatchment 11S: C7 - Landfill

Runoff = 42.29 cfs @ 12.19 hrs, Volume= 2.687 af, Depth= 1.13"

Routed to Pond 11P: Landfill Pond

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Area	(ac)	CN	Desc	Description						
0.	.440 96 Gravel surface, HSG B									
27.	730	80	>75% Grass cover, Good, HSG D							
0.	330	98	Wate	r Surface,						
28.	500									
28.	170		98.8	4% Pervio	us Area					
0.	330		1.16	% Impervi	ous Area					
Tc (min)	Lengt (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
11.0						Direct Entry, TOC from Landfill's SWMP				

Summary for Subcatchment 12S: C8

Runoff = 7.38 cfs @ 12.18 hrs, Volume= 0.485 af, Depth= 0.67"

Routed to Pond 12P: Existing Depression 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

Area	(ac) C	N Des	cription				
* 1.	1.380 98						
4.	420	61 >75	% Grass c	over, Good	, HSG B		
0.	200	74 >75	% Grass c	over, Good	, HSG C		
2.	540	72 Woo	ods/grass o	comb., Goo	d, HSG C		
0.	150	98 Wat	er Surface	, HSG B			
8.	690	71 Wei	Weighted Average				
7.	160	82.3	9% Pervio	us Area			
1.	530	17.6	31% Imper	vious Area			
Tc	Length	•	Velocity	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
0.6	31	0.0140	0.89		Sheet Flow,		
					Smooth surfaces n= 0.011 P2= 2.84"		
1.6	10	0.0520	0.10		Sheet Flow,		
					Grass: Dense n= 0.240 P2= 2.84"		
5.6	1,329	0.0170	3.93	11.78	Trap/Vee/Rect Channel Flow,		
					Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00'		
4 -	400	0.0500	4.04		n= 0.030		
1.7	168	0.0530	1.61		Shallow Concentrated Flow,		
					Short Grass Pasture Kv= 7.0 fps		
9.5	1,538	Total					

Summary for Subcatchment 13S: C9 and C10

Runoff = 4.69 cfs @ 12.13 hrs, Volume= 0.243 af, Depth= 1.68"

Routed to Pond 15P: Existing Depression 2

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	Area (ac)	CN	Desc	ription		
*	1.2	215	98				
	0.3	366	61	>75%	% Grass co	over, Good	I, HSG B
_	0.	160	74	>75%	√ Grass co	over, Good	I, HSG C
	1.741 88 Weighted Average						
	0.526 30.21% Pervious Area				1% Pervio	us Area	
	1.2	215		69.79	9% Imper	ious Area	
	Tc (min)	Leng		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	6.0	(100	•,	(15/10)	(1.0.300)	(0.0)	Direct Entry,

Summary for Subcatchment 14S: YH1

Runoff = 14.21 cfs @ 12.93 hrs, Volume= 2.808 af, Depth= 0.51"

Routed to Pond 13P: YH1 Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	cription						
	22.700 61				>75% Grass cover, Good, HSG B						
	27.	890	74	>75%	>75% Grass cover, Good, HSG C						
	4.	830	48	Brus	Brush, Good, HSG B						
	8.	800	65	Brus	h, Good, F	HSG C					
_	2.	180	98	Wate	er Surface	, HSG B					
	66.	400	67	Weig	ghted Aver	age					
	64.220			96.7	96.72% Pervious Area						
	2.	180		3.28	% Impervi	ous Area					
	_	_				_					
	Tc	Lengt		Slope	Velocity	Capacity	Description				
	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)					
	21.0	15	0 (0.0200	0.12		Sheet Flow,				
							Grass: Dense n= 0.240 P2= 2.84"				
	36.9	2,01	8 (0.0170	0.91		Shallow Concentrated Flow,				
_							Short Grass Pasture Kv= 7.0 fps				
	57.9	2,16	8	Γotal							

Summary for Subcatchment 15S: YH2

Runoff = 8.96 cfs @ 12.91 hrs, Volume= 1.900 af, Depth= 0.37"

Routed to Pond 15P: Existing Depression 2

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	Area	(ac) C	N Desc	cription					
*	4.	098 9	8						
	19.	840 6	31 >759	>75% Grass cover, Good, HSG B					
	10.	130 7	'4 >75°	% Grass c	over, Good	, HSG C			
	4.	830 5	8 Woo	ds/grass d	omb., Goo	d, HSG B			
	12.	800 4	8 Brus	h, Ğood, l	HSG B				
	10.	280 6	5 Brus	h, Good, I	HSG C				
	61.	978 6	3 Weig	Weighted Average					
		880		9% Pervio					
		098		% Impervi					
				'					
	Tc	Length	Slope	Velocity	Capacity	Description			
((min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·			
	15.4	150	0.0430	0.16	, ,	Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.84"			
	17.3	1,216	0.0280	1.17		Shallow Concentrated Flow,			
		,				Short Grass Pasture Kv= 7.0 fps			
	0.7	206	0.0100	4.91	3.86	· · · · · · · · · · · · · · · · · · ·			
						12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'			
						n= 0.012			
	1.6	234	0.0040	2.38	38.12	Trap/Vee/Rect Channel Flow,			
						Bot.W=8.00' D=1.00' Z= 8.0 '/' Top.W=24.00'			
						n= 0.030			
	0.1	35	0.0140	9.23	29.00	Pipe Channel,			
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
						n= 0.012			
	3.8	591	0.0130	2.58	51.61	Trap/Vee/Rect Channel Flow,			
						Bot.W=10.00' D=1.00' Z= 10.0 '/' Top.W=30.00'			
						n= 0.050			
	8.3	745	0.0100	1.50		Shallow Concentrated Flow,			
						Grassed Waterway Kv= 15.0 fps			
	4.9	608	0.0080	2.09	36.53	Trap/Vee/Rect Channel Flow,			
						Bot.W=10.00' D=1.00' Z= 10.0 & 5.0 '/' Top.W=25.00'			
						n= 0.050			
	52.1	3,785	Total						

Summary for Subcatchment 16S: C11-16

Runoff = 15.85 cfs @ 12.26 hrs, Volume= 1.375 af, Depth= 0.55" Routed to Pond 22P : Existing Depression 3

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	Area	(ac) (CN Des	scription					
*	5.	910	98						
	18.			>75% Grass cover, Good, HSG B					
	_	510			over, Good	•			
				ods, Good,	•				
	_	570		Woods, Good, HSG C					
				Brush, Good, HSG B					
	30.	220	68 We	ighted Avei	rage				
	24.	310	80.	44% Pervio	us Area				
	5.	910	19.	56% Imper	vious Area				
	Тс	Length			Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	0.3	23	0.0530	1.43		Sheet Flow,			
						Smooth surfaces n= 0.011 P2= 2.84"			
	2.5	23	0.0920	0.15		Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.84"			
	0.6	64	0.0120	1.64		Shallow Concentrated Flow,			
						Grassed Waterway Kv= 15.0 fps			
	11.0	1,807	0.0078	2.73	16.93	Trap/Vee/Rect Channel Flow,			
		,				Bot.W=0.00' D=1.00' Z= 4.8 & 7.6 '/' Top.W=12.40'			
						n= 0.030			
	14.4	1,917	Total						

Summary for Subcatchment 17S: YH3

Runoff = 23.22 cfs @ 12.88 hrs, Volume= 4.969 af, Depth= 0.34"

Routed to Pond 17P: YH3 Pond

	Area (ac)	CN	Description
*	2.600	98	
	106.380	61	>75% Grass cover, Good, HSG B
	26.310	74	>75% Grass cover, Good, HSG C
	31.110	48	Brush, Good, HSG B
	6.590	65	Brush, Good, HSG C
	4.200	98	Water Surface, HSG B
	177.190	62	Weighted Average
	170.390		96.16% Pervious Area
	6.800		3.84% Impervious Area

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	19.8	150	0.0230	0.13		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.84"
	25.0	1,662	0.0250	1.11		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.2	219	0.0090	2.95	29.50	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 10.0 '/' Top.W=20.00' n= 0.030
	2.5	885	0.0110	5.98	7.34	Pipe Channel,
	2.5	000	0.0110	5.90	7.54	15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'
						n= 0.012
_	48.5	2,916	Total			

Summary for Subcatchment 18S: YH4

Runoff = 3.67 cfs @ 12.38 hrs, Volume= 0.443 af, Depth= 0.43"

Routed to Pond 18P: YH4 Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

_	Area	(ac)	CN	Desc	cription				
	9.630 61 >75% Grass cover, Good, HSG B								
	2.	070	74	>75%	√ Grass co √	over, Good	, HSG C		
	0.	520	98	Wate	er Surface,	, HSG A			
	12.	220	65	Weig	hted Aver	age			
	11.	700		95.7	4% Pervio	us Area			
	0.520			4.26	4.26% Impervious Area				
					•				
	Tc	Length	h :	Slope	Velocity	Capacity	Description		
	(min)	(feet		(ft/ft)	(ft/sec)	(cfs)	·		
	13.0	150	0 0	.0660	0.19		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.84"		
	8.6	470	0 C	.0170	0.91		Shallow Concentrated Flow,		
							Short Grass Pasture Kv= 7.0 fps		
_	21.6	620) T	otal			<u> </u>		

Summary for Subcatchment 19S: YH5

Runoff = 4.07 cfs @ 12.15 hrs, Volume= 0.222 af, Depth= 1.13"

Routed to Pond 19P: YH5 Pond

MSE 24-hr 4 2-yr Rainfall=2.84"

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	Area	(ac)	CN	Desc	ription				
*	0.	330	98						
	1.	130	61	>75%	√ Grass co	over, Good	, HSG B		
	0.	890	98	Wate	er Surface	, HSG A			
2.350 80 Weighted Average									
	1.	130		48.0	9% Pervio	us Area			
	1.220			51.9	51.91% Impervious Area				
	Tc (min)	Lengt		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description		
	0.2	1	1 (0.0300	0.98		Sheet Flow,		
	7.1	8	37 (0.1000	0.20		Smooth surfaces n= 0.011 P2= 2.84" Sheet Flow, Grass: Dense n= 0.240 P2= 2.84"		
	7.3	9	8	Total					

Summary for Subcatchment 20S: YH6A Pond

Runoff = 8.27 cfs @ 12.26 hrs, Volume= 0.648 af, Depth= 0.86"

Routed to Pond 20P: YH6-A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	cription			
*	0.	780	98					
	2.	870	61	>75%	√ Grass co	over, Good	, HSG B	
	4.	020	73	Brus	h, Good, F	HSG D		
	1.	400	98	Wate	er Surface	, HSG C		
	9.070 75 Weighted Average							
	6.	890		75.9	6% Pervio	us Area		
2.180			24.0	4% Imper	∕ious Area			
	Tc (min)	Lengt (feet		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
	12.3	15	0 0.	0750	0.20		Sheet Flow,	
	3.4	28	5 0.	0390	1.38		Grass: Dense n= 0.240 P2= 2.84" Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	
	15.7	43	5 To	otal				

Summary for Subcatchment 21S: YH6-B

Runoff = 26.25 cfs @ 12.58 hrs, Volume= 3.897 af, Depth= 0.47"

Routed to Pond 21P: YH6B Pond

01_Pre-DevelopmentConditions_WisDOT_PondEvalPrepared by SCS Engineers

MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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Area (a	ac) C	N Des	cription						
54.33	30 6	1 >75	>75% Grass cover, Good, HSG B						
4.34	40 4	·8 Brus	Brush, Good, HSG B						
7.6	10 6	55 Brus	Brush, Good, HSG C						
26.64	40 7	'3 Brus	sh, Good, F	HSG D					
6.48	80 9	8 Wat	er Surface	, HSG A					
99.40	00 6	6 Wei	ghted Aver	age					
92.92	20	93.4	93.48% Pervious Area						
6.48	80	6.52	% Impervi	ous Area					
Tc L	Length	Slope	Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
19.2	150	0.0250	0.13		Sheet Flow,				
					Grass: Dense n= 0.240 P2= 2.84"				
15.4	889	0.0190	0.96		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
34.6	1,039	Total							

Summary for Subcatchment 23S: C17-C25

Runoff = 25.58 cfs @ 12.53 hrs, Volume= 3.015 af, Depth= 0.96"

Routed to Link 21L : Ag. Ditch #4 Tributary

	Area (ac)	CN	Description
*	12.460	98	
	16.840	61	>75% Grass cover, Good, HSG B
	0.360	74	>75% Grass cover, Good, HSG C
	7.960	80	>75% Grass cover, Good, HSG D
	37.620	77	Weighted Average
	25.160		66.88% Pervious Area
	12.460		33.12% Impervious Area

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
_	12.6	150	0.0720	0.20	, ,	Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.84"
	2.1	129	0.0210	1.01		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	2.8	318	0.0087	1.89		Shallow Concentrated Flow,
						Paved Kv= 20.3 fps
	0.3	79	0.0830	4.32		Shallow Concentrated Flow,
						Grassed Waterway Kv= 15.0 fps
	1.6	341	0.0180	3.54	17.33	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 6.0 & 3.8 '/' Top.W=9.80'
						n= 0.035
	0.5	150	0.0050	5.52	17.33	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.012
	14.6	1,367	0.0035	1.56	7.81	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 5.0 '/' Top.W=10.00'
_						n= 0.035
	34.5	2,534	Total			

Summary for Subcatchment 24S: C26

Runoff = 3.41 cfs @ 13.08 hrs, Volume= 0.757 af, Depth= 0.51"

Routed to Link 22L: Combined to Ag Ditch #4

	Area (ac)	CN	Description
*	0.360	98	
	0.140	61	>75% Grass cover, Good, HSG B
	0.040	74	>75% Grass cover, Good, HSG C
	3.940	48	Brush, Good, HSG B
	1.810	65	Brush, Good, HSG C
	11.600	73	Brush, Good, HSG D
	17.890	67	Weighted Average
	17.530		97.99% Pervious Area
	0.360		2.01% Impervious Area

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	40.0	150	0.0110	0.06		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.84"
	9.7	380	0.0170	0.65		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	0.4	58	0.0050	2.76	8.66	Pipe Channel, CMP_Round 24"
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.024
	0.2	59	0.0260	4.99	29.91	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'
						n= 0.030
	19.3	2,177	0.0007	1.88	53.14	Trap/Vee/Rect Channel Flow,
						Bot.W=4.00' D=3.00' Z= 1.8 '/' Top.W=14.80'
_						n= 0.030
	69 6	2 824	Total			

Summary for Subcatchment 25S: C27

noff = 8.18 cfs @ 12.54 hrs, Volume= Routed to Link 24L : Door Creek Combined Runoff

1.028 af, Depth= 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

_	Area	(ac) (ON D	escription	on					
*	3.827 98		98 in	impervious						
	8.477 61			>75% Grass cover, Good, HSG B						
	0.289 74			>75% Grass cover, Good, HSG C						
	0.	246	80 >	>75% Grass cover, Good, HSG D						
*	3.	840	70 R	ow crop	s, SF	R + CR, Goo	od, HSG B			
*	0.	090	79 R	ow crop	s, SF	R + CR, Goo	od, HSG C			
_	0.	490	86 F	allow, b	are so	oil, HSG B				
	17.	259	72 V	/eighted	l Aver	rage				
	13.	432	7	7.83% F	Pervio	us Area				
	3.	827	2	2.17% l	mper	vious Area				
	Тс	Length			ocity	Capacity	Description			
_	(min)	(feet)	(ft/		sec)	(cfs)				
	13.5	150	0.030	00	0.18		Sheet Flow,			
							Cultivated: Residue>20% n= 0.170 P2= 2.84"			
	2.3	150	0.014	40	1.06		Shallow Concentrated Flow,			
							Cultivated Straight Rows Kv= 9.0 fps			
	10.3	482	0.012	25	0.78		Shallow Concentrated Flow,			
							Short Grass Pasture Kv= 7.0 fps			
	7.6	1,570	0.012	25	3.45	18.44	Trap/Vee/Rect Channel Flow,			
							Bot.W=0.00' D=1.00' Z= 4.0 & 6.7 '/' Top.W=10.70'			
							n= 0.030			
	0.6	163	0.080)()	4.24		Shallow Concentrated Flow,			
_							Grassed Waterway Kv= 15.0 fps			
	2/12	2 5 1 5	Total							

34.3 2,515 Total

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Summary for Subcatchment 26S: C28A & C28B

Runoff = 4.79 cfs @ 12.64 hrs, Volume= 0.767 af, Depth= 0.43"

Routed to Link 24L: Door Creek Combined

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

_	Area	(ac) C	N Desc	cription						
*	1.596 96		98 impe	impervious						
6.420 61			31 >759	>75% Grass cover, Good, HSG B						
1.116 80			30 >759	>75% Grass cover, Good, HSG D						
	6.	805 5		Woods, Good, HSG B						
*	5.	229	70 Row	Row crops, SR + CR, Good, HSG B						
	21.	168 6	65 Weig	ghted Aver	age					
	19.	570	92.4	5% Pervio	us Area					
	1.	598	7.55	% Impervi	ous Area					
	Тс	Length	Slope	Velocity	Capacity	Description				
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	16.1	150	0.1070	0.16		Sheet Flow,				
						Woods: Light underbrush n= 0.400 P2= 2.84"				
	1.2	150	0.1730	2.08		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	3.6	365	0.0360	1.71		Shallow Concentrated Flow,				
						Cultivated Straight Rows Kv= 9.0 fps				
	5.3	651	0.0120	2.04	16.34	•				
	0.0	070	0.0000	4.70		Area= 8.0 sf Perim= 16.1' r= 0.50' n= 0.050				
	2.6	273	0.0390	1.78		Shallow Concentrated Flow,				
	7.0	4 74 4	0.0440	0.07	05.70	Cultivated Straight Rows Kv= 9.0 fps				
	7.8	1,714	0.0140	3.67	25.72	,				
_						Area= 7.0 sf Perim= 14.1' r= 0.50' n= 0.030				
	36.6	3,303	Total							

Summary for Subcatchment 27S: Salt Loading Area

Runoff = 0.59 cfs @ 12.13 hrs, Volume= 0.031 af, Depth= 1.84"

Routed to Pond 28P: Salt Shed Basin

	Area (sf)	CN	Description
*	4,694	98	
* 4,130 80		80	>75% Grass cover, Good, compacted, HSG C
	8,824	90	Weighted Average
	4,130		46.80% Pervious Area
	4,694		53.20% Impervious Area

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MSE 24-hr 4 2-yr Rainfall=2.84"

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry,

Summary for Subcatchment 28S: Luds Lane

Runoff = 0.17 cfs @ 12.24 hrs, Volume= 0.019 af, Depth= 0.31"

Routed to Link 56L: Lag to Door Creek

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

Area	(ac) C	N Desc	cription					
0.	750 6	31 >759	% Grass co	over, Good	, HSG B			
0.750 100.00% Pervious Area								
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
11.3	71	0.0210	0.10		Sheet Flow, Grass: Dense	n= 0.240	P2= 2.84"	

Summary for Subcatchment 51S: C4-B

Runoff = 4.06 cfs @ 12.34 hrs, Volume= 0.372 af, Depth= 0.96"

Routed to Pond 6P: CNTY-Infiltration Basin #1

	Area	(ac)	CN	Desc	cription		
*	1.	550	98				
	1.	935	61	>759	% Grass co	over, Good	, HSG B
	1.	155	74	>759	% Grass co	over, Good	, HSG C
-			Weig	hted Aver	age		
3.090				9% Pervio	•		
	_	550		33.4	1% Imperv	ious Area	
	Tc	Length	ո Տ	Slope	Velocity	Capacity	Description
	(min)	(feet		(ft/ft)	(ft/sec)	(cfs)	•
_	17.1	150) ().	0330	0.15	, ,	Sheet Flow,
			•		00		Grass: Dense n= 0.240 P2= 2.84"
	1.7	129	0.	0310	1.23		Shallow Concentrated Flow,
		,	•		0		Short Grass Pasture Kv= 7.0 fps
	3.2	522	2 0.	0082	2.69	16.15	Trap/Vee/Rect Channel Flow,
	3.2	02.	- 0.		2.00		Bot.W=2.00' D=1.00' Z= 4.0 '/' Top.W=10.00'
							n= 0.035
	22.0	801	l To	otal			

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Summary for Reach 9R: Swale 1

Inflow Area = 81.683 ac, 28.47% Impervious, Inflow Depth > 0.88" for 2-yr event

Inflow = 12.79 cfs @ 13.85 hrs, Volume= 6.000 af

Outflow = 12.64 cfs @ 14.09 hrs, Volume= 5.992 af, Atten= 1%, Lag= 14.8 min

Routed to Pond 15P: Existing Depression 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.21 fps, Min. Travel Time= 15.6 min

Avg. Velocity = 0.71 fps, Avg. Travel Time= 26.8 min

Peak Storage= 11,849 cf @ 14.09 hrs

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Average Depth at Peak Storage= 1.02', Surface Width= 20.41' Bank-Full Depth= 5.00' Flow Area= 250.0 sf, Capacity= 874.22 cfs

0.00' x 5.00' deep channel, n= 0.050

Side Slope Z-value= 10.0 '/' Top Width= 100.00'

Length= 1,137.0' Slope= 0.0041 '/'

Inlet Invert= 874.89', Outlet Invert= 870.22'



Summary for Reach 11R: Swale 4

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \overline{@}$ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Pond 22P: Existing Depression 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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= 3.00' Flow Area= 55.8 sf, Capacity= 189.41 cfs

0.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 7.8 4.6 '/' Top Width= 37.20'

Length= 1,795.0' Slope= 0.0028 '/'

Inlet Invert= 868.00', Outlet Invert= 863.00'

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Summary for Reach 13R: Swale 2

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 0.36" for 2-yr event

Inflow = 1.63 cfs @ 18.72 hrs, Volume= 2.018 af

Outflow = 1.62 cfs @ 19.54 hrs, Volume= 1.962 af, Atten= 1%, Lag= 49.3 min

Routed to Pond 15P: Existing Depression 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.78 fps, Min. Travel Time= 55.3 min

Avg. Velocity = 0.64 fps, Avg. Travel Time= 67.1 min

Peak Storage= 5,387 cf @ 19.54 hrs

Prepared by SCS Engineers

Average Depth at Peak Storage= 0.18', Surface Width= 13.53' Bank-Full Depth= 3.00' Flow Area= 120.0 sf, Capacity= 466.95 cfs

10.00' x 3.00' deep channel, n= 0.050

Side Slope Z-value= 10.0 '/' Top Width= 70.00'

Length= 2,591.9' Slope= 0.0084 '/'

Inlet Invert= 892.00', Outlet Invert= 870.22'



Summary for Reach 14R: Swale 3

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \overline{@}$ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Pond 22P: Existing Depression 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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= 3.00' Flow Area= 58.1 sf, Capacity= 290.70 cfs

0.00' x 3.00' deep channel, n= 0.035

Side Slope Z-value= 4.5 8.4 '/' Top Width= 38.70'

Length= 1,492.0' Slope= 0.0082 '/'

Inlet Invert= 877.30', Outlet Invert= 865.00'



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Summary for Reach 15R: Overland Flow

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \bigcirc 0.00 \text{ hrs}$, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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

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Average Depth at Peak Storage= 0.00'

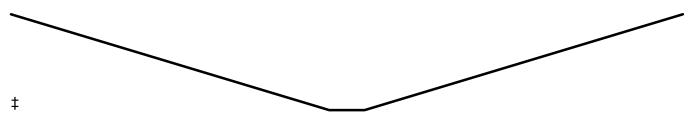
Bank-Full Depth= 3.00' Flow Area= 300.0 sf, Capacity= 1,718.10 cfs

10.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 30.0 '/' Top Width= 190.00'

Length= 2,474.0' Slope= 0.0073 '/'

Inlet Invert= 876.00', Outlet Invert= 858.00'



Summary for Reach 21R: Swale 5

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 22R: Swale 6

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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= 3.00' Flow Area= 30.6 sf, Capacity= 111.43 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.030

Side Slope Z-value= 3.9 2.9 '/' Top Width= 20.40'

Length= 690.6' Slope= 0.0033 '/'

Inlet Invert= 863.60', Outlet Invert= 861.30'

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Summary for Reach 22R: Swale 6

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \bigcirc 0.00 \text{ hrs}$, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Link 21L : Ag. Ditch #4 Tributary

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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'

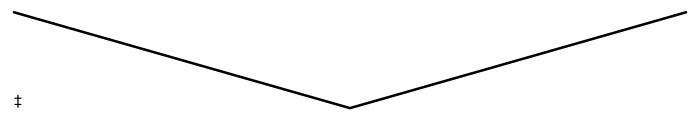
Bank-Full Depth= 3.00' Flow Area= 45.0 sf, Capacity= 168.82 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.030

Side Slope Z-value= 5.0 '/' Top Width= 30.00'

Length= 1,370.6' Slope= 0.0034 '/'

Inlet Invert= 861.30', Outlet Invert= 856.60'



Summary for Pond 1P: Niebuhr Stormwater Pond

Inflow Area = 4.670 ac, 72.16% Impervious, Inflow Depth = 1.68" for 2-yr event

Inflow = 12.59 cfs @ 12.13 hrs, Volume= 0.653 af

Outflow = 1.61 cfs @ 12.59 hrs, Volume= 0.651 af, Atten= 87%, Lag= 27.6 min

Primary = 1.61 cfs @ 12.59 hrs, Volume= 0.651 af

Routed to Pond 4P: County - Storm Pond 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 884.56' @ 12.59 hrs Surf.Area= 18,907 sf Storage= 12,767 cf

Plug-Flow detention time= 104.7 min calculated for 0.651 af (100% of inflow)

Center-of-Mass det. time= 103.5 min (911.6 - 808.0)

Volume	Invert	Avail.Storage	Storage Description
#1	882.60'	54,584 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
882.60	0	0	0
883.00	275	55	55
884.00	9,336	4,806	4,860
885.00	26,430	17,883	22,743
886.00	37,251	31,841	54,584

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MSE 24-hr 4 2-yr Rainfall=2.84"

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Device	Routing	Invert	Outlet Devices
#1	Primary	883.00'	Special & User-Defined
			Head (feet) 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90
			1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10
			2.20 2.30 2.40 2.50
			Disch. (cfs) 0.000 0.030 0.070 0.140 0.210 0.290 0.380 0.480
			0.590 0.700 0.830 0.950 1.080 1.220 1.370 1.520 1.670 1.830
			1.990 2.160 2.330 2.510 2.690 2.880 3.070 3.260
#2	Primary	885.50'	10.0' 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=1.61 cfs @ 12.59 hrs HW=884.56' TW=878.08' (Dynamic Tailwater)

1=Special & User-Defined (Custom Controls 1.61 cfs)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: Sheriff Phase 2 Bioretention

Inflow Area = 0.745 ac, 77.85% Impervious, Inflow Depth = 2.10" for 2-yr event

Inflow = 2.42 cfs @ 12.13 hrs, Volume= 0.130 af

Outflow = 0.32 cfs @ 12.56 hrs, Volume= 0.079 af, Atten= 87%, Lag= 25.9 min

Discarded = 0.01 cfs @ 12.56 hrs, Volume= 0.023 af Primary = 0.31 cfs @ 12.56 hrs, Volume= 0.056 af

Routed to Pond 4P: County - Storm Pond 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 880.71' @ 12.56 hrs Surf.Area= 3,311 sf Storage= 3,338 cf

Plug-Flow detention time= 325.2 min calculated for 0.079 af (61% of inflow)

Center-of-Mass det. time= 238.7 min (1,027.4 - 788.7)

Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	879.5	50' 8,2	89 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevatio (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
879.5	0	2,225	0	0	
880.0	0	2,651	1,219	1,219	
881.0	0	3,579	3,115	4,334	
881.5	0	4,080	1,915	6,249	
882.0	0	4,080	2,040	8,289	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	879.50'	12.0" Round		
				, i	neadwall, Ke= 0.500
					879.00' S= 0.0147 '/' Cc= 0.900
! /O	D	000 501	,	w Area= 0.79 sf	
#2	Device 1	880.50')" H Vert. Orific ir flow at low hea	e /Grate C= 0.600
			Littlica to WC	ii iiow at iow iice	440

MSE 24-hr 4 2-yr Rainfall=2.84"

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#3	Device 1	881.00'	24.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	881.50'	10.0' long x 2.0' 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
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32
#5	Discarded	879.50'	0.500 in/hr Exfiltration over Surface area above 879.50'
			Conductivity to Groundwater Elevation = 875.00'
			Excluded Surface area = 2,225 sf

Discarded OutFlow Max=0.01 cfs @ 12.56 hrs HW=880.71' (Free Discharge) 5=Exfiltration (Controls 0.01 cfs)

Primary OutFlow Max=0.31 cfs @ 12.56 hrs HW=880.71' TW=878.05' (Dynamic Tailwater)

-1=Culvert (Passes 0.31 cfs of 3.19 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.31 cfs @ 1.47 fps)

-3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: County - Storm Pond 2

22.203 ac, 36.68% Impervious, Inflow Depth = 1.07" for 2-yr event Inflow Area =

13.64 cfs @ 12.38 hrs, Volume= Inflow 1.974 af

4.88 cfs @ 13.14 hrs, Volume= Outflow 1.974 af, Atten= 64%, Lag= 45.3 min

0.13 cfs @ 11.19 hrs, Volume= Discarded = 0.186 af Primary 4.75 cfs @ 13.14 hrs, Volume= 1.787 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 878.25' @ 13.14 hrs Surf.Area= 0.655 ac Storage= 0.594 af

0.803

0.918

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 103.8 min (977.8 - 874.1)

0.850

0.986

00.088

881.00

Invert Ava	ail.Storage	Storage Description	
877.20'	2.829 af (Custom Stage Data (Prismatic)Listed below	
Surf.Area		• • • • • • • • • • • • • • • • • • • •	
(acres)	(acre-iee	et) (acre-leet)	
0.253	0.00	0.000	
0.258	0.04	43 0.043	
0.577	0.00	04 0.048	
0.620	0.37	71 0.419	
0.757	0.68	88 1.107	
	877.20' Surf.Area (acres) 0.253 0.258 0.577 0.620	877.20' 2.829 af Surf.Area Inc.Sto (acres) (acre-fee 0.253 0.0 0.258 0.0 0.577 0.0 0.620 0.3	877.20' 2.829 af Custom Stage Data (Prismatic)Listed below Surf.Area (acres) (acre-feet) (acre-feet) 0.253 0.000 0.000 0.258 0.043 0.043 0.577 0.004 0.048 0.620 0.371 0.419

1.911

2.829

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Device	Routing	Invert	Outlet Devices
#1	Primary	877.12'	15.0" Round Culvert X 2.00 L= 39.2' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 877.12' / 877.06' S= 0.0015 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	877.20'	Special & User-Defined Head (feet) 0.00 0.20 0.40 0.60 0.80 1.00 Disch. (cfs) 0.000 0.340 0.960 1.760 2.710 3.790
#3	Device 1	878.20'	30.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#4 #5	Discarded Primary		0.13 cfs Exfiltration at all elevations 30.0' long x 6.0' 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 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.13 cfs @ 11.19 hrs HW=877.24' (Free Discharge) **4=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=4.75 cfs @ 13.14 hrs HW=878.25' TW=876.92' (Dynamic Tailwater)

1=Culvert (Passes 4.75 cfs of 5.59 cfs potential flow)

2=Special & User-Defined (Custom Controls 3.79 cfs)

3=Broad-Crested Rectangular Weir (Weir Controls 0.96 cfs @ 0.59 fps)

-5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5P: Cnty-Storm Basin 1

Inflow Area =	2.220 ac, 9	0.54% Impervious, Infl	ow Depth = 2.20" for 2-yr event
Inflow =	7.44 cfs @	12.13 hrs, Volume=	0.406 af
Outflow =	6.63 cfs @	12.16 hrs, Volume=	0.374 af, Atten= 11%, Lag= 1.8 min
Discarded =	0.03 cfs @	12.16 hrs, Volume=	0.033 af
Primary =	6.60 cfs @	12.16 hrs, Volume=	0.341 af
Routed to Pond	8P : County	- Storm Pond 3	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 881.82' @ 12.16 hrs Surf.Area= 3,702 sf Storage= 5,181 cf

Plug-Flow detention time= 120.7 min calculated for 0.374 af (92% of inflow) Center-of-Mass det. time= 83.0 min (866.8 - 783.8)

Volume	Invert	Avail.Storage	Storage Description
#1	879.72'	10,756 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
879.72	1,306	0	0
880.00	1,599	407	407
881.00	2,711	2,155	2,562
882.00	3,924	3,318	5,879
883.00	5.830	4.877	10.756

	5 "		0.445			
<u>Device</u>	Routing	Invert	Outlet Devices			
#1	Primary	879.72'	18.0" Round Culvert			
			L= 66.5' RCP, sq.cut end projecting, Ke= 0.500			
			Inlet / Outlet Invert= 879.72' / 878.47' S= 0.0188 '/' Cc= 0.900			
			n= 0.013, Flow Area= 1.77 sf			
#2	Device 1	880.72'	6.0" W x 6.0" H Vert. Orifice/Grate C= 0.600			
			Limited to weir flow at low heads			
#3	Device 1	881.50'	36.0" Horiz. Orifice/Grate C= 0.600			
			Limited to weir flow at low heads			
#4	Primary	882.74'	10.0' long x 4.0' 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 5.00 5.50			
			Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66			
			2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32			
#5	Discarded	879.72'	0.500 in/hr Exfiltration over Surface area above 879.72'			
			Conductivity to Groundwater Elevation = 875.00'			
			Excluded Surface area = 1,306 sf			

Discarded OutFlow Max=0.03 cfs @ 12.16 hrs HW=881.82' (Free Discharge) **5=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=6.59 cfs @ 12.16 hrs HW=881.82' TW=878.55' (Dynamic Tailwater)

-1=Culvert (Passes 6.59 cfs of 9.87 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 1.10 cfs @ 4.41 fps)

3=Orifice/Grate (Weir Controls 5.49 cfs @ 1.84 fps)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 6P: CNTY-Infiltration Basin #1

Inflow Area = 4.640 ac, 33.41% Impervious, Inflow Depth = 0.96" for 2-yr event

4.06 cfs @ 12.34 hrs, Volume= Inflow 0.372 af

Outflow 0.71 cfs @ 13.36 hrs, Volume= 0.294 af, Atten= 83%, Lag= 61.3 min

Discarded = 0.06 cfs @ 13.36 hrs, Volume= 0.070 af Primary 0.65 cfs @ 13.36 hrs, Volume= 0.225 af

Routed to Pond 8P: County - Storm Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 882.26' @ 13.36 hrs Surf.Area= 7,653 sf Storage= 7,853 cf

Plug-Flow detention time= 279.0 min calculated for 0.294 af (79% of inflow)

Center-of-Mass det. time= 201.1 min (1,056.7 - 855.6)

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Volume	Inve	rt Avail.Sto	rage Storage	Description	
#1	880.7	1' 30,08	38 cf Custom	Stage Data (Pris	smatic)Listed below (Recalc)
Elevation	n G	Surf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
880.7		3,155	0	0	
881.0		3,568	975	975	
882.0		6,526	5,047	6,022	
883.0		10,890	8,708	14,730	
884.0		19,826	15,358	30,088	
004.0	,,	10,020	10,000	00,000	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	880.71'	12.0" Round	l Culvert	
	-		L= 51.8' RCF	P, sq.cut end proje	ecting, Ke= 0.500
			Inlet / Outlet I	nvert= 880.71' / 8	80.28' S= 0.0083 '/' Cc= 0.900
			,	w Area= 0.79 sf	
#2	Device 1	881.71'	6.0" W x 12.0	" H Vert. Orifice/	Grate C= 0.600
				ir flow at low head	
#3	Device 1	882.71'		Orifice/Grate C=	
				ir flow at low head	
#4	Primary	883.49'			ad-Crested Rectangular Weir
			` ,		80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.5		
					1 2.60 2.66 2.70 2.77 2.89 2.88
	D:		2.85 3.07 3.2		f
#5	Discarded	880.71'			urface area above 880.71'
				o Groundwater El	
			Excluded Sur	face area = 3,155	Sī

Discarded OutFlow Max=0.06 cfs @ 13.36 hrs HW=882.26' (Free Discharge) -5=Exfiltration (Controls 0.06 cfs)

Primary OutFlow Max=0.65 cfs @ 13.36 hrs HW=882.26' TW=878.66' (Dynamic Tailwater)

-1=Culvert (Passes 0.65 cfs of 3.53 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.65 cfs @ 2.38 fps)

-3=Orifice/Grate (Controls 0.00 cfs)

4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 8P: County - Storm Pond 3

16.530 ac, 61.22% Impervious, Inflow Depth = 1.37" for 2-yr event Inflow Area =

31.84 cfs @ 12.14 hrs, Volume= Inflow 1.893 af

Outflow 6.50 cfs @ 12.47 hrs, Volume= 1.863 af, Atten= 80%, Lag= 19.9 min

Primary = 6.50 cfs @ 12.47 hrs, Volume= 1.863 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 878.94' @ 12.47 hrs Surf.Area= 20,781 sf Storage= 31,017 cf

Plug-Flow detention time= 132.6 min calculated for 1.863 af (98% of inflow) Center-of-Mass det. time= 123.4 min (953.7 - 830.3)

MSE 24-hr 4 2-yr Rainfall=2.84"

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Volume	Inver	t Avail.Sto	rage Storage	Description	
#1	877.19	0' 101,76	64 cf Custon	n Stage Data (Pi	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
877.1		14,796	0	0	
878.0	-	17,475	13,070	13,070	
879.0	-	20,998	19,237	32,306	
880.0		24,807	22,903	55,209	
881.0		33,736	29,272	84,480	
881.5	50	35,400	17,284	101,764	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	877.20'	18.0" Round	d Culvert X 2.00	
#2	Device 1	877.20'	Inlet / Outlet n= 0.013, Flo Special & Us Head (feet) 2.00	Invert= 877.20' / ow Area= 1.77 sf ser-Defined 0.00 0.20 0.40 0.000 0.100 0.4	onforming to fill, Ke= 0.500 877.00' S= 0.0063 '/' Cc= 0.900 0.60 0.80 1.00 1.20 1.40 1.60 1.80 00 0.800 1.500 2.500 3.400 4.500
#3	Device 1	879.20'			
#4	Primary	880.00'	30.0' long x Head (feet) (2.50 3.00 3. Coef. (Englis	6.0' breadth Br 0.20 0.40 0.60 .50 4.00 4.50 5	70 2.68 2.68 2.67 2.65 2.65 2.65

Primary OutFlow Max=6.50 cfs @ 12.47 hrs HW=878.94' TW=876.28' (Dynamic Tailwater)

1=Culvert (Passes 6.50 cfs of 14.92 cfs potential flow)

2=Special & User-Defined (Custom Controls 6.50 cfs)

-3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 9P: Storage at NE and SE corners of AB

Inflow Area = 81.683 ac, 28.47% Impervious, Inflow Depth > 0.90" for 2-yr event

Inflow = 21.64 cfs @ 12.88 hrs, Volume= 6.093 af

Outflow = 12.79 cfs @ 13.85 hrs, Volume= 6.000 af, Atten= 41%, Lag= 57.9 min

Primary = 12.79 cfs @ 13.85 hrs, Volume= 6.000 af

Routed to Reach 9R: Swale 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

01_Pre-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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Starting Elev= 875.66' Surf.Area= 32,564 sf Storage= 19,458 cf

Peak Elev= 877.08' @ 13.85 hrs Surf.Area= 69,947 sf Storage= 86,090 cf (66,632 cf above start)

Plug-Flow detention time= 169.1 min calculated for 5.553 af (91% of inflow)

Center-of-Mass det. time= 99.8 min (1,033.5 - 933.7)

Volume	Inve	ert Avail.Sto	rage Storage D	Description	
#1	875.0	0' 640,02	22 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevation	nn.	Surf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
875.0	00	26,400	0	0	
876.0	00	35,739	31,070	31,070	
877.0	00	63,982	49,861	80,930	
878.0	00	141,395	102,689	183,619	
879.0	00	231,121	186,258	369,877	
880.0	00	309,169	270,145	640,022	
Device	Routing	Invert	Outlet Devices		
#1	Primary	875.66'	36.0" Round	Culvert	

L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 875.66' / 874.89' S= 0.0077 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=12.79 cfs @ 13.85 hrs HW=877.08' TW=875.90' (Dynamic Tailwater)
—1=Culvert (Barrel Controls 12.79 cfs @ 5.71 fps)

Summary for Pond 11P: Landfill Pond

Inflow Area = 28.500 ac, 1.16% Impervious, Inflow Depth = 1.13" for 2-yr event

Inflow = 42.29 cfs @ 12.19 hrs, Volume= 2.687 af

Outflow = 4.98 cfs @ 13.15 hrs, Volume= 2.324 af, Atten= 88%, Lag= 57.6 min

Primary = 4.98 cfs @ 13.15 hrs, Volume= 2.324 af

Routed to Pond 12P: Existing Depression 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 880.18' @ 13.15 hrs Surf.Area= 0.712 ac Storage= 1.396 af

Plug-Flow detention time= 416.6 min calculated for 2.324 af (87% of inflow)

Center-of-Mass det. time= 359.2 min (1,196.0 - 836.7)

Volume	Invert	Avail.Storage	Storage Description
#1	877.33'	6.106 af	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
877.33	0.334	0.000	0.000
878.00	0.401	0.246	0.246
879.00	0.497	0.449	0.695
880.00	0.661	0.579	1.274
881.00	0.952	0.806	2.081
882.00	1.214	1.083	3.164
883.00	1.487	1.350	4.514
884.00	1.697	1.592	6.106

Device	Routing	Invert	Outlet Devices
#1	Primary	877.33'	18.0" Round Culvert
	•		L= 69.6' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 877.33' / 875.77' S= 0.0224 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.33'	1.0" Vert. Orifice/Grate X 7.00 C= 0.600
			Limited to weir flow at low heads
#3	Device 1	877.68'	1.0" Vert. Orifice/Grate X 8.00 C= 0.600
			Limited to weir flow at low heads
#4	Device 1	878.03'	1.0" Vert. Orifice/Grate X 9.00 C= 0.600
			Limited to weir flow at low heads
#5	Device 1	879.77'	18.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#6	Primary	882.66'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=4.98 cfs @ 13.15 hrs HW=880.18' TW=875.02' (Dynamic Tailwater)

1=Culvert (Passes 4.98 cfs of 12.32 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.31 cfs @ 8.06 fps)

-3=Orifice/Grate (Orifice Controls 0.33 cfs @ 7.54 fps) **-4=Orifice/Grate** (Orifice Controls 0.34 cfs @ 6.99 fps)

5=Orifice/Grate (Weir Controls 4.00 cfs @ 2.09 fps)

-6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 12P: Existing Depression 1

Inflow Area = 37.190 ac, 5.00% Impervious, Inflow Depth > 0.91" for 2-yr event

Inflow = 8.03 cfs @ 12.18 hrs, Volume= 2.810 af

Outflow = 5.49 cfs @ 13.27 hrs, Volume= 2.811 af, Atten= 32%, Lag= 65.0 min

Primary = 5.49 cfs @ 13.27 hrs, Volume= 2.811 af

Routed to Pond 15P: Existing Depression 2

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 11R: Swale 4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 875.62' @ 18.79 hrs Storage= 40,460 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 148.0 min (1,286.5 - 1,138.4)

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<u>Volume</u>	Invert	Avail.Sto	rage Storage Description
#1	875.00'	174,69	99 cf Custom Stage DataListed below
			•
Elevation	on Cum.S	Store	
(fee	et) (cubic-	feet)	
875.0	00	0	
876.0	00 65	5,278	
877.0	00 110	,909	
878.0	00 136	5,383	
879.0		3,855	
880.0	00 174	,699	
	5		0.44.0
Device	Routing	Invert	Outlet Devices
#1	Primary	874.12'	36.0" Round Culvert L= 100.2' Ke= 0.200
			Inlet / Outlet Invert= 874.12' / 873.48' S= 0.0064 '/' Cc= 0.900
			n= 0.012, Flow Area= 7.07 sf
#2	Secondary	878.00'	Swale to West
			Head (feet) 0.00 0.10 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			1.80 2.00
			Disch. (cfs) 0.000 0.010 0.060 0.350 1.040 2.230 4.050 6.580
			9.930 14.170 19.400 25.690

Primary OutFlow Max=5.49 cfs @ 13.27 hrs HW=875.02' TW=874.15' (Dynamic Tailwater) 1=Culvert (Barrel Controls 5.49 cfs @ 4.61 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=875.00' TW=868.00' (Dynamic Tailwater) 2=Swale to West (Controls 0.00 cfs)

Summary for Pond 13P: YH1 Pond

66.400 ac, 3.28% Impervious, Inflow Depth = 0.51" for 2-yr event Inflow Area =

14.21 cfs @ 12.93 hrs, Volume= Inflow 2.808 af

1.65 cfs @ 17.28 hrs, Volume= 1.65 cfs @ 17.28 hrs, Volume= Outflow 2.072 af, Atten= 88%, Lag= 261.3 min

Primary 2.072 af

Routed to Pond 14P: Small Depression

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 895.75' @ 17.28 hrs Surf.Area= 99,908 sf Storage= 73,276 cf

Plug-Flow detention time= 512.5 min calculated for 2.072 af (74% of inflow)

Center-of-Mass det. time= 416.4 min (1,338.9 - 922.5)

<u>Volume</u>	Invert	Avail.Storage	Storage Description
#1	895.00'	437,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
895.00	94,949	0	0
896.00	101,543	98,246	98,246
897.00	159,762	130,653	228,899
898.00	257,486	208,624	437,523

MSE 24-hr 4 2-yr Rainfall=2.84"

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Device	Routing	Invert	Outlet Devices
#1	Primary	895.00'	12.0" Round Culvert
	-		L= 140.0' RCP, mitered to conform to fill, Ke= 0.700
			Inlet / Outlet Invert= 895.00' / 894.00' S= 0.0071 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Primary	897.00'	10.0' long x 100.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=1.65 cfs @ 17.28 hrs HW=895.75' TW=894.68' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 1.65 cfs @ 2.61 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 14P: Small Depression

66.400 ac, 3.28% Impervious, Inflow Depth > 0.37" for 2-yr event Inflow Area =

1.65 cfs @ 17.28 hrs, Volume= Inflow = 2.072 af

Outflow 1.63 cfs @ 18.72 hrs, Volume= 2.018 af, Atten= 1%, Lag= 86.0 min

Primary = 1.63 cfs @ 18.72 hrs, Volume= 2.018 af

Routed to Reach 13R: Swale 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 894.69' @ 18.72 hrs Surf.Area= 12,059 sf Storage= 6,162 cf

Plug-Flow detention time= 67.2 min calculated for 2.017 af (97% of inflow)

Center-of-Mass det. time= 46.3 min (1,385.2 - 1,338.9)

Volume	Inv	ert Avail.Sto	rage Storage D	Description	
#1	894.0	00' 33,87	74 cf Custom S	Stage Data (Pr	rismatic)Listed below (Recalc)
Classatia		Count Area	In a Ctara	Cura Ctara	
Elevation		Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
894.0	00	5,815	0	0	
895.0	00	14,871	10,343	10,343	
896.0	00	32,190	23,531	33,874	
Device	Routing	Invert	Outlet Devices		
#1	Primary	894.00'	12.0" Round	Culvert	
	,		L= 205.0' RCF	2. sa.cut end pr	rojecting, Ke= 0.500
					892.00' S= 0.0098 '/' Cc= 0.900
			n= 0.012, Flow		
110	D.:	005 501	,		
#2	Primary	895.50'			road-Crested Rectangular Weir
			Head (feet) 0.2	20 0.40 0.60 (0.80 1.00 1.20 1.40 1.60
			Coef. (English)	2.68 2.70 2.7	70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=1.63 cfs @ 18.72 hrs HW=894.69' TW=892.18' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 1.63 cfs @ 2.83 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Summary for Pond 15P: Existing Depression 2

Inflow Area = 248.992 ac, 13.10% Impervious, Inflow Depth > 0.62" for 2-yr event

Inflow = 22.23 cfs @ 13.28 hrs, Volume= 12.908 af

Outflow = 9.32 cfs @ 17.04 hrs, Volume= 12.875 af, Atten= 58%, Lag= 225.8 min

Primary = 9.32 cfs @ 17.04 hrs, Volume= 12.875 af

Routed to Pond 17P: YH3 Pond

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Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 15R: Overland Flow

Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 14R: Swale 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 875.71' @ 17.04 hrs Surf.Area= 75,950 sf Storage= 103,517 cf

Plug-Flow detention time= 119.0 min calculated for 12.871 af (100% of inflow)

Center-of-Mass det. time= 116.4 min (1,254.3 - 1,137.9)

Volume	Inve	ert Avail.Sto	rage Storage I	Description	
#1	870.0	0' 530,88	88 cf Custom	Stage Data (Pr	ismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
870.0	0	1,053	0	0	
873.0	0	9,397	15,675	15,675	
874.0	0	20,404	14,901	30,576	
875.0	0	42,009	31,207	61,782	
876.0	0	89,975	65,992	127,774	
877.0	0	205,811	147,893	275,667	
878.0	0	304,631	255,221	530,888	
Device	Routing	Invert	Outlet Devices	;	
#1	Primary	870.22'	·	CP, sq.cut end	projecting, Ke= 0.500

Device	Routing	mvert	Outlet Devices
#1	Primary	870.22'	18.0" Round Culvert
			L= 2,314.0' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 870.22' / 858.00' S= 0.0053 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Secondary	877.00'	120.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Tertiary	877.30'	Special & User-Defined
			Head (feet) 0.00 0.10 0.20 0.30 0.40 0.60 0.80 1.00
			Disch. (cfs) 0.000 0.030 0.200 0.570 1.230 3.610 7.780 14.110

Primary OutFlow Max=9.32 cfs @ 17.04 hrs HW=875.71' TW=859.34' (Dynamic Tailwater) 1=Culvert (Barrel Controls 9.32 cfs @ 5.27 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=870.00' TW=876.00' (Dynamic Tailwater) 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=870.00' TW=877.30' (Dynamic Tailwater)

3=Special & User-Defined (Controls 0.00 cfs)

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Summary for Pond 17P: YH3 Pond

Inflow Area = 470.972 ac, 9.99% Impervious, Inflow Depth > 0.47" for 2-yr event

Inflow = 32.01 cfs @ 12.88 hrs, Volume= 18.492 af

Outflow = 11.03 cfs @ 23.01 hrs, Volume= 14.738 af, Atten= 66%, Lag= 608.1 min

Primary = 11.03 cfs @ 23.01 hrs, Volume= 14.738 af

Routed to Pond 21P: YH6B Pond

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 859.56' @ 22.98 hrs Surf.Area= 204,190 sf Storage= 296,937 cf

Plug-Flow detention time= 398.3 min calculated for 14.738 af (80% of inflow)

Center-of-Mass det. time= 271.9 min (1,443.8 - 1,171.8)

Volume	Invert	Avail.Stoi	rage Storage	e Description	
#1	858.00'	1,137,52	23 cf Custor	n Stage Data (P	rismatic)Listed below (Recalc)
Elevation (feet)	Surf (s	Area sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
858.00 859.00		2,909 ,060	0 186,985	0 186,985	

859.00		191,060	186,985	186,985	
860.00		214,659	202,860	389,844	
861.00		320,867	267,763	657,607	
862.00		638,965	479,916	1,137,523	
Device	Routing	Invert	Outlet Devices		

Device	Routing	invert	Outlet Devices
#1	Primary	858.00'	36.0" Round Culvert
			L= 1,066.0' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 858.00' / 855.00' S= 0.0028 '/' Cc= 0.900
			n= 0.012, Flow Area= 7.07 sf
#2	Primary	860.50'	125.0' long x 60.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=11.03 cfs @ 23.01 hrs HW=859.56' TW=856.69' (Dynamic Tailwater)

-1=Culvert (Outlet Controls 11.03 cfs @ 4.34 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 18P: YH4 Pond

Inflow Area = 12.220 ac, 4.26% Impervious, Inflow Depth = 0.43" for 2-yr event

Inflow = 3.67 cfs @ 12.38 hrs, Volume= 0.443 af

Outflow = 0.40 cfs @ 15.27 hrs, Volume= 0.380 af, Atten= 89%, Lag= 172.9 min

Primary = 0.40 cfs @ 15.27 hrs, Volume= 0.380 af

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 861.41' @ 15.27 hrs Surf.Area= 25,237 sf Storage= 9,750 cf

Plug-Flow detention time= 378.9 min calculated for 0.380 af (86% of inflow)

Center-of-Mass det. time= 317.8 min (1,215.4 - 897.5)

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Volume	Inve	ert Avail.Sto	rage Storage I	Description			
#1	861.0	00' 64,00	1 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)		
Elevation (fee	et) 00	Surf.Area (sq-ft) 21,906	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)			
862.0 863.0	-	29,959 46,479	25,933	25,933 64,001			
003.0	JO	46,178	38,069	04,001			
Device	Routing	Invert	Outlet Devices	3			
#1	Primary	861.00'	8.0" Round Culvert				
#2	Primary	861.80'	Inlet / Outlet In n= 0.012, Flow 20.0' long x 5 Head (feet) 0.	nvert= 861.00' / w Area= 0.35 st 50.0' breadth B .20 0.40 0.60	rojecting, Ke= 0.500 859.76' S= 0.0050'/' Cc= 0.900 f Broad-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 70 2.64 2.63 2.64 2.64 2.63		

Primary OutFlow Max=0.40 cfs @ 15.27 hrs HW=861.41' TW=859.12' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 0.40 cfs @ 2.52 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 19P: YH5 Pond

Inflow Area = 2.350 ac, 51.91% Impervious, Inflow Depth = 1.13" for 2-yr event

Inflow = 4.07 cfs @ 12.15 hrs, Volume= 0.222 af

Outflow = 0.08 cfs @ 17.88 hrs, Volume= 0.120 af, Atten= 98%, Lag= 343.6 min

Primary = 0.08 cfs @ 17.88 hrs, Volume= 0.120 af

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 865.18' @ 17.88 hrs Surf.Area= 39,749 sf Storage= 7,048 cf

Plug-Flow detention time= 627.2 min calculated for 0.120 af (54% of inflow)

Center-of-Mass det. time= 522.6 min (1,355.9 - 833.3)

Volume	Inv	ert Avail.Sto	rage Storage [Description	
#1	865.0	00' 93,4	14 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
Elevation	on	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
865.0	00	38,602	0	0	
866.0	00	44,980	41,791	41,791	
867.0	00	58,266	51,623	93,414	
	_				
Device	Routing	Invert	Outlet Devices	•	
#1	Primary	866.50'	65.0' long x 1	5.0' breadth B	road-Crested Rectangular Weir
	•				0.80 1.00 1.20 1.40 1.60
			` ,		70 2.64 2.63 2.64 2.64 2.63
#2	Primary	865.00'	8.0" Round C	,	

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L= 170.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 865.00' / 864.15' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.08 cfs @ 17.88 hrs HW=865.18' TW=859.41' (Dynamic Tailwater)

-1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Barrel Controls 0.08 cfs @ 1.62 fps)

Summary for Pond 20P: YH6-A

Inflow Area = 9.070 ac, 24.04% Impervious, Inflow Depth = 0.86" for 2-yr event

Inflow = 8.27 cfs @ 12.26 hrs, Volume= 0.648 af

Outflow = 1.83 cfs @ 12.43 hrs, Volume= 0.637 af, Atten= 78%, Lag= 10.2 min

Primary = 1.83 cfs @ 12.43 hrs, Volume= 0.637 af

Routed to Pond 21P: YH6B Pond

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Starting Elev= 856.60' Surf.Area= 60,840 sf Storage= 127,764 cf

Peak Elev= 856.76' @ 13.32 hrs Surf.Area= 62,375 sf Storage= 137,621 cf (9,857 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= 195.3 min (1,051.0 - 855.7)

Volume	Invert	Avail.Sto	rage Storage	Description	
#1	854.50'	667,6	59 cf Custon	n Stage Data (Pri	ismatic)Listed below (Recalc)
Elevation	Sur	f.Area	Inc.Store	Cum.Store	
(feet)		(sq-ft)	(cubic-feet)	(cubic-feet)	
854.50	6	60,840	0	0	
856.60	6	80,840	127,764	127,764	
857.00	6	64,679	25,104	152,868	
858.00	7	73,339	69,009	221,877	
859.00	g	90,134	81,737	303,613	
860.00	10	9,122	99,628	403,241	
861.00	12	29,626	119,374	522,615	
862.00	16	80,461	145,044	667,659	
Device F	Routing	Invert	Outlet Device	es	

evice Routing Invert Outlet Devices
#1 Primary 854.50' **18.0" Round Culvert**

L= 55.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 854.50' / 854.22' S= 0.0051 '/' Cc= 0.900

n= 0.024, Flow Area= 1.77 sf

Primary OutFlow Max=1.81 cfs @ 12.43 hrs HW=856.72' TW=856.63' (Dynamic Tailwater) 1=Culvert (Outlet Controls 1.81 cfs @ 1.02 fps)

MSE 24-hr 4 2-yr Rainfall=2.84"

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Summary for Pond 21P: YH6B Pond

Inflow Area = 579.442 ac, 9.62% Impervious, Inflow Depth > 0.40" for 2-yr event

Inflow = 28.02 cfs @ 12.57 hrs, Volume= 19.272 af

Outflow = 14.72 cfs (a) 13.18 hrs, Volume= 19.219 af, Atten= 47%, Lag= 36.6 min

Primary = 14.72 cfs @ 13.18 hrs, Volume= 19.219 af

Routed to Link 22L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Starting Elev= 856.60' Surf.Area= 282,460 sf Storage= 556,446 cf

Peak Elev= 856.72' @ 13.18 hrs Surf.Area= 287,761 sf Storage= 591,118 cf (34,672 cf above start)

Plug-Flow detention time= 878.1 min calculated for 6.443 af (33% of inflow)

Center-of-Mass det. time= 27.8 min (1,349.6 - 1,321.9)

Volume	Invert	Avail.Storage	Storage Description		
#1	854.63'	2,032,289 cf	Custom Stage Data (Prismatic)Listed below (Recalc)		
Elevation	Surf	Area Inc	o Store Cum Store		

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
854.63	282,460	0	0
856.60	282,460	556,446	556,446
857.00	299,898	116,472	672,918
858.00	336,652	318,275	991,193
859.00	486,957	411,805	1,402,997
860.00	771,626	629,292	2,032,289

Device	Routing	Invert	Outlet Devices
#1	Primary	854.63'	42.0" Round Culvert X 2.00

L= 28.0' CMP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900

n= 0.024. Flow Area= 9.62 sf

Primary OutFlow Max=14.72 cfs @ 13.18 hrs HW=856.72' TW=856.60' (Dynamic Tailwater) 1=Culvert (Outlet Controls 14.72 cfs @ 1.76 fps)

Summary for Pond 22P: Existing Depression 3

Inflow Area = 30.220 ac, 19.56% Impervious, Inflow Depth = 0.55" for 2-yr event

Inflow = 15.85 cfs @ 12.26 hrs, Volume= 1.375 af

Outflow = 0.15 cfs @ 24.12 hrs, Volume= 0.149 af, Atten= 99%, Lag= 711.9 min

Primary = 0.15 cfs @ 24.12 hrs, Volume= 0.149 af

Routed to Pond 17P: YH3 Pond

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 21R: Swale 5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 863.03' @ 24.12 hrs Surf.Area= 1.452 ac Storage= 1.322 af

Plug-Flow detention time= 868.4 min calculated for 0.149 af (11% of inflow)

Center-of-Mass det. time= 719.5 min (1,597.8 - 878.3)

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Volume	Invert A	vail.Stora	ige Stora	age Description
#1	860.00'	12.833	af Cust	tom Stage Data (Prismatic)Listed below (Recalc)
- 1	O	1	. 04	0.000 01.000
Elevatio		• • • • • • • • • • • • • • • • • • • •	c.Store	Cum.Store
(fee		,	re-feet)	(acre-feet)
860.0			0.000	0.000
861.0	0.016	5	0.011	0.011
862.0			0.283	0.294
863.0	0 1.425)	0.987	1.281
864.0	0 2.395)	1.910	3.191
865.0	0 2.865)	2.630	5.821
866.0	0 3.493	}	3.179	9.000
867.0	0 4.172) -	3.833	12.833
Dovice	Douting	lovert	Outlet De	ovices
Device	Routing	Invert		
#1	Primary	862.84'		ound Culvert
				RCP, sq.cut end projecting, Ke= 0.500
				utlet Invert= 862.84' / 861.39' S= 0.0472 '/' Cc= 0.900
				, Flow Area= 0.79 sf
#2	Primary	865.74'		g x 12.0' breadth Broad-Crested Rectangular Weir
				et) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
				nglish) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#3	Secondary	863.60'		ROW to West
			•	eet) 0.00 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.20 2.40	
				fs) 0.000 0.630 1.850 4.000 7.240 11.780 17.770 25.370
			34.720 4	15.990 59.290 74.770

Primary OutFlow Max=0.15 cfs @ 24.12 hrs HW=863.03' TW=859.55' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 0.15 cfs @ 1.48 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=860.00' TW=863.60' (Dynamic Tailwater) 3=Swale in ROW to West (Controls 0.00 cfs)

Summary for Pond 28P: Salt Shed Basin

Inflow Area = 0.203 ac, 53.20% Impervious, Inflow Depth = 1.84" for 2-yr event

Inflow 0.59 cfs @ 12.13 hrs, Volume= 0.031 af

0.25 cfs @ 12.25 hrs, Volume= Outflow 0.018 af, Atten= 58%, Lag= 7.1 min

0.25 cfs @ 12.25 hrs, Volume= Primary 0.018 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 882.88' @ 12.25 hrs Surf.Area= 732 sf Storage= 628 cf

Plug-Flow detention time= 170.6 min calculated for 0.018 af (58% of inflow)

Center-of-Mass det. time= 80.4 min (881.4 - 801.0)

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Volume	Inve	ert Avail.Sto	rage Storage	Description			
#1	881.5	0' 1,16	63 cf Custon	n Stage Data (P	rismatic)Listed below (Recalc)		
Elevation	on	Surf.Area	Inc.Store	Cum.Store			
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)			
881.5	50	212	0	0			
882.0	00	363	144	144			
883.0	00	781	572	716			
883.5	50	1,009	448	1,163			
Device	Routing	Invert	Outlet Device	es			
#1	Primary	881.50'	6.0" Round	Culvert			
					projecting, Ke= 0.500		
			· -		880.80' S= 0.0052 '/' Cc= 0.900		
			n= 0.013, Flow Area= 0.20 sf				
#2	Device 1	882.80'	12.0" Horiz. Orifice/Grate C= 0.600				
πо	Duineau	002.001		eir flow at low hea			
#3	Primary	883.00'			oad-Crested Rectangular Weir		
			2.50 3.00 3.		0.80 1.00 1.20 1.40 1.60 1.80 2.00		
					61 2.60 2.66 2.70 2.77 2.89 2.88		
			2.85 3.07 3.		2.00 2.00 2.10 2.11 2.00 2.00		

Primary OutFlow Max=0.25 cfs @ 12.25 hrs HW=882.88' TW=875.96' (Dynamic Tailwater)

1=Culvert (Passes 0.25 cfs of 0.57 cfs potential flow)

2=Orifice/Grate (Weir Controls 0.25 cfs @ 0.95 fps)

-3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link 21L: Ag. Ditch #4 Tributary

Inflow Area = 37.620 ac, 33.12% Impervious, Inflow Depth = 0.96" for 2-yr event

Inflow = 25.58 cfs @ 12.53 hrs, Volume= 3.015 af

Primary = 25.57 cfs @ 12.79 hrs, Volume= 3.015 af, Atten= 0%, Lag= 15.6 min

Routed to Link 22L: Combined to Ag Ditch #4

Primary outflow = Inflow delayed by 15.8 min, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 22L: Combined to Ag Ditch #4

Inflow Area = 634.952 ac, 10.79% Impervious, Inflow Depth > 0.43" for 2-yr event

Inflow = 41.71 cfs @ 12.81 hrs, Volume= 22.990 af

Primary = 41.71 cfs @ 12.81 hrs, Volume= 22.990 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Fixed water surface Elevation= 856.60'

01_Pre-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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Summary for Link 24L: Door Creek Combined

Inflow Area = 39.177 ac, 13.85% Impervious, Inflow Depth = 0.56" for 2-yr event

Inflow = 12.88 cfs @ 12.57 hrs, Volume= 1.814 af

Primary = 12.88 cfs @ 12.57 hrs, Volume= 1.814 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 25L: Combine

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 56L: Lag to Door Creek

Inflow Area = 0.750 ac, 0.00% Impervious, Inflow Depth = 0.31" for 2-yr event

Inflow = 0.17 cfs @ 12.24 hrs, Volume= 0.019 af

Primary = 0.16 cfs @ 12.67 hrs, Volume= 0.019 af, Atten= 0%, Lag= 25.7 min

Routed to Link 24L: Door Creek Combined

Primary outflow = Inflow delayed by 25.6 min, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Summary for Subcatchment 1S: C1

Runoff = 16.51 cfs @ 12.13 hrs, Volume= 0.865 af, Depth= 2.22"

Routed to Pond 1P: Niebuhr Stormwater Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	cription		
*	3.	370	98				
_	1.	300	61	>75%	√ Grass co	over, Good,	d, HSG B
	4.	670	88	Weig	hted Aver	age	
	1.	1.300 27.84% Pervious Area					
	3.	370		72.16	6% Imperv	∕ious Area	
	_						
	Tc	Leng		Slope	Velocity	Capacity	Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 2S: C2

Runoff = 5.58 cfs @ 12.48 hrs, Volume= 0.668 af, Depth= 0.82"

Routed to Pond 4P: County - Storm Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac) C	N Des	cription		
*	1.020		98			
	5.	655 6	31 >75°	% Grass c	over, Good	. HSG B
					omb., Goo	
*					R + CR, Go	
_				ghted Aver		
		7 4 5 (,	3% Pervio	•	
		020			/ious Area	
	١.	020	10.4	70 IIIIpei	nous Alea	
	Тс	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	Boomphon
_	7.9	91	0.0830	0.19	(3.5)	Sheet Flow,
	1.5	01	0.0000	0.10		Grass: Dense n= 0.240 P2= 2.84"
	6.4	59	0.0300	0.15		Sheet Flow,
	0.4	33	0.0000	0.10		Cultivated: Residue>20% n= 0.170 P2= 2.84"
	11.9	573	0.0080	0.80		Shallow Concentrated Flow,
	11.9	373	0.0000	0.00		· · · · · · · · · · · · · · · · · · ·
	3.3	337	0.0030	1.69	11 17	Cultivated Straight Rows Kv= 9.0 fps Channel Flow,
	3.3	331	0.0030	1.09	11.17	Area= 6.6 sf Perim= 13.4' r= 0.49' n= 0.030
	4.4	224	0.0050	2.24	10.40	
	1.1	224	0.0050	3.31	10.40	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
_						n= 0.020 Corrugated PE, corrugated interior
_	20.6	1 201	Total			n= 0.020 Corrugated PE, corrugated interior

30.6 1,284 Total

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Summary for Subcatchment 3S: C3-A

Runoff = 12.75 cfs @ 12.35 hrs, Volume= 1.158 af, Depth= 1.97"

Routed to Pond 4P: County - Storm Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac) C	N Desc	cription		
*	2.	900 9	98			
*	3.	870 7	74 >759	% Grass c	over, Good	, HSG B
	0.	273	98 Wate	er Surface	, HSG B	
	7.	043 8	35 Weig	ghted Aver	age	
	3.	870	54.9	5% Pervio	us Area	
	3.	173	45.0	5% Imper	vious Area	
	_		01		0 "	
	Tc	Length	Slope	Velocity		Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	12.1	86	0.0260	0.12		Sheet Flow,
				4.05		Grass: Dense n= 0.240 P2= 2.84"
	0.9	68	0.0220	1.25		Sheet Flow,
	0.4	4 000	0.0050	4.00	45.40	Smooth surfaces n= 0.011 P2= 2.84"
	9.1	1,026	0.0050	1.88	15.43	•
						Bot.W=0.00' D=1.00' Z= 8.2 '/' Top.W=16.40'
	4.4	224	0.0050	0.76	0.00	n= 0.035
	1.4	224	0.0050	2.76	8.66	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
	0.4	50	0.0056	7.00	40.04	n= 0.024
	0.1	59	0.0056	7.06	49.91	Pipe Channel,
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'
_	00.0	4 400	T.4.1			n= 0.013
	23.6	1,463	Total			

Summary for Subcatchment 4S: C3-B

Runoff = 3.05 cfs @ 12.13 hrs, Volume= 0.167 af, Depth= 2.69" Routed to Pond 3P : Sheriff Phase 2 Bioretention

	Area (ac)	CN	Description						
*	0.580	98							
*	0.165	74	>75% Grass cover, Good, HSG B						
	0.745	93	Weighted Average						
	0.165		22.15% Pervious Area						
	0.580		77.85% Impervious Area						

01_Pre-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 5-yr Rainfall=3.45"

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry,

Summary for Subcatchment 5S: C4-A

Runoff = 9.29 cfs @ 12.13 hrs, Volume= 0.516 af, Depth= 2.79"

Routed to Pond 5P: Cnty-Storm Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	cription							
*	2.	010	98									
	0.	210	61	>75%	% Grass co	over, Good	, HSG B					
2.220 94 Weighted Average												
	0.	210		9.46	% Perviou	s Area						
	2.010				4% Imperv	ious Area						
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description					
	6.0		•				Direct Entry,					

Summary for Subcatchment 7S: C4-C

Runoff = 1.90 cfs @ 12.13 hrs, Volume= 0.097 af, Depth= 1.74"

Routed to Pond 8P: County - Storm Pond 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	cription						
*	0.	230	98								
*	0.	440	74	>759	% Grass co	over, Good	I, HSG B				
	0.670 82 Weighted Average										
	0.440 65.67% Pervious Area										
	0.230			34.3	3% Imper	∕ious Area					
	Tc Leng		•		Velocity	Capacity	Description				
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)					
	6.0						Direct Entry,				

Summary for Subcatchment 8S: C4-D

Runoff = 31.82 cfs @ 12.13 hrs, Volume= 1.667 af, Depth= 2.22"

Routed to Pond 8P : County - Storm Pond 3

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	Area	(ac)	CN	Desc	cription						
*	6.	030	98								
	2.	030	61	>759	>75% Grass cover, Good, HSG B						
*	0.	640	74	>759	% Grass co	over, Good	I, HSG C				
	0.	300	98	Wate	er Surface,	HSG B					
	9.	000	88	Weig	ghted Aver	age					
	2.	670		29.6	7% Pervio	us Area					
	6.	330		70.3	3% Imperv	ious Area					
	Тс	Leng	jth	Slope	Velocity	Capacity	Description				
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)					
	6.0						Direct Entry,				

Summary for Subcatchment 9S: C5

Runoff = 11.68 cfs @ 12.26 hrs, Volume= 0.900 af, Depth= 1.33"

Routed to Pond 9P: Storage at NE and SE corners of AB

	Area (ac)		CN Description							
*	2.	270	98							
	2.	940	61 >75	>75% Grass cover, Good, HSG B						
	0.	144		>75% Grass cover, Good, HSG C						
*		277		Row crops, SR + CR, Good, HSG B						
		494		ow, bare so	,	, -				
	8	125		ghted Aver						
		855)6% Pervio						
		270		94% Imper						
				,						
	Tc	Length	Slope	Velocity	Capacity	Description				
	(min)	(feet)		(ft/sec)	(cfs)	'				
	1.9	220	0.0370	1.94	,	Sheet Flow,				
						Smooth surfaces n= 0.011 P2= 2.84"				
	8.7	80	0.0260	0.15		Sheet Flow,				
						Cultivated: Residue>20% n= 0.170 P2= 2.84"				
	2.5	188	0.0200	1.27		Shallow Concentrated Flow,				
						Cultivated Straight Rows Kv= 9.0 fps				
	2.3	380	0.0090	2.70	59.39	Trap/Vee/Rect Channel Flow,				
						Bot.W=4.00' D=1.00' Z= 6.0 & 30.0 '/' Top.W=40.00'				
						n= 0.035				
	1.0	193	0.0010	3.23	22.85	Pipe Channel,				
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'				
						n= 0.012				
	16.4	1,061	Total							

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Summary for Subcatchment 10S: C6

Runoff = 16.88 cfs @ 12.82 hrs, Volume= 2.820 af, Depth= 0.98"

Routed to Pond 9P: Storage at NE and SE corners of AB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area (ac)		CN Des	cription							
*	1.	864	98								
	7.	605	61 >75	% Grass co	over, Good	, HSG B					
	5.	438			over, Good						
	_			Woods/grass comb., Good, HSG B							
*				Row crops, SR + CR, Good, HSG B							
*						od, HSG C					
_				er Surface							
	_	-		ghted Aver							
		800		5% Pervio							
	2.	614	7.55	6% Impervi	ous Area						
	т.	1 41-	Olana.	\	0	Description					
	Tc	Length		Velocity	Capacity	Description					
_	(min)	(feet)		(ft/sec)	(cfs)	Oh a st Elana					
	26.9	300	0.1190	0.19		Sheet Flow,					
	6.6	395	0.0400	1.00		Woods: Light underbrush n= 0.400 P2= 2.84" Shallow Concentrated Flow,					
	0.0	393	0.0400	1.00		Woodland Kv= 5.0 fps					
	3.5	218	0.0440	1.05		Shallow Concentrated Flow,					
	0.0	210	0.0440	1.00		Woodland Kv= 5.0 fps					
	15.6	688	0.0067	0.74		Shallow Concentrated Flow,					
			0.000.	• • • • • • • • • • • • • • • • • • • •		Cultivated Straight Rows Kv= 9.0 fps					
	0.5	74	0.0050	2.65	8.32						
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'					
						n= 0.025					
	3.7	529	0.0060	2.41	38.62	Trap/Vee/Rect Channel Flow,					
						Bot.W=0.00' D=1.00' Z= 16.0 '/' Top.W=32.00'					
_						n= 0.030					
	56.8	2,204	Total								

Summary for Subcatchment 11S: C7 - Landfill

Runoff = 60.21 cfs @ 12.19 hrs, Volume= 3.792 af, Depth= 1.60"

Routed to Pond 11P: Landfill Pond

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 Area	(ac)	CN	Desc	ription		
0.	440	96	Grav	el surface	, HSG B	
27.730 80 >75% Grass cover, Good,						, HSG D
 0.330 98 Water Surface, HSG B						
28.500 80 Weighted Average						
28.	170		98.8	4% Pervio	us Area	
0.	330		1.16	% Impervi	ous Area	
Тс	Leng		Slope	Velocity	Capacity	Description
 (min) (feet) (ft/ft) (ft/sec) (cfs)					(cfs)	
11.0						Direct Entry, TOC from Landfill's SWMP

Summary for Subcatchment 12S: C8

Runoff = 12.01 cfs @ 12.18 hrs, Volume= 0.747 af, Depth= 1.03"

Routed to Pond 12P: Existing Depression 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

Area	(ac) C	N Des	cription						
* 1.	380	98							
4.	420	61 >75	>75% Grass cover, Good, HSG B						
0.	200	74 >75	>75% Grass cover, Good, HSG C						
2.	540	72 Woo	Woods/grass comb., Good, HSG C						
0.	150	98 Wat	er Surface	, HSG B					
8.	690	71 Wei	ghted Aver	rage					
7.	160	82.3	9% Pervio	us Area					
1.	530	17.6	31% Imper	vious Area					
Tc	Length	•	Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
0.6	31	0.0140	0.89		Sheet Flow,				
					Smooth surfaces n= 0.011 P2= 2.84"				
1.6	10	0.0520	0.10		Sheet Flow,				
					Grass: Dense n= 0.240 P2= 2.84"				
5.6	1,329	0.0170	3.93	11.78	Trap/Vee/Rect Channel Flow,				
					Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00'				
4 -	400	0.0500	4.04		n= 0.030				
1.7	168	0.0530	1.61		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
9.5	1,538	Total							

Summary for Subcatchment 13S: C9 and C10

Runoff = 6.16 cfs @ 12.13 hrs, Volume= 0.323 af, Depth= 2.22"

Routed to Pond 15P: Existing Depression 2

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	Area (a	ac) (CN	Desc	ription							
*	1.2	15	98									
	0.3	66	61	>75%	% Grass co	over, Good	d, HSG B					
	0.1	60	74	>75%	√ Grass co	over, Good	d, HSG C					
	1.7	41	88	Weig	hted Aver	age						
	0.5	26		30.2	1% Pervio	us Area						
	1.2	15		69.79	9% Imperv	ious Area						
	Tc (min)	Length (feet)		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description					
	6.0	• '		, ,	•	, ,	Direct Entry,					

Summary for Subcatchment 14S: YH1

Runoff = 25.44 cfs @ 12.87 hrs, Volume= 4.549 af, Depth= 0.82"

Routed to Pond 13P: YH1 Pond

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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

Area (ac) CN Description									
22.	700	61 >	75% Gras	ss cov	ver, Good	, HSG B			
27.	890	74 >	75% Gras	ss cov	ver, Good	, HSG C			
4.8	830	48 B	rush, God	od, HS	SG B				
8.8	800	65 B	rush, Good, HSG C						
2.	180	98 V	ater Surf	ace, I	HSG B				
66.	66.400 67 Weighted Average								
64.	220	9	3.72% Pe	rviou	s Area				
2.	180	3	28% Imp	ervio	us Area				
_									
Tc	Length			-	Capacity	Description			
(min)	(feet)	(ft/	ft) (ft/se	ec)	(cfs)				
21.0	150	0.020	00 0.	.12		Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.84"			
36.9	2,018	0.01	70 0.	.91		Shallow Concentrated Flow,			
						Short Grass Pasture Kv= 7.0 fps			
57.9	2,168	Total							

Summary for Subcatchment 15S: YH2

Runoff = 18.08 cfs @ 12.85 hrs, Volume= 3.282 af, Depth= 0.64"

Routed to Pond 15P: Existing Depression 2

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Area	(ac) C	N Desc	cription		
* 4.098 9 19.840 6 10.130 7 4.830 5 12.800 4 10.280 6		74 >759 58 Wood 18 Brus 55 Brus 53 Weig 93.3	% Grass c	HSG C rage us Area	, HSG C
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.4	150	0.0430	0.16	,	Sheet Flow,
17.3	1,216	0.0280	1.17		Grass: Dense n= 0.240 P2= 2.84" Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.7	206	0.0100	4.91	3.86	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
1.6	234	0.0040	2.38	38.12	n= 0.012 Trap/Vee/Rect Channel Flow, Bot.W=8.00' D=1.00' Z= 8.0 '/' Top.W=24.00'
0.1	35	0.0140	9.23	29.00	24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
3.8	591	0.0130	2.58	51.61	n= 0.012 Trap/Vee/Rect Channel Flow, Bot.W=10.00' D=1.00' Z= 10.0 '/' Top.W=30.00' n= 0.050
8.3	745	0.0100	1.50		Shallow Concentrated Flow,
4.9	608	0.0080	2.09	36.53	Grassed Waterway Kv= 15.0 fps Trap/Vee/Rect Channel Flow, Bot.W=10.00' D=1.00' Z= 10.0 & 5.0 '/' Top.W=25.00' n= 0.050
52.1	3,785	Total			

Summary for Subcatchment 16S: C11-16

Runoff = 28.05 cfs @ 12.24 hrs, Volume= 2.197 af, Depth= 0.87" Routed to Pond 22P : Existing Depression 3

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	Area	(ac)	CN	Desc	cription				
*	5.	910	98						
	18.	18.130 61		>75% Grass cover, Good, HSG B					
	1.	510	74	>75% Grass cover, Good, HSG C					
	3.	010	55	Woods, Good, HSG B					
	0.	570	70		ds, Good,				
	1.	090	48		h, Good, Ì				
	30.220 68		68		hted Aver				
	24.	310		80.4	4% Pervio	us Area			
	5.	910		19.5	6% Imper\	∕ious Area			
	_		_						
	Tc	Length		Slope	Velocity	Capacity	Description		
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	0.3	23	0.0	0530	1.43		Sheet Flow,		
							Smooth surfaces n= 0.011 P2= 2.84"		
	2.5	23	3 0.0	0920	0.15		Sheet Flow,		
							Grass: Dense		
	0.6	64	1.0	0120	1.64		Shallow Concentrated Flow,		
							Grassed Waterway Kv= 15.0 fps		
	11.0	1,807	0.0	0078	2.73	16.93	Trap/Vee/Rect Channel Flow,		
							Bot.W=0.00' D=1.00' Z= 4.8 & 7.6 '/' Top.W=12.40'		
							n= 0.030		
	14.4	1,917	7 To	otal					

Summary for Subcatchment 17S: YH3

Runoff = 48.87 cfs @ 12.78 hrs, Volume= 8.745 af, Depth= 0.59"

Routed to Pond 17P: YH3 Pond

	Area (ac)	CN	Description
*	2.600	98	
	106.380	61	>75% Grass cover, Good, HSG B
	26.310	74	>75% Grass cover, Good, HSG C
	31.110	48	Brush, Good, HSG B
	6.590	65	Brush, Good, HSG C
	4.200	98	Water Surface, HSG B
	177.190	62	Weighted Average
	170.390		96.16% Pervious Area
	6.800		3.84% Impervious Area

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 Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.8	150	0.0230	0.13		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.84"
25.0	1,662	0.0250	1.11		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
1.2	219	0.0090	2.95	29.50	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 10.0 '/' Top.W=20.00'
					n= 0.030
2.5	885	0.0110	5.98	7.34	Pipe Channel,
					15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'
					n= 0.012
10 E	2.016	Total			

48.5 2,916 Total

Summary for Subcatchment 18S: YH4

Runoff = 7.18 cfs @ 12.36 hrs, Volume= 0.739 af, Depth= 0.73"

Routed to Pond 18P: YH4 Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

_	Area	(ac) (CN Des	scription				
9.630 61 >75% Grass cover, Good, HSG B								
2.070 74 >75% Grass cover, Good, HSG C								
0.520 98 Water Surface, HSG A								
	12.	220	65 We	ighted Ave	rage			
	11.	700	95.	74% Pervic	us Area			
	0.	520	4.2	4.26% Impervious Area				
	Tc (min)	Length (feet)	Slope (ft/ft)		Capacity (cfs)	Description		
	13.0	150	0.0660	0.19		Sheet Flow,		
	8.6	470	0.0170	0.91		Grass: Dense n= 0.240 P2= 2.84" Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps		
_	21.6	620	Total			Chort Grade i detare itt 7.0 ips		

Summary for Subcatchment 19S: YH5

Runoff = 5.78 cfs @ 12.15 hrs, Volume= 0.313 af, Depth= 1.60"

Routed to Pond 19P: YH5 Pond

MSE 24-hr 4 5-yr Rainfall=3.45"

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	Area	(ac)	CN	Desc	cription		
*	0.	330	98				
	1.	130	61	>75%	% Grass co	over, Good	, HSG B
	0.	890	98	Wate	er Surface,	, HSG A	
	2.	350	80	Weig	hted Aver	age	
	1.	130		48.0	9% Pervio	us Area	
	1.	220		51.9	1% Imperv	/ious Area	
	Tc (min)	Lengt		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.2	1	1 0	.0300	0.98	, ,	Sheet Flow,
	7.1	8	7 0	.1000	0.20		Smooth surfaces n= 0.011 P2= 2.84" Sheet Flow, Grass: Dense n= 0.240 P2= 2.84"
	7.3	9	8 T	otal			

Summary for Subcatchment 20S: YH6A Pond

Runoff = 12.60 cfs @ 12.25 hrs, Volume= 0.957 af, Depth= 1.27"

Routed to Pond 20P: YH6-A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	cription		
*	0.	780	98				
	2.	870	61	>75%	√ Grass co	over, Good	, HSG B
	4.	020	73	Brus	h, Good, H	HSG D	
	1.	400	98	Wate	er Surface	, HSG C	
9.070 75 Weighted Average							
	6.	890		75.9	6% Pervio	us Area	
	2.	180		24.0	4% Imperv	/ious Area	
	Тс	Length	n S	lope	Velocity	Capacity	Description
	(min)	(feet)		(ft/ft)	(ft/sec)	(cfs)	2 coonpact
	12.3	150	0.0	750	0.20	, ,	Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.84"
	3.4	285	5 0.0	0980	1.38		Shallow Concentrated Flow,
							Short Grass Pasture Kv= 7.0 fps
	15.7	435	5 To	tal			

Summary for Subcatchment 21S: YH6-B

Runoff = 48.83 cfs @ 12.57 hrs, Volume= 6.406 af, Depth= 0.77"

Routed to Pond 21P: YH6B Pond

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	Area	(ac) (CN [Desc	cription				
54.330 61 >75% Grass cover, Good, I							, HSG B		
	4.340 48 Brush, Good, HSG B								
	7.	610	65 E	Brus	h, Good, F	HSG C			
	26.	640	73 E	Brush, Good, HSG D					
_	6.	480	98 \	Wate	er Surface,	, HSG A			
	99.	400	66 \	Weig	hted Aver	age			
	92.	920	ę	93.48	8% Pervio	us Area			
	6.	480	(6.529	% Impervi	ous Area			
	Tc	Length		ope	Velocity	Capacity	Description		
_	(min)	(feet)	(fl	t/ft)	(ft/sec)	(cfs)			
	19.2	150	0.02	250	0.13		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.84"		
	15.4	889	0.01	190	0.96		Shallow Concentrated Flow,		
							Short Grass Pasture Kv= 7.0 fps		
	34.6	1,039	Tota	al					

Summary for Subcatchment 23S: C17-C25

Runoff = 38.05 cfs @ 12.50 hrs, Volume= 4.369 af, Depth= 1.39"

Routed to Link 21L : Ag. Ditch #4 Tributary

	Area (ac)	CN	Description						
*	12.460	98							
	16.840	61	>75% Grass cover, Good, HSG B						
	0.360	74	>75% Grass cover, Good, HSG C						
	7.960	80	>75% Grass cover, Good, HSG D						
	37.620	77	Weighted Average						
	25.160		66.88% Pervious Area						
	12.460		33.12% Impervious Area						

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.6	150	0.0720	0.20		Sheet Flow,
2.1	129	0.0210	1.01		Grass: Dense n= 0.240 P2= 2.84" Shallow Concentrated Flow,
'	120	0.0210	1.01		Short Grass Pasture Kv= 7.0 fps
2.8	318	0.0087	1.89		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
0.3	79	0.0830	4.32		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
1.6	341	0.0180	3.54	17.33	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 6.0 & 3.8 '/' Top.W=9.80'
					n= 0.035
0.5	150	0.0050	5.52	17.33	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.012
14.6	1,367	0.0035	1.56	7.81	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 5.0 '/' Top.W=10.00'
					n= 0.035
34.5	2,534	Total			

Summary for Subcatchment 24S: C26

Runoff = 6.10 cfs @ 13.07 hrs, Volume= 1.226 af, Depth= 0.82"

Routed to Link 22L: Combined to Ag Ditch #4

	Area (ac)	CN	Description
*	0.360	98	
	0.140	61	>75% Grass cover, Good, HSG B
	0.040	74	>75% Grass cover, Good, HSG C
	3.940	48	Brush, Good, HSG B
	1.810	65	Brush, Good, HSG C
	11.600	73	Brush, Good, HSG D
	17.890	67	Weighted Average
	17.530		97.99% Pervious Area
	0.360		2.01% Impervious Area

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	40.0	150	0.0110	0.06		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.84"
	9.7	380	0.0170	0.65		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	0.4	58	0.0050	2.76	8.66	Pipe Channel, CMP_Round 24"
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.024
	0.2	59	0.0260	4.99	29.91	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'
						n= 0.030
	19.3	2,177	0.0007	1.88	53.14	Trap/Vee/Rect Channel Flow,
						Bot.W=4.00' D=3.00' Z= 1.8 '/' Top.W=14.80'
_						n= 0.030
	69 6	2 824	Total			

Summary for Subcatchment 25S: C27

noff = 13.15 cfs @ 12.53 hrs, Volume= Routed to Link 24L : Door Creek Combined Runoff

1.565 af, Depth= 1.09"

	Area	(ac) (CN De	scription						
*	3.	827	98 im	impervious						
	8.	477	61 >7	5% Grass c	over, Good	, HSG B				
	0.289 74			>75% Grass cover, Good, HSG C						
	0.	246	80 >7	>75% Grass cover, Good, HSG D						
*	3.	840	70 Ro	w crops, SF	R + CR, Go	od, HSG B				
*	0.	090		w crops, SF						
	0.	490		low, bare s		,				
	17.	259	72 We	ighted Ave	rage					
	13.	432	77.	83% Pervio	us Area					
	3.	827	22.	17% Imper	vious Area					
	Тс	Length	Slope	e Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft	(ft/sec)	(cfs)					
	13.5	150	0.0300	0.18		Sheet Flow,				
						Cultivated: Residue>20% n= 0.170 P2= 2.84"				
	2.3	150	0.0140	1.06		Shallow Concentrated Flow,				
						Cultivated Straight Rows Kv= 9.0 fps				
	10.3	482	0.012	0.78		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
	7.6	1,570	0.012	3.45	18.44	Trap/Vee/Rect Channel Flow,				
						Bot.W=0.00' D=1.00' Z= 4.0 & 6.7 '/' Top.W=10.70'				
						n= 0.030				
	0.6	163	0.0800	4.24		Shallow Concentrated Flow,				
						Grassed Waterway Kv= 15.0 fps				
	34.3	2,515	Total							

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Summary for Subcatchment 26S: C28A & C28B

Runoff = 9.21 cfs @ 12.57 hrs, Volume= 1.281 af, Depth= 0.73"

Routed to Link 24L: Door Creek Combined

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

_	Area (ac)		N Desc	cription					
*	1.	598 9	98 impe	ervious					
	6.420		31 >759	>75% Grass cover, Goo		, HSG B			
	1.116		30 >759	% Grass co	over, Good	, HSG D			
	6.805			ds, Good,					
*	5.	229	70 Row	Row crops, SR + CR, Good, HSG B					
	21.	168 6	168 65 Weighted Average						
	19.	570	92.45% Perviou		us Area				
	1.	598	7.55	7.55% Impervious Area					
	Тс	Length	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	16.1	150	0.1070	0.16		Sheet Flow,			
						Woods: Light underbrush n= 0.400 P2= 2.84"			
	1.2	150	0.1730	2.08		Shallow Concentrated Flow,			
						Woodland Kv= 5.0 fps			
	3.6	365	0.0360	1.71		Shallow Concentrated Flow,			
						Cultivated Straight Rows Kv= 9.0 fps			
	5.3	651	0.0120	2.04	16.34	,			
	0.0	070	0.0000	4.70		Area= 8.0 sf Perim= 16.1' r= 0.50' n= 0.050			
	2.6	273	0.0390	1.78		Shallow Concentrated Flow,			
	7.0	4 74 4	0.0440	0.07	05.70	Cultivated Straight Rows Kv= 9.0 fps			
	7.8	1,714	0.0140	3.67	25.72	•			
_						Area= 7.0 sf Perim= 14.1' r= 0.50' n= 0.030			
	36.6	3,303	Total						

Summary for Subcatchment 27S: Salt Loading Area

Runoff = 0.76 cfs @ 12.13 hrs, Volume= 0.041 af, Depth= 2.40"

Routed to Pond 28P: Salt Shed Basin

	Area (sf)	CN	Description
*	4,694	98	
*	4,130	80	>75% Grass cover, Good, compacted, HSG C
	8,824	90	Weighted Average
	4,130		46.80% Pervious Area
	4,694		53.20% Impervious Area

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MSE 24-hr 4 5-yr Rainfall=3.45"

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
6.0					Direct Entry,

Summary for Subcatchment 28S: Luds Lane

Runoff = 0.41 cfs @ 12.22 hrs, Volume= 0.034 af, Depth= 0.55"

Routed to Link 56L: Lag to Door Creek

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

Area	(ac) C	N Desc	ription						
0.	0.750 61 >75% Grass cover, Good, HSG B								
0.	0.750 100.00% Pervious Area								
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
11.3	71	0.0210	0.10		Sheet Flow, Grass: Dense	n= 0.240	P2= 2.84"		

Summary for Subcatchment 51S: C4-B

Runoff = 6.02 cfs @ 12.34 hrs, Volume= 0.539 af, Depth= 1.39"

Routed to Pond 6P: CNTY-Infiltration Basin #1

	Area	(ac)	CN	Desc	cription				
*	1.550 98								
	1.935 61		61	>75% Grass cover, Good, HSG B					
	1.155 74			>75% Grass cover, Good, HSG C					
_	4.640 77			Weighted Average					
		090		66.59% Pervious Area					
	_	550		33.4	1% Imperv	ious Area			
	Tc	Length	n S	Slope	Velocity	Capacity	Description		
	(min)	(feet		(ft/ft)	(ft/sec)	(cfs)	'		
_	17.1	150	0.0	0330	0.15	, ,	Sheet Flow,		
					00		Grass: Dense n= 0.240 P2= 2.84"		
	1.7	129	0.0	0310	1.23		Shallow Concentrated Flow,		
		,			0		Short Grass Pasture Kv= 7.0 fps		
	3.2	522	2 0.0	0082	2.69	16.15	Trap/Vee/Rect Channel Flow,		
	3.2	02.	_				Bot.W=2.00' D=1.00' Z= 4.0 '/' Top.W=10.00'		
							n= 0.035		
	22.0	801	l To	otal					

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Summary for Reach 9R: Swale 1

Inflow Area = 81.683 ac, 28.47% Impervious, Inflow Depth > 1.29" for 5-yr event

Inflow = 19.70 cfs @ 13.80 hrs, Volume= 8.795 af

Outflow = 19.55 cfs @ 14.00 hrs, Volume= 8.787 af, Atten= 1%, Lag= 12.4 min

Routed to Pond 15P: Existing Depression 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.35 fps, Min. Travel Time= 14.0 min

Avg. Velocity = 0.75 fps, Avg. Travel Time= 25.4 min

Peak Storage= 16,439 cf @ 14.00 hrs

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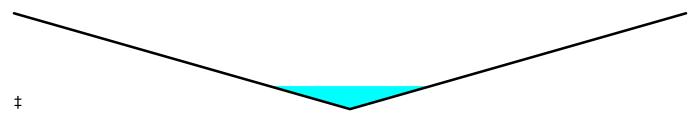
Average Depth at Peak Storage= 1.20', Surface Width= 24.05' Bank-Full Depth= 5.00' Flow Area= 250.0 sf, Capacity= 874.22 cfs

 $0.00' \times 5.00'$ deep channel, n= 0.050

Side Slope Z-value= 10.0 '/' Top Width= 100.00'

Length= 1,137.0' Slope= 0.0041 '/'

Inlet Invert= 874.89', Outlet Invert= 870.22'



Summary for Reach 11R: Swale 4

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \overline{@}$ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Pond 22P: Existing Depression 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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= 3.00' Flow Area= 55.8 sf, Capacity= 189.41 cfs

0.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 7.8 4.6 '/' Top Width= 37.20'

Length= 1,795.0' Slope= 0.0028 '/'

Inlet Invert= 868.00', Outlet Invert= 863.00'



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Summary for Reach 13R: Swale 2

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 0.64" for 5-yr event

Inflow = 2.70 cfs @ 19.06 hrs, Volume= 3.538 af

Outflow = 2.70 cfs @ 19.65 hrs, Volume= 3.464 af, Atten= 0%, Lag= 35.5 min

Routed to Pond 15P: Existing Depression 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.93 fps, Min. Travel Time= 46.7 min Avg. Velocity = 0.78 fps, Avg. Travel Time= 55.4 min

Peak Storage= 7,556 cf @ 19.65 hrs

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Average Depth at Peak Storage= 0.24', Surface Width= 14.72' Bank-Full Depth= 3.00' Flow Area= 120.0 sf, Capacity= 466.95 cfs

10.00' x 3.00' deep channel, n= 0.050

Side Slope Z-value= 10.0 '/' Top Width= 70.00'

Length= 2,591.9' Slope= 0.0084 '/'

Inlet Invert= 892.00', Outlet Invert= 870.22'



Summary for Reach 14R: Swale 3

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \overline{@}$ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Pond 22P: Existing Depression 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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= 3.00' Flow Area= 58.1 sf, Capacity= 290.70 cfs

0.00' x 3.00' deep channel, n= 0.035

Side Slope Z-value= 4.5 8.4 '/' Top Width= 38.70'

Length= 1,492.0' Slope= 0.0082 '/'

Inlet Invert= 877.30', Outlet Invert= 865.00'



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Summary for Reach 15R: Overland Flow

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 Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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

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Average Depth at Peak Storage= 0.00'

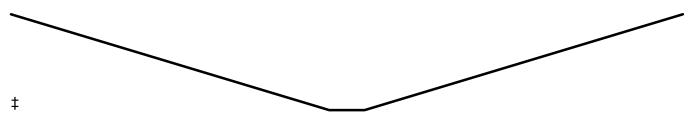
Bank-Full Depth= 3.00' Flow Area= 300.0 sf, Capacity= 1,718.10 cfs

10.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 30.0 '/' Top Width= 190.00'

Length= 2,474.0' Slope= 0.0073 '/'

Inlet Invert= 876.00', Outlet Invert= 858.00'



Summary for Reach 21R: Swale 5

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 22R: Swale 6

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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= 3.00' Flow Area= 30.6 sf, Capacity= 111.43 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.030

Side Slope Z-value= 3.9 2.9 '/' Top Width= 20.40'

Length= 690.6' Slope= 0.0033 '/'

Inlet Invert= 863.60', Outlet Invert= 861.30'

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Summary for Reach 22R: Swale 6

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 Link 21L: Ag. Ditch #4 Tributary

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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

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Average Depth at Peak Storage= 0.00'

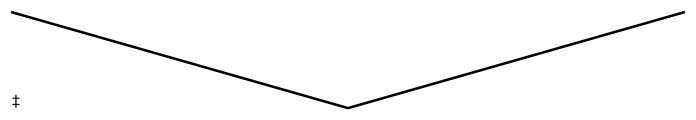
Bank-Full Depth= 3.00' Flow Area= 45.0 sf, Capacity= 168.82 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.030

Side Slope Z-value= 5.0 '/' Top Width= 30.00'

Length= 1,370.6' Slope= 0.0034 '/'

Inlet Invert= 861.30', Outlet Invert= 856.60'



Summary for Pond 1P: Niebuhr Stormwater Pond

Inflow Area = 4.670 ac, 72.16% Impervious, Inflow Depth = 2.22" for 5-yr event

Inflow = 16.51 cfs @ 12.13 hrs, Volume= 0.865 af

Outflow = 1.97 cfs @ 12.61 hrs, Volume= 0.864 af, Atten= 88%, Lag= 28.4 min

Primary = 1.97 cfs @ 12.61 hrs, Volume= 0.864 af

Routed to Pond 4P: County - Storm Pond 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 884.79' @ 12.61 hrs Surf.Area= 22,763 sf Storage= 17,467 cf

Plug-Flow detention time= 115.1 min calculated for 0.864 af (100% of inflow)

Center-of-Mass det. time= 114.1 min (915.5 - 801.4)

Volume	Invert	Avail.Storage	Storage Description
#1	882.60'	54,584 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
882.60	0	0	0
883.00	275	55	55
884.00	9,336	4,806	4,860
885.00	26,430	17,883	22,743
886.00	37,251	31,841	54,584

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MSE 24-hr 4 5-yr Rainfall=3.45" Printed 9/27/2023

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Device	Routing	Invert	Outlet Devices
#1	Primary	883.00'	Special & User-Defined
			Head (feet) 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90
			1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10
			2.20 2.30 2.40 2.50
			Disch. (cfs) 0.000 0.030 0.070 0.140 0.210 0.290 0.380 0.480
			0.590 0.700 0.830 0.950 1.080 1.220 1.370 1.520 1.670 1.830
			1.990 2.160 2.330 2.510 2.690 2.880 3.070 3.260
#2	Primary	885.50'	
			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=1.97 cfs @ 12.61 hrs HW=884.79' TW=878.40' (Dynamic Tailwater)

1=Special & User-Defined (Custom Controls 1.97 cfs)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: Sheriff Phase 2 Bioretention

Inflow Area = 0.745 ac, 77.85% Impervious, Inflow Depth = 2.69" for 5-yr event

Inflow = 3.05 cfs @ 12.13 hrs, Volume= 0.167 af

Outflow = 0.63 cfs @ 12.41 hrs, Volume= 0.115 af, Atten= 79%, Lag= 16.8 min

Discarded = 0.02 cfs @ 12.41 hrs, Volume= 0.023 af Primary = 0.61 cfs @ 12.41 hrs, Volume= 0.092 af

Routed to Pond 4P: County - Storm Pond 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 880.89' @ 12.41 hrs Surf.Area= 3,474 sf Storage= 3,936 cf

Plug-Flow detention time= 259.6 min calculated for 0.115 af (69% of inflow)

Center-of-Mass det. time= 180.1 min (963.1 - 783.0)

<u>Volume</u>	Inve	ert Avail.Sto	rage Storage	Description	
#1	879.5	8,28	39 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation	on	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
879.5	50	2,225	0	0	
880.0	00	2,651	1,219	1,219	
881.0	00	3,579	3,115	4,334	
881.5	50	4,080	1,915	6,249	
882.0	00	4,080	2,040	8,289	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	879.50'	12.0" Round	Culvert	
	•		L= 34.0' CPF	P, square edge h	neadwall, Ke= 0.500
			Inlet / Outlet I	nvert= 879.50' /	879.00' S= 0.0147 '/' Cc= 0.900
			,	w Area= 0.79 sf	
#2	Device 1	880.50'			e/Grate C= 0.600
			Limited to wei	r flow at low hea	ıds

MSE 24-hr 4 5-yr Rainfall=3.45"

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#3	Device 1	881.00'	24.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	881.50'	10.0' long x 2.0' 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
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32
#5	Discarded	879.50'	0.500 in/hr Exfiltration over Surface area above 879.50'
			Conductivity to Groundwater Elevation = 875.00'
			Excluded Surface area = 2,225 sf

Discarded OutFlow Max=0.02 cfs @ 12.41 hrs HW=880.89' (Free Discharge) 5=Exfiltration (Controls 0.02 cfs)

Primary OutFlow Max=0.61 cfs @ 12.41 hrs HW=880.89' TW=878.12' (Dynamic Tailwater)

-1=Culvert (Passes 0.61 cfs of 3.56 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.61 cfs @ 2.44 fps)

-3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: County - Storm Pond 2

Inflow Area = 22.203 ac, 36.68% Impervious, Inflow Depth = 1.50" for 5-yr event

20.03 cfs @ 12.38 hrs, Volume= Inflow 2.781 af

7.89 cfs @ 12.97 hrs, Volume= Outflow 2.781 af, Atten= 61%, Lag= 35.5 min

0.13 cfs @ 10.64 hrs, Volume= Discarded = 0.201 af Primary 7.76 cfs @ 12.97 hrs, Volume= 2.580 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 878.54' @ 12.97 hrs Surf.Area= 0.694 ac Storage= 0.791 af

Plug-Flow detention time= 94.1 min calculated for 2.781 af (100% of inflow)

Center-of-Mass det. time= 94.2 min (962.7 - 868.5)

Volume	Invert	Avail.Storage	Storage Description
#1	877.20'	2.829 af	Custom Stage Data (Prismatic)Listed below
Elevation (feet)	Surf.Are		
877.20	0.25	53 0.0	000 0.000

877.20	0.253	0.000	0.000
877.37	0.258	0.043	0.043
877.38	0.577	0.004	0.048
878.00	0.620	0.371	0.419
879.00	0.757	0.688	1.107
880.00	0.850	0.803	1.911
881.00	0.986	0.918	2.829

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Device	Routing	Invert	Outlet Devices
#1	Primary	877.12'	15.0" Round Culvert X 2.00 L= 39.2' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 877.12' / 877.06' S= 0.0015 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	877.20'	Special & User-Defined Head (feet) 0.00 0.20 0.40 0.60 0.80 1.00 Disch. (cfs) 0.000 0.340 0.960 1.760 2.710 3.790
#3	Device 1	878.20'	30.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#4 #5	Discarded Primary		0.13 cfs Exfiltration at all elevations 30.0' long x 6.0' 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 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.13 cfs @ 10.64 hrs HW=877.24' (Free Discharge) **4=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=7.76 cfs @ 12.97 hrs HW=878.54' TW=877.26' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 7.76 cfs @ 3.48 fps)

2=Special & User-Defined (Passes < 3.79 cfs potential flow)
3=Broad-Crested Rectangular Weir (Passes < 15.49 cfs potential flow)

-5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5P: Cnty-Storm Basin 1

Inflow Area =	2.220 ac, 90.54% Imperv	vious, Inflow Depth = 2	2.79" for 5-yr event
Inflow =	9.29 cfs @ 12.13 hrs, V	olume= 0.516 a	f
Outflow =	8.51 cfs @ 12.16 hrs, V	olume= 0.483 a ⁻	f, Atten= 8%, Lag= 1.6 min
Discarded =	0.03 cfs @ 12.16 hrs, V	olume= 0.035 a	f
Primary =	8.48 cfs @ 12.16 hrs, V	olume= 0.448 a ⁻	f
Routed to Pond	8P: County - Storm Pond	3	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 881.88' @ 12.16 hrs Surf.Area= 3,783 sf Storage= 5,432 cf

Plug-Flow detention time= 103.7 min calculated for 0.483 af (94% of inflow) Center-of-Mass det. time= 72.1 min (850.5 - 778.4)

Volume	Invert	Avail.Storage	Storage Description
#1	879.72'	10.756 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
879.72	1,306	0	0
880.00	1,599	407	407
881.00	2,711	2,155	2,562
882.00	3,924	3,318	5,879
883.00	5.830	4.877	10.756

Device	Routing	Invert	Outlet Devices
#1	Primary	879.72'	18.0" Round Culvert
			L= 66.5' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 879.72' / 878.47' S= 0.0188 '/' Cc= 0.900
			n= 0.013, Flow Area= 1.77 sf
#2	Device 1	880.72'	6.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#3	Device 1	881.50'	36.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	882.74'	10.0' long x 4.0' 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 5.00 5.50
			Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66
			2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#5	Discarded	879.72'	
			Conductivity to Groundwater Elevation = 875.00'
			Excluded Surface area = 1,306 sf

Discarded OutFlow Max=0.03 cfs @ 12.16 hrs HW=881.88' (Free Discharge) **5=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=8.46 cfs @ 12.16 hrs HW=881.88' TW=878.97' (Dynamic Tailwater)

1=Culvert (Passes 8.46 cfs of 10.12 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.15 cfs @ 4.59 fps)

3=Orifice/Grate (Weir Controls 7.31 cfs @ 2.02 fps)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 6P: CNTY-Infiltration Basin #1

Inflow Area = 4.640 ac, 33.41% Impervious, Inflow Depth = 1.39" for 5-yr event

Inflow = 6.02 cfs @ 12.34 hrs, Volume= 0.539 af

Outflow = 1.40 cfs @ 12.99 hrs, Volume= 0.460 af, Atten= 77%, Lag= 39.2 min

Discarded = 0.08 cfs @ 12.99 hrs, Volume= 0.076 af Primary = 1.32 cfs @ 12.99 hrs, Volume= 0.384 af

Routed to Pond 8P: County - Storm Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 882.59' @ 12.99 hrs Surf.Area= 9,089 sf Storage= 10,607 cf

Plug-Flow detention time= 215.1 min calculated for 0.460 af (85% of inflow)

Center-of-Mass det. time= 154.7 min (1,000.9 - 846.2)

MSE 24-hr 4 5-yr Rainfall=3.45"

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Volume	Invert	Avail.Stor	rage Storage	Description			
#1	880.71'	30,08	38 cf Custom	Stage Data (Prisn	natic)Listed below (Recalc)		
				0 01			
Elevation		urf.Area	Inc.Store	Cum.Store			
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)			
880.7	71	3,155	0	0			
881.0	00	3,568	975	975			
882.0	00	6,526	5,047	6,022			
883.0	00	10,890	8,708	14,730			
884.0	00	19,826	15,358	30,088			
Device	Routing	Invert	Outlet Device	s			
#1	Primary	880.71'	12.0" Round	l Culvert			
			L= 51.8' RC	P, sq.cut end projec	cting, Ke= 0.500		
			Inlet / Outlet I	nvert= 880.71' / 880	0.28' S= 0.0083 '/' Cc= 0.900		
			n= 0.013, Flo	w Area= 0.79 sf			
#2	Device 1	881.71'	6.0" W x 12.0" H Vert. Orifice/Grate C= 0.600				
			Limited to weir flow at low heads				
#3	Device 1	882.71'	24.0" Horiz. Orifice/Grate C= 0.600				
			Limited to weir flow at low heads				
#4	Primary	883.49'	20.0' long x 2.0' breadth Broad-Crested Rectangular Weir				
	•				0 1.00 1.20 1.40 1.60 1.80 2.00		
			2.50 3.00 3.				
			Coef. (English	n) 2.54 2.61 2.61	2.60 2.66 2.70 2.77 2.89 2.88		
			2.85 3.07 3.1				
#5	Discarded	880.71'	0.500 in/hr E	xfiltration over Su	rface area above 880.71'		
			Conductivity t	o Groundwater Elev	vation = 875.00'		
				face area = 3,155 s			
				,			

Discarded OutFlow Max=0.08 cfs @ 12.99 hrs HW=882.59' (Free Discharge) -5=Exfiltration (Controls 0.08 cfs)

Primary OutFlow Max=1.32 cfs @ 12.99 hrs HW=882.59' TW=879.06' (Dynamic Tailwater)

-1=Culvert (Passes 1.32 cfs of 4.08 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 1.32 cfs @ 3.01 fps)

-3=Orifice/Grate (Controls 0.00 cfs)

4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 8P: County - Storm Pond 3

16.530 ac, 61.22% Impervious, Inflow Depth = 1.89" for 5-yr event Inflow Area =

41.82 cfs @ 12.14 hrs, Volume= Inflow 2.597 af

Outflow 14.11 cfs @ 12.31 hrs, Volume= 2.565 af, Atten= 66%, Lag= 10.3 min

Primary = 14.11 cfs @ 12.31 hrs, Volume= 2.565 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 879.30' @ 12.31 hrs Surf.Area= 22,157 sf Storage= 38,870 cf

Plug-Flow detention time= 114.7 min calculated for 2.565 af (99% of inflow) Center-of-Mass det. time= 107.2 min (932.2 - 825.0)

MSE 24-hr 4 5-yr Rainfall=3.45"

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Volume	Inver	t Avail.Sto	rage Storage	Description	
#1	877.19	9' 101,76	64 cf Custon	n Stage Data (Pi	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
877.1		14,796	0	0	
878.0		17,475	13,070	13,070	
879.0		20,998	19,237	32,306	
880.0	00	24,807	22,903	55,209	
881.0	00	33,736	29,272	84,480	
881.5	50	35,400	17,284	101,764	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	877.20'	18.0" Round	d Culvert X 2.00	
#2	Device 1	877.20'	Inlet / Outlet n= 0.013, Flo Special & Us Head (feet) 2.00	Invert= 877.20' / ow Area= 1.77 sf ser-Defined 0.00 0.20 0.40	onforming to fill, Ke= 0.500 877.00' S= 0.0063 '/' Cc= 0.900 0.60 0.80 1.00 1.20 1.40 1.60 1.80 00 0.800 1.500 2.500 3.400 4.500
#3	Device 1	879.20'	5.600 6.900 8.300 68.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32		
#4	Primary	880.00'	30.0' long x Head (feet) (2.50 3.00 3. Coef. (Englis	6.0' breadth Br 0.20 0.40 0.60 50 4.00 4.50 5	70 2.68 2.68 2.67 2.65 2.65 2.65

Primary OutFlow Max=14.10 cfs @ 12.31 hrs HW=879.30' TW=876.33' (Dynamic Tailwater)

1=Culvert (Passes 14.10 cfs of 17.63 cfs potential flow)

2=Special & User-Defined (Custom Controls 8.30 cfs)

-3=Broad-Crested Rectangular Weir (Weir Controls 5.80 cfs @ 0.82 fps)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 9P: Storage at NE and SE corners of AB

Inflow Area = 81.683 ac, 28.47% Impervious, Inflow Depth > 1.31" for 5-yr event

Inflow = 34.95 cfs @ 12.81 hrs, Volume= 8.893 af

Outflow = 19.70 cfs (a) 13.80 hrs, Volume= 8.795 af, Atten= 44%, Lag= 59.3 min

Primary = 19.70 cfs @ 13.80 hrs, Volume= 8.795 af

Routed to Reach 9R: Swale 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

01_Pre-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 5-yr Rainfall=3.45" Printed 9/27/2023

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Starting Elev= 875.66' Surf.Area= 32,564 sf Storage= 19,458 cf

Peak Elev= 877.50' @ 13.80 hrs Surf.Area= 102,735 sf Storage= 122,659 cf (103,201 cf above start)

Plug-Flow detention time= 142.5 min calculated for 8.346 af (94% of inflow)

Center-of-Mass det. time= 93.5 min (1,011.1 - 917.6)

Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	875.0	00' 640,02	22 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
875.0	00	26,400	0	0	
876.0	00	35,739	31,070	31,070	
877.0	00	63,982	49,861	80,930	
878.0	00	141,395	102,689	183,619	
879.0	00	231,121	186,258	369,877	
880.0	00	309,169	270,145	640,022	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	875.66'	36.0" Round	Culvert	

L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 875.66' / 874.89' S= 0.0077 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=19.70 cfs @ 13.80 hrs HW=877.50' TW=876.09' (Dynamic Tailwater)
—1=Culvert (Barrel Controls 19.70 cfs @ 6.20 fps)

Summary for Pond 11P: Landfill Pond

Inflow Area = 28.500 ac, 1.16% Impervious, Inflow Depth = 1.60" for 5-yr event

Inflow = 60.21 cfs @ 12.19 hrs, Volume= 3.792 af

Outflow = 9.31 cfs @ 12.73 hrs, Volume= 3.400 af, Atten= 85%, Lag= 32.5 min

Primary = 9.31 cfs @ 12.73 hrs, Volume= 3.400 af

Routed to Pond 12P: Existing Depression 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 880.70' @ 12.73 hrs Surf.Area= 0.866 ac Storage= 1.812 af

Plug-Flow detention time= 310.9 min calculated for 3.400 af (90% of inflow)

Center-of-Mass det. time= 264.1 min (1,092.4 - 828.3)

Volume	Invert	Avail.Storage	Storage Description
#1	877.33'	6.106 af	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
877.33	0.334	0.000	0.000
878.00	0.401	0.246	0.246
879.00	0.497	0.449	0.695
880.00	0.661	0.579	1.274
881.00	0.952	0.806	2.081
882.00	1.214	1.083	3.164
883.00	1.487	1.350	4.514
884.00	1.697	1.592	6.106

Device	Routing	Invert	Outlet Devices
#1	Primary	877.33'	18.0" Round Culvert
	•		L= 69.6' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 877.33' / 875.77' S= 0.0224 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.33'	1.0" Vert. Orifice/Grate X 7.00 C= 0.600
			Limited to weir flow at low heads
#3	Device 1	877.68'	1.0" Vert. Orifice/Grate X 8.00 C= 0.600
			Limited to weir flow at low heads
#4	Device 1	878.03'	1.0" Vert. Orifice/Grate X 9.00 C= 0.600
			Limited to weir flow at low heads
#5	Device 1	879.77'	18.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#6	Primary	882.66'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=9.31 cfs @ 12.73 hrs HW=880.70' TW=875.20' (Dynamic Tailwater)

1=Culvert (Passes 9.31 cfs of 13.79 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.34 cfs @ 8.79 fps)

-3=Orifice/Grate (Orifice Controls 0.36 cfs @ 8.32 fps)

-4=Orifice/Grate (Orifice Controls 0.38 cfs @ 7.81 fps)

5=Orifice/Grate (Orifice Controls 8.23 cfs @ 4.66 fps)

-6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 12P: Existing Depression 1

Inflow Area = 37.190 ac, 5.00% Impervious, Inflow Depth > 1.34" for 5-yr event

Inflow = 13.67 cfs @ 12.32 hrs, Volume= 4.148 af

Outflow = 7.96 cfs @ 12.84 hrs, Volume= 4.011 af, Atten= 42%, Lag= 30.7 min

Primary = 7.96 cfs @ 12.84 hrs, Volume= 4.011 af

Routed to Pond 15P: Existing Depression 2

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 11R: Swale 4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 876.89' @ 20.48 hrs Storage= 106,082 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 565.5 min (1,614.3 - 1,048.8)

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Volume	Invert	Avail.Sto	rage	Storage Description
#1	875.00'	174,69	99 cf	Custom Stage DataListed below
		. .		
Elevatio				
(fee	t) (cubic-	<u>-feet)</u>		
875.0	0	0		
876.0	0 65	5,278		
877.0	0 110),909		
878.0	0 136	3,383		
879.0	0 156	6,855		
880.0		1,699		
		•		
Device	Routing	Invert	Outl	et Devices
#1	Primary	874.12'	36.0	" Round Culvert L= 100.2' Ke= 0.200
	,		Inlet	: / Outlet Invert= 874.12' / 873.48' S= 0.0064 '/' Cc= 0.900
			n= 0	0.012, Flow Area= 7.07 sf
#2	Secondary	878.00'		ale to West
	,		Hea	d (feet) 0.00 0.10 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
				2.00
				ch. (cfs) 0.000 0.010 0.060 0.350 1.040 2.230 4.050 6.580
				30 14.170 19.400 25.690

Primary OutFlow Max=7.84 cfs @ 12.84 hrs HW=875.22' TW=874.33' (Dynamic Tailwater) 1=Culvert (Outlet Controls 7.84 cfs @ 4.96 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=875.00' TW=868.00' (Dynamic Tailwater) 2=Swale to West (Controls 0.00 cfs)

Summary for Pond 13P: YH1 Pond

66.400 ac, 3.28% Impervious, Inflow Depth = 0.82" for 5-yr event Inflow Area =

25.44 cfs @ 12.87 hrs, Volume= Inflow = 4.549 af

2.78 cfs @ 16.34 hrs, Volume= 2.78 cfs @ 16.34 hrs, Volume= Outflow 3.611 af, Atten= 89%, Lag= 208.1 min

Primary 3.611 af

Routed to Pond 14P: Small Depression

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 896.19' @ 16.34 hrs Surf.Area= 112,821 sf Storage= 119,008 cf

Plug-Flow detention time= 499.9 min calculated for 3.611 af (79% of inflow)

Center-of-Mass det. time= 419.6 min (1,326.7 - 907.1)

<u>Volume</u>	Invert	Avail.Storage	Storage Description
#1	895.00'	437,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
895.00	94,949	0	0
896.00	101,543	98,246	98,246
897.00	159,762	130,653	228,899
898.00	257,486	208,624	437,523

MSE 24-hr 4 5-yr Rainfall=3.45"

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Device	Routing	Invert	Outlet Devices
#1	Primary	895.00'	12.0" Round Culvert
			L= 140.0' RCP, mitered to conform to fill, Ke= 0.700
			Inlet / Outlet Invert= 895.00' / 894.00' S= 0.0071 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Primary	897.00'	10.0' long x 100.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=2.78 cfs @ 16.34 hrs HW=896.19' TW=894.95' (Dynamic Tailwater)

1=Culvert (Inlet Controls 2.78 cfs @ 3.54 fps)

—2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 14P: Small Depression

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 0.65" for 5-yr event

Inflow = 2.78 cfs @ 16.34 hrs, Volume= 3.611 af

Outflow = 2.70 cfs @ 19.06 hrs, Volume= 3.538 af, Atten= 3%, Lag= 163.0 min

Primary = 2.70 cfs @ 19.06 hrs, Volume= 3.538 af

Routed to Reach 13R: Swale 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 895.01' @ 19.06 hrs Surf.Area= 15,062 sf Storage= 10,508 cf

Plug-Flow detention time= 63.5 min calculated for 3.538 af (98% of inflow)

Center-of-Mass det. time= 47.0 min (1,373.6 - 1,326.7)

Volume	Inv	ert Avail.Sto	rage Storage l	Description	
#1	894.0	00' 33,8	74 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation	on	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
894.0	00	5,815	0	0	
895.0	00	14,871	10,343	10,343	
896.0	00	32,190	23,531	33,874	
Device	Routing	Invert	Outlet Devices	;	
#1	Primary	894.00'	12.0" Round	Culvert	
	•		Inlet / Outlet In n= 0.012, Flow		
#2	Primary	895.50'	Head (feet) 0.	20 0.40 0.60 (road-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=2.70 cfs @ 19.06 hrs HW=895.01' TW=892.24' (Dynamic Tailwater)

—1=Culvert (Inlet Controls 2.70 cfs @ 3.44 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Summary for Pond 15P: Existing Depression 2

Inflow Area = 248.992 ac, 13.10% Impervious, Inflow Depth > 0.96" for 5-yr event

Inflow 36.42 cfs @ 12.91 hrs, Volume= 19.866 af

9.57 cfs @ 18.44 hrs, Volume= Outflow 18.695 af, Atten= 74%, Lag= 331.9 min

Primary = 9.57 cfs @ 18.44 hrs, Volume= 18.695 af

Routed to Pond 17P: YH3 Pond

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Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 15R: Overland Flow

0.00 cfs @ 0.00 hrs, Volume= 0.000 af Tertiarv

Routed to Reach 14R: Swale 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 876.90' @ 19.27 hrs Surf.Area= 194,460 sf Storage= 256,056 cf

Plug-Flow detention time= 304.1 min calculated for 18.690 af (94% of inflow)

Center-of-Mass det. time= 248.6 min (1,438.9 - 1,190.3)

Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	870.0	0' 530,8	88 cf Custon	n Stage Data (Pr	rismatic)Listed below (Recalc)
Florestion		Curf Araa	Ina Ctara	Cum Store	
Elevation		Surf.Area	Inc.Store	Cum.Store	
(feet))	(sq-ft)	(cubic-feet)	(cubic-feet)	
870.00)	1,053	0	0	
873.00)	9,397	15,675	15,675	
874.00)	20,404	14,901	30,576	
875.00)	42,009	31,207	61,782	
876.00)	89,975	65,992	127,774	
877.00)	205,811	147,893	275,667	
878.00)	304,631	255,221	530,888	
Device	Routing	Invert	Outlet Device	es	

evice	Routing	invert	Outlet Devices
#1	Primary	870.22'	18.0" Round Culvert
	-		L= 2,314.0' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 870.22' / 858.00' S= 0.0053 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Secondary	877.00'	120.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Tertiary	877.30'	Special & User-Defined
			Head (feet) 0.00 0.10 0.20 0.30 0.40 0.60 0.80 1.00
			Disch. (cfs) 0.000 0.030 0.200 0.570 1.230 3.610 7.780 14.110

Primary OutFlow Max=9.57 cfs @ 18.44 hrs HW=876.89' TW=859.79' (Dynamic Tailwater) 1=Culvert (Outlet Controls 9.57 cfs @ 5.42 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=870.00' TW=876.00' (Dynamic Tailwater) **T—2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=870.00' TW=877.30' (Dynamic Tailwater) **T**—3=Special & User-Defined (Controls 0.00 cfs)

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Summary for Pond 17P: YH3 Pond

Inflow Area = 470.972 ac, 9.99% Impervious, Inflow Depth > 0.74" for 5-yr event

Inflow 58.37 cfs @ 12.78 hrs, Volume= 29.172 af

14.65 cfs @ 20.23 hrs, Volume= 14.65 cfs @ 20.23 hrs, Volume= 14.65 cfs @ 20.23 hrs, Volume= Outflow 22.753 af, Atten= 75%, Lag= 446.6 min

Primary = 22.753 af

Routed to Pond 21P: YH6B Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 859.80' @ 20.17 hrs Surf.Area= 210,019 sf Storage= 348,095 cf

Plug-Flow detention time= 365.3 min calculated for 22.747 af (78% of inflow)

Center-of-Mass det. time= 183.7 min (1,456.5 - 1,272.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	858.00'	1,137,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)	
Elevation	Surf.	.Area Ind	c.Store Cum.Store	

Elevation	Surr.Area	inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
858.00	182,909	0	0
859.00	191,060	186,985	186,985
860.00	214,659	202,860	389,844
861.00	320,867	267,763	657,607
862.00	638,965	479,916	1,137,523

Device	Routing	Invert	Outlet Devices
#1	Primary	858.00'	36.0" Round Culvert
	-		L= 1,066.0' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 858.00' / 855.00' S= 0.0028 '/' Cc= 0.900
			n= 0.012, Flow Area= 7.07 sf
#2	Primary	860.50'	125.0' long x 60.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=14.65 cfs @ 20.23 hrs HW=859.80' TW=856.76' (Dynamic Tailwater)

-1=Culvert (Outlet Controls 14.65 cfs @ 4.74 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 18P: YH4 Pond

12.220 ac, 4.26% Impervious, Inflow Depth = 0.73" for 5-yr event Inflow Area =

7.18 cfs @ 12.36 hrs, Volume= 0.739 af Inflow =

Outflow = 0.80 cfs @ 14.07 hrs, Volume= 0.670 af, Atten= 89%, Lag= 102.4 min

0.80 cfs @ 14.07 hrs, Volume= Primary 0.670 af

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 861.65' @ 14.07 hrs Surf.Area= 27,111 sf Storage= 15,840 cf

Plug-Flow detention time= 325.7 min calculated for 0.670 af (91% of inflow)

Center-of-Mass det. time= 282.2 min (1,162.2 - 880.1)

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Volume	Inv	ert Avail.Sto	rage Storage [Description	
#1	861.	00' 64,00	01 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
861.0	00	21,906	0	0	
862.0	00	29,959	25,933	25,933	
863.0	00	46,178	38,069	64,001	
Device	Routing	Invert	Outlet Devices)	
#1	Primary	861.00'	8.0" Round C	ulvert	
#1 Primary 861.00' #2 Primary 861.80'		Inlet / Outlet In n= 0.012, Flow 20.0' long x 5 Head (feet) 0.2	vert= 861.00' / v Area= 0.35 st 60.0' breadth B 20 0.40 0.60	rojecting, Ke= 0.500 859.76' S= 0.0050'/' Cc= 0.900 f Broad-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 70 2.64 2.63 2.64 2.64 2.63	

Primary OutFlow Max=0.80 cfs @ 14.07 hrs HW=861.65' TW=859.33' (Dynamic Tailwater)

1=Culvert (Barrel Controls 0.80 cfs @ 2.94 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 19P: YH5 Pond

Inflow Area = 2.350 ac, 51.91% Impervious, Inflow Depth = 1.60" for 5-yr event

Inflow = 5.78 cfs @ 12.15 hrs, Volume= 0.313 af

Outflow = 0.15 cfs @ 15.18 hrs, Volume= 0.195 af, Atten= 97%, Lag= 182.2 min

Primary = 0.15 cfs @ 15.18 hrs, Volume= 0.195 af

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 865.24' @ 15.18 hrs Surf.Area= 40,150 sf Storage= 9,560 cf

Plug-Flow detention time= 581.7 min calculated for 0.195 af (62% of inflow)

Center-of-Mass det. time= 486.8 min (1,311.6 - 824.9)

Volume	In	vert Avail.St	orage Storage	Description	
#1	865	.00' 93,4	114 cf Custon	n Stage Data (P	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
865.0	00	38,602	0	0	
866.0	00	44,980	41,791	41,791	
867.0	00	58,266	51,623	93,414	
Device	Routing	g Invert	Outlet Device	es	
#1	Primar	y 866.50°			Broad-Crested Rectangular Weir
			, ,		0.80 1.00 1.20 1.40 1.60
40	Duine	. 005.00	, ,	,	70 2.64 2.63 2.64 2.64 2.63
#2	Primar	/ 865.00	8.0" Round	Cuivert	

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L= 170.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 865.00' / 864.15' S= 0.0050 '/' Cc= 0.900 n= 0.012. Flow Area= 0.35 sf

Primary OutFlow Max=0.15 cfs @ 15.18 hrs HW=865.24' TW=859.58' (Dynamic Tailwater)

-1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Barrel Controls 0.15 cfs @ 1.92 fps)

Summary for Pond 20P: YH6-A

Inflow Area = 9.070 ac, 24.04% Impervious, Inflow Depth = 1.27" for 5-yr event

Inflow 12.60 cfs @ 12.25 hrs, Volume= 0.957 af

Outflow 2.20 cfs @ 12.39 hrs, Volume= 0.871 af, Atten= 83%, Lag= 8.1 min

2.20 cfs @ 12.39 hrs, Volume= Primary 0.871 af

Routed to Pond 21P: YH6B Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Starting Elev= 856.60' Surf.Area= 60,840 sf Storage= 127,764 cf

Peak Elev= 856.89' @ 13.61 hrs Surf.Area= 63,650 sf Storage= 145,990 cf (18,226 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= 195.0 min (1,040.5 - 845.5)

Volume	Invert	Avail.Sto	rage Storage	Description	
#1	854.50'	667,65	59 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation (feet)	Sı	urf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
854.50		60,840	0	0	
856.60		60,840	127,764	127,764	
857.00		64,679	25,104	152,868	
858.00		73,339	69,009	221,877	
859.00		90,134	81,737	303,613	
860.00	•	109,122	99,628	403,241	
861.00	•	129,626	119,374	522,615	
862.00	•	160,461	145,044	667,659	
Device R	Couting	Invert	Outlet Device	S	

#1 854.50' 18.0" Round Culvert Primary

> L= 55.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 854.50' / 854.22' S= 0.0051 '/' Cc= 0.900 n= 0.024, Flow Area= 1.77 sf

Primary OutFlow Max=2.17 cfs @ 12.39 hrs HW=856.78' TW=856.66' (Dynamic Tailwater) 1=Culvert (Outlet Controls 2.17 cfs @ 1.23 fps)

MSE 24-hr 4 5-yr Rainfall=3.45"

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Summary for Pond 21P: YH6B Pond

Inflow Area = 579.442 ac, 9.62% Impervious, Inflow Depth > 0.62" for 5-yr event

Inflow = 50.94 cfs @ 12.57 hrs, Volume= 30.030 af

Outflow = 23.18 cfs @ 13.27 hrs, Volume= 29.629 af, Atten= 54%, Lag= 42.3 min

Primary = 23.18 cfs @ 13.27 hrs, Volume= 29.629 af

Routed to Link 22L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Starting Elev= 856.60' Surf.Area= 282,460 sf Storage= 556,446 cf

Peak Elev= 856.85' @ 13.27 hrs Surf.Area= 293,520 sf Storage= 629,510 cf (73,064 cf above start)

Plug-Flow detention time= 632.4 min calculated for 16.850 af (56% of inflow)

Center-of-Mass det. time= 29.5 min (1,352.9 - 1,323.3)

Volume	Invert	Avail.Storage	Storage Description		
#1	854.63'	2,032,289 cf	Custom Stage Data (Prismatic)Listed below (Recalc)		
Elevation	Surf.	.Area Ind	nc.Store Cum.Store		

Lievation	Sui i.Ai ca	1110.31016	Culli.Stole
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
854.63	282,460	0	0
856.60	282,460	556,446	556,446
857.00	299,898	116,472	672,918
858.00	336,652	318,275	991,193
859.00	486,957	411,805	1,402,997
860.00	771,626	629,292	2,032,289

Device Routing Invert Outlet Devices

#1 Primary 854.63' 42.0" Round Culvert X 2.00

L= 28.0' CMP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900 n= 0.024, Flow Area= 9.62 sf

Primary OutFlow Max=23.18 cfs @ 13.27 hrs HW=856.85' TW=856.60' (Dynamic Tailwater) 1=Culvert (Outlet Controls 23.18 cfs @ 2.56 fps)

Summary for Pond 22P: Existing Depression 3

Inflow Area = 30.220 ac, 19.56% Impervious, Inflow Depth = 0.87" for 5-yr event

Inflow = 28.05 cfs @ 12.24 hrs, Volume= 2.197 af

Outflow = 0.74 cfs @ 20.11 hrs, Volume= 0.867 af, Atten= 97%, Lag= 472.3 min

Primary = 0.74 cfs @ 20.11 hrs, Volume= 0.867 af

Routed to Pond 17P: YH3 Pond

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 21R: Swale 5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 863.28' @ 20.11 hrs Surf.Area= 1.694 ac Storage= 1.714 af

Plug-Flow detention time= 629.5 min calculated for 0.867 af (39% of inflow)

Center-of-Mass det. time= 502.7 min (1,366.5 - 863.7)

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Volume Invert Avail.Storage Storage Description #1 860.00' 12.833 af Custom Stage Data (Prismatic)Listed below (Recalc) Elevation Surf.Area Inc.Store Cum.Store (acre-feet) (acre-feet) (feet) (acres) 860.00 0.000 0.000 0.006 861.00 0.016 0.011 0.011 0.294 862.00 0.550 0.283 863.00 1.425 0.987 1.281 864.00 2.395 1.910 3.191 865.00 2.630 5.821 2.865 866.00 3.493 3.179 9.000 867.00 4.172 3.833 12.833 Device Routing Invert Outlet Devices 12.0" Round Culvert #1 **Primary** 862.84' L= 30.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 862.84' / 861.39' S= 0.0472 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf #2 **Primary** 865.74' 50.0' long x 12.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

#3 Secondary 863.60' **Swale in ROW to West**Head (feet) 0.00 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.20 2.40
Disch. (cfs) 0.000 0.630 1.850 4.000 7.240 11.780 17.770 25.370 34.720 45.990 59.290 74.770

Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=0.74 cfs @ 20.11 hrs HW=863.28' TW=859.80' (Dynamic Tailwater)

T-1=Culvert (Inlet Controls 0.74 cfs @ 2.25 fps)

—2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=860.00' TW=863.60' (Dynamic Tailwater) 3=Swale in ROW to West (Controls 0.00 cfs)

Summary for Pond 28P: Salt Shed Basin

Inflow Area = 0.203 ac, 53.20% Impervious, Inflow Depth = 2.40" for 5-yr event

Inflow = 0.76 cfs @ 12.13 hrs, Volume= 0.041 af

Outflow = 0.58 cfs @ 12.18 hrs, Volume= 0.027 af, Atten= 24%, Lag= 2.8 min

Primary = 0.58 cfs @ 12.18 hrs, Volume= 0.027 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 882.96' @ 12.18 hrs Surf.Area= 763 sf Storage= 682 cf

Plug-Flow detention time= 140.8 min calculated for 0.027 af (68% of inflow)

Center-of-Mass det. time= 58.7 min (853.4 - 794.7)

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Volume	Invert	Avail.Sto	rage Storage	Description		
#1	881.50'	1,16	3 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)	
	•	. .	. 01	0 01		
Elevation		urf.Area	Inc.Store	Cum.Store		
(fee	t)	(sq-ft)	(cubic-feet)	(cubic-feet)		
881.5	50	212	0	0		
882.0	00	363	144	144		
883.0	00	781	572	716		
883.5		1,009	448	1,163		
		,		,		
Device	Routing	Invert	Outlet Devices	S		
#1	Primary	881.50'	6.0" Round (Culvert		
	,		L= 134.0' RC	CP. sa.cut end p	rojecting, Ke= 0.500	
					880.80' S= 0.0052 '/' Cc= 0.900	
			n= 0.013, Flow Area= 0.20 sf			
#2	Device 1	882.80'	12.0" Horiz. Orifice/Grate C= 0.600			
112	Device 1	002.00	Limited to weir flow at low heads			
#3	Primary	883.00'			ad-Crested Rectangular Weir	
#5	i iiiiai y	000.00	•		0.80 1.00 1.20 1.40 1.60 1.80 2.00	
			` ,		0.60 1.00 1.20 1.40 1.60 1.60 2.00	
			2.50 3.00 3.5		04 0 00 0 00 0 70 0 77 0 00 0 00	
					61 2.60 2.66 2.70 2.77 2.89 2.88	
			2.85 3.07 3.2	20 3.32		

Primary OutFlow Max=0.58 cfs @ 12.18 hrs HW=882.96' TW=876.05' (Dynamic Tailwater)

1=Culvert (Barrel Controls 0.58 cfs @ 2.97 fps)

2=Orifice/Grate (Passes 0.58 cfs of 0.63 cfs potential flow)

-3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link 21L: Ag. Ditch #4 Tributary

Inflow Area = 37.620 ac, 33.12% Impervious, Inflow Depth = 1.39" for 5-yr event

Inflow = 38.05 cfs @ 12.50 hrs, Volume= 4.369 af

Primary = 38.04 cfs @ 12.76 hrs, Volume= 4.369 af, Atten= 0%, Lag= 15.8 min

Routed to Link 22L: Combined to Ag Ditch #4

Primary outflow = Inflow delayed by 15.8 min, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 22L: Combined to Ag Ditch #4

Inflow Area = 634.952 ac, 10.79% Impervious, Inflow Depth > 0.67" for 5-yr event

Inflow = 63.97 cfs @ 12.80 hrs, Volume= 35.223 af

Primary = 63.97 cfs @ 12.80 hrs, Volume= 35.223 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Fixed water surface Elevation= 856.60'

01_Pre-DevelopmentConditions_WisDOT_PondEvalPrepared by SCS Engineers

MSE 24-hr 4 5-yr Rainfall=3.45" Printed 9/27/2023

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Summary for Link 24L: Door Creek Combined

Inflow Area = 39.177 ac, 13.85% Impervious, Inflow Depth = 0.88" for 5-yr event

Inflow = 22.41 cfs @ 12.56 hrs, Volume= 2.880 af

Primary = 22.41 cfs @ 12.56 hrs, Volume= 2.880 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 25L: Combine

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 56L: Lag to Door Creek

Inflow Area = 0.750 ac, 0.00% Impervious, Inflow Depth = 0.55" for 5-yr event

Inflow = 0.41 cfs @ 12.22 hrs, Volume= 0.034 af

Primary = 0.41 cfs @ 12.64 hrs, Volume= 0.034 af, Atten= 0%, Lag= 25.6 min

Routed to Link 24L: Door Creek Combined

Primary outflow = Inflow delayed by 25.6 min, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Summary for Subcatchment 1S: C1

Runoff = 20.65 cfs @ 12.13 hrs, Volume= 1.095 af, Depth= 2.81"

Routed to Pond 1P: Niebuhr Stormwater Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	ription		
*	3.	370	98				
	1.	300	61	>75%	√ Grass co	over, Good	d, HSG B
4.670 88 Weighted Average						age	
	1.300 27.84% Pervious Area					us Area	
	3.370 72.16% Impervious Are			6% Imperv	ious Area		
	Tc (min)	Leng		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
_		(lee	ι)	(II/II)	(IVSEC)	(CIS)	
	6.0						Direct Entry,

Summary for Subcatchment 2S: C2

Runoff = 8.63 cfs @ 12.48 hrs, Volume= 0.975 af, Depth= 1.20"

Routed to Pond 4P : County - Storm Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac) C	N Des	cription		
*	1.	020 9	98			
	5.	655 6	31 >75°	% Grass c	over, Good	. HSG B
					omb., Goo	
*				•	R + CR, Goo	
_				ghted Aver	•	
		745 \ 725	•	3% Pervio		
		020		-	/ious Area	
	١.	020	10.4	70 Imperv	nous Area	
	Тс	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	2 occupación
	7.9	91	0.0830	0.19	, ,	Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.84"
	6.4	59	0.0300	0.15		Sheet Flow,
						Cultivated: Residue>20% n= 0.170 P2= 2.84"
	11.9	573	0.0080	0.80		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	3.3	337	0.0030	1.69	11.17	Channel Flow,
						Area= 6.6 sf Perim= 13.4' r= 0.49' n= 0.030
	1.1	224	0.0050	3.31	10.40	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.020 Corrugated PE, corrugated interior
_	30.6	1 28/	Total			· · · · · · · · · · · · · · · · · · ·

30.6 1,284 Total

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Summary for Subcatchment 3S: C3-A

Runoff = 16.36 cfs @ 12.35 hrs, Volume= 1.490 af, Depth= 2.54"

Routed to Pond 4P: County - Storm Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac) C	N Desc	cription		
*			98			1100.5
*					over, Good	, HSG B
	0.273 98 Water Surface, HSG B					
	7.	043 8	35 Weig	ghted Aver	age	
	3.	870	54.9	5% Pervio	us Area	
	3.173		45.0	5% Imper	∕ious Area	
	Ta lawath		Clana	Valacity	Canacity	Description
	Tc	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	12.1	86	0.0260	0.12		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.84"
	0.9	68	0.0220	1.25		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.84"
	9.1	1,026	0.0050	1.88	15.43	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 8.2 '/' Top.W=16.40'
						n= 0.035
	1.4	224	0.0050	2.76	8.66	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.024
	0.1	59	0.0056	7.06	49.91	Pipe Channel,
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'
						n= 0.013
_	23.6	1,463	Total			
	_0.0	.,				

Summary for Subcatchment 4S: C3-B

Runoff = 3.70 cfs @ 12.13 hrs, Volume= 0.205 af, Depth= 3.31"

Routed to Pond 3P: Sheriff Phase 2 Bioretention

	Area (ac)	CN	Description
*	0.580	98	
*	0.165	74	>75% Grass cover, Good, HSG B
	0.745	93	Weighted Average
	0.165		22.15% Pervious Area
	0.580		77.85% Impervious Area

01_Pre-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 10-yr Rainfall=4.09"

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Tc	Length		,	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry,

Summary for Subcatchment 5S: C4-A

Runoff = 11.23 cfs @ 12.13 hrs, Volume= 0.631 af, Depth= 3.41"

Routed to Pond 5P: Cnty-Storm Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	cription						
*	2.	010	98								
	0.	210	61	>75%	% Grass co	over, Good	I, HSG B				
	2.220 94 Weighted Average										
	0.210 9.46% Pervious Area										
	2.010			90.5	4% Imperv	vious Area					
	Тс	Leng	th S	Slope	Velocity	Capacity	Description				
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)					
	6.0						Direct Entry,				

Summary for Subcatchment 7S: C4-C

Runoff = 2.47 cfs @ 12.13 hrs, Volume= 0.127 af, Depth= 2.28"

Routed to Pond 8P : County - Storm Pond 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	cription		
*	0.	230	98				
*	0.	440	74	>759	% Grass co	over, Good	I, HSG B
	0.670 82 Weighted Average				ghted Aver	age	
	0.440				7% Pervio	us Area	
	0.230		34.33% Impervious Area				
	Tc	Leng	•	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 8S: C4-D

Runoff = 39.80 cfs @ 12.13 hrs, Volume= 2.109 af, Depth= 2.81" Routed to Pond 8P : County - Storm Pond 3

01_Pre-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 10-yr Rainfall=4.09" Printed 9/27/2023

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	Area	(ac)	CN	Desc	cription		
*	6.	030	98				
	2.	030	61	>759	% Grass co	over, Good	H, HSG B
*	0.	640	74	>759	% Grass co	over, Good	I, HSG C
	0.	300	98	Wate	er Surface,	, HSG B	
	9.	000	88	Weig	ghted Aver	age	
	2.	670		29.6	7% Pervio	us Area	
	6.	330		70.3	3% Imperv	∕ious Area	
	Тс	Leng	jth	Slope	Velocity	Capacity	Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 9S: C5

Runoff = 16.09 cfs @ 12.26 hrs, Volume= 1.224 af, Depth= 1.81"

Routed to Pond 9P: Storage at NE and SE corners of AB

	Area	(ac) (CN Des	cription						
*	2.	270	98							
	2.	940	61 >75	% Grass c	cover, Good, HSG B					
	0.144			5% Grass cover, Good, HSG C						
*				ow crops, SR + CR, Good, HSG B						
				Fallow, bare soil, HSG B						
_				ghted Aver						
		855	,	6% Pervio						
		270	_	-	/ious Area					
	۷.	210	27.0	T70 IIIpor	7104071104					
	Tc	Length	Slope	Velocity	Capacity	Description				
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	Bootipaon				
_	1.9	220		1.94	(0.0)	Sheet Flow,				
	1.5	220	0.0070	1.54		Smooth surfaces n= 0.011 P2= 2.84"				
	8.7	80	0.0260	0.15		Sheet Flow,				
	0.7	00	0.0200	0.10		Cultivated: Residue>20% n= 0.170 P2= 2.84"				
	2.5	188	0.0200	1.27		Shallow Concentrated Flow,				
	2.0	100	0.0200	1.27		Cultivated Straight Rows Kv= 9.0 fps				
	2.3	380	0.0090	2.70	59.39	Trap/Vee/Rect Channel Flow,				
	2.0	000	0.0000	2.70	00.00	Bot.W=4.00' D=1.00' Z= 6.0 & 30.0 '/' Top.W=40.00'				
						n= 0.035				
	1.0	193	0.0010	3.23	22.85	Pipe Channel,				
	1.0	100	0.0010	0.20	22.00	36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'				
						n= 0.012				
_	16.4	1,061	Total			0.0.12				
	10.4	1,001	i Ulai							

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Summary for Subcatchment 10S: C6

Runoff = 25.06 cfs @ 12.81 hrs, Volume= 4.011 af, Depth= 1.39"

Routed to Pond 9P: Storage at NE and SE corners of AB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area (ac)		CN Desc	cription						
*	1.	864	98							
					over, Good					
	_			>75% Grass cover, Good, HSG C						
				Woods/grass comb., Good, HSG B						
*				Row crops, SR + CR, Good, HSG B						
*				Row crops, SR + CR, Good, HSG C Water Surface, HSG B						
_					•					
		-		ghted Aver						
		008		5% Pervio						
	۷.	614	7.55	% Impervi	ous Area					
	Tc	Length	Slope	Velocity	Capacity	Description				
	(min)	(feet)		(ft/sec)	(cfs)	Description				
	26.9	300		0.19		Sheet Flow,				
						Woods: Light underbrush n= 0.400 P2= 2.84"				
	6.6	395	0.0400	1.00		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	3.5	218	0.0440	1.05		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	15.6	688	0.0067	0.74		Shallow Concentrated Flow,				
	0.5	7.4	0.0050	0.05	0.00	Cultivated Straight Rows Kv= 9.0 fps				
	0.5	74	0.0050	2.65	8.32	•				
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025				
	3.7	529	0.0060	2.41	38.62	Trap/Vee/Rect Channel Flow,				
	5.1	329	0.0000	۷.4۱	30.02	Bot.W=0.00' D=1.00' Z= 16.0 '/' Top.W=32.00'				
						n= 0.030				

Summary for Subcatchment 11S: C7 - Landfill

Runoff = 79.92 cfs @ 12.19 hrs, Volume= 5.026 af, Depth= 2.12"

Routed to Pond 11P: Landfill Pond

2,204 Total

56.8

MSE 24-hr 4 10-yr Rainfall=4.09"

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	Area	(ac)	CN	Des	Description							
	0.	440	140 96 Gravel surface, HSG B									
	27.	7.730 80 >75% Grass cover, Good, HSG D										
_	0.	0.330 98 Water Surface, HSG B										
	28.	28.500 80 Weighted Average										
	28.	170		98.8	4% Pervio	us Area						
	0.	330		1.16	1.16% Impervious Area							
	Tc	Leng	ıth	Slope	Velocity	Capacity	Description					
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)						
	11.0						Direct Entry	TOC from Landfill's SWMP				

11.0

Direct Entry, TOC from Landfill's Swift

Summary for Subcatchment 12S: C8

17.39 cfs @ 12.17 hrs, Volume= Runoff

1.054 af, Depth= 1.46"

Routed to Pond 12P: Existing Depression 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac) (CN Des	cription					
*	* 1.380 98		98						
	4.420 61		61 >75	>75% Grass cover, Good, HSG B					
	0.	200	74 >75	>75% Grass cover, Good, HSG C					
	2.	540	72 Woo	Woods/grass comb., Good, HSG C					
_	0.	150	98 Wat	er Surface	, HSG B				
	8.	690	71 Wei	ghted Aver	age				
	7.	160	82.3	9% Pervio	us Area				
	1.	530	17.6	31% Imper	∕ious Area				
	_								
	Tc	Length	•	•	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	0.6	31	0.0140	0.89		Sheet Flow,			
						Smooth surfaces n= 0.011 P2= 2.84"			
	1.6	10	0.0520	0.10		Sheet Flow,			
		4 000	0.0470		44.70	Grass: Dense n= 0.240 P2= 2.84"			
	5.6	1,329	0.0170	3.93	11.78	Trap/Vee/Rect Channel Flow,			
						Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00'			
	4 7	400	0.0500	4.04		n= 0.030			
	1.7	168	0.0530	1.61		Shallow Concentrated Flow,			
_						Short Grass Pasture Kv= 7.0 fps			
	9.5	1,538	Total						

Summary for Subcatchment 13S: C9 and C10

7.70 cfs @ 12.13 hrs, Volume=

0.408 af, Depth= 2.81"

Routed to Pond 15P: Existing Depression 2

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	Area	(ac)	CN	Desc	cription					
*	1.	215	98							
	0.	366	61	>75%	% Grass co	over, Good	d, HSG B			
	0.	160	74	>75%	% Grass co	over, Good	d, HSG C			
	1.	741	88	Weig	hted Aver	age				
	0.	526		30.2	1% Pervio	us Area				
	1.215 69.79% Impervious Area					ious Area				
	Тс	Leng	th	Slope	Velocity	Capacity	Description			
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	6.0						Direct Entry,			

Summary for Subcatchment 14S: YH1

Runoff = 39.37 cfs @ 12.86 hrs, Volume= 6.643 af, Depth= 1.20"

Routed to Pond 13P: YH1 Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	cription						
	22.700 61 >75% Grass cover, Good,						, HSG B				
	27.	890	74	>75%	% Grass co	over, Good	, HSG C				
	4.	830	48	Brus	h, Good, F	HSG B					
	8.	800	65	Brus	Brush, Good, HSG C						
_	2.	180	98	Wate	er Surface	, HSG B					
	66.	400	67	Weig	ghted Aver	age					
	64.	220		96.7	2% Pervio	us Area					
	2.	180		3.28	% Impervi	ous Area					
	_	_				_					
	Tc	Lengt		Slope	Velocity	Capacity	Description				
	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)					
	21.0	15	0 (0.0200	0.12		Sheet Flow,				
							Grass: Dense n= 0.240 P2= 2.84"				
	36.9	2,01	8 (0.0170	0.91		Shallow Concentrated Flow,				
_							Short Grass Pasture Kv= 7.0 fps				
	57.9	2,16	8	Γotal							

Summary for Subcatchment 15S: YH2

Runoff = 30.12 cfs @ 12.80 hrs, Volume= 4.995 af, Depth= 0.97"

Routed to Pond 15P: Existing Depression 2

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Area	(ac) C	N Desc	cription					
* 4.	4.090 90							
19.	19.840 61		>75% Grass cover, Good, HSG B					
10.	10.130 74		>75% Grass cover, Good, HSG C					
4.	.830 5	8 Woo	Woods/grass comb., Good, HSG B					
12.	.800 4	8 Brus	h, Good, I	HSG B				
10.	.280 6	55 Brus	h, Good, I	HSG C				
61.	.978 6	3 Weig	ghted Aver	age				
57.	.880	93.3	9% Pervio	us Area				
4.	.098	6.61	% Impervi	ous Area				
	Length	Slope		Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
15.4	150	0.0430	0.16		Sheet Flow,			
					Grass: Dense n= 0.240 P2= 2.84"			
17.3	1,216	0.0280	1.17		Shallow Concentrated Flow,			
					Short Grass Pasture Kv= 7.0 fps			
0.7	206	0.0100	4.91	3.86				
					12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'			
					n= 0.012			
1.6	234	0.0040	2.38	38.12				
					Bot.W=8.00' D=1.00' Z= 8.0 '/' Top.W=24.00'			
					n= 0.030			
0.1	35	0.0140	9.23	29.00	r · · · · · · · · · · · · · · · · · · ·			
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
					n= 0.012			
3.8	591	0.0130	2.58	51.61	Trap/Vee/Rect Channel Flow,			
					Bot.W=10.00' D=1.00' Z= 10.0 '/' Top.W=30.00'			
0.0	745	0.0400	4.50		n= 0.050			
8.3	745	0.0100	1.50		Shallow Concentrated Flow,			
4.0	600	0.0000	0.00	20.52	Grassed Waterway Kv= 15.0 fps			
4.9	608	0.0080	2.09	36.53	Trap/Vee/Rect Channel Flow,			
					Bot.W=10.00' D=1.00' Z= 10.0 & 5.0 '/' Top.W=25.00'			
	0.705	T ()			n= 0.050			
52.1	3,785	Total						

Summary for Subcatchment 16S: C11-16

Runoff = 42.54 cfs @ 12.24 hrs, Volume= 3.179 af, Depth= 1.26" Routed to Pond 22P : Existing Depression 3

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	Area	(ac)	CN	Desc	cription				
*	* 5.910 98								
	18.130 61		61	>75% Grass cover, Good, HSG B					
	1.	510	74	>759	% Grass co	over, Good	, HSG C		
	3.	010	55	Woo	ds, Good,	HSG B			
	0.	570	70	Woo	ds, Good,	HSG C			
	1.	090	48	Brush, Good, HSG B					
	30.	220	68	Weig	ghted Aver	age			
	24.	310		80.4	4% Pervio	us Area			
	5.	910		19.5	6% Imperv	ious Area			
	Tc	Length	n S	lope	Velocity	Capacity	Description		
	(min)	(feet) ((ft/ft)	(ft/sec)	(cfs)			
	0.3	23	3 0.0)530	1.43		Sheet Flow,		
							Smooth surfaces n= 0.011 P2= 2.84"		
	2.5	23	3 0.0	920	0.15		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.84"		
	0.6	64	1 0.0)120	1.64		Shallow Concentrated Flow,		
							Grassed Waterway Kv= 15.0 fps		
	11.0	1,807	7 0.0	0078	2.73	16.93	• •		
							Bot.W=0.00' D=1.00' Z= 4.8 & 7.6 '/' Top.W=12.40'		
							n= 0.030		
	14.4	1,917	7 To	tal					

Summary for Subcatchment 17S: YH3

Runoff = 83.23 cfs @ 12.77 hrs, Volume= 13.469 af, Depth= 0.91"

Routed to Pond 17P: YH3 Pond

	Area (ac)	CN	Description
*	2.600	98	
	106.380	61	>75% Grass cover, Good, HSG B
	26.310	74	>75% Grass cover, Good, HSG C
	31.110	48	Brush, Good, HSG B
	6.590	65	Brush, Good, HSG C
	4.200	98	Water Surface, HSG B
	177.190	62	Weighted Average
	170.390		96.16% Pervious Area
	6.800		3.84% Impervious Area

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 Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.8	150	0.0230	0.13		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.84"
25.0	1,662	0.0250	1.11		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
1.2	219	0.0090	2.95	29.50	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 10.0 '/' Top.W=20.00'
					n= 0.030
2.5	885	0.0110	5.98	7.34	Pipe Channel,
					15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'
					n= 0.012
48.5	2,916	Total			

Summary for Subcatchment 18S: YH4

Runoff = 11.51 cfs @ 12.35 hrs, Volume= 1.101 af, Depth= 1.08"

Routed to Pond 18P: YH4 Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

_	Area	(ac)	CN	Desc	cription		
9.630 61 >75% Grass cover, Good, HSG B						, HSG B	
	2.	070	74	>75%	√ Grass co √	over, Good	, HSG C
	0.	520	98	Wate	er Surface,	, HSG A	
	12.	220	65	Weig	hted Aver	age	
	11.	700		95.7	4% Pervio	us Area	
	0.	520		4.26	% Impervi	ous Area	
					•		
	Tc	Length	h :	Slope	Velocity	Capacity	Description
	(min)	(feet		(ft/ft)	(ft/sec)	(cfs)	·
	13.0	150	0 0	.0660	0.19		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.84"
	8.6	470	0 C	.0170	0.91		Shallow Concentrated Flow,
							Short Grass Pasture Kv= 7.0 fps
_	21.6	620) T	otal			<u> </u>

Summary for Subcatchment 19S: YH5

Runoff = 7.65 cfs @ 12.15 hrs, Volume= 0.414 af, Depth= 2.12"

Routed to Pond 19P: YH5 Pond

MSE 24-hr 4 10-yr Rainfall=4.09"

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	Area	(ac)	CN	Desc	cription		
*	0.	330	98				
	1.	130	61	>75%	√ Grass co	over, Good	, HSG B
_	0.	890	98	Wate	er Surface	, HSG A	
	2.	350	80	Weig	hted Aver	age	
	1.	130		48.0	9% Pervio	us Area	
1.220 51.91% Impervious Area						∕ious Area	
	Tc (min)	Lengtl (feet		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.2	1	1 0.	.0300	0.98		Sheet Flow,
	7.1	8.	7 0	.1000	0.20		Smooth surfaces n= 0.011 P2= 2.84" Sheet Flow, Grass: Dense n= 0.240 P2= 2.84"
	7.3	98	8 T	otal			

Summary for Subcatchment 20S: YH6A Pond

Runoff = 17.52 cfs @ 12.25 hrs, Volume= 1.311 af, Depth= 1.73"

Routed to Pond 20P: YH6-A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	cription		
*	0.	780	98				
	2.	870	61	>75%	% Grass co	over, Good	, HSG B
	4.	020	73	Brus	h, Good, F	HSG D	
	1.	400	98	Wate	er Surface	, HSG C	
	9.	070	75	Weig	hted Aver	age	
	6.	890		75.9	6% Pervio	us Area	
	2.	180		24.0	4% Imper	/ious Area	
	Tc (min)	Lengt		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	12.3	15	0 0	.0750	0.20		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.84"
	3.4	28	5 0	.0390	1.38		Shallow Concentrated Flow,
_							Short Grass Pasture Kv= 7.0 fps
	15.7	43	5 T	otal			

Summary for Subcatchment 21S: YH6-B

Runoff = 76.76 cfs @ 12.53 hrs, Volume= 9.444 af, Depth= 1.14"

Routed to Pond 21P: YH6B Pond

01_Pre-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 10-yr Rainfall=4.09"

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Area (a	ac) C	N Des	cription		
54.3	30 6	51 >75°	% Grass c	over, Good	, HSG B
4.3	40 4	·8 Brus	sh, Good, F	HSG B	
7.6	10 6	55 Brus	sh, Good, F	HSG C	
26.6	40 7	'3 Brus	sh, Good, F	HSG D	
6.4	.80 9	8 Wate	er Surface	, HSG A	
99.4	.00 6	6 Wei	ghted Aver	age	
92.9	20	93.4	8% Pervio	us Area	
6.4	80	6.52	% Impervi	ous Area	
To I	l opath	Clana	\/alaaitu	Consoity	Description
Tc I (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.2				(013)	Chast Flour
19.2	150	0.0250	0.13		Sheet Flow,
15.4	000	0.0400	0.06		Grass: Dense n= 0.240 P2= 2.84"
15.4	889	0.0190	0.96		Shallow Concentrated Flow,
	4 000				Short Grass Pasture Kv= 7.0 fps
34.6	1,039	Total			

Summary for Subcatchment 23S: C17-C25

Runoff = 52.09 cfs @ 12.50 hrs, Volume=

5.902 af, Depth= 1.88"

Routed to Link 21L : Ag. Ditch #4 Tributary

	Area (ac)	CN	Description						
*	12.460	98							
	16.840	61	>75% Grass cover, Good, HSG B						
	0.360	74	>75% Grass cover, Good, HSG C						
	7.960	80	>75% Grass cover, Good, HSG D						
	37.620	77	Weighted Average						
	25.160		66.88% Pervious Area						
	12.460		33.12% Impervious Area						

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.6	150	0.0720	0.20		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.84"
2.1	129	0.0210	1.01		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
2.8	318	0.0087	1.89		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
0.3	79	0.0830	4.32		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
1.6	341	0.0180	3.54	17.33	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 6.0 & 3.8 '/' Top.W=9.80'
					n= 0.035
0.5	150	0.0050	5.52	17.33	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.012
14.6	1,367	0.0035	1.56	7.81	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 5.0 '/' Top.W=10.00'
					n= 0.035
34.5	2,534	Total			

Summary for Subcatchment 24S: C26

Runoff = 9.39 cfs @ 13.06 hrs, Volume= 1.790 af, Depth= 1.20"

Routed to Link 22L: Combined to Ag Ditch #4

	Area (ac)	CN	Description
*	0.360	98	
	0.140	61	>75% Grass cover, Good, HSG B
	0.040	74	>75% Grass cover, Good, HSG C
	3.940	48	Brush, Good, HSG B
	1.810	65	Brush, Good, HSG C
	11.600	73	Brush, Good, HSG D
	17.890	67	Weighted Average
	17.530		97.99% Pervious Area
	0.360		2.01% Impervious Area

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	40.0	150	0.0110	0.06		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.84"
	9.7	380	0.0170	0.65		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	0.4	58	0.0050	2.76	8.66	Pipe Channel, CMP_Round 24"
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.024
	0.2	59	0.0260	4.99	29.91	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'
						n= 0.030
	19.3	2,177	0.0007	1.88	53.14	Trap/Vee/Rect Channel Flow,
						Bot.W=4.00' D=3.00' Z= 1.8 '/' Top.W=14.80'
_						n= 0.030
	69 6	2 824	Total			

Summary for Subcatchment 25S: C27

noff = 18.95 cfs @ 12.50 hrs, Volume= Routed to Link 24L : Door Creek Combined Runoff

2.191 af, Depth= 1.52"

	Area (ac) CN Descrip			cription						
*	3.	827 9	98 impe	impervious						
	8.	477 6	31 >75°	% Grass c	over, Good	, HSG B				
	0.	289	74 >75°	>75% Grass cover, Good, HSG C						
	0.	246 8	30 >75°	>75% Grass cover, Good, HSG D						
*	3.	840	70 Row	Row crops, SR + CR, Good, HSG B						
*	0.	090	79 Row	crops, SF	R + CR, Go	od, HSG C				
	0.	490 8	36 Fallo	ow, bare so	oil, HSG B					
	17.	259	72 Weig	ghted Aver	rage					
	13.	432	77.8	3% Pervio	us Area					
	3.	827	22.1	7% Imper	vious Area					
	Тс	Length	Slope	Velocity		Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	13.5	150	0.0300	0.18		Sheet Flow,				
						Cultivated: Residue>20% n= 0.170 P2= 2.84"				
	2.3	150	0.0140	1.06		Shallow Concentrated Flow,				
						Cultivated Straight Rows Kv= 9.0 fps				
	10.3	482	0.0125	0.0125 0.78		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
	7.6	1,570	0.0125	3.45	18.44	•				
						Bot.W=0.00' D=1.00' Z= 4.0 & 6.7 '/' Top.W=10.70'				
						n= 0.030				
	0.6	163	0.0800	4.24		Shallow Concentrated Flow,				
						Grassed Waterway Kv= 15.0 fps				
	34.3	2,515	Total							

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Summary for Subcatchment 26S: C28A & C28B

Runoff = 14.80 cfs @ 12.57 hrs, Volume= 1.907 af, Depth= 1.08"

Routed to Link 24L: Door Creek Combined

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

_	Area (ac)		N Desc	cription					
*	1.598		98 impe	impervious					
	6.420 6		31 >759	>75% Grass cover, Good, HSG B					
	1.116 80		30 >759	>75% Grass cover, Good, HSG D					
	6.	805	55 Woo	Woods, Good, HSG B					
*	5.	229	70 Row	crops, SF	R + CR, Goo	od, HSG B			
	21.	168 6	35 Weig	hted Aver	age				
	19.	570	92.4	5% Pervio	us Area				
	1.	598	7.55	% Impervi	ous Area				
	Tc	Length	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	16.1	150	0.1070	0.16		Sheet Flow,			
						Woods: Light underbrush n= 0.400 P2= 2.84"			
	1.2	150	0.1730	2.08		Shallow Concentrated Flow,			
						Woodland Kv= 5.0 fps			
	3.6	365	0.0360	1.71		Shallow Concentrated Flow,			
						Cultivated Straight Rows Kv= 9.0 fps			
	5.3	651	0.0120	2.04	16.34	·			
						Area= 8.0 sf Perim= 16.1' r= 0.50' n= 0.050			
	2.6	273	0.0390	1.78		Shallow Concentrated Flow,			
						Cultivated Straight Rows Kv= 9.0 fps			
	7.8	1,714	0.0140	3.67	25.72	·			
						Area= 7.0 sf Perim= 14.1' r= 0.50' n= 0.030			
	36.6	3,303	Total						

Summary for Subcatchment 27S: Salt Loading Area

Runoff = 0.94 cfs @ 12.13 hrs, Volume= 0.051 af, Depth= 3.00"

Routed to Pond 28P: Salt Shed Basin

	Area (sf)	CN	Description			
*	4,694	98				
*	4,130	80	>75% Grass cover, Good, compacted, HSG C			
	8,824	90	Weighted Average			
	4,130		46.80% Pervious Area			
	4,694		53.20% Impervious Area			

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
 6.0					Direct Entry,

Summary for Subcatchment 28S: Luds Lane

0.73 cfs @ 12.21 hrs, Volume=

0.054 af, Depth= 0.86"

Routed to Link 56L: Lag to Door Creek

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

Area	(ac) C	N Desc	cription					
0.	750 6	31 >759	% Grass co	over, Good	, HSG B			
0.	0.750 100.00% Pervious Area							
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
11.3	71	0.0210	0.10		Sheet Flow, Grass: Dense	n= 0.240	P2= 2.84"	

Summary for Subcatchment 51S: C4-B

8.22 cfs @ 12.33 hrs, Volume= Runoff

0.728 af, Depth= 1.88"

Routed to Pond 6P: CNTY-Infiltration Basin #1

	Area	(ac)	CN	Desc	cription					
*	* 1.550 98									
	1.935 61				>75% Grass cover, Good, HSG B					
1.155 74 >75% Grass cover, Good, HSG C							, HSG C			
_	4.640 77 Weigh				hted Aver	age				
		090			9% Pervio	•				
	_	550		33.4	1% Imperv	ious Area				
					'					
	Tc	Lengt	า ร	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·			
	17.1	15	0.	0330	0.15		Sheet Flow,			
							Grass: Dense n= 0.240 P2= 2.84"			
	1.7	129	9 0.	0310	1.23		Shallow Concentrated Flow,			
							Short Grass Pasture Kv= 7.0 fps			
	3.2	52	2 0.	0082	2.69	16.15	Trap/Vee/Rect Channel Flow,			
							Bot.W=2.00' D=1.00' Z= 4.0 '/' Top.W=10.00'			
							n= 0.035			
	22.0	80	1 To	otal		·				

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Summary for Reach 9R: Swale 1

Inflow Area = 81.683 ac, 28.47% Impervious, Inflow Depth > 1.76" for 10-yr event

Inflow = 26.28 cfs @ 13.76 hrs, Volume= 11.977 af

Outflow = 26.15 cfs @ 13.95 hrs, Volume= 11.968 af, Atten= 1%, Lag= 11.4 min

Routed to Pond 15P: Existing Depression 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.45 fps, Min. Travel Time= 13.0 min Avg. Velocity = 0.78 fps, Avg. Travel Time= 24.1 min

Peak Storage= 20,440 cf @ 13.95 hrs

Average Depth at Peak Storage= 1.34', Surface Width= 26.81' Bank-Full Depth= 5.00' Flow Area= 250.0 sf, Capacity= 874.22 cfs

 $0.00' \times 5.00'$ deep channel, n= 0.050

Side Slope Z-value= 10.0 '/' Top Width= 100.00'

Length= 1,137.0' Slope= 0.0041 '/'

Inlet Invert= 874.89', Outlet Invert= 870.22'



Summary for Reach 11R: Swale 4

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \overline{@}$ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Pond 22P: Existing Depression 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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= 3.00' Flow Area= 55.8 sf, Capacity= 189.41 cfs

0.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 7.8 4.6 '/' Top Width= 37.20'

Length= 1,795.0' Slope= 0.0028 '/'

Inlet Invert= 868.00', Outlet Invert= 863.00'



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Summary for Reach 13R: Swale 2

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 0.93" for 10-yr event

Inflow = 3.23 cfs @ 20.16 hrs, Volume= 5.124 af

Outflow = 3.23 cfs @ 20.72 hrs, Volume= 5.008 af, Atten= 0%, Lag= 33.3 min

Routed to Pond 15P: Existing Depression 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.98 fps, Min. Travel Time= 44.0 min Avg. Velocity = 0.89 fps, Avg. Travel Time= 48.5 min

Peak Storage= 8,529 cf @ 20.72 hrs

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Average Depth at Peak Storage= 0.26', Surface Width= 15.22' Bank-Full Depth= 3.00' Flow Area= 120.0 sf, Capacity= 466.95 cfs

10.00' x 3.00' deep channel, n= 0.050

Side Slope Z-value= 10.0 '/' Top Width= 70.00'

Length= 2,591.9' Slope= 0.0084 '/'

Inlet Invert= 892.00', Outlet Invert= 870.22'



Summary for Reach 14R: Swale 3

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \overline{@}$ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Pond 22P: Existing Depression 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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= 3.00' Flow Area= 58.1 sf, Capacity= 290.70 cfs

0.00' x 3.00' deep channel, n= 0.035

Side Slope Z-value= 4.5 8.4 '/' Top Width= 38.70'

Length= 1,492.0' Slope= 0.0082 '/'

Inlet Invert= 877.30', Outlet Invert= 865.00'



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Summary for Reach 15R: Overland Flow

Inflow = 21.49 cfs @ 15.70 hrs, Volume= 5.737 af

Outflow = 19.93 cfs @ 16.12 hrs, Volume= 5.737 af, Atten= 7%, Lag= 24.9 min

Routed to Pond 17P: YH3 Pond

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.85 fps, Min. Travel Time= 22.3 min Avg. Velocity = 0.78 fps, Avg. Travel Time= 52.9 min

Peak Storage= 26,697 cf @ 16.12 hrs

Average Depth at Peak Storage= 0.46', Surface Width= 37.34'

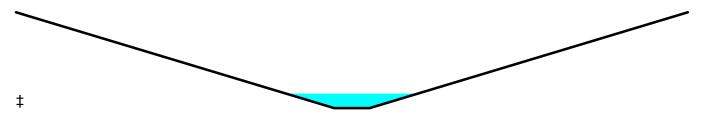
Bank-Full Depth= 3.00' Flow Area= 300.0 sf, Capacity= 1,718.10 cfs

10.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 30.0 '/' Top Width= 190.00'

Length= 2,474.0' Slope= 0.0073 '/'

Inlet Invert= 876.00', Outlet Invert= 858.00'



Summary for Reach 21R: Swale 5

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 22R: Swale 6

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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= 3.00' Flow Area= 30.6 sf, Capacity= 111.43 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.030

Side Slope Z-value= 3.9 2.9 '/' Top Width= 20.40'

Length= 690.6' Slope= 0.0033 '/'

Inlet Invert= 863.60', Outlet Invert= 861.30'

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Summary for Reach 22R: Swale 6

Inflow 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

0.000 af. Atten= 0%. Lag= 0.0 min Outflow 0.00 cfs @ 0.00 hrs. Volume=

Routed to Link 21L: Ag. Ditch #4 Tributary

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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'

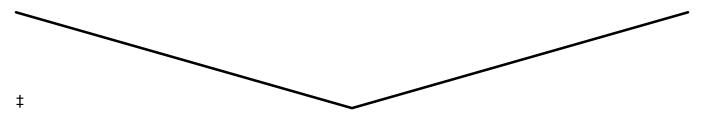
Bank-Full Depth= 3.00' Flow Area= 45.0 sf, Capacity= 168.82 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.030

Side Slope Z-value= 5.0 '/' Top Width= 30.00'

Length= 1,370.6' Slope= 0.0034 '/'

Inlet Invert= 861.30', Outlet Invert= 856.60'



Summary for Pond 1P: Niebuhr Stormwater Pond

Inflow Area = 4.670 ac, 72.16% Impervious, Inflow Depth = 2.81" for 10-yr event

Inflow 20.65 cfs @ 12.13 hrs, Volume= 1.095 af

2.32 cfs @ 12.62 hrs, Volume= Outflow 1.093 af, Atten= 89%, Lag= 29.4 min

2.32 cfs @ 12.62 hrs, Volume= 1.093 af Primary

Routed to Pond 4P: County - Storm Pond 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 885.00' @ 12.62 hrs Surf.Area= 26,350 sf Storage= 22,620 cf

Plug-Flow detention time= 124.8 min calculated for 1.093 af (100% of inflow)

Center-of-Mass det. time= 124.1 min (919.9 - 795.8)

Volume	Invert	Avail.Storage	Storage Description
#1	882.60'	54,584 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
882.60	0	0	0
883.00	275	55	55
884.00	9,336	4,806	4,860
885.00	26,430	17,883	22,743
886.00	37,251	31,841	54,584

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Device	Routing	Invert	Outlet Devices
#1	Primary	883.00'	Special & User-Defined
			Head (feet) 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90
			1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10
			2.20 2.30 2.40 2.50
			Disch. (cfs) 0.000 0.030 0.070 0.140 0.210 0.290 0.380 0.480
			0.590 0.700 0.830 0.950 1.080 1.220 1.370 1.520 1.670 1.830
			1.990 2.160 2.330 2.510 2.690 2.880 3.070 3.260
#2	Primary	885.50'	10.0' 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=2.32 cfs @ 12.62 hrs HW=885.00' TW=878.79' (Dynamic Tailwater)

1=Special & User-Defined (Custom Controls 2.32 cfs)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: Sheriff Phase 2 Bioretention

Inflow Area = 0.745 ac, 77.85% Impervious, Inflow Depth = 3.31" for 10-yr event

Inflow = 3.70 cfs @ 12.13 hrs, Volume= 0.205 af

Outflow = 1.17 cfs @ 12.29 hrs, Volume= 0.154 af, Atten= 68%, Lag= 9.8 min

Discarded = 0.02 cfs @ 12.29 hrs, Volume= 0.024 af Primary = 1.15 cfs @ 12.29 hrs, Volume= 0.130 af

Routed to Pond 4P: County - Storm Pond 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 881.07' @ 12.29 hrs Surf.Area= 3,646 sf Storage= 4,574 cf

Plug-Flow detention time= 222.6 min calculated for 0.154 af (75% of inflow)

Center-of-Mass det. time= 149.2 min (927.4 - 778.2)

Volume	Inve	rt Avail.Sto	rage Storage	Description	
#1	879.5	0' 8,28	89 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevatio	n (Surf.Area	Inc.Store	Cum.Store	
(feet		(sq-ft)	(cubic-feet)	(cubic-feet)	
879.5		2,225	Ó	0	
880.0	0	2,651	1,219	1,219	
881.0	0	3,579	3,115	4,334	
881.5	0	4,080	1,915	6,249	
882.0	0	4,080	2,040	8,289	
Device	Routing	Invert	Outlet Devices	S	
#1	Primary	879.50'	12.0" Round	Culvert	
	•		L= 34.0' CPF	P, square edge h	eadwall, Ke= 0.500
			Inlet / Outlet In	nvert= 879.50' /	879.00' S= 0.0147 '/' Cc= 0.900
			n= 0.013, Flo	w Area= 0.79 sf	
#2	Device 1	880.50'	12.0" W x 3.0	" H Vert. Orific	e/Grate C= 0.600
			Limited to wei	r flow at low hea	ds

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#3	Device 1	881.00'	24.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	881.50'	10.0' long x 2.0' 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
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32
#5	Discarded	879.50'	0.500 in/hr Exfiltration over Surface area above 879.50'
			Conductivity to Groundwater Elevation = 875.00'
			Excluded Surface area = 2,225 sf

Discarded OutFlow Max=0.02 cfs @ 12.29 hrs HW=881.07' (Free Discharge) 5=Exfiltration (Controls 0.02 cfs)

Primary OutFlow Max=1.15 cfs @ 12.29 hrs HW=881.07' TW=878.10' (Dynamic Tailwater)

-1=Culvert (Passes 1.15 cfs of 3.91 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.80 cfs @ 3.19 fps)

-3=Orifice/Grate (Weir Controls 0.35 cfs @ 0.84 fps)

4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: County - Storm Pond 2

Inflow Area = 22.203 ac, 36.68% Impervious, Inflow Depth = 1.99" for 10-yr event

27.31 cfs @ 12.37 hrs, Volume= Inflow 3.688 af

10.30 cfs @ 12.97 hrs, Volume= Outflow 3.688 af, Atten= 62%, Lag= 35.6 min

0.13 cfs @ 10.00 hrs, Volume= Discarded = 0.216 af Primary 10.17 cfs @ 12.97 hrs, Volume= 3.472 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 878.95' @ 12.97 hrs Surf.Area= 0.751 ac Storage= 1.075 af

0.803

0.918

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 90.3 min (954.7 - 864.3)

0.850

0.986

00.088

881.00

Volume	Invert	Avail.Storage	Storag	e Description		_
#1	877.20'	2.829 af	Custo	m Stage Data	a (Prismatic)Listed below	
Elevation (feet)	Surf.Are			Cum.Store (acre-feet)		
877.20	0.25	· · · · · · · · · · · · · · · · · · ·	000	0.000		
877.37	0.25	0.0	043	0.043		
877.38	0.57	7 0.0	004	0.048		
878.00	0.62	20 0.3	371	0.419		
879.00	0.75	57 0.6	886	1.107		

1.911

2.829

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Device	Routing	Invert	Outlet Devices		
#1	Primary	877.12'	15.0" Round Culvert X 2.00		
			L= 39.2' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 877.12' / 877.06' S= 0.0015 '/' Cc= 0.900		
			n= 0.013, Flow Area= 1.23 sf		
#2	Device 1	877.20'	Special & User-Defined		
			Head (feet) 0.00 0.20 0.40 0.60 0.80 1.00		
			Disch. (cfs) 0.000 0.340 0.960 1.760 2.710 3.790		
#3	Device 1	878.20'	30.0' long x 2.0' 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		
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88		
			2.85 3.07 3.20 3.32		
#4	Discarded		0.13 cfs Exfiltration at all elevations		
#5	Primary	880.00'	30.0' long x 6.0' 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 5.00 5.50		
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65		
			2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83		

Discarded OutFlow Max=0.13 cfs @ 10.00 hrs HW=877.24' (Free Discharge) **4=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=10.17 cfs @ 12.97 hrs HW=878.95' TW=877.65' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 10.17 cfs @ 4.14 fps)

2=Special & User-Defined (Passes < 3.79 cfs potential flow)
3=Broad-Crested Rectangular Weir (Passes < 51.05 cfs potential flow)

-5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5P: Cnty-Storm Basin 1

Inflow Area = 2.220 ac, 90.54% Impervious, Inflow Depth = 3.41" for 10-yr event 11.23 cfs @ 12.13 hrs, Volume= Inflow 0.631 af

Outflow 10.37 cfs @ 12.16 hrs, Volume= 0.599 af, Atten= 8%, Lag= 1.5 min

Discarded = 0.04 cfs @ 12.16 hrs, Volume= 0.037 af 10.34 cfs @ 12.16 hrs, Volume= Primary 0.562 af

Routed to Pond 8P: County - Storm Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 881.95' @ 12.16 hrs Surf.Area= 3,857 sf Storage= 5,666 cf

Plug-Flow detention time= 91.5 min calculated for 0.599 af (95% of inflow) Center-of-Mass det. time= 64.6 min (838.4 - 773.8)

Volume	Invert	Avail.Storage	Storage Description
#1	879.72'	10.756 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
879.72	1,306	0	0
880.00	1,599	407	407
881.00	2,711	2,155	2,562
882.00	3,924	3,318	5,879
883.00	5,830	4,877	10,756

Device	Routing	Invert	Outlet Devices			
#1	Primary	879.72'	18.0" Round Culvert			
	·		L= 66.5' RCP, sq.cut end projecting, Ke= 0.500			
			Inlet / Outlet Invert= 879.72' / 878.47' S= 0.0188 '/' Cc= 0.900			
			n= 0.013, Flow Area= 1.77 sf			
#2	Device 1	880.72'	6.0" W x 6.0" H Vert. Orifice/Grate C= 0.600			
			Limited to weir flow at low heads			
#3	Device 1	881.50'	36.0" Horiz. Orifice/Grate C= 0.600			
			Limited to weir flow at low heads			
#4	Primary	882.74'	10.0' long x 4.0' 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 5.00 5.50			
			Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66			
			2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32			
#5	Discarded	879.72'	0.500 in/hr Exfiltration over Surface area above 879.72'			
			Conductivity to Groundwater Elevation = 875.00'			
			Excluded Surface area = 1,306 sf			

Discarded OutFlow Max=0.04 cfs @ 12.16 hrs HW=881.94' (Free Discharge) **5=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=10.32 cfs @ 12.16 hrs HW=881.94' TW=879.36' (Dynamic Tailwater)

-1=Culvert (Passes 10.32 cfs of 10.33 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.18 cfs @ 4.74 fps)

3=Orifice/Grate (Weir Controls 9.13 cfs @ 2.18 fps)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 6P: CNTY-Infiltration Basin #1

Inflow Area = 4.640 ac, 33.41% Impervious, Inflow Depth = 1.88" for 10-yr event

Inflow = 8.22 cfs @ 12.33 hrs, Volume= 0.728 af

Outflow = 3.11 cfs @ 12.73 hrs, Volume= 0.649 af, Atten= 62%, Lag= 23.9 min

Discarded = 0.09 cfs @ 12.73 hrs, Volume= 0.081 af Primary = 3.01 cfs @ 12.73 hrs, Volume= 0.568 af

Routed to Pond 8P: County - Storm Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 882.86' @ 12.73 hrs Surf.Area= 10,258 sf Storage= 13,198 cf

Plug-Flow detention time= 174.9 min calculated for 0.648 af (89% of inflow) Center-of-Mass det. time= 126.5 min (965.3 - 838.8)

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Volume	Invert	Avail.Stor	rage Storage [Description	
#1	880.71'	30,08	88 cf Custom	Stage Data (Prisi	matic)Listed below (Recalc)
Elevation		ırf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
880.7	71	3,155	0	0	
881.0	00	3,568	975	975	
882.0	00	6,526	5,047	6,022	
883.0	00	10,890	8,708	14,730	
884.0	00	19,826	15,358	30,088	
Device	Routing	Invert	Outlet Devices		
#1	Primary	880.71'	12.0" Round		
				, sq.cut end project	
					0.28' S= 0.0083 '/' Cc= 0.900
			,	v Area= 0.79 sf	
#2	Device 1	881.71'		' H Vert. Orifice/C	
				flow at low heads	
#3	Device 1	882.71'		rifice/Grate C=	
				flow at low heads	
#4	Primary	883.49'			
			` ,		30 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50	~	
					2.60 2.66 2.70 2.77 2.89 2.88
	D:	000 741	2.85 3.07 3.20		5
#5	Discarded	880.71'			ırface area above 880.71'
				Groundwater Ele	
			Excluded Surfa	ace area = 3,155 s	ST

Discarded OutFlow Max=0.09 cfs @ 12.73 hrs HW=882.86' (Free Discharge) **5=Exfiltration** (Controls 0.09 cfs)

Primary OutFlow Max=3.01 cfs @ 12.73 hrs HW=882.86' TW=879.24' (Dynamic Tailwater)

-1=Culvert (Passes 3.01 cfs of 4.47 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.88 cfs @ 3.76 fps)

-3=Orifice/Grate (Weir Controls 1.14 cfs @ 1.25 fps)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 8P: County - Storm Pond 3

Inflow Area = 16.530 ac, 61.22% Impervious, Inflow Depth = 2.44" for 10-yr event

Inflow = 52.17 cfs @ 12.13 hrs, Volume= 3.367 af

Outflow = 20.61 cfs @ 12.28 hrs, Volume= 3.333 af, Atten= 60%, Lag= 8.5 min

Primary = 20.61 cfs @ 12.28 hrs, Volume= 3.333 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 879.60' @ 12.28 hrs Surf.Area= 23,280 sf Storage= 45,567 cf

Plug-Flow detention time= 99.8 min calculated for 3.333 af (99% of inflow) Center-of-Mass det. time= 93.5 min (913.1 - 819.7)

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Volume	Invert	t Avail.Sto	rage Storage	Description		
#1	#1 877.19' 101,76		64 cf Custon	n Stage Data (Pr	rismatic)Listed below (Recalc)	
Elevation	n S	urf.Area	Inc.Store	Cum.Store		
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)		
877.19	9	14,796	0	0		
878.00)	17,475	13,070	13,070		
879.00		20,998	19,237	32,306		
880.00		24,807	22,903	55,209		
881.00		33,736	29,272	84,480		
881.50)	35,400	17,284	101,764		
Device	Routing	Invert	Outlet Device	es		
#1	Primary	877.20'	18.0" Round	d Culvert X 2.00		
	•				onforming to fill, Ke= 0.500	
					877.00' S= 0.0063 '/' Cc= 0.900	
			n= 0.013, Flow Area= 1.77 sf			
#2	Device 1	877.20'				
			Head (feet) 0.00 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00			
					00 0.800 1.500 2.500 3.400 4.500	
			5.600 6.900 8.300			
#3	Device 1	879.20'	68.0' long x 2.0' breadth Broad-Crested Rectangular Weir			
					0.80 1.00 1.20 1.40 1.60 1.80 2.00	
			2.50 3.00 3.		64 0 60 0 66 0 70 0 77 0 00 0 00	
			2.85 3.07 3.	,	61 2.60 2.66 2.70 2.77 2.89 2.88	
#4	Primary	880.00'			oad-Crested Rectangular Weir	
<i>"</i> ·	. minary	000.00			0.80 1.00 1.20 1.40 1.60 1.80 2.00	
				50 4.00 4.50 5		
					70 2.68 2.68 2.67 2.65 2.65 2.65	
				66 2.67 2.69 2		

Primary OutFlow Max=20.61 cfs @ 12.28 hrs HW=879.60' TW=876.58' (Dynamic Tailwater)

1=Culvert (Barrel Controls 20.61 cfs @ 5.83 fps)

2=Special & User-Defined (Passes < 8.30 cfs potential flow)

-3=Broad-Crested Rectangular Weir (Passes < 44.69 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 9P: Storage at NE and SE corners of AB

Inflow Area = 81.683 ac, 28.47% Impervious, Inflow Depth > 1.77" for 10-yr event

Inflow = 52.44 cfs @ 12.54 hrs, Volume= 12.077 af

Outflow = 26.28 cfs @ 13.76 hrs, Volume= 11.977 af, Atten= 50%, Lag= 73.4 min

Primary = 26.28 cfs @ 13.76 hrs, Volume= 11.977 af

Routed to Reach 9R: Swale 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Starting Elev= 875.66' Surf.Area= 32,564 sf Storage= 19,458 cf

Peak Elev= 877.87' @ 13.76 hrs Surf.Area= 131,342 sf Storage= 165,910 cf (146,452 cf above start)

Plug-Flow detention time= 129.8 min calculated for 11.527 af (95% of inflow)

Center-of-Mass det. time= 92.5 min (998.6 - 906.1)

Volume	Inve	ert Avail.Sto	rage Storage [Description	
#1	875.0	00' 640,02	22 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
875.0	00	26,400	0	0	
876.0	00	35,739	31,070	31,070	
877.0	00	63,982	49,861	80,930	
878.0	00	141,395	102,689	183,619	
879.0	00	231,121	186,258	369,877	
880.0	00	309,169	270,145	640,022	
Device	Routing	Invert	Outlet Devices	;	
#1	Primary	875.66'	36.0" Round		

L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 875.66' / 874.89' S= 0.0077 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=26.28 cfs @ 13.76 hrs HW=877.87' TW=876.23' (Dynamic Tailwater)
—1=Culvert (Barrel Controls 26.28 cfs @ 6.56 fps)

Summary for Pond 11P: Landfill Pond

Inflow Area = 28.500 ac, 1.16% Impervious, Inflow Depth = 2.12" for 10-yr event

Inflow = 79.92 cfs @ 12.19 hrs, Volume= 5.026 af

Outflow = 11.94 cfs @ 12.73 hrs, Volume= 4.614 af, Atten= 85%, Lag= 32.5 min

Primary = 11.94 cfs @ 12.73 hrs, Volume= 4.614 af

Routed to Pond 12P: Existing Depression 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 881.36' @ 12.73 hrs Surf.Area= 1.047 ac Storage= 2.443 af

Plug-Flow detention time= 257.6 min calculated for 4.614 af (92% of inflow)

Center-of-Mass det. time= 218.6 min (1,040.2 - 821.5)

Volume	Invert	Avail.Storage	Storage Description
#1	877.33'	6.106 af	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
877.33	0.334	0.000	0.000
878.00	0.401	0.246	0.246
879.00	0.497	0.449	0.695
880.00	0.661	0.579	1.274
881.00	0.952	0.806	2.081
882.00	1.214	1.083	3.164
883.00	1.487	1.350	4.514
884.00	1.697	1.592	6.106
Davidson Dav	.45		5

Device	Routing	Invert	Outlet Devices		
#1	Primary	877.33'	18.0" Round Culvert		
			L= 69.6' CPP, square edge headwall, Ke= 0.500		
			Inlet / Outlet Invert= 877.33' / 875.77' S= 0.0224 '/' Cc= 0.900		
			n= 0.012, Flow Area= 1.77 sf		
#2	Device 1	877.33'	1.0" Vert. Orifice/Grate X 7.00 C= 0.600		
			Limited to weir flow at low heads		
#3	Device 1	877.68'	1.0" Vert. Orifice/Grate X 8.00 C= 0.600		
			Limited to weir flow at low heads		
#4	Device 1	878.03'	1.0" Vert. Orifice/Grate X 9.00 C= 0.600		
			Limited to weir flow at low heads		
#5	Device 1	879.77'	18.0" Horiz. Orifice/Grate C= 0.600		
			Limited to weir flow at low heads		
#6	Primary	882.66'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir		
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60		
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64		

Primary OutFlow Max=11.94 cfs @ 12.73 hrs HW=881.36' TW=875.36' (Dynamic Tailwater)

1=Culvert (Passes 11.94 cfs of 15.42 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.37 cfs @ 9.62 fps)

-3=Orifice/Grate (Orifice Controls 0.40 cfs @ 9.19 fps) **-4=Orifice/Grate** (Orifice Controls 0.43 cfs @ 8.74 fps)

5=Orifice/Grate (Orifice Controls 10.74 cfs @ 6.08 fps)

-6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 12P: Existing Depression 1

Inflow Area = 37.190 ac, 5.00% Impervious, Inflow Depth > 1.83" for 10-yr event

Inflow = 24.03 cfs @ 12.20 hrs, Volume= 5.669 af

Outflow = 9.43 cfs @ 12.64 hrs, Volume= 4.538 af, Atten= 61%, Lag= 25.9 min

Primary = 9.43 cfs @ 12.64 hrs, Volume= 4.538 af

Routed to Pond 15P: Existing Depression 2

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 11R: Swale 4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 877.19' @ 15.60 hrs Storage= 115,770 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 395.5 min (1,398.7 - 1,003.2)

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<u>Volume</u>	Invert	Avail.Sto	age St	orage Description
#1	875.00'	174,69	9 cf C	ustom Stage DataListed below
Elevation	on Cum.	Store		
(fee	t) (cubic	<u>-feet)</u>		
875.0	00	0		
876.0	00 65	5,278		
877.0	00 110	0,909		
878.0	00 136	5,383		
879.0	00 156	6,855		
880.0	00 174	4,699		
	-			
<u>Device</u>	Routing	Invert	Outlet L	Devices
#1	Primary	874.12'	36.0" I	Round Culvert L= 100.2' Ke= 0.200
			Inlet / C	Outlet Invert= 874.12' / 873.48' S= 0.0064 '/' Cc= 0.900
			n = 0.01	2, Flow Area= 7.07 sf
#2	Secondary	878.00'		to West
			,	feet) 0.00 0.10 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			1.80 2.	
				(cfs) 0.000 0.010 0.060 0.350 1.040 2.230 4.050 6.580
			9.930	14.170 19.400 25.690

Primary OutFlow Max=9.26 cfs @ 12.64 hrs HW=875.33' TW=874.42' (Dynamic Tailwater) 1=Culvert (Outlet Controls 9.26 cfs @ 5.13 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=875.00' TW=868.00' (Dynamic Tailwater) 2=Swale to West (Controls 0.00 cfs)

Summary for Pond 13P: YH1 Pond

66.400 ac, 3.28% Impervious, Inflow Depth = 1.20" for 10-yr event Inflow Area =

39.37 cfs @ 12.86 hrs, Volume= Inflow 6.643 af

3.44 cfs @ 14.83 hrs, Volume= 3.44 cfs @ 14.83 hrs, Volume= Outflow 5.246 af, Atten= 91%, Lag= 118.5 min

Primary 5.246 af

Routed to Pond 14P: Small Depression

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 896.70' @ 17.09 hrs Surf.Area= 142,178 sf Storage= 183,300 cf

Plug-Flow detention time= 567.1 min calculated for 5.245 af (79% of inflow)

Center-of-Mass det. time= 487.5 min (1,383.7 - 896.2)

Volume	Invert	Avail.Storage	Storage Description
#1	895.00'	437,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
895.00	94,949	0	0
896.00	101,543	98,246	98,246
897.00	159,762	130,653	228,899
898.00	257,486	208,624	437,523

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MSE 24-hr 4 10-yr Rainfall=4.09"

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Device	Routing	Invert	Outlet Devices
#1	Primary	895.00'	12.0" Round Culvert
	•		L= 140.0' RCP, mitered to conform to fill, Ke= 0.700
			Inlet / Outlet Invert= 895.00' / 894.00' S= 0.0071 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Primary	897.00'	10.0' long x 100.0' breadth Broad-Crested Rectangular Weir
	•		Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=3.44 cfs @ 14.83 hrs HW=896.62' TW=895.00' (Dynamic Tailwater)

1=Culvert (Outlet Controls 3.44 cfs @ 4.38 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 14P: Small Depression

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 0.95" for 10-yr event

Inflow = 3.44 cfs @ 14.83 hrs, Volume= 5.246 af

Outflow = 3.23 cfs @ 20.16 hrs, Volume= 5.124 af, Atten= 6%, Lag= 319.9 min

Primary = 3.23 cfs @ 20.16 hrs, Volume= 5.124 af

Routed to Reach 13R: Swale 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 895.23' @ 20.16 hrs Surf.Area= 18,860 sf Storage= 14,228 cf

Plug-Flow detention time= 68.1 min calculated for 5.124 af (98% of inflow)

Center-of-Mass det. time= 50.3 min (1,434.0 - 1,383.7)

Volume	Inv	ert Avail.Sto	rage Storage	Description	
#1	894.0	00' 33,8	74 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
Elevation (fee	et)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
894.0	-	5,815	0	0	
895.0	-	14,871	10,343	10,343	
896.0	00	32,190	23,531	33,874	
Device	Routing	Invert	Outlet Devices	5	
#1	Primary	894.00'	12.0" Round	Culvert	
#2	Primary	895.50'	L= 205.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 894.00' / 892.00' S= 0.0098 '/' Cc= 0. n= 0.012, Flow Area= 0.79 sf		892.00' S= 0.0098 '/' Cc= 0.900 road-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60

Primary OutFlow Max=3.23 cfs @ 20.16 hrs HW=895.23' TW=892.26' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 3.23 cfs @ 4.11 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Summary for Pond 15P: Existing Depression 2

Inflow Area = 248.992 ac, 13.10% Impervious, Inflow Depth > 1.30" for 10-yr event

Inflow = 52.12 cfs @ 12.80 hrs, Volume= 26.916 af

Outflow = 31.01 cfs @ 15.70 hrs, Volume= 24.555 af, Atten= 41%, Lag= 174.2 min

Primary = 9.54 cfs @ 15.22 hrs, Volume= 18.818 af

Routed to Pond 17P: YH3 Pond

Secondary = 21.49 cfs @ 15.70 hrs, Volume= 5.737 af

Routed to Reach 15R: Overland Flow

Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 14R: Swale 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 877.17' @ 15.70 hrs Surf.Area= 222,902 sf Storage= 312,740 cf

Plug-Flow detention time= 288.2 min calculated for 24.555 af (91% of inflow)

Center-of-Mass det. time= 206.5 min (1,344.9 - 1,138.4)

Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	870.0	0' 530,8	88 cf Custon	n Stage Data (Pris	smatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
870.0	00	1,053	Ó	0	
873.0	00	9,397	15,675	15,675	
874.0	00	20,404	14,901	30,576	
875.0	00	42,009	31,207	61,782	
876.0	00	89,975	65,992	127,774	
877.0	00	205,811	147,893	275,667	
878.0	00	304,631	255,221	530,888	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	870.22'	18.0" Round		projecting Ko- 0.500

	rteating		Cullot Betriess
#1	Primary	870.22'	18.0" Round Culvert
	-		L= 2,314.0' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 870.22' / 858.00' S= 0.0053 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Secondary	877.00'	120.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Tertiary	877.30'	Special & User-Defined
			Head (feet) 0.00 0.10 0.20 0.30 0.40 0.60 0.80 1.00
			Disch. (cfs) 0.000 0.030 0.200 0.570 1.230 3.610 7.780 14.110

Primary OutFlow Max=9.54 cfs @ 15.22 hrs HW=877.14' TW=860.13' (Dynamic Tailwater)
—1=Culvert (Outlet Controls 9.54 cfs @ 5.40 fps)

Secondary OutFlow Max=21.49 cfs @ 15.70 hrs HW=877.17' TW=876.43' (Dynamic Tailwater) 2=Broad-Crested Rectangular Weir (Weir Controls 21.49 cfs @ 1.04 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=870.00' TW=877.30' (Dynamic Tailwater)

3=Special & User-Defined (Controls 0.00 cfs)

MSE 24-hr 4 10-yr Rainfall=4.09"

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Summary for Pond 17P: YH3 Pond

Inflow Area = 470.972 ac. 9.99% Impervious, Inflow Depth > 1.05" for 10-yr event

Inflow 93.97 cfs @ 12.77 hrs, Volume= 41.128 af

30.99 cfs @ 17.76 hrs, Volume= Outflow 34.508 af, Atten= 67%, Lag= 299.3 min

Primary 30.99 cfs @ 17.76 hrs, Volume= 34.508 af

Routed to Pond 21P: YH6B Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 860.55' @ 17.77 hrs Surf.Area= 273,175 sf Storage= 524,233 cf

Plug-Flow detention time= 317.1 min calculated for 34.508 af (84% of inflow)

Center-of-Mass det. time= 178.5 min (1,372.9 - 1,194.4)

Volume	Inv	ert Avail.Sto	rage Storage	Description	
#1	858.	00' 1,137,52	23 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevation	on	Surf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
858.0	00	182,909	0	0	
859.0	00	191,060	186,985	186,985	
860.0	00	214,659	202,860	389,844	
861.0	00	320,867	267,763	657,607	
862.0	00	638,965	479,916	1,137,523	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	858.00'	36.0" Round	l Culvert	
					projecting, Ke= 0.500
			Inlet / Outlet I	nvert= 858.00' /	855.00' S= 0.0028 '/' Cc= 0.900
			,	w Area= 7.07 sf	
#2	Primary	860.50'	125.0' long >	c 60.0' breadth	Broad-Crested Rectangular Weir

Primary OutFlow Max=30.99 cfs @ 17.76 hrs HW=860.55' TW=857.01' (Dynamic Tailwater) -1=Culvert (Outlet Controls 27.14 cfs @ 5.70 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 3.85 cfs @ 0.60 fps)

Summary for Pond 18P: YH4 Pond

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Inflow Area = 12.220 ac, 4.26% Impervious, Inflow Depth = 1.08" for 10-yr event

11.51 cfs @ 12.35 hrs, Volume= Inflow 1.101 af

Outflow 2.12 cfs @ 13.43 hrs, Volume= 1.024 af, Atten= 82%, Lag= 65.2 min

Primary 2.12 cfs @ 13.43 hrs, Volume= 1.024 af

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 861.88' @ 13.43 hrs Surf.Area= 28,967 sf Storage= 22,301 cf

Plug-Flow detention time= 293.8 min calculated for 1.024 af (93% of inflow)

Center-of-Mass det. time= 259.8 min (1,127.9 - 868.1)

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Volume	Inve	ert Avail.Sto	rage Storage	e Description	
#1	861.0	00' 64,00	01 cf Custon	m Stage Data (Prismatic)Listed below (Recalc)	
Elevatio (fee 861.0 862.0 863.0	et) 00 00	Surf.Area (sq-ft) 21,906 29,959 46,178	Inc.Store (cubic-feet) 0 25,933 38,069	Cum.Store (cubic-feet) 0 25,933 64,001	
Device	Routing	Invert	Outlet Device	ces	
#1	Primary	861.00'	8.0" Round	d Culvert	
#2	Primary	861.80'	Inlet / Outlet n= 0.012, Flace 20.0' long x Head (feet)	RCP, sq.cut end projecting, Ke= 0.500 t Invert= 861.00' / 859.76' S= 0.0050 '/' Cc= 0.900 flow Area= 0.35 sf x 50.0' breadth Broad-Crested Rectangular Weir 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 sh) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63	

Summary for Pond 19P: YH5 Pond

Inflow Area = 2.350 ac, 51.91% Impervious, Inflow Depth = 2.12" for 10-yr event

Primary OutFlow Max=2.12 cfs @ 13.43 hrs HW=861.88' TW=859.58' (Dynamic Tailwater)

Inflow = 7.65 cfs @ 12.15 hrs, Volume= 0.414 af

Outflow = 0.24 cfs @ 15.09 hrs, Volume= 0.284 af, Atten= 97%, Lag= 176.4 min

Primary = 0.24 cfs @ 15.09 hrs, Volume= 0.284 af

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 865.31' @ 15.09 hrs Surf.Area= 40,593 sf Storage= 12,359 cf

-2=Broad-Crested Rectangular Weir (Weir Controls 1.14 cfs @ 0.74 fps)

Plug-Flow detention time= 544.6 min calculated for 0.284 af (69% of inflow)

Center-of-Mass det. time= 457.5 min (1,275.6 - 818.1)

-1=Culvert (Barrel Controls 0.98 cfs @ 2.82 fps)

Volume	Inv	ert Avail.St	orage Storage	Description	
#1	865.	00' 93,4	114 cf Custom	n Stage Data (Pr	rismatic)Listed below (Recalc)
- ·		0 ()	. 0	0 01	
Elevation	on	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
865.0	00	38,602	0	0	
866.0	00	44,980	41,791	41,791	
867.0	00	58,266	51,623	93,414	
Dovice	Pouting	Invert	Outlet Device	00	
Device	Routing		_		
#1	Primary	866.50'	65.0' long x	15.0' breadth B	road-Crested Rectangular Weir
			Head (feet) (0.20 0.40 0.60 (0.80 1.00 1.20 1.40 1.60
			, ,		70 2.64 2.63 2.64 2.64 2.63
#2	Primary	865.00	8.0" Round	Culvert	

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MSE 24-hr 4 10-yr Rainfall=4.09"

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L= 170.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 865.00' / 864.15' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.24 cfs @ 15.09 hrs HW=865.31' TW=860.11' (Dynamic Tailwater)

1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Barrel Controls 0.24 cfs @ 2.19 fps)

Summary for Pond 20P: YH6-A

Inflow Area = 9.070 ac, 24.04% Impervious, Inflow Depth = 1.73" for 10-yr event

Inflow = 17.52 cfs @ 12.25 hrs, Volume= 1.311 af

Outflow = 2.51 cfs @ 12.37 hrs, Volume= 1.213 af, Atten= 86%, Lag= 7.0 min

Primary = 2.51 cfs @ 12.37 hrs, Volume= 1.213 af

Routed to Pond 21P: YH6B Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Starting Elev= 856.60' Surf.Area= 60,840 sf Storage= 127,764 cf

Peak Elev= 857.07' @ 13.81 hrs Surf.Area= 65,271 sf Storage= 157,311 cf (29,547 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= 344.3 min (1,182.0 - 837.6)

Volume	Inve	rt Avail.Sto	rage Storage [Description	
#1	854.5	0' 667,6	59 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevatior (feet	•	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
854.50)	60,840	0	0	
856.60)	60,840	127,764	127,764	
857.00)	64,679	25,104	152,868	
858.00)	73,339	69,009	221,877	
859.00)	90,134	81,737	303,613	
860.00)	109,122	99,628	403,241	
861.00)	129,626	119,374	522,615	
862.00)	160,461	145,044	667,659	
Device	Routing	Invert	Outlet Devices		

#1 Primary 854.50' 18.0" Round Culvert

L= 55.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 854.50' / 854.22' S= 0.0051 '/' Cc= 0.900

n= 0.024, Flow Area= 1.77 sf

Primary OutFlow Max=2.46 cfs @ 12.37 hrs HW=856.86' TW=856.70' (Dynamic Tailwater) 1=Culvert (Outlet Controls 2.46 cfs @ 1.39 fps)

MSE 24-hr 4 10-yr Rainfall=4.09"

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Summary for Pond 21P: YH6B Pond

Inflow Area = 579.442 ac, 9.62% Impervious, Inflow Depth > 0.94" for 10-yr event

Inflow 79.35 cfs @ 12.53 hrs, Volume= 45.164 af

Outflow 33.75 cfs @ 13.48 hrs, Volume= 44.709 af, Atten= 57%, Lag= 56.6 min

Primary 33.75 cfs @ 13.48 hrs, Volume= 44.709 af

Routed to Link 22L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Starting Elev= 856.60' Surf.Area= 282,460 sf Storage= 556,446 cf

Peak Elev= 857.03' @ 13.48 hrs Surf.Area= 301,148 sf Storage= 683,139 cf (126,693 cf above start)

Plug-Flow detention time= 422.1 min calculated for 31.935 af (71% of inflow)

Center-of-Mass det. time= 44.4 min (1,308.6 - 1,264.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	854.63'	2,032,289 cf	Custom Stage Data (Prismatic)Listed below	(Recalc)
Elevation	Surf.	Area Ind	.Store Cum.Store	

Lievation	Suil.Alea	1110.31016	Culli.Stole
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
854.63	282,460	0	0
856.60	282,460	556,446	556,446
857.00	299,898	116,472	672,918
858.00	336,652	318,275	991,193
859.00	486,957	411,805	1,402,997
860.00	771,626	629,292	2,032,289

Invert Outlet Devices Routing Device 42.0" Round Culvert X 2.00 #1 Primary 854.63'

L= 28.0' CMP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900 n= 0.024, Flow Area= 9.62 sf

Primary OutFlow Max=33.75 cfs @ 13.48 hrs HW=857.03' TW=856.60' (Dynamic Tailwater) 1=Culvert (Outlet Controls 33.75 cfs @ 3.38 fps)

Summary for Pond 22P: Existing Depression 3

30.220 ac, 19.56% Impervious, Inflow Depth = 1.26" for 10-yr event Inflow Area =

Inflow 42.54 cfs @ 12.24 hrs, Volume= 3.179 af

1.60 cfs @ 15.99 hrs, Volume= Outflow 1.796 af, Atten= 96%, Lag= 224.9 min

1.60 cfs @ 15.99 hrs, Volume= Primary 1.796 af

Routed to Pond 17P: YH3 Pond

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 21R: Swale 5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 863.52' @ 15.99 hrs Surf.Area= 1.930 ac Storage= 2.154 af

Plug-Flow detention time= 525.5 min calculated for 1.796 af (56% of inflow)

Center-of-Mass det. time= 415.3 min (1,268.7 - 853.4)

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Volume	Invert A	vail.Stora	age Stora	age Description
#1	860.00'	12.833	af Cust	tom Stage Data (Prismatic)Listed below (Recalc)
		l	- 04	Ourse Ottomo
Elevatio			c.Store	Cum.Store
(fee			re-feet)	(acre-feet)
860.0			0.000	0.000
861.0	0.016	;	0.011	0.011
862.0	0.550		0.283	0.294
863.0	0 1.425)	0.987	1.281
864.0	0 2.395)	1.910	3.191
865.0	0 2.865)	2.630	5.821
866.0	0 3.493	}	3.179	9.000
867.0	0 4.172) -	3.833	12.833
Device	Routing	Invert	Outlet De	evices
#1	Primary	862.84'	12.0" Ro	ound Culvert
	•		L= 30.7'	RCP, sq.cut end projecting, Ke= 0.500
				itlet Invert= 862.84' / 861.39' S= 0.0472 '/' Cc= 0.900
			n= 0.012	, Flow Area= 0.79 sf
#2	Primary	865.74'		g x 12.0' breadth Broad-Crested Rectangular Weir
	,			et) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			,	nglish) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#3	Secondary	863.60'		ROW to West
•	· · · · · · · · · · · · · · · ·			eet) 0.00 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.20 2.40	,
				fs) 0.000 0.630 1.850 4.000 7.240 11.780 17.770 25.370
			`	15.990 59.290 74.770

Primary OutFlow Max=1.60 cfs @ 15.99 hrs HW=863.52' TW=860.32' (Dynamic Tailwater)

T-1=Culvert (Inlet Controls 1.60 cfs @ 2.81 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=860.00' TW=863.60' (Dynamic Tailwater) 3=Swale in ROW to West (Controls 0.00 cfs)

Summary for Pond 28P: Salt Shed Basin

Inflow Area = 0.203 ac, 53.20% Impervious, Inflow Depth = 3.00" for 10-yr event

Inflow = 0.94 cfs @ 12.13 hrs, Volume= 0.051 af

Outflow = 0.73 cfs @ 12.18 hrs, Volume= 0.038 af, Atten= 23%, Lag= 2.8 min

Primary = 0.73 cfs @ 12.18 hrs, Volume= 0.038 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 883.05' @ 12.18 hrs Surf.Area= 802 sf Storage= 752 cf

Plug-Flow detention time= 123.9 min calculated for 0.038 af (74% of inflow)

Center-of-Mass det. time= 48.8 min (838.3 - 789.4)

^{—2=}Broad-Crested Rectangular Weir (Controls 0.00 cfs)

MSE 24-hr 4 10-yr Rainfall=4.09"

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Volume	Invert	Avail.Sto	rage Storage	Description	
#1	881.50'	1,16	33 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevatio		urf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
881.5	0	212	0	0	
882.0	0	363	144	144	
883.0	0	781	572	716	
883.5	0	1,009	448	1,163	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	881.50'	6.0" Round	Culvert	
	j		L= 134.0' RO	CP, sq.cut end p	rojecting, Ke= 0.500
					880.80' S= 0.0052 '/' Cc= 0.900
			n= 0.013, Flo	w Area= 0.20 sf	Ŧ
#2	Device 1	882.80'	12.0" Horiz. (Orifice/Grate (C= 0.600
			Limited to wei	ir flow at low hea	ads
#3	Primary	883.00'	5.0' long x 2	.0' breadth Bro	ad-Crested Rectangular Weir
					0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.5	50	
			Coef. (English	n) 2.54 2.61 2.	61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.2	20 3.32	

Primary OutFlow Max=0.72 cfs @ 12.18 hrs HW=883.05' TW=876.30' (Dynamic Tailwater)

1=Culvert (Barrel Controls 0.60 cfs @ 3.05 fps)

2=Orifice/Grate (Passes 0.60 cfs of 1.25 cfs potential flow)

-3=Broad-Crested Rectangular Weir (Weir Controls 0.13 cfs @ 0.55 fps)

Summary for Link 21L: Ag. Ditch #4 Tributary

Inflow Area = 37.620 ac, 33.12% Impervious, Inflow Depth = 1.88" for 10-yr event

Inflow = 52.09 cfs @ 12.50 hrs, Volume= 5.902 af

Primary = 52.08 cfs @ 12.76 hrs, Volume= 5.902 af, Atten= 0%, Lag= 15.7 min

Routed to Link 22L: Combined to Ag Ditch #4

Primary outflow = Inflow delayed by 15.8 min, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 22L: Combined to Ag Ditch #4

Inflow Area = 634.952 ac, 10.79% Impervious, Inflow Depth > 0.99" for 10-yr event

Inflow = 89.77 cfs @ 12.80 hrs, Volume= 52.401 af

Primary = 89.77 cfs @ 12.80 hrs, Volume= 52.401 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Fixed water surface Elevation= 856.60'

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Summary for Link 24L: Door Creek Combined

Inflow Area = 39.177 ac, 13.85% Impervious, Inflow Depth = 1.27" for 10-yr event

Inflow = 33.96 cfs @ 12.54 hrs, Volume= 4.152 af

Primary = 33.96 cfs @ 12.54 hrs, Volume= 4.152 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 25L: Combine

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 56L: Lag to Door Creek

Inflow Area = 0.750 ac, 0.00% Impervious, Inflow Depth = 0.86" for 10-yr event

Inflow = 0.73 cfs @ 12.21 hrs, Volume= 0.054 af

Primary = 0.72 cfs @ 12.63 hrs, Volume= 0.054 af, Atten= 0%, Lag= 25.6 min

Routed to Link 24L: Door Creek Combined

Primary outflow = Inflow delayed by 25.6 min, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Summary for Subcatchment 1S: C1

Runoff = 37.22 cfs @ 12.13 hrs, Volume=

2.048 af, Depth= 5.26"

Routed to Pond 1P: Niebuhr Stormwater Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	cription		
*	3.	370	98				
	1.	300	61	>75%	√ Grass co	over, Good	d, HSG B
	4.	670	88	Weig	hted Aver	age	
	1.300 27.84% Pervious Area					us Area	
	3.	370		72.1	6% Imperv	∕ious Area	
	Тс	Lengt	th S	Slope	Velocity	Capacity	Description
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry.

Summary for Subcatchment 2S: C2

Runoff = 23.34 cfs @ 12.44 hrs, Volume=

2.467 af, Depth= 3.04"

Routed to Pond 4P : County - Storm Pond 2

	Area	(ac) C	N Des	cription					
*	1.	020	98						
	5.	655 6	31 >75°	% Grass c	over, Good	, HSG B			
	0.	0.685 58 Woods/grass comb., Good, HSG B							
*	2.385 70 Row crops, SR + CR, Good, HSG B								
				hted Aver	•	,			
		725		3% Pervio	•				
		020		•	/ious Area				
		020	10.1	, 70 mpc.	7104071104				
	Тс	Length	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	7.9	91	0.0830	0.19	, ,	Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.84"			
	6.4	59	0.0300	0.15		Sheet Flow,			
						Cultivated: Residue>20% n= 0.170 P2= 2.84"			
	11.9	573	0.0080	0.80		Shallow Concentrated Flow,			
						Cultivated Straight Rows Kv= 9.0 fps			
	3.3	337	0.0030	1.69	11.17	Channel Flow,			
						Area= 6.6 sf Perim= 13.4' r= 0.49' n= 0.030			
	1.1	224	0.0050	3.31	10.40	Pipe Channel,			
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
						n= 0.020 Corrugated PE, corrugated interior			
	00.0	4 00 4	T . 4 . 1						

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Summary for Subcatchment 3S: C3-A

Runoff = 31.09 cfs @ 12.33 hrs, Volume=

2.892 af, Depth= 4.93"

Routed to Pond 4P : County - Storm Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac) C	N Desc	cription		
*	2.	900	98			
*	3.	870 7	74 >75°	% Grass c	over, Good	, HSG B
	0.	273		er Surface		
	7.	043 8	35 Weid	hted Aver	age	
		870		5% Pervio		
	3.	173	45.0	5% Imper	ious Area	
				•		
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
	12.1	86	0.0260	0.12		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.84"
	0.9	68	0.0220	1.25		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.84"
	9.1	1,026	0.0050	1.88	15.43	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 8.2 '/' Top.W=16.40'
						n= 0.035
	1.4	224	0.0050	2.76	8.66	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.024
	0.1	59	0.0056	7.06	49.91	Pipe Channel,
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'
_						n= 0.013
	23.6	1,463	Total			

Summary for Subcatchment 4S: C3-B

Runoff = 6.29 cfs @ 12.13 hrs, Volume= 0.362 af, Depth= 5.83" Routed to Pond 3P : Sheriff Phase 2 Bioretention

	Area (ac)	CN	Description
*	0.580	98	
*	0.165	74	>75% Grass cover, Good, HSG B
	0.745	93	Weighted Average
	0.165		22.15% Pervious Area
	0.580		77.85% Impervious Area

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Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.0					Direct Entry,	

Summary for Subcatchment 5S: C4-A

Runoff = 18.91 cfs @ 12.13 hrs, Volume=

1.101 af, Depth= 5.95"

Routed to Pond 5P: Cnty-Storm Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	cription					
*	2.	010	98							
	0.	210	61	>75%	% Grass co	over, Good	d, HSG B			
	2.	220	94	Weig	hted Aver	age				
	0.	210		9.46	9.46% Pervious Area					
	2.010			90.5	4% Imperv	ious Area				
	Tc	Lengt		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
	(min)	(fee	ι)	(11/11)	(It/Sec)	(CIS)				
	6.0						Direct Entry,			

Summary for Subcatchment 7S: C4-C

Runoff = 4.84 cfs @ 12.13 hrs, Volume=

0.257 af, Depth= 4.60"

Routed to Pond 8P : County - Storm Pond 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	cription		
*	0.	230	98				
*	0.	440	74	>759	% Grass co	over, Good	I, HSG B
				Weig	ghted Aver	age	
	0.440			65.6	7% Pervio	us Area	
	0.230			34.33% Impervious Area			
	Tc	Leng	•	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 8S: C4-D

Runoff = 71.73 cfs @ 12.13 hrs, Volume= 3.948 af, Depth= 5.26"

Routed to Pond 8P: County - Storm Pond 3

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	Area	(ac)	CN	Desc	cription					
*	6.	030	98							
	2.	030	61	>759	% Grass co	over, Good	d, HSG B			
*	0.	640	74	>759	% Grass co	over, Good	d, HSG C			
	0.	300	98	Wate	er Surface,	HSG B				
	9.	000	88	Weig	ghted Aver	age				
	2.670 29.67% Pervious Area					us Area				
	6.330			70.3	3% Imperv	ious Area				
	Тс	Leng	jth	Slope	Velocity	Capacity	Description			
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	6.0						Direct Entry,			

Summary for Subcatchment 9S: C5

Runoff = 35.37 cfs @ 12.25 hrs, Volume= 2.679 af, Depth= 3.96"

Routed to Pond 9P: Storage at NE and SE corners of AB

	Area	(ac) C	N Des	cription		
*	2.	270	98			
	2.	940	31 >75°	% Grass c	over, Good	, HSG B
	0.	144	74 >75°	% Grass c	over, Good	, HSG C
*	2.	277			R + CR, Go	od, HSG B
	0.	494	36 Fallo	ow, bare so	oil, HSG B	
	8.	125	76 Wei	ghted Aver	age	
	5.	855	72.0	6% Pervio	us Area	
	2.	270	27.9	4% Imper	vious Area	
	_					
	Tc	Length			Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	1.9	220	0.0370	1.94		Sheet Flow,
	0.7	00	0.0000	0.45		Smooth surfaces n= 0.011 P2= 2.84"
	8.7	80	0.0260	0.15		Sheet Flow,
	2.5	400	0.0000	4.07		Cultivated: Residue>20% n= 0.170 P2= 2.84"
	2.5	188	0.0200	1.27		Shallow Concentrated Flow,
	2.3	380	0.0090	2.70	59.39	Cultivated Straight Rows Kv= 9.0 fps Trap/Vee/Rect Channel Flow,
	2.0	300	0.0030	2.70	39.59	Bot.W=4.00' D=1.00' Z= 6.0 & 30.0 '/' Top.W=40.00'
						n= 0.035
	1.0	193	0.0010	3.23	22.85	Pipe Channel,
		.00	0.00.0	0.20	22.00	36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'
						n= 0.012
	16.4	1,061	Total			

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Summary for Subcatchment 10S: C6

Runoff = 63.16 cfs @ 12.81 hrs, Volume= 9.630 af, Depth= 3.34"

Routed to Pond 9P: Storage at NE and SE corners of AB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac) C	N Desc	cription		
*	1.	864 9	98			
	7.	605	31 >75°	% Grass co	over, Good	, HSG B
	5.	438 7	'4 >75°	% Grass co	over, Good	, HSG C
	5.	852 5	8 Woo	ds/grass d	omb., Goo	d, HSG B
*	_	-			t + CR, God	
*					t + CR, God	od, HSG C
	0.	750 9	8 Wate	er Surface,	, HSG B	
	_	-	'0 Weig	ghted Aver	age	
		800		5% Pervio		
	2.	614	7.55	% Impervi	ous Area	
	_					
	Tc	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	26.9	300	0.1190	0.19		Sheet Flow,
		205	0.0400	4.00		Woods: Light underbrush n= 0.400 P2= 2.84"
	6.6	395	0.0400	1.00		Shallow Concentrated Flow,
	2.5	040	0.0440	4.05		Woodland Kv= 5.0 fps
	3.5	218	0.0440	1.05		Shallow Concentrated Flow,
	15.6	600	0.0067	0.74		Woodland Kv= 5.0 fps
	15.6	688	0.0067	0.74		Shallow Concentrated Flow,
	0.5	74	0.0050	2.65	8.32	Cultivated Straight Rows Kv= 9.0 fps Pipe Channel,
	0.5	74	0.0000	2.00	0.52	24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.025
	3.7	529	0.0060	2.41	38.62	Trap/Vee/Rect Channel Flow,
	0	020	0.0000		00.02	Bot.W=0.00' D=1.00' Z= 16.0 '/' Top.W=32.00'
						n= 0.030
	56.8	2,204	Total			

Summary for Subcatchment 11S: C7 - Landfill

Runoff = 162.98 cfs @ 12.18 hrs, Volume= 10.407 af, Depth= 4.38"

Routed to Pond 11P: Landfill Pond

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_	Area	(ac) CN Description							
	0.	440	96	Grav	el surface	, HSG B			
27.730 80 >75% Grass cover, Good, HSG D									
0.330 98 Water Surface, HSG B									
28.500 80 Weighted Average									
	28.170 98.84% Pervious Area					us Area			
	0.330			1.16	1.16% Impervious Area				
	Тс	Leng		Slope	Velocity	Capacity	Description		
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)			
	11 0						Direct Entry	TOC from Landfill's SWMP	

11.0

Direct Entry, IOC from Landfill's SWMF

Summary for Subcatchment 12S: C8

41.85 cfs @ 12.17 hrs, Volume= Runoff =

2.490 af, Depth= 3.44"

Routed to Pond 12P: Existing Depression 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac) (CN De	scription		
*	1.	380	98			
	4.	420	61 >7	5% Grass c	over, Good	, HSG B
	0.	200	74 >7	5% Grass c	over, Good	, HSG C
	2.	540	72 W	ods/grass	comb., Goo	d, HSG C
	0.	150	98 Wa	ater Surface	, HSG B	
	8.	690	71 We	eighted Ave	rage	
	7.	160	82	.39% Pervio	ous Area	
	1.	530	17	.61% Imper	vious Area	
	_				_	
	Tc	Length		•		Description
	(min)	(feet)	(ft/ft) (ft/sec)	(cfs)	
	0.6	31	0.014	0.89		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.84"
	1.6	10	0.052	0.10		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.84"
	5.6	1,329	0.017	3.93	11.78	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00'
	4 -	400	0.050			n= 0.030
	1.7	168	0.053	0 1.61		Shallow Concentrated Flow,
_						Short Grass Pasture Kv= 7.0 fps
	9.5	1,538	Total			

Summary for Subcatchment 13S: C9 and C10

13.88 cfs @ 12.13 hrs, Volume=

0.764 af, Depth= 5.26"

Routed to Pond 15P: Existing Depression 2

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	Area (ac)	CN	Desc	cription						
*	1.2	215	98								
	0.3	366	61	>75%	√ Grass co	over, Good	d, HSG B				
	0.1	160	74	>75%	√ Grass co	over, Good	d, HSG C				
	1.7	741	88	Weig	hted Aver	age					
	0.526 30.21% Pe			1% Pervio	us Area						
	1.2	215		69.7	9% Imperv	ious Area					
	Tc (min)	Leng		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
	6.0			·			Direct Entry,				

Summary for Subcatchment 14S: YH1

Runoff = 107.94 cfs @ 12.80 hrs, Volume= 16.811 af, Depth= 3.04"

Routed to Pond 13P: YH1 Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

Area	(ac)	CN	Desc	cription						
22.	700	61	>75%	>75% Grass cover, Good, HSG B						
27.	890	74	>75%	>75% Grass cover, Good, HSG C						
4.	4.830 48			Brush, Good, HSG B						
8.	800	65	Brus	h, Good, I	HSG C					
2.	180	98	Wate	er Surface	, HSG B					
66.	400	67	Weig	hted Aver	age					
64.	64.220			96.72% Pervious Area						
2.	180		3.28	% Impervi	ous Area					
Tc	Length		lope	Velocity	Capacity	Description				
(min)	(feet) (ft/ft)	(ft/sec)	(cfs)					
21.0	150	0.0	200	0.12		Sheet Flow,				
						Grass: Dense n= 0.240 P2= 2.84"				
36.9	2,018	0.0	170	0.91		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
57.9	2,168	3 Tot	tal							

Summary for Subcatchment 15S: YH2

Runoff = 92.31 cfs @ 12.74 hrs, Volume= 13.682 af, Depth= 2.65"

Routed to Pond 15P: Existing Depression 2

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Area	(ac) C	N Desc	cription		
* 4.	.098 9	8			
19.	.840 6	31 >759	% Grass c	over, Good	, HSG B
10.	.130 7	'4 >75°	% Grass c	over, Good	, HSG C
4.	.830 5	8 Woo	ds/grass d	comb., Goo	d, HSG B
12.	.800 4	8 Brus	h, Good, I	HSG B	
10.	.280 6	55 Brus	h, Good, I	HSG C	
61.	.978 6	3 Weig	ghted Aver	age	
57.	.880	93.3	9% Pervio	us Area	
4.	.098	6.61	% Impervi	ous Area	
	Length	Slope		Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
15.4	150	0.0430	0.16		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.84"
17.3	1,216	0.0280	1.17		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
0.7	206	0.0100	4.91	3.86	
					12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
					n= 0.012
1.6	234	0.0040	2.38	38.12	
					Bot.W=8.00' D=1.00' Z= 8.0 '/' Top.W=24.00'
					n= 0.030
0.1	35	0.0140	9.23	29.00	r · · · · · · · · · · · · · · · · · · ·
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.012
3.8	591	0.0130	2.58	51.61	Trap/Vee/Rect Channel Flow,
					Bot.W=10.00' D=1.00' Z= 10.0 '/' Top.W=30.00'
0.0	745	0.0400	4.50		n= 0.050
8.3	745	0.0100	1.50		Shallow Concentrated Flow,
4.0	600	0.0000	0.00	20.52	Grassed Waterway Kv= 15.0 fps
4.9	608	0.0080	2.09	36.53	Trap/Vee/Rect Channel Flow,
					Bot.W=10.00' D=1.00' Z= 10.0 & 5.0 '/' Top.W=25.00'
	0.705	T			n= 0.050
52.1	3,785	Total			

Summary for Subcatchment 16S: C11-16

Runoff = 110.79 cfs @ 12.23 hrs, Volume= 7.901 af, Depth= 3.14" Routed to Pond 22P : Existing Depression 3

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	Area	(ac) (CN Des	cription		
*	5.	910	98			
	18.	130	61 >75	% Grass c	over, Good	, HSG B
	1.				over, Good	•
				ods, Good,	•	,
	0.			ods, Good,		
				sh, Good, Î		
	30.	220	68 Wei	ghted Aver	rage	
	24.	310	80.4	14% Pervio	us Area	
	5.	910	19.5	56% Imper	vious Area	
	_				_	
	Тс	Length		•	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.3	23	0.0530	1.43		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.84"
	2.5	23	0.0920	0.15		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.84"
	0.6	64	0.0120	1.64		Shallow Concentrated Flow,
						Grassed Waterway Kv= 15.0 fps
	11.0	1,807	0.0078	2.73	16.93	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.8 & 7.6 '/' Top.W=12.40'
						n= 0.030
	14.4	1,917	Total			

Summary for Subcatchment 17S: YH3

Runoff = 264.78 cfs @ 12.67 hrs, Volume= 37.709 af, Depth= 2.55"

Routed to Pond 17P: YH3 Pond

	Area (ac)	CN	Description
*	2.600	98	
	106.380	61	>75% Grass cover, Good, HSG B
	26.310	74	>75% Grass cover, Good, HSG C
	31.110	48	Brush, Good, HSG B
	6.590	65	Brush, Good, HSG C
	4.200	98	Water Surface, HSG B
	177.190	62	Weighted Average
	170.390		96.16% Pervious Area
	6.800		3.84% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
 19.8	150	0.0230	0.13		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.84"
25.0	1,662	0.0250	1.11		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
1.2	219	0.0090	2.95	29.50	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 10.0 '/' Top.W=20.00'
					n= 0.030
2.5	885	0.0110	5.98	7.34	Pipe Channel,
					15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'
					n= 0.012
48.5	2,916	Total			

Summary for Subcatchment 18S: YH4

Runoff = 33.00 cfs @ 12.32 hrs, Volume= 2.894 af, Depth= 2.84"

Routed to Pond 18P: YH4 Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

Area	(ac) (CN De	scription					
9.	9.630 61 >75% Grass cover, Good, HSG B							
2.	2.070 74 >75% Grass cover, Good, HSG C							
0.	520	98 Wa	ater Surface	, HSG A				
12.	220	65 We	eighted Ave	rage				
11.	700	95	.74% Pervic	ous Area				
0.	520	4.2	26% Impervi	ous Area				
Tc	Length	Slope	e Velocity	Capacity	Description			
(min)	(feet)	(ft/ft) (ft/sec)	(cfs)				
13.0	150	0.066	0.19		Sheet Flow,			
					Grass: Dense n= 0.240 P2= 2.84"			
8.6	470	0.017	0.91		Shallow Concentrated Flow,			
					Short Grass Pasture Kv= 7.0 fps			
21.6	620	Total						

Summary for Subcatchment 19S: YH5

Runoff = 15.50 cfs @ 12.14 hrs, Volume= 0.858 af, Depth= 4.38"

Routed to Pond 19P: YH5 Pond

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	Area	(ac)	CN	Desc	cription							
*	0.	330	98									
	1.	130	61	>759	75% Grass cover, Good, HSG B							
_	0.	890	98	Wate	er Surface	, HSG A						
	2.	350	80	Weig	ghted Aver	age						
	1.	130		48.0	9% Pervio	us Area						
1.220 51.91% Impervious Area												
	Тс	Leng		Slope	Velocity	Capacity	Description					
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)						
	0.2	1	11 (0.0300	0.98		Sheet Flow,					
							Smooth surfaces n= 0.011 P2= 2.84"					
	7.1	8	37 (0.1000	0.20		Sheet Flow,					
_							Grass: Dense n= 0.240 P2= 2.84"					
	7.3	ç	98	Total								

Summary for Subcatchment 20S: YH6A Pond

Runoff = 39.23 cfs @ 12.24 hrs, Volume= 2.911 af, Depth= 3.85"

Routed to Pond 20P: YH6-A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	cription						
*	0.	780	98								
	2.	870	61	>75%	√ Grass co	over, Good	, HSG B				
	4.	020	73	Brus	h, Good, F	HSG D					
1.400 98 Water Surface, HSG C											
	9.070 75 Weighted Average										
	6.	890		75.9	6% Pervio	us Area					
	2.	180		24.0	4% Imper	/ious Area					
	Tc (min)	Lengt (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
	12.3	15	0 0	.0750	0.20		Sheet Flow,				
	3.4	28	5 0	.0390	1.38		Grass: Dense n= 0.240 P2= 2.84" Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps				
	15.7	43	5 T	otal							

Summary for Subcatchment 21S: YH6-B

Runoff = 214.47 cfs @ 12.50 hrs, Volume= 24.350 af, Depth= 2.94"

Routed to Pond 21P: YH6B Pond

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	Area	(ac)	CN I	Desc	ription			
54.330 61 >75% Grass cover, Good,							, HSG B	
	4.	340	48	Brusl	h, Good, F	HSG B		
	7.	610	65 I	Brusl	h, Good, F	HSG C		
	26.	640	73	Brusl	h, Good, F	HSG D		
_	6.	480	98 '	Wate	r Surface	, HSG A		
	99.	400	66	Weig	hted Aver	age		
	92.	920	9	93.48	3% Pervio	us Area		
	6.	480	(6.52% Impervious Area				
	Tc	Length		ope	Velocity	Capacity	Description	
_	(min)	(feet	<u>(f</u>	t/ft)	(ft/sec)	(cfs)		
	19.2	150	0.02	250	0.13		Sheet Flow,	
							Grass: Dense n= 0.240 P2= 2.84"	
	15.4	889	0.0	190	0.96		Shallow Concentrated Flow,	
_							Short Grass Pasture Kv= 7.0 fps	
	34.6	1,039	Tota	al				

Summary for Subcatchment 23S: C17-C25

Runoff = 113.56 cfs @ 12.46 hrs, Volume=

12.733 af, Depth= 4.06"

Routed to Link 21L : Ag. Ditch #4 Tributary

	Area (ac)	CN	Description			
*	12.460	98				
	16.840	>75% Grass cover, Good, HSG B				
	0.360	74	>75% Grass cover, Good, HSG C			
	7.960	80	>75% Grass cover, Good, HSG D			
	37.620	77	Weighted Average			
	25.160 66.88% Pervious Area					
	12.460		33.12% Impervious Area			

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.6	150	0.0720	0.20		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.84"
2.1	129	0.0210	1.01		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
2.8	318	0.0087	1.89		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
0.3	79	0.0830	4.32		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
1.6	341	0.0180	3.54	17.33	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 6.0 & 3.8 '/' Top.W=9.80'
					n= 0.035
0.5	150	0.0050	5.52	17.33	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.012
14.6	1,367	0.0035	1.56	7.81	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 5.0 '/' Top.W=10.00'
					n= 0.035
34.5	2,534	Total			

Summary for Subcatchment 24S: C26

Runoff = 25.60 cfs @ 12.92 hrs, Volume= 4.529 af, Depth= 3.04"

Routed to Link 22L: Combined to Ag Ditch #4

	Area (ac)	CN	Description			
*	0.360	98				
	0.140	61	>75% Grass cover, Good, HSG B			
	0.040	74	>75% Grass cover, Good, HSG C			
	3.940	48	Brush, Good, HSG B			
	1.810	65	Brush, Good, HSG C			
	11.600	73	Brush, Good, HSG D			
	17.890	67	Weighted Average			
	17.530	97.99% Pervious Area				
	0.360		2.01% Impervious Area			

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.0	150	0.0110	0.06	, ,	Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 2.84"
9.7	380	0.0170	0.65		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.4	58	0.0050	2.76	8.66	Pipe Channel, CMP_Round 24"
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.024
0.2	59	0.0260	4.99	29.91	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'
					n= 0.030
19.3	2,177	0.0007	1.88	53.14	Trap/Vee/Rect Channel Flow,
					Bot.W=4.00' D=3.00' Z= 1.8 '/' Top.W=14.80'
					n= 0.030
69.6	2,824	Total			

Summary for Subcatchment 25S: C27

noff = 45.53 cfs @ 12.47 hrs, Volume= Routed to Link 24L : Door Creek Combined Runoff

5.093 af, Depth= 3.54"

	Area	(ac) C	N Des	cription						
*	3.	827 9	98 impe	impervious						
	8.	477 6	31 >7 ⁵ °	% Grass c	over, Good	, HSG B				
	0.	289	74 >75°	>75% Grass cover, Good, HSG C						
	0.	246 8	30 >75°	>75% Grass cover, Good, HSG D						
*	3.	840	70 Row	crops, SF	R + CR, Go	od, HSG B				
*	0.	090	79 Row	crops, SF	R + CR, Go	od, HSG C				
	0.	490 8	36 Fallo	ow, bare so	oil, HSG B					
	17.	259	72 Weig	ghted Aver	age					
	13.	432	77.8	3% Pervio	us Area					
	3.	827	22.1	7% Imperv	∕ious Area					
	_				_					
	Tc	Length	Slope	Velocity	Capacity	Description				
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	13.5	150	0.0300	0.18		Sheet Flow,				
						Cultivated: Residue>20% n= 0.170 P2= 2.84"				
	2.3	150	0.0140	1.06		Shallow Concentrated Flow,				
						Cultivated Straight Rows Kv= 9.0 fps				
	10.3	482	0.0125	0.78		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
	7.6	1,570	0.0125	3.45	18.44	•				
						Bot.W=0.00' D=1.00' Z= 4.0 & 6.7 '/' Top.W=10.70'				
						n= 0.030				
	0.6	163	0.0800	4.24		Shallow Concentrated Flow,				
						Grassed Waterway Kv= 15.0 fps				
	34.3	2,515	Total							

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Summary for Subcatchment 26S: C28A & C28B

Runoff = 42.46 cfs @ 12.53 hrs, Volume= 5.013 af, Depth= 2.84"

Routed to Link 24L: Door Creek Combined

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

_	Area	(ac) C	N Desc	cription		
*	1.	598 9	98 impe	rvious		
	6.	420	31 >7 ⁵ 9	% Grass co	over, Good	, HSG B
	1.	116 8	30 >759	% Grass co	over, Good	, HSG D
	6.	805	55 Woo	ds, Good,	HSG B	
*	5.	229	70 Row	crops, SR	R + CR, Goo	od, HSG B
	21.	168 6	35 Weig	ghted Aver	age	
	19.	570	92.4	5% Pervio	us Area	
	1.	598	7.55	% Impervi	ous Area	
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	16.1	150	0.1070	0.16		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.84"
	1.2	150	0.1730	2.08		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	3.6	365	0.0360	1.71		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	5.3	651	0.0120	2.04	16.34	·
						Area= 8.0 sf Perim= 16.1' r= 0.50' n= 0.050
	2.6	273	0.0390	1.78		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	7.8	1,714	0.0140	3.67	25.72	·
_						Area= 7.0 sf Perim= 14.1' r= 0.50' n= 0.030
	36.6	3,303	Total			

Summary for Subcatchment 27S: Salt Loading Area

Runoff = 1.66 cfs @ 12.13 hrs, Volume= 0.093 af, Depth= 5.49"

Routed to Pond 28P: Salt Shed Basin

	Area (sf)	CN	Description
*	4,694	98	
*	4,130	80	>75% Grass cover, Good, compacted, HSG C
	8,824	90	Weighted Average
	4,130		46.80% Pervious Area
	4,694		53.20% Impervious Area

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	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
<u>-</u>	6.0					Direct Entry,

Summary for Subcatchment 28S: Luds Lane

Runoff = 2.37 cfs @ 12.19 hrs, Volume=

0.154 af, Depth= 2.46"

Routed to Link 56L: Lag to Door Creek

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

Area	(ac) C	N Desc	cription					
0.	750 6	51 >759	% Grass co	over, Good	, HSG B			
0.	750	100.	00% Pervi	ous Area				
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
11.3	71	0.0210	0.10		Sheet Flow, Grass: Dense	n= 0.240	P2= 2.84"	

Summary for Subcatchment 51S: C4-B

Runoff = 17.81 cfs @ 12.32 hrs, Volume=

1.570 af, Depth= 4.06"

Routed to Pond 6P: CNTY-Infiltration Basin #1

	Area	(ac) (CN Des	cription		
*	1.	550	98			
	1			% Grass c	over, Good	HSG B
					over, Good	
						, 1100 0
				ghted Aver	•	
		090		59% Pervio		
	1.	550	33.4	1% Imper	vious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
	17.1	150	0.0330	0.15	, ,	Sheet Flow,
		.00	0.0000	00		Grass: Dense n= 0.240 P2= 2.84"
	1.7	129	0.0310	1.23		Shallow Concentrated Flow,
	1.7	123	0.0310	1.20		•
	2.0	500	0.0000	0.00	40.45	Short Grass Pasture Kv= 7.0 fps
	3.2	522	0.0082	2.69	16.15	· F
						Bot.W=2.00' D=1.00' Z= 4.0 '/' Top.W=10.00'
						n= 0.035
	22.0	801	Total			

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Summary for Reach 9R: Swale 1

Inflow Area = 81.683 ac, 28.47% Impervious, Inflow Depth > 3.86" for 100-yr event

Inflow = 48.20 cfs @ 13.74 hrs, Volume= 26.296 af

Outflow = 48.11 cfs @ 13.90 hrs, Volume= 26.286 af, Atten= 0%, Lag= 9.6 min

Routed to Pond 15P: Existing Depression 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.69 fps, Min. Travel Time= 11.2 min

Avg. Velocity = 0.90 fps, Avg. Travel Time= 21.1 min

Peak Storage= 32,294 cf @ 13.90 hrs

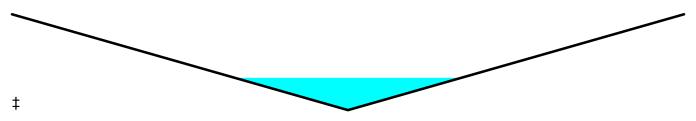
Average Depth at Peak Storage= 1.69', Surface Width= 33.70' Bank-Full Depth= 5.00' Flow Area= 250.0 sf, Capacity= 874.22 cfs

 $0.00' \times 5.00'$ deep channel, n= 0.050

Side Slope Z-value= 10.0 '/' Top Width= 100.00'

Length= 1,137.0' Slope= 0.0041 '/'

Inlet Invert= 874.89', Outlet Invert= 870.22'



Summary for Reach 11R: Swale 4

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \overline{@}$ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Pond 22P: Existing Depression 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 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= 3.00' Flow Area= 55.8 sf, Capacity= 189.41 cfs

0.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 7.8 4.6 '/' Top Width= 37.20'

Length= 1,795.0' Slope= 0.0028 '/'

Inlet Invert= 868.00', Outlet Invert= 863.00'

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MSE 24-hr 4 100-yr Rainfall=6.66"

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Summary for Reach 13R: Swale 2

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 2.52" for 100-yr event

Inflow = 24.30 cfs @ 14.37 hrs, Volume= 13.928 af

Outflow = 23.24 cfs @ 14.85 hrs, Volume= 13.743 af, Atten= 4%, Lag= 28.4 min

Routed to Pond 15P: Existing Depression 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.77 fps, Min. Travel Time= 24.4 min

Avg. Velocity = 1.15 fps, Avg. Travel Time= 37.7 min

Peak Storage= 34,039 cf @ 14.85 hrs

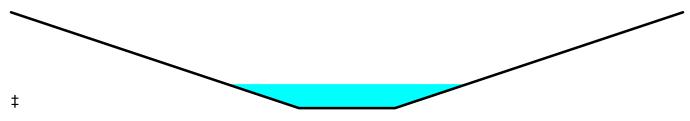
Average Depth at Peak Storage= 0.75', Surface Width= 25.01' Bank-Full Depth= 3.00' Flow Area= 120.0 sf, Capacity= 466.95 cfs

10.00' x 3.00' deep channel, n= 0.050

Side Slope Z-value= 10.0 '/' Top Width= 70.00'

Length= 2,591.9' Slope= 0.0084 '/'

Inlet Invert= 892.00', Outlet Invert= 870.22'



Summary for Reach 14R: Swale 3

Inflow = 0.16 cfs @ 13.55 hrs, Volume= 0.026 af

Outflow = 0.12 cfs @ 14.36 hrs, Volume= 0.026 af, Atten= 23%, Lag= 48.4 min

Routed to Pond 22P: Existing Depression 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.72 fps, Min. Travel Time= 34.6 min

Avg. Velocity = 0.36 fps, Avg. Travel Time= 68.6 min

Peak Storage= 250 cf @ 14.36 hrs

Average Depth at Peak Storage= 0.16', Surface Width= 2.07'

Bank-Full Depth= 3.00' Flow Area= 58.1 sf, Capacity= 290.70 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.035

Side Slope Z-value= 4.5 8.4 '/' Top Width= 38.70'

Length= 1,492.0' Slope= 0.0082 '/'

Inlet Invert= 877.30', Outlet Invert= 865.00'



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Summary for Reach 15R: Overland Flow

Inflow = 102.45 cfs @ 13.55 hrs, Volume= 42.601 af

Outflow = 98.68 cfs @ 13.96 hrs, Volume= 42.601 af, Atten= 4%, Lag= 24.6 min

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.79 fps, Min. Travel Time= 14.8 min

Avg. Velocity = 1.31 fps, Avg. Travel Time= 31.4 min

Peak Storage= 87,519 cf @ 13.96 hrs

Average Depth at Peak Storage= 0.93', Surface Width= 65.92'

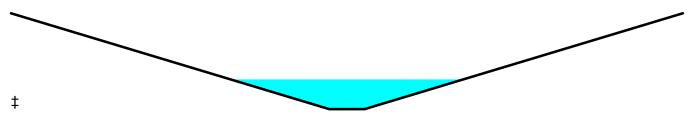
Bank-Full Depth= 3.00' Flow Area= 300.0 sf, Capacity= 1,718.10 cfs

10.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 30.0 '/' Top Width= 190.00'

Length= 2,474.0' Slope= 0.0073 '/'

Inlet Invert= 876.00', Outlet Invert= 858.00'



Summary for Reach 21R: Swale 5

Inflow = 6.34 cfs @ 13.54 hrs, Volume= 2.075 af

Outflow = 6.32 cfs @ 13.62 hrs, Volume= 2.075 af, Atten= 0%, Lag= 4.6 min

Routed to Reach 22R: Swale 6

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.78 fps, Min. Travel Time= 6.5 min

Avg. Velocity = 0.87 fps, Avg. Travel Time= 13.2 min

Peak Storage= 2,457 cf @ 13.62 hrs

Average Depth at Peak Storage= 1.02', Surface Width= 6.96'

Bank-Full Depth= 3.00' Flow Area= 30.6 sf, Capacity= 111.43 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.030

Side Slope Z-value= 3.9 2.9 '/' Top Width= 20.40'

Length= 690.6' Slope= 0.0033 '/'

Inlet Invert= 863.60', Outlet Invert= 861.30'

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Summary for Reach 22R: Swale 6

Inflow = 6.32 cfs @ 13.62 hrs, Volume= 2.075 af

Outflow = 6.22 cfs @ 13.79 hrs, Volume= 2.075 af, Atten= 2%, Lag= 10.5 min

Routed to Link 21L: Ag. Ditch #4 Tributary

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.64 fps, Min. Travel Time= 13.9 min Avg. Velocity = 0.72 fps, Avg. Travel Time= 31.7 min

Peak Storage= 5,185 cf @ 13.79 hrs

Average Depth at Peak Storage= 0.87', Surface Width= 8.70'

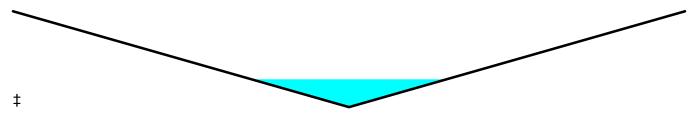
Bank-Full Depth= 3.00' Flow Area= 45.0 sf, Capacity= 168.82 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.030

Side Slope Z-value= 5.0 '/' Top Width= 30.00'

Length= 1,370.6' Slope= 0.0034 '/'

Inlet Invert= 861.30', Outlet Invert= 856.60'



Summary for Pond 1P: Niebuhr Stormwater Pond

Inflow Area = 4.670 ac, 72.16% Impervious, Inflow Depth = 5.26" for 100-yr event

Inflow = 37.22 cfs @ 12.13 hrs, Volume= 2.048 af

Outflow = 5.07 cfs @ 12.55 hrs, Volume= 2.047 af, Atten= 86%, Lag= 25.4 min

Primary = 5.07 cfs @ 12.55 hrs, Volume= 2.047 af

Routed to Pond 4P: County - Storm Pond 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 885.68' @ 12.55 hrs Surf.Area= 33,753 sf Storage= 43,107 cf

Plug-Flow detention time= 145.0 min calculated for 2.047 af (100% of inflow)

Center-of-Mass det. time= 144.6 min (925.8 - 781.2)

Volume	Invert	Avail.Storage	Storage Des	scription
#1	882.60'	54,584 cf	Custom Sta	age Data (Prismatic)Listed below (Recalc)
Elevation	Surf.A	rea Inc	:.Store	Cum.Store

Elevation	Surr.Area	inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
882.60	0	0	0
883.00	275	55	55
884.00	9,336	4,806	4,860
885.00	26,430	17,883	22,743
886.00	37,251	31,841	54,584

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Device	Routing	Invert	Outlet Devices
#1	Primary	883.00'	Special & User-Defined
			Head (feet) 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90
			1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10
			2.20 2.30 2.40 2.50
			Disch. (cfs) 0.000 0.030 0.070 0.140 0.210 0.290 0.380 0.480
			0.590 0.700 0.830 0.950 1.080 1.220 1.370 1.520 1.670 1.830
			1.990 2.160 2.330 2.510 2.690 2.880 3.070 3.260
#2	Primary	885.50'	10.0' 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=5.07 cfs @ 12.55 hrs HW=885.68' TW=880.17' (Dynamic Tailwater)

1=Special & User-Defined (Custom Controls 3.26 cfs)

-2=Broad-Crested Rectangular Weir (Weir Controls 1.81 cfs @ 1.03 fps)

Summary for Pond 3P: Sheriff Phase 2 Bioretention

Inflow Area = 0.745 ac, 77.85% Impervious, Inflow Depth = 5.83" for 100-yr event

Inflow = 6.29 cfs @ 12.13 hrs, Volume= 0.362 af

Outflow = 4.45 cfs @ 12.18 hrs, Volume= 0.310 af, Atten= 29%, Lag= 3.3 min

Discarded = 0.02 cfs @ 12.18 hrs, Volume= 0.026 af Primary = 4.42 cfs @ 12.18 hrs, Volume= 0.284 af

Routed to Pond 4P: County - Storm Pond 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 881.37' @ 12.18 hrs Surf.Area= 3,948 sf Storage= 5,718 cf

Plug-Flow detention time= 153.4 min calculated for 0.310 af (86% of inflow)

Center-of-Mass det. time= 97.1 min (863.0 - 765.9)

Volume	Invert	Avail.Sto	rage Storage l	Description	
#1	879.50	' 8,28	39 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation	S	urf.Area	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
(feet) 879.50		(sq-ft) 2,225	(cubic-leet) 0		
880.00		2,225	1,219	0 1,219	
881.00		3,579	3,115	4,334	
881.50		4,080	1,915	6,249	
882.00		4,080	2,040	8,289	
Device F	Routing	Invert	Outlet Devices	S	
#1 F	Primary	879.50'	12.0" Round	Culvert	
				, i	neadwall, Ke= 0.500
			· -		879.00' S= 0.0147 '/' Cc= 0.900
" 0 F	S	000 501	•	w Area= 0.79 sf	
#2 [Device 1	880.50'		" H Vert. Orific flow at low hea	e/Grate C= 0.600 ads

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#3	Device 1	881.00'	24.0" Horiz. Orifice/Grate C= 0.600
#4	Primary	881.50'	Limited to weir flow at low heads 10.0' long x 2.0' 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
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#5	Discarded	879.50'	0.500 in/hr Exfiltration over Surface area above 879.50' Conductivity to Groundwater Elevation = 875.00' Excluded Surface area = 2,225 sf

Discarded OutFlow Max=0.02 cfs @ 12.18 hrs HW=881.37' (Free Discharge) 5=Exfiltration (Controls 0.02 cfs)

Primary OutFlow Max=4.42 cfs @ 12.18 hrs HW=881.37' TW=878.62' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 4.42 cfs @ 5.63 fps)

2=Orifice/Grate (Passes < 1.04 cfs potential flow)

-3=Orifice/Grate (Passes < 4.57 cfs potential flow)

4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: County - Storm Pond 2

Inflow Area = 22.203 ac, 36.68% Impervious, Inflow Depth = 4.16" for 100-yr event

59.57 cfs @ 12.37 hrs, Volume= Inflow 7.691 af

Outflow 31.20 cfs @ 12.73 hrs, Volume= 7.691 af, Atten= 48%, Lag= 21.6 min

0.13 cfs @ 7.85 hrs, Volume= 31.07 cfs @ 12.73 hrs, Volume= Discarded = 0.253 af Primary 7.437 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 880.35' @ 12.74 hrs Surf.Area= 0.897 ac Storage= 2.230 af

Plug-Flow detention time= 93.0 min calculated for 7.689 af (100% of inflow)

0.688

0.803

0.918

Center-of-Mass det. time= 93.0 min (944.4 - 851.4)

0.757

0.850

0.986

879.00

00.088

881.00

Volume	Invert	Avail.Storage	Storage Descript	ion
#1	877.20'	2.829 af	Custom Stage D	Data (Prismatic)Listed below
Elevation	Surf.Are	ea Inc.St	ore Cum.Stor	re
(feet)	(acre	es) (acre-fe	eet) (acre-fee	<u>et)</u>
877.20	0.2	53 0.0	0.00	00
877.37	0.2	58 0.0	0.04	13
877.38	0.5	77 0.0	0.04	18
878.00	0.6	20 0.3	371 0.41	19

1.107

1.911

2.829

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Device	Routing	Invert	Outlet Devices
#1	Primary	877.12'	15.0" Round Culvert X 2.00 L= 39.2' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 877.12' / 877.06' S= 0.0015 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	877.20'	Special & User-Defined Head (feet) 0.00 0.20 0.40 0.60 0.80 1.00 Disch. (cfs) 0.000 0.340 0.960 1.760 2.710 3.790
#3	Device 1	878.20'	30.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#4 #5	Discarded Primary		0.13 cfs Exfiltration at all elevations 30.0' long x 6.0' 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 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.13 cfs @ 7.85 hrs HW=877.24' (Free Discharge) **4=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=31.00 cfs @ 12.73 hrs HW=880.35' TW=878.56' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 15.82 cfs @ 6.44 fps)

-2=Special & User-Defined (Passes < 3.79 cfs potential flow)

3=Broad-Crested Rectangular Weir (Passes < 267.84 cfs potential flow)

-5=Broad-Crested Rectangular Weir (Weir Controls 15.18 cfs @ 1.46 fps)

Summary for Pond 5P: Cnty-Storm Basin 1

Inflow Area =	2.220 ac, 90.54% Impervious, Inflow	Depth = 5.95" for 100-yr event
Inflow =	18.91 cfs @ 12.13 hrs, Volume=	1.101 af
Outflow =	12.18 cfs @ 12.18 hrs, Volume=	1.068 af, Atten= 36%, Lag= 3.0 min
Discarded =	0.05 cfs @ 12.19 hrs, Volume=	0.042 af
Primary =	12.13 cfs @ 12.18 hrs, Volume=	1.026 af

Routed to Pond 8P : County - Storm Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 882.52' @ 12.19 hrs Surf.Area= 4,910 sf Storage= 8,165 cf

Plug-Flow detention time= 65.5 min calculated for 1.068 af (97% of inflow) Center-of-Mass det. time= 48.6 min (810.7 - 762.1)

Volume	Invert	Avail.Storage	Storage Description
#1	879.72'	10,756 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

O. Ot - ...

C.... 4 ... -

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#5

Discarded

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Elevation	on	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
879.72		1,306	0	0	
880.0	00	1,599	407	407	
881.0	00	2,711	2,155	2,562	
882.0	00	3,924	3,318	5,879	
883.0	00	5,830	4,877	10,756	
Device	Routing	Invert	Outlet Devices		
#1	Primary	879.72'	18.0" Round (Culvert	
	•		L= 66.5' RCP,	sq.cut end pro	ojecting, Ke= 0.500
			Inlet / Outlet Inv	/ert= 879.72' /	878.47' S= 0.0188 '/' Cc= 0.900
			n= 0.013, Flow	Area= 1.77 sf	
#2	Device 1	880.72'	6.0" W x 6.0" H	l Vert. Orifice	/Grate C= 0.600
			Limited to weir flow at low heads		
#3	Device 1	881.50'	36.0" Horiz. Oı	rifice/Grate C	C= 0.600
			Limited to weir	flow at low hea	ads
#4	Primary	882.74'	10.0' long x 4.	0' breadth Br	oad-Crested Rectangular Weir
			Head (feet) 0.2	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 5	.00 5.50
			Coef. (English)	2.38 2.54 2.	69 2.68 2.67 2.67 2.65 2.66 2.66

2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Conductivity to Groundwater Elevation = 875.00'

0.500 in/hr Exfiltration over Surface area above 879.72'

Discarded OutFlow Max=0.05 cfs @ 12.19 hrs HW=882.52' (Free Discharge) **5=Exfiltration** (Controls 0.05 cfs)

Primary OutFlow Max=12.05 cfs @ 12.18 hrs HW=882.51' TW=880.50' (Dynamic Tailwater)

Excluded Surface area = 1.306 sf

-1=Culvert (Inlet Controls 12.05 cfs @ 6.82 fps)

-2=Orifice/Grate (Passes < 1.49 cfs potential flow)

879.72'

3=Orifice/Grate (Passes < 31.14 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 6P: CNTY-Infiltration Basin #1

Inflow Area = 4.640 ac, 33.41% Impervious, Inflow Depth = 4.06" for 100-yr event

Inflow = 17.81 cfs @ 12.32 hrs, Volume= 1.570 af

Outflow = 10.07 cfs @ 12.57 hrs, Volume= 1.489 af, Atten= 43%, Lag= 15.1 min

Discarded = 0.18 cfs @ 12.57 hrs, Volume= 0.101 af Primary = 9.89 cfs @ 12.57 hrs, Volume= 1.388 af

Routed to Pond 8P: County - Storm Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 883.68' @ 12.57 hrs Surf.Area= 17,007 sf Storage= 24,278 cf

Plug-Flow detention time= 109.5 min calculated for 1.489 af (95% of inflow) Center-of-Mass det. time= 82.7 min (903.2 - 820.5)

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Volume	Invert	Avail.Sto	rage Storage	Description	
#1	880.71'	30,08	88 cf Custom Stage Data (Prismatic)Listed below (Recalc)		
Elevatio		urf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
880.7	71	3,155	0	0	
881.0	00	3,568	975	975	
882.0	00	6,526	5,047	6,022	
883.0	-	10,890	8,708	14,730	
884.0	00	19,826	15,358	30,088	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	880.71'	12.0" Round	d Culvert	
			Inlet / Outlet		ing, Ke= 0.500 28' S= 0.0083 '/' Cc= 0.900
#2	Device 1	881.71'	,	ow Area= 0.79 sf 0" H Vert. Orifice/Gr	rato C= 0.600
#2	Device i	001.71		eir flow at low heads	ate C= 0.000
#3	Device 1	882.71'		Orifice/Grate C= 0.	600
				eir flow at low heads	
#4	Primary	883.49'			Crested Rectangular Weir
			Head (feet) (1.00 1.20 1.40 1.60 1.80 2.00
					2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.	•	2.00 2.10 2.11 2.03 2.00
#5	Discarded	880.71'			face area above 880.71'
			Conductivity	to Groundwater Eleva	ation = 875.00'
			Excluded Sur	rface area = 3,155 sf	

Discarded OutFlow Max=0.18 cfs @ 12.57 hrs HW=883.68' (Free Discharge) **5=Exfiltration** (Controls 0.18 cfs)

Primary OutFlow Max=9.89 cfs @ 12.57 hrs HW=883.68' TW=880.15' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 5.53 cfs @ 7.04 fps)

2=Orifice/Grate (Passes < 2.91 cfs potential flow)

-3=Orifice/Grate (Passes < 14.93 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Weir Controls 4.36 cfs @ 1.12 fps)

Summary for Pond 8P: County - Storm Pond 3

Inflow Area = 16.530 ac, 61.22% Impervious, Inflow Depth = 4.80" for 100-yr event

Inflow = 89.45 cfs @ 12.13 hrs, Volume= 6.618 af

Outflow = 57.54 cfs @ 12.21 hrs, Volume= 6.580 af, Atten= 36%, Lag= 4.7 min

Primary = 57.54 cfs @ 12.21 hrs, Volume= 6.580 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 880.53' @ 12.21 hrs Surf.Area= 29,515 sf Storage= 69,531 cf

Plug-Flow detention time= 75.5 min calculated for 6.578 af (99% of inflow) Center-of-Mass det. time= 71.8 min (876.6 - 804.8)

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Volume	Inver	t Avail.Sto	rage Storage	e Description	
#1	877.19	0' 101,76	764 cf Custom Stage Data (Prismatic)Li		rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
877.1		14,796	0	0	
878.0		17,475	13,070	13,070	
879.0		20,998	19,237	32,306	
880.0		24,807	22,903	55,209	
881.0		33,736	29,272	84,480	
881.5	50	35,400	17,284	101,764	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	877.20'	18.0" Roun	d Culvert X 2.00	
	,		L= 31.8' CF	P, end-section co	onforming to fill, Ke= 0.500
					877.00' S= 0.0063 '/' Cc= 0.900
			n= 0.013. FI	ow Area= 1.77 sf	
#2	Device 1	877.20'	Special & U		
			Head (feet)		0.60 0.80 1.00 1.20 1.40 1.60 1.80
			2.00		
					00 0.800 1.500 2.500 3.400 4.500
			5.600 6.900		
#3	Device 1	879.20'			oad-Crested Rectangular Weir
					0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3		
					61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3		
#4	Primary	880.00'			oad-Crested Rectangular Weir
					0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3	.50 4.00 4.50 5	.00 5.50
			Coef. (Englis	sh) 2.37 2.51 2.7	70 2.68 2.68 2.67 2.65 2.65 2.65
			2.65 2.66 2	.66 2.67 2.69 2	.72 2.76 2.83

Primary OutFlow Max=57.54 cfs @ 12.21 hrs HW=880.53' TW=877.40' (Dynamic Tailwater)

1=Culvert (Inlet Controls 27.32 cfs @ 7.73 fps)

2=Special & User-Defined (Passes < 8.30 cfs potential flow)

—3=Broad-Crested Rectangular Weir (Passes < 285.38 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Weir Controls 30.22 cfs @ 1.91 fps)

Summary for Pond 9P: Storage at NE and SE corners of AB

Inflow Area = 81.683 ac, 28.47% Impervious, Inflow Depth > 3.88" for 100-yr event

Inflow = 124.09 cfs @ 12.69 hrs, Volume= 26.406 af

Outflow = 48.20 cfs (a) 13.74 hrs, Volume= 26.296 af, Atten= 61%, Lag= 63.3 min

Primary = 48.20 cfs @ 13.74 hrs, Volume= 26.296 af

Routed to Reach 9R: Swale 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Starting Elev= 875.66' Surf.Area= 32.564 sf Storage= 19.458 cf

Peak Elev= 879.17' @ 13.74 hrs Surf.Area= 244,053 sf Storage= 409,242 cf (389,784 cf above start)

Plug-Flow detention time= 127.9 min calculated for 25.842 af (98% of inflow)

Center-of-Mass det. time= 108.6 min (993.0 - 884.4)

<u>Volume</u>	Inve	ert Avail.Sto	rage Storage l	Description	
#1	875.0	00' 640,02	22 cf Custom	cf Custom Stage Data (Prismatic)Listed below (Recalc)	
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
875.0	00	26,400	0	0	
876.0	00	35,739	31,070	31,070	
877.0	00	63,982	49,861	80,930	
878.0	00	141,395	102,689	183,619	
879.0	00	231,121	186,258	369,877	
880.0	00	309,169	270,145	640,022	
Device	Routing	Invert	Outlet Devices	3	
#1	Primary	875.66'	36.0" Round	Culvert	

L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 875.66' / 874.89' S= 0.0077 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=48.20 cfs @ 13.74 hrs HW=879.17' TW=876.57' (Dynamic Tailwater) 1=Culvert (Inlet Controls 48.20 cfs @ 6.82 fps)

Summary for Pond 11P: Landfill Pond

28.500 ac, 1.16% Impervious, Inflow Depth = 4.38" for 100-yr event Inflow Area =

162.98 cfs @ 12.18 hrs, Volume= Inflow 10.407 af

34.15 cfs @ 12.58 hrs, Volume= Outflow 9.961 af, Atten= 79%, Lag= 23.6 min

34.15 cfs @ 12.58 hrs, Volume= 9.961 af Primary

Routed to Pond 12P: Existing Depression 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 883.38' @ 12.58 hrs Surf.Area= 1.567 ac Storage= 5.096 af

Plug-Flow detention time= 188.1 min calculated for 9.958 af (96% of inflow)

Center-of-Mass det. time= 165.5 min (969.8 - 804.3)

Volume	Invert	Avail.Storage	Storage Description
#1	877.33'	6.106 af	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
877.33	0.334	0.000	0.000
878.00	0.401	0.246	0.246
879.00	0.497	0.449	0.695
880.00	0.661	0.579	1.274
881.00	0.952	0.806	2.081
882.00	1.214	1.083	3.164
883.00	1.487	1.350	4.514
884.00	1.697	1.592	6.106

Device	Routing	Invert	Outlet Devices	
#1	Primary	877.33'	18.0" Round Culvert	
			L= 69.6' CPP, square edge headwall, Ke= 0.500	
			Inlet / Outlet Invert= 877.33' / 875.77' S= 0.0224 '/' Cc= 0.900	
			n= 0.012, Flow Area= 1.77 sf	
#2	Device 1	877.33'	1.0" Vert. Orifice/Grate X 7.00 C= 0.600	
			Limited to weir flow at low heads	
#3	Device 1	877.68'	1.0" Vert. Orifice/Grate X 8.00 C= 0.600	
			Limited to weir flow at low heads	
#4	Device 1	878.03'	1.0" Vert. Orifice/Grate X 9.00 C= 0.600	
			Limited to weir flow at low heads	
#5	Device 1	879.77'	18.0" Horiz. Orifice/Grate C= 0.600	
			Limited to weir flow at low heads	
#6	Primary	882.66'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir	
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60	
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64	

Primary OutFlow Max=34.15 cfs @ 12.58 hrs HW=883.38' TW=876.24' (Dynamic Tailwater)

1=Culvert (Passes 17.66 cfs of 19.59 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.45 cfs @ 11.80 fps)

-3=Orifice/Grate (Orifice Controls 0.50 cfs @ 11.45 fps)
-4=Orifice/Grate (Orifice Controls 0.54 cfs @ 11.09 fps)

5=Orifice/Grate (Orifice Controls 16.17 cfs @ 9.15 fps)

-6=Broad-Crested Rectangular Weir (Weir Controls 16.48 cfs @ 2.29 fps)

Summary for Pond 12P: Existing Depression 1

Inflow Area = 37.190 ac, 5.00% Impervious, Inflow Depth > 4.02" for 100-yr event

Inflow = 55.84 cfs @ 12.17 hrs, Volume= 12.451 af

Outflow = 23.58 cfs @ 13.46 hrs, Volume= 10.765 af, Atten= 58%, Lag= 76.9 min

Primary = 23.58 cfs @ 13.46 hrs, Volume= 10.765 af

Routed to Pond 15P: Existing Depression 2

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 11R: Swale 4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 877.79' @ 13.49 hrs Storage= 131,037 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 136.9 min (1,076.8 - 939.9)

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Volume	Invert	Avail.Sto	ge Stora	ge Description
#1	875.00'	174,69	cf Cust	om Stage DataListed below
Elevation				
(fee	t) (cubic	<u>-feet)</u>		
875.0	0	0		
876.0	00 65	5,278		
877.0	00 110	0,909		
878.0	00 136	5,383		
879.0	00 156	6,855		
880.0	00 174	4,699		
Device	Routing	Invert	Outlet Dev	ices
#1	Primary	874.12'	36.0" Roι	und Culvert L= 100.2' Ke= 0.200
			Inlet / Outle	et Invert= 874.12' / 873.48' S= 0.0064 '/' Cc= 0.900
			n= 0.012,	Flow Area= 7.07 sf
#2	Secondary	878.00'	Swale to \	Vest
			Head (fee	t) 0.00 0.10 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			1.80 2.00	
			Disch. (cfs) 0.000 0.010 0.060 0.350 1.040 2.230 4.050 6.580
			9.930 14.	170 19.400 25.690

Primary OutFlow Max=23.56 cfs @ 13.46 hrs HW=877.79' TW=877.47' (Dynamic Tailwater) 1=Culvert (Outlet Controls 23.56 cfs @ 3.47 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=875.00' TW=868.00' (Dynamic Tailwater) 2=Swale to West (Controls 0.00 cfs)

Summary for Pond 13P: YH1 Pond

66.400 ac, 3.28% Impervious, Inflow Depth = 3.04" for 100-yr event Inflow Area =

Inflow = 107.94 cfs @ 12.80 hrs, Volume= 16.811 af

24.45 cfs @ 14.22 hrs, Volume= 24.45 cfs @ 14.22 hrs, Volume= Outflow 14.199 af, Atten= 77%, Lag= 85.2 min

Primary 14.199 af

Routed to Pond 14P: Small Depression

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 897.85' @ 14.23 hrs Surf.Area= 242,958 sf Storage= 400,324 cf

Plug-Flow detention time= 375.5 min calculated for 14.196 af (84% of inflow)

Center-of-Mass det. time= 312.8 min (1,185.3 - 872.5)

Volume	Invert	Avail.Storage	Storage Description
#1	895.00'	437,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
895.00	94,949	0	0
896.00	101,543	98,246	98,246
897.00	159,762	130,653	228,899
898.00	257,486	208,624	437,523

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Device	Routing	Invert	Outlet Devices
#1	Primary	895.00'	12.0" Round Culvert
	-		L= 140.0' RCP, mitered to conform to fill, Ke= 0.700
			Inlet / Outlet Invert= 895.00' / 894.00' S= 0.0071 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Primary	897.00'	10.0' long x 100.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Primary OutFlow Max=24.45 cfs @ 14.22 hrs HW=897.85' TW=895.94' (Dynamic Tailwater)

1=Culvert (Outlet Controls 3.73 cfs @ 4.75 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 20.72 cfs @ 2.43 fps)

Summary for Pond 14P: Small Depression

Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 2.57" for 100-yr event

Inflow = 24.45 cfs @ 14.22 hrs, Volume= 14.199 af

Outflow = 24.30 cfs @ 14.37 hrs, Volume= 13.928 af, Atten= 1%, Lag= 9.1 min

Primary = 24.30 cfs @ 14.37 hrs, Volume= 13.928 af

Routed to Reach 13R: Swale 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 895.95' @ 14.37 hrs Surf.Area= 31,282 sf Storage= 32,209 cf

Plug-Flow detention time= 45.7 min calculated for 13.928 af (98% of inflow)

Center-of-Mass det. time= 27.4 min (1,212.7 - 1,185.3)

Volume	Inv	ert Avail.Sto	rage Storage	Description		
#1	894.	00' 33,8	74 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)	
Elevatio	et)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)		
894.0		5,815	0	0		
895.0	00	14,871	10,343	10,343		
896.0	00	32,190	23,531	33,874		
Device	Routing	Invert	Outlet Devices	S		
#1	Primary	894.00'	12.0" Round	Culvert		
#2	,		L= 205.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 894.00' / 892.00' S= 0.0098 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf 25.0' long x 40.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.63			

Primary OutFlow Max=24.30 cfs @ 14.37 hrs HW=895.95' TW=892.72' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 4.09 cfs @ 5.21 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 20.21 cfs @ 1.81 fps)

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Summary for Pond 15P: Existing Depression 2

Inflow Area = 248.992 ac, 13.10% Impervious, Inflow Depth > 3.14" for 100-yr event

Inflow = 136.10 cfs @ 12.94 hrs, Volume= 65.239 af

Outflow = 111.96 cfs @ 13.55 hrs, Volume= 61.921 af, Atten= 18%, Lag= 36.7 min

Primary = 9.52 cfs @ 30.20 hrs, Volume= 19.294 af

Routed to Pond 17P: YH3 Pond

Secondary = 102.45 cfs @ 13.55 hrs, Volume= 42.601 af

Routed to Reach 15R: Overland Flow

Tertiary = 0.16 cfs @ 13.55 hrs, Volume= 0.026 af

Routed to Reach 14R: Swale 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 877.47' @ 13.55 hrs Surf.Area= 252,700 sf Storage= 384,446 cf

Plug-Flow detention time= 133.9 min calculated for 61.921 af (95% of inflow)

Center-of-Mass det. time= 85.6 min (1,120.9 - 1,035.2)

Volume	Inve	ert Avail.Sto	orage	Storage	Description	
#1	870.0	00' 530,8	888 cf	Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation (feet		Surf.Area (sq-ft)		.Store :-feet)	Cum.Store (cubic-feet)	
870.00	0	1,053		0	0	
873.00	0	9,397	1	5,675	15,675	
874.00	0	20,404	1	4,901	30,576	
875.00	0	42,009	3	1,207	61,782	
876.00	0	89,975	6	5,992	127,774	
877.00	0	205,811	14	7,893	275,667	
878.00	0	304,631	25	5,221	530,888	
Device	Routing	Invert	Outle	et Device	s	
#1	Primary	870.22'			l Culvert RCP, sq.cut end	projecting, Ke= 0.500

			Inlet / Outlet Invert= 870.22' / 858.00' S= 0.0053 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Secondary	877.00'	120.0' long x 10.0' breadth Broad-Crested Rectangular Weir
	-		Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Tertiary	877.30'	Special & User-Defined
	•		Head (feet) 0.00 0.10 0.20 0.30 0.40 0.60 0.80 1.00
			Disch. (cfs) 0.000 0.030 0.200 0.570 1.230 3.610 7.780 14.110

Primary OutFlow Max=9.52 cfs @ 30.20 hrs HW=876.76' TW=859.85' (Dynamic Tailwater)
—1=Culvert (Outlet Controls 9.52 cfs @ 5.38 fps)

Secondary OutFlow Max=102.45 cfs @ 13.55 hrs HW=877.47' TW=876.88' (Dynamic Tailwater) 2=Broad-Crested Rectangular Weir (Weir Controls 102.45 cfs @ 1.80 fps)

Tertiary OutFlow Max=0.16 cfs @ 13.55 hrs HW=877.47' TW=877.42' (Dynamic Tailwater)

3=Special & User-Defined (Custom Controls 0.16 cfs)

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Summary for Pond 17P: YH3 Pond

Inflow Area = 470.972 ac, 9.99% Impervious, Inflow Depth > 2.74" for 100-yr event

Inflow = 297.76 cfs @ 12.67 hrs, Volume= 107.441 af

Outflow = 199.68 cfs @ 13.64 hrs, Volume= 100.495 af, Atten= 33%, Lag= 58.3 min

Primary = 199.68 cfs @ 13.64 hrs, Volume= 100.495 af

Routed to Pond 21P: YH6B Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 861.14' @ 13.67 hrs Surf.Area= 365,292 sf Storage= 705,521 cf

Plug-Flow detention time= 141.3 min calculated for 100.495 af (94% of inflow)

Center-of-Mass det. time= 80.9 min (1,122.5 - 1,041.6)

Volume	Invert	Avail.Stora	ge Storage	e Description	
#1	858.00'	1,137,523	cf Custon	m Stage Data (Prismatic)Listed below (Recalc)	
Elevation (feet)		Area sq-ft) (Inc.Store cubic-feet)	Cum.Store (cubic-feet)	
050.00	4.04		•		

Licvation	Odi i./ ti od	1110.01010	Ourn.Otoro
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
858.00	182,909	0	0
859.00	191,060	186,985	186,985
860.00	214,659	202,860	389,844
861.00	320,867	267,763	657,607
862.00	638,965	479,916	1,137,523

Device	Routing	Invert	Outlet Devices
#1	Primary	858.00'	36.0" Round Culvert
	-		L= 1,066.0' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 858.00' / 855.00' S= 0.0028 '/' Cc= 0.900
			n= 0.012, Flow Area= 7.07 sf
#2	Primary	860.50'	125.0' long x 60.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=199.61 cfs @ 13.64 hrs HW=861.14' TW=858.91' (Dynamic Tailwater)

-1=Culvert (Outlet Controls 27.81 cfs @ 4.67 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 171.81 cfs @ 2.15 fps)

Summary for Pond 18P: YH4 Pond

Inflow Area = 12.220 ac, 4.26% Impervious, Inflow Depth = 2.84" for 100-yr event

Inflow = 33.00 cfs @ 12.32 hrs, Volume= 2.894 af

Outflow = 21.48 cfs @ 12.53 hrs, Volume= 2.802 af, Atten= 35%, Lag= 12.8 min

Primary = 21.48 cfs @ 12.53 hrs, Volume= 2.802 af

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 862.32' @ 12.53 hrs Surf.Area= 35,193 sf Storage= 36,445 cf

Plug-Flow detention time= 149.4 min calculated for 2.801 af (97% of inflow) Center-of-Mass det. time= 132.3 min (975.0 - 842.8)

01 Pre-DevelopmentConditions WisDOT PondEval MSE 24-hr 4 100-yr Rainfall=6.66" Prepared by SCS Engineers Printed 9/27/2023

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Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	861.0	00' 64,00	01 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
861.0	00	21,906	0	0	
862.0	00	29,959	25,933	25,933	
863.0	00	46,178	38,069	64,001	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	861.00'	8.0" Round (Culvert	
#2	Primary	861.80'	L= 248.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 861.00' / 859.76' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf		

Primary OutFlow Max=21.48 cfs @ 12.53 hrs HW=862.32' TW=859.53' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 1.07 cfs @ 3.07 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 20.40 cfs @ 1.95 fps)

Summary for Pond 19P: YH5 Pond

2.350 ac, 51.91% Impervious, Inflow Depth = 4.38" for 100-yr event Inflow Area =

Inflow 15.50 cfs @ 12.14 hrs, Volume= 0.858 af

0.73 cfs @ 13.60 hrs, Volume= Outflow 0.694 af, Atten= 95%, Lag= 87.4 min

Primary = 0.73 cfs @ 13.60 hrs, Volume= 0.694 af

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 865.61' @ 13.60 hrs Surf.Area= 42,467 sf Storage= 24,566 cf

Plug-Flow detention time= 464.2 min calculated for 0.694 af (81% of inflow)

Center-of-Mass det. time= 396.8 min (1,197.7 - 800.9)

Volume	Inv	ert Avail.Sto	orage Storage	Description	
#1	865.0	00' 93,4	14 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevatio		Surf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
865.0)0	38,602	0	0	
866.0	00	44,980	41,791	41,791	
867.0	00	58,266	51,623	93,414	
Device	Routing	Invert	Outlet Devices	S	
#1	Primary	866.50'	65.0' long x '	15.0' breadth B	road-Crested Rectangular Weir
	•				0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.7	70 2.64 2.63 2.64 2.64 2.63
#2	Primary	865.00'	8.0" Round (Culvert	

01 Pre-DevelopmentConditions WisDOT PondEval

MSE 24-hr 4 100-yr Rainfall=6.66"

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L= 170.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 865.00' / 864.15' S= 0.0050 '/' Cc= 0.900 n= 0.012. Flow Area= 0.35 sf

Primary OutFlow Max=0.73 cfs @ 13.60 hrs HW=865.61' TW=861.14' (Dynamic Tailwater)

-1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Barrel Controls 0.73 cfs @ 2.87 fps)

Summary for Pond 20P: YH6-A

Inflow Area = 9.070 ac, 24.04% Impervious, Inflow Depth = 3.85" for 100-yr event

Inflow 39.23 cfs @ 12.24 hrs, Volume= 2.911 af

4.34 cfs @ 24.34 hrs, Volume= Outflow 2.788 af, Atten= 89%, Lag= 725.9 min

Primary 4.34 cfs @ 24.34 hrs, Volume= 2.788 af

Routed to Pond 21P: YH6B Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Starting Elev= 856.60' Surf.Area= 60,840 sf Storage= 127,764 cf

Peak Elev= 858.23' @ 21.72 hrs Surf.Area= 77,228 sf Storage= 239,311 cf (111,547 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= 666.1 min (1,484.6 - 818.5)

Volume	Inve	rt Avail.Sto	rage Storage [Description	
#1	854.5	0' 667,6	59 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevatior (feet	•	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
854.50)	60,840	0	0	
856.60)	60,840	127,764	127,764	
857.00)	64,679	25,104	152,868	
858.00)	73,339	69,009	221,877	
859.00)	90,134	81,737	303,613	
860.00 109,122		109,122	99,628	403,241	
861.00)	129,626	119,374	522,615	
862.00)	160,461	145,044	667,659	
Device	Routing	Invert	Outlet Devices		

#1 Primary 854.50' 18.0" Round Culvert

> L= 55.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 854.50' / 854.22' S= 0.0051 '/' Cc= 0.900

n= 0.024, Flow Area= 1.77 sf

Primary OutFlow Max=4.35 cfs @ 24.34 hrs HW=857.83' TW=857.33' (Dynamic Tailwater) 1=Culvert (Outlet Controls 4.35 cfs @ 2.46 fps)

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Summary for Pond 21P: YH6B Pond

Inflow Area = 579.442 ac. 9.62% Impervious, Inflow Depth > 2.64" for 100-yr event

Inflow 253.98 cfs @ 13.12 hrs, Volume= 127.634 af

128.37 cfs @ 16.12 hrs, Volume= Outflow 127.068 af, Atten= 49%, Lag= 179.9 min

Primary 128.37 cfs @ 16.12 hrs, Volume= 127.068 af

Routed to Link 22L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method. Time Span= 0.00-36.00 hrs. dt= 0.01 hrs

Starting Elev= 856.60' Surf.Area= 282,460 sf Storage= 556,446 cf

Peak Elev= 859.68' @ 16.12 hrs Surf.Area= 680,519 sf Storage= 1,799,913 cf (1,243,466 cf above start)

Plug-Flow detention time= 241.2 min calculated for 114.294 af (90% of inflow)

Center-of-Mass det. time= 109.2 min (1,188.2 - 1,079.0)

Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	854.6	3' 2,032,28	89 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
854.6	33	282,460	0	0	
856.6	30	282,460	556,446	556,446	
857.0	00	299,898	116,472	672,918	
858.0	00	336,652	318,275	991,193	
859.0	00	486,957	411,805	1,402,997	
860.0	00	771,626	629,292	2,032,289	
Device	Routing	Invert	Outlet Devices	3	
#1	Primary	854.63'	42.0" Round	Culvert X 2.00	

L= 28.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900

n= 0.024, Flow Area= 9.62 sf

Primary OutFlow Max=128.37 cfs @ 16.12 hrs HW=859.68' TW=856.60' (Dynamic Tailwater) 1=Culvert (Inlet Controls 128.37 cfs @ 6.67 fps)

Summary for Pond 22P: Existing Depression 3

30.220 ac, 19.56% Impervious, Inflow Depth = 3.15" for 100-yr event Inflow Area =

Inflow 110.79 cfs @ 12.23 hrs, Volume= 7.926 af

10.49 cfs @ 13.54 hrs, Volume= Outflow 6.417 af, Atten= 91%, Lag= 78.6 min

4.15 cfs @ 13.54 hrs, Volume= Primary 4.342 af

Routed to Pond 17P: YH3 Pond

Secondary = 6.34 cfs @ 13.54 hrs, Volume= 2.075 af

Routed to Reach 21R: Swale 5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 864.54' @ 13.54 hrs Surf.Area= 2.651 ac Storage= 4.565 af

Plug-Flow detention time= 365.4 min calculated for 6.415 af (81% of inflow)

Center-of-Mass det. time= 295.0 min (1,125.7 - 830.7)

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Volume	Invert A	Avail.Stora	ige Stora	age Description
#1	860.00'	12.833	af Cus t	tom Stage Data (Prismatic)Listed below (Recalc)
□ 14:	Court Assa		- 04	Course Ottoma
Elevatio			c.Store	Cum.Store
(fee			re-feet)	(acre-feet)
860.0			0.000	0.000
861.0			0.011	0.011
862.0	0.550)	0.283	0.294
863.0	00 1.425	5	0.987	1.281
864.0	00 2.395	5	1.910	3.191
865.0	00 2.865	5	2.630	5.821
866.0	00 3.493	3	3.179	9.000
867.0	00 4.172	<u> </u>	3.833	12.833
Device	Routing	Invert	Outlet De	evices
#1	Primary	862.84'	12.0" R	ound Culvert
	·		L= 30.7'	RCP, sq.cut end projecting, Ke= 0.500
				utlet Invert= 862.84' / 861.39' S= 0.0472 '/' Cc= 0.900
			n= 0.012	2, Flow Area= 0.79 sf
#2	Primary	865.74'		ng x 12.0' breadth Broad-Crested Rectangular Weir
	•			et) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
				nglish) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#3	Secondary	863.60'	`	n ŘOW to West
	,		Head (fe	eet) 0.00 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.20 2.4	,
			-	ofs) 0.000 0.630 1.850 4.000 7.240 11.780 17.770 25.370
			,	45.990 59.290 74.770

Primary OutFlow Max=4.15 cfs @ 13.54 hrs HW=864.54' TW=861.14' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 4.15 cfs @ 5.28 fps)

Secondary OutFlow Max=6.34 cfs @ 13.54 hrs HW=864.54' TW=864.62' (Dynamic Tailwater) —3=Swale in ROW to West (Custom Controls 6.34 cfs)

Summary for Pond 28P: Salt Shed Basin

Inflow Area = 0.203 ac, 53.20% Impervious, Inflow Depth = 5.49" for 100-yr event

Inflow 1.66 cfs @ 12.13 hrs, Volume= 0.093 af

1.54 cfs @ 12.15 hrs, Volume= 0.080 af, Atten= 7%, Lag= 1.5 min Outflow

1.54 cfs @ 12.15 hrs, Volume= Primary 0.080 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 883.17' @ 12.15 hrs Surf.Area= 860 sf Storage= 858 cf

Plug-Flow detention time= 92.0 min calculated for 0.080 af (86% of inflow) Center-of-Mass det. time= 36.4 min (812.0 - 775.6)

⁻²⁼Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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<u>Volume</u>	Inver	t Avail.Sto	rage Storage D	Description				
#1	881.50)' 1,16	63 cf Custom S	Stage Data (Pi	rismatic)Listed below (Recalc)			
Elevation	on S	Surf.Area	Inc.Store	Cum.Store				
(fee	t)	(sq-ft)	(cubic-feet)	(cubic-feet)				
881.5	50	212	0	0				
882.0	00	363	144	144				
883.0	883.00 781		572	716				
883.5	50	1,009	448	1,163				
Device	Routing	Invert	Outlet Devices					
#1	Primary	881.50'	6.0" Round Culvert					
			L= 134.0' RCP, sq.cut end projecting, Ke= 0.500					
			Inlet / Outlet In	vert= 881.50'/	880.80' S= 0.0052 '/' Cc= 0.900			
			n= 0.013, Flow	v Area= 0.20 sf				
#2	Device 1	882.80'	12.0" Horiz. Orifice/Grate C= 0.600					
			Limited to weir		·			
#3	Primary	883.00'	•		ad-Crested Rectangular Weir			
			` ,		0.80 1.00 1.20 1.40 1.60 1.80 2.00			
			2.50 3.00 3.50					
					61 2.60 2.66 2.70 2.77 2.89 2.88			
			2.85 3.07 3.20	3.32				

Primary OutFlow Max=1.53 cfs @ 12.15 hrs HW=883.17' TW=877.19' (Dynamic Tailwater)

—**1=Culvert** (Barrel Controls 0.62 cfs @ 3.16 fps)

2=Orifice/Grate (Passes 0.62 cfs of 2.31 cfs potential flow)

-3=Broad-Crested Rectangular Weir (Weir Controls 0.91 cfs @ 1.06 fps)

Summary for Link 21L: Ag. Ditch #4 Tributary

Inflow Area = 37.620 ac, 33.12% Impervious, Inflow Depth = 4.72" for 100-yr event

Inflow = 113.60 cfs @ 12.46 hrs, Volume= 14.808 af

Primary = 113.51 cfs @ 12.73 hrs, Volume= 14.808 af, Atten= 0%, Lag= 16.0 min

Routed to Link 22L: Combined to Ag Ditch #4

Primary outflow = Inflow delayed by 15.8 min, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 22L: Combined to Ag Ditch #4

Inflow Area = 634.952 ac, 10.79% Impervious, Inflow Depth > 2.77" for 100-yr event

Inflow = 210.27 cfs @ 12.80 hrs, Volume= 146.406 af

Primary = 210.27 cfs @ 12.80 hrs, Volume= 146.406 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Fixed water surface Elevation= 856.60'

01_Pre-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 100-yr Rainfall=6.66"

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Summary for Link 24L: Door Creek Combined

Inflow Area = 39.177 ac, 13.85% Impervious, Inflow Depth = 3.14" for 100-yr event

Inflow = 88.91 cfs @ 12.52 hrs, Volume= 10.260 af

Primary = 88.91 cfs @ 12.52 hrs, Volume= 10.260 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 25L: Combine

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 56L: Lag to Door Creek

Inflow Area = 0.750 ac, 0.00% Impervious, Inflow Depth = 2.46" for 100-yr event

Inflow = 2.37 cfs @ 12.19 hrs, Volume= 0.154 af

Primary = 2.36 cfs @ 12.62 hrs, Volume= 0.154 af, Atten= 0%, Lag= 25.7 min

Routed to Link 24L: Door Creek Combined

Primary outflow = Inflow delayed by 25.6 min, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Summary for Subcatchment 1S: C1

Runoff = 42.78 cfs @ 12.13 hrs, Volume=

2.378 af, Depth= 6.11"

Routed to Pond 1P: Niebuhr Stormwater Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	cription			_
*	3.	370	98					
	1.	300	61	>75%	√ Grass co	over, Good	d, HSG B	_
	4.670 88 Weighted Average							
	1.	300		27.8	4% Pervio	us Area		
	3.370			72.16% Impervious Area				
	Тс	Leng	th S	Slope	Velocity	Capacity	Description	
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)		_
	6.0						Direct Entry,	

Summary for Subcatchment 2S: C2

Runoff = 28.86 cfs @ 12.44 hrs, Volume=

3.033 af, Depth= 3.73"

Routed to Pond 4P : County - Storm Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac) C	N Des	cription					
*	1.	020	98						
	5.	655 6	31 >75°	% Grass c	over, Good	, HSG B			
	0.	685		Woods/grass comb., Good, HSG B					
*				Row crops, SR + CR, Good, HSG B					
_				Weighted Average					
		725		3% Pervio					
		020		-	/ious Area				
		020	10.1	7 70 1111901	7104071104				
	Тс	Length	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	7.9	91	0.0830	0.19	, ,	Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.84"			
	6.4	59	0.0300	0.15		Sheet Flow,			
						Cultivated: Residue>20% n= 0.170 P2= 2.84"			
	11.9	573	0.0080	0.80		Shallow Concentrated Flow,			
						Cultivated Straight Rows Kv= 9.0 fps			
	3.3	337	0.0030	1.69	11.17	Channel Flow,			
						Area= 6.6 sf Perim= 13.4' r= 0.49' n= 0.030			
	1.1	224	0.0050	3.31	10.40	Pipe Channel,			
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
						n= 0.020 Corrugated PE, corrugated interior			
_	20.6	4 204	Tatal						

30.6 1,284 Total

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Summary for Subcatchment 3S: C3-A

Runoff = 36.09 cfs @ 12.33 hrs, Volume= 3.381 af, Depth= 5.76"

Routed to Pond 4P: County - Storm Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac) C	N Desc	cription		
*			98			1100.5
*					over, Good	, HSG B
	0.	273	98 Wate	er Surface	, HSG B	
	7.	043 8	35 Weig	ghted Aver	age	
	3.	870	54.9	5% Pervio	us Area	
	3.	173	45.0	5% Imper	∕ious Area	
	То	Longth	Clana	Valacity	Canacity	Description
	Tc	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	12.1	86	0.0260	0.12		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.84"
	0.9	68	0.0220	1.25		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.84"
	9.1	1,026	0.0050	1.88	15.43	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 8.2 '/' Top.W=16.40'
						n= 0.035
	1.4	224	0.0050	2.76	8.66	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.024
	0.1	59	0.0056	7.06	49.91	Pipe Channel,
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'
						n= 0.013
_	23.6	1,463	Total			
	_0.0	.,				

Summary for Subcatchment 4S: C3-B

Runoff = 7.16 cfs @ 12.13 hrs, Volume= 0.416 af, Depth= 6.70" Routed to Pond 3P : Sheriff Phase 2 Bioretention

	Area (ac)	CN	Description						
*	0.580	98							
*	0.165	74	>75% Grass cover, Good, HSG B						
	0.745	93	Weighted Average						
	0.165		22.15% Pervious Area						
	0.580		77.85% Impervious Area						

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		_	•	•		Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
-	6.0	Direct Entry,				

Summary for Subcatchment 5S: C4-A

Runoff = 21.49 cfs @ 12.13 hrs, Volume=

1.261 af, Depth= 6.81"

Routed to Pond 5P: Cnty-Storm Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	cription		
*	2.	010	98				
	0.	210	61	>75%	√ Grass co	over, Good	H, HSG B
	2.220 94 Weighted Average						
	0.210 9.46% Pervious Area						
	2.010			90.5	4% Imperv	ious Area	
	Tc (min)	Lengt (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
_	6.0	(,,,,	-,	(,)	(.2300)	(0.0)	Direct Entry,

Summary for Subcatchment 7S: C4-C

Runoff = 5.65 cfs @ 12.13 hrs, Volume=

0.302 af, Depth= 5.41"

Routed to Pond 8P: County - Storm Pond 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	cription				
*	0.	230	98						
*	0.	440	74	>759	% Grass co	over, Good	I, HSG B		
	0.670 82 Weighted Average				ghted Aver	age			
	0.440 65.67% Pervious Area								
	0.230		34.33% Impervious Area						
	Tc	Leng	•	Slope	Velocity	Capacity	Description		
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)			
	6.0						Direct Entry,		

Summary for Subcatchment 8S: C4-D

Runoff = 82.46 cfs @ 12.13 hrs, Volume= 4.582 af, Depth= 6.11"

Routed to Pond 8P : County - Storm Pond 3

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	Area	(ac)	CN	Desc	Description					
*	6.	030	98							
	2.	030	61	>75%	>75% Grass cover, Good, HSG B					
*	0.	640	74	>75%	>75% Grass cover, Good, HSG C					
	0.	300	00 98 Water Surface, HSG B							
	9.	000	88	Weig	hted Aver	age				
	2.	670		29.6	7% Pervio	us Area				
	6.	330		70.3	3% Imperv	ious Area				
	Тс	Leng	•	Slope	Velocity	Capacity	Description			
_	(min)	(fe	et)	(ft/ft)	(ft/sec)	(cfs)				
	6.0						Direct Entry,			

Summary for Subcatchment 9S: C5

Runoff = 42.16 cfs @ 12.25 hrs, Volume= 3.204 af, Depth= 4.73"

Routed to Pond 9P: Storage at NE and SE corners of AB

	Area	(ac) C	N Desc	Description					
*	2.	270	98						
	2.	940 6	31 >759	>75% Grass cover, Good, HSG B					
	0.	144	74 >75°	% Grass co	over, Good	, HSG C			
*	2.	277	70 Row	crops, SR	R + CR, Goo	od, HSG B			
	0.	494 8	36 Fallo	Fallow, bare soil, HSG B					
	8.	125	76 Weid	hted Aver	age				
		855	•	, 6% Pervio	•				
		270	27.9	4% Imperv	ious Area				
	2.210			•					
	Tc	Length	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·			
	1.9	220	0.0370	1.94	•	Sheet Flow,			
						Smooth surfaces n= 0.011 P2= 2.84"			
	8.7	80	0.0260	0.15		Sheet Flow,			
						Cultivated: Residue>20% n= 0.170 P2= 2.84"			
	2.5	188	0.0200	1.27		Shallow Concentrated Flow,			
						Cultivated Straight Rows Kv= 9.0 fps			
	2.3	380	0.0090	2.70	59.39	Trap/Vee/Rect Channel Flow,			
						Bot.W=4.00' D=1.00' Z= 6.0 & 30.0 '/' Top.W=40.00'			
						n= 0.035			
	1.0	193	0.0010	3.23	22.85	Pipe Channel,			
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'			
						n= 0.012			
	16.4	1,061	Total						

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Summary for Subcatchment 10S: C6

Runoff 77.12 cfs @ 12.81 hrs, Volume= 11.723 af, Depth= 4.06"

Routed to Pond 9P: Storage at NE and SE corners of AB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area (ac)		N Des	cription						
*	1.	864	98							
	7.	605	61 >75°	% Grass c	over, Good	, HSG B				
	5.438 74			>75% Grass cover, Good, HSG C						
				Woods/grass comb., Good, HSG B						
*					R + CR, Go					
*						od, HSG C				
_				er Surface						
	_	-	•	ghted Aver	•					
		008		5% Pervio						
	2.	614	7.55	% Impervi	ous Area					
	To	Longth	Clana	Volocity	Congoity	Description				
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
_	26.9	300		0.19	(013)	Shoot Flow				
	20.9	300	0.1190	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.84"				
	6.6	395	0.0400	1.00		Shallow Concentrated Flow,				
	0.0	000	0.0400	1.00		Woodland Kv= 5.0 fps				
	3.5	218	0.0440	1.05		Shallow Concentrated Flow,				
	0.0					Woodland Kv= 5.0 fps				
	15.6	688	0.0067	0.74		Shallow Concentrated Flow,				
						Cultivated Straight Rows Kv= 9.0 fps				
	0.5	74	0.0050	2.65	8.32	Pipe Channel,				
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
						n= 0.025				
	3.7	529	0.0060	2.41	38.62	Trap/Vee/Rect Channel Flow,				
						Bot.W=0.00' D=1.00' Z= 16.0 '/' Top.W=32.00'				
_						n= 0.030				
	56.8	2,204	Total							

Summary for Subcatchment 11S: C7 - Landfill

Runoff 191.59 cfs @ 12.18 hrs, Volume= 12.316 af, Depth= 5.19"

Routed to Pond 11P: Landfill Pond

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Area	(ac)	CN	Desc	Description						
0.	440	96	96 Gravel surface, HSG B							
27.	730	80	>75%	>75% Grass cover, Good, HSG D						
0.	.330 98 Water Surface, HSG B									
28.	28.500 80 Weighted Average									
28.170 98.84% Pervious Area										
0.	330		1.16	% Impervi	ous Area					
Тс	Leng		Slope	Velocity	Capacity	Description				
(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)					
11.0						Direct Entry, TOC from Landfill's SWMP				

Summary for Subcatchment 12S: C8

Runoff = 50.69 cfs @ 12.17 hrs, Volume=

3.022 af, Depth= 4.17"

Routed to Pond 12P: Existing Depression 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac) (CN Des	cription					
*	1.380 98		98						
	4.420 61		61 >75	>75% Grass cover, Good, HSG B					
	0.	200	74 >75	>75% Grass cover, Good, HSG C					
	2.	540	72 Woo	Woods/grass comb., Good, HSG C					
_	0.	150	98 Wat	Water Surface, HSG B					
	8.	690	71 Wei	ghted Aver	age				
	7.	160	82.3	9% Pervio	us Area				
	1.	530	17.6	31% Imper	∕ious Area				
	_								
	Tc	Length	•	•	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	0.6	31	0.0140	0.89		Sheet Flow,			
						Smooth surfaces n= 0.011 P2= 2.84"			
	1.6	10	0.0520	0.10		Sheet Flow,			
		4 000	0.0470		44.70	Grass: Dense n= 0.240 P2= 2.84"			
	5.6	1,329	0.0170	3.93	11.78	Trap/Vee/Rect Channel Flow,			
						Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00'			
	4 7	400	0.0500	4.04		n= 0.030			
	1.7	168	0.0530	1.61		Shallow Concentrated Flow,			
_						Short Grass Pasture Kv= 7.0 fps			
	9.5	1,538	Total						

Summary for Subcatchment 13S: C9 and C10

Runoff = 15.95 cfs @ 12.13 hrs, Volume=

0.886 af, Depth= 6.11"

Routed to Pond 15P: Existing Depression 2

01_Pre-DevelopmentConditions_WisDOT_PondEvalMSE 24-hr 4 200-yr Rainfall=7.53" Prepared by SCS Engineers Printed 9/27/2023

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	Area (a	ac) (CN	Desc	ription		
*	1.2	15	98				
	0.3	66	61	>75%	% Grass co	over, Good	d, HSG B
_	0.1	60	74	>75%	6 Grass co	over, Good	d, HSG C
	1.741 88 Weighted Average						
	0.526 30.21%				1% Pervio	us Area	
	1.2	:15		69.79	9% Imper	ious Area	
		Length		Slope	Velocity	Capacity	Description
_	(min)	(feet)		(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 14S: YH1

Runoff = 133.65 cfs @ 12.80 hrs, Volume= 20.664 af, Depth= 3.73"

Routed to Pond 13P: YH1 Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

Area (ac) C	N Des	cription						
22.7	700 (31 >75	>75% Grass cover, Good, HSG B						
27.8	390	74 >75	>75% Grass cover, Good, HSG C						
4.8	330 4	48 Bru	Brush, Good, HSG B						
8.8	300 (35 Bru	Brush, Good, HSG C						
2.1	180 9	98 Wa	ter Surface	, HSG B					
66.400 67 Weighted Average									
64.2	220	96.7	96.72% Pervious Area						
2.1	180	3.28	3% Impervi	ous Area					
_				_					
	Length	Slope		Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
21.0	150	0.0200	0.12		Sheet Flow,				
					Grass: Dense n= 0.240 P2= 2.84"				
36.9	2,018	0.0170	0.91		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
57.9	2,168	Total							

Summary for Subcatchment 15S: YH2

Runoff = 116.47 cfs @ 12.74 hrs, Volume= 17.060 af, Depth= 3.30"

Routed to Pond 15P: Existing Depression 2

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Area	(ac) C	N Desc	cription					
* 4.	.098 9	8						
19.	19.840 61		% Grass c	over, Good	, HSG B			
10.	.130 7	'4 >75°	>75% Grass cover, Good, HSG C					
4.	.830 5	8 Woo	Woods/grass comb., Good, HSG B					
12.	.800 4	8 Brus	Brush, Good, HSG B					
10.	.280 6	55 Brus	h, Good, I	HSG C				
61.	.978 6	3 Weig	ghted Aver	age				
57.	.880	93.3	9% Pervio	us Area				
4.	.098	6.61	6.61% Impervious Area					
	Length	Slope		Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
15.4	150	0.0430	0.16		Sheet Flow,			
					Grass: Dense n= 0.240 P2= 2.84"			
17.3	1,216	0.0280	1.17		Shallow Concentrated Flow,			
					Short Grass Pasture Kv= 7.0 fps			
0.7	206	0.0100	4.91	3.86				
					12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'			
					n= 0.012			
1.6	234	0.0040	2.38	38.12				
					Bot.W=8.00' D=1.00' Z= 8.0 '/' Top.W=24.00'			
					n= 0.030			
0.1	35	0.0140	9.23	29.00	r · · · · · · · · · · · · · · · · · · ·			
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
					n= 0.012			
3.8	591	0.0130	2.58	51.61	Trap/Vee/Rect Channel Flow,			
					Bot.W=10.00' D=1.00' Z= 10.0 '/' Top.W=30.00'			
0.0	745	0.0400	4.50		n= 0.050			
8.3	745	0.0100	1.50		Shallow Concentrated Flow,			
4.0	600	0.0000	0.00	20.52	Grassed Waterway Kv= 15.0 fps			
4.9	608	0.0080	2.09	36.53	Trap/Vee/Rect Channel Flow,			
					Bot.W=10.00' D=1.00' Z= 10.0 & 5.0 '/' Top.W=25.00'			
	0.705	T ()			n= 0.050			
52.1	3,785	Total						

Summary for Subcatchment 16S: C11-16

Runoff = 136.03 cfs @ 12.23 hrs, Volume= 9.6 Routed to Pond 22P : Existing Depression 3

9.680 af, Depth= 3.84"

Notice to Folia 221 . Existing Depression 3

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	Area	(ac)	CN	Desc	cription					
*	5.	910	98							
	18.	130	61	>75%	% Grass co	over, Good	, HSG B			
	1.	510	74	>75%	% Grass co	over, Good	, HSG C			
	3.	010	55	Woo	ds, Good,	HSG B				
	0.	570	70	Woo	ds, Good,	HSG C				
	1.	090	48	Brus	Brush, Good, HSG B					
	30.	220	68	Weig	hted Aver	age				
	24.310			80.4	4% Pervio	us Area				
	5.910		19.56% Impervious Area							
	Тс	Lengt		Slope	Velocity	Capacity	Description			
_	(min)	(feet		(ft/ft)	(ft/sec)	(cfs)				
	0.3	2	3 0.	0530	1.43		Sheet Flow,			
		_					Smooth surfaces n= 0.011 P2= 2.84"			
	2.5	2	3 0.	0920	0.15		Sheet Flow,			
		_					Grass: Dense n= 0.240 P2= 2.84"			
	0.6	6	4 0.	0120	1.64		Shallow Concentrated Flow,			
							Grassed Waterway Kv= 15.0 fps			
	11.0	1,80	7 0.	0078	2.73	16.93	Trap/Vee/Rect Channel Flow,			
							Bot.W=0.00' D=1.00' Z= 4.8 & 7.6 '/' Top.W=12.40'			
_							n= 0.030			
	14.4	1,91	7 To	otal						

Summary for Subcatchment 17S: YH3

Runoff = 336.31 cfs @ 12.67 hrs, Volume= 47.199 af, Depth= 3.20"

Routed to Pond 17P: YH3 Pond

	Area (ac)	CN	Description
*	2.600	98	
	106.380	61	>75% Grass cover, Good, HSG B
	26.310	74	>75% Grass cover, Good, HSG C
	31.110	48	Brush, Good, HSG B
	6.590	65	Brush, Good, HSG C
	4.200	98	Water Surface, HSG B
-	177.190	62	Weighted Average
	170.390		96.16% Pervious Area
	6.800		3.84% Impervious Area

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	19.8	150	0.0230	0.13		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.84"
	25.0	1,662	0.0250	1.11		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.2	219	0.0090	2.95	29.50	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 10.0 '/' Top.W=20.00' n= 0.030
	2.5	885	0.0110	5.98	7.34	Pipe Channel,
						15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'
						n= 0.012
_	48.5	2,916	Total			

Summary for Subcatchment 18S: YH4

41.18 cfs @ 12.31 hrs, Volume= Runoff

3.582 af, Depth= 3.52"

Routed to Pond 18P: YH4 Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

_	Area	(ac)	CN	Desc	ription				
	9.630 61 >75% Grass cover, Good, HSG B								
	2.	070	74	>75%	√ Grass co	over, Good	, HSG C		
_	0.	520	98	Wate	er Surface,	, HSG A			
	12.	220	65	Weig	hted Aver	age			
	11.	700		95.74	4% Pervio	us Area			
	0.520			4.26°	4.26% Impervious Area				
	Tc (min)	Length (feet		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description		
_	13.0	150	0.	0660	0.19		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.84"		
	8.6	470	0.	0170	0.91		Shallow Concentrated Flow,		
_							Short Grass Pasture Kv= 7.0 fps		
	21.6	620) To	otal					

Summary for Subcatchment 19S: YH5

18.20 cfs @ 12.14 hrs, Volume= 1.016 af, Depth= 5.19" Runoff

Routed to Pond 19P: YH5 Pond

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	Area	(ac)	CN	Desc	cription			
*	0.	330	98					
	1.	130	61	>75%	% Grass co	over, Good	, HSG B	
	0.	890	98	Wate	er Surface	, HSG A		
	2.350 80 Weighted Average							
	1.	130		48.0	9% Pervio	us Area		
1.220			51.9	51.91% Impervious Area				
	Tc	Leng		Slope	Velocity	Capacity	Description	
_	(min)	(fee	<u>:t)</u>	(ft/ft)	(ft/sec)	(cfs)		
	0.2	1	1 (0.0300	0.98		Sheet Flow,	
							Smooth surfaces n= 0.011 P2= 2.84"	
	7.1	8	37 (0.1000	0.20		Sheet Flow,	
_							Grass: Dense n= 0.240 P2= 2.84"	
	7.3	g	8	Total				

Summary for Subcatchment 20S: YH6A Pond

Runoff = 46.93 cfs @ 12.24 hrs, Volume= 3.492

3.492 af, Depth= 4.62"

Routed to Pond 20P: YH6-A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	cription			
*	0.	780	98					
	2.	870	61	>75%	√ Grass co	over, Good	, HSG B	
	4.	4.020 73 Brush, Good, HSG D						
	1.	400	98	Wate	er Surface	, HSG C		
	9.070 75 Weighted Average							
6.890 75.96% Pervious Area								
2.180			24.0	4% Imper	∕ious Area			
	Tc (min)	Lengt (feet		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
	12.3	15	0 0.	0750	0.20		Sheet Flow,	
	3.4	28	5 0.	0390	1.38		Grass: Dense n= 0.240 P2= 2.84" Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	
	15.7	43	5 To	otal				

Summary for Subcatchment 21S: YH6-B

Runoff = 266.41 cfs @ 12.49 hrs, Volume= 30.034 af, Depth= 3.63"

Routed to Pond 21P: YH6B Pond

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	Area (ac) CN				cription						
	54.	330	61	>75% Grass cover, Good, HSG B							
	4.	340	48	Brus	Brush, Good, HSG B						
	7.	610	65	Brus	Brush, Good, HSG C						
	26.	640	73	Brus	Brush, Good, HSG D						
	6.	480	98	Wate	er Surface	, HSG A					
	99.	400	66	Weig	ghted Aver	age					
	92.920			93.4	93.48% Pervious Area						
	6.480			6.52	% Impervi	ous Area					
	Тс	Length	n S	Slope	Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	19.2	150	0.0	0250	0.13		Sheet Flow,				
							Grass: Dense n= 0.240 P2= 2.84"				
	15.4	889	0.0	0190	0.96		Shallow Concentrated Flow,				
							Short Grass Pasture Kv= 7.0 fps				
	34.6	1,039	To	otal							

Summary for Subcatchment 23S: C17-C25

Runoff = 135.23 cfs @ 12.46 hrs, Volume=

15.189 af, Depth= 4.85"

Routed to Link 21L : Ag. Ditch #4 Tributary

	Area (ac)	CN	Description
*	12.460	98	
	16.840	61	>75% Grass cover, Good, HSG B
	0.360	74	>75% Grass cover, Good, HSG C
	7.960	80	>75% Grass cover, Good, HSG D
	37.620	77	Weighted Average
	25.160		66.88% Pervious Area
	12.460		33.12% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.6	150	0.0720	0.20		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.84"
2.1	129	0.0210	1.01		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
2.8	318	0.0087	1.89		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
0.3	79	0.0830	4.32		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
1.6	341	0.0180	3.54	17.33	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 6.0 & 3.8 '/' Top.W=9.80'
					n= 0.035
0.5	150	0.0050	5.52	17.33	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.012
14.6	1,367	0.0035	1.56	7.81	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 5.0 '/' Top.W=10.00'
					n= 0.035
34.5	2,534	Total			

Summary for Subcatchment 24S: C26

Runoff = 31.77 cfs @ 12.92 hrs, Volume= 5.568 af, Depth= 3.73"

Routed to Link 22L: Combined to Ag Ditch #4

	Area (ac)	CN	Description
*	0.360	98	
	0.140	61	>75% Grass cover, Good, HSG B
	0.040	74	>75% Grass cover, Good, HSG C
	3.940	48	Brush, Good, HSG B
	1.810	65	Brush, Good, HSG C
	11.600 73 Brush, Good, HSG D		Brush, Good, HSG D
	17.890	67	Weighted Average
	17.530		97.99% Pervious Area
	0.360		2.01% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.0	150	0.0110	0.06	, ,	Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 2.84"
9.7	380	0.0170	0.65		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.4	58	0.0050	2.76	8.66	
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.024
0.2	59	0.0260	4.99	29.91	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'
					n= 0.030
19.3	2,177	0.0007	1.88	53.14	•
					Bot.W=4.00' D=3.00' Z= 1.8 '/' Top.W=14.80'
					n= 0.030
69.6	2,824	Total			

Summary for Subcatchment 25S: C27

noff = 55.19 cfs @ 12.47 hrs, Volume= Routed to Link 24L : Door Creek Combined 6.162 af, Depth= 4.28" Runoff

	Area	(ac) C	N Des	cription					
*	* 3.827 98		98 impe	impervious					
	8.	477 6	31 >7 ⁵ °	% Grass c	over, Good	, HSG B			
	0.	289	74 >75°	% Grass c	over, Good	, HSG C			
	0.	246 8	30 >75°	% Grass c	over, Good	, HSG D			
*	3.	840	70 Row	crops, SF	R + CR, Go	od, HSG B			
*	0.	090	79 Row	crops, SF	R + CR, Go	od, HSG C			
	0.	490 8	36 Fallo	ow, bare so	oil, HSG B				
	17.	259	72 Weig	ghted Aver	age				
	13.	432	77.8	3% Pervio	us Area				
	3.	827	22.1	7% Imperv	∕ious Area				
	_				_				
	Tc	Length	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	13.5	150	0.0300	0.18		Sheet Flow,			
						Cultivated: Residue>20% n= 0.170 P2= 2.84"			
	2.3	150	0.0140	1.06		Shallow Concentrated Flow,			
						Cultivated Straight Rows Kv= 9.0 fps			
	10.3	482	0.0125	0.78		Shallow Concentrated Flow,			
						Short Grass Pasture Kv= 7.0 fps			
	7.6	1,570	0.0125	3.45	18.44	•			
						Bot.W=0.00' D=1.00' Z= 4.0 & 6.7 '/' Top.W=10.70'			
						n= 0.030			
	0.6	163	0.0800	4.24		Shallow Concentrated Flow,			
						Grassed Waterway Kv= 15.0 fps			
	34.3	2,515	Total						

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Summary for Subcatchment 26S: C28A & C28B

Runoff = 52.99 cfs @ 12.52 hrs, Volume= 6.205 af, Depth= 3.52"

Routed to Link 24L: Door Creek Combined

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

_	Area	(ac) C	N Desc	cription		
*	1.	598 9	98 impe	rvious		
	6.	420	31 >7 ⁵ 9	% Grass co	over, Good	, HSG B
	1.	116 8	30 >759	% Grass co	over, Good	, HSG D
	6.	805	55 Woo	ds, Good,	HSG B	
*	5.	229	70 Row	crops, SR	R + CR, Goo	od, HSG B
	21.	168 6	35 Weig	ghted Aver	age	
	19.	570	92.4	5% Pervio	us Area	
	1.	598	7.55	% Impervi	ous Area	
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	16.1	150	0.1070	0.16		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.84"
	1.2	150	0.1730	2.08		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	3.6	365	0.0360	1.71		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	5.3	651	0.0120	2.04	16.34	·
						Area= 8.0 sf Perim= 16.1' r= 0.50' n= 0.050
	2.6	273	0.0390	1.78		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	7.8	1,714	0.0140	3.67	25.72	·
_						Area= 7.0 sf Perim= 14.1' r= 0.50' n= 0.030
	36.6	3,303	Total			

Summary for Subcatchment 27S: Salt Loading Area

Runoff = 1.90 cfs @ 12.13 hrs, Volume= 0.107 af, Depth= 6.34"

Routed to Pond 28P: Salt Shed Basin

	Area (sf)	CN	Description	
*	4,694	98		
*	4,130 80 >75% Grass cover, Good, compacted, HSG C		>75% Grass cover, Good, compacted, HSG C	
	8,824	90	Weighted Average	
	4,130		46.80% Pervious Area	
	4,694		53.20% Impervious Area	

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Тс	Length	Slope	Velocity	Capacity	Description
 (min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
 6.0					Direct Entry,

Summary for Subcatchment 28S: Luds Lane

Runoff = 3.00 cfs @ 12.19 hrs, Volume=

0.193 af, Depth= 3.09"

Routed to Link 56L: Lag to Door Creek

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

Area	(ac) C	N Desc	cription					
0.	750 6	51 >759	% Grass co	over, Good	, HSG B			
0.	750	100.	00% Pervi	ous Area				
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
11.3	71	0.0210	0.10		Sheet Flow, Grass: Dense	n= 0.240	P2= 2.84"	

Summary for Subcatchment 51S: C4-B

Runoff = 21.17 cfs @ 12.32 hrs, Volume= 1.873 af, Depth= 4.85"

Routed to Pond 6P: CNTY-Infiltration Basin #1

	Area	(ac)	CN	Desc	cription		
*	1.	550	98				
	1.	935	61	>759	% Grass co	over, Good	, HSG B
	1.	155	74	>759	% Grass co	over, Good	, HSG C
	4.	640	77	Weig	hted Aver	age	
	3.	090			, 9% Pervio		
	1.	550		33.4	1% Imperv	ious Area	
					•		
	Тс	Lengt	h :	Slope	Velocity	Capacity	Description
	(min)	(feet	:)	(ft/ft)	(ft/sec)	(cfs)	
	17.1	15	0 0	.0330	0.15		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.84"
	1.7	12	9 0	.0310	1.23		Shallow Concentrated Flow,
							Short Grass Pasture Kv= 7.0 fps
	3.2	52	2 0	.0082	2.69	16.15	Trap/Vee/Rect Channel Flow,
							Bot.W=2.00' D=1.00' Z= 4.0 '/' Top.W=10.00'
_							n= 0.035
	22.0	80	1 T	otal			

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Summary for Reach 9R: Swale 1

Inflow Area = 81.683 ac, 28.47% Impervious, Inflow Depth > 4.63" for 200-yr event

Inflow = 53.07 cfs @ 13.75 hrs, Volume= 31.489 af

Outflow = 52.99 cfs @ 13.91 hrs, Volume= 31.478 af, Atten= 0%, Lag= 9.4 min

Routed to Pond 15P: Existing Depression 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.74 fps, Min. Travel Time= 10.9 min

Avg. Velocity = 0.94 fps, Avg. Travel Time= 20.2 min

Peak Storage= 34,724 cf @ 13.91 hrs

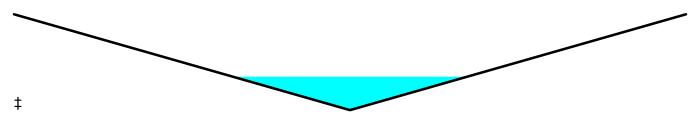
Average Depth at Peak Storage= 1.75', Surface Width= 34.95' Bank-Full Depth= 5.00' Flow Area= 250.0 sf, Capacity= 874.22 cfs

 $0.00' \times 5.00'$ deep channel, n= 0.050

Side Slope Z-value= 10.0 '/' Top Width= 100.00'

Length= 1,137.0' Slope= 0.0041 '/'

Inlet Invert= 874.89', Outlet Invert= 870.22'



Summary for Reach 11R: Swale 4

Inflow = 0.13 cfs @ 13.21 hrs, Volume= 0.004 af

Outflow = 0.03 cfs @ 13.49 hrs, Volume= 0.004 af, Atten= 80%, Lag= 16.9 min

Routed to Pond 22P: Existing Depression 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 0.37 fps, Min. Travel Time= 80.5 min

Avg. Velocity = 0.19 fps, Avg. Travel Time= 160.6 min

Peak Storage= 125 cf @ 13.49 hrs

Average Depth at Peak Storage= 0.10', Surface Width= 1.30'

Bank-Full Depth= 3.00' Flow Area= 55.8 sf, Capacity= 189.41 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.030

Side Slope Z-value= 7.8 4.6 '/' Top Width= 37.20'

Length= 1,795.0' Slope= 0.0028 '/'

Inlet Invert= 868.00', Outlet Invert= 863.00'



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Summary for Reach 13R: Swale 2

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 3.19" for 200-yr event

Inflow 100.52 cfs @ 13.48 hrs, Volume= 17.677 af

40.80 cfs @ 13.93 hrs, Volume= Outflow 17.491 af, Atten= 59%, Lag= 26.8 min

Routed to Pond 15P: Existing Depression 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.07 fps, Min. Travel Time= 20.9 min

Avg. Velocity = 1.19 fps, Avg. Travel Time= 36.2 min

Peak Storage= 51,209 cf @ 13.93 hrs

Average Depth at Peak Storage= 0.99', Surface Width= 29.84'

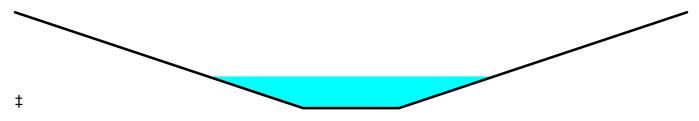
Bank-Full Depth= 3.00' Flow Area= 120.0 sf, Capacity= 466.95 cfs

10.00' x 3.00' deep channel, n= 0.050

Side Slope Z-value= 10.0 '/' Top Width= 70.00'

Length= 2,591.9' Slope= 0.0084 '/'

Inlet Invert= 892.00', Outlet Invert= 870.22'



Summary for Reach 14R: Swale 3

Inflow 0.52 cfs @ 13.84 hrs, Volume= 0.083 af

0.48 cfs @ 14.07 hrs, Volume= Outflow 0.083 af, Atten= 8%, Lag= 13.6 min

Routed to Pond 22P: Existing Depression 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.01 fps, Min. Travel Time= 24.6 min

Avg. Velocity = 0.43 fps, Avg. Travel Time= 58.2 min

Peak Storage= 707 cf @ 14.07 hrs

Average Depth at Peak Storage= 0.27', Surface Width= 3.50'

Bank-Full Depth= 3.00' Flow Area= 58.1 sf, Capacity= 290.70 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.035

Side Slope Z-value= 4.5 8.4 '/' Top Width= 38.70'

Length= 1,492.0' Slope= 0.0082 '/'

Inlet Invert= 877.30', Outlet Invert= 865.00'



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Summary for Reach 15R: Overland Flow

Inflow = 144.73 cfs @ 13.25 hrs, Volume= 57.040 af

Outflow = 140.85 cfs @ 13.95 hrs, Volume= 57.040 af, Atten= 3%, Lag= 42.0 min

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.05 fps, Min. Travel Time= 13.5 min

Avg. Velocity = 1.42 fps, Avg. Travel Time= 29.1 min

Peak Storage= 114,136 cf @ 13.95 hrs

Average Depth at Peak Storage= 1.08', Surface Width= 75.07'

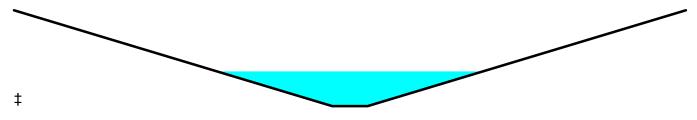
Bank-Full Depth= 3.00' Flow Area= 300.0 sf, Capacity= 1,718.10 cfs

10.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 30.0 '/' Top Width= 190.00'

Length= 2,474.0' Slope= 0.0073 '/'

Inlet Invert= 876.00', Outlet Invert= 858.00'



Summary for Reach 21R: Swale 5

Inflow = 12.25 cfs @ 13.18 hrs, Volume= 3.546 af

Outflow = 12.23 cfs @ 13.26 hrs, Volume= 3.546 af, Atten= 0%, Lag= 4.4 min

Routed to Reach 22R: Swale 6

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.10 fps, Min. Travel Time= 5.5 min

Avg. Velocity = 0.96 fps, Avg. Travel Time= 12.0 min

Peak Storage= 4,029 cf @ 13.26 hrs

Average Depth at Peak Storage= 1.31', Surface Width= 8.91'

Bank-Full Depth= 3.00' Flow Area= 30.6 sf, Capacity= 111.43 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.030

Side Slope Z-value= 3.9 2.9 '/' Top Width= 20.40'

Length= 690.6' Slope= 0.0033 '/'

Inlet Invert= 863.60', Outlet Invert= 861.30'

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Summary for Reach 22R: Swale 6

Inflow = 12.23 cfs @ 13.26 hrs, Volume= 3.546 af

Outflow = 12.06 cfs @ 13.45 hrs, Volume= 3.546 af, Atten= 1%, Lag= 11.4 min

Routed to Link 21L : Ag. Ditch #4 Tributary

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.94 fps, Min. Travel Time= 11.8 min Avg. Velocity = 0.81 fps, Avg. Travel Time= 28.3 min

Peak Storage= 8,522 cf @ 13.45 hrs

Average Depth at Peak Storage= 1.12', Surface Width= 11.15'

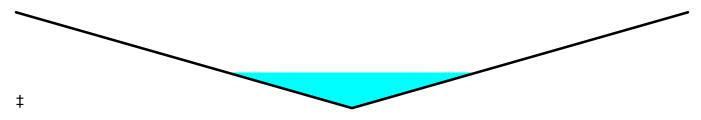
Bank-Full Depth= 3.00' Flow Area= 45.0 sf, Capacity= 168.82 cfs

 $0.00' \times 3.00'$ deep channel, n= 0.030

Side Slope Z-value= 5.0 '/' Top Width= 30.00'

Length= 1,370.6' Slope= 0.0034 '/'

Inlet Invert= 861.30', Outlet Invert= 856.60'



Summary for Pond 1P: Niebuhr Stormwater Pond

Inflow Area = 4.670 ac, 72.16% Impervious, Inflow Depth = 6.11" for 200-yr event

Inflow = 42.78 cfs @ 12.13 hrs, Volume= 2.378 af

Outflow = 7.79 cfs @ 12.45 hrs, Volume= 2.376 af, Atten= 82%, Lag= 19.4 min

Primary = 7.79 cfs @ 12.45 hrs, Volume= 2.376 af

Routed to Pond 4P: County - Storm Pond 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 885.82' @ 12.45 hrs Surf.Area= 35,286 sf Storage= 47,996 cf

Plug-Flow detention time= 137.8 min calculated for 2.376 af (100% of inflow)

Center-of-Mass det. time= 137.5 min (915.3 - 777.8)

Volume	Invert	Avail.Storage	Storage	Description
#1	882.60'	54,584 cf	Custom	Stage Data (Prismatic)Listed below (Recalc)
Elevation	Surf.A	rea Inc	:Store	Cum.Store

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
882.60	0	0	0
883.00	275	55	55
884.00	9,336	4,806	4,860
885.00	26,430	17,883	22,743
886.00	37,251	31,841	54,584

01_Pre-DevelopmentConditions_WisDOT_PondEval MSE 24-hr 4 200-yr Rainfall=7.53"

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Device	Routing	Invert	Outlet Devices
#1	Primary	883.00'	Special & User-Defined
			Head (feet) 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90
			1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10
			2.20 2.30 2.40 2.50
			Disch. (cfs) 0.000 0.030 0.070 0.140 0.210 0.290 0.380 0.480
			0.590 0.700 0.830 0.950 1.080 1.220 1.370 1.520 1.670 1.830
			1.990 2.160 2.330 2.510 2.690 2.880 3.070 3.260
#2	Primary	885.50'	10.0' 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=7.79 cfs @ 12.45 hrs HW=885.82' TW=880.30' (Dynamic Tailwater)

1=Special & User-Defined (Custom Controls 3.26 cfs)

-2=Broad-Crested Rectangular Weir (Weir Controls 4.53 cfs @ 1.42 fps)

Summary for Pond 3P: Sheriff Phase 2 Bioretention

Inflow Area = 0.745 ac, 77.85% Impervious, Inflow Depth = 6.70" for 200-yr event

Inflow = 7.16 cfs @ 12.13 hrs, Volume= 0.416 af

Outflow = 4.61 cfs @ 12.19 hrs, Volume= 0.364 af, Atten= 36%, Lag= 3.9 min

Discarded = 0.02 cfs @ 12.19 hrs, Volume= 0.027 af Primary = 4.58 cfs @ 12.19 hrs, Volume= 0.337 af

Routed to Pond 4P: County - Storm Pond 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 881.47' @ 12.19 hrs Surf.Area= 4,047 sf Storage= 6,116 cf

Plug-Flow detention time= 141.8 min calculated for 0.364 af (87% of inflow)

Center-of-Mass det. time= 89.7 min (852.8 - 763.1)

Volume	Inv	ert Avail.St	orage Storage	e Description	
#1	879.5	50' 8,2	289 cf Custon	n Stage Data (Pr	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
879.5	50	2,225	0	0	
880.0	00	2,651	1,219	1,219	
881.0	00	3,579	3,115	4,334	
881.5	50	4,080	1,915	6,249	
882.0	00	4,080	2,040	8,289	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	879.50	12.0" Roun	d Culvert	
	-		L= 34.0' CP	PP, square edge h	neadwall, Ke= 0.500
			Inlet / Outlet	Invert= 879.50' /	879.00' S= 0.0147 '/' Cc= 0.900
			n= 0.013, Fl	ow Area= 0.79 sf	
#2	Device 1	880.50	-	0" H Vert. Orific eir flow at low hea	e/Grate C= 0.600 ads

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#3	Device 1	881.00'	24.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	881.50'	10.0' long x 2.0' 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
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32
#5	Discarded	879.50'	0.500 in/hr Exfiltration over Surface area above 879.50'
			Conductivity to Groundwater Elevation = 875.00'
			Excluded Surface area = 2,225 sf

Discarded OutFlow Max=0.02 cfs @ 12.19 hrs HW=881.47' (Free Discharge) 5=Exfiltration (Controls 0.02 cfs)

Primary OutFlow Max=4.58 cfs @ 12.19 hrs HW=881.47' TW=878.93' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 4.58 cfs @ 5.83 fps)

2=Orifice/Grate (Passes < 1.10 cfs potential flow)
3=Orifice/Grate (Passes < 6.55 cfs potential flow)

4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: County - Storm Pond 2

Inflow Area = 22.203 ac, 36.68% Impervious, Inflow Depth = 4.93" for 200-yr event

73.67 cfs @ 12.35 hrs, Volume= Inflow 9.127 af

49.11 cfs @ 12.62 hrs, Volume= Outflow 9.127 af, Atten= 33%, Lag= 15.9 min

0.13 cfs @ 7.28 hrs, Volume= 48.98 cfs @ 12.62 hrs, Volume= Discarded = 0.261 af Primary 8.866 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 880.56' @ 12.63 hrs Surf.Area= 0.926 ac Storage= 2.420 af

Plug-Flow detention time= 91.6 min calculated for 9.124 af (100% of inflow)

0.918

Center-of-Mass det. time= 91.6 min (936.8 - 845.2)

0.986

881.00

Volume	Invert Av	ail.Storage S	Storage Description
#1	877.20'	2.829 af C	Custom Stage Data (Prismatic)Listed below
Elevation (feet)	Surf.Area (acres)	Inc.Store	
877.20	0.253	0.00	0.000
877.37	0.258	0.04	3 0.043
877.38	0.577	0.00	0.048
878.00	0.620	0.37	71 0.419
879.00	0.757	0.68	88 1.107
880.00	0.850	0.80	3 1.911

2.829

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Device	Routing	Invert	Outlet Devices
#1	Primary	877.12'	15.0" Round Culvert X 2.00 L= 39.2' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 877.12' / 877.06' S= 0.0015 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	877.20'	Special & User-Defined Head (feet) 0.00 0.20 0.40 0.60 0.80 1.00 Disch. (cfs) 0.000 0.340 0.960 1.760 2.710 3.790
#3	Device 1	878.20'	30.0' long x 2.0' 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 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#4 #5	Discarded Primary		0.13 cfs Exfiltration at all elevations 30.0' long x 6.0' 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 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.13 cfs @ 7.28 hrs HW=877.24' (Free Discharge) **4=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=48.88 cfs @ 12.62 hrs HW=880.55' TW=878.73' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 15.95 cfs @ 6.50 fps)

2=Special & User-Defined (Passes < 3.79 cfs potential flow)
3=Broad-Crested Rectangular Weir (Passes < 311.86 cfs potential flow)

-5=Broad-Crested Rectangular Weir (Weir Controls 32.93 cfs @ 1.98 fps)

Summary for Pond 5P: Cnty-Storm Basin 1

Inflow Area = 2.220 ac, 90.54% Impervious, Inflow Depth = 6.81" for 200-yr event

21.49 cfs @ 12.13 hrs, Volume= Inflow 1.261 af

Outflow 12.37 cfs @ 12.20 hrs, Volume= 1.228 af, Atten= 42%, Lag= 4.5 min

Discarded = 0.06 cfs @ 12.20 hrs, Volume= 0.044 af 12.32 cfs @ 12.20 hrs, Volume= Primary 1.184 af

Routed to Pond 8P: County - Storm Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 882.76' @ 12.20 hrs Surf.Area= 5,370 sf Storage= 9,404 cf

Plug-Flow detention time= 60.6 min calculated for 1.227 af (97% of inflow) Center-of-Mass det. time= 45.5 min (805.0 - 759.5)

Volume	Invert	Avail.Storage	Storage Description
#1	879.72'	10,756 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)		
		· · · · /	,			
879.7	72	1,306	0	0		
880.0	00	1,599	407	407		
881.0	00	2,711	2,155	2,562		
882.0	00	3,924	3,318	5,879		
883.0	00	5,830	4,877	10,756		
Device	Routing	Invert	Outlet Devices			
#1	Primary	879.72'	18.0" Round C	ulvert		
	•		L= 66.5' RCP,	sq.cut end projec	cting, Ke= 0.500	
			Inlet / Outlet Inv	ert= 879.72' / 87	8.47' S= 0.0188 '/'	Cc = 0.900
			n= 0.013, Flow	Area= 1.77 sf		

			n= 0.013, Flow Area= 1.77 st
#2	Device 1	880.72'	6.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#3	Device 1	881.50'	36.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	882.74'	10.0' long x 4.0' 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 5.00 5.50
			Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66
			2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#5	Discarded	879 72'	0.500 in/hr Exfiltration over Surface area above 879.72'

Conductivity to Groundwater Elevation = 875.00'

Excluded Surface area = 1,306 sf

Discarded OutFlow Max=0.06 cfs @ 12.20 hrs HW=882.76' (Free Discharge) **5=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=12.32 cfs @ 12.20 hrs HW=882.76' TW=880.68' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 12.26 cfs @ 6.94 fps)

-2=Orifice/Grate (Passes < 1.61 cfs potential flow)

3=Orifice/Grate (Passes < 38.16 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Weir Controls 0.05 cfs @ 0.31 fps)

Summary for Pond 6P: CNTY-Infiltration Basin #1

Inflow Area = 4.640 ac, 33.41% Impervious, Inflow Depth = 4.85" for 200-yr event

21.17 cfs @ 12.32 hrs, Volume= Inflow 1.873 af

Outflow 14.57 cfs @ 12.50 hrs, Volume= 1.792 af, Atten= 31%, Lag= 11.1 min

Discarded = 0.20 cfs @ 12.50 hrs, Volume= 0.107 af Primary 14.37 cfs @ 12.50 hrs, Volume= 1.685 af

Routed to Pond 8P: County - Storm Pond 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 883.80' @ 12.50 hrs Surf.Area= 18,001 sf Storage= 26,226 cf

Plug-Flow detention time= 98.2 min calculated for 1.791 af (96% of inflow) Center-of-Mass det. time= 75.3 min (891.6 - 816.3)

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Volume	Invert	Avail.Sto	rage Storage	Description	
#1	880.71'	30,08	38 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation	on Si	ırf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
880.7	71	3,155	0	0	
881.0	00	3,568	975	975	
882.0	00	6,526	5,047	6,022	
883.0		10,890	8,708	14,730	
884.0	00	19,826	15,358	30,088	
Device	Routing	Invert	Outlet Devices	3	
#1	Primary	880.71'	12.0" Round	Culvert	
	, ,				ejecting, Ke= 0.500
					880.28' S= 0.0083 '/' Cc= 0.900
			n= 0.013, Flo	w Area= 0.79 sf	
#2	Device 1	881.71'	6.0" W x 12.0	" H Vert. Orifice	e/Grate C= 0.600
			Limited to weir	r flow at low hea	ads
#3	Device 1	882.71'	24.0" Horiz. C	Orifice/Grate C	C= 0.600
				r flow at low hea	
#4	Primary	883.49'			oad-Crested Rectangular Weir
					0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.5	-	.,
					61 2.60 2.66 2.70 2.77 2.89 2.88
	Discount d	000 741	2.85 3.07 3.2		O
#5	Discarded	880.71'			Surface area above 880.71'
			•		Elevation = 875.00'
			Excluded Suff	ace area = 3,15	O 81

Discarded OutFlow Max=0.20 cfs @ 12.50 hrs HW=883.80' (Free Discharge) **5=Exfiltration** (Controls 0.20 cfs)

Primary OutFlow Max=14.37 cfs @ 12.50 hrs HW=883.80' TW=880.34' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 5.65 cfs @ 7.20 fps)

-2=Orifice/Grate (Passes < 3.02 cfs potential flow)

-3=Orifice/Grate (Passes < 15.76 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Weir Controls 8.71 cfs @ 1.42 fps)

Summary for Pond 8P: County - Storm Pond 3

Inflow Area = 16.530 ac, 61.22% Impervious, Inflow Depth = 5.63" for 200-yr event

Inflow = 102.89 cfs @ 12.13 hrs, Volume= 7.753 af

Outflow = 73.78 cfs @ 12.19 hrs, Volume= 7.714 af, Atten= 28%, Lag= 3.7 min

Primary = 73.78 cfs @ 12.19 hrs, Volume= 7.714 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 880.68' @ 12.19 hrs Surf.Area= 30,911 sf Storage= 74,255 cf

Plug-Flow detention time= 75.7 min calculated for 7.714 af (99% of inflow) Center-of-Mass det. time= 72.3 min (873.2 - 801.0)

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Volume	Inver	t Avail.Sto	rage Storage	Description	
#1	877.19	9' 101,76	64 cf Custom	n Stage Data (Pi	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
877.1		14,796	0	0	
878.0		17,475	13,070	13,070	
879.0	00	20,998	19,237	32,306	
880.0		24,807	22,903	55,209	
881.0		33,736	29,272	84,480	
881.5	50	35,400	17,284	101,764	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	877.20'	18.0" Round	d Culvert X 2.00	
#2	Device 1	877.20'	Inlet / Outlet I n= 0.013, Flo Special & Us Head (feet) 2.00	Invert= 877.20' / ow Area= 1.77 sf ser-Defined 0.00 0.20 0.40	onforming to fill, Ke= 0.500 877.00' S= 0.0063 '/' Cc= 0.900 0.60 0.80 1.00 1.20 1.40 1.60 1.80 00 0.800 1.500 2.500 3.400 4.500
#3	Device 1	879.20'	5.600 6.900 68.0' long x Head (feet) 0 2.50 3.00 3.	8.300 2.0' breadth Br 0.20 0.40 0.60 50 h) 2.54 2.61 2.	oad-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 1.80 2.00 61 2.60 2.66 2.70 2.77 2.89 2.88
#4	Primary	880.00'	30.0' long x Head (feet) (2.50 3.00 3. Coef. (English	6.0' breadth Br 0.20 0.40 0.60 50 4.00 4.50 5	70 2.68 2.68 2.67 2.65 2.65 2.65

Primary OutFlow Max=73.69 cfs @ 12.19 hrs HW=880.68' TW=877.62' (Dynamic Tailwater)

1=Culvert (Inlet Controls 28.13 cfs @ 7.96 fps)

-2=Special & User-Defined (Passes < 8.30 cfs potential flow)

—3=Broad-Crested Rectangular Weir (Passes < 346.18 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Weir Controls 45.55 cfs @ 2.22 fps)

Summary for Pond 9P: Storage at NE and SE corners of AB

Inflow Area = 81.683 ac, 28.47% Impervious, Inflow Depth > 4.64" for 200-yr event

Inflow = 163.91 cfs @ 12.60 hrs, Volume= 31.601 af

Outflow = 53.07 cfs @ 13.75 hrs, Volume= 31.489 af, Atten= 68%, Lag= 69.0 min

Primary = 53.07 cfs @ 13.75 hrs, Volume= 31.489 af

Routed to Reach 9R: Swale 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Starting Elev= 875.66' Surf.Area= 32,564 sf Storage= 19,458 cf

Peak Elev= 879.59' @ 13.75 hrs Surf.Area= 277,268 sf Storage= 520,172 cf (500,714 cf above start)

Plug-Flow detention time= 136.1 min calculated for 31.034 af (98% of inflow)

Center-of-Mass det. time= 119.3 min (998.6 - 879.3)

Volume	Inve			Description	
#1	875.0	0' 640,02	22 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
Elevatio		Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
875.0	00	26,400	0	0	
876.0	00	35,739	31,070	31,070	
877.0	00	63,982	49,861	80,930	
878.0	00	141,395	102,689	183,619	
879.0	00	231,121	186,258	369,877	
880.0	00	309,169	270,145	640,022	
Device	Routing	Invert	Outlet Devices	S	
#1	Primary	875.66'	36.0" Round	Culvert	

L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 875.66' / 874.89' S= 0.0077 '/' Cc= 0.900

n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=53.07 cfs @ 13.75 hrs HW=879.59' TW=876.64' (Dynamic Tailwater)
—1=Culvert (Inlet Controls 53.07 cfs @ 7.51 fps)

Summary for Pond 11P: Landfill Pond

Inflow Area = 28.500 ac, 1.16% Impervious, Inflow Depth = 5.19" for 200-yr event

Inflow = 191.59 cfs @ 12.18 hrs, Volume= 12.316 af

Outflow = 50.72 cfs @ 12.50 hrs, Volume= 11.865 af, Atten= 74%, Lag= 19.0 min

Primary = 50.72 cfs @ 12.50 hrs, Volume= 11.865 af

Routed to Pond 12P: Existing Depression 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 883.79' @ 12.50 hrs Surf.Area= 1.652 ac Storage= 5.749 af

Plug-Flow detention time= 170.3 min calculated for 11.865 af (96% of inflow)

Center-of-Mass det. time= 150.3 min (950.6 - 800.3)

Volume	Invert	Avail.Storage	Storage Description
#1	877.33'	6.106 af	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
877.33	0.334	0.000	0.000
878.00	0.401	0.246	0.246
879.00	0.497	0.449	0.695
880.00	0.661	0.579	1.274
881.00	0.952	0.806	2.081
882.00	1.214	1.083	3.164
883.00	1.487	1.350	4.514
884.00	1.697	1.592	6.106

Device	Routing	Invert	Outlet Devices		
#1	Primary	877.33'	18.0" Round Culvert		
			L= 69.6' CPP, square edge headwall, Ke= 0.500		
			Inlet / Outlet Invert= 877.33' / 875.77' S= 0.0224 '/' Cc= 0.900		
			n= 0.012, Flow Area= 1.77 sf		
#2	Device 1	877.33'	1.0" Vert. Orifice/Grate X 7.00 C= 0.600		
			Limited to weir flow at low heads		
#3	Device 1	877.68'	1.0" Vert. Orifice/Grate X 8.00 C= 0.600		
			Limited to weir flow at low heads		
#4	Device 1	878.03'	1.0" Vert. Orifice/Grate X 9.00 C= 0.600		
			Limited to weir flow at low heads		
#5	Device 1	879.77'	18.0" Horiz. Orifice/Grate C= 0.600		
			Limited to weir flow at low heads		
#6	Primary	882.66'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir		
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60		
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64		

Primary OutFlow Max=50.72 cfs @ 12.50 hrs HW=883.79' TW=876.67' (Dynamic Tailwater)

1=Culvert (Passes 18.60 cfs of 20.33 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.47 cfs @ 12.20 fps)

-3=Orifice/Grate (Orifice Controls 0.52 cfs @ 11.86 fps)
 -4=Orifice/Grate (Orifice Controls 0.57 cfs @ 11.51 fps)

5=Orifice/Grate (Orifice Controls 17.05 cfs @ 9.65 fps)

-6=Broad-Crested Rectangular Weir (Weir Controls 32.12 cfs @ 2.85 fps)

Summary for Pond 12P: Existing Depression 1

Inflow Area = 37.190 ac, 5.00% Impervious, Inflow Depth > 4.80" for 200-yr event

Inflow = 66.09 cfs @ 12.17 hrs, Volume= 14.887 af

Outflow = 34.43 cfs @ 13.19 hrs, Volume= 13.154 af, Atten= 48%, Lag= 61.2 min

Primary = 34.30 cfs @ 13.19 hrs, Volume= 13.150 af

Routed to Pond 15P: Existing Depression 2

Secondary = 0.13 cfs @ 13.21 hrs, Volume= 0.004 af

Routed to Reach 11R: Swale 4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 878.25' @ 13.21 hrs Storage= 141,486 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 111.6 min (1,034.8 - 923.2)

01 Pre-DevelopmentConditions WisDOT PondEval MSE 24-hr 4 200-yr Rainfall=7.53"

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Volume	Invert	Avail.Sto	rage Storage Description
#1	875.00'	174,69	99 cf Custom Stage DataListed below
Elevation	_		
(fee	et) (cubic	<u>-feet)</u>	
875.0	00	0	
876.0	00 6	5,278	
877.0	00 110	0,909	
878.0	00 130	6,383	
879.0	00 150	6,855	
880.0	00 174	4,699	
Device	Routing	Invert	Outlet Devices
#1	Primary	874.12'	36.0" Round Culvert L= 100.2' Ke= 0.200
	,		Inlet / Outlet Invert= 874.12' / 873.48' S= 0.0064 '/' Cc= 0.900
			n= 0.012, Flow Area= 7.07 sf
#2	Secondary	878.00'	Swale to West
	•		Head (feet) 0.00 0.10 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			1.80 2.00
			Disch. (cfs) 0.000 0.010 0.060 0.350 1.040 2.230 4.050 6.580
			9.930 14.170 19.400 25.690

Primary OutFlow Max=34.28 cfs @ 13.19 hrs HW=878.25' TW=877.58' (Dynamic Tailwater) 1=Culvert (Outlet Controls 34.28 cfs @ 4.85 fps)

Secondary OutFlow Max=0.13 cfs @ 13.21 hrs HW=878.25' TW=868.07' (Dynamic Tailwater) 2=Swale to West (Custom Controls 0.13 cfs)

Summary for Pond 13P: YH1 Pond

66.400 ac, 3.28% Impervious, Inflow Depth = 3.73" for 200-yr event Inflow Area =

Inflow = 133.65 cfs @ 12.80 hrs, Volume= 20.664 af

95.87 cfs @ 13.47 hrs, Volume= 95.87 cfs @ 13.47 hrs, Volume= Outflow 17.957 af, Atten= 28%, Lag= 40.2 min

Primary 17.957 af

Routed to Pond 14P: Small Depression

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 899.29' @ 13.47 hrs Surf.Area= 257,486 sf Storage= 437,523 cf

Plug-Flow detention time= 320.4 min calculated for 17.957 af (87% of inflow)

Center-of-Mass det. time= 264.7 min (1,132.3 - 867.6)

Volume	Invert	Avail.Storage	Storage Description
#1	895.00'	437,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
895.00	94,949	0	0
896.00	101,543	98,246	98,246
897.00	159,762	130,653	228,899
898.00	257,486	208,624	437,523

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Device	Routing	Invert	Outlet Devices		
#1	Primary	895.00'	12.0" Round Culvert		
	•		L= 140.0' RCP, mitered to conform to fill, Ke= 0.700		
			Inlet / Outlet Invert= 895.00' / 894.00' S= 0.0071 '/' Cc= 0.900		
			n= 0.012, Flow Area= 0.79 sf		
#2	Primary	897.00'	10.0' long x 100.0' breadth Broad-Crested Rectangular Weir		
	•		Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60		
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63		

Primary OutFlow Max=95.84 cfs @ 13.47 hrs HW=899.29' TW=896.00' (Dynamic Tailwater)

1=Culvert (Outlet Controls 4.90 cfs @ 6.24 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 90.94 cfs @ 3.98 fps)

Summary for Pond 14P: Small Depression

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 3.25" for 200-yr event

Inflow = 95.87 cfs @ 13.47 hrs, Volume= 17.957 af

Outflow = 100.52 cfs @ 13.48 hrs, Volume= 17.677 af, Atten= 0%, Lag= 0.6 min

Primary = 100.52 cfs @ 13.48 hrs, Volume= 17.677 af

Routed to Reach 13R: Swale 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 896.78' @ 13.48 hrs Surf.Area= 32,190 sf Storage= 33,874 cf

Plug-Flow detention time= 37.9 min calculated for 17.677 af (98% of inflow)

Center-of-Mass det. time= 22.2 min (1,154.5 - 1,132.3)

Volume	Inv	ert Avail.Sto	rage Storage [Description		
#1	1 894.00' 33,874		74 cf Custom	4 cf Custom Stage Data (Prismatic)Listed below (Recalc)		
Classatia		Court Area	In a Ctana	Cura Stana		
Elevation		Surf.Area	Inc.Store	Cum.Store		
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)		
894.0	00	5,815	0	0		
895.0	00	14,871	10,343	10,343		
896.0	00	32,190	23,531	33,874		
Device	Routing	Invert	Outlet Devices			
#1	Primary	894.00'	12.0" Round	Culvert		
	•		L= 205.0' RC	P. sa.cut end p	rojecting, Ke= 0.500	
					892.00' S= 0.0098 '/' Cc= 0.900	
			n= 0.012, Flow			
"0	Б.	005 501	•			
#2	Primary	895.50'	•		road-Crested Rectangular Weir	
			Head (feet) 0.3	20 0.40 0.60	0.80 1.00 1.20 1.40 1.60	
			Coef. (English)	2.68 2.70 2.	70 2.64 2.63 2.64 2.64 2.63	

Primary OutFlow Max=100.52 cfs @ 13.48 hrs HW=896.78' TW=892.47' (Dynamic Tailwater)

1=Culvert (Barrel Controls 4.64 cfs @ 5.91 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 95.88 cfs @ 2.99 fps)

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Summary for Pond 15P: Existing Depression 2

Inflow Area = 248.992 ac, 13.10% Impervious, Inflow Depth > 3.86" for 200-yr event

Inflow = 188.90 cfs @ 12.80 hrs, Volume= 80.065 af

Outflow = 154.57 cfs @ 13.25 hrs, Volume= 76.629 af, Atten= 18%, Lag= 27.2 min

Primary = 9.51 cfs @ 30.65 hrs, Volume= 19.506 af

Routed to Pond 17P: YH3 Pond

Secondary = 144.73 cfs @ 13.25 hrs, Volume= 57.040 af

Routed to Reach 15R: Overland Flow

Tertiary = 0.52 cfs @ 13.84 hrs, Volume= 0.083 af

Routed to Reach 14R: Swale 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 877.59' @ 13.84 hrs Surf.Area= 263,803 sf Storage= 413,461 cf

Plug-Flow detention time= 111.8 min calculated for 76.608 af (96% of inflow)

Center-of-Mass det. time= 71.0 min (1,088.7 - 1,017.7)

Volume	Inve	rt Avail.Sto	rage Storage	Description	
#1	870.0	0' 530,8	88 cf Custom	n Stage Data (P	rismatic)Listed below (Recalc)
Elevatio (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
870.0	0	1,053	0	0	
873.0	0	9,397	15,675	15,675	
874.0	0	20,404	14,901	30,576	
875.0	0	42,009	31,207	61,782	
876.0	0	89,975	65,992	127,774	
877.0	0	205,811	147,893	275,667	
878.0	0	304,631	255,221	530,888	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	870.22'	18.0" Round	d Culvert	
	·		Inlet / Outlet I		I projecting, Ke= 0.500 858.00' S= 0.0053 '/' Cc= 0.900 f
#2 Secondary 877.00'		120.0' long x 10.0' breadth Broad-Crested Rectangular Weir			

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

#3 Tertiary

877.30' Special & User-Defined
Head (feet) 0.00 0.10 0.20 0.30 0.40 0.60 0.80 1.00
Disch. (cfs) 0.000 0.030 0.200 0.570 1.230 3.610 7.780 14.110

Primary OutFlow Max=9.51 cfs @ 30.65 hrs HW=876.75' TW=859.86' (Dynamic Tailwater)
—1=Culvert (Outlet Controls 9.51 cfs @ 5.38 fps)

Secondary OutFlow Max=144.73 cfs @ 13.25 hrs HW=877.59' TW=877.00' (Dynamic Tailwater) 2=Broad-Crested Rectangular Weir (Weir Controls 144.73 cfs @ 2.06 fps)

Tertiary OutFlow Max=0.52 cfs @ 13.84 hrs HW=877.59' TW=877.56' (Dynamic Tailwater)

3=Special & User-Defined (Custom Controls 0.52 cfs)

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Summary for Pond 17P: YH3 Pond

Inflow Area = 470.972 ac. 9.99% Impervious, Inflow Depth > 3.38" for 200-yr event

Inflow 375.58 cfs @ 12.67 hrs, Volume= 132.763 af

300.76 cfs @ 14.38 hrs, Volume= Outflow 125.741 af, Atten= 20%, Lag= 102.9 min

300.76 cfs @ 14.38 hrs, Volume= Primary 125.741 af

Routed to Pond 21P: YH6B Pond

#2

Primary

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 861.39' @ 14.38 hrs Surf.Area= 445,382 sf Storage= 807,576 cf

Plug-Flow detention time= 120.6 min calculated for 125.706 af (95% of inflow)

Center-of-Mass det. time= 70.7 min (1,089.6 - 1,018.9)

Volume	Inv	ert Avail.Sto	rage Storage	Description	
#1	858.	00' 1,137,5	23 cf Custon	n Stage Data (Pi	rismatic)Listed below (Recalc)
Elevation (fee	et)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
858.0	_	182,909	0	0	
859.0	_	191,060	186,985	186,985	
860.0	00	214,659	202,860	389,844	
861.00		320,867	267,763	657,607	
862.00		638,965	479,916	1,137,523	
Device	Routing	Invert	Outlet Device	Outlet Devices	
#1	Primary	858.00'	36.0" Round Culvert		
			L= 1,066.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 858.00' / 855.00' S= 0.0028'/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf		

Primary OutFlow Max=300.74 cfs @ 14.38 hrs HW=861.39' TW=860.00' (Dynamic Tailwater)

-1=Culvert (Outlet Controls 23.56 cfs @ 3.69 fps)

860.50'

-2=Broad-Crested Rectangular Weir (Weir Controls 277.18 cfs @ 2.49 fps)

Summary for Pond 18P: YH4 Pond

125.0' long x 60.0' breadth Broad-Crested Rectangular Weir

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Inflow Area = 12.220 ac, 4.26% Impervious, Inflow Depth = 3.52" for 200-yr event

41.18 cfs @ 12.31 hrs, Volume= 3.582 af Inflow

Outflow 29.56 cfs @ 12.49 hrs, Volume= 3.487 af, Atten= 28%, Lag= 10.6 min

Primary 29.56 cfs @ 12.49 hrs, Volume= 3.487 af

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 862.45' @ 12.49 hrs Surf.Area= 37,338 sf Storage= 41,240 cf

Plug-Flow detention time= 127.1 min calculated for 3.486 af (97% of inflow) Center-of-Mass det. time= 112.6 min (950.1 - 837.6)

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Volume	Invert	Avail.Storage	Storage Description
#1	861.00'	64,001 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
861.00	21,906	0	0
862.00	29,959	25,933	25,933
863.00	46,178	38,069	64,001

Device	Routing	Invert	Outlet Devices		
#1	Primary	861.00'	8.0" Round Culvert		
	•		L= 248.5' RCP, sq.cut end projecting, Ke= 0.500		
			Inlet / Outlet Invert= 861.00' / 859.76' S= 0.0050 '/' Cc= 0.900		
			n= 0.012, Flow Area= 0.35 sf		
#2	Primary	861.80'	20.0' long x 50.0' breadth Broad-Crested Rectangular Weir		
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60		
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63		

Primary OutFlow Max=29.55 cfs @ 12.49 hrs HW=862.45' TW=859.83' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 1.11 cfs @ 3.18 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 28.44 cfs @ 2.17 fps)

Summary for Pond 19P: YH5 Pond

Inflow Area = 2.350 ac, 51.91% Impervious, Inflow Depth = 5.19" for 200-yr event

Inflow = 18.20 cfs @ 12.14 hrs, Volume= 1.016 af

Outflow = 0.89 cfs @ 13.59 hrs, Volume= 0.842 af, Atten= 95%, Lag= 86.5 min

Primary = 0.89 cfs @ 13.59 hrs, Volume= 0.842 af

Routed to Pond 17P: YH3 Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 865.71' @ 13.59 hrs Surf.Area= 43,136 sf Storage= 29,055 cf

Plug-Flow detention time= 453.8 min calculated for 0.841 af (83% of inflow)

Center-of-Mass det. time= 391.0 min (1,187.9 - 796.9)

Volume	Invert	Avail.Sto	rage	Storage	Description	
#1	865.00'	93,4	14 cf	Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
Elevation (feet)	Sur	f.Area (sq-ft)	Inc.s	Store -feet)	Cum.Store (cubic-feet)	
865.00		88,602		0	0	
866.00 867.00		14,980 58,266		1,791 1,623	41,791 93,414	
Device R	Routina	Invert	Outle	t Devices	3	

Device	Routing	Invert	Outlet Devices
#1	Primary	866.50'	65.0' long x 15.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#2	Primary	865.00'	8.0" Round Culvert

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L= 170.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 865.00' / 864.15' S= 0.0050 '/' Cc= 0.900 n= 0.012. Flow Area= 0.35 sf

Primary OutFlow Max=0.89 cfs @ 13.59 hrs HW=865.71' TW=861.36' (Dynamic Tailwater)

-1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Barrel Controls 0.89 cfs @ 2.97 fps)

Summary for Pond 20P: YH6-A

Inflow Area = 9.070 ac, 24.04% Impervious, Inflow Depth = 4.62" for 200-yr event

Inflow 46.93 cfs @ 12.24 hrs, Volume= 3.492 af

5.14 cfs @ 25.53 hrs, Volume= Outflow 3.360 af, Atten= 89%, Lag= 797.6 min

3.360 af Primary 5.14 cfs @ 25.53 hrs, Volume=

Routed to Pond 21P: YH6B Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Starting Elev= 856.60' Surf.Area= 60,840 sf Storage= 127,764 cf

Peak Elev= 858.54' @ 22.63 hrs Surf.Area= 82,453 sf Storage= 264,149 cf (136,385 cf above start)

Plug-Flow detention time= 1,255.7 min calculated for 0.427 af (12% of inflow)

Center-of-Mass det. time= 732.4 min (1,546.6 - 814.2)

Volume	Inve	ert Avail.Sto	rage Storage D	escription	
#1	854.5	667,6	59 cf Custom S	Stage Data (Pi	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
854.5	50	60,840	0	0	
856.6	0	60,840	127,764	127,764	
857.0	00	64,679	25,104	152,868	
858.0	00	73,339	69,009	221,877	
859.0	00	90,134	81,737	303,613	
860.0	00	109,122	99,628	403,241	
861.0	00	129,626	119,374	522,615	
862.0	00	160,461	145,044	667,659	
Device	Routing	Invert	Outlet Devices		

#1 Primary 854.50' 18.0" Round Culvert

> L= 55.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 854.50' / 854.22' S= 0.0051 '/' Cc= 0.900

n= 0.024, Flow Area= 1.77 sf

Primary OutFlow Max=5.15 cfs @ 25.53 hrs HW=858.03' TW=857.33' (Dynamic Tailwater) 1=Culvert (Outlet Controls 5.15 cfs @ 2.92 fps)

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Summary for Pond 21P: YH6B Pond

Inflow Area = 579.442 ac, 9.62% Impervious, Inflow Depth > 3.30" for 200-yr event

Inflow = 377.07 cfs @ 13.04 hrs, Volume= 159.136 af

Outflow = 474.21 cfs @ 14.33 hrs, Volume= 158.532 af, Atten= 0%, Lag= 77.2 min

Primary = 474.21 cfs @ 14.33 hrs, Volume= 158.532 af

Routed to Link 22L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Starting Elev= 856.60' Surf.Area= 282,460 sf Storage= 556,446 cf

Peak Elev= 898.63' @ 14.33 hrs Surf.Area= 771,626 sf Storage= 2,032,289 cf (1,475,843 cf above start)

Plug-Flow detention time= 227.4 min calculated for 145.758 af (92% of inflow)

Center-of-Mass det. time= 120.1 min (1,173.7 - 1,053.6)

Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	854.6	33' 2,032,28	39 cf Custom	Stage Data (Pr	ismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
854.6	33	282,460	0	0	
856.6	60	282,460	556,446	556,446	
857.0	00	299,898	116,472	672,918	
858.0	00	336,652	318,275	991,193	
859.0	00	486,957	411,805	1,402,997	
860.0	00	771,626	629,292	2,032,289	
Device	Routing	Invert	Outlet Devices	3	
#1	Primary	854.63'	42.0" Round	Culvert X 2.00	

L= 28.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900 n= 0.024. Flow Area= 9.62 sf

Primary OutFlow Max=474.19 cfs @ 14.33 hrs HW=898.63' TW=856.60' (Dynamic Tailwater) 1=Culvert (Inlet Controls 474.19 cfs @ 24.64 fps)

Summary for Pond 22P: Existing Depression 3

Inflow Area = 30.220 ac, 19.56% Impervious, Inflow Depth = 3.88" for 200-yr event

Inflow = 136.03 cfs @ 12.23 hrs, Volume= 9.766 af

Outflow = 16.85 cfs @ 13.18 hrs, Volume= 8.236 af, Atten= 88%, Lag= 57.2 min

Primary = 4.59 cfs @ 13.18 hrs, Volume= 4.690 af

Routed to Pond 17P: YH3 Pond

Secondary = 12.25 cfs @ 13.18 hrs, Volume= 3.546 af

Routed to Reach 21R: Swale 5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 864.82' @ 13.18 hrs Surf.Area= 2.778 ac Storage= 5.302 af

Plug-Flow detention time= 321.1 min calculated for 8.233 af (84% of inflow)

Center-of-Mass det. time= 259.3 min (1,085.4 - 826.1)

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Volume	Invert A	Avail.Stora	ge Stora	age Description
#1	860.00'	12.833	af Cust	tom Stage Data (Prismatic)Listed below (Recalc)
Elevatio			c.Store	Cum.Store
(fee	t) (acres)	<u>) (ac</u>	re-feet)	(acre-feet)
860.0	0.006	6	0.000	0.000
861.0	0.016	6	0.011	0.011
862.0	0 0.550)	0.283	0.294
863.0	0 1.425)	0.987	1.281
864.0	0 2.395)	1.910	3.191
865.0	0 2.865)	2.630	5.821
866.0	0 3.493	3	3.179	9.000
867.0	0 4.172	<u>-</u>	3.833	12.833
Device	Routing	Invert		evices
#1	Primary	862.84'		ound Culvert
				RCP, sq.cut end projecting, Ke= 0.500
				Itlet Invert= 862.84' / 861.39' S= 0.0472 '/' Cc= 0.900
				, Flow Area= 0.79 sf
#2	Primary	865.74'		g x 12.0' breadth Broad-Crested Rectangular Weir
			,	et) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
				nglish) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#3	Secondary	863.60'	Swale in	ROW to West
			Head (fe	eet) 0.00 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.20 2.4	0
			Disch. (c	fs) 0.000 0.630 1.850 4.000 7.240 11.780 17.770 25.370
			34.720 4	15.990 59.290 74.770

Primary OutFlow Max=4.59 cfs @ 13.18 hrs HW=864.82' TW=861.35' (Dynamic Tailwater)

T-1=Culvert (Inlet Controls 4.59 cfs @ 5.85 fps)

Secondary OutFlow Max=12.25 cfs @ 13.18 hrs HW=864.82' TW=864.91' (Dynamic Tailwater) 3=Swale in ROW to West (Custom Controls 12.25 cfs)

Summary for Pond 28P: Salt Shed Basin

Inflow Area = 0.203 ac, 53.20% Impervious, Inflow Depth = 6.34" for 200-yr event

Inflow = 1.90 cfs @ 12.13 hrs, Volume= 0.107 af

Outflow = 1.78 cfs @ 12.15 hrs, Volume= 0.094 af, Atten= 6%, Lag= 1.4 min

Primary = 1.78 cfs @ 12.15 hrs, Volume= 0.094 af

Routed to Pond 9P: Storage at NE and SE corners of AB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 883.20' @ 12.15 hrs Surf.Area= 873 sf Storage= 883 cf

Plug-Flow detention time= 85.4 min calculated for 0.094 af (88% of inflow) Center-of-Mass det. time= 34.6 min (807.0 - 772.4)

^{—2=}Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Volume	Inve	rt Avail.Sto	rage Storage l	Description	
#1	881.50)' 1,16	3 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevatio	n S	Surf.Area	Inc.Store	Cum.Store	
(fee	t)	(sq-ft)	(cubic-feet)	(cubic-feet)	
881.5	50	212	0	0	
882.0	0	363	144	144	
883.0	0	781	572	716	
883.5	0	1,009	448	1,163	
Device	Routing	Invert	Outlet Devices	8	
#1	Primary	881.50'	6.0" Round C	Culvert	
			L= 134.0' RC	P, sq.cut end p	rojecting, Ke= 0.500
			Inlet / Outlet In	nvert= 881.50'/	880.80' S= 0.0052 '/' Cc= 0.900
			n= 0.013, Flo	w Area= 0.20 st	f
#2	Device 1	882.80'	12.0" Horiz. C	Orifice/Grate (C= 0.600
				flow at low hea	
#3	Primary	883.00'	•		ad-Crested Rectangular Weir
			` ,		0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.5	-	
					61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.2	0 3.32	

Primary OutFlow Max=1.78 cfs @ 12.15 hrs HW=883.20' TW=877.45' (Dynamic Tailwater)

1=Culvert (Barrel Controls 0.62 cfs @ 3.18 fps)

2=Orifice/Grate (Passes 0.62 cfs of 2.40 cfs potential flow)

-3=Broad-Crested Rectangular Weir (Weir Controls 1.15 cfs @ 1.14 fps)

Summary for Link 21L: Ag. Ditch #4 Tributary

Inflow Area = 37.620 ac, 33.12% Impervious, Inflow Depth = 5.98" for 200-yr event

Inflow = 135.72 cfs @ 12.46 hrs, Volume= 18.735 af

Primary = 135.64 cfs @ 12.73 hrs, Volume= 18.735 af, Atten= 0%, Lag= 16.1 min

Routed to Link 22L: Combined to Ag Ditch #4

Primary outflow = Inflow delayed by 15.8 min, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 22L: Combined to Ag Ditch #4

Inflow Area = 634.952 ac, 10.79% Impervious, Inflow Depth > 3.46" for 200-yr event

Inflow = 508.42 cfs @ 14.27 hrs, Volume= 182.835 af

Primary = 508.42 cfs @ 14.27 hrs, Volume= 182.835 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Fixed water surface Elevation= 856.60'

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Summary for Link 24L: Door Creek Combined

Inflow Area = 39.177 ac, 13.85% Impervious, Inflow Depth = 3.85" for 200-yr event

Inflow = 109.38 cfs @ 12.50 hrs, Volume= 12.561 af

Primary = 109.38 cfs @ 12.50 hrs, Volume= 12.561 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 25L: Combine

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link 56L: Lag to Door Creek

Inflow Area = 0.750 ac, 0.00% Impervious, Inflow Depth = 3.09" for 200-yr event

Inflow = 3.00 cfs @ 12.19 hrs, Volume= 0.193 af

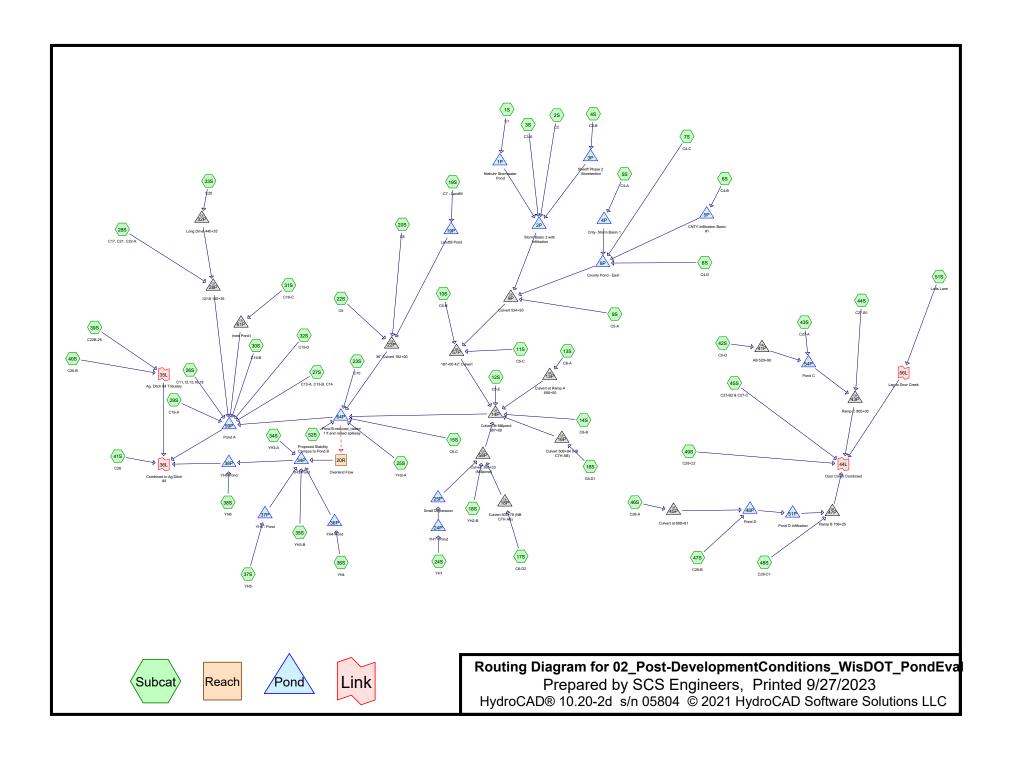
Primary = 3.00 cfs @ 12.62 hrs, Volume= 0.193 af, Atten= 0%, Lag= 25.6 min

Routed to Link 24L: Door Creek Combined

Primary outflow = Inflow delayed by 25.6 min, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

HydroCAD Output Files

• Post-Development Conditions Model



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Rainfall Events Listing (selected events)

Event#	Event	Storm Type	Curve	Mode	Duration	B/B	Depth	AMC
	Name				(hours)		(inches)	
1	1-yr	MSE 24-hr	4	Default	24.00	1	2.49	2
2	2-yr	MSE 24-hr	4	Default	24.00	1	2.84	2
3	5-yr	MSE 24-hr	4	Default	24.00	1	3.45	2
4	10-yr	MSE 24-hr	4	Default	24.00	1	4.09	2
5	100-yr	MSE 24-hr	4	Default	24.00	1	6.66	2
6	200-yr	MSE 24-hr	4	Default	24.00	1	7.53	2
7	500-yr	MSE 24-hr	4	Default	24.00	1	8.94	2

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Summary for Subcatchment 1S: C1

Runoff = 9.99 cfs @ 12.13 hrs, Volume= 0.534 af, Depth= 1.37"

Routed to Pond 1P: Niebuhr Stormwater Pond

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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription					
*	3.	370	98							
	1.	300	61	>75%	75% Grass cover, Good, HSG B					
	4.	670	88	Weig	hted Aver	age				
	1.	300		27.8	4% Pervio	us Area				
	3.	370		72.10	6% Imperv	∕ious Area				
	Тс	Lengt	th S	Slope	Velocity	Capacity	Description			
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)				
	6.0						Direct Entry.			

Summary for Subcatchment 2S: C2

Runoff = 1.89 cfs @ 12.55 hrs, Volume= 0.286 af, Depth= 0.35"

Routed to Pond 2P : Storm Basin 2 with Infiltration

	Area	(ac) C	N Des	cription					
*	1.	020 9	98						
	5.	655 6	31 >75°	>75% Grass cover, Good, HSG B					
	0.	685 5		Woods/grass comb., Good, HSG B					
*	2.			Row crops, SR + CR, Good, HSG B					
				Weighted Average					
		725	•	3% Pervio					
		020		_	ious Area				
	•	020		. 70 m.po.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
	Тс	Length	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	'			
	8.0	91	0.0830	0.19	, ,	Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.82"			
	6.4	59	0.0300	0.15		Sheet Flow,			
						Cultivated: Residue>20% n= 0.170 P2= 2.82"			
	11.9	573	0.0080	0.80		Shallow Concentrated Flow,			
						Cultivated Straight Rows Kv= 9.0 fps			
	3.3	337	0.0030	1.69	11.17	Channel Flow,			
						Area= 6.6 sf Perim= 13.4' r= 0.49' n= 0.030			
	1.1	224	0.0050	3.31	10.40	Pipe Channel,			
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
						n= 0.020 Corrugated PE, corrugated interior			
	30.7	1 29/	Total						

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Summary for Subcatchment 3S: C3-A

Runoff = 4.59 cfs @ 12.37 hrs, Volume= 0.443 af, Depth= 0.78"

Routed to Pond 2P: Storm Basin 2 with Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

Area	(ac) C	N Des	cription		
* 2.	890 9	98			
3.	639 6	31 >75°	% Grass c	over, Good	, HSG B
0.	273	98 Wate	er Surface	, HSG B	
6.	802 7	78 Weig	ghted Aver	age	
3.	639	53.5	0% Pervio	us Area	
3.	163	46.5	0% Imper	ious Area	
Tc	Length	Slope	Velocity	Capacity	Description
<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)	
12.1	86	0.0260	0.12		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
0.9	68	0.0220	1.24		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 2.82"
9.1	1,026	0.0050	1.88	15.43	•
					Bot.W=0.00' D=1.00' Z= 8.2 '/' Top.W=16.40'
					n= 0.035
1.4	224	0.0050	2.76	8.66	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.024
0.1	59	0.0056	7.06	49.91	Pipe Channel,
					36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'
					n= 0.013
23.6	1,463	Total			

Summary for Subcatchment 4S: C3-B

Runoff = 1.75 cfs @ 12.13 hrs, Volume= 0.094 af, Depth= 1.52" Routed to Pond 3P : Sheriff Phase 2 Bioretention

	Area (ac)	CN	Description						
*	0.580	98							
	0.165	61	>75% Grass cover, Good, HSG B						
	0.745	90	Weighted Average						
	0.165		22.15% Pervious Area						
	0.580		77.85% Impervious Area						

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Tc	Length		,	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry,

Summary for Subcatchment 5S: C4-A

Runoff = 6.14 cfs @ 12.13 hrs, Volume= 0.344 af, Depth= 1.86"

Routed to Pond 4P: Cnty-Storm Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription		
*	2.	010	98				
	0.	210	61	>75%	% Grass co	over, Good	H, HSG B
	2.	220	94	Weig	hted Aver	age	
	0.	210		9.46	% Perviou	s Area	
	2.	010		90.5	4% Imperv	ious Area	
	Тс	Lengt	th S	Slope	Velocity	Capacity	Description
	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 6S: C4-B

Runoff = 3.02 cfs @ 12.32 hrs, Volume= 0.271 af, Depth= 0.78"

Routed to Pond 5P: CNTY-Infiltration Basin #1

	Area (ac)	CN	Description
*	1.560	98	
	1.455	61	>75% Grass cover, Good, HSG B
1.150 74 >75% Gr		74	>75% Grass cover, Good, HSG C
	4.165	78	Weighted Average
	2.605		62.55% Pervious Area
	1.560		37.45% Impervious Area

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_	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	13	0.0200	0.86		Sheet Flow,
	0.9	10	0.2400	0.19		Smooth surfaces n= 0.011 P2= 2.82" Sheet Flow,
	14.4	127	0.0370	0.15		Grass: Dense n= 0.240 P2= 2.82" Sheet Flow,
	17.7	121	0.0070	0.13		Grass: Dense n= 0.240 P2= 2.82"
	1.6	115	0.0280	1.17		Shallow Concentrated Flow,
_	3.3	521	0.0080	2.66	15.95	Short Grass Pasture Kv= 7.0 fps Trap/Vee/Rect Channel Flow, Bot.W=2.00' D=1.00' Z= 4.0 '/' Top.W=10.00' n= 0.035
	20.5	786	Total			

Summary for Subcatchment 7S: C4-C

Runoff = 0.59 cfs @ 12.14 hrs, Volume= 0.034 af, Depth= 0.60"

Routed to Pond 6P: County Pond - East

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription		
*	0.	230	98				
	0.	440	61	>75%	√ Grass co	over, Good	I, HSG B
	0.670 74 Weighted Average						
	0.	440		65.6	7% Pervio	us Area	
	0.230			34.33% Impervious Area			
	Тс	Lengt	h S	Slope	Velocity	Capacity	Description
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 8S: C4-D

Runoff = 19.55 cfs @ 12.13 hrs, Volume= 1.055 af, Depth= 1.52"

Routed to Pond 6P: County Pond - East

	Area (ac)	CN	Description
*	6.030	98	
	1.350	61	>75% Grass cover, Good, HSG B
	0.300	98	Water Surface, HSG B
	0.640	74	>75% Grass cover, Good, HSG C
	8.320	90	Weighted Average
	1.990		23.92% Pervious Area
	6.330		76.08% Impervious Area

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	•
6.0					Direct Entry,

Summary for Subcatchment 9S: C5-A

Runoff = 0.33 cfs @ 12.16 hrs, Volume= 0.029 af, Depth= 0.27"

Routed to Pond 9P: Culvert 534+50

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

_	Area	(ac) (N Des	cription		
	1.	220	61 >75	% Grass c	over, Good	, HSG B
*	0.	100	98			
	1.	320	64 Wei	ghted Aver	age	
	1.	220	92.4	2% Pervio	us Area	
	0.	100	7.58	% Impervi	ous Area	
	_				_	
	Tc	Length		Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	1.3	16	0.2400	0.21		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	1.7	533	0.0300	5.30	21.19	· · · · · · · · · · · · · · · · · · ·
						Bot.W=0.00' D=1.00' Z= 4.0 '/' Top.W=8.00'
						n= 0.030
_	3.0					Direct Entry, increase to min TOC
	6.0	549	Total			

Summary for Subcatchment 10S: C5-B

Runoff = 2.14 cfs @ 12.13 hrs, Volume= 0.131 af, Depth= 2.26"

Routed to Pond 57P: 187+00 42" Culvert

	Area	(ac)	CN	Desc	cription		
*	0.	693	98				
	0.693 100.00% Impervious Area				00% Impe	rvious Area	ı
	Тс	Leng	th :	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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Summary for Subcatchment 11S: C5-C

Runoff = 4.44 cfs @ 12.17 hrs, Volume= 0.272 af, Depth= 0.73"

Routed to Pond 57P: 187+00 42" Culvert

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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

_	Area	(ac) (N Des	cription		
*	1.	898	98			
	2.	544	61 >75°	% Grass c	over, Good	, HSG B
	4.	442	77 Wei	ghted Avei	rage	
	2.	544	57.2	7% Pervio	us Area	
	1.	898	42.7	3% Imper	vious Area	
	Тс	Length	•	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.5	33	0.0270	1.17		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	4.8	76	0.2100	0.27		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.3	869	0.0150	4.36	61.01	Trap/Vee/Rect Channel Flow,
						Bot.W=10.00' D=1.00' Z= 4.0 '/' Top.W=18.00'
						n= 0.035
	8.6	978	Total			

Summary for Subcatchment 12S: C5-E

Runoff = 1.77 cfs @ 12.16 hrs, Volume= 0.104 af, Depth= 0.83" Routed to Pond 14P : Culvert at Millpond 387+00

	Area (ac)	CN	Description
*	0.720	98	
	0.740	61	>75% Grass cover, Good, HSG B
	0.040	74	>75% Grass cover, Good, HSG C
	1.500	79	Weighted Average
	0.780		52.00% Pervious Area
	0.720		48.00% Impervious Area

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	18	0.0180	0.88		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	2.2	19	0.0950	0.15		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	5.7	645	0.0050	1.88	15.05	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'
						n= 0.035
_	8.2	682	Total			

Summary for Subcatchment 13S: C6-A

Runoff = 2.68 cfs @ 12.17 hrs, Volume=

0.171 af, Depth= 0.60"

Routed to Pond 13P: Culvert at Ramp A 690+50

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac) (CN Des	cription		
*	0.	890	98			
	1.	690	61 >75	% Grass c	over, Good	, HSG B
	0.	830	74 >75	% Grass c	over, Good	, HSG C
	3.	410	74 Wei	ghted Avei	rage	
	2.	520	73.9	90% Pervio	us Area	
	0.	890	26.1	10% Imper	vious Area	
	Тс	Length			Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	3.6	65	0.3100	0.30		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	1.0	85	0.0390	1.38		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	3.9	431	0.0050	1.87	9.33	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 & 6.0 '/' Top.W=10.00'
_						n= 0.035
	8.5	581	Total			

Summary for Subcatchment 14S: C6-B

Runoff = 7.43 cfs @ 12.38 hrs, Volume=

0.753 af, Depth= 0.64"

Routed to Pond 14P: Culvert at Millpond 387+00

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	Area	(ac)	CN	Desc	cription		
*	* 3.360 98						
	5.070 61			>75%	√ Grass co	over, Good	, HSG B
_	5.590 74 >75% Grass cover, Good, I				√ Grass co	over, Good	, HSG C
	14.020 75 Weighted Average					age	
	10.660 76.03% Pervious Area						
	3.360			23.97% Impervious Area			
	Тс	Length		lope	Velocity	Capacity	Description
_	(min)	(feet) ((ft/ft)	(ft/sec)	(cfs)	
	18.7	148	0.0	0260	0.13		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	4.9	898	0.0	090	3.03	24.26	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 4.0 '/' Top.W=12.00'
							n= 0.035
	23.6	1,046	To	tal			

Summary for Subcatchment 15S: C6-C

Runoff = 6.75 cfs @ 12.13 hrs, Volume= 0.384 af, Depth= 1.95"

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription			
*	2.	020	98					
	0.	340	74	>75%	√ Grass co	over, Good	d, HSG C	
	2.	360	95	Weig	hted Aver	age		
	0.	340		14.4	1% Pervio	us Area		
	2.020			85.59% Impervious Area				
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	•	
	6.0						Direct Entry,	

Summary for Subcatchment 16S: C6-D1

Runoff = 0.41 cfs @ 12.50 hrs, Volume= 0.071 af, Depth= 0.24" Routed to Pond 16P : Culvert 509+94 (NB CTH AB)

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	Area	(ac)	CN	Desc	cription		
*	0.	040	98				
	2.	340	61	>75%	√ Grass co	over, Good	, HSG B
	0.	390	58	Woo	ds/grass d	omb., Goo	d, HSG B
*	0.	790	70	Row	crops, SR	+ CR, God	od, HSG B
	3.	560	63	Weig	hted Aver	age	
3.520 98.88% Pervious Area							
	0.040 1				% Impervi	ous Area	
	Tc	Lengt	h S	Slope	Velocity	Capacity	Description
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	23.0	26	5 0.	0500	0.19		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	0.9	22	3 0.	0240	4.07	18.31	Trap/Vee/Rect Channel Flow,
							Bot.W=0.00' D=1.00' Z= 6.0 & 3.0 '/' Top.W=9.00'
_							n= 0.035
	23.9	48	8 To	otal			

Summary for Subcatchment 17S: C6-D2

2.58 cfs @ 12.61 hrs, Volume= Runoff

0.418 af, Depth= 0.35"

Routed to Pond 18P: Culvert 505+79 (NB CTH AB)

	Area (ac)	CN	Description
*	1.795	98	
	3.625	61	>75% Grass cover, Good, HSG B
	0.305	74	>75% Grass cover, Good, HSG C
	5.110	58	Woods/grass comb., Good, HSG B
*	2.820	70	Row crops, SR + CR, Good, HSG B
*	0.580	79	Row crops, SR + CR, Good, HSG C
	14.235	67	Weighted Average
	12.440		87.39% Pervious Area
	1.795		12.61% Impervious Area

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	15.7	150	0.1150	0.16		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.82"
	7.2	545	0.0630	1.25		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	3.4	219	0.0450	1.06		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	6.7	335	0.0140	0.83		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.1	213	0.0160	3.32	13.26	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 '/' Top.W=8.00'
						n= 0.035
	0.4	150	0.0050	6.40	31.42	•
						30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63'
_						n= 0.012
	34.5	1.612	Total			

Summary for Subcatchment 18S: YH2-B

Runoff = 3.76 cfs @ 12.72 hrs, Volume= 0.755 af, Depth= 0.27" Routed to Pond 58P : Culvert 395+33 (Millpond)

	Area	(ac) C	N Desc	cription		
*	2.	510 9	98			
	11.	160 6	31 >75 ⁹	% Grass c	over, Good	, HSG B
	9.490				over, Good	
	2.			h, Good, I		,
				h, Good, I		
				ghted Aver		
		480		2% Pervio		
		510		% Impervi		
				, s , s s		
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	'
_	15.5	150	0.0430	0.16	,	Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	17.3	1,216	0.0280	1.17		Shallow Concentrated Flow,
		,				Short Grass Pasture Kv= 7.0 fps
	0.7	206	0.0100	4.91	3.86	·
						12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
						n= 0.012
	1.6	234	0.0040	2.38	38.12	Trap/Vee/Rect Channel Flow,
						Bot.W=8.00' D=1.00' Z= 8.0 '/ Top.W=24.00'
						n= 0.030
	0.1	35	0.0140	9.23	29.00	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.012

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3.3	527	0.0140	2.68	53.55	Trap/Vee/Rect Channel Flow, Bot.W=10.00' D=1.00' Z= 10.0 '/' Top.W=30.00' n= 0.050
38.5	2,368	Total			

Summary for Subcatchment 19S: C7 - Landfill

Runoff = 32.01 cfs @ 12.20 hrs, Volume= 2.089 af, Depth= 0.88"

Routed to Pond 19P: Landfill Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

4.4	^					_ , , _ ,				_	
(mi	n) (fe	eet)	(ft/ft)	(ft/sec)	(cfs)						
		_	Siohe	,		Describitori					
-	Tc Len	ath	Slope	Velocity	Capacity	Description					
	3.555										
	0.330		1.16	% Impervi	ous Area						
	28.090		98.8	4% Pervio	us Area						
	28.420	90	\\/oi	abtod Avor	2000						
0.330 98 Water Surface, HSG B											
	27.650	80	>75	>75% Grass cover, Good, HSG D							
	-				,	1100 D					
	0.440	96	Grav	el surface	HSG C						
Ar	ea (ac)	CN	Des	escription							
_	() ON D : (:										

11.0 Direct Entry, TOC from Landfill SWMP

Summary for Subcatchment 20S: C8

Runoff = 7.43 cfs @ 12.23 hrs, Volume= 0.550 af, Depth= 0.78"

Routed to Pond 22P: 36" Culvert 182+00

	Area (ac)	CN	Description
*	2.980	98	
	2.750	61	>75% Grass cover, Good, HSG B
	2.714	74	>75% Grass cover, Good, HSG C
	8.444	78	Weighted Average
	5.464	64.71% Pervious Area	
	2.980		35.29% Impervious Area

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_	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.6	31	0.0140	0.89		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	1.6	10	0.0520	0.10		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	5.6	1,329	0.0170	3.93	11.78	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00'
						n= 0.030
	5.9	395	0.0250	1.11		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
_	13.7	1,765	Total			·

Summary for Subcatchment 22S: C9

Runoff = 1.21 cfs @ 12.17 hrs, Volume= 0.073 af, Depth= 0.83"

Routed to Pond 22P: 36" Culvert 182+00

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

_	Area	(ac) (CN Des	cription			
*	0.	520	98				
	0.530 61		61 >75	% Grass c	over, Good	, HSG B	
	1.	050	79 Wei	ghted Avei	rage		
	0.	530	50.4	8% Pervio	us Area		
	0.	520	49.5	2% Imper	vious Area		
	Тс	Length		Velocity	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	0.3	19	0.0200	0.93		Sheet Flow,	
						Smooth surfaces n= 0.011 P2= 2.82"	
	1.8	19	0.1400	0.17		Sheet Flow,	
						Grass: Dense n= 0.240 P2= 2.82"	
	6.5	572	0.0030	1.46	11.66	Trap/Vee/Rect Channel Flow,	
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'	
						n= 0.035	
	8.6	610	Total				

Summary for Subcatchment 23S: C10

Runoff = 1.14 cfs @ 12.15 hrs, Volume= 0.064 af, Depth= 0.83" Routed to Pond 64P : Pond B-reduced raised 1 ft and raised spillway

02_Post-DevelopmentConditions_WisDOT_PondEvalPrepared by SCS Engineers

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	Area	(ac) C	N Des	cription						
*	0.	404	98							
	0.	374	61 >75	>75% Grass cover, Good, HSG B						
0.153 74 >75% Grass cover, Goo						, HSG C				
0.931 79 Weighted A					age					
	0.	527	56.6	56.61% Pervious Area						
0.404			43.3	43.39% Impervious Area						
	Тс	Length	•	Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	0.3	18	0.0200	0.92		Sheet Flow,				
						Smooth surfaces n= 0.011 P2= 2.82"				
	1.7	19	0.1700	0.19		Sheet Flow,				
						Grass: Dense n= 0.240 P2= 2.82"				
	5.5	475	0.0030	1.45	8.71	Trap/Vee/Rect Channel Flow,				
						Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'				
						n= 0.035				
	7.5	512	Total							

Summary for Subcatchment 24S: YH1

Runoff = 8.90 cfs @ 12.97 hrs, Volume= 1.949 af, Depth= 0.35"

Routed to Pond 24P: YH1 - Pond

	Area	(ac) (N D	esc	ription				
22.700 61 >75% Grass cover, Good, HSG B									
	27.	890	74 >7	75%	% Grass co	over, Good	, HSG C		
	4.	830	48 Bi	Brush, Good, HSG B					
	8.	800	65 B	rus	h, Good, F	HSG C			
_	2.	180	98 W	/ate	er Surface	, HSG B			
	66.	400	67 W	/eig	hted Aver	age			
	64.	220	96	6.72	2% Pervio	us Area			
	2.	180	3.	.28°	% Impervi	ous Area			
	Tc	Length			Velocity	Capacity	Description		
_	(min)	(feet)	(ft/1	ft)	(ft/sec)	(cfs)			
	21.0	150	0.020	00	0.12		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.82"		
	36.9	2,018	0.017	70	0.91		Shallow Concentrated Flow,		
_							Short Grass Pasture Kv= 7.0 fps		
	57.9	2 168	Total						

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Summary for Subcatchment 25S: YH2-A

Runoff = 5.79 cfs @ 12.47 hrs, Volume= 0.713 af, Depth= 0.49"

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription		
*	0.460 98						
	6.	980	61	>75%	% Grass co	over, Good	, HSG B
	4.	750	74	>75%	% Grass co	over, Good	, HSG C
	2.	290	58	Woo	ds/grass c	omb., Goo	d, HSG B
	0.200 48 Brush, Good, HS			h, Good, F	HSG B		
2.930 98 Water Surface, HSG B							
17.610 71 Weighted Average							
	14.220 80.75% Pervious Area					us Area	
	3.390			19.25% Impervious Area			
	Тс	Lengtl		Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	18.6	150	0.	0270	0.13		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	8.3	49:	3 0.	0200	0.99		Shallow Concentrated Flow,
							Short Grass Pasture Kv= 7.0 fps
	1.1	37	5 0.	0280	5.77	80.72	
							Bot.W=4.00' D=1.00' Z= 15.0 & 5.0 '/' Top.W=24.00'
		_					n= 0.030
	0.1	32	2 0.	3300	4.02		Shallow Concentrated Flow,
_							Short Grass Pasture Kv= 7.0 fps
	20 1	1 05	٦ T	-+-1			

28.1 1,050 Total

Summary for Subcatchment 26S: C11,12,15,16,18

Runoff = 18.43 cfs @ 12.13 hrs, Volume= 0.979 af, Depth= 1.17"

Routed to Pond 59P: Pond A

	Area (ac)	CN	Description			
*	6.350	98				
	3.330	61	>75% Grass cover, Good, HSG B			
	0.360	74	>75% Grass cover, Good, HSG C			
	10.040	85	Weighted Average			
	3.690 36.75% Pervious Area					
	6.350		63.25% Impervious Area			

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	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
<u>-</u>	6.0					Direct Entry,

Summary for Subcatchment 27S: C13-A, C13-B, C14

Runoff = 7.67 cfs @ 12.28 hrs, Volume= 0.717 af, Depth= 0.45"

Routed to Pond 59P: Pond A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription					
*	4.	590	98							
*	10.	730	61							
	0.	643	74	>75%	>75% Grass cover, Good, HSG C					
	2.	716	55		ds, Good,					
_	0.424 70 Woods, Good, HSG C				<u>ds, Good,</u>	HSG C				
19.103 70 Weighted Average						•				
		513			7% Pervio					
	4.590		24.0	3% Imper	/ious Area					
	_									
	Tc	Leng		Slope	Velocity	Capacity	Description			
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)				
	0.3	1	8 (0.0200	0.92		Sheet Flow,			
							Smooth surfaces n= 0.011 P2= 2.82"			
	4.9	7	'5 (0.1900	0.25		Sheet Flow,			
							Grass: Dense n= 0.240 P2= 2.82"			
	10.2	1,34	0 (0.0050	2.20	20.87	Trap/Vee/Rect Channel Flow,			
							Bot.W=4.00' D=1.00' Z= 6.0 & 5.0 '/' Top.W=15.00'			
_							n= 0.035			
	15.4	1,43	3 -	Total						

Summary for Subcatchment 28S: C17, C21, C22-A

Runoff = 3.71 cfs @ 12.21 hrs, Volume= 0.265 af, Depth= 0.64"

Routed to Pond 28P: 12/18 140+35

	Area (ac)	CN	Description				
*	1.830	98					
	2.930	61	>75% Grass cover, Good, HSG B				
	0.180	80	>75% Grass cover, Good, HSG D				
	4.940	75	Weighted Average				
	3.110	62.96% Pervious Area					
	1.830		37.04% Impervious Area				

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	17	0.0240	0.97		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	3.0	46	0.2490	0.26		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	8.5	1,279	0.0064	2.51	22.55	Trap/Vee/Rect Channel Flow,
		,				Bot.W=4.00' D=1.00' Z= 6.0 & 4.0 '/' Top.W=14.00'
						n= 0.035
_	11.8	1,342	Total			

Summary for Subcatchment 29S: C19-A

Runoff = 3.69 cfs @ 12.28 hrs, Volume= 0.311 af, Depth= 0.69"

Routed to Pond 59P: Pond A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription		
*	2.	140	98	98			
*	3.	280	61	Gras	s HSG B		
	5.420 76			Weighted Average			
		280		_	2% Pervio	•	
	_	140		39.4	8% Imperv	ious Area	
	Tc	Length	າ ເ	Slope	Velocity	Capacity	Description
	(min)	(feet		(ft/ft)	(ft/sec)	(cfs)	•
	12.6	150	0.	.0720	0.20	,	Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	2.1	129	0.	.0210	1.01		Shallow Concentrated Flow,
							Short Grass Pasture Kv= 7.0 fps
	1.1	239	0.	.0300	3.52		Shallow Concentrated Flow,
							Paved Kv= 20.3 fps
	1.2	132	2 0.	.0050	1.87	12.18	Trap/Vee/Rect Channel Flow,
							Bot.W=0.00' D=1.00' Z= 9.0 & 4.0 '/' Top.W=13.00'
							n= 0.035
	17.0	650) To	otal			

Summary for Subcatchment 30S: C19-B

Runoff = 0.06 cfs @ 12.20 hrs, Volume= 0.009 af, Depth= 0.19"

Routed to Pond 59P: Pond A

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_	Area	(ac)	CN	Desc	cription		
	0.	0.560 61			√ Grass co	over, Good	, HSG B
0.560 100.00% Pervious Area						ous Area	
	_						
	Tc	Leng	th S	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 31S: C19-C

Runoff = 4.37 cfs @ 12.13 hrs, Volume= 0.233 af, Depth= 1.30"

Routed to Pond 61P: (new Pond)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription					
*	0.	894	98							
	1.	252	80	>75%	√ Grass co	over, Good	H, HSG D			
	2.146 87 Weighted Average									
	1.252 58.34% Pervious Area									
	0.894			41.66% Impervious Area						
	Tc	Leng		Slope	Velocity	Capacity	Description			
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	6.0						Direct Entry,			

Summary for Subcatchment 32S: C19-D

Runoff = 17.21 cfs @ 12.19 hrs, Volume= 1.117 af, Depth= 1.45"

Routed to Pond 59P: Pond A

	Area (ac)	CN	Description
*	2.665	98	
	1.463	61	>75% Grass cover, Good, HSG B
	1.444	80	>75% Grass cover, Good, HSG D
	3.700	98	Water Surface, HSG B
	9.272	89	Weighted Average
	2.907		31.35% Pervious Area
	6.365		68.65% Impervious Area

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	Tc	3	Slope	,		Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	8.2	100	0.0930	0.20		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.1	279	0.0450	1.48		Shallow Concentrated Flow,
_						Short Grass Pasture Kv= 7.0 fps
	11.3	379	Total			

Summary for Subcatchment 33S: C20

Runoff = 1.07 cfs @ 12.31 hrs, Volume=

0.123 af, Depth= 0.32"

Routed to Pond 32P: Long Drive 440+35

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac) (CN Des	cription		
*	0.660 98		98			
	3.	910	61 >75	% Grass c	over, Good	, HSG B
	4.	570	66 Wei	ghted Avei	age	
	3.	910	85.5	6% Pervio	us Area	
	0.	660	14.4	4% Imper	vious Area	
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.3	12	0.0100	0.64		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	11.3	101	0.0430	0.15		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.9	723	0.0140	3.08	10.79	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 & 3.0 '/' Top.W=7.00'
_						n= 0.035
	15.5	836	Total			

Summary for Subcatchment 34S: YH3-A

Runoff = 0.91 cfs @ 12.22 hrs, Volume=

0.085 af, Depth= 0.32"

Routed to Pond 34P: YH3-Pond

_	Area (ac)	CN	Description						
*	0.357	98							
	2.668	61	>75% Grass cover, Good, HSG B						
	0.131	74	>75% Grass cover, Good, HSG C						
	3.156	66	Weighted Average						
	2.799		88.69% Pervious Area						
	0.357		11.31% Impervious Area						

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Tc	Length	Slope	Velocity	Capacity	Description
 (min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
 10.0					Direct Entry,

Summary for Subcatchment 35S: YH3-B

Runoff = 12.87 cfs @ 12.92 hrs, Volume= 3.356 af, Depth= 0.22"

Routed to Pond 34P: YH3-Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

Are	a (ac)	CN	N Desc	cription					
*	* 2.750 98								
11	111.110 61		1 >759	>75% Grass cover, Good, HSG B					
2	25.680	74	4 >759	% Grass co	over, Good	, HSG C			
3	35.680	48	Brus	Brush, Good, HSG B					
	6.860	65	5 Brus	h, Good, F	HSG C				
	4.200	98	3 Wate	er Surface	, HSG B				
18	36.280	62	2 Weig	ghted Aver	age				
17	9.330		96.2	7% Pervio	us Area				
	6.950		3.73	% Impervi	ous Area				
Т		-	Slope	Velocity	Capacity	Description			
(min	ı) (fe	et)	(ft/ft)	(ft/sec)	(cfs)				
19.	9 1	50	0.0230	0.13		Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.82"			
25.	0 1,6	62	0.0250	1.11		Shallow Concentrated Flow,			
						Short Grass Pasture Kv= 7.0 fps			
1.3	2 2	19	0.0090	2.95	29.50	Trap/Vee/Rect Channel Flow,			
						Bot.W=0.00' D=1.00' Z= 10.0 '/' Top.W=20.00'			
						n= 0.030			
2.	5 8	85	0.0110	5.98	7.34	I a contract of the contract o			
						15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'			
						n= 0.012			
48.	6 2,9	16	Total						

Summary for Subcatchment 36S: YH4

Runoff = 2.08 cfs @ 12.42 hrs, Volume= 0.299 af, Depth= 0.29"

Routed to Pond 36P: YH4-Pond

MSE 24-hr 4 1-yr Rainfall=2.49"

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	Area	(ac) C	N Des	cription						
	9.630 61 >75% Grass cover, Good, HSG B									
	2.070 74 >75% Grass cover, Good, HSG C									
	0.520 98 Water Surface, HSG A									
_	12.220 65 Weighted Average									
	11.	700		4% Pervio	0					
	0.	520	4.26	3% Impervi	ous Area					
	Tc	Length	Slope	Velocity	Capacity	Description				
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·				
	13.0	150	0.0660	0.19		Sheet Flow,				
						Grass: Dense n= 0.240 P2= 2.82"				
	8.6	470	0.0170	0.91		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
_	21.6	620	Total							

Summary for Subcatchment 37S: YH5

Runoff = 3.08 cfs @ 12.15 hrs, Volume= 0.173 af, Depth= 0.88"

Routed to Pond 37P: YH5 - Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription							
*	0.	330	98									
	1.	130	61	>75%	75% Grass cover, Good, HSG B							
	0.	890	98	Wate	er Surface,	, HSG A						
	2.	350	80	Weig	hted Aver	age						
	1.	130		48.0	9% Pervio	us Area						
	1.	220		51.9	1% Imperv	∕ious Area						
	Tc (min)	Leng		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description					
	0.2	1	11 (0.0300	0.98		Sheet Flow,					
	7.1	8	37 (0.1000	0.20		Smooth surfaces n= 0.011 P2= 2.82" Sheet Flow, Grass: Dense n= 0.240 P2= 2.82"					
	7.3	Ç	98	Total	•	•						

Summary for Subcatchment 38S: YH6

Runoff = 15.81 cfs @ 12.62 hrs, Volume= 2.677 af, Depth= 0.32"

Routed to Pond 38P: YH6-Pond

02_Post-DevelopmentConditions_WisDOT_PondEvalPrepared by SCS Engineers

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	Area	(ac)	CN	Desc	Description							
	54.	390	61	, HSG B								
	4.	340	48	Brus	Brush, Good, HSG B							
	7.	606	65	Brus	Brush, Good, HSG C							
	26.	837	73	Brus	h, Good, F	HSG D						
_	6.484 98 Water Surface, HSG A											
	99.	657	66	Weig	hted Aver	age						
	93.	173		93.4	9% Pervio	us Area						
	6.	484		6.519	% Impervi	ous Area						
	Тс	Length		Slope	Velocity	Capacity	Description					
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
	19.2	150	0.0	0250	0.13		Sheet Flow,					
							Grass: Dense n= 0.240 P2= 2.82"					
	15.4	889	0.0	0190	0.96		Shallow Concentrated Flow,					
_							Short Grass Pasture Kv= 7.0 fps					
	34.6	1,039	То	tal								

Summary for Subcatchment 39S: C22B-25

Runoff = 18.01 cfs @ 12.24 hrs, Volume= 1.340 af, Depth= 0.88"

Routed to Link 35L : Ag. Ditch #4 Tributary

no re all, Bepair clos

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area (ac)		CN Des	Description						
*	6.210 98		98	•						
	_	320		% Grass c	over, Good	. HSG B				
		359			over, Good	•				
	6.340 80			>75% Grass cover, Good, HSG D						
_	18.229 80			Weighted Average						
	12.019			33% Pervio						
	6.210			7% Imper						
	Tc	Length	Slope	Velocity	Capacity	Description				
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	0.4	29	0.0250	1.10		Sheet Flow,				
						Smooth surfaces n= 0.011 P2= 2.82"				
	2.4	30	0.1740	0.20		Sheet Flow,				
						Grass: Dense n= 0.240 P2= 2.82"				
	6.1	100	0.0015	0.27		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
	5.6	874	0.0069	2.58	23.23	Trap/Vee/Rect Channel Flow,				
						Bot.W=0.00' D=1.00' Z= 9.0 '/' Top.W=18.00'				
_						n= 0.030				
	4 A E	4 000	Tatal							

14.5 1,033 Total

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Summary for Subcatchment 40S: C25-B

Runoff = 1.25 cfs @ 12.14 hrs, Volume= 0.067 af, Depth= 0.83"

Routed to Link 35L : Ag. Ditch #4 Tributary

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription		
*	0.	480	98				
*	0.	490	61				
	0.970 79 Weighted Average						
	0.490 50.52% Pervious Area						
	0.480			49.48% Impervious Area			
	Тс	Lengt	th S	Slope	Velocity	Capacity	Description
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry.

Summary for Subcatchment 41S: C26

Runoff = 1.80 cfs @ 13.19 hrs, Volume= 0.460 af, Depth= 0.32"

Routed to Link 36L: Combined to Ag Ditch #4

Description

Area (ac) CN

Alea	(ac)	IA Desi	лрион		
0.	040 6	31 >759	% Grass c	over, Good	, HSG B
0.				over, Good	
			h, Good, I	,	,
			h, Good, I		
			h, Good, I		
-					
			hted Aver		
17.	136	100.	00% Pervi	ous Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
40.2	150	0.0110	0.06		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 2.82"
9.7	380	0.0170	0.65		Shallow Concentrated Flow,
0.7	000	0.0170	0.00		Woodland Kv= 5.0 fps
0.4	58	0.0050	2.76	8.66	•
0.4	30	0.0030	2.70	0.00	
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.024
0.2	59	0.0260	4.99	29.91	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'
					n= 0.030
19.3	2,177	0.0007	1.88	53.14	Trap/Vee/Rect Channel Flow,
					Bot.W=4.00' D=3.00' Z= 1.8 '/' Top.W=14.80'
					n= 0.030

MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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69.8 2,824 Total

Summary for Subcatchment 42S: C5-D

Runoff = 1.66 cfs @ 12.19 hrs, Volume= 0.122 af, Depth= 0.45"

Routed to Pond 41P: AB 520+90

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription				
*	0.	700	98						
	2.	260	61	>759	% Grass co	over, Good	, HSG B		
	0.	290	74	>759	% Grass co	over, Good	, HSG C		
	3.	250	70	Weig	hted Aver	age			
2.550 78.46% Pervious Area									
	0.	700		21.5	4% Imperv	∕ious Area			
	Тс	Lengtl	า ร	Slope	Velocity	Capacity	Description		
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	2.0	23	3 0.	1600	0.19		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.82"		
	7.1	800	0.	0050	1.87	9.33	Trap/Vee/Rect Channel Flow,		
							Bot.W=0.00' D=1.00' Z= 4.0 & 6.0 '/' Top.W=10.00'		
_							n= 0.035		
	9.1	823	3 To	otal					

Summary for Subcatchment 43S: C27-A

Runoff = 5.27 cfs @ 12.14 hrs, Volume= 0.283 af, Depth= 0.88"

Routed to Pond 54P: Pond C

_	Area	(ac)	CN	Desc	Description						
*	1.	626	98								
	1.	828	61	>75%	>75% Grass cover, Good, HSG B						
	0.	390	98	Wate	er Surface	, 0% imp, F	HSG B				
	3.	844	80	Weig	hted Aver	age					
	2.	218		57.7	0% Pervio	us Area					
	1.	626		42.3	0% Imper	ious Area	1				
	-			01		0 :	D				
	Тс	Leng	•	Slope	Velocity	Capacity	•				
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)					
	6.0						Direct Entry,				

MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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Summary for Subcatchment 44S: C27-B1

Runoff = 0.60 cfs @ 12.15 hrs, Volume= 0.036 af, Depth= 0.49"

Routed to Pond 43P: Ramp C 805+00

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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription		
*	0.	240	98	3			
	0.	648	61	>759	% Grass co	over, Good	, HSG B
	0.	888	71	Weig	hted Aver	age	
	0.	648		72.9	7% Pervio	us Area	
	0.	240		27.0	3% Imper\	/ious Area	
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	3.2	5	50	0.2500	0.26		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
_	2.8						Direct Entry, Increase to min TOC
	6.0	5	50	Total			

Summary for Subcatchment 45S: C27-B2 & C27-C

Runoff = 3.68 cfs @ 12.48 hrs, Volume= 0.460 af, Depth= 0.49"

Routed to Link 44L: Door Creek Combined

	Area (ac)	CN	Description			
*	2.620	98	impervious			
	6.800	61	>75% Grass cover, Good, HSG B			
	0.246	80	>75% Grass cover, Good, HSG D			
*	1.695	70	Row crops, SR + CR, Good, HSG B			
	11.361	71	Weighted Average			
	8.741		76.94% Pervious Area			
	2.620		23.06% Impervious Area			

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
 13.6	150	0.0300	0.18		Sheet Flow,
					Cultivated: Residue>20% n= 0.170 P2= 2.82"
2.3	150	0.0142	1.07		Shallow Concentrated Flow,
					Cultivated Straight Rows Kv= 9.0 fps
4.9	274	0.0180	0.94		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
7.5	1,619	0.0130	3.60	30.61	Trap/Vee/Rect Channel Flow,
					Bot.W=4.00' D=1.00' Z= 3.0 & 6.0 '/' Top.W=13.00'
					n= 0.035
0.6	159	0.0770	4.16		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
28.9	2,352	Total			

Summary for Subcatchment 46S: C28-A

Runoff = 1.94 cfs @ 12.30 hrs, Volume= 0.233 af, Depth= 0.29"

Routed to Pond 45P: Culvert at 698+81

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac) (ON Des	cription		
*	0.	950	98			
	2.	920	61 >75	% Grass c	over, Good	, HSG B
	3.	110	55 Woo	ods, Good,	HSG B	
*	2.	540	70 Row	/ crops, SF	R + CR, Go	od, HSG B
	9.	520	65 Wei	ghted Aver	age	
	8.	570) 2% Pervio		
	0.	950	9.98	3% Impervi	ous Area	
				•		
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
	12.0	140	0.1950	0.19		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.82"
	0.8	132	0.0970	2.80		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	1.7	509	0.0350	4.98	39.82	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'
						n= 0.035
	14.5	781	Total			

Summary for Subcatchment 47S: C28-B

Runoff = 4.10 cfs @ 12.14 hrs, Volume= 0.225 af, Depth= 0.73"

Routed to Pond 46P: Pond D

MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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	Area	(ac)	C١	l Desc	cription		
*	1.	023	98	3			
	2.	055	6	1 >75 ⁹	% Grass co	over, Good	, HSG B
_	0.	603	98	3 Wate	er Surface	, HSG B	
	3.	681	77	7 Weig	ghted Aver	age	
	2.	055		55.8	3% Pervio	us Area	
	1.	626		44.1	7% Imper\	/ious Area	
	_			0.1			D
	Tc	Leng		Slope	Velocity	Capacity	Description
	(min)	(fee	<u>et)</u>	(ft/ft)	(ft/sec)	(cfs)	
	4.7	8	37	0.2900	0.31		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	1.4						Direct Entry, Increase to min TOC
	6.1	8	37	Total			

Summary for Subcatchment 48S: C28-C1

Runoff = 0.77 cfs @ 12.15 hrs, Volume= 0.047 af, Depth= 0.49"

Routed to Pond 47P: Ramp B 706+25

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	ription		
*	0.	300	98				
	0.	0.850 61 >75% Grass cover, Good					, HSG B
	1.150 71 Weighted Average						
	0.850 73.91% Pervious Area					us Area	
	0.	300		26.09	9% Imperv	ious Area	
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	6.0				, ,	,	Direct Entry,

Summary for Subcatchment 49S: C28-C2

Runoff = 3.60 cfs @ 12.24 hrs, Volume= 0.288 af, Depth= 0.56"

Routed to Link 44L: Door Creek Combined

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	Area	(ac)	CN	Desc	cription		
*	1.	510	98	1			
	3.	400	61	>75%	% Grass co	over, Good	, HSG B
	1.	120	80	>75%	% Grass co	over, Good	, HSG D
_	0.	110	55	Woo	ds, Good,	HSG B	
	6.	140	73		hted Aver		
	4.	630		75.4	1% Pervio	us Area	
	1.	510		24.5	9% Imperv	∕ious Area	
	т.	Lana	41_	Clana	Valaaitu	Canacity	Description
	Tc	Leng		Slope	Velocity	Capacity	Description
	(min)	(fee		(ft/ft)	(ft/sec)	(cfs)	
	8.9	13	30	0.3600	0.24		Sheet Flow,
							Woods: Light underbrush n= 0.400 P2= 2.82"
	4.7	1,30)5	0.0210	4.60	37.92	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 6.0 & 2.5 '/' Top.W=12.50'
_							n= 0.035
	13.6	1,43	35	Total			

Summary for Subcatchment 51S: Luds Lane

Runoff = 0.57 cfs @ 12.47 hrs, Volume= 0.062 af, Depth= 0.99"

Routed to Link 56L: Lag to Door Creek

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 1-yr Rainfall=2.49"

	Area	(ac)	CN	Desc	cription		
*	0.	350	98				
*	0.	400	68				
	0.	750	82	Weig	hted Aver	age	
	0.	400		53.3	3% Pervio	us Area	
	0.	350		46.6	7% Imper\	/ious Area	
	Tc (min)	Lengt (feet		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	6.0						Direct Entry,
	25.6	2,00	4 0	.0210	1.30		Shallow Concentrated Flow,
							Cultivated Straight Rows Kv= 9.0 fps
	31.6	2,00	4 T	otal			

Summary for Subcatchment 52S: Proposed Stability Campus to Pond B

Runoff = 14.20 cfs @ 12.05 hrs, Volume= 0.667 af, Depth= 1.60" Routed to Pond 64P : Pond B-reduced raised 1 ft and raised spillway

MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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Area (ac)	CN	Description			
5.000	91	Urban industrial, 72% imp, HSG C			
1.400		28.00% Pervious Area			
3.600		72.00% Impervious Area			

Summary for Reach 20R: Overland Flow

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 Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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= 3.00' Flow Area= 300.0 sf, Capacity= 1,515.22 cfs

10.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 30.0 '/' Top Width= 190.00'

Length= 2,474.0' Slope= 0.0057 '/'

Inlet Invert= 872.00', Outlet Invert= 858.00'



Summary for Pond 1P: Niebuhr Stormwater Pond

Inflow Area = 4.670 ac, 72.16% Impervious, Inflow Depth = 1.37" for 1-yr event

Inflow = 9.99 cfs @ 12.13 hrs, Volume= 0.534 af

Outflow = 1.39 cfs @ 12.59 hrs, Volume= 0.533 af, Atten= 86%, Lag= 27.4 min

Primary = 1.39 cfs @ 12.59 hrs, Volume= 0.533 af

Routed to Pond 2P: Storm Basin 2 with Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 884.41' @ 12.59 hrs Surf.Area= 16,420 sf Storage= 10,197 cf

Plug-Flow detention time= 99.0 min calculated for 0.533 af (100% of inflow) Center-of-Mass det. time= 97.0 min (909.8 - 812.8)

Volume	Invert	Avail.Storage	Storage Description
#1	882.60'	54,584 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)				
882.6		0	0	0				
883.0		275	55	55				
884.0		9,336	4,806	4,860				
885.0		26,430	17,883	22,743				
886.0		37,251	31,841	54,584				
		- , -	- ,-	, , , ,				
Device	Routing	Invert	Outlet Devices					
#1	Primary	883.00'	Special & Use	r-Defined				
	,				0.30 0.40 0.50 0.60 0.70 0.80 0.90			
			` ,		.50 1.60 1.70 1.80 1.90 2.00 2.10			
			2.20 2.30 2.40	0 2.50				
			Disch. (cfs) 0.0	0.0 0.030 0.0	70 0.140 0.210 0.290 0.380 0.480			
			0.590 0.700 0	0.590 0.700 0.830 0.950 1.080 1.220 1.370 1.520 1.670 1.830				
			1.990 2.160 2	.330 2.510 2.	690 2.880 3.070 3.260			
#2	Primary	885.50'	10.0' long x 3	.0' breadth Br	oad-Crested Rectangular Weir			
			Head (feet) 0.2	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	0 4.00 4.50				
			Coef. (English)	2.44 2.58 2.	68 2.67 2.65 2.64 2.64 2.68 2.68			

Primary OutFlow Max=1.39 cfs @ 12.59 hrs HW=884.41' TW=877.84' (Dynamic Tailwater)

2.72 2.81 2.92 2.97 3.07 3.32

-1=Special & User-Defined (Custom Controls 1.39 cfs)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: Storm Basin 2 with Infiltration

Inflow Area = 21.962 ac, 37.03% Impervious, Inflow Depth = 0.70" for 1-yr event

Inflow 7.43 cfs @ 12.41 hrs, Volume= 1.283 af

Outflow 3.06 cfs @ 13.31 hrs, Volume= 1.283 af, Atten= 59%, Lag= 54.0 min

Discarded = 0.25 cfs @ 13.31 hrs, Volume= 0.230 af Primary 2.81 cfs @ 13.31 hrs, Volume= 1.053 af

Routed to Pond 9P: Culvert 534+50

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.02' @ 13.31 hrs Surf.Area= 0.451 ac Storage= 0.303 af

Plug-Flow detention time= 69.3 min calculated for 1.282 af (100% of inflow)

Center-of-Mass det. time= 69.3 min (963.5 - 894.2)

Volume	Invert	Avail.Storage	Storage Description
#1	877.20'	2.160 af	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
877.20	0.137	0.000	0.000
877.37	0.141	0.024	0.024
877.38	0.415	0.003	0.026
878.00	0.449	0.268	0.294
879.00	0.568	0.509	0.803
880.00	0.658	0.613	1.416
881.00	0.831	0.744	2.160

Device	Routing	Invert	Outlet Devices
#1	Primary	877.20'	18.0" Round Culvert X 2.00
	-		L= 25.0' CPP, end-section conforming to fill, Ke= 0.500
			Inlet / Outlet Invert= 877.20' / 877.10' S= 0.0040 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.20'	Special & User-Defined
			Head (feet) 0.00 0.20 0.40 0.60 0.80 1.00
			Disch. (cfs) 0.000 0.340 0.960 1.760 2.710 3.790
#3	Device 1	878.20'	30.0' long x 2.0' 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
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32
#4	Discarded	877.20'	0.500 in/hr Exfiltration over Surface area
			Conductivity to Groundwater Elevation = 870.00'
#5	Primary	880.00'	
			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 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
			2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.25 cfs @ 13.31 hrs HW=878.02' (Free Discharge) 4=Exfiltration (Controls 0.25 cfs)

Primary OutFlow Max=2.81 cfs @ 13.31 hrs HW=878.02' TW=875.82' (Dynamic Tailwater)

1=Culvert (Passes 2.81 cfs of 4.30 cfs potential flow)

-2=Special & User-Defined (Custom Controls 2.81 cfs)

-3=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

-5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: Sheriff Phase 2 Bioretention

Inflow Area = 0.745 ac, 77.85% Impervious, Inflow Depth = 1.52" for 1-yr event

Inflow = 1.75 cfs @ 12.13 hrs, Volume= 0.094 af

Outflow = 0.08 cfs @ 13.62 hrs, Volume= 0.065 af, Atten= 96%, Lag= 89.2 min

Discarded = 0.01 cfs @ 13.62 hrs, Volume= 0.044 af

Primary = 0.06 cfs @ 13.62 hrs, Volume= 0.044 ar

Routed to Pond 2P: Storm Basin 2 with Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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Peak Elev= 880.57' @ 13.62 hrs Surf.Area= 3,183 sf Storage= 2,892 cf

Plug-Flow detention time= 1,123.2 min calculated for 0.065 af (69% of inflow)

Center-of-Mass det. time= 1,039.7 min (1,845.2 - 805.5)

<u>Volume</u>	Invert	Avail.Sto	rage Storage	Description	
#1	879.50'	8,28	39 cf Custon	n Stage Data (Prismatic)Listed below (Recalc)	
	_				
Elevation		ırf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
879.5	50	2,225	0	0	
880.0	00	2,651	1,219	1,219	
881.0	00	3,579	3,115	4,334	
881.5	50	4,080	1,915	6,249	
882.0	00	4,080	2,040	8,289	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	879.50'	12.0" Round	d Culvert	
			L= 34.0' CP	P, square edge headwall, Ke= 0.500	
			Inlet / Outlet Invert= 879.50' / 879.00' S= 0.0147 '/' Cc= 0.900		
			n= 0.013, Flo	ow Area= 0.79 sf	
#2	Device 1	880.50'	12.0" W x 3.	O" H Vert. Orifice/Grate C= 0.600	
			Limited to we	ir flow at low heads	
#3	Device 1	881.00'	24.0" Horiz.	Orifice/Grate C= 0.600	
			Limited to we	ir flow at low heads	
#4	Primary	881.50'		2.0' breadth Broad-Crested Rectangular Weir	
				0.20	2.00
			2.50 3.00 3.	50	
			Coef. (Englis	h) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.8	88
			2.85 3.07 3.	20 3.32	
#5	Discarded	879.50'	0.500 in/hr E	xfiltration over Surface area above 879.50'	
			Conductivity	to Groundwater Elevation = 875.00'	
			Excluded Sur	face area = 2,225 sf	

Discarded OutFlow Max=0.01 cfs @ 13.62 hrs HW=880.57' (Free Discharge) 5=Exfiltration (Controls 0.01 cfs)

Primary OutFlow Max=0.06 cfs @ 13.62 hrs HW=880.57' TW=878.01' (Dynamic Tailwater)

-1=Culvert (Passes 0.06 cfs of 2.86 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.06 cfs @ 0.87 fps)

3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: Cnty-Storm Basin 1

2.220 ac, 90.54% Impervious, Inflow Depth = 1.86" for 1-yr event Inflow Area = Inflow 6.14 cfs @ 12.13 hrs, Volume= 0.344 af 5.22 cfs @ 12.17 hrs, Volume= Outflow 0.333 af, Atten= 15%, Lag= 2.7 min Discarded = 0.03 cfs @ 12.17 hrs, Volume= 0.053 af 5.18 cfs @ 12.17 hrs, Volume= Primary 0.280 af

Routed to Pond 6P: County Pond - East

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 881.76' @ 12.17 hrs Surf.Area= 3,636 sf Storage= 4,982 cf

Plug-Flow detention time= 246.1 min calculated for 0.333 af (97% of inflow)

Center-of-Mass det. time= 230.2 min (1,017.9 - 787.7)

Volume	Invert	Avail.Sto	orage Storage Description		
#1	879.72	10,75	56 cf Custom	Stage Data (Pr	ismatic)Listed below (Recalc)
Elevation	n S	urf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
879.7		1,306	0	0	
880.0	00	1,599	407	407	
881.0	00	2,711	2,155	2,562	
882.0	00	3,924	3,318	5,879	
883.0	00	5,830	4,877	10,756	
Device	Routing	Invert	Outlet Device	S	
#1	Primary		' 18.0" Round Culvert		
	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		L= 66.5' RCP, sq.cut end projecting, Ke= 0.500		
			Inlet / Outlet I	nvert= 879.72' / 8	378.47' S= 0.0188 '/' Cc= 0.900
			,	w Area= 1.77 sf	
#2	Device 1	880.72'			Grate C= 0.600
				ir flow at low hea	
#3	Device 1	881.50'		Orifice/Grate C	
шл	Duine e m /	000 741		ir flow at low hea	
#4	Primary	882.74'			Dad-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 1.80 2.00
				50 4.00 4.50 5.	
					69 2.68 2.67 2.67 2.65 2.66 2.66
				73 2.76 2.79 2.	
#5	Discarded	879.72'			Surface area above 879.72'
•		J. J. Z			Elevation = 875.00'
			•	face area = 1,30	

Discarded OutFlow Max=0.03 cfs @ 12.17 hrs HW=881.75' (Free Discharge) **5=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=4.92 cfs @ 12.17 hrs HW=881.75' TW=878.35' (Dynamic Tailwater)

-1=Culvert (Passes 4.92 cfs of 9.63 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.06 cfs @ 4.23 fps)

-3=Orifice/Grate (Weir Controls 3.86 cfs @ 1.64 fps)

4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5P: CNTY-Infiltration Basin #1

MSE 24-hr 4 1-yr Rainfall=2.49"

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4.165 ac, 37.45% Impervious, Inflow Depth = 0.78" for 1-yr event Inflow Area =

Inflow 3.02 cfs @ 12.32 hrs, Volume= 0.271 af

Outflow 0.37 cfs @ 13.70 hrs, Volume= 0.240 af, Atten= 88%, Lag= 82.8 min

0.05 cfs @ 13.70 hrs, Volume= Discarded = 0.111 af 0.32 cfs @ 13.70 hrs, Volume= 0.129 af Primary

Routed to Pond 6P: County Pond - East

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 882.05' @ 13.70 hrs Surf.Area= 6,764 sf Storage= 6,385 cf

Plug-Flow detention time= 678.2 min calculated for 0.240 af (89% of inflow)

Center-of-Mass det. time= 629.1 min (1,487.3 - 858.2)

Volume	Inver	t Avail.Sto	rage Storage Description		
#1	880.71	30,08	38 cf Custom	Stage Data (Pr	ismatic)Listed below (Recalc)
Elevation	on S	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
880.7	' 1	3,155	0	0	
881.0	00	3,568	975	975	
882.0	00	6,526	5,047	6,022	
883.0	00	10,890	8,708	14,730	
884.0	00	19,826	15,358	30,088	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	880.71'	12.0" Round	l Culvert	
			L= 51.8' RC	P, sq.cut end pro	jecting, Ke= 0.500
			Inlet / Outlet I	nvert= 880.71' / 8	880.28' S= 0.0083 '/' Cc= 0.900
			n= 0.013, Flo	ow Area= 0.79 sf	
#2	Device 1	881.71'	6.0" W x 12.0)" H Vert. Orifice	e/Grate C= 0.600
				ir flow at low hea	
#3	Device 1	882.71'	24.0" Horiz.	Orifice/Grate C	= 0.600
				ir flow at low hea	
#4	Primary	883.49'			oad-Crested Rectangular Weir
			` ,		0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.	• •	
					61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.3		
#5	Discarded	l 880.71'			Surface area above 880.71'
			Conductivity t	to Groundwater E	Elevation = 875.00'

Discarded OutFlow Max=0.05 cfs @ 13.70 hrs HW=882.05' (Free Discharge) -5=Exfiltration (Controls 0.05 cfs)

Primary OutFlow Max=0.32 cfs @ 13.70 hrs HW=882.05' TW=878.36' (Dynamic Tailwater)

Excluded Surface area = 3,155 sf

-1=Culvert (Passes 0.32 cfs of 3.14 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.32 cfs @ 1.88 fps)

-3=Orifice/Grate (Controls 0.00 cfs)

4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Summary for Pond 6P: County Pond - East

Inflow Area = 15.375 ac, 65.89% Impervious, Inflow Depth = 1.17" for 1-yr event

Inflow 24.71 cfs @ 12.14 hrs, Volume= 1.498 af

4.95 cfs @ 12.50 hrs, Volume= 4.95 cfs @ 12.50 hrs, Volume= Outflow 1.490 af, Atten= 80%, Lag= 21.3 min

Primary 1.490 af

Routed to Pond 9P: Culvert 534+50

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.68' @ 12.50 hrs Surf.Area= 19,875 sf Storage= 25,793 cf

Plug-Flow detention time= 162.7 min calculated for 1.490 af (99% of inflow)

Center-of-Mass det. time= 159.3 min (986.7 - 827.4)

Volume	Inver	t Avail.Sto	rage Storage	e Description	
#1	877.19)' 101,76	64 cf Custon	n Stage Data (Pi	rismatic)Listed below (Recalc)
Elevatio	-	Surf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
877.1		14,796	0	0	
878.0		17,475	13,070	13,070	
879.0	-	20,998	19,237	32,306	
880.0		24,807	22,903	55,209	
881.0		33,736	29,272	84,480	
881.5	0	35,400	17,284	101,764	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	877.20'	18.0" Roun	d Culvert X 2.00	
	•				onforming to fill, Ke= 0.500
			Inlet / Outlet	Invert= 877.20' /	877.00' S= 0.0063 '/' Cc= 0.900
			•	ow Area= 1.77 sf	
#2	Device 1	877.20'	Special & Us		
			Head (feet) 2.00	0.00 0.20 0.40	0.60 0.80 1.00 1.20 1.40 1.60 1.80
				0.000 0.100 0.4	00 0.800 1.500 2.500 3.400 4.500
			5.600 6.900		
#3	Device 1	879.20'	68.0' long x	2.0' breadth Br	oad-Crested Rectangular Weir
					0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3		
			Coef. (Englis	sh) 2.54 2.61 2.	61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3		
#4	Primary	880.00'	30.0' long x	6.0' breadth Br	oad-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 5	.00 5.50
			Coef. (Englis	sh) 2.37 2.51 2.	70 2.68 2.68 2.67 2.65 2.65 2.65
				.66 2.67 2.69 2	

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Primary OutFlow Max=4.95 cfs @ 12.50 hrs HW=878.68' TW=875.82' (Dynamic Tailwater)

-1=Culvert (Passes 4.95 cfs of 12.16 cfs potential flow)

2=Special & User-Defined (Custom Controls 4.95 cfs)

-3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 9P: Culvert 534+50

Inflow Area = 38.657 ac, 47.50% Impervious, Inflow Depth > 0.80" for 1-yr event

Inflow = 7.16 cfs @ 12.82 hrs, Volume= 2.573 af

Outflow = 7.16 cfs @ 12.82 hrs, Volume= 2.573 af, Atten= 0%, Lag= 0.0 min

Primary = 7.16 cfs @ 12.82 hrs, Volume= 2.573 af

Routed to Pond 57P: 187+00 42" Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 875.85' @ 12.82 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.00'	53.0" W x 34.0" H, R=47.9" Elliptical RCP_Elliptical 53x34 L= 128.0' Ke= 0.270 Inlet / Outlet Invert= 875.00' / 874.50' S= 0.0039 '/' Cc= 0.900 n= 0.012. Flow Area= 10.20 sf

Primary OutFlow Max=7.16 cfs @ 12.82 hrs HW=875.85' TW=873.83' (Dynamic Tailwater) 1=RCP_Elliptical 53x34 (Barrel Controls 7.16 cfs @ 3.96 fps)

Summary for Pond 13P: Culvert at Ramp A 690+50

Inflow Area = 3.410 ac, 26.10% Impervious, Inflow Depth = 0.60" for 1-yr event

Inflow = 2.68 cfs @ 12.17 hrs, Volume= 0.171 af

Outflow = 2.68 cfs @ 12.17 hrs, Volume= 0.171 af, Atten= 0%, Lag= 0.0 min

Primary = 2.68 cfs @ 12.17 hrs, Volume= 0.171 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 878.96' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	878.35'	24.0" Round Culvert
			L= 132.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 878.35' / 874.50' S= 0.0292 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=2.58 cfs @ 12.17 hrs HW=878.95' TW=872.49' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.58 cfs @ 3.28 fps)

MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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Summary for Pond 14P: Culvert at Millpond 387+00

Inflow Area = 180.907 ac, 17.94% Impervious, Inflow Depth > 0.46" for 1-yr event

Inflow = 21.55 cfs @ 12.46 hrs, Volume= 6.922 af

Outflow = 21.55 cfs @ 12.46 hrs, Volume= 6.922 af, Atten= 0%, Lag= 0.0 min

Primary = 21.55 cfs @ 12.46 hrs, Volume= 6.922 af Routed to Pond 64P : Pond B-reduced raised 1 ft and raised spillway

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 872.61' @ 19.42 hrs

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Device	Routing	Invert	Outlet Devices
#1	Primary	871.30'	48.0" Round Culvert X 2.00
			L= 92.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 871.30' / 871.00' S= 0.0033 '/' Cc= 0.900
			n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=21.53 cfs @ 12.46 hrs HW=872.61' TW=871.59' (Dynamic Tailwater) 1=Culvert (Barrel Controls 21.53 cfs @ 4.49 fps)

Summary for Pond 16P: Culvert 509+94 (NB CTH AB)

Inflow Area = 3.560 ac, 1.12% Impervious, Inflow Depth = 0.24" for 1-yr event

Inflow = 0.41 cfs @ 12.50 hrs, Volume= 0.071 af

Outflow = 0.41 cfs @ 12.50 hrs, Volume= 0.071 af, Atten= 0%, Lag= 0.0 min

Primary = 0.41 cfs @ 12.50 hrs, Volume= 0.071 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.24' @ 12.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	878.00'	24.0" Round Culvert
			L= 178.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 878.00' / 876.00' S= 0.0112 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.41 cfs @ 12.50 hrs HW=878.24' TW=872.61' (Dynamic Tailwater) 1=Culvert (Barrel Controls 0.41 cfs @ 2.98 fps)

Summary for Pond 18P: Culvert 505+79 (NB CTH AB)

Inflow Area = 14.235 ac, 12.61% Impervious, Inflow Depth = 0.35" for 1-yr event

Inflow = 2.58 cfs @ 12.61 hrs, Volume= 0.418 af

Outflow = 2.58 cfs @ 12.61 hrs, Volume= 0.418 af, Atten= 0%, Lag= 0.0 min

Primary = 2.58 cfs @ 12.61 hrs, Volume= 0.418 af

Routed to Pond 58P: Culvert 395+33 (Millpond)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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Peak Elev= 878.59' @ 12.61 hrs

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Device	Routing	Invert	Outlet Devices
#1	Primary	877.97'	30.0" Round Culvert
	-		L= 128.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 877.97' / 877.05' S= 0.0072 '/' Cc= 0.900
			n= 0.012, Flow Area= 4.91 sf

Primary OutFlow Max=2.58 cfs @ 12.61 hrs HW=878.59' TW=876.90' (Dynamic Tailwater) 1=Culvert (Barrel Controls 2.58 cfs @ 4.10 fps)

Summary for Pond 19P: Landfill Pond

28.420 ac, 1.16% Impervious, Inflow Depth = 0.88" for 1-yr event Inflow Area =

Inflow 32.01 cfs @ 12.20 hrs, Volume= 2.089 af

2.12 cfs @ 13.70 hrs, Volume= 2.074 af, Atten= 93%, Lag= 90.4 min Outflow =

Primary = 2.12 cfs @ 13.70 hrs, Volume= 2.074 af

Routed to Pond 22P: 36" Culvert 182+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 879.95' @ 13.70 hrs Surf.Area= 0.653 ac Storage= 1.242 af

Plug-Flow detention time= 684.6 min calculated for 2.074 af (99% of inflow)

Center-of-Mass det. time= 680.4 min (1,523.4 - 843.0)

Volume	Invert A	Avail.Storage	Storage Descript	on
#1	877.33'	6.106 af	Custom Stage D	Pata (Prismatic)Listed below (Recalc)
Elevation	Surf.Area			
(feet)	(acres) (acre-fe	et) (acre-fee	<u>t)</u>
877.33	0.334	1 0.0	0.00	0
878.00	0.401	1 0.2	246 0.24	6
879.00	0.497	7 0.4	49 0.69	5
880.00	0.661	1 0.5	579 1.27	4
881.00	0.952	2 0.8	306 2.08	1
882.00	1.214	1.0)83 3.16	4
883.00	1.487	7 1.3	350 4.51	4
884.00	1.697	7 1.5	592 6.10	6

Device	Routing	Invert	Outlet Devices
#1	Primary	877.33'	18.0" Round Culvert
			L= 69.6' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 877.33' / 875.77' S= 0.0224 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.33'	1.0" Vert. Orifice/Grate X 7.00 C= 0.600
			Limited to weir flow at low heads
#3	Device 1	877.68'	1.0" Vert. Orifice/Grate X 8.00 C= 0.600
			Limited to weir flow at low heads
#4	Device 1	878.03'	1.0" Vert. Orifice/Grate X 9.00 C= 0.600
			Limited to weir flow at low heads
#5	Device 1	879.77'	18.0" Horiz. Orifice/Grate C= 0.600

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Limited to weir flow at low heads

#6 Primary 882.66' 10.0' long x 10.0' breadth Broad-Crested Rectangular Weir

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.12 cfs @ 13.70 hrs HW=879.95' TW=874.63' (Dynamic Tailwater)

-1=Culvert (Passes 2.12 cfs of 11.64 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.30 cfs @ 7.73 fps)

-3=Orifice/Grate (Orifice Controls 0.31 cfs @ 7.19 fps)

-4=Orifice/Grate (Orifice Controls 0.32 cfs @ 6.60 fps)

5=Orifice/Grate (Weir Controls 1.19 cfs @ 1.39 fps)

-6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 22P: 36" Culvert 182+00

Inflow Area = 37.914 ac, 10.10% Impervious, Inflow Depth > 0.85" for 1-yr event

Inflow = 9.05 cfs @ 12.22 hrs, Volume= 2.697 af

Outflow = 9.05 cfs @ 12.22 hrs, Volume= 2.697 af, Atten= 0%, Lag= 0.0 min

Primary = 9.05 cfs @ 12.22 hrs, Volume= 2.697 af

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 875.06' @ 12.22 hrs

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Device Routing Invert Outlet Devices

#1 Primary 874.00' **36.0" Round Culvert**

L= 289.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 874.00' / 871.00' S= 0.0104 '/' Cc= 0.900

n= 0.014. Flow Area= 7.07 sf

Primary OutFlow Max=8.86 cfs @ 12.22 hrs HW=875.05' TW=871.35' (Dynamic Tailwater) 1=Culvert (Barrel Controls 8.86 cfs @ 5.98 fps)

Summary for Pond 24P: YH1 - Pond

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth = 0.35" for 1-yr event

Inflow = 8.90 cfs @ 12.97 hrs, Volume= 1.949 af

Outflow = 1.00 cfs @ 19.49 hrs, Volume= 1.691 af, Atten= 89%, Lag= 390.9 min

Primary = 1.00 cfs @ 19.49 hrs, Volume= 1.691 af

Routed to Pond 25P: Small Depression

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 895.55' @ 19.49 hrs Surf.Area= 98,598 sf Storage= 53,558 cf

Plug-Flow detention time= 846.6 min calculated for 1.691 af (87% of inflow)

Center-of-Mass det. time= 788.5 min (1,724.2 - 935.7)

Volume	Invert	Avail.Storage	Storage Description
#1	895.00'	437,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
895.00	94,949	0	0
896.00	101,543	98,246	98,246
897.00	159,762	130,653	228,899
898.00	257,486	208,624	437,523

Device	Routing	Invert	Outlet Devices
#1	Primary	895.00'	12.0" Round Culvert
	•		L= 140.0' RCP, mitered to conform to fill, Ke= 0.700
			Inlet / Outlet Invert= 895.00' / 894.00' S= 0.0071 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Primary	897.00'	10.0' long x 100.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=1.00 cfs @ 19.49 hrs HW=895.55' TW=894.51' (Dynamic Tailwater)

1=Culvert (Inlet Controls 1.00 cfs @ 2.23 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 25P: Small Depression

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 0.31" for 1-yr event

Inflow = 1.00 cfs @ 19.49 hrs, Volume= 1.691 af

Outflow = 0.99 cfs @ 20.43 hrs, Volume= 1.674 af, Atten= 1%, Lag= 56.5 min

Primary = 0.99 cfs @ 20.43 hrs, Volume= 1.674 af

Routed to Pond 58P: Culvert 395+33 (Millpond)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 894.51' @ 20.43 hrs Surf.Area= 10,465 sf Storage= 4,180 cf

Avail.Storage Storage Description

Plug-Flow detention time= 91.8 min calculated for 1.673 af (99% of inflow)

Center-of-Mass det. time= 67.7 min (1,791.9 - 1,724.2)

Invert

Volume

#1	894.	00' 33,8	74 cf Custom	Stage Data (Pris	smatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
894.0		5,815	(Cubic-leet) 0	(Cubic-leet)	
895.0	_	14,871	10,343	10,343	
896.0	00	32,190	23,531	33,874	
Device	Routing	Invert	Outlet Devices	6	
#1	Primary	894.00'			
				' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	ojecting, Ke= 0.500 92.00' S= 0.0098 '/' Cc= 0.900
			· -	w Area= 0.79 sf	92.00 3-0.0090 / 60-0.900
#2	Primary	895.50'			pad-Crested Rectangular Weir
			` ,		80 1.00 1.20 1.40 1.60 0 2.64 2.63 2.64 2.64 2.63

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Primary OutFlow Max=0.99 cfs @ 20.43 hrs HW=894.51' TW=876.40' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 0.99 cfs @ 2.44 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 28P: 12/18 140+35

Inflow Area = 9.510 ac, 26.18% Impervious, Inflow Depth = 0.49" for 1-yr event

Inflow = 4.51 cfs @ 12.23 hrs, Volume= 0.388 af

Outflow = 4.51 cfs @ 12.23 hrs, Volume= 0.388 af, Atten= 0%, Lag= 0.0 min

Primary = 4.51 cfs @ 12.23 hrs, Volume= 0.388 af

Routed to Pond 59P: Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 861.60' @ 12.23 hrs

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Device Routing Invert Outlet Devices

#1 Primary

860.79'

45.0" W x 29.0" H, R=39.2" Elliptical RCP_Elliptical 45x29

L= 310.0' RCP, groove end w/headwall, Ke= 0.200

Inlet / Outlet Invert= 860.79' / 859.89' S= 0.0029 '/' Cc= 0.900

n= 0.015, Flow Area= 7.36 sf

Primary OutFlow Max=4.44 cfs @ 12.23 hrs HW=861.60' TW=859.34' (Dynamic Tailwater) 1=RCP_Elliptical 45x29 (Barrel Controls 4.44 cfs @ 2.97 fps)

Summary for Pond 32P: Long Drive 440+35

Inflow Area = 4.570 ac, 14.44% Impervious, Inflow Depth = 0.32" for 1-yr event

Inflow = 1.07 cfs @ 12.31 hrs, Volume= 0.123 af

Outflow = 1.07 cfs @ 12.31 hrs, Volume= 0.123 af, Atten= 0%, Lag= 0.0 min

Primary = 1.07 cfs @ 12.31 hrs, Volume= 0.123 af

Routed to Pond 28P: 12/18 140+35

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 861.97' @ 12.28 hrs

 Device
 Routing
 Invert
 Outlet Devices

 #1
 Primary
 861.50'
 24.0" Round Culvert

 L= 62.0'
 RCP, groove end w/headwall, Ke= 0.200

 Inlet / Outlet Invert= 861.50' / 860.80'
 S= 0.0113 '/'
 Cc= 0.900

 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=1.06 cfs @ 12.31 hrs HW=861.97' TW=861.54' (Dynamic Tailwater) 1=Culvert (Outlet Controls 1.06 cfs @ 2.89 fps)

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Summary for Pond 34P: YH3-Pond

Inflow Area = 204.006 ac, 4.43% Impervious, Inflow Depth > 0.23" for 1-yr event

Inflow 13.21 cfs @ 12.92 hrs, Volume= 3.840 af

Outflow 1.55 cfs @ 22.27 hrs, Volume= 2.948 af, Atten= 88%, Lag= 560.9 min

Primary = 1.55 cfs @ 22.27 hrs, Volume= 2.948 af

Routed to Pond 38P: YH6-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 858.61' @ 22.27 hrs Surf.Area= 187,912 sf Storage= 113,814 cf

Plug-Flow detention time= 1,043.7 min calculated for 2.946 af (77% of inflow)

Center-of-Mass det. time= 906.5 min (1,930.7 - 1,024.3)

Volume	Inv	ert Avail.Sto	rage Storage	Description	
#1	858.0	00' 1,137,52	23 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
-		0 (4	. 0	0 01	
Elevation	on	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
858.0	00	182,909	0	0	
859.0	00	191,060	186,985	186,985	
860.0	00	214,659	202,860	389,844	
861.0	00	320,867	267,763	657,607	
862.0	00	638,965	479,916	1,137,523	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	858.00'	36.0" Round	Culvert	
	_		L= 1,066.0' F	RCP, sq.cut end	projecting, Ke= 0.500
			,	′ '	855.00' S= 0.0028 '/' Cc= 0.900
				w Area= 7.07 sf	
" 0	D.:	000 501	,		
#2	Primary	860.50'	125.0 long x	(60.0' breadth	Broad-Crested Rectangular Weir

Primary OutFlow Max=1.55 cfs @ 22.27 hrs HW=858.61' TW=856.60' (Dynamic Tailwater)

-1=Culvert (Outlet Controls 1.55 cfs @ 2.25 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 36P: YH4-Pond

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Inflow Area = 12.220 ac, 4.26% Impervious, Inflow Depth = 0.29" for 1-yr event

2.08 cfs @ 12.42 hrs, Volume= Inflow 0.299 af

Outflow = 0.22 cfs @ 15.75 hrs, Volume= 0.277 af, Atten= 89%, Lag= 199.7 min

Primary 0.22 cfs @ 15.75 hrs, Volume= 0.277 af

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 861.30' @ 15.75 hrs Surf.Area= 24,296 sf Storage= 6,856 cf

Plug-Flow detention time= 596.7 min calculated for 0.276 af (92% of inflow)

Center-of-Mass det. time= 563.1 min (1,476.0 - 912.9)

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Volume	Inv	ert Avail.Sto	rage Storage	Description	
#1	861.0	00' 64,0	01 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
Elevatio (fee 861.0 862.0	et) 00	Surf.Area (sq-ft) 21,906	Inc.Store (cubic-feet)	Cum.Store (cubic-feet) 0	
863.0		29,959 46,178	25,933 38,069	25,933 64,001	
Device	Routing	Invert	Outlet Device	,	
#1	Primary	861.00'			rojecting, Ke= 0.500
#2	Primary	861.80'	Inlet / Outlet I n= 0.012, Flo 20.0' long x Head (feet) 0	nvert= 861.00' / bw Area= 0.35 sf 50.0' breadth B 0.20 0.40 0.60	859.76' S= 0.0050 '/' Cc= 0.900

Primary OutFlow Max=0.22 cfs @ 15.75 hrs HW=861.30' TW=858.47' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 0.22 cfs @ 2.15 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 37P: YH5 - Pond

Inflow Area = 2.350 ac, 51.91% Impervious, Inflow Depth = 0.88" for 1-yr event

Inflow = 3.08 cfs @ 12.15 hrs, Volume= 0.173 af

Outflow = 0.05 cfs @ 19.54 hrs, Volume= 0.123 af, Atten= 98%, Lag= 443.5 min

Primary = 0.05 cfs @ 19.54 hrs, Volume= 0.123 af

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 865.15' @ 19.54 hrs Surf.Area= 39,537 sf Storage= 5,728 cf

Plug-Flow detention time= 1,176.9 min calculated for 0.123 af (71% of inflow)

Center-of-Mass det. time= 1,085.0 min (1,924.6 - 839.6)

<u>Volume</u>	Inve	ert Avail.Sto	rage Storage	Description	
#1	865.0	93,4	14 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
Elevatior (feet	-	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
865.00)	38,602	0	0	
866.00)	44,980	41,791	41,791	
867.00)	58,266	51,623	93,414	
Device	Routing	Invert	Outlet Device	s	
#1	Primary	866.50'	Head (feet) 0	0.20 0.40 0.60	road-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 70 2.64 2.63 2.64 2.64 2.63
#2	Primary	865.00'	8.0" Round	•	

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L= 170.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 865.00' / 864.15' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.05 cfs @ 19.54 hrs HW=865.15' TW=858.59' (Dynamic Tailwater)

1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Barrel Controls 0.05 cfs @ 1.44 fps)

Summary for Pond 38P: YH6-Pond

Inflow Area = 303.663 ac, 5.11% Impervious, Inflow Depth > 0.22" for 1-yr event

Inflow = 15.81 cfs @ 12.62 hrs, Volume= 5.625 af

Outflow = 9.58 cfs @ 13.10 hrs, Volume= 5.625 af, Atten= 39%, Lag= 28.5 min

Primary = 9.58 cfs @ 13.10 hrs, Volume= 5.625 af

Routed to Link 36L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Starting Elev= 856.60' Surf.Area= 282,460 sf Storage= 556,446 cf

Peak Elev= 856.66' @ 13.10 hrs Surf.Area= 284,920 sf Storage= 572,454 cf (16,008 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= 10.5 min (1,460.0 - 1,449.5)

Volume	Invert	Avail.Storage	Storage Description
#1	854.63'	2,032,289 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
854.63	282,460	0	0
856.60	282,460	556,446	556,446
857.00	299,898	116,472	672,918
858.00	336,652	318,275	991,193
859.00	486,957	411,805	1,402,997
860.00	771,626	629,292	2,032,289

Device	Routing	Invert	Outlet Devices
#1	Primary	854.63'	42.0" Round Culvert X 2.00

L= 28.0' CMP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900

n= 0.024, Flow Area= 9.62 sf

Primary OutFlow Max=9.59 cfs @ 13.10 hrs HW=856.66' TW=856.60' (Dynamic Tailwater) 1=Culvert (Outlet Controls 9.59 cfs @ 1.20 fps)

Summary for Pond 41P: AB 520+90

Inflow Area = 3.250 ac, 21.54% Impervious, Inflow Depth = 0.45" for 1-yr event

Inflow = 1.66 cfs @ 12.19 hrs, Volume= 0.122 af

Outflow = 1.66 cfs @ 12.19 hrs, Volume= 0.122 af, Atten= 0%, Lag= 0.0 min

Primary = 1.66 cfs @ 12.19 hrs, Volume= 0.122 af

Routed to Pond 54P: Pond C

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 876.18' @ 12.19 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.61'	24.0" Round Culvert
			L= 335.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 875.61' / 874.00' S= 0.0048 '/' Cc= 0.900
			n= 0.012. Flow Area= 3.14 sf

Primary OutFlow Max=1.63 cfs @ 12.19 hrs HW=876.17' TW=874.25' (Dynamic Tailwater) 1=Culvert (Barrel Controls 1.63 cfs @ 3.36 fps)

Summary for Pond 43P: Ramp C 805+00

7.982 ac, 32.15% Impervious, Inflow Depth > 0.64" for 1-yr event Inflow Area =

0.72 cfs @ 12.16 hrs, Volume= Inflow 0.428 af

0.72 cfs @ 12.16 hrs, Volume= 0.428 af. Atten= 0%. Lag= 0.0 min Outflow

Primary 0.72 cfs @ 12.16 hrs, Volume= 0.428 af

Routed to Link 44L: Door Creek Combined

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 873.69' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	873.30'	24.0" Round Culvert
	_		L= 92.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 873.30' / 872.90' S= 0.0043 '/' Cc= 0.900
			n= 0.012. Flow Area= 3.14 sf

Primary OutFlow Max=0.70 cfs @ 12.16 hrs HW=873.68' TW=0.00' (Dynamic Tailwater) 1=Culvert (Barrel Controls 0.70 cfs @ 2.52 fps)

Summary for Pond 45P: Culvert at 698+81

9.520 ac, 9.98% Impervious, Inflow Depth = 0.29" for 1-yr event Inflow Area =

1.94 cfs @ 12.30 hrs, Volume= 0.233 af Inflow =

1.94 cfs @ 12.30 hrs, Volume= 1.94 cfs @ 12.30 hrs, Volume= 0.233 af, Atten= 0%, Lag= 0.0 min Outflow =

Primary = 0.233 af

Routed to Pond 46P: Pond D

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 879.55' @ 12.30 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	879.00'	30.0" Round Culvert L= 167.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 879.00' / 878.00' S= 0.0060 '/' Cc= 0.900

n= 0.012, Flow Area= 4.91 sf

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Primary OutFlow Max=1.94 cfs @ 12.30 hrs HW=879.55' TW=876.33' (Dynamic Tailwater) 1=Culvert (Barrel Controls 1.94 cfs @ 3.63 fps)

Summary for Pond 46P: Pond D

Inflow Area = 13.201 ac, 19.51% Impervious, Inflow Depth = 0.42" for 1-yr event

Inflow = 4.81 cfs @ 12.16 hrs, Volume= 0.458 af

Outflow = 0.59 cfs @ 13.68 hrs, Volume= 0.452 af, Atten= 88%, Lag= 91.1 min

Primary = 0.59 cfs @ 13.68 hrs, Volume= 0.452 af

Routed to Pond 51P: Pond D Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 876.64' @ 13.68 hrs Surf.Area= 0.320 ac Storage= 0.199 af

Plug-Flow detention time= 286.5 min calculated for 0.452 af (99% of inflow)

Center-of-Mass det. time= 278.5 min (1,156.2 - 877.7)

Volume	Inve	rt Ava	il.Storage	e Storag	e Description	
#1	876.0	0'	1.469 a	f Custo	m Stage Data	a (Prismatic)Listed below (Recalc)
Elevation	on Cur	f.Area	lno	Store	Cum.Store	
(fee		acres)		-feet)	(acre-feet)	
876.0	00	0.299		0.000	0.000	
877.0	00	0.331		0.315	0.315	
878.0	00	0.364		0.347	0.662	
879.0	00	0.404		0.384	1.046	
880.0	00	0.442		0.423	1.469	
Device	Routing		Invert (Outlet Dev	rices	
#1	Primary	87	76.00' 1	8.0" Rou	ind Culvert	
			L	_= 46.0' F	RCP, square ed	edge headwall, Ke= 0.500
			I	nlet / Outle	et Invert= 876.0	.00' / 875.50' S= 0.0109 '/' Cc= 0.900
			r	1 = 0.012	Flow Area = 1.7	.77 sf
#2	Device 1	87		,		C= 0.600 Limited to weir flow at low heads
#3	Primary	87	78.25' 1	5.0' long	x 6.0' breadtl	th Broad-Crested Rectangular Weir
,, •		٠.				0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
					3.50 4.00 4.5	
						51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
						69 2.72 2.76 2.83
				2.00	2.00 2.01 2.0	UB Z.1Z Z.1U Z.03

Primary OutFlow Max=0.59 cfs @ 13.68 hrs HW=876.64' TW=875.62' (Dynamic Tailwater)

1=Culvert (Passes 0.59 cfs of 1.98 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.59 cfs @ 3.02 fps)

-3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Summary for Pond 47P: Ramp B 706+25

Inflow Area = 14.351 ac, 20.04% Impervious, Inflow Depth = 0.18" for 1-yr event

Inflow = 0.77 cfs @ 12.15 hrs, Volume= 0.216 af

Outflow = 0.77 cfs @ 12.15 hrs, Volume= 0.216 af, Atten= 0%, Lag= 0.0 min

Primary = 0.77 cfs @ 12.15 hrs, Volume= 0.216 af

Routed to Link 44L: Door Creek Combined

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 874.07' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary		24.0" Round Culvert L= 111.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 873.75' / 872.00' S= 0.0158 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.76 cfs @ 12.15 hrs HW=874.07' TW=0.00' (Dynamic Tailwater) 1=Culvert (Inlet Controls 0.76 cfs @ 2.39 fps)

Summary for Pond 51P: Pond D Infiltration

Inflow Area =	13.201 ac, 1	19.51% Impervious, In	flow Depth > 0.41"	for 1-yr event
Inflow =	0.59 cfs @	13.68 hrs, Volume=	0.452 af	
Outflow =	0.26 cfs @	21.22 hrs, Volume=	0.452 af, Atte	n= 57%, Lag= 452.7 min
Discarded =	0.07 cfs @	21.22 hrs, Volume=	0.282 af	_
Primary =	0.19 cfs @	21.22 hrs, Volume=	0.169 af	
	1.475	D 700 05		

Routed to Pond 47P: Ramp B 706+25

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 876.02' @ 21.22 hrs Surf.Area= 19,720 sf Storage= 9,918 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 794.4 min (1,950.6 - 1,156.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	875.50'	78,680 cf	Custom Stage Data (Prismatic)Listed below (Recalc)	
Elevation	Surf.A	rea Inc	c.Store Cum.Store	

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
875.50	18,668	0	0
876.00	19,685	9,588	9,588
877.00	21,796	20,741	30,329
878.00	23,894	22,845	53,174
879.00	27,119	25,507	78,680

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Device	Routing	Invert	Outlet Devices
#1	Primary	875.50'	12.0" Round Culvert
	•		L= 46.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 875.50' / 875.35' S= 0.0033 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Device 1	875.75'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	878.00'	48.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	878.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Discarded	875.50'	0.140 in/hr Exfiltration over Horizontal area
			Conductivity to Groundwater Elevation = 870.00'

Discarded OutFlow Max=0.07 cfs @ 21.22 hrs HW=876.02' (Free Discharge) **5=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.19 cfs @ 21.22 hrs HW=876.02' TW=873.91' (Dynamic Tailwater)

1=Culvert (Passes 0.19 cfs of 0.68 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.19 cfs @ 1.76 fps)

3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 54P: Pond C

Inflow Area = 7.094 ac, 32.79% Impervious, Inflow Depth = 0.68" for 1-yr event

Inflow = 6.74 cfs @ 12.15 hrs, Volume= 0.405 af

Outflow = 0.48 cfs @ 13.60 hrs, Volume= 0.392 af, Atten= 93%, Lag= 86.9 min

Primary = 0.48 cfs @ 13.60 hrs, Volume= 0.392 af

Routed to Pond 43P: Ramp C 805+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 874.51' @ 13.60 hrs Surf.Area= 0.423 ac Storage= 0.208 af

Plug-Flow detention time= 385.5 min calculated for 0.392 af (97% of inflow)

Center-of-Mass det. time= 371.1 min (1,221.1 - 849.9)

Volume	Invert	Avail.Storage	Storage Description
#1	874.00'	2.703 af	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
874.00	0.393	0.000	0.000
875.00	0.451	0.422	0.422
876.00	0.509	0.480	0.902
877.00	0.569	0.539	1.441
878.00	0.631	0.600	2.041
879.00	0.693	0.662	2.703

MSE 24-hr 4 1-yr Rainfall=2.49"

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Device	Routing	Invert	Outlet Devices
#1	Primary	874.00'	12.0" Round Culvert
	-		L= 41.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 874.00' / 873.80' S= 0.0049 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Device 1	874.00'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	877.00'	48.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	878.00'	20.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.48 cfs @ 13.60 hrs HW=874.51' TW=873.63' (Dynamic Tailwater)

-1=Culvert (Passes 0.48 cfs of 0.74 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.48 cfs @ 2.45 fps)

-3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 57P: 187+00 42" Culvert

43.792 ac, 47.85% Impervious, Inflow Depth > 0.82" for 1-yr event Inflow Area =

10.16 cfs @ 12.17 hrs, Volume= Inflow 2.975 af

10.16 cfs @ 12.17 hrs, Volume= Outflow = 2.975 af, Atten= 0%, Lag= 0.0 min

= 10.16 cfs @ 12.17 hrs, Volume= 2.975 af Primary

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 873.95' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	872.70'	42.0" Round Culvert
	·		L= 297.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 872.70' / 871.50' S= 0.0040 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=9.85 cfs @ 12.17 hrs HW=873.94' TW=872.49' (Dynamic Tailwater) 1=Culvert (Outlet Controls 9.85 cfs @ 4.80 fps)

Summary for Pond 58P: Culvert 395+33 (Millpond)

Inflow Area = 114.625 ac, 5.66% Impervious, Inflow Depth > 0.30" for 1-yr event

Inflow 6.24 cfs @ 12.67 hrs, Volume= 2.847 af

6.24 cfs @ 12.67 hrs, Volume= 2.847 af, Atten= 0%, Lag= 0.0 min Outflow

Primary 6.24 cfs @ 12.67 hrs, Volume= 2.847 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 876.92' @ 12.67 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.90'	42.0" Round Culvert

02_Post-DevelopmentConditions_WisDOT_PondEvalPrepared by SCS Engineers

MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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L= 148.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 875.90' / 875.40' S= 0.0034 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=6.22 cfs @ 12.67 hrs HW=876.91' TW=872.55' (Dynamic Tailwater) 1=Culvert (Barrel Controls 6.22 cfs @ 4.03 fps)

Summary for Pond 59P: Pond A

Inflow Area = 300.773 ac, 22.78% Impervious, Inflow Depth > 0.54" for 1-yr event

Inflow = 48.87 cfs @ 12.17 hrs, Volume= 13.595 af

Outflow = 4.57 cfs @ 24.00 hrs, Volume= 11.570 af, Atten= 91%, Lag= 710.1 min

Primary = 4.57 cfs @ 24.00 hrs, Volume= 11.570 af

Routed to Link 36L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 860.42' @ 24.00 hrs Surf.Area= 3.286 ac Storage= 4.565 af

Plug-Flow detention time= 819.7 min calculated for 11.562 af (85% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 534.1 min (2,132.7 - 1,598.5)

Invert

Volume

#1	859.00'	24.336	af Cust	tom Stage Data (Prismatic)Listed below (Recalc) x 0.85
Elevatio	n Surf.Area	In	c.Store	Cum.Store
(fee	t) (acres)	(acı	re-feet)	(acre-feet)
859.0	0 3.694	,	0.000	0.000
860.0	0 3.815		3.755	3.755
861.0	0 3.937	•	3.876	7.631
862.0	0 4.061		3.999	11.630
863.0	0 4.186		4.123	15.753
864.0	0 4.061		4.123	19.877
865.0	0 4.439		4.250	24.127
866.0	0 4.570		4.505	28.631
Device	Routing	Invert	Outlet De	evices
#1	Primary	858.20'	42.0" Ro	ound Culvert
	•		L= 15.2'	RCP, square edge headwall, Ke= 0.500
				itlet Invert= 858.20' / 858.00' S= 0.0132 '/' Cc= 0.900
			n= 0.012	, Flow Area= 9.62 sf
#2	Device 1	859.00'	Custom	Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (fee	et) 0.00 3.50 3.50 6.00
			Width (fe	eet) 0.17 4.20 6.00 6.00
#3	Device 2	857.00'		ound Culvert
				RCP, groove end w/headwall, Ke= 0.200
				itlet Invert= 857.00' / 857.00' S= 0.0000 '/' Cc= 0.900
				, Flow Area= 9.62 sf
#4	Primary	865.00'		g x 10.0' breadth Broad-Crested Rectangular Weir
			,	et) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (Er	nglish) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

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Primary OutFlow Max=4.57 cfs @ 24.00 hrs HW=860.42' TW=856.60' (Dynamic Tailwater)

—1=Culvert (Passes 4.57 cfs of 25.05 cfs potential flow)

2=Custom Weir/Orifice (Weir Controls 4.57 cfs @ 3.26 fps)

3=Culvert (Passes 4.57 cfs of 49.91 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: Pond B (Wet Basin)

Volume	Invert A	vail.Stora	ge St	orage Description
#1	871.00'	38.463	af Cu	ustom Stage Data (Prismatic)Listed below
Elevation	Surf.Area	In	c.Store	Cum.Store
(feet)	(acres)	(acı	e-feet)	(acre-feet)
871.00	2.901		0.000	0.000
872.00	3.063		2.982	2.982
873.00	3.159)	3.111	6.093
874.00	6.376		4.768	10.861
875.00	6.599		6.487	17.348
876.00	6.861		6.730	24.078
877.00			7.045	31.123
878.00	7.451		7.340	38.463
	Routing	Invert		Devices
#1	Primary	871.00'		Round Culvert L= 3,037.0' Ke= 0.850
				Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
				12, Flow Area= 9.62 sf
#2	Device 1	871.00'		m Weir/Orifice, Cv= 2.62 (C= 3.28)
				(feet) 0.00 1.50 1.50 6.00
				(feet) 0.17 1.27 6.00 6.00
#3	Secondary	876.40'		ong x 10.0' breadth Broad-Crested Rectangular Weir
			,	(feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. ((English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)

___1=Culvert (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge) 3=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 61P: (new Pond)

Inflow Area = 2.146 ac, 41.66% Impervious, Inflow Depth = 1.30" for 1-yr event

Inflow = 4.37 cfs @ 12.13 hrs, Volume= 0.233 af

Outflow = 4.37 cfs @ 12.13 hrs, Volume= 0.233 af, Atten= 0%, Lag= 0.0 min

Primary = 4.37 cfs @ 12.13 hrs, Volume= 0.233 af

Routed to Pond 59P: Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

¹—2=Custom Weir/Orifice (Controls 0.00 cfs)

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Peak Elev= 860.68' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	859.50'	18.0" Round Culvert
			L= 122.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 859.50' / 859.00' S= 0.0041 '/' Cc= 0.900
			n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=4.19 cfs @ 12.13 hrs HW=860.65' TW=859.23' (Dynamic Tailwater) 1=Culvert (Barrel Controls 4.19 cfs @ 3.98 fps)

Summary for Pond 62P: Pond B (Wet Basin) Spillway change

Volume	Invert /	<u> Avail.Stora</u>	ige Sto	torage Description
#1	871.00'	38.463	af Cu	ustom Stage Data (Prismatic)Listed below
Elevation	on Surf.Area	a In	c.Store	e Cum.Store
(fee	et) (acres) (acı	re-feet)) (acre-feet)
871.0	00 2.90°	1	0.000	0.000
872.0	00 3.063	3	2.982	2 2.982
873.0			3.111	
874.0			4.768	
875.0			6.487	
876.0			6.730	
877.0			7.045	
878.0)0 7.45°	1	7.340	38.463
Device	Routing	Invert	Outlet	t Devices
#1	Primary	871.00'		Round Culvert L= 3,037.0' Ke= 0.850
#1	Filliary	07 1.00		Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
				012, Flow Area= 9.62 sf
#2	Device 1	871.00'		om Weir/Orifice, Cv= 2.62 (C= 3.28)
11 2	DOVIGO 1	07 1.00		(feet) 0.00 1.50 1.50 6.00
			,	(feet) 0.17 1.27 6.00 6.00
#3	Secondary	876.40'		nmetrical Weir, C= 3.27
	= = = = = = = = = =		•	t (feet) 0.00 20.00 60.00 80.00
				t (feet) 1.00 0.00 0.00 1.00
			•	

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge) 3=Asymmetrical Weir (Controls 0.00 cfs)

²⁼Custom Weir/Orifice (Controls 0.00 cfs)

Avail Storage Storage Description

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Summary for Pond 63P: Pond B (Dry Basin)

volume	Invert	Avail.Stora	ge :	Storage Description
#1	869.00'	1.772	af (Custom Stage Data (Prismatic)Listed below
Elevation			c.Sto	
(fee	et) (acres	s) (acı	e-fee	t) (acre-feet)
869.0	0.01	8	0.00	0.000
870.0	0.05	7	0.03	37 0.037
871.0	0.09	7	0.07	77 0.114
872.0	0.13	8	0.11	7 0.232
873.0	00 2.94	1	1.54	1.772
Device	Routing	Invert	Outle	et Devices
#1	Primary	871.00'	18.0	" Round Culvert
	•		L= 1	3.0' RCP, groove end projecting, Ke= 0.200
				/ Outlet Invert= 871.00' / 871.00' S= 0.0000 '/' Cc= 0.900
			n= 0	.012, Flow Area= 1.77 sf
#2	Secondary	873.00'	Hea	0' long + 20.0 '/' SideZ x 15.0' breadth Broad-Crested Rectangular Weir d (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 f. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

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

Summary for Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Inflow Area = 244.722 ac, 18.67% Impervious, Inflow Depth > 0.56" for 1-yr event

Inflow = 38.78 cfs @ 12.20 hrs, Volume= 11.447 af

Outflow = 4.74 cfs @ 19.92 hrs, Volume= 9.840 af, Atten= 88%, Lag= 463.1 min

Primary = 4.74 cfs @ 19.92 hrs, Volume= 9.840 af

Routed to Pond 59P: Pond A

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 20R: Overland Flow

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 872.60' @ 19.92 hrs Surf.Area= 5.932 ac Storage= 5.894 af

Plug-Flow detention time= 937.7 min calculated for 9.840 af (86% of inflow) Center-of-Mass det. time= 745.9 min (1,888.0 - 1,142.1)

Volume	Invert	Avail.Storage	Storage Description
#1	871.00'	42.125 af	Custom Stage Data (Prismatic)Listed below

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
871.00	2.930	0.000	0.000
872.00	3.134	3.032	3.032
872.50	5.890	2.256	5.288
873.00	6.100	2.998	8.285
874.00	6.376	6.238	14.524
875.00	6.599	6.487	21.011
876.00	6.861	6.730	27.741
877.00	7.228	7.044	34.785
878.00	7.451	7.339	42.125

Device	Routing	Invert	Outlet Devices
#1	Primary	871.00'	42.0" Round Culvert L= 3,037.0' Ke= 0.850
			Inlet / Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
			n= 0.012, Flow Area= 9.62 sf
#2	Device 1	871.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 1.50 1.50 6.00
			Width (feet) 0.17 1.27 6.00 6.00
#3	Device 2	870.00'	42.0" Round Culvert L= 20.0' Ke= 0.700
			Inlet / Outlet Invert= 870.00' / 870.00' S= 0.0000 '/' Cc= 0.900
			n= 0.012, Flow Area= 9.62 sf
#4	Secondary	876.40'	80.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=4.74 cfs @ 19.92 hrs HW=872.60' TW=860.32' (Dynamic Tailwater) **-1=Culvert** (Passes 4.74 cfs of 14.98 cfs potential flow)

-2=Custom Weir/Orifice (Weir Controls 4.74 cfs @ 2.81 fps)
-3=Culvert (Passes 4.74 cfs of 26.64 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=871.00' TW=872.00' (Dynamic Tailwater) **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 65P: YH6-Pond

Inflow	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af	
Outflow	=	78.74 cfs @	0.00 hrs, Volume=	12.903 af, Atten= 0%, Lag= 0.0 m	in
Primary	=	78.74 cfs @	0.00 hrs, Volume=	12.903 af	
Secondary	/ =	0.00 cfs @	0.00 hrs, Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Starting Elev= 856.60' Surf.Area= 6.484 ac Storage= 12.773 af Peak Elev= 856.60' @ 0.00 hrs Surf.Area= 6.484 ac Storage= 12.773 af

Plug-Flow detention time= (not calculated: no plugs found) Center-of-Mass det. time= (not calculated: no inflow)

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Invert

854.63'

Volume

#1

MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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Avail.Storage Storage Description

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Elevation	on Surf.Area	a Ir	nc.Store	Cum.Store	
(fee		_	re-feet)	(acre-feet)	
		, ,		<u> </u>	
854.6	6.484	4	0.000	0.000	
856.6	6.484	4	12.773	12.773	
857.0	00 6.88	5	2.674	15.447	
858.0	00 7.728	3	7.307	22.754	
859.0	00 11.179	9	9.453	32.207	
860.0	00 17.71	4	14.447	46.654	
Device	Routing	Invert	Outlet D	Devices	
#1	Primary	854.63'	108.0"	W x 36.0" H Bo	ox Culvert
	· ····· ,				edge headwall, Ke= 0.500
				′ '	I.63' / 854.25' S= 0.0136 '/' Cc= 0.900
					e, finished, Flow Area= 27.00 sf
40	Casandami	050 601			
#2	Secondary	858.60'	50.0 10	ng + 25.0 / Sid	deZ x 15.0' breadth Broad-Crested Rectangular Weir
			Head (f	eet) 0.20 0.40	0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (E	English) 2.68 2.	70 2.70 2.64 2.63 2.64 2.64 2.63

46.654 af Custom Stage Data (Prismatic)Listed below (Recalc)

Primary OutFlow Max=78.74 cfs @ 0.00 hrs HW=856.60' (Free Discharge)
—1=Culvert (Barrel Controls 78.74 cfs @ 5.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=856.60' (Free Discharge) 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link 35L: Ag. Ditch #4 Tributary

Inflow Area = 19.199 ac, 34.85% Impervious, Inflow Depth = 0.88" for 1-yr event

Inflow = 18.66 cfs @ 12.24 hrs, Volume= 1.407 af

Primary = 18.42 cfs @ 12.50 hrs, Volume= 1.407 af, Atten= 1%, Lag= 15.8 min

Routed to Link 36L: Combined to Ag Ditch #4

Primary outflow = Inflow delayed by 15.8 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Combined to Ag Ditch #4

Inflow Area = 640.771 ac, 14.16% Impervious, Inflow Depth > 0.36" for 1-yr event

Inflow = 25.13 cfs @ 12.52 hrs, Volume= 19.061 af

Primary = 25.13 cfs @ 12.52 hrs, Volume= 19.061 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Fixed water surface Elevation= 856.60'

MSE 24-hr 4 1-yr Rainfall=2.49" Printed 9/27/2023

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Summary for Link 44L: Door Creek Combined

Inflow Area = 40.584 ac, 24.45% Impervious, Inflow Depth > 0.43" for 1-yr event

Inflow = 6.70 cfs @ 12.35 hrs, Volume= 1.454 af

Primary = 6.70 cfs @ 12.35 hrs, Volume= 1.454 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 56L: Lag to Door Creek

Inflow Area = 0.750 ac, 46.67% Impervious, Inflow Depth = 0.99" for 1-yr event

Inflow = 0.57 cfs @ 12.47 hrs, Volume= 0.062 af

Primary = 0.56 cfs @ 12.89 hrs, Volume= 0.062 af, Atten= 1%, Lag= 25.8 min

Routed to Link 44L: Door Creek Combined

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Primary outflow = Inflow delayed by 25.6 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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Summary for Subcatchment 1S: C1

Runoff = 12.14 cfs @ 12.13 hrs, Volume= 0.653 af, Depth= 1.68"

Routed to Pond 1P: Niebuhr Stormwater Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

_	Area	(ac)	CN	Desc	cription		
*	3.	370	98				
_	1.	300	61	>75%	% Grass co	over, Good	d, HSG B
	4.670 88 Weighted Average						
	1.	300		27.8	4% Pervio	us Area	
	3.	370		72.10	6% Imperv	∕ious Area	
	_			01			D 1.0
	Tc	Leng		Slope	Velocity	Capacity	·
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 2S: C2

Runoff = 3.06 cfs @ 12.52 hrs, Volume= 0.412 af, Depth= 0.51" Routed to Pond 2P : Storm Basin 2 with Infiltration

	Area	(ac) C	N Des	cription					
*	* 1.020 S		98						
	5.	655	61 >75°	% Grass c	over, Good	, HSG B			
	0.685 58		58 Woo	Woods/grass comb., Good, HSG B					
*				Row crops, SR + CR, Good, HSG B					
_	9.745 67			ghted Aver	•				
	8.725		•	3% Pervio					
		020		-	/ious Area				
	١.	020	10.4	7 70 Imper	nous Arca				
	Тс	Length	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	8.0	91	0.0830	0.19	`	Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.82"			
	6.4	59	0.0300	0.15		Sheet Flow,			
						Cultivated: Residue>20% n= 0.170 P2= 2.82"			
	11.9	573	0.0080	0.80		Shallow Concentrated Flow,			
						Cultivated Straight Rows Kv= 9.0 fps			
	3.3	337	0.0030	1.69	11.17	Channel Flow,			
						Area= 6.6 sf Perim= 13.4' r= 0.49' n= 0.030			
	1.1	224	0.0050	3.31	10.40	Pipe Channel,			
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
						n= 0.020 Corrugated PE, corrugated interior			
_		4 00 4	-						

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Summary for Subcatchment 3S: C3-A

Runoff = 6.10 cfs @ 12.36 hrs, Volume= 0.576 af, Depth= 1.02"

Routed to Pond 2P: Storm Basin 2 with Infiltration

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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

Area	(ac) C	N Des	cription		
* 2.	890 9	98			
3.	639 6	31 >75°	75% Grass cover, Good,		, HSG B
0.	273	98 Wate	er Surface	, HSG B	
6.	6.802		ghted Aver	age	
3.	639	53.5	0% Pervio	us Area	
3.	163	46.5	0% Imper	ious Area	
Tc	Length	Slope	Velocity	Capacity	Description
<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)	
12.1	86	0.0260	0.12		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
0.9	68	0.0220	1.24		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 2.82"
9.1	1,026	0.0050	1.88	15.43	•
					Bot.W=0.00' D=1.00' Z= 8.2 '/' Top.W=16.40'
					n= 0.035
1.4	224	0.0050	2.76	8.66	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.024
0.1	59	0.0056	7.06	49.91	Pipe Channel,
					36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'
					n= 0.013
23.6	1,463	Total			

Summary for Subcatchment 4S: C3-B

Runoff = 2.10 cfs @ 12.13 hrs, Volume= 0.114 af, Depth= 1.84" Routed to Pond 3P : Sheriff Phase 2 Bioretention

	Area (ac)	CN	Description			
*	0.580	98				
	0.165	>75% Grass cover, Good, HSG B				
	0.745	90	Weighted Average			
	0.165					
	0.580		77.85% Impervious Area			

MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
_	6.0	, ,	, ,	,	, ,	Direct Entry,

Summary for Subcatchment 5S: C4-A

Runoff = 7.17 cfs @ 12.13 hrs, Volume= 0.406 af, Depth= 2.20"

Routed to Pond 4P: Cnty-Storm Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	cription		
*	2.	010	98				
	0.	210	61	>75%	% Grass co	over, Good	H, HSG B
	2.220 94 Weighted Average					age	
	0.210 9.46% Pervious Area					s Area	
	2.	010		90.5	4% Imperv	ious Area	
	Тс	Lengt	th S	Slope	Velocity	Capacity	Description
	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 6S: C4-B

Runoff = 4.02 cfs @ 12.32 hrs, Volume= 0.353 af, Depth= 1.02"

Routed to Pond 5P: CNTY-Infiltration Basin #1

	Area (ac)	CN	Description					
*	1.560	98						
	1.455	61	>75% Grass cover, Good, HSG B					
	1.150	74	>75% Grass cover, Good, HSG C					
	4.165	78	Weighted Average					
	2.605 62.55% Pervious Area							
	1.560		37.45% Impervious Area					

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MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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_	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	13	0.0200	0.86		Sheet Flow,
	0.9	10	0.2400	0.19		Smooth surfaces n= 0.011 P2= 2.82" Sheet Flow,
	14.4	127	0.0370	0.15		Grass: Dense n= 0.240 P2= 2.82" Sheet Flow,
			0.00.0			Grass: Dense n= 0.240 P2= 2.82"
	1.6	115	0.0280	1.17		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
	3.3	521	0.0080	2.66	15.95	Trap/Vee/Rect Channel Flow,
						Bot.W=2.00' D=1.00' Z= 4.0 '/' Top.W=10.00' n= 0.035
_	20.5	786	Total			

Summary for Subcatchment 7S: C4-C

Runoff = 0.82 cfs @ 12.14 hrs, Volume= 0.045 af, Depth= 0.81"

Routed to Pond 6P: County Pond - East

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

_	Area	(ac)	CN	Desc	cription		
*	0.	230	98				
	0.	440	61	>75%	% Grass co	over, Good	I, HSG B
	0.670 74 Weighted Average					age	
	0.440 65.67% Pervious Area					us Area	
	0.230			34.3	3% Imperv	ious Area	
	Tc Length (min) (feet)			Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
_	6.0	(/	(1411)	()	()	Direct Entry,

Summary for Subcatchment 8S: C4-D

Runoff = 23.42 cfs @ 12.13 hrs, Volume= 1.274 af, Depth= 1.84"

Routed to Pond 6P: County Pond - East

_	Area (ac)	CN	Description
*	6.030	98	
	1.350	>75% Grass cover, Good, HSG B	
	Water Surface, HSG B		
	0.640	>75% Grass cover, Good, HSG C	
	8.320	90	Weighted Average
1.990 23.92% Pervious Area			
	6.330		76.08% Impervious Area

MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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Tc Length Slope Velocity Capacity Description
(min) (feet) (ft/ft) (ft/sec) (cfs)

6.0

Direct Entry,

Summary for Subcatchment 9S: C5-A

Runoff = 0.63 cfs @ 12.15 hrs, Volume= 0.044 af, Depth= 0.40"

Routed to Pond 9P: Culvert 534+50

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN De	scription					
	1.	220	61 >7	5% Grass c	over, Good	, HSG B			
*	0.	100	98						
	1.	320	64 W	Weighted Average					
	1.	220	92	.42% Pervio	ous Area				
	0.	100	7.	88% Impervi	ious Area				
	Tc	Length		•	Capacity	Description			
_	(min)	(feet	(ft/f) (ft/sec)	(cfs)				
	1.3	16	0.240	0.21		Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.82"			
	1.7	533	0.030	5.30	21.19	Trap/Vee/Rect Channel Flow,			
						Bot.W=0.00' D=1.00' Z= 4.0 '/' Top.W=8.00'			
						n= 0.030			
_	3.0					Direct Entry, increase to min TOC			
	6.0	549	Total						

Summary for Subcatchment 10S: C5-B

Runoff = 2.45 cfs @ 12.13 hrs, Volume= 0.151 af, Depth= 2.61"

Routed to Pond 57P: 187+00 42" Culvert

	Area	(ac)	CN	Desc	cription		
*	0.	693	98				
0.693 100.00% Impervious Area					а		
	Tc	Leng		Slope	,	Capacity	Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

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Summary for Subcatchment 11S: C5-C

Runoff = 5.94 cfs @ 12.17 hrs, Volume= 0.356 af, Depth= 0.96"

Routed to Pond 57P: 187+00 42" Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

_	Area	(ac) (CN Des	cription		
*	1.	898	98			
	2.	544	61 >75	% Grass c	over, Good	, HSG B
	4.	442	77 Wei	ghted Avei	rage	
	2.	544	57.2	7% Pervio	us Area	
	1.	898	42.7	3% Imper	vious Area	
	Тс	Length	•	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.5	33	0.0270	1.17		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	4.8	76	0.2100	0.27		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.3	869	0.0150	4.36	61.01	Trap/Vee/Rect Channel Flow,
						Bot.W=10.00' D=1.00' Z= 4.0 '/' Top.W=18.00'
						n= 0.035
	8.6	978	Total			

Summary for Subcatchment 12S: C5-E

Runoff = 2.31 cfs @ 12.16 hrs, Volume= 0.134 af, Depth= 1.07" Routed to Pond 14P : Culvert at Millpond 387+00

	Area (ac)	CN	Description			
*	0.720	98				
	0.740	61	>75% Grass cover, Good, HSG B			
	0.040	74	>75% Grass cover, Good, HSG C			
	1.500	79	Weighted Average			
	0.780 52.00% Pervious Area					
	0.720		48.00% Impervious Area			

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_	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	18	0.0180	0.88		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	2.2	19	0.0950	0.15		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	5.7	645	0.0050	1.88	15.05	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'
						n= 0.035
_	8.2	682	Total			

Summary for Subcatchment 13S: C6-A

Runoff = 3.73 cfs @ 12.17 hrs, Volume= 0.230 af, Depth= 0.81"

Routed to Pond 13P: Culvert at Ramp A 690+50

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	cription		
*	0.	890	98				
	1.	690	61	>759	% Grass co	over, Good,	, HSG B
_	0.	830	74	>759	% Grass co	over, Good,	, HSG C
	3.410 74		Weighted Average				
	2.	520		73.9	0% Pervio	us Area	
	0.	890		26.1	0% Imperv	/ious Area	
	Tc	Length		lope	Velocity	Capacity	Description
	(min)	(feet) (ft/ft)	(ft/sec)	(cfs)	
	3.6	65	0.3	3100	0.30		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	1.0	85	0.0	390	1.38		Shallow Concentrated Flow,
							Short Grass Pasture Kv= 7.0 fps
	3.9	431	0.0	050	1.87	9.33	Trap/Vee/Rect Channel Flow,
							Bot.W=0.00' D=1.00' Z= 4.0 & 6.0 '/' Top.W=10.00'
_							n= 0.035
	8.5	581	To	tal			

Summary for Subcatchment 14S: C6-B

Runoff = 10.29 cfs @ 12.37 hrs, Volume= 1.002 af, Depth= 0.86"

Routed to Pond 14P: Culvert at Millpond 387+00

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	Area	(ac)	CN	Desc	cription		
*	3.	360	98				
	5.	070	61	>75%	% Grass co	over, Good	, HSG B
	5.	590	74	>75%	% Grass co	over, Good	, HSG C
	14.	020	75	Weid	hted Aver	age	
	10.	660		_	, 3% Pervio	•	
	3.	360		23.9	7% Imperv	ious Area	
					•		
	Tc	Length	ո Տ	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	•
	18.7	148	3 0.	0260	0.13		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	4.9	898	3 0.	0090	3.03	24.26	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 4.0 '/' Top.W=12.00'
							n= 0.035
	23.6	1,046	To	otal			

Summary for Subcatchment 15S: C6-C

Runoff = 7.84 cfs @ 12.13 hrs, Volume= 0.451 af, Depth= 2.29"

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	ription					
*	2.	020	98							
	0.	340	74	>75%	√ Grass co	over, Good	, HSG C			
	2.	360	95	Weig	hted Aver	age				
	0.340			14.4	14.41% Pervious Area					
	2.020			85.59% Impervious Area						
	То	Long	th (Clana	Volocity	Consoity	Description			
	Tc	Leng		Slope	Velocity	Capacity	Description			
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	6.0						Direct Entry,			

Summary for Subcatchment 16S: C6-D1

Runoff = 0.77 cfs @ 12.45 hrs, Volume= 0.109 af, Depth= 0.37" Routed to Pond 16P : Culvert 509+94 (NB CTH AB)

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MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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	Area	(ac)	CN	Desc	cription		
*	0.	040	98				
	2.	340	61	>75%	√ Grass co	over, Good	, HSG B
	0.	390	58	Woo	ds/grass d	omb., Goo	d, HSG B
*	0.	790	70	Row	crops, SR	+ CR, God	od, HSG B
	3.	560	63	Weig	hted Aver	age	
	3.	520		98.8	8% Pervio	us Area	
	0.	040		1.12	% Impervi	ous Area	
	_		_				
	Тс	Lengt	th	Slope	Velocity	Capacity	Description
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	23.0	26	5 0	.0500	0.19		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	0.9	22	3 0	.0240	4.07	18.31	Trap/Vee/Rect Channel Flow,
							Bot.W=0.00' D=1.00' Z= 6.0 & 3.0 '/' Top.W=9.00'
							n= 0.035
	23.9	48	8 T	otal			

Summary for Subcatchment 17S: C6-D2

Runoff 4.18 cfs @ 12.57 hrs, Volume= 0.602 af, Depth= 0.51"

Routed to Pond 18P: Culvert 505+79 (NB CTH AB)

	Area (ac)	CN	Description
*	1.795	98	
	3.625	61	>75% Grass cover, Good, HSG B
	0.305	74	>75% Grass cover, Good, HSG C
	5.110	58	Woods/grass comb., Good, HSG B
*	2.820	70	Row crops, SR + CR, Good, HSG B
*	0.580	79	Row crops, SR + CR, Good, HSG C
	14.235	67	Weighted Average
	12.440		87.39% Pervious Area
	1.795		12.61% Impervious Area

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	т.	l 4l-	01	\	0	Description
	Tc	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	15.7	150	0.1150	0.16		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.82"
	7.2	545	0.0630	1.25		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	3.4	219	0.0450	1.06		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	6.7	335	0.0140	0.83		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.1	213	0.0160	3.32	13.26	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 '/' Top.W=8.00'
						n= 0.035
	0.4	150	0.0050	6.40	31.42	Pipe Channel,
						30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63'
						n= 0.012
_	34.5	1,612	Total			

Summary for Subcatchment 18S: YH2-B

6.63 cfs @ 12.67 hrs, Volume= Runoff

1.135 af, Depth= 0.40"

Routed to Pond 58P: Culvert 395+33 (Millpond)

Area	(ac) C	N Desc	cription		
2.	510 9	98			
11.	160 6	31 >759	% Grass co	over, Good.	, HSG B
9.	490				
2.	240	35 Brus	h, Good, H	HSG C	
33.	990 6				
			•	•	
		7.38	% Impervi	ous Area	
			'		
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
15.5	150	0.0430	0.16	,	Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
17.3	1,216	0.0280	1.17		Shallow Concentrated Flow,
	ŕ				Short Grass Pasture Kv= 7.0 fps
0.7	206	0.0100	4.91	3.86	·
					12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
					n= 0.012
1.6	234	0.0040	2.38	38.12	Trap/Vee/Rect Channel Flow,
					Bot.W=8.00' D=1.00' Z= 8.0 '/' Top.W=24.00'
					n= 0.030
0.1	35	0.0140	9.23	29.00	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.012
	2. 11. 9. 2. 8. 33. 31. 2. Tc (min) 15.5 17.3	2.510 9 11.160 9.490 7 2.240 8.590 4 33.990 31.480 2.510 Tc Length (min) (feet) 15.5 150 17.3 1,216 0.7 206	2.510 98 11.160 61 >759 9.490 74 >759 2.240 65 Brus 8.590 48 Brus 33.990 64 Weig 31.480 92.6 2.510 7.38 Tc Length Slope (min) (feet) (ft/ft) 15.5 150 0.0430 17.3 1,216 0.0280 0.7 206 0.0100 1.6 234 0.0040	2.510 98 11.160 61 >75% Grass co 9.490 74 >75% Grass co 9.490 65 Brush, Good, F 8.590 48 Brush, Good, F 33.990 64 Weighted Aver 31.480 92.62% Pervio 2.510 7.38% Impervio Tc Length Slope Velocity (min) (feet) (ft/ft) (ft/sec) 15.5 150 0.0430 0.16 17.3 1,216 0.0280 1.17 0.7 206 0.0100 4.91 1.6 234 0.0040 2.38	2.510 98 11.160 61 >75% Grass cover, Good 9.490 74 >75% Grass cover, Good 2.240 65 Brush, Good, HSG C 8.590 48 Brush, Good, HSG B 33.990 64 Weighted Average 31.480 92.62% Pervious Area 2.510 7.38% Impervious Area Tc Length Slope Velocity Capacity (min) (feet) (ft/ft) (ft/sec) (cfs) 15.5 150 0.0430 0.16 17.3 1,216 0.0280 1.17 0.7 206 0.0100 4.91 3.86 1.6 234 0.0040 2.38 38.12

MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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3.3 527 0.0140 2.68 53.55 **Trap/Vee/Rect Channel Flow,**Bot.W=10.00' D=1.00' Z= 10.0 '/' Top.W=30.00' n= 0.050

38.5 2,368 Total

Summary for Subcatchment 19S: C7 - Landfill

Runoff = 41.53 cfs @ 12.19 hrs, Volume= 2.679 af, Depth= 1.13"

Routed to Pond 19P: Landfill Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

_	Area (a	c) Cl	N Des	cription					
	0.44	10 9	6 Grav	vel surface	, HSG C				
	27.65	50 8	0 >75	% Grass c	over, Good	, HSG D			
_	0.33	30 9	8 Wat	er Surface	, HSG B				
	28.420 80 Weighted Average								
	28.09	90	98.8	98.84% Pervious Area					
	0.33	30	1.16	% Impervi	ous Area				
	- .		01						
		ength	Slope	Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	44.0					D: 1 E 1 TOO 1 1 1011 ON THE			

11.0 Direct Entry, TOC from Landfill SWMP

Summary for Subcatchment 20S: C8

Runoff = 9.86 cfs @ 12.23 hrs, Volume= 0.715 af, Depth= 1.02"

Routed to Pond 22P: 36" Culvert 182+00

	Area (ac)	CN	Description
*	2.980	98	
	2.750	61	>75% Grass cover, Good, HSG B
	2.714	74	>75% Grass cover, Good, HSG C
	8.444	78	Weighted Average
	5.464		64.71% Pervious Area
	2.980		35.29% Impervious Area

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_	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.6	31	0.0140	0.89		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	1.6	10	0.0520	0.10		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	5.6	1,329	0.0170	3.93	11.78	Trap/Vee/Rect Channel Flow,
		•				Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00'
						n= 0.030
	5.9	395	0.0250	1.11		Shallow Concentrated Flow,
	3.0					Short Grass Pasture Kv= 7.0 fps
	13.7	1.765	Total			

Summary for Subcatchment 22S: C9

Runoff = 1.59 cfs @ 12.16 hrs, Volume= 0.094 af, Depth= 1.07"

Routed to Pond 22P: 36" Culvert 182+00

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area (ac) CN		N Des	Description				
*	0.	520	98					
	0.530		61 >75	% Grass c	over, Good	, HSG B		
	1.050 79			ghted Aver	age			
0.530			50.4	8% Pervio	us Area			
	0.520			2% Imper	vious Area			
	_		-			—		
	Tc	Length	•	Velocity	Capacity	Description		
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	0.3	19	0.0200	0.93		Sheet Flow,		
						Smooth surfaces n= 0.011 P2= 2.82"		
	1.8	19	0.1400	0.17		Sheet Flow,		
						Grass: Dense n= 0.240 P2= 2.82"		
	6.5	572	0.0030	1.46	11.66	Trap/Vee/Rect Channel Flow,		
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'		
_						n= 0.035		
	8.6	610	Total					

Summary for Subcatchment 23S: C10

Runoff = 1.48 cfs @ 12.15 hrs, Volume= 0.083 af, Depth= 1.07" Routed to Pond 64P : Pond B-reduced raised 1 ft and raised spillway

02_Post-DevelopmentConditions_WisDOT_PondEvalPrepared by SCS Engineers

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_	Area	(ac)	CN D	escription					
*	* 0.404 98		98						
	0	374		75% Grass	cover, Good	HSG B			
	_	153			•	•			
_				>75% Grass cover, Good, HSG C					
		931		eighted Av					
	0.	527	56	6.61% Perv	rious Area				
	0.	404	43	3.39% Impe	ervious Area				
				•					
	Tc	Length	Slop	e Velocit	y Capacity	Description			
	(min)	(feet)			, ,	2000.19.10.1			
_						Chart Flaur			
	0.3	18	0.020	0.9	2	Sheet Flow,			
						Smooth surfaces n= 0.011 P2= 2.82"			
	1.7	19	0.170	0.19	9	Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.82"			
	5.5	475	0.003	30 1.4	5 8.71	Trap/Vee/Rect Channel Flow,			
					-	Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'			
						n= 0.035			
_		546				11- 0.000			
	7.5	512	Total						

Summary for Subcatchment 24S: YH1

Runoff = 14.17 cfs @ 12.93 hrs, Volume= 2.808 af, Depth= 0.51"

Routed to Pond 24P: YH1 - Pond

_	Area	(ac) (CN	Desc	cription			
	22.700 61 >75% Grass cover, Good, HSG B							
	27.	890	74	>75%	% Grass co	over, Good	, HSG C	
	4.	830	48	Brus	h, Good, F	HSG B		
	8.	800	65	Brus	h, Good, F	HSG C		
_	2.	180	98	Wate	er Surface	, HSG B		
	66.	400	67	Weig	hted Aver	age		
	64.	220		96.7	2% Pervio	us Area		
	2.	180		3.28	% Impervi	ous Area		
	Tc	Length		ope	Velocity	Capacity	Description	
_	(min)	(feet)	(1	ft/ft)	(ft/sec)	(cfs)		
	21.0	150	0.0	200	0.12		Sheet Flow,	
							Grass: Dense n= 0.240 P2= 2.82"	
	36.9	2,018	0.0	170	0.91		Shallow Concentrated Flow,	
_							Short Grass Pasture Kv= 7.0 fps	
	57.9	2 168	Tot	tal				

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Summary for Subcatchment 25S: YH2-A

Runoff = 8.57 cfs @ 12.45 hrs, Volume= 0.983 af, Depth= 0.67"

Routed to Pond 64P: Pond B-reduced raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	cription				
*	0.	460	98						
	6.	980	61	>75% Grass cover, Good, HSG B					
	4.	750	74	>75% Grass cover, Good, HSG C					
	2.290 58		Woods/grass comb., Good, HSG B						
	0.	200	48		h, Ğood, H				
2.930 98 Water Surface, HSG B									
	17.610 71 Weighted Average								
	14.	220		80.7	5% Pervio	us Area			
	3.390			19.25% Impervious Area					
	Тс	Length	n S	Slope	Velocity	Capacity	Description		
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	18.6	150	0.0	0270	0.13		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.82"		
	8.3	493	3 0.0	0200	0.99		Shallow Concentrated Flow,		
							Short Grass Pasture Kv= 7.0 fps		
	1.1	375	0.0	0280	5.77	80.72			
							Bot.W=4.00' D=1.00' Z= 15.0 & 5.0 '/' Top.W=24.00'		
							n= 0.030		
	0.1	32	2 0.3	3300	4.02		Shallow Concentrated Flow,		
_							Short Grass Pasture Kv= 7.0 fps		
	20.1	1 050	\ Ta	stal					

28.1 1,050 Total

Summary for Subcatchment 26S: C11,12,15,16,18

Runoff = 22.86 cfs @ 12.13 hrs, Volume= 1.217 af, Depth= 1.45"

Routed to Pond 59P: Pond A

	Area (ac)	CN	Description					
*	6.350	98						
	3.330	61	>75% Grass cover, Good, HSG B					
	0.360	74	>75% Grass cover, Good, HSG C					
	10.040	85	Weighted Average					
	3.690		36.75% Pervious Area					
	6.350		63.25% Impervious Area					

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
 6.0					Direct Entry,

Summary for Subcatchment 27S: C13-A, C13-B, C14

Runoff = 11.71 cfs @ 12.27 hrs, Volume= 0.998 af, Depth= 0.63"

Routed to Pond 59P: Pond A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	cription		
*	4.	590	98				
*	10.	730	61				
	0.	643	74	>75%	% Grass co	over, Good	, HSG C
	2.	716	55		ds, Good,		
_	0.	424	70	Woo	<u>ds, Good,</u>	HSG C	
	19.103 70 We				hted Aver	•	
	14.513			7% Pervio			
	4.590		24.0	3% Imper	/ious Area		
	_						
	Tc	Leng		Slope	Velocity	Capacity	Description
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	0.3	1	8 (0.0200	0.92		Sheet Flow,
							Smooth surfaces n= 0.011 P2= 2.82"
	4.9	7	'5 (0.1900	0.25		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	10.2	1,34	0 (0.0050	2.20	20.87	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 6.0 & 5.0 '/' Top.W=15.00'
_							n= 0.035
	15.4	1,43	3 -	Total			

Summary for Subcatchment 28S: C17, C21, C22-A

Runoff = 5.10 cfs @ 12.21 hrs, Volume= 0.353 af, Depth= 0.86"

Routed to Pond 28P: 12/18 140+35

	Area (ac)	CN	Description					
*	1.830	98						
	2.930	61	>75% Grass cover, Good, HSG B					
	0.180	80	>75% Grass cover, Good, HSG D					
4.940 75 Weighted Average			Weighted Average					
	3.110		62.96% Pervious Area					
	1.830		7.04% Impervious Area					

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_	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	17	0.0240	0.97		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	3.0	46	0.2490	0.26		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	8.5	1,279	0.0064	2.51	22.55	Trap/Vee/Rect Channel Flow,
		·				Bot.W=4.00' D=1.00' Z= 6.0 & 4.0 '/' Top.W=14.00'
_						n= 0.035
_	11.8	1 342	Total		•	

11.8 1,342 Fotal

Summary for Subcatchment 29S: C19-A

Runoff = 5.05 cfs @ 12.27 hrs, Volume= 0.410 af, Depth= 0.91"

Routed to Pond 59P: Pond A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac) (CN Des	cription		
*	2.	140	98			
*	3.	280	61 Gras	ss HSG B		
	3.	420 280 140	76 Weighted Average 60.52% Pervious Area 39.48% Impervious Area			
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	12.6	150	0.0720	0.20	•	Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	2.1	129	0.0210	1.01		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.1	239	0.0300	3.52		Shallow Concentrated Flow,
						Paved Kv= 20.3 fps
	1.2	132	0.0050	1.87	12.18	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 9.0 & 4.0 '/' Top.W=13.00' n= 0.035
	17.0	650	Total			

Summary for Subcatchment 30S: C19-B

Runoff = 0.16 cfs @ 12.16 hrs, Volume= 0.014 af, Depth= 0.31"

Routed to Pond 59P: Pond A

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_	Area	(ac)	CN	Desc	cription		
	0.	0.560 61 >75% Grass cover, Good, HSG B					
0.560 100.					00% Pervi	ous Area	
	Tc	Leng	ıth	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
_	6.0						Direct Entry,

Summary for Subcatchment 31S: C19-C

Runoff = 5.34 cfs @ 12.13 hrs, Volume= 0.286 af, Depth= 1.60"

Routed to Pond 61P: (new Pond)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	cription					
*	0.	894	98							
	1.	252	80	>75%	√ Grass co	over, Good	I, HSG D			
	2.146 87 Weighted Average					age				
	1.252 58.34% Pervious Area									
	0.894 41.66% lm			6% Imperv	ious Area					
	Тс	Leng	th S	Slope	Velocity	Capacity	Description			
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	6.0						Direct Entry,			

Summary for Subcatchment 32S: C19-D

Runoff = 20.80 cfs @ 12.19 hrs, Volume= 1.357 af, Depth= 1.76"

Routed to Pond 59P: Pond A

	Area (ac)	CN	Description
*	2.665	98	
	1.463	61	>75% Grass cover, Good, HSG B
	1.444	80	>75% Grass cover, Good, HSG D
	3.700	98	Water Surface, HSG B
	9.272	89	Weighted Average
	2.907		31.35% Pervious Area
	6.365		68.65% Impervious Area

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
_	8.2	100	0.0930	0.20		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.1	279	0.0450	1.48		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	11.3	379	Total			

Summary for Subcatchment 33S: C20

Runoff = 1.83 cfs @ 12.29 hrs, Volume= 0.179 af, Depth= 0.47"

Routed to Pond 32P: Long Drive 440+35

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

_	Area	(ac) (CN Des	cription		
*	0.	660	98			
	3.	910	61 >75	% Grass c	over, Good	, HSG B
	4.	570	66 Wei	ghted Avei	rage	
	3.	910	85.5	66% Pervio	us Area	
	0.	660	14.4	4% Imper	vious Area	
	Тс	Length	•	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.3	12	0.0100	0.64		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	11.3	101	0.0430	0.15		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.9	723	0.0140	3.08	10.79	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 & 3.0 '/' Top.W=7.00'
						n= 0.035
	15.5	836	Total			

Summary for Subcatchment 34S: YH3-A

Runoff = 1.57 cfs @ 12.21 hrs, Volume= 0.124 af, Depth= 0.47"

Routed to Pond 34P: YH3-Pond

	Area (ac)	CN	Description
*	0.357	98	
	2.668	61	>75% Grass cover, Good, HSG B
	0.131	74	>75% Grass cover, Good, HSG C
	3.156	66	Weighted Average
	2.799		88.69% Pervious Area
	0.357		11.31% Impervious Area

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
10.0 Direct Entry,				Direct Entry,	

Summary for Subcatchment 35S: YH3-B

Runoff = 24.18 cfs @ 12.86 hrs, Volume= 5.224 af, Depth= 0.34"

Routed to Pond 34P: YH3-Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

Are	a (ac)	CN	N Desc	cription		
*	2.750 98		3			
11	111.110		1 >759	% Grass co	over, Good	, HSG B
2	25.680	74	4 >759	% Grass co	over, Good	, HSG C
3	35.680	48	Brus	h, Good, I	HSG B	
	6.860	65	5 Brus	h, Good, F	HSG C	
	4.200	98	3 Wate	er Surface	, HSG B	
18	36.280	62	2 Weig	ghted Aver	age	
17	9.330		96.2	7% Pervio	us Area	
	6.950		3.73	% Impervi	ous Area	
Т		-	Slope	Velocity	Capacity	Description
(min	ı) (fe	et)	(ft/ft)	(ft/sec)	(cfs)	
19.	9 1	50	0.0230	0.13		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
25.	0 1,6	62	0.0250	1.11		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
1.3	2 2	19	0.0090	2.95	29.50	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 10.0 '/' Top.W=20.00'
						n= 0.030
2.	5 8	85	0.0110	5.98	7.34	I a second secon
						15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'
						n= 0.012
48.	6 2,9	16	Total			

Summary for Subcatchment 36S: YH4

Runoff = 3.66 cfs @ 12.39 hrs, Volume= 0.443 af, Depth= 0.43"

Routed to Pond 36P: YH4-Pond

MSE 24-hr 4 2-yr Rainfall=2.84"

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	Area	(ac)	CN	Desc	cription			
	9.630 61 >75% Grass cover, Good, HSG B							
2.070 74 >75% Grass cover, Good, HSG C								
	0.	520	98	Wate	er Surface	, HSG A		
	12.	220	65	Weig	hted Aver	age		
	11.	700		95.7	4% Pervio	us Area		
	0.	520		4.26	% Impervi	ous Area		
	Тс	Length	n :	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	13.0	150	0 0	.0660	0.19		Sheet Flow,	
							Grass: Dense n= 0.240 P2= 2.82"	
	8.6	470	0 0	.0170	0.91		Shallow Concentrated Flow,	
							Short Grass Pasture Kv= 7.0 fps	
	21.6	620) T	otal			·	

Summary for Subcatchment 37S: YH5

Runoff = 3.99 cfs @ 12.15 hrs, Volume= 0.222 af, Depth= 1.13"

Routed to Pond 37P: YH5 - Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	cription				
*	0.	330	98						
	1.	130	61	>75%	√ Grass co	over, Good	, HSG B		
0.890 98 Water Surface, HSG A									
	2.350 80 Weighted Average								
	1.								
	1.	220		51.9°	51.91% Impervious Area				
	Tc (min)	Lengt (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description		
	0.2	1	1 0	0.0300	0.98		Sheet Flow,		
	7.1	8	7 0).1000	0.20		Smooth surfaces n= 0.011 P2= 2.82" Sheet Flow, Grass: Dense n= 0.240 P2= 2.82"		
	7.3	9	8 T	Γotal	•	•			

Summary for Subcatchment 38S: YH6

Runoff = 26.26 cfs 2 12.59 hrs, Volume= 3.907 af, Depth= 0.47"

Routed to Pond 38P: YH6-Pond

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MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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	Area	(ac)	CN	Desc	cription						
54.390 61 >75% Grass cover, Good,							, HSG B				
	4.	340	48	Brus	Brush, Good, HSG B						
	7.	606	65	Brus	Brush, Good, HSG C						
	26.	837	73	Brus	Brush, Good, HSG D						
_	6.	484	98	Wate	Nater Surface, HSG A						
	99.	657	66	Weig	ghted Aver	age					
	93.	173		93.4	9% Pervio	us Area					
	6.484			6.51	% Impervi	ous Area					
	Тс	Length	ı S	Slope	Velocity	Capacity	Description				
_	(min)	(feet)		(ft/ft)	(ft/sec)	(cfs)					
	19.2	150	0.0	0250	0.13		Sheet Flow,				
							Grass: Dense n= 0.240 P2= 2.82"				
	15.4	889	0.0	0190	0.96		Shallow Concentrated Flow,				
							Short Grass Pasture Kv= 7.0 fps				
	34.6	1,039	To	otal							

Summary for Subcatchment 39S: C22B-25

Runoff = 23.41 cfs @ 12.24 hrs, Volume=

1.719 af, Depth= 1.13"

Routed to Link 35L : Ag. Ditch #4 Tributary

	Area	(ac)	CN	Desc	cription		
*	* 6.210 98		98				
	5.320		61 >75		% Grass co	over, Good	, HSG B
	0.	359	74	>75%	% Grass co	over, Good	, HSG C
	6.	340	80	>75%	% Grass co	, HSG D	
	18.	229	80	Weig	hted Aver	age	
	12.	019		65.9	3% Pervio	us Area	
	6.	210		34.0	7% Imperv	/ious Area	
	Тс	Length		lope	Velocity	Capacity	Description
_	(min)	(feet) ((ft/ft)	(ft/sec)	(cfs)	
	0.4	29	0.0	0250	1.10		Sheet Flow,
							Smooth surfaces n= 0.011 P2= 2.82"
	2.4	30	0.1	1740	0.20		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	6.1	100	0.0	0015	0.27		Shallow Concentrated Flow,
							Short Grass Pasture Kv= 7.0 fps
	5.6	874	1 0.0	0069	2.58	23.23	Trap/Vee/Rect Channel Flow,
							Bot.W=0.00' D=1.00' Z= 9.0 '/' Top.W=18.00'
_							n= 0.030
	14.5	1,033	3 To	tal			

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Summary for Subcatchment 40S: C25-B

Runoff = 1.62 cfs @ 12.14 hrs, Volume= 0.087 af, Depth= 1.07"

Routed to Link 35L : Ag. Ditch #4 Tributary

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	cription		
*	0.	480	98				
*	0.	490	61				
	0.970 79 Wei			Weig	hted Aver	age	
	0.490 50.52% Pervious Area						
	0.480		49.48% Impervious Area				
	Тс	Leng		Slope	Velocity	Capacity	Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 41S: C26

Runoff = 2.92 cfs @ 13.12 hrs, Volume= 0.672 af, Depth= 0.47"

Routed to Link 36L: Combined to Ag Ditch #4

Description

Area (ac)

CN

Alca	(ac) C	IN DESI	JIIPUUII				
0	.040 6	31 >759	% Grass c	over, Good	, HSG B		
0	.016 7	⁷ 4 >75 ⁹	% Grass c	over, Good	, HSG C		
3	.950 4	l8 Brus	h, Good, I	HSG B	•		
			sh, Good, I				
			sh, Good, I				
17.136 66 Weighted Average							
	.136		00% Pervi				
• •							
Tc	Length	Slope	Velocity	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
40.2	150	0.0110	0.06	, ,	Sheet Flow,		
			0.00		Woods: Light underbrush n= 0.400 P2= 2.82"		
9.7	380	0.0170	0.65		Shallow Concentrated Flow,		
• • • • • • • • • • • • • • • • • • • •			0.00		Woodland Kv= 5.0 fps		
0.4	58	0.0050	2.76	8.66	·		
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'		
					n= 0.024		
0.2	59	0.0260	4.99	29.91	Trap/Vee/Rect Channel Flow,		
					Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'		
					n= 0.030		
19.3	2,177	0.0007	1.88	53.14			
	,				Bot.W=4.00' D=3.00' Z= 1.8 '/' Top.W=14.80'		
					n= 0.030		

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69.8 2,824 Total

Summary for Subcatchment 42S: C5-D

Runoff = 2.49 cfs @ 12.18 hrs, Volume= 0.170 af, Depth= 0.63"

Routed to Pond 41P: AB 520+90

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	cription			
*	0.	700	98					
	2.	260	61	>759	% Grass co	over, Good	, HSG B	
_	0.	290	74	>759	% Grass co	over, Good	, HSG C	
	3.	250	70	Weighted Average				
	2.	550		78.46% Pervious Area				
	0.	700		21.5	4% Imper\	∕ious Area		
	Tc (min)	Length (feet		lope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
_	2.0	23	3 0.1	1600	0.19	,	Sheet Flow,	
	7.1	800	0.0	0050	1.87	9.33	Grass: Dense n= 0.240 P2= 2.82" Trap/Vee/Rect Channel Flow, Bot.W=0.00' D=1.00' Z= 4.0 & 6.0 '/' Top.W=10.00' n= 0.035	
	9.1	823	3 To	tal				

Summary for Subcatchment 43S: C27-A

Runoff = 6.80 cfs @ 12.14 hrs, Volume= 0.362 af, Depth= 1.13"

Routed to Pond 54P: Pond C

	Area (ac)	CN	Desc	cription		
*	1.6	326	98				
	1.8	328	61	>75%	√ Grass co	over, Good	d, HSG B
	0.3	390	98	Wate	er Surface,	, 0% imp, H	HSG B
	3.8	344	80	Weig	hted Aver	age	
	2.2	218		57.7	0% Pervio	us Area	
	1.6	626		42.3	0% Imperv	ious Area	a e e e e e e e e e e e e e e e e e e e
		Lengt		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	•
_	(min)	(iee	ι)	(11/11)	(II/Sec)	(CIS)	
	6.0						Direct Entry,

MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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Summary for Subcatchment 44S: C27-B1

Runoff = 0.87 cfs @ 12.14 hrs, Volume= 0.050 af, Depth= 0.67"

Routed to Pond 43P: Ramp C 805+00

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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	cription		
*	0.	240	98				
	0.	648	61	>75%	% Grass co	over, Good	, HSG B
	0.	888	71	Weig	hted Aver	age	
	0.	648		72.9	7% Pervio	us Area	
	0.	240		27.0	3% Imperv	/ious Area	
	Tc (min)	Lengt		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	3.2	5	0 0	.2500	0.26		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
_	2.8						Direct Entry, Increase to min TOC
	6.0	5	0 T	otal			

Summary for Subcatchment 45S: C27-B2 & C27-C

Runoff = 5.44 cfs @ 12.46 hrs, Volume= 0.634 af, Depth= 0.67"

Routed to Link 44L: Door Creek Combined

	Area (ac)	CN	Description
*	2.620	98	impervious
	6.800	61	>75% Grass cover, Good, HSG B
	0.246	80	>75% Grass cover, Good, HSG D
*	1.695	70	Row crops, SR + CR, Good, HSG B
	11.361	71	Weighted Average
	8.741		76.94% Pervious Area
	2.620		23.06% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	150	0.0300	0.18		Sheet Flow,
					Cultivated: Residue>20% n= 0.170 P2= 2.82"
2.3	150	0.0142	1.07		Shallow Concentrated Flow,
					Cultivated Straight Rows Kv= 9.0 fps
4.9	274	0.0180	0.94		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
7.5	1,619	0.0130	3.60	30.61	Trap/Vee/Rect Channel Flow,
					Bot.W=4.00' D=1.00' Z= 3.0 & 6.0 '/' Top.W=13.00'
					n= 0.035
0.6	159	0.0770	4.16		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
28.9	2,352	Total			

Summary for Subcatchment 46S: C28-A

Runoff = 3.49 cfs @ 12.27 hrs, Volume= 0.345 af, Depth= 0.43"

Routed to Pond 45P: Culvert at 698+81

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 $\,$ 2-yr Rainfall=2.84"

	Area	(ac) (ON D	escrip	tion		
*	0.	950	98				
	2.	920	61 >	75% G	ass c	over, Good	, HSG B
	3.	110	55 W	oods,	Good,	HSG B	
*	2.	540	70 R	ow cro	ops, SF	R + CR, Goo	od, HSG B
	9.	520	65 W	eighte	ed Aver	age	
	8.	570				us Area	
	0.	950	9.	98% I	mpervi	ous Area	
					•		
	Тс	Length	Slop	e Ve	elocity	Capacity	Description
	(min)	(feet)	(ft/1	t) (1	ft/sec)	(cfs)	
	12.0	140	0.195	0	0.19		Sheet Flow,
							Woods: Light underbrush n= 0.400 P2= 2.82"
	8.0	132	0.097	0	2.80		Shallow Concentrated Flow,
							Cultivated Straight Rows Kv= 9.0 fps
	1.7	509	0.035	0	4.98	39.82	Trap/Vee/Rect Channel Flow,
							Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'
_							n= 0.035
	14.5	781	Total				

Summary for Subcatchment 47S: C28-B

Runoff = 5.46 cfs @ 12.14 hrs, Volume= 0.295 af, Depth= 0.96"

Routed to Pond 46P: Pond D

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	Area	(ac)	CN	Desc	cription						
*	1.	023	98								
	2.	055	61	>75%	% Grass co	over, Good	, HSG B				
_	0.	603	98	Wate	er Surface	, HSG B					
3.681 77 Weighted Average											
	2.	055		55.8	3% Pervio	us Area					
	1.	626		44.1	7% Imper\	/ious Area					
	_										
	Tc	Lengt		Slope	Velocity	Capacity	Description				
_	(min)	(fee	<u>t)</u>	(ft/ft)	(ft/sec)	(cfs)					
	4.7	8	7 (0.2900	0.31		Sheet Flow,				
							Grass: Dense n= 0.240 P2= 2.82"				
	1.4						Direct Entry, Increase to min TOC				
	6.1	8	7	Total							

Summary for Subcatchment 48S: C28-C1

Runoff = 1.13 cfs @ 12.14 hrs, Volume= 0.064 af, Depth= 0.67"

Routed to Pond 47P: Ramp B 706+25

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	ription					
*	0.	300	98							
	0.	850	61	>75%	√ Grass co	over, Good	, HSG B			
	1.	150	71	Weig	hted Aver	age				
	0.850 73.91% Pervious Area									
	0.	300		26.09	9% Imperv	ious Area				
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
	6.0				, ,	,	Direct Entry,			

Summary for Subcatchment 49S: C28-C2

Runoff = 5.11 cfs @ 12.24 hrs, Volume= 0.389 af, Depth= 0.76"

Routed to Link 44L: Door Creek Combined

MSE 24-hr 4 2-yr Rainfall=2.84"

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	Area	(ac)	CN	Desc	ription		
*	1.	510	98				
	3.	400	61	>75%	√ Grass co	over, Good	, HSG B
	1.	120	80	>75%	√ Grass co	over, Good	, HSG D
	0.	110	55	Woo	ds, Good,	HSG B	
	6.	140	73	Weig	hted Aver	age	
	4.	630		75.4°	1% Pervio	us Area	
	1.	510		24.59	9% Imperv	∕ious Area	
	Тс	Lengt	h S	Slope	Velocity	Capacity	Description
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	8.9	13	0 0.	.3600	0.24		Sheet Flow,
							Woods: Light underbrush n= 0.400 P2= 2.82"
	4.7	1,30	5 0.	.0210	4.60	37.92	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 6.0 & 2.5 '/' Top.W=12.50'
_							n= 0.035
	13.6	1,43	5 T	otal			

Summary for Subcatchment 51S: Luds Lane

Runoff = 0.72 cfs @ 12.46 hrs, Volume= 0.078 af, Depth= 1.25"

Routed to Link 56L: Lag to Door Creek

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 2-yr Rainfall=2.84"

	Area	(ac)	CN	Desc	cription		
*	0.	350	98				
*	0.	400	68				
	0.750 82 Weighted Average				hted Aver	age	
	0.400 53.33% Pervious Area						
	0.	350		46.6	7% Imperv	∕ious Area	
	Тс	Lengt		Slope	Velocity	Capacity	Description
	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,
	25.6	2,00	4 0.	.0210	1.30		Shallow Concentrated Flow,
							Cultivated Straight Rows Kv= 9.0 fps
	31.6	2,00	4 T	otal	•		

Summary for Subcatchment 52S: Proposed Stability Campus to Pond B

Runoff = 16.89 cfs @ 12.05 hrs, Volume= 0.801 af, Depth= 1.92" Routed to Pond 64P : Pond B-reduced_raised 1 ft and raised spillway

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Area (ac)	CN	Description
5.000	91	Urban industrial, 72% imp, HSG C
1.400		28.00% Pervious Area
3.600		72.00% Impervious Area

Summary for Reach 20R: Overland Flow

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \bigcirc 0.00 \text{ hrs}$, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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'

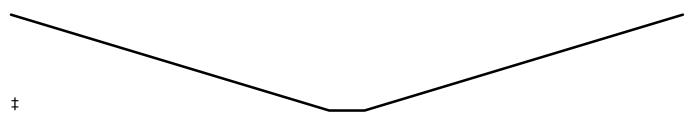
Bank-Full Depth= 3.00' Flow Area= 300.0 sf, Capacity= 1,515.22 cfs

10.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 30.0 '/' Top Width= 190.00'

Length= 2,474.0' Slope= 0.0057 '/'

Inlet Invert= 872.00', Outlet Invert= 858.00'



Summary for Pond 1P: Niebuhr Stormwater Pond

Inflow Area = 4.670 ac, 72.16% Impervious, Inflow Depth = 1.68" for 2-yr event

Inflow = 12.14 cfs @ 12.13 hrs, Volume= 0.653 af

Outflow = 1.61 cfs @ 12.60 hrs, Volume= 0.651 af, Atten= 87%, Lag= 28.1 min

Primary = 1.61 cfs @ 12.60 hrs, Volume= 0.651 af

Routed to Pond 2P: Storm Basin 2 with Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 884.56' @ 12.60 hrs Surf.Area= 18,900 sf Storage= 12,759 cf

Plug-Flow detention time= 104.7 min calculated for 0.651 af (100% of inflow) Center-of-Mass det. time= 103.5 min (911.6 - 808.0)

Volume	Invert	Avail.Storage	Storage Description
#1	882.60'	54,584 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Elevation Surf.Area		Inc.Store	Cum.Store	
(fee	(feet) (sq-ft) ((cubic-feet)	(cubic-feet)	
882.6	60	0	0	0	
883.0	00	275	55	55	
884.0	00	9,336	4,806	4,860	
885.0	00	26,430	17,883	22,743	
886.0	00	37,251	31,841	54,584	
Device	Routing	Invert	Outlet Devices		
#1	Primary	883.00'	Special & User	-Defined	
	·		Head (feet) 0.0	00 0.10 0.20	0.30 0.40 0.50 0.60 0.70 0.80 0.90
			1.00 1.10 1.20	1.30 1.40 1	.50 1.60 1.70 1.80 1.90 2.00 2.10
			2.20 2.30 2.40	2.50	
			Disch. (cfs) 0.0	00 0.030 0.0	70 0.140 0.210 0.290 0.380 0.480
			0.590 0.700 0.	830 0.950 1.	080 1.220 1.370 1.520 1.670 1.830
			1.990 2.160 2.	330 2.510 2.	690 2.880 3.070 3.260
#2	Primary	885.50'	10.0' long x 3.0	0' breadth Br	oad-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=1.61 cfs @ 12.60 hrs HW=884.56' TW=878.05' (Dynamic Tailwater)

-1=Special & User-Defined (Custom Controls 1.61 cfs)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: Storm Basin 2 with Infiltration

Inflow Area = 21.962 ac, 37.03% Impervious, Inflow Depth = 0.92" for 2-yr event

Inflow 10.29 cfs @ 12.41 hrs, Volume= 1.680 af

Outflow 4.47 cfs @ 13.11 hrs, Volume= 1.680 af, Atten= 57%, Lag= 41.7 min

Discarded = 0.27 cfs @ 13.11 hrs, Volume= 0.253 af 4.20 cfs @ 13.11 hrs, Volume= 1.427 af Primary

Routed to Pond 9P: Culvert 534+50

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.23' @ 13.11 hrs Surf.Area= 0.476 ac Storage= 0.401 af

Plug-Flow detention time= 68.7 min calculated for 1.679 af (100% of inflow)

Center-of-Mass det. time= 68.8 min (957.2 - 888.5)

Volume	Invert	Avail.Storage	Storage Description
#1	877.20'	2.160 af	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
877.20	0.137	0.000	0.000
877.37	0.141	0.024	0.024
877.38	0.415	0.003	0.026
878.00	0.449	0.268	0.294
879.00	0.568	0.509	0.803
880.00	0.658	0.613	1.416
881.00	0.831	0.744	2.160

Device	Routing	Invert	Outlet Devices
#1	Primary	877.20'	18.0" Round Culvert X 2.00
	•		L= 25.0' CPP, end-section conforming to fill, Ke= 0.500
			Inlet / Outlet Invert= 877.20' / 877.10' S= 0.0040 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.20'	Special & User-Defined
			Head (feet) 0.00 0.20 0.40 0.60 0.80 1.00
			Disch. (cfs) 0.000 0.340 0.960 1.760 2.710 3.790
#3	Device 1	878.20'	30.0' long x 2.0' 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
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32
#4	Discarded	877.20'	0.500 in/hr Exfiltration over Surface area
			Conductivity to Groundwater Elevation = 870.00'
#5	Primary	880.00'	
			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 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
			2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.27 cfs @ 13.11 hrs HW=878.23' (Free Discharge) 4=Exfiltration (Controls 0.27 cfs)

Primary OutFlow Max=4.20 cfs @ 13.11 hrs HW=878.23' TW=876.00' (Dynamic Tailwater)

1=Culvert (Passes 4.20 cfs of 6.43 cfs potential flow)

2=Special & User-Defined (Custom Controls 3.79 cfs)

-3=Broad-Crested Rectangular Weir (Weir Controls 0.41 cfs @ 0.44 fps)

-5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: Sheriff Phase 2 Bioretention

Inflow Area = 0.745 ac, 77.85% Impervious, Inflow Depth = 1.84" for 2-yr event Inflow = 2.10 cfs @ 12.13 hrs, Volume= 0.114 af

Outflow = 0.18 cfs @ 13.07 hrs, Volume= 0.085 af, Atten= 92%, Lag= 56.6 min 0.01 cfs @ 13.07 hrs, Volume= 0.044 af

Primary = 0.16 cfs @ 13.07 hrs, Volume= 0.040 af

Routed to Pond 2P: Storm Basin 2 with Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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Peak Elev= 880.64' @ 13.07 hrs Surf.Area= 3,242 sf Storage= 3,094 cf

Plug-Flow detention time= 894.1 min calculated for 0.085 af (74% of inflow)

Invest Aveil Changes Changes December

Center-of-Mass det. time= 817.0 min (1,618.0 - 801.0)

<u>Volume</u>	Invert	Avail.Sto	<u>rage Storage</u>	Description	
#1	879.50'	8,28	39 cf Custom	Stage Data (Prismatic)Listed	pelow (Recalc)
Elevation		ırf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
879.5	50	2,225	0	0	
880.0	00	2,651	1,219	1,219	
881.0	00	3,579	3,115	4,334	
881.5	50	4,080	1,915	6,249	
882.0	00	4,080	2,040	8,289	
Device	Routing	Invert	Outlet Device	8	
#1	Primary	879.50'	12.0" Round	Culvert	
	Š		L= 34.0' CP	, square edge headwall, Ke= 0	.500
			Inlet / Outlet I	nvert= 879.50' / 879.00' S= 0.0	147 '/' Cc= 0.900
			n= 0.013, Flo	w Area= 0.79 sf	
#2	Device 1	880.50'	12.0" W x 3.0	" H Vert. Orifice/Grate C= 0.6	00
			Limited to we	r flow at low heads	
#3	Device 1	881.00'	24.0" Horiz.	Orifice/Grate C= 0.600	
			Limited to we	r flow at low heads	
#4	Primary	881.50'	10.0' long x	2.0' breadth Broad-Crested Re	ectangular Weir
	·		Head (feet) (.20 0.40 0.60 0.80 1.00 1.20	1.40 1.60 1.80 2.00
			2.50 3.00 3.		
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2	2.70 2.77 2.89 2.88
			2.85 3.07 3.		
#5	Discarded	879.50'	0.500 in/hr E	diltration over Surface area a	bove 879.50'
				Groundwater Elevation = 875.	
				ace area = 2,225 sf	
				, -	

Discarded OutFlow Max=0.01 cfs @ 13.07 hrs HW=880.64' (Free Discharge) **5=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.16 cfs @ 13.07 hrs HW=880.64' TW=878.23' (Dynamic Tailwater)

-1=Culvert (Passes 0.16 cfs of 3.02 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.16 cfs @ 1.19 fps)

3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: Cnty-Storm Basin 1

Inflow Area = 2.220 ac, 90.54% Impervious, Inflow Depth = 2.20" for 2-yr event

Inflow = 7.17 cfs @ 12.13 hrs, Volume= 0.406 af

Outflow = 6.42 cfs @ 12.16 hrs, Volume= 0.395 af, Atten= 10%, Lag= 2.1 min

Discarded = 0.03 cfs @ 12.16 hrs, Volume= 0.054 af

Primary = 6.39 cfs @ 12.16 hrs, Volume= 0.341 af

Routed to Pond 6P: County Pond - East

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 881.81' @ 12.16 hrs Surf.Area= 3,693 sf Storage= 5,153 cf

Plug-Flow detention time= 213.9 min calculated for 0.395 af (97% of inflow)

Center-of-Mass det. time= 200.3 min (984.2 - 783.8)

t Avail.Stor	age Storage i	Description	
2' 10,75	66 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
	(cubic-feet)	(cubic-feet)	
1,306	0	0	
1,599	407	407	
2,711	2,155	2,562	
3,924	3,318	5,879	
5,830	4,877	10,756	
Invert	Outlet Devices	3	
879.72'	18.0" Round	Culvert	
	L= 66.5' RCP	, sq.cut end pro	ojecting, Ke= 0.500
	Inlet / Outlet In	vert= 879.72' /	878.47' S= 0.0188 '/' Cc= 0.900
	n= 0.013, Flov	w Area= 1.77 sf	:
880.72'	6.0" W x 6.0"	H Vert. Orifice	/Grate C= 0.600
	Limited to weir	flow at low hea	ads
881.50'	36.0" Horiz. O	rifice/Grate C	C= 0.600
	Limited to weir	flow at low hea	ads
882.74'	10.0' long x 4	.0' breadth Br	oad-Crested Rectangular Weir
			0.80 1.00 1.20 1.40 1.60 1.80 2.00
	Coef. (English	2.38 2.54 2.	69 2.68 2.67 2.67 2.65 2.66 2.66
879.72'	0.500 in/hr Ex	filtration over	Surface area above 879.72'
	2' 10,75 Surf.Area (sq-ft) 1,306 1,599 2,711 3,924 5,830 Invert 879.72' 880.72' 881.50' 882.74'	2' 10,756 cf Custom Surf.Area Inc.Store (sq-ft) (cubic-feet) 1,306 0 1,599 407 2,711 2,155 3,924 3,318 5,830 4,877 Invert Outlet Devices 879.72' 18.0" Round L= 66.5' RCP Inlet / Outlet In n= 0.013, Flow Imited to weir 881.50' 36.0" W x 6.0" Limited to weir 882.74' 10.0' long x 4 Head (feet) 0. 2.50 3.00 3.5 Coef. (English 2.68 2.72 2.7 0.500 in/hr Ex Conductivity to	2 10,756 cf Custom Stage Data (Property of Surf. Area Inc. Store (sq-ft) (cubic-feet) (cubic-feet) 1,306 0 0 0 1,599 407 407 2,711 2,155 2,562 3,924 3,318 5,879 5,830 4,877 10,756 Invert Outlet Devices 879.72' 18.0" Round Culvert L= 66.5' RCP, sq.cut end property of RCP, sq.cut

Discarded OutFlow Max=0.03 cfs @ 12.16 hrs HW=881.80' (Free Discharge) **5=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=6.19 cfs @ 12.16 hrs HW=881.80' TW=878.57' (Dynamic Tailwater)

-1=Culvert (Passes 6.19 cfs of 9.82 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.09 cfs @ 4.37 fps)

-3=Orifice/Grate (Weir Controls 5.09 cfs @ 1.79 fps)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5P: CNTY-Infiltration Basin #1

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Inflow Area = 4.165 ac, 37.45% Impervious, Inflow Depth = 1.02" for 2-yr event

Inflow = 4.02 cfs @ 12.32 hrs, Volume= 0.353 af

Outflow = 0.66 cfs @ 13.35 hrs, Volume= 0.322 af, Atten= 84%, Lag= 61.8 min

Discarded = 0.06 cfs @ 13.35 hrs, Volume= 0.115 af Primary = 0.60 cfs @ 13.35 hrs, Volume= 0.207 af

Routed to Pond 6P: County Pond - East

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 882.23' @ 13.35 hrs Surf.Area= 7,525 sf Storage= 7,630 cf

Plug-Flow detention time= 534.4 min calculated for 0.321 af (91% of inflow)

Center-of-Mass det. time= 494.8 min (1,346.1 - 851.3)

Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	880.7	1' 30,0	88 cf Custon	n Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation		Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
880.7	' 1	3,155	0	0	
881.0	00	3,568	975	975	
882.0	00	6,526	5,047	6,022	
883.0	00	10,890	8,708	14,730	
884.0	00	19,826	15,358	30,088	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	880.71'	12.0" Round	d Culvert	
			L= 51.8' RC	P, sq.cut end pro	pjecting, Ke= 0.500
			Inlet / Outlet	Invert= 880.71' /	880.28' S= 0.0083 '/' Cc= 0.900
			n= 0.013, Flo	ow Area= 0.79 sf	
#2	Device 1	881.71'	6.0" W x 12.0	0" H Vert. Orific	e/Grate C= 0.600
			Limited to we	ir flow at low hea	ads
#3	Device 1	882.71'	24.0" Horiz.	Orifice/Grate C	C= 0.600
			Limited to we	ir flow at low hea	ads
#4	Primary	883.49'			oad-Crested Rectangular Weir
					0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.	50	
			Coef. (Englis	h) 2.54 2.61 2.6	61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.	20 3.32	
#5	Discarde	d 880.71'	0.500 in/hr E	xfiltration over	Surface area above 880.71'
			Conductivity	to Groundwater E	Elevation = 875.00'

Discarded OutFlow Max=0.06 cfs @ 13.35 hrs HW=882.23' (Free Discharge) **5=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.60 cfs @ 13.35 hrs HW=882.23' TW=878.66' (Dynamic Tailwater)

Excluded Surface area = 3,155 sf

_1=Culvert (Passes 0.60 cfs of 3.47 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.60 cfs @ 2.31 fps)

3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Summary for Pond 6P: County Pond - East

Inflow Area = 15.375 ac, 65.89% Impervious, Inflow Depth = 1.46" for 2-yr event

Inflow 30.27 cfs @ 12.14 hrs, Volume= 1.867 af

6.55 cfs @ 12.46 hrs, Volume= 6.55 cfs @ 12.46 hrs, Volume= Outflow 1.859 af, Atten= 78%, Lag= 19.3 min

Primary = 1.859 af

Routed to Pond 9P: Culvert 534+50

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.95' @ 12.46 hrs Surf.Area= 20,811 sf Storage= 31,194 cf

Plug-Flow detention time= 147.2 min calculated for 1.859 af (100% of inflow)

Center-of-Mass det. time= 144.3 min (968.7 - 824.4)

Volume	Inver	t Avail.Sto	rage Storage	e Description	
#1	877.19	101,76	64 cf Custor	n Stage Data (Pı	rismatic)Listed below (Recalc)
Elevatio		Surf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
877.		14,796	0	0	
878.0		17,475	13,070	13,070	
879.0		20,998	19,237	32,306	
880.0		24,807	22,903	55,209	
881.0		33,736	29,272	84,480	
881.5	50	35,400	17,284	101,764	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	877.20'	18.0" Roun	d Culvert X 2.00	
	, ,		L= 31.8' CF Inlet / Outlet	PP, end-section c	onforming to fill, Ke= 0.500 877.00' S= 0.0063 '/' Cc= 0.900
#2	Device 1	877.20'	Special & U	ser-Defined	
			Head (feet) 2.00	0.00 0.20 0.40	0.60 0.80 1.00 1.20 1.40 1.60 1.80
					00 0.800 1.500 2.500 3.400 4.500
#3	Device 1	879.20'			oad-Crested Rectangular Weir
•					0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3		
			Coef. (Englis	sh) 2.54 2.61 2.	61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3		
#4	Primary	880.00'	30.0' long x	6.0' breadth Br	oad-Crested Rectangular Weir
	•				0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3	.50 4.00 4.50 5	5.00 5.50
			Coef. (Englis	sh) 2.37 2.51 2.	70 2.68 2.68 2.67 2.65 2.65 2.65
				.66 2.67 2.69 2	

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Primary OutFlow Max=6.55 cfs @ 12.46 hrs HW=878.95' TW=875.96' (Dynamic Tailwater)

-1=Culvert (Passes 6.55 cfs of 15.00 cfs potential flow)

2=Special & User-Defined (Custom Controls 6.55 cfs)

-3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 9P: Culvert 534+50

Inflow Area = 38.657 ac, 47.50% Impervious, Inflow Depth > 1.03" for 2-yr event

Inflow = 9.72 cfs @ 12.77 hrs, Volume= 3.330 af

Outflow = 9.72 cfs @ 12.77 hrs, Volume= 3.330 af, Atten= 0%, Lag= 0.0 min

Primary = 9.72 cfs @ 12.77 hrs, Volume= 3.330 af

Routed to Pond 57P: 187+00 42" Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 876.01' @ 12.77 hrs

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Device	Routing	Invert	Outlet Devices
#1	Primary	875.00'	53.0" W x 34.0" H, R=47.9" Elliptical RCP_Elliptical 53x34 L= 128.0' Ke= 0.270 Inlet / Outlet Invert= 875.00' / 874.50' S= 0.0039 '/' Cc= 0.900 n= 0.012, Flow Area= 10.20 sf

Primary OutFlow Max=9.72 cfs @ 12.77 hrs HW=876.01' TW=874.05' (Dynamic Tailwater) 1=RCP_Elliptical 53x34 (Barrel Controls 9.72 cfs @ 4.30 fps)

Summary for Pond 13P: Culvert at Ramp A 690+50

Inflow Area = 3.410 ac, 26.10% Impervious, Inflow Depth = 0.81" for 2-yr event

Inflow = 3.73 cfs @ 12.17 hrs, Volume= 0.230 af

Outflow = 3.73 cfs @ 12.17 hrs, Volume= 0.230 af, Atten= 0%, Lag= 0.0 min

Primary = 3.73 cfs @ 12.17 hrs, Volume= 0.230 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 879.08' @ 12.17 hrs

Devi	ce Rou	uting	Invert	Outlet Devices
#	1 Prir	mary	878.35'	24.0" Round Culvert
				L= 132.0' RCP, groove end w/headwall, Ke= 0.200
				Inlet / Outlet Invert= 878.35' / 874.50' S= 0.0292 '/' Cc= 0.900
				n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.60 cfs @ 12.17 hrs HW=879.06' TW=872.73' (Dynamic Tailwater)
—1=Culvert (Inlet Controls 3.60 cfs @ 3.59 fps)

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MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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Summary for Pond 14P: Culvert at Millpond 387+00

Inflow Area = 180.907 ac, 17.94% Impervious, Inflow Depth > 0.63" for 2-yr event

Inflow = 31.71 cfs @ 12.46 hrs, Volume= 9.565 af

Outflow = 31.71 cfs @ 12.46 hrs, Volume= 9.565 af, Atten= 0%, Lag= 0.0 min

Primary = 31.71 cfs @ 12.46 hrs, Volume= 9.565 af Routed to Pond 64P : Pond B-reduced raised 1 ft and raised spillway

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 872.91' @ 12.46 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	871.30'	48.0" Round Culvert X 2.00 L= 92.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 871.30' / 871.00' S= 0.0033 '/' Cc= 0.900
			n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=31.66 cfs @ 12.46 hrs HW=872.91' TW=871.81' (Dynamic Tailwater) 1=Culvert (Barrel Controls 31.66 cfs @ 4.96 fps)

Summary for Pond 16P: Culvert 509+94 (NB CTH AB)

Inflow Area = 3.560 ac, 1.12% Impervious, Inflow Depth = 0.37" for 2-yr event

Inflow = 0.77 cfs @ 12.45 hrs, Volume= 0.109 af

Outflow = 0.77 cfs @ 12.45 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min

Primary = 0.77 cfs @ 12.45 hrs, Volume= 0.109 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.32' @ 12.45 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	878.00'	24.0" Round Culvert L= 178.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 878.00' / 876.00' S= 0.0112 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.77 cfs @ 12.45 hrs HW=878.32' TW=872.91' (Dynamic Tailwater) 1=Culvert (Barrel Controls 0.77 cfs @ 3.58 fps)

Summary for Pond 18P: Culvert 505+79 (NB CTH AB)

Inflow Area = 14.235 ac, 12.61% Impervious, Inflow Depth = 0.51" for 2-yr event

Inflow = 4.18 cfs @ 12.57 hrs, Volume= 0.602 af

Outflow = 4.18 cfs @ 12.57 hrs, Volume= 0.602 af, Atten= 0%, Lag= 0.0 min

Primary = 4.18 cfs @ 12.57 hrs, Volume= 0.602 af

Routed to Pond 58P: Culvert 395+33 (Millpond)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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Peak Elev= 878.77' @ 12.57 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	877.97'	30.0" Round Culvert
			L= 128.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 877.97' / 877.05' S= 0.0072 '/' Cc= 0.900
			n= 0.012, Flow Area= 4.91 sf

Primary OutFlow Max=4.16 cfs @ 12.57 hrs HW=878.77' TW=877.23' (Dynamic Tailwater) —1=Culvert (Barrel Controls 4.16 cfs @ 4.63 fps)

Summary for Pond 19P: Landfill Pond

Inflow Area = 28.420 ac, 1.16% Impervious, Inflow Depth = 1.13" for 2-yr event

Inflow = 41.53 cfs @ 12.19 hrs, Volume= 2.679 af

Outflow = 4.95 cfs @ 13.16 hrs, Volume= 2.664 af, Atten= 88%, Lag= 57.7 min

Primary = 4.95 cfs @ 13.16 hrs, Volume= 2.664 af

Routed to Pond 22P: 36" Culvert 182+00

Volume

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 880.17' @ 13.16 hrs Surf.Area= 0.712 ac Storage= 1.394 af

Plug-Flow detention time= 565.4 min calculated for 2.664 af (99% of inflow) Center-of-Mass det. time= 562.0 min (1,398.7 - 836.7)

Invert Avail.Storage Storage Description

#1	877.33'	6.106 af Cust	tom Stage Data (Prismatic)Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
877.33	0.334	0.000	0.000
878.00	0.401	0.246	0.246
879.00	0.497	0.449	0.695
880.00	0.661	0.579	1.274
881.00	0.952	0.806	2.081
882.00	1.214	1.083	3.164
883.00	1.487	1.350	4.514
884.00	1.697	1.592	6.106

Device	Routing	Invert	Outlet Devices
#1	Primary	877.33'	18.0" Round Culvert
			L= 69.6' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 877.33' / 875.77' S= 0.0224 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.33'	1.0" Vert. Orifice/Grate X 7.00 C= 0.600
			Limited to weir flow at low heads
#3	Device 1	877.68'	1.0" Vert. Orifice/Grate X 8.00 C= 0.600
			Limited to weir flow at low heads
#4	Device 1	878.03'	1.0" Vert. Orifice/Grate X 9.00 C= 0.600
			Limited to weir flow at low heads
#5	Device 1	879.77'	18.0" Horiz. Orifice/Grate C= 0.600

MSE 24-hr 4 2-yr Rainfall=2.84"

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Limited to weir flow at low heads

#6 10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Primary 882.66'

> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=4.95 cfs @ 13.16 hrs HW=880.17' TW=874.95' (Dynamic Tailwater)

1=Culvert (Passes 4.95 cfs of 12.31 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.31 cfs @ 8.06 fps)

-3=Orifice/Grate (Orifice Controls 0.33 cfs @ 7.54 fps)

-4=Orifice/Grate (Orifice Controls 0.34 cfs @ 6.98 fps)

-5=Orifice/Grate (Weir Controls 3.97 cfs @ 2.08 fps)

6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 22P: 36" Culvert 182+00

Inflow Area = 37.914 ac, 10.10% Impervious, Inflow Depth > 1.10" for 2-yr event

Inflow 11.94 cfs @ 12.22 hrs, Volume= 3.473 af

Outflow 11.94 cfs @ 12.22 hrs, Volume= 3.473 af, Atten= 0%, Lag= 0.0 min

11.94 cfs @ 12.22 hrs, Volume= 3.473 af Primary

Routed to Pond 64P: Pond B-reduced raised 1 ft and raised spillway

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 875.23' @ 12.22 hrs

Device Routing Invert Outlet Devices #1 874.00' 36.0" Round Culvert Primary

L= 289.0' RCP, groove end w/headwall, Ke= 0.200

Inlet / Outlet Invert= 874.00' / 871.00' S= 0.0104 '/' Cc= 0.900 n= 0.014. Flow Area= 7.07 sf

Primary OutFlow Max=11.69 cfs @ 12.22 hrs HW=875.22' TW=871.47' (Dynamic Tailwater) 1=Culvert (Barrel Controls 11.69 cfs @ 6.42 fps)

Summary for Pond 24P: YH1 - Pond

3.28% Impervious, Inflow Depth = 0.51" for 2-yr event Inflow Area = 66.400 ac.

Inflow 14.17 cfs @ 12.93 hrs, Volume= 2.808 af

Outflow 1.65 cfs @ 17.28 hrs, Volume= 2.534 af, Atten= 88%, Lag= 261.0 min =

1.65 cfs @ 17.28 hrs, Volume= 2.534 af Primary

Routed to Pond 25P: Small Depression

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 895.75' @ 17.28 hrs Surf.Area= 99,908 sf Storage= 73,276 cf

Plug-Flow detention time= 745.0 min calculated for 2.532 af (90% of inflow)

Center-of-Mass det. time= 701.4 min (1,623.9 - 922.5)

Volume	Invert	Avail.Storage	Storage Description
#1	895.00'	437,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

MSE 24-hr 4 2-yr Rainfall=2.84"

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
895.00	94,949	0	0
896.00	101,543	98,246	98,246
897.00	159,762	130,653	228,899
898.00	257,486	208,624	437,523

Device	Routing	Invert	Outlet Devices
#1	Primary	895.00'	12.0" Round Culvert
	-		L= 140.0' RCP, mitered to conform to fill, Ke= 0.700
			Inlet / Outlet Invert= 895.00' / 894.00' S= 0.0071 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Primary	897.00'	10.0' long x 100.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=1.65 cfs @ 17.28 hrs HW=895.75' TW=894.68' (Dynamic Tailwater)

1=Culvert (Inlet Controls 1.65 cfs @ 2.61 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 25P: Small Depression

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 0.46" for 2-yr event

Inflow = 1.65 cfs @ 17.28 hrs, Volume= 2.534 af

Outflow = 1.63 cfs @ 18.72 hrs, Volume= 2.517 af, Atten= 1%, Lag= 86.2 min

Primary = 1.63 cfs @ 18.72 hrs, Volume= 2.517 af

Routed to Pond 58P: Culvert 395+33 (Millpond)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 894.69' @ 18.72 hrs Surf.Area= 12,059 sf Storage= 6,162 cf

Avail.Storage Storage Description

Plug-Flow detention time= 79.7 min calculated for 2.517 af (99% of inflow)

Center-of-Mass det. time= 61.8 min (1,685.7 - 1,623.9)

Invert

Volume

#1	894.0	00' 33,8	74 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation		Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
894.0	00	5,815	0	0	
895.0	00	14,871	10,343	10,343	
896.0	00	32,190	23,531	33,874	
Device	Routing	Invert	Outlet Devices	S	
#1	Primary	894.00'	12.0" Round	Culvert	
			L= 205.0' RC	P, sq.cut end p	rojecting, Ke= 0.500
			Inlet / Outlet Ir	nvert= 894.00' /	892.00' S= 0.0098 '/' Cc= 0.900
			n= 0.012, Flo	w Area= 0.79 sf	
#2	Primary	895.50'	25.0' long x 4	40.0' breadth B	road-Crested Rectangular Weir
			Head (feet) 0	.20 0.40 0.60	0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.7	70 2.64 2.63 2.64 2.64 2.63

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Primary OutFlow Max=1.63 cfs @ 18.72 hrs HW=894.69' TW=876.55' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 1.63 cfs @ 2.83 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 28P: 12/18 140+35

Inflow Area = 9.510 ac, 26.18% Impervious, Inflow Depth = 0.67" for 2-yr event

Inflow 6.68 cfs @ 12.22 hrs, Volume= 0.532 af

Outflow 6.68 cfs @ 12.22 hrs, Volume= = 0.532 af, Atten= 0%, Lag= 0.0 min

6.68 cfs @ 12.22 hrs, Volume= Primary = 0.532 af

Routed to Pond 59P: Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 861.78' @ 12.22 hrs

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Device	Routing	Invert	Outlet Devices
#1	Primary	860.79'	45.0" W x 29.0" H, R=39.2" Elliptical RCP_Elliptical 45x29
			L= 310.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 860.79' / 859.89' S= 0.0029 '/' Cc= 0.900
			n= 0.015, Flow Area= 7.36 sf

Primary OutFlow Max=6.52 cfs @ 12.22 hrs HW=861.77' TW=859.45' (Dynamic Tailwater) 1=RCP_Elliptical 45x29 (Barrel Controls 6.52 cfs @ 3.35 fps)

Summary for Pond 32P: Long Drive 440+35

Inflow Area = 4.570 ac, 14.44% Impervious, Inflow Depth = 0.47" for 2-yr event

1.83 cfs @ 12.29 hrs, Volume= 0.179 af Inflow

Outflow 1.83 cfs @ 12.29 hrs, Volume= 0.179 af, Atten= 0%, Lag= 0.0 min

Primary = 1.83 cfs @ 12.29 hrs, Volume= 0.179 af

Routed to Pond 28P: 12/18 140+35

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 862.15' @ 12.26 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	861.50'	24.0" Round Culvert
	-		L= 62.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 861.50' / 860.80' S= 0.0113 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=1.81 cfs @ 12.29 hrs HW=862.13' TW=861.72' (Dynamic Tailwater) **1=Culvert** (Outlet Controls 1.81 cfs @ 3.17 fps)

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Summary for Pond 34P: YH3-Pond

Inflow Area = 204.006 ac, 4.43% Impervious, Inflow Depth > 0.35" for 2-yr event

Inflow 24.77 cfs @ 12.86 hrs, Volume= 5.935 af

3.03 cfs @ 20.11 hrs, Volume= Outflow 4.987 af, Atten= 88%, Lag= 434.9 min

Primary = 3.03 cfs @ 20.11 hrs, Volume= 4.987 af

Routed to Pond 38P: YH6-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 858.84' @ 20.09 hrs Surf.Area= 189,731 sf Storage= 155,934 cf

Plug-Flow detention time= 854.5 min calculated for 4.983 af (84% of inflow)

Center-of-Mass det. time= 753.1 min (1,745.7 - 992.5)

Volume	Inv	ert Avail.Sto	rage Storage	Description	
#1	858.	00' 1,137,52	23 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
Elevation	on	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
858.0	00	182,909	0	0	
859.0	00	191,060	186,985	186,985	
860.0	00	214,659	202,860	389,844	
861.0	00	320,867	267,763	657,607	
862.0	00	638,965	479,916	1,137,523	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	858.00'	36.0" Round	l Culvert	
					projecting, Ke= 0.500
			Inlet / Outlet I	nvert= 858.00' /	855.00' S= 0.0028 '/' Cc= 0.900
			,	ow Area= 7.07 sf	
#2	Primary	860.50'	125.0' long 3	k 60.0' breadth	Broad-Crested Rectangular Weir

Primary OutFlow Max=3.03 cfs @ 20.11 hrs HW=858.84' TW=856.61' (Dynamic Tailwater) -1=Culvert (Outlet Controls 3.03 cfs @ 2.82 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 36P: YH4-Pond

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Inflow Area = 12.220 ac, 4.26% Impervious, Inflow Depth = 0.43" for 2-yr event

3.66 cfs @ 12.39 hrs, Volume= Inflow = 0.443 af

Outflow = 0.40 cfs @ 15.27 hrs, Volume= 0.420 af, Atten= 89%, Lag= 172.7 min

Primary 0.40 cfs @ 15.27 hrs, Volume= 0.420 af

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 861.41' @ 15.27 hrs Surf.Area= 25,237 sf Storage= 9,750 cf

Plug-Flow detention time= 500.5 min calculated for 0.420 af (95% of inflow) Center-of-Mass det. time= 474.6 min (1,372.1 - 897.5)

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Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	861.0	00' 64,00	01 cf Custon	n Stage Data (Prism	atic)Listed below (Recalc)
Elevation (fee 861.0 862.0 863.0	et) 00 00	Surf.Area (sq-ft) 21,906 29,959 46,178	Inc.Store (cubic-feet) 0 25,933 38,069	Cum.Store (cubic-feet) 0 25,933 64,001	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	861.00'	8.0" Round		
#2	Primary	861.80'	Inlet / Outlet n= 0.012, Flo 20.0' long x Head (feet)	ow Area= 0.35 sf 50.0' breadth Broa 0.20 0.40 0.60 0.80	cting, Ke= 0.500 76' S= 0.0050 '/' Cc= 0.900 d-Crested Rectangular Weir 1.00 1.20 1.40 1.60 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.40 cfs @ 15.27 hrs HW=861.41' TW=858.72' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 0.40 cfs @ 2.52 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 37P: YH5 - Pond

2.350 ac, 51.91% Impervious, Inflow Depth = 1.13" for 2-yr event Inflow Area =

Inflow 3.99 cfs @ 12.15 hrs, Volume= 0.222 af

0.08 cfs @ 17.87 hrs, Volume= 0.168 af, Atten= 98%, Lag= 343.5 min Outflow

Primary = 0.08 cfs @ 17.87 hrs, Volume= 0.168 af

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 865.18' @ 17.87 hrs Surf.Area= 39,750 sf Storage= 7,048 cf

Plug-Flow detention time= 1,079.9 min calculated for 0.168 af (76% of inflow)

Center-of-Mass det. time= 997.8 min (1,831.1 - 833.3)

Volume	In	vert Avail.St	orage Storage	Description	
#1	865	.00' 93,4	114 cf Custon	n Stage Data (P	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
865.0	00	38,602	0	0	
866.0	00	44,980	41,791	41,791	
867.0	00	58,266	51,623	93,414	
Device	Routing	g Invert	Outlet Device	es	
#1	Primar	y 866.50°			Broad-Crested Rectangular Weir
			, ,		0.80 1.00 1.20 1.40 1.60
40	Duine	. 005.00	, ,	,	70 2.64 2.63 2.64 2.64 2.63
#2	Primar	/ 865.00	8.0" Round	Cuivert	

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L= 170.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 865.00' / 864.15' S= 0.0050 '/' Cc= 0.900 n= 0.012. Flow Area= 0.35 sf

Primary OutFlow Max=0.08 cfs @ 17.87 hrs HW=865.18' TW=858.82' (Dynamic Tailwater)

-1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Barrel Controls 0.08 cfs @ 1.62 fps)

Summary for Pond 38P: YH6-Pond

Inflow Area = 303.663 ac, 5.11% Impervious, Inflow Depth > 0.35" for 2-yr event

Inflow 26.28 cfs @ 12.59 hrs, Volume= 8.894 af

Outflow 13.84 cfs @ 13.13 hrs, Volume= 8.894 af, Atten= 47%, Lag= 32.3 min

Primary 13.84 cfs @ 13.13 hrs, Volume= 8.894 af

Routed to Link 36L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Starting Elev= 856.60' Surf.Area= 282,460 sf Storage= 556,446 cf

Peak Elev= 856.71' @ 13.13 hrs Surf.Area= 287,226 sf Storage= 587,589 cf (31,143 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= 16.4 min (1,392.9 - 1,376.4)

Volume	Invert	Avail.Storage	Storage Description
#1	854.63'	2,032,289 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
854.63	282,460	0	0
856.60	282,460	556,446	556,446
857.00	299,898	116,472	672,918
858.00	336,652	318,275	991,193
859.00	486,957	411,805	1,402,997
860.00	771,626	629,292	2,032,289

Device	Routing	Invert	Outlet Devices
#1	Primary	854.63'	42.0" Round Culvert X 2.00

L= 28.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900

n= 0.024, Flow Area= 9.62 sf

Primary OutFlow Max=13.84 cfs @ 13.13 hrs HW=856.71' TW=856.60' (Dynamic Tailwater) **1=Culvert** (Outlet Controls 13.84 cfs @ 1.67 fps)

Summary for Pond 41P: AB 520+90

Inflow Area = 3.250 ac, 21.54% Impervious, Inflow Depth = 0.63" for 2-yr event

Inflow 2.49 cfs @ 12.18 hrs, Volume= 0.170 af

2.49 cfs @ 12.18 hrs, Volume= 0.170 af, Atten= 0%, Lag= 0.0 min Outflow

2.49 cfs @ 12.18 hrs, Volume= Primary 0.170 af

Routed to Pond 54P: Pond C

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 876.31' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.61'	24.0" Round Culvert
			L= 335.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 875.61' / 874.00' S= 0.0048 '/' Cc= 0.900
			n= 0.012. Flow Area= 3.14 sf

Primary OutFlow Max=2.43 cfs @ 12.18 hrs HW=876.30' TW=874.35' (Dynamic Tailwater) 1=Culvert (Barrel Controls 2.43 cfs @ 3.75 fps)

Summary for Pond 43P: Ramp C 805+00

Inflow Area = 7.982 ac, 32.15% Impervious, Inflow Depth > 0.86" for 2-yr event Inflow 1.10 cfs @ 12.16 hrs, Volume= 0.569 af

1.10 cfs @ 12.16 hrs, Volume= Outflow 0.569 af. Atten= 0%. Lag= 0.0 min

Primary 1.10 cfs @ 12.16 hrs, Volume= 0.569 af

Routed to Link 44L: Door Creek Combined

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 873.78' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	873.30'	24.0" Round Culvert
			L= 92.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 873.30' / 872.90' S= 0.0043 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=1.08 cfs @ 12.16 hrs HW=873.78' TW=0.00' (Dynamic Tailwater) 1=Culvert (Barrel Controls 1.08 cfs @ 2.83 fps)

Summary for Pond 45P: Culvert at 698+81

9.520 ac, 9.98% Impervious, Inflow Depth = 0.43" for 2-yr event Inflow Area =

Inflow = 3.49 cfs @ 12.27 hrs, Volume= 0.345 af

3.49 cfs @ 12.27 hrs, Volume= 3.49 cfs @ 12.27 hrs, Volume= 0.345 af, Atten= 0%, Lag= 0.0 min Outflow

Primary 0.345 af

Routed to Pond 46P: Pond D

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 879.75' @ 12.27 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	879.00'	30.0" Round Culvert L= 167.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 879.00' / 878.00' S= 0.0060 '/' Cc= 0.900

n= 0.012, Flow Area= 4.91 sf

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Primary OutFlow Max=3.42 cfs @ 12.27 hrs HW=879.74' TW=876.47' (Dynamic Tailwater) 1=Culvert (Barrel Controls 3.42 cfs @ 4.22 fps)

Summary for Pond 46P: Pond D

Inflow Area = 13.201 ac, 19.51% Impervious, Inflow Depth = 0.58" for 2-yr event

Inflow = 7.25 cfs @ 12.16 hrs, Volume= 0.640 af

Outflow = 0.79 cfs @ 13.69 hrs, Volume= 0.633 af, Atten= 89%, Lag= 91.3 min

Primary = 0.79 cfs @ 13.69 hrs. Volume = 0.633 af

Routed to Pond 51P: Pond D Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 876.94' @ 13.69 hrs Surf.Area= 0.329 ac Storage= 0.296 af

Plug-Flow detention time= 280.8 min calculated for 0.633 af (99% of inflow)

Center-of-Mass det. time= 274.8 min (1,142.7 - 867.9)

Volume	Inver	t Avail.Stora	age Stora	age Description
#1	876.00	1.469	af Cust	tom Stage Data (Prismatic)Listed below (Recalc)
			0.4	0 0
Elevation			ic.Store	Cum.Store
(fee	t) (a	cres) (ad	re-feet)	(acre-feet)
876.0	00	0.299	0.000	0.000
877.0	00	0.331	0.315	0.315
878.0	00	0.364	0.347	0.662
879.0	00	0.404	0.384	1.046
880.0	00	0.442	0.423	1.469
Device	Routing	Invert	Outlet De	evices
#1	Primary	876.00'	18.0" Ro	ound Culvert
	-		L= 46.0'	RCP, square edge headwall, Ke= 0.500
			Inlet / Out	itlet Invert= 876.00' / 875.50' S= 0.0109 '/' Cc= 0.900
			n= 0.012,	, Flow Area= 1.77 sf
#2	Device 1	876.00'	•	t. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	878.25'	15.0' lone	g x 6.0' breadth Broad-Crested Rectangular Weir
	,			•
	•		L= 46.0' Inlet / Our n= 0.012, 6.0" Vert 15.0' Ion Head (fee 2.50 3.00 Coef. (En	RCP, square edge headwall, Ke= 0.500 utlet Invert= 876.00' / 875.50' S= 0.0109 '/' Cc= 0.900 y, Flow Area= 1.77 sf

Primary OutFlow Max=0.79 cfs @ 13.69 hrs HW=876.94' TW=875.68' (Dynamic Tailwater)

1=Culvert (Passes 0.79 cfs of 3.75 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.79 cfs @ 4.01 fps)

-3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Summary for Pond 47P: Ramp B 706+25

Inflow Area = 14.351 ac, 20.04% Impervious, Inflow Depth = 0.34" for 2-yr event

Inflow = 1.13 cfs @ 12.14 hrs, Volume= 0.402 af

Outflow = 1.13 cfs @ 12.14 hrs, Volume= 0.402 af, Atten= 0%, Lag= 0.0 min

Primary = 1.13 cfs @ 12.14 hrs, Volume= 0.402 af

Routed to Link 44L: Door Creek Combined

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 874.14' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices	
#1	Primary	873.75'	24.0" Round Culvert = 111.0' RCP, groove end w/headwall, Ke= 0.200	
			Inlet / Outlet Invert= 873.75' / 872.00' S= 0.0158 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf	

Primary OutFlow Max=1.10 cfs @ 12.14 hrs HW=874.13' TW=0.00' (Dynamic Tailwater) 1=Culvert (Inlet Controls 1.10 cfs @ 2.63 fps)

Summary for Pond 51P: Pond D Infiltration

Inflow Area =	13.201 ac, 19.51% Impervious, Inflow	v Depth > 0.58" for 2-yr event		
Inflow =	0.79 cfs @ 13.69 hrs, Volume=	0.633 af		
Outflow =	0.44 cfs @ 20.79 hrs, Volume=	0.633 af, Atten= 45%, Lag= 426.4 min		
Discarded =	0.07 cfs @ 20.79 hrs, Volume=	0.296 af		
Primary =	0.36 cfs @ 20.79 hrs, Volume=	0.338 af		
Routed to Pond 47P : Ramp B 706+25				

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 876.15' @ 20.79 hrs Surf.Area= 20,003 sf Storage= 12,578 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 674.8 min (1,817.6 - 1,142.7)

Volume	Invert	Avail.Storage	Storage	Description
#1	875.50'	78,680 cf	Custom	Stage Data (Prismatic)Listed below (Recalc)
Elevation	Surf.A		c.Store	Cum.Store

Cum.Store	inc.Store	Surr.Area	Elevation
(cubic-feet)	(cubic-feet)	(sq-ft)	(feet)
0	0	18,668	875.50
9,588	9,588	19,685	876.00
30,329	20,741	21,796	877.00
53,174	22,845	23,894	878.00
78,680	25,507	27,119	879.00

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Device	Routing	Invert	Outlet Devices
#1	Primary	875.50'	12.0" Round Culvert
			L= 46.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 875.50' / 875.35' S= 0.0033 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Device 1	875.75'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	878.00'	48.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	878.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Discarded	875.50'	0.140 in/hr Exfiltration over Horizontal area
			Conductivity to Groundwater Elevation = 870.00'

Discarded OutFlow Max=0.07 cfs @ 20.79 hrs HW=876.15' (Free Discharge) **5=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.36 cfs @ 20.79 hrs HW=876.15' TW=873.97' (Dynamic Tailwater)

-1=Culvert (Passes 0.36 cfs of 1.03 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.36 cfs @ 2.16 fps)

3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 54P: Pond C

Inflow Area = 7.094 ac, 32.79% Impervious, Inflow Depth = 0.90" for 2-yr event

Inflow = 9.09 cfs @ 12.15 hrs, Volume= 0.532 af

Outflow = 0.62 cfs @ 13.59 hrs, Volume= 0.520 af, Atten= 93%, Lag= 86.5 min

Primary = 0.62 cfs @ 13.59 hrs, Volume= 0.520 af

Routed to Pond 43P: Ramp C 805+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 874.68' @ 13.59 hrs Surf.Area= 0.432 ac Storage= 0.281 af

Plug-Flow detention time= 366.4 min calculated for 0.520 af (98% of inflow)

Center-of-Mass det. time= 353.6 min (1,196.5 - 842.9)

Volume	Invert	Avail.Storage	Storage Description
#1	874.00'	2.703 af	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
874.00	0.393	0.000	0.000
875.00	0.451	0.422	0.422
876.00	0.509	0.480	0.902
877.00	0.569	0.539	1.441
878.00	0.631	0.600	2.041
879.00	0.693	0.662	2.703

MSE 24-hr 4 2-yr Rainfall=2.84"

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Device	Routing	Invert	Outlet Devices
#1	Primary	874.00'	12.0" Round Culvert
			L= 41.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 874.00' / 873.80' S= 0.0049 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Device 1	874.00'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	877.00'	48.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	878.00'	20.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.62 cfs @ 13.59 hrs HW=874.68' TW=873.68' (Dynamic Tailwater)

-1=Culvert (Passes 0.62 cfs of 1.23 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.62 cfs @ 3.16 fps)

-3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 57P: 187+00 42" Culvert

43.792 ac, 47.85% Impervious, Inflow Depth = 1.05" for 2-yr event Inflow Area =

13.75 cfs @ 12.17 hrs, Volume= Inflow 3.837 af

13.75 cfs @ 12.17 hrs, Volume= Outflow = 3.837 af, Atten= 0%, Lag= 0.0 min

= 13.75 cfs @ 12.17 hrs, Volume= 3.837 af Primary

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 874.19' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	872.70'	42.0" Round Culvert
	-		L= 297.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 872.70' / 871.50' S= 0.0040 '/' Cc= 0.900
			n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=13.36 cfs @ 12.17 hrs HW=874.18' TW=872.73' (Dynamic Tailwater) **T_1=Culvert** (Outlet Controls 13.36 cfs @ 5.12 fps)

Summary for Pond 58P: Culvert 395+33 (Millpond)

Inflow Area = 114.625 ac, 5.66% Impervious, Inflow Depth > 0.45" for 2-yr event

Inflow 10.66 cfs @ 12.63 hrs, Volume= 4.254 af

10.66 cfs @ 12.63 hrs, Volume= 4.254 af, Atten= 0%, Lag= 0.0 min Outflow

Primary 10.66 cfs @ 12.63 hrs, Volume= 4.254 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 877.24' @ 12.63 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.90'	42.0" Round Culvert

02_Post-DevelopmentConditions_WisDOT_PondEvalPrepared by SCS Engineers

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L= 148.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 875.90' / 875.40' S= 0.0034 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=10.63 cfs @ 12.63 hrs HW=877.24' TW=872.85' (Dynamic Tailwater) 1=Culvert (Barrel Controls 10.63 cfs @ 4.64 fps)

Summary for Pond 59P: Pond A

Inflow Area = 300.773 ac, 22.78% Impervious, Inflow Depth > 0.74" for 2-yr event

Inflow = 63.66 cfs @ 12.17 hrs, Volume= 18.498 af

Outflow = 8.03 cfs @ 21.55 hrs, Volume= 16.395 af, Atten= 87%, Lag= 562.7 min

Primary = 8.03 cfs @ 21.55 hrs, Volume= 16.395 af

Routed to Link 36L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 860.81' @ 21.55 hrs Surf.Area= 3.327 ac Storage= 5.861 af

Plug-Flow detention time= 683.3 min calculated for 16.395 af (89% of inflow)

Center-of-Mass det. time= 455.9 min (1,961.9 - 1,506.0)

Volume	Invert	Avail.Stora	ige Stora	age Description
#1	859.00'	24.336	af Cus t	tom Stage Data (Prismatic)Listed below (Recalc) x 0.85
	0.54		0.	
Elevatio			c.Store	Cum.Store
(fee			re-feet)	(acre-feet)
859.0			0.000	0.000
860.0		_	3.755	3.755
861.0			3.876	7.631
862.0			3.999	11.630
863.0			4.123	15.753
864.0			4.123	19.877
865.0			4.250	24.127
866.0	0 4.57	0	4.505	28.631
Device	Routing	Invert	Outlet De	evices
#1	Primary	858.20'	42.0" R	ound Culvert
	•		L= 15.2'	RCP, square edge headwall, Ke= 0.500
			Inlet / Ou	utlet Invert= 858.20' / 858.00' S= 0.0132 '/' Cc= 0.900
			n= 0.012	2, Flow Area= 9.62 sf
#2	Device 1	859.00'	Custom	Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (fe	et) 0.00 3.50 3.50 6.00
			Width (fe	eet) 0.17 4.20 6.00 6.00
#3	Device 2	857.00'	42.0" R	ound Culvert
			L= 15.9'	RCP, groove end w/headwall, Ke= 0.200
			Inlet / Ou	utlet Invert= 857.00' / 857.00' S= 0.0000 '/' Cc= 0.900
				P, Flow Area= 9.62 sf
#4	Primary	865.00'		g x 10.0' breadth Broad-Crested Rectangular Weir
			Head (fe	et) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

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Primary OutFlow Max=8.03 cfs @ 21.55 hrs HW=860.81' TW=856.60' (Dynamic Tailwater)

—1=Culvert (Passes 8.03 cfs of 32.79 cfs potential flow)

2=Custom Weir/Orifice (Weir Controls 8.03 cfs @ 3.65 fps)

3=Culvert (Passes 8.03 cfs of 58.70 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: Pond B (Wet Basin)

Volume	Invert A	Avail.Stora	ige St	orage Description
#1	871.00'	38.463	af Cı	ustom Stage Data (Prismatic)Listed below
				, ,
Elevatio	n Surf.Area	ı In	c.Store	Cum.Store
(fee	t) (acres)) (ac	re-feet)	(acre-feet)
871.0	0 2.901		0.000	0.000
872.0	0 3.063	}	2.982	2.982
873.0	0 3.159)	3.111	6.093
874.0			4.768	
875.0)	6.487	
876.0			6.730	
877.0			7.045	
878.0	0 7.451		7.340	38.463
Davisa	Douting	lassant	041-4	Davissa
Device	Routing	Invert		Devices
#1	Primary	871.00'		Round Culvert L= 3,037.0' Ke= 0.850
				Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
				12, Flow Area= 9.62 sf
#2	Device 1	871.00'		om Weir/Orifice, Cv= 2.62 (C= 3.28)
				(feet) 0.00 1.50 1.50 6.00
" 0	0 1	070 401		(feet) 0.17 1.27 6.00 6.00
#3	Secondary	876.40'		ong x 10.0' breadth Broad-Crested Rectangular Weir
				(feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coet.	(English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)

1=Culvert (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge) 3=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 61P: (new Pond)

Inflow Area = 2.146 ac, 41.66% Impervious, Inflow Depth = 1.60" for 2-yr event

Inflow = 5.34 cfs @ 12.13 hrs, Volume= 0.286 af

Outflow = 5.34 cfs @ 12.13 hrs, Volume= 0.286 af, Atten= 0%, Lag= 0.0 min

Primary = 5.34 cfs @ 12.13 hrs, Volume= 0.286 af

Routed to Pond 59P: Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

¹—2=Custom Weir/Orifice (Controls 0.00 cfs)

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Peak Elev= 860.85' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	859.50'	18.0" Round Culvert
			L= 122.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 859.50' / 859.00' S= 0.0041 '/' Cc= 0.900
			n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=5.12 cfs @ 12.13 hrs HW=860.81' TW=859.31' (Dynamic Tailwater) 1=Culvert (Barrel Controls 5.12 cfs @ 4.18 fps)

Summary for Pond 62P: Pond B (Wet Basin) Spillway change

<u>Volume</u>	Invert A	Avail.Stora	ige Sto	torage Description
#1	871.00'	38.463	af Cu	ustom Stage Data (Prismatic)Listed below
Elevation	n Surf.Area	a In	c.Store	e Cum.Store
(fee	t) (acres) (ac	re-feet)	(acre-feet)
871.0	0 2.90	1	0.000	0.000
872.0	0 3.063	3	2.982	2.982
873.0			3.111	
874.0		3	4.768	3 10.861
875.0			6.487	
876.0			6.730	
877.0			7.045	
878.0	0 7.45		7.340	38.463
Device	Routing	Invert	Outlet	Devices
#1	Primary	871.00'		Round Culvert L= 3,037.0' Ke= 0.850
π ι	1 minary	07 1.00		Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
				012, Flow Area= 9.62 sf
#2	Device 1	871.00'		om Weir/Orifice, Cv= 2.62 (C= 3.28)
				(feet) 0.00 1.50 1.50 6.00
			,	(feet) 0.17 1.27 6.00 6.00
#3	Secondary	876.40'		imetrical Weir, C= 3.27
	,		•	t (feet) 0.00 20.00 60.00 80.00
				t (feet) 1.00 0.00 0.00 1.00

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge) 3=Asymmetrical Weir (Controls 0.00 cfs)

²⁼Custom Weir/Orifice (Controls 0.00 cfs)

MSE 24-hr 4 2-yr Rainfall=2.84"

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Avail Storage Storage Description

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Summary for Pond 63P: Pond B (Dry Basin)

Volume	Invert <i>F</i>	Avail.Stora	ige	Storage Description
#1	869.00'	1.772	af	Custom Stage Data (Prismatic)Listed below
Elevation			c.Sto	
(feet) (acres)) (acı	re-fee	et) (acre-feet)
869.00	0.018	3	0.00	0.000
870.00	0.057	7	0.03	37 0.037
871.00	0.097	7	0.0	77 0.114
872.00	0.138	}	0.1	17 0.232
873.00	2.941		1.54	40 1.772
Device	Routing	Invert	Outl	et Devices
#1	Primary	871.00'	18.0	" Round Culvert
	,		L= 1	3.0' RCP, groove end projecting, Ke= 0.200
			Inlet	: / Outlet Invert= 871.00' / 871.00' S= 0.0000 '/' Cc= 0.900
			n= 0	0.012, Flow Area= 1.77 sf
#2	Secondary	873.00'	Hea	.0' long + 20.0 '/' SideZ x 15.0' breadth Broad-Crested Rectangular Weir d (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 f. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

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

Summary for Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Inflow Area = 244.722 ac, 18.67% Impervious, Inflow Depth > 0.75" for 2-yr event

Inflow = 52.85 cfs @ 12.21 hrs, Volume= 15.357 af

Outflow = 8.46 cfs @ 17.17 hrs, Volume= 13.682 af, Atten= 84%, Lag= 297.7 min

Primary = 8.46 cfs @ 17.17 hrs, Volume= 13.682 af

Routed to Pond 59P: Pond A

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Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 20R: Overland Flow

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 872.82' @ 17.17 hrs Surf.Area= 6.025 ac Storage= 7.222 af

Plug-Flow detention time= 789.0 min calculated for 13.673 af (89% of inflow) Center-of-Mass det. time= 633.9 min (1,742.3 - 1,108.3)

Volume Invert Avail.Storage Storage Description

#1 871.00' 42.125 af Custom Stage Data (Prismatic)Listed below

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
871.00	2.930	0.000	0.000
872.00	3.134	3.032	3.032
872.50	5.890	2.256	5.288
873.00	6.100	2.998	8.285
874.00	6.376	6.238	14.524
875.00	6.599	6.487	21.011
876.00	6.861	6.730	27.741
877.00	7.228	7.044	34.785
878.00	7.451	7.339	42.125

Device	Routing	Invert	Outlet Devices
#1	Primary	871.00'	42.0" Round Culvert L= 3,037.0' Ke= 0.850
			Inlet / Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
			n= 0.012, Flow Area= 9.62 sf
#2	Device 1	871.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 1.50 1.50 6.00
			Width (feet) 0.17 1.27 6.00 6.00
#3	Device 2	870.00'	42.0" Round Culvert L= 20.0' Ke= 0.700
			Inlet / Outlet Invert= 870.00' / 870.00' S= 0.0000 '/' Cc= 0.900
			n= 0.012, Flow Area= 9.62 sf
#4	Secondary	876.40'	80.0' long x 10.0' breadth Broad-Crested Rectangular Weir
	-		Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=8.46 cfs @ 17.17 hrs HW=872.82' TW=860.59' (Dynamic Tailwater)

-1=Culvert (Passes 8.46 cfs of 18.87 cfs potential flow)

-2=Custom Weir/Orifice (Weir Controls 8.46 cfs @ 2.81 fps)
-3=Culvert (Passes 8.46 cfs of 30.69 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=871.00' TW=872.00' (Dynamic Tailwater) **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 65P: YH6-Pond

Inflow	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af	
Outflow	=	78.74 cfs @	0.00 hrs, Volume=	12.903 af, Atten= 0%, Lag= 0.0 m	in
Primary	=	78.74 cfs @	0.00 hrs, Volume=	12.903 af	
Secondary	/ =	0.00 cfs @	0.00 hrs, Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Starting Elev= 856.60' Surf.Area= 6.484 ac Storage= 12.773 af Peak Elev= 856.60' @ 0.00 hrs Surf.Area= 6.484 ac Storage= 12.773 af

Plug-Flow detention time= (not calculated: no plugs found) Center-of-Mass det. time= (not calculated: no inflow)

Volume

#1

Invert

854.63'

MSE 24-hr 4 2-yr Rainfall=2.84"

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Avail.Storage Storage Description

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46.654 af Custom Stage Data (Prismatic)Listed below (Recalc)

Elevatio			nc.Store	Cum.Store	
(fee			re-feet)	(acre-feet)	
854.6			0.000	0.000	
856.6	6.484		12.773	12.773	
857.0	00 6.885		2.674	15.447	
858.0	00 7.728	}	7.307	22.754	
859.0	00 11.179		9.453	32.207	
860.0	00 17.714		14.447	46.654	
Device	Routing	Invert	Outlet E	Devices	
#1	Primary	854.63'	108.0"	W x 36.0" H Bo	x Culvert
#2			Inlet / C n= 0.01 50.0' lo Head (fo	utlet Invert= 854 2 Concrete pipe ng + 25.0 '/' Sic eet) 0.20 0.40	edge headwall, Ke= 0.500 .63' / 854.25' S= 0.0136 '/' Cc= 0.900 , finished, Flow Area= 27.00 sf leZ x 15.0' breadth Broad-Crested Rectangular Weir 0.60 0.80 1.00 1.20 1.40 1.60 70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=78.74 cfs @ 0.00 hrs HW=856.60' (Free Discharge)
—1=Culvert (Barrel Controls 78.74 cfs @ 5.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=856.60' (Free Discharge) 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link 35L: Ag. Ditch #4 Tributary

Inflow Area = 19.199 ac, 34.85% Impervious, Inflow Depth = 1.13" for 2-yr event

Inflow = 24.26 cfs @ 12.23 hrs, Volume= 1.805 af

Primary = 23.96 cfs @ 12.50 hrs, Volume= 1.805 af, Atten= 1%, Lag= 15.8 min

Routed to Link 36L: Combined to Ag Ditch #4

Primary outflow = Inflow delayed by 15.8 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Combined to Ag Ditch #4

Inflow Area = 640.771 ac, 14.16% Impervious, Inflow Depth > 0.52" for 2-yr event

Inflow = 34.29 cfs @ 12.52 hrs, Volume= 27.766 af

Primary = 34.29 cfs @ 12.52 hrs, Volume= 27.766 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Fixed water surface Elevation= 856.60'

MSE 24-hr 4 2-yr Rainfall=2.84" Printed 9/27/2023

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Summary for Link 44L: Door Creek Combined

Inflow Area = 40.584 ac, 24.45% Impervious, Inflow Depth > 0.61" for 2-yr event

Inflow = 9.85 cfs @ 12.32 hrs, Volume= 2.073 af

Primary = 9.85 cfs @ 12.32 hrs, Volume= 2.073 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 56L: Lag to Door Creek

Inflow Area = 0.750 ac, 46.67% Impervious, Inflow Depth = 1.25" for 2-yr event

Inflow = 0.72 cfs @ 12.46 hrs, Volume= 0.078 af

Primary = 0.72 cfs @ 12.89 hrs, Volume= 0.078 af, Atten= 1%, Lag= 25.7 min

Routed to Link 44L: Door Creek Combined

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Primary outflow = Inflow delayed by 25.6 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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Summary for Subcatchment 1S: C1

Runoff = 15.91 cfs @ 12.13 hrs, Volume= 0.865 af, Depth= 2.22"

Routed to Pond 1P: Niebuhr Stormwater Pond

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30.7

1,284 Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	cription		
*	3.	370	98				
_	1.	300	61	>75%	√ Grass co	over, Good,	d, HSG B
	4.	670	88	Weig	hted Aver	age	
	1.	300		27.8	4% Pervio	us Area	
	3.	370		72.16	6% Imperv	∕ious Area	
	_						
	Tc	Leng		Slope	Velocity	Capacity	Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 2S: C2

Runoff = 5.55 cfs @ 12.49 hrs, Volume= 0.668 af, Depth= 0.82" Routed to Pond 2P : Storm Basin 2 with Infiltration

	Area	(ac) C	:N Des	cription		
*	1.	020 9	98			
	5.	655 6	31 >75°	% Grass c	over, Good	, HSG B
	0.	685	58 Woo	ds/grass d	comb., Goo	d. HSG B
*				•	R + CR, Go	·
				hted Aver	•	
		7 4 5 (3% Pervio		
	_	020		_		
	١.	020	10.4	7 % imperv	/ious Area	
	To	Longth	Slope	Volocity	Capacity	Description
	Tc	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	8.0	91	0.0830	0.19		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	6.4	59	0.0300	0.15		Sheet Flow,
						Cultivated: Residue>20% n= 0.170 P2= 2.82"
	11.9	573	0.0080	0.80		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	3.3	337	0.0030	1.69	11.17	Channel Flow,
						Area= 6.6 sf Perim= 13.4' r= 0.49' n= 0.030
	1.1	224	0.0050	3.31	10.40	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.020 Corrugated PE, corrugated interior
_						ii 0.020 Collagated i E, collagated inteller

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Summary for Subcatchment 3S: C3-A

Runoff = 8.95 cfs @ 12.35 hrs, Volume= 0.827 af, Depth= 1.46"

Routed to Pond 2P: Storm Basin 2 with Infiltration

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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

Area	(ac) C	N Desc	cription		
	2.890 98		8		
3.	3.639 61		% Grass c	over, Good	, HSG B
0.	273	8 Wate	er Surface	, HSG B	
6.	802 7	'8 Weig	ghted Aver	age	
3.	639	53.5	0% Pervio	us Area	
3.	163	46.5	0% Imper	∕ious Area	
То	Longth	Clana	Valacity	Canacity	Description
Tc (min)	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	AL (=1
12.1	86	0.0260	0.12		Sheet Flow,
	00		4.04		Grass: Dense n= 0.240 P2= 2.82"
0.9	68	0.0220	1.24		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 2.82"
9.1	1,026	0.0050	1.88	15.43	• •
					Bot.W=0.00' D=1.00' Z= 8.2 '/' Top.W=16.40'
					n= 0.035
1.4	224	0.0050	2.76	8.66	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.024
0.1	59	0.0056	7.06	49.91	Pipe Channel,
					36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'
					n= 0.013
23.6	1,463	Total	·		

Summary for Subcatchment 4S: C3-B

Runoff = 2.70 cfs @ 12.13 hrs, Volume= 0.149 af, Depth= 2.40" Routed to Pond 3P : Sheriff Phase 2 Bioretention

	Area (ac)	CN	Description
*	0.580	98	
	0.165	>75% Grass cover, Good, HSG B	
	0.745	90	Weighted Average
	0.165		22.15% Pervious Area
	0.580		77.85% Impervious Area

MSE 24-hr 4 5-yr Rainfall=3.45" Printed 9/27/2023

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry,

Summary for Subcatchment 5S: C4-A

Runoff = 8.96 cfs @ 12.13 hrs, Volume= 0.516 af, Depth= 2.79"

Routed to Pond 4P: Cnty-Storm Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	cription		
*	2.	010	98				
	0.	210	61	>75%	% Grass co	over, Good	H, HSG B
	2.220 94 Weighted Average						
	0.	210		9.46	% Perviou	s Area	
	2.010			90.5	4% Imperv	ious Area	
	Тс	Lengt	th S	Slope	Velocity	Capacity	Description
	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 6S: C4-B

Runoff = 5.89 cfs @ 12.31 hrs, Volume= 0.507 af, Depth= 1.46"

Routed to Pond 5P: CNTY-Infiltration Basin #1

	Area (ac)	CN	Description
*	1.560	98	
	1.455	>75% Grass cover, Good, HSG B	
	1.150	74	>75% Grass cover, Good, HSG C
	4.165	78	Weighted Average
	2.605		62.55% Pervious Area
	1.560		37.45% Impervious Area

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_	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	13	0.0200	0.86		Sheet Flow,
	0.9	10	0.2400	0.19		Smooth surfaces n= 0.011 P2= 2.82" Sheet Flow,
	14.4	127	0.0370	0.15		Grass: Dense n= 0.240 P2= 2.82" Sheet Flow,
	17.7	121	0.0070	0.13		Grass: Dense n= 0.240 P2= 2.82"
	1.6	115	0.0280	1.17		Shallow Concentrated Flow,
_	3.3	521	0.0080	2.66	15.95	Short Grass Pasture Kv= 7.0 fps Trap/Vee/Rect Channel Flow, Bot.W=2.00' D=1.00' Z= 4.0 '/' Top.W=10.00' n= 0.035
	20.5	786	Total			

Summary for Subcatchment 7S: C4-C

Runoff = 1.25 cfs @ 12.14 hrs, Volume= 0.067 af, Depth= 1.21"

Routed to Pond 6P: County Pond - East

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	Description						
*	0.	230	98								
	0.	440	61	>75%	>75% Grass cover, Good, HSG B						
0.670 74 Weighted Average						age					
	0.	440		65.6	7% Pervio	us Area					
0.230 34.33% Impervious Area					3% Imperv	ious Area					
	Тс	Leng	th S	Slope	Velocity	Capacity	Description				
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)					
	6.0						Direct Entry,				

Summary for Subcatchment 8S: C4-D

Runoff = 30.20 cfs @ 12.13 hrs, Volume= 1.665 af, Depth= 2.40"

Routed to Pond 6P: County Pond - East

	Area (ac)	CN	Description					
*	6.030	98						
	1.350	61	>75% Grass cover, Good, HSG B					
	0.300	98	/ater Surface, HSG B					
	0.640	74	>75% Grass cover, Good, HSG C					
	8.320	90	Weighted Average					
	1.990		23.92% Pervious Area					
	6.330		76.08% Impervious Area					

MSE 24-hr 4 5-yr Rainfall=3.45"

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Tc	Length	Slope	Velocity	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
6.0					Direct Entry	-	

Summary for Subcatchment 9S: C5-A

Runoff = 1.25 cfs @ 12.15 hrs, Volume= 0.075 af, Depth= 0.68"

Routed to Pond 9P: Culvert 534+50

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN De	scription		
1.220 61 >75% Grass cover, Good, HSG B						
*	0.	100	98			
	1.	320	64 W	eighted Ave	rage	
	1.	220	92	.42% Pervio	ous Area	
	0.	100	7.	8% Impervi	ious Area	
	Tc	Length		•	Capacity	Description
_	(min)	(feet	(ft/f) (ft/sec)	(cfs)	
	1.3	16	0.240	0.21		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	1.7	533	0.030	5.30	21.19	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 '/' Top.W=8.00'
						n= 0.030
_	3.0					Direct Entry, increase to min TOC
	6.0	549	Total			

Summary for Subcatchment 10S: C5-B

Runoff = 2.99 cfs @ 12.13 hrs, Volume= 0.186 af, Depth= 3.22"

Routed to Pond 57P: 187+00 42" Culvert

	Area	(ac)	CN	Desc	cription		
*	0.	693	98				
	0.693 100.0			00% Impe	rvious Area		
	Тс	Leng	th :	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

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Summary for Subcatchment 11S: C5-C

Runoff = 8.76 cfs @ 12.16 hrs, Volume= 0.516 af, Depth= 1.39"

Routed to Pond 57P: 187+00 42" Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac) C	N Des	cription		
*	1.	898 9	98			
	2.	544 (31 >75°	% Grass c	over, Good	, HSG B
_	4.	442	77 Wei	ghted Aver	age	
		544	•	7% Pervio	•	
		898			ious Area	
				· / · · · · · · · · · · · · · · · · · ·		
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	'
	0.5	33	0.0270	1.17	, ,	Sheet Flow,
	0.0		0.02.0			Smooth surfaces n= 0.011 P2= 2.82"
	4.8	76	0.2100	0.27		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.3	869	0.0150	4.36	61.01	Trap/Vee/Rect Channel Flow,
						Bot.W=10.00' D=1.00' Z= 4.0'/' Top.W=18.00'
						n= 0.035
	8.6	978	Total			

Summary for Subcatchment 12S: C5-E

Runoff = 3.32 cfs @ 12.16 hrs, Volume= 0.191 af, Depth= 1.53" Routed to Pond 14P : Culvert at Millpond 387+00

	Area (ac)	CN	Description
*	0.720	98	
	0.740	61	>75% Grass cover, Good, HSG B
	0.040	74	>75% Grass cover, Good, HSG C
	1.500	79	Weighted Average
	0.780		52.00% Pervious Area
	0.720		48.00% Impervious Area

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_	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	18	0.0180	0.88		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	2.2	19	0.0950	0.15		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	5.7	645	0.0050	1.88	15.05	- F
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'
_						n= 0.035
	8.2	682	Total			

Summary for Subcatchment 13S: C6-A

Runoff = 5.75 cfs @ 12.16 hrs, Volume= 0.343 af, Depth= 1.21" Routed to Pond 13P : Culvert at Ramp A 690+50

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	cription				
*	0.	890	98						
	1.	690	61	>759	% Grass co	over, Good	, HSG B		
	0.	.830 74		>759	>75% Grass cover, Good, HSG C				
	3.	410	74	Weighted Average		age			
	2.	520			, 0% Pervio	•			
	0.890		26.1	0% Imperv	ious Area				
					•				
	Tc	Lengtl	า ร	Slope	Velocity	Capacity	Description		
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	3.6	6	5 0.	3100	0.30		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.82"		
	1.0	8	5 0.	0390	1.38		Shallow Concentrated Flow,		
							Short Grass Pasture Kv= 7.0 fps		
	3.9	43	1 0.	0050	1.87	9.33	Trap/Vee/Rect Channel Flow,		
							Bot.W=0.00' D=1.00' Z= 4.0 & 6.0 '/' Top.W=10.00'		
_							n= 0.035		
	8.5	58	1 To	otal					

Summary for Subcatchment 14S: C6-B

Runoff = 15.74 cfs @ 12.36 hrs, Volume= 1.480 af, Depth= 1.27"

Routed to Pond 14P: Culvert at Millpond 387+00

MSE 24-hr 4 5-yr Rainfall=3.45"

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	Area	(ac)	CN	Desc	cription		
*	3.	360	98				
	5.	070	61	>75%	% Grass co	over, Good	, HSG B
	5.	590	74	>75%	% Grass co	over, Good	, HSG C
	14.	020	75	Weid	hted Aver	age	
	10.	660		_	, 3% Pervio	•	
	3.	360		23.9	7% Imperv	ious Area	
					•		
	Tc	Lengtl	า ร	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	•
	18.7	148	3 0.	0260	0.13		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	4.9	898	3 0.	0090	3.03	24.26	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 4.0 '/' Top.W=12.00'
							n= 0.035
	23.6	1,040	3 To	otal			

Summary for Subcatchment 15S: C6-C

Runoff = 9.73 cfs @ 12.13 hrs, Volume= 0.568 af, Depth= 2.89" Routed to Pond 64P : Pond B-reduced_raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

_	Area	(ac)	CN	Desc	ription				
*	2.	020	98						
	0.	0.340 74 >75% Grass cover, Good,				over, Good	, HSG C		
	2.360 95 Weighted Average				hted Aver	age			
	0.340				14.41% Pervious Area				
	2.	2.020		0 85.59% Imper					
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description		
_		(166	;t)	(11/11)	(II/Sec)	(CIS)			
	6.0						Direct Entry,		

Summary for Subcatchment 16S: C6-D1

Runoff = 1.63 cfs @ 12.41 hrs, Volume= 0.188 af, Depth= 0.64" Routed to Pond 16P : Culvert 509+94 (NB CTH AB)

02_Post-DevelopmentConditions_WisDOT_PondEval Prepared by SCS Engineers

MSE 24-hr 4 5-yr Rainfall=3.45" Printed 9/27/2023

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	Area	(ac)	CN	Desc	cription			
*	0.	040	98					
	2.	340	61	>75%	√ Grass co	over, Good	, HSG B	
	0.	390	58	Woo	ds/grass d	omb., Goo	d, HSG B	
*	0.	790	70	Row	crops, SR	+ CR, God	od, HSG B	
	3.	560	63	Weig	hted Aver	age		
	3.520			98.88	98.88% Pervious Area			
	0.	040		1.12	% Impervi	ous Area		
	Tc	Lengt	h S	Slope	Velocity	Capacity	Description	
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)		
	23.0	26	5 0.	0500	0.19		Sheet Flow,	
							Grass: Dense n= 0.240 P2= 2.82"	
	0.9	22	3 0.	0240	4.07	18.31	Trap/Vee/Rect Channel Flow,	
							Bot.W=0.00' D=1.00' Z= 6.0 & 3.0 '/' Top.W=9.00'	
_							n= 0.035	
	23.9	48	8 To	otal				

Summary for Subcatchment 17S: C6-D2

7.57 cfs @ 12.54 hrs, Volume= Runoff

0.975 af, Depth= 0.82"

Routed to Pond 18P: Culvert 505+79 (NB CTH AB)

	Area (ac)	CN	Description
*	1.795	98	
	3.625	61	>75% Grass cover, Good, HSG B
	0.305	74	>75% Grass cover, Good, HSG C
	5.110	58	Woods/grass comb., Good, HSG B
*	2.820	70	Row crops, SR + CR, Good, HSG B
*	0.580	79	Row crops, SR + CR, Good, HSG C
	14.235	67	Weighted Average
	12.440		87.39% Pervious Area
	1.795		12.61% Impervious Area

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 Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	150	0.1150	0.16		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 2.82"
7.2	545	0.0630	1.25		Shallow Concentrated Flow,
	2.12				Woodland Kv= 5.0 fps
3.4	219	0.0450	1.06		Shallow Concentrated Flow,
0.7	005	0.0440	0.00		Woodland Kv= 5.0 fps
6.7	335	0.0140	0.83		Shallow Concentrated Flow,
1.1	213	0.0160	3.32	12.26	Short Grass Pasture Kv= 7.0 fps
1.1	213	0.0100	3.32	13.26	Trap/Vee/Rect Channel Flow, Bot.W=0.00' D=1.00' Z= 4.0 '/' Top.W=8.00'
					n= 0.035
0.4	150	0.0050	6.40	31.42	Pipe Channel,
0.4	100	0.0000	0.40	01.42	30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63'
					n= 0.012
34.5	1,612	Total			

Summary for Subcatchment 18S: YH2-B

Runoff = 13.10 cfs @ 12.63 hrs, Volume= 1.926 af, Depth= 0.68" Routed to Pond 58P : Culvert 395+33 (Millpond)

	Area	(ac) C	N Des	cription		
*	2.	510	98			
	11.	160 6	31 >75°	% Grass c	over, Good	, HSG B
	9.	490 7	⁷ 4 >75 ⁹	% Grass c	over, Good	, HSG C
	2.	240 6	35 Brus	h, Good, I	HSG C	
	8.	590 4	l8 Brus	h, Good, I	HSG B	
	33.	990 6	64 Weig	hted Aver	age	
	31.	480	92.6	2% Pervio	us Area	
	2.	510	7.38	% Impervi	ous Area	
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	15.5	150	0.0430	0.16		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	17.3	1,216	0.0280	1.17		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	0.7	206	0.0100	4.91	3.86	1 /
						12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
						n= 0.012
	1.6	234	0.0040	2.38	38.12	Trap/Vee/Rect Channel Flow,
						Bot.W=8.00' D=1.00' Z= 8.0 '/' Top.W=24.00'
						n= 0.030
	0.1	35	0.0140	9.23	29.00	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.012

MSE 24-hr 4 5-yr Rainfall=3.45"

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3.3 527 0.0140 2.68 53.55 **Trap/Vee/Rect Channel Flow,**Bot.W=10.00' D=1.00' Z= 10.0 '/' Top.W=30.00'
n= 0.050

38.5 2,368 Total

Summary for Subcatchment 19S: C7 - Landfill

Runoff = 59.09 cfs @ 12.19 hrs, Volume= 3.782 af, Depth= 1.60"

Routed to Pond 19P: Landfill Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

Area	(ac)	CN	Desc	cription		
0.	.440	96	Grav	el surface	, HSG C	
27.	.650	80	>75%	√ Grass co	over, Good	, HSG D
0.	.330	98	Wate	er Surface,	, HSG B	
28.	.420	80	Weig	hted Aver	age	
28.	.090		98.8	4% Pervio	us Area	
0.	.330		1.16	% Impervi	ous Area	
_					_	
Tc	Leng	th	Slope	Velocity	Capacity	Description
(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
11.0						Direct Entry, TOC from Landfill SWMP

Summary for Subcatchment 20S: C8

Runoff = 14.40 cfs @ 12.23 hrs, Volume= 1.027 af, Depth= 1.46"

Routed to Pond 22P: 36" Culvert 182+00

	Area (ac)	CN	Description
*	2.980	98	
	2.750	61	>75% Grass cover, Good, HSG B
	2.714	74	>75% Grass cover, Good, HSG C
	8.444	78	Weighted Average
	5.464		64.71% Pervious Area
	2.980		35.29% Impervious Area

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_	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.6	31	0.0140	0.89		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	1.6	10	0.0520	0.10		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	5.6	1,329	0.0170	3.93	11.78	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00'
						n= 0.030
	5.9	395	0.0250	1.11		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
_	13.7	1,765	Total			·

Summary for Subcatchment 22S: C9

Runoff = 2.28 cfs @ 12.16 hrs, Volume=

0.134 af, Depth= 1.53"

Routed to Pond 22P: 36" Culvert 182+00

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac) C	N Des	cription		
*	0.	520	98			
	0.	530	61 >75°	% Grass c	over, Good	, HSG B
	1.	050	79 Wei	ghted Aver	age	
	0.	530		8% Pervio	•	
	0.	520	49.5	2% Imper	vious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.3	19	0.0200	0.93		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	1.8	19	0.1400	0.17		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	6.5	572	0.0030	1.46	11.66	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'
_						n= 0.035
	8.6	610	Total			

Summary for Subcatchment 23S: C10

Runoff = 2.13 cfs @ 12.15 hrs, Volume= 0.118 af, Depth= 1.53" Routed to Pond 64P: Pond B-reduced raised 1 ft and raised spillway

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	Area	(ac)	CN	Desc	cription				
_				DCS	приоп				
*	* 0.404 98		98						
	0.	374	61	>75%	% Grass co	over, Good	. HSG B		
	0	153							
_				>75% Grass cover, Good, HSG C					
	0.931 79			Weighted Average					
	0.	527		56.6	1% Pervio	us Area			
	0.404			43.3	9% Imperv	/ious Area			
	٠.				o / op o				
	Ta	Longth		000	\/alaaity	Canacity	Description		
	Tc	Length		ope	Velocity	Capacity	Description		
	(min)	(feet) (1	ft/ft)	(ft/sec)	(cfs)			
	0.3	18	0.0	200	0.92		Sheet Flow,		
							Smooth surfaces n= 0.011 P2= 2.82"		
	1.7	19	0 0 1	700	0.19				
	1.7	18	0.1	700	0.19		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.82"		
	5.5	475	0.0	030	1.45	8.71	Trap/Vee/Rect Channel Flow,		
							Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'		
							n= 0.035		
_							11- 0.000		
	7.5	512	? Tot	ial					

Summary for Subcatchment 24S: YH1

Runoff = 25.42 cfs @ 12.88 hrs, Volume= 4.549 af, Depth= 0.82"

Routed to Pond 24P: YH1 - Pond

	Area	(ac) (N D	esc	ription				
	22.700 61 >75% Grass cover, Good, HSG B								
	27.	890	74 >7	75%	% Grass co	over, Good	, HSG C		
	4.	830	48 Bi	rus	h, Good, F	HSG B			
	8.	800	65 B	Brush, Good, HSG C					
_	2.	180	98 W	/ate	er Surface	, HSG B			
	66.	400	67 W	/eig	hted Aver	age			
	64.	220	96	6.72	2% Pervio	us Area			
	2.	180	3.	.28°	% Impervi	ous Area			
	Tc	Length			Velocity	Capacity	Description		
_	(min)	(feet)	(ft/1	ft)	(ft/sec)	(cfs)			
	21.0	150	0.020	00	0.12		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.82"		
	36.9	2,018	0.017	70	0.91		Shallow Concentrated Flow,		
_							Short Grass Pasture Kv= 7.0 fps		
	57.9	2 168	Total						

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Summary for Subcatchment 25S: YH2-A

Runoff = 14.08 cfs @ 12.43 hrs, Volume= 1.515 af, Depth= 1.03"

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	cription				
*	0.	460	98						
	6.	980	61	>75% Grass cover, Good, HSG B					
	4.	750	74	>75% Grass cover, Good, HSG C					
	2.	2.290 58		Woods/grass comb., Good, HSG B					
	0.200 48		48	Brush, Good, HSG B					
	2.930 98 Water Surface, HSG B								
	17.610 71 Weighted Average								
	14.	220		80.7	5% Pervio	us Area			
	3.390			19.25% Impervious Area					
	Тс	Length	n S	Slope	Velocity	Capacity	Description		
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	18.6	150	0.0	0270	0.13		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.82"		
	8.3	493	3 0.0	0200	0.99		Shallow Concentrated Flow,		
							Short Grass Pasture Kv= 7.0 fps		
	1.1	375	0.0	0280	5.77	80.72			
							Bot.W=4.00' D=1.00' Z= 15.0 & 5.0 '/' Top.W=24.00'		
							n= 0.030		
	0.1	32	2 0.3	3300	4.02		Shallow Concentrated Flow,		
_						Short Grass Pasture Kv= 7.0 fps			
	20.1	1 050	\ Ta	stal					

28.1 1,050 Total

Summary for Subcatchment 26S: C11,12,15,16,18

Runoff = 30.79 cfs @ 12.13 hrs, Volume= 1.651 af, Depth= 1.97"

Routed to Pond 59P: Pond A

	Area (ac)	CN	Description					
*	6.350	98						
	3.330	61	>75% Grass cover, Good, HSG B					
	0.360	74	>75% Grass cover, Good, HSG C					
	10.040	85	Weighted Average					
	3.690		36.75% Pervious Area					
	6.350		63.25% Impervious Area					

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		•	•	Velocity (ft/sec)	Capacity (cfs)	Description	
•	6.0	(1001)	(12,12)	(14000)	(0.0)	Direct Entry,	

Summary for Subcatchment 27S: C13-A, C13-B, C14

Runoff = 19.60 cfs @ 12.26 hrs, Volume= 1.556 af, Depth= 0.98"

Routed to Pond 59P: Pond A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	cription		
*	4.	590	98				
*	10.	730	61				
	0.	643	74	>75%	% Grass c	over, Good	, HSG C
	2.	716	55	Woo	ds, Good,	HSG B	
	0.	424	70	Woo	ds, Good,	HSG C	
	19.103 70			Weig	hted Aver	age	
	14.513		75.9	7% Pervio	us Area		
	4.590		24.0	3% Imper	/ious Area		
	Тс	Lengt		Slope	Velocity	Capacity	Description
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	0.3	1	8 (0.0200	0.92		Sheet Flow,
							Smooth surfaces n= 0.011 P2= 2.82"
	4.9	7	' 5 (0.1900	0.25		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	10.2	1,34	10 (0.0050	2.20	20.87	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 6.0 & 5.0 '/' Top.W=15.00'
_							n= 0.035
	15.4	1,43	33	Total			

Summary for Subcatchment 28S: C17, C21, C22-A

Runoff = 7.75 cfs @ 12.21 hrs, Volume= 0.521 af, Depth= 1.27"

Routed to Pond 28P: 12/18 140+35

	Area (ac)	CN	Description				
*	1.830	98					
	2.930	61	75% Grass cover, Good, HSG B				
	0.180	80	>75% Grass cover, Good, HSG D				
	4.940	75	Weighted Average				
	3.110		62.96% Pervious Area				
	1.830		37.04% Impervious Area				

MSE 24-hr 4 5-yr Rainfall=3.45"

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_	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	17	0.0240	0.97		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	3.0	46	0.2490	0.26		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	8.5	1,279	0.0064	2.51	22.55	Trap/Vee/Rect Channel Flow,
		,				Bot.W=4.00' D=1.00' Z= 6.0 & 4.0 '/' Top.W=14.00'
						n= 0.035
	11.8	1,342	Total			

Summary for Subcatchment 29S: C19-A

Runoff = 7.60 cfs @ 12.27 hrs, Volume= 0.600 af, Depth= 1.33"

Routed to Pond 59P: Pond A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac) (CN Des	cription		
*	2.	140	98			
*	3.	280	61 Gras	ss HSG B		
	3.	420 280 140	60.5	ghted Aver 52% Pervio 18% Imper	0	
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	12.6	150	0.0720	0.20	•	Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	2.1	129	0.0210	1.01		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.1	239	0.0300	3.52		Shallow Concentrated Flow,
						Paved Kv= 20.3 fps
	1.2	132	0.0050	1.87	12.18	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 9.0 & 4.0 '/' Top.W=13.00' n= 0.035
	17.0	650	Total			

Summary for Subcatchment 30S: C19-B

Runoff = 0.39 cfs @ 12.15 hrs, Volume= 0.026 af, Depth= 0.55"

Routed to Pond 59P: Pond A

MSE 24-hr 4 5-yr Rainfall=3.45" Printed 9/27/2023

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_	Area	(ac)	CN	Desc	cription		
	0.	560	61	>759	% Grass co	over, Good	, HSG B
	0.	560		100.	00% Pervi	ous Area	
	_		.,	01			B
	Tc	Leng		Slope	,		Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 31S: C19-C

Runoff = 7.07 cfs @ 12.13 hrs, Volume= 0.382 af, Depth= 2.14"

Routed to Pond 61P: (new Pond)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	Description							
*	0.	894	98									
	1.	252	80	>75%	√ Grass co	over, Good	I, HSG D					
	2.146 87 Weighted Average											
	1.	252		58.3	4% Pervio	us Area						
	0.894 4				6% Imperv	ious Area						
	Тс	Leng	th S	Slope	Velocity	Capacity	Description					
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)						
	6.0						Direct Entry,					

Summary for Subcatchment 32S: C19-D

Runoff = 27.12 cfs @ 12.19 hrs, Volume= 1.786 af, Depth= 2.31"

Routed to Pond 59P: Pond A

	Area (ac)	CN	Description
*	2.665		
	1.463	>75% Grass cover, Good, HSG B	
	1.444	>75% Grass cover, Good, HSG D	
	3.700	98	Water Surface, HSG B
9.272 89 We			Weighted Average
	2.907		31.35% Pervious Area
	6.365		68.65% Impervious Area

MSE 24-hr 4 5-yr Rainfall=3.45" Printed 9/27/2023

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
-	8.2		0.0930	0.20	()	Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.1	279	0.0450	1.48		Shallow Concentrated Flow,
_						Short Grass Pasture Kv= 7.0 fps
	11.3	379	Total			

Summary for Subcatchment 33S: C20

Runoff = 3.46 cfs @ 12.27 hrs, Volume=

0.295 af, Depth= 0.77"

Routed to Pond 32P: Long Drive 440+35

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac) (CN Des	cription					
*	0.660 98		98						
	3.910 61			>75% Grass cover, Good, HSG B					
	4.	570	66 Wei	ghted Avei	age				
	3.	910	85.5	6% Pervio	us Area				
	0.	660	14.4	4% Imper	vious Area				
	Тс	Length	Slope	Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	0.3	12	0.0100	0.64		Sheet Flow,			
						Smooth surfaces n= 0.011 P2= 2.82"			
	11.3	101	0.0430	0.15		Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.82"			
	3.9	723	0.0140	3.08	10.79	Trap/Vee/Rect Channel Flow,			
						Bot.W=0.00' D=1.00' Z= 4.0 & 3.0 '/' Top.W=7.00'			
_						n= 0.035			
	15.5	836	Total						

Summary for Subcatchment 34S: YH3-A

Runoff = 2.92 cfs @ 12.20 hrs, Volume=

0.203 af, Depth= 0.77"

Routed to Pond 34P: YH3-Pond

	Area (ac)	CN	Description
*	0.357	98	
	2.668	61	>75% Grass cover, Good, HSG B
	0.131	74	>75% Grass cover, Good, HSG C
	3.156	66	Weighted Average
	2.799		88.69% Pervious Area
	0.357		11.31% Impervious Area

MSE 24-hr 4 5-yr Rainfall=3.45" Printed 9/27/2023

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Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
10.0					Direct Entry	,

Direct Entry,

Summary for Subcatchment 35S: YH3-B

51.08 cfs @ 12.79 hrs, Volume=

9.193 af, Depth= 0.59"

Routed to Pond 34P: YH3-Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area (ac) CN		Desc	cription						
*	2.750 98									
	111.110 61		>75%	>75% Grass cover, Good, HSG B						
	25.	680	74	>75%	>75% Grass cover, Good, HSG C					
	35.	680	48	Brus	Brush, Good, HSG B					
	6.	860	65	Brus	h, Good, F	HSG C				
	4.	200	98	Wate	er Surface,	, HSG B				
	186.	280	62	Weig	hted Aver	age				
	179.	330		96.2	7% Pervio	us Area				
	6.	950		3.73	% Impervi	ous Area				
	Tc	Lengtl	h S	Slope	Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	19.9	150	0.	0230	0.13		Sheet Flow,			
							Grass: Dense n= 0.240 P2= 2.82"			
	25.0	1,662	2 0.	0250	1.11		Shallow Concentrated Flow,			
							Short Grass Pasture Kv= 7.0 fps			
	1.2	219	9 0.	.0090	2.95	29.50	Trap/Vee/Rect Channel Flow,			
							Bot.W=0.00' D=1.00' Z= 10.0 '/' Top.W=20.00'			
							n= 0.030			
	2.5	88	5 0.	0110	5.98	7.34	Pipe Channel,			
							15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'			
							n= 0.012			
	10 C	2 04/	э т.	atal						

2,916 Total 48.6

Summary for Subcatchment 36S: YH4

Runoff 7.15 cfs @ 12.36 hrs, Volume=

0.739 af, Depth= 0.73"

Routed to Pond 36P: YH4-Pond

MSE 24-hr 4 5-yr Rainfall=3.45"

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	Area	(ac)	CN	Desc	cription			
	9.630 61 >75% Grass cover, Good, HSG B							
2.070 74 >75% Grass cover, Good, HSG C								
	0.	520	98	Wate	er Surface	, HSG A		
	12.	220	65	Weig	hted Aver	age		
	11.	700		95.7	4% Pervio	us Area		
	0.	520		4.26	% Impervi	ous Area		
	Tc	Length	າ ເ	Slope	Velocity	Capacity	Description	
	(min)	(feet))	(ft/ft)	(ft/sec)	(cfs)		
	13.0	150	0.	0660	0.19		Sheet Flow,	
							Grass: Dense n= 0.240 P2= 2.82"	
	8.6	470	0.	0170	0.91		Shallow Concentrated Flow,	
							Short Grass Pasture Kv= 7.0 fps	
	21.6	620) To	otal	_			

Summary for Subcatchment 37S: YH5

Runoff = 5.66 cfs @ 12.15 hrs, Volume= 0.313 af, Depth= 1.60"

Routed to Pond 37P: YH5 - Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	cription							
*	0.	330	98									
	1.	130	61	>75%	% Grass co	over, Good	, HSG B					
_	0.	890	98	Wate	er Surface	, HSG A						
	2.350 80 Weighted Average											
	1.	130		48.0	9% Pervio	us Area						
1.220				51.9	51.91% Impervious Area							
	Tc (min)	Lengtl (feet		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description					
	0.2	1	1 0.	.0300	0.98		Sheet Flow,					
	7.1	8	7 0.	.1000	0.20		Smooth surfaces n= 0.011 P2= 2.82" Sheet Flow, Grass: Dense n= 0.240 P2= 2.82"					
	7.3	98	8 To	otal	•	•						

Summary for Subcatchment 38S: YH6

Runoff = 48.86 cfs @ 12.55 hrs, Volume= 6.422 af, Depth= 0.77"

Routed to Pond 38P: YH6-Pond

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Area	(ac)	CN	Desc	cription						
54	.390	61	>75%	% Grass co	over, Good	, HSG B				
4	.340	48	Brus	h, Good, F	HSG B					
7	.606	65	Brus	Brush, Good, HSG C						
26	.837	73	Brus	Brush, Good, HSG D						
6	.484	98	Wate	Water Surface, HSG A						
99	.657	66	Weig	hted Aver	age					
93	.173		93.4	9% Pervio	us Area					
6	6.484			% Impervi	ous Area					
Tc	Lengt	h	Slope	Velocity	Capacity	Description				
<u>(min)</u>	(fee	t)	(ft/ft)	(ft/sec)	(cfs)					
19.2	15	0 0	.0250	0.13		Sheet Flow,				
						Grass: Dense n= 0.240 P2= 2.82"				
15.4	88	9 0	.0190	0.96		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
34.6	1,03	9 T	otal							

Summary for Subcatchment 39S: C22B-25

Runoff = 33.39 cfs @ 12.23 hrs, Volume= 2.426 af, Depth= 1.60"

Routed to Link 35L : Ag. Ditch #4 Tributary

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area (ac) CN		N Des	cription					
*	6.	6.210 98							
	5.	320	31 >75	>75% Grass cover, Good, HSG B					
	_			>75% Grass cover, Good, HSG C					
				>75% Grass cover, Good, HSG D					
_				Weighted Average					
	_								
		019		3% Pervio					
	6.210		34.0	7% Imper	vious Area				
	Tc	Length	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	0.4	29	0.0250	1.10		Sheet Flow,			
						Smooth surfaces n= 0.011 P2= 2.82"			
	2.4	30	0.1740	0.20		Sheet Flow,			
			0	0.20		Grass: Dense n= 0.240 P2= 2.82"			
	6.1	100	0.0015	0.27		Shallow Concentrated Flow,			
	0.1	100	0.0013	0.21		Short Grass Pasture Kv= 7.0 fps			
	5.6	074	0.0060	2.50	22.22	· · · · · · · · · · · · · · · · · · ·			
	5.6	874	0.0069	2.58	23.23	Trap/Vee/Rect Channel Flow,			
						Bot.W=0.00' D=1.00' Z= 9.0 '/' Top.W=18.00'			
_						n= 0.030			
	115	1 022	Total						

14.5 1,033 Total

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Summary for Subcatchment 40S: C25-B

Runoff = 2.32 cfs @ 12.14 hrs, Volume= 0.123 af, Depth= 1.53"

Routed to Link 35L : Ag. Ditch #4 Tributary

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	cription		
*	0.	480	98				
*	0.	490	61				
	0.970 79 Weighted Average						
	0.490 50.52% Pervious Area						
	0.480			49.48% Impervious Area			
	Тс	Lengt	th S	Slope	Velocity	Capacity	Description
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry.

Summary for Subcatchment 41S: C26

Runoff = 5.34 cfs @ 13.07 hrs, Volume= 1.104 af, Depth= 0.77"

Routed to Link 36L: Combined to Ag Ditch #4

Description

Area (ac)

CN

_	7 ti Ou	(40) 	<u> </u>	211011							
	0.	040 6	31 >759	% Grass c	over, Good	, HSG B					
	0.	016 7			over, Good						
	3.			h, Good, I	•	,					
1.800 65 Brush, Good, HSG C											
	11.330 73 Brush, Good, HSG D										
17.136 66 Weighted Average											
	17.	136	100.	00% Pervi	ous Area						
	_		01		.	B					
	Tc	Length	Slope		Capacity	Description					
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
	40.2	150	0.0110	0.06		Sheet Flow,					
						Woods: Light underbrush n= 0.400 P2= 2.82"					
	9.7	380	0.0170	0.65		Shallow Concentrated Flow,					
						Woodland Kv= 5.0 fps					
	0.4	58	0.0050	2.76	8.66	Pipe Channel, CMP_Round 24"					
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'					
						n= 0.024					
	0.2	59	0.0260	4.99	29.91	Trap/Vee/Rect Channel Flow,					
	0.2	00	0.0200	4.00	20.01	Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'					
						n= 0.030					
	10.2	2 177	0.0007	1 00	E2 11						
	19.3	2,177	0.0007	1.88	53.14	•					
						Bot.W=4.00' D=3.00' Z= 1.8 '/' Top.W=14.80'					
_						n= 0.030					

MSE 24-hr 4 5-yr Rainfall=3.45" Printed 9/27/2023

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69.8 2,824 Total

Summary for Subcatchment 42S: C5-D

Runoff = 4.13 cfs @ 12.18 hrs, Volume= 0.265 af, Depth= 0.98"

Routed to Pond 41P: AB 520+90

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	cription				
*	0.	700	98						
	2.	260	61	>759	% Grass co	over, Good	, HSG B		
_	0.	290	74	>759	% Grass co	over, Good	, HSG C		
					hted Aver	age			
	2.550			78.46% Pervious Area					
	0.700			21.5	4% Imper\	∕ious Area			
	Tc (min)	Lengtl (feet		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description		
_	2.0	23	3 0.	1600	0.19	,	Sheet Flow,		
	7.1	800	0.0	0050	1.87	9.33	Grass: Dense n= 0.240 P2= 2.82" Trap/Vee/Rect Channel Flow, Bot.W=0.00' D=1.00' Z= 4.0 & 6.0 '/' Top.W=10.00' n= 0.035		
	9.1	823	3 To	tal					

Summary for Subcatchment 43S: C27-A

Runoff = 9.63 cfs @ 12.13 hrs, Volume= 0.512 af, Depth= 1.60"

Routed to Pond 54P: Pond C

	Area (ac)	CN	Desc	cription					
*	1.6	326	98							
	1.8	328	61	>75%	√ Grass co	over, Good	d, HSG B			
	0.3	390	98	Wate	er Surface,	0% imp, H	HSG B			
	3.8	344	80	Weig	hted Aver	age				
	2.218 57.70% Pervious Area									
	1.626 42.30% Impervious Area					ious Area	a e e e e e e e e e e e e e e e e e e e			
		Lengt		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	•			
_	(min)	(iee	ι)	(11/11)	(IVSEC)	(018)				
	6.0						Direct Entry,			

MSE 24-hr 4 5-yr Rainfall=3.45" Printed 9/27/2023

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Summary for Subcatchment 44S: C27-B1

Runoff = 1.40 cfs @ 12.14 hrs, Volume= 0.076 af, Depth= 1.03"

Routed to Pond 43P: Ramp C 805+00

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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	cription		
*	0.	240	98	3			
	0.	648	61	>759	% Grass co	over, Good	, HSG B
	0.	888	71	Weig	hted Aver	age	
	0.648 72.97% Pervious Area						
	0.240 27.03% Impervious Area						
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	3.2	5	50	0.2500	0.26		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
_	2.8						Direct Entry, Increase to min TOC
	6.0	5	50	Total			

Summary for Subcatchment 45S: C27-B2 & C27-C

Runoff = 8.94 cfs @ 12.45 hrs, Volume= 0.977 af, Depth= 1.03"

Routed to Link 44L: Door Creek Combined

	Area (ac)	CN	Description
*	2.620	98	impervious
	6.800	61	>75% Grass cover, Good, HSG B
	0.246	80	>75% Grass cover, Good, HSG D
*	1.695	70	Row crops, SR + CR, Good, HSG B
	11.361	71	Weighted Average
	8.741		76.94% Pervious Area
	2.620		23.06% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	150	0.0300	0.18		Sheet Flow,
					Cultivated: Residue>20% n= 0.170 P2= 2.82"
2.3	150	0.0142	1.07		Shallow Concentrated Flow,
4.0	074	0.0400	0.04		Cultivated Straight Rows Kv= 9.0 fps
4.9	274	0.0180	0.94		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.5	1,619	0.0130	3.60	30.61	Trap/Vee/Rect Channel Flow,
7.0	1,010	0.0100	0.00	00.01	Bot.W=4.00' D=1.00' Z= 3.0 & 6.0 '/' Top.W=13.00'
					n= 0.035
0.6	159	0.0770	4.16		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
28.9	2,352	Total			

Summary for Subcatchment 46S: C28-A

Runoff = 6.83 cfs @ 12.26 hrs, Volume= 0.576 af, Depth= 0.73"

Routed to Pond 45P: Culvert at 698+81

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac) (CN Des	cription					
*	0.	950	98						
	2.	920	61 >75	>75% Grass cover, Good, HSG B					
	3.	110	55 Woo	ods, Good,	HSG B				
*	2.	540	70 Rov	v crops, SF	R + CR, Go	od, HSG B			
	9.	520	65 Wei	ghted Aver	age				
	8.	570	90.0)2% Pervio	us Area				
	0.	950	9.98	3% Impervi	ous Area				
	_				_				
	Tc	Length	•	•	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	12.0	140	0.1950	0.19		Sheet Flow,			
						Woods: Light underbrush n= 0.400 P2= 2.82"			
	8.0	132	0.0970	2.80		Shallow Concentrated Flow,			
						Cultivated Straight Rows Kv= 9.0 fps			
	1.7	509	0.0350	4.98	39.82				
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'			
_						n= 0.035			
	14.5	781	Total						

Summary for Subcatchment 47S: C28-B

Runoff = 8.01 cfs @ 12.14 hrs, Volume= 0.427 af, Depth= 1.39"

Routed to Pond 46P: Pond D

02_Post-DevelopmentConditions_WisDOT_PondEvalPrepared by SCS Engineers

MSE 24-hr 4 5-yr Rainfall=3.45" Printed 9/27/2023

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	Area	(ac)	CN	Desc	cription				
*	1.	023	98						
	2.	055	61	>759	% Grass co	over, Good	, HSG B		
_	0.	603	98	Wate	er Surface	, HSG B			
	3.	681	77		hted Aver				
	2.055 55.83% Pervious Area								
	1.626				44.17% Impervious Area				
	_								
	Tc	Lengt		Slope	Velocity	Capacity	Description		
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)			
	4.7	8	7 (0.2900	0.31		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.82"		
	1.4						Direct Entry, Increase to min TOC		
	6.1	8	7 7	Γotal					

Summary for Subcatchment 48S: C28-C1

Runoff = 1.81 cfs @ 12.14 hrs, Volume= 0.099 af, Depth= 1.03"

Routed to Pond 47P: Ramp B 706+25

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

_	Area	(ac)	CN	Desc	cription				
*	0.	300	98						
	0.	850	61	>75%	√ Grass co	over, Good	, HSG B		
	1.150 71 Weighted Average								
	0.850 73.91% Pervious Area								
	0.300				26.09% Impervious Area				
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description		
	6.0					•	Direct Entry,		

Summary for Subcatchment 49S: C28-C2

Runoff = 8.03 cfs @ 12.23 hrs, Volume= 0.586 af, Depth= 1.15"

Routed to Link 44L: Door Creek Combined

MSE 24-hr 4 5-yr Rainfall=3.45"

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	Area	(ac)	CN	Desc	ription			
*		510	98					
		400	61	>75%	6 Grass co	over, Good	, HSG B	
	1.	120	80			over, Good		
0.110 55 Woods, Good, HSG B								
	6.	140	73		hted Aver			
4.630 75.41% Pervious Area								
	1.510			24.59	24.59% Impervious Area			
	Тс	Lengt	h !	Slope	Velocity	Capacity	Description	
	(min)	(fee		(ft/ft)	(ft/sec)	(cfs)	Description	
	8.9	13	0 0	.3600	0.24		Sheet Flow,	
							Woods: Light underbrush n= 0.400 P2= 2.82"	
	4.7	1,30	5 0	.0210	4.60	37.92	Trap/Vee/Rect Channel Flow,	
							Bot.W=4.00' D=1.00' Z= 6.0 & 2.5 '/' Top.W=12.50'	
							n= 0.035	
	13.6	1,43	5 T	otal				

Summary for Subcatchment 51S: Luds Lane

Runoff = 1.01 cfs @ 12.45 hrs, Volume= 0.109 af, Depth= 1.74"

Routed to Link 56L: Lag to Door Creek

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 5-yr Rainfall=3.45"

	Area	(ac)	CN	Desc	cription		
*	0.	350	98				
*	0.	400	68				
	0.750 82 Weighted Average						
	0.400 53.33% Pervious Area						
	0.350			46.6	7% Imper\	/ious Area	
	Tc (min)	Lengt (feet		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	6.0						Direct Entry,
	25.6	2,00	4 0	.0210	1.30		Shallow Concentrated Flow,
							Cultivated Straight Rows Kv= 9.0 fps
	31.6	2,00	4 T	otal			

Summary for Subcatchment 52S: Proposed Stability Campus to Pond B

Runoff = 21.58 cfs @ 12.05 hrs, Volume= 1.039 af, Depth= 2.49" Routed to Pond 64P : Pond B-reduced_raised 1 ft and raised spillway

MSE 24-hr 4 5-yr Rainfall=3.45"

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Area (ac)	CN	Description
5.000	91	Urban industrial, 72% imp, HSG C
1.400 3.600		28.00% Pervious Area 72.00% Impervious Area

Summary for Reach 20R: Overland Flow

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \bigcirc 0.00 \text{ hrs}$, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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= 3.00' Flow Area= 300.0 sf, Capacity= 1,515.22 cfs

10.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 30.0 '/' Top Width= 190.00'

Length= 2,474.0' Slope= 0.0057 '/'

Inlet Invert= 872.00', Outlet Invert= 858.00'



Summary for Pond 1P: Niebuhr Stormwater Pond

Inflow Area = 4.670 ac, 72.16% Impervious, Inflow Depth = 2.22" for 5-yr event

Inflow = 15.91 cfs @ 12.13 hrs, Volume= 0.865 af

Outflow = 1.97 cfs @ 12.62 hrs, Volume= 0.864 af, Atten= 88%, Lag= 29.1 min

Primary = 1.97 cfs @ 12.62 hrs, Volume= 0.864 af

Routed to Pond 2P: Storm Basin 2 with Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 884.79' @ 12.62 hrs Surf.Area= 22,758 sf Storage= 17,460 cf

Plug-Flow detention time= 115.2 min calculated for 0.864 af (100% of inflow) Center-of-Mass det. time= 114.1 min (915.5 - 801.4)

Volume	Invert	Avail.Storage	Storage Description
#1	882.60'	54,584 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	on	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
882.6	30	0	0	0	
883.0	00	275	55	55	
884.0	00	9,336	4,806	4,860	
885.0	00	26,430	17,883	22,743	
886.0	00	37,251	31,841	54,584	
Device	Routing	Invert	Outlet Devices		
#1	Primary	883.00'	Special & User	-Defined	
	•		Head (feet) 0.0	00 0.10 0.20	0.30 0.40 0.50 0.60 0.70 0.80 0.90
			1.00 1.10 1.20	1.30 1.40 1	.50 1.60 1.70 1.80 1.90 2.00 2.10
			2.20 2.30 2.40	2.50	
			Disch. (cfs) 0.0	00 0.030 0.0	70 0.140 0.210 0.290 0.380 0.480
			0.590 0.700 0.	830 0.950 1.	080 1.220 1.370 1.520 1.670 1.830
			1.990 2.160 2.	330 2.510 2.	690 2.880 3.070 3.260
#2	Primary	885.50'	10.0' long x 3.0	0' breadth Br	oad-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

Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68

Primary OutFlow Max=1.97 cfs @ 12.62 hrs HW=884.78' TW=878.40' (Dynamic Tailwater)

2.50 3.00 3.50 4.00 4.50

2.72 2.81 2.92 2.97 3.07 3.32

Summary for Pond 2P: Storm Basin 2 with Infiltration

1=Special & User-Defined (Custom Controls 1.97 cfs)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

3..... (**3**.....)

Inflow Area = 21.962 ac, 37.03% Impervious, Inflow Depth = 1.33" for 5-yr event Inflow = 16.23 cfs @ 12.40 hrs, Volume= 2.433 af

Outflow = 9.22 cfs @ 12.80 hrs, Volume= 2.434 af, Atten= 43%, Lag= 23.6 min

Discarded = 0.29 cfs @ 12.80 hrs, Volume= 0.282 af Primary = 8.93 cfs @ 12.80 hrs, Volume= 2.152 af

Routed to Pond 9P: Culvert 534+50

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.46' @ 12.80 hrs Surf.Area= 0.503 ac Storage= 0.512 af

Plug-Flow detention time= 61.4 min calculated for 2.432 af (100% of inflow) Center-of-Mass det. time= 61.4 min (942.5 - 881.1)

Volume	Invert	Avail.Storage	Storage Description
#1	877.20'	2.160 af	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
877.20	0.137	0.000	0.000
877.37	0.141	0.024	0.024
877.38	0.415	0.003	0.026
878.00	0.449	0.268	0.294
879.00	0.568	0.509	0.803
880.00	0.658	0.613	1.416
881.00	0.831	0.744	2.160

Device	Routing	Invert	Outlet Devices
#1	Primary	877.20'	18.0" Round Culvert X 2.00
			L= 25.0' CPP, end-section conforming to fill, Ke= 0.500
			Inlet / Outlet Invert= 877.20' / 877.10' S= 0.0040 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.20'	Special & User-Defined
			Head (feet) 0.00 0.20 0.40 0.60 0.80 1.00
			Disch. (cfs) 0.000 0.340 0.960 1.760 2.710 3.790
#3	Device 1	878.20'	30.0' long x 2.0' 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
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32
#4	Discarded	877.20'	0.500 in/hr Exfiltration over Surface area
			Conductivity to Groundwater Elevation = 870.00'
#5	Primary	880.00'	30.0' long x 6.0' 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 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
			2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.29 cfs @ 12.80 hrs HW=878.46' (Free Discharge) 4=Exfiltration (Controls 0.29 cfs)

Primary OutFlow Max=8.93 cfs @ 12.80 hrs HW=878.46' TW=876.37' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 8.93 cfs @ 3.82 fps)

2=Special & User-Defined (Passes < 3.79 cfs potential flow)

-3=Broad-Crested Rectangular Weir (Passes < 9.99 cfs potential flow)

-5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: Sheriff Phase 2 Bioretention

Inflow Area = 0.745 ac, 77.85% Impervious, Inflow Depth = 2.40" for 5-yr event

Inflow = 2.70 cfs @ 12.13 hrs, Volume= 0.149 af

Outflow = 0.47 cfs @ 12.49 hrs, Volume= 0.119 af, Atten= 83%, Lag= 21.8 min

Discarded = 0.46 cfs @ 12.49 hrs, Volume= 0.045 af

Primary = 0.46 cfs @ 12.49 hrs, Volume= 0.075 af

Routed to Pond 2P: Storm Basin 2 with Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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Peak Elev= 880.78' @ 12.49 hrs Surf.Area= 3,373 sf Storage= 3,563 cf

Plug-Flow detention time= 662.7 min calculated for 0.119 af (80% of inflow)

Income Accell Otensons Otensons Description

Center-of-Mass det. time= 594.8 min (1,389.5 - 794.7)

<u>Volume</u>	Invert	Avail.Sto	<u>rage Storage</u>	Description	
#1	879.50'	8,28	39 cf Custom	Stage Data (Prismatic)Listed	pelow (Recalc)
Elevation		ırf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
879.5	50	2,225	0	0	
880.0	00	2,651	1,219	1,219	
881.0	00	3,579	3,115	4,334	
881.5	50	4,080	1,915	6,249	
882.0	00	4,080	2,040	8,289	
Device	Routing	Invert	Outlet Device	8	
#1	Primary	879.50'	12.0" Round	Culvert	
	Š		L= 34.0' CP	, square edge headwall, Ke= 0	.500
			Inlet / Outlet I	nvert= 879.50' / 879.00' S= 0.0	147 '/' Cc= 0.900
			n= 0.013, Flo	w Area= 0.79 sf	
#2	Device 1	880.50'	12.0" W x 3.0	" H Vert. Orifice/Grate C= 0.6	00
			Limited to we	r flow at low heads	
#3	Device 1	881.00'	24.0" Horiz.	Orifice/Grate C= 0.600	
			Limited to we	r flow at low heads	
#4	Primary	881.50'	10.0' long x	2.0' breadth Broad-Crested Re	ectangular Weir
	·		Head (feet) (.20 0.40 0.60 0.80 1.00 1.20	1.40 1.60 1.80 2.00
			2.50 3.00 3.		
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2	2.70 2.77 2.89 2.88
			2.85 3.07 3.		
#5	Discarded	879.50'	0.500 in/hr E	diltration over Surface area a	bove 879.50'
				Groundwater Elevation = 875.	
				ace area = 2,225 sf	
				, -	

Discarded OutFlow Max=0.01 cfs @ 12.49 hrs HW=880.78' (Free Discharge) **5=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.46 cfs @ 12.49 hrs HW=880.78' TW=878.27' (Dynamic Tailwater)

-1=Culvert (Passes 0.46 cfs of 3.34 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.46 cfs @ 1.82 fps)

3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: Cnty-Storm Basin 1

Inflow Area = 2.220 ac, 90.54% Impervious, Inflow Depth = 2.79" for 5-yr event
Inflow = 8.96 cfs @ 12.13 hrs, Volume= 0.516 af
Outflow = 8.21 cfs @ 12.16 hrs, Volume= 0.504 af, Atten= 8%, Lag= 1.8 min
Discarded = 0.03 cfs @ 12.16 hrs, Volume= 0.056 af
Primary = 8.17 cfs @ 12.16 hrs, Volume= 0.448 af
Routed to Pond 6P : County Pond - East

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 881.87' @ 12.16 hrs Surf.Area= 3,771 sf Storage= 5,393 cf

Plug-Flow detention time= 177.8 min calculated for 0.504 af (98% of inflow)

Center-of-Mass det. time= 165.2 min (943.6 - 778.4)

Volume	Invert	Avail.Sto	rage Storage	Description	
#1	879.72'	10,75	56 cf Custom	Stage Data (Pri	ismatic)Listed below (Recalc)
- 14:	0.		In a Ottom	0	
Elevation		ırf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
879.7	72	1,306	0	0	
880.0	00	1,599	407	407	
881.0	00	2,711	2,155	2,562	
882.0	00	3,924	3,318	5,879	
883.0	00	5,830	4,877	10,756	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	879.72'	18.0" Round	Culvert	
	•		L= 66.5' RCF	o, sq.cut end pro	jecting, Ke= 0.500
			Inlet / Outlet In	nvert= 879.72' / 8	378.47' S= 0.0188 '/' Cc= 0.900
			n= 0.013, Flo	w Area= 1.77 sf	
#2	Device 1	880.72'	6.0" W x 6.0"	H Vert. Orifice/	Grate C= 0.600
			Limited to wei	r flow at low head	ds
#3	Device 1	881.50'	36.0" Horiz. (Orifice/Grate Ca	= 0.600
			Limited to wei	r flow at low head	ds
#4	Primary	882.74'	10.0' long x	4.0' breadth Bro	oad-Crested Rectangular Weir
	•		Head (feet) 0	.20 0.40 0.60 0	0.80 1.00 1.20 1.40 1.60 1.80 2.00
				50 4.00 4.50 5.0	
			Coef. (English	n) 2.38 2.54 2.6	69 2.68 2.67 2.67 2.65 2.66 2.66
				73 2.76 2.79 2.8	
#5	Discarded	879.72'	0.500 in/hr Ex	xfiltration over S	Surface area above 879.72'
					levation = 875.00'
			•	face area = 1,306	
					-

Discarded OutFlow Max=0.03 cfs @ 12.16 hrs HW=881.87' (Free Discharge) **5=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=8.02 cfs @ 12.16 hrs HW=881.87' TW=878.97' (Dynamic Tailwater)

-1=Culvert (Passes 8.02 cfs of 10.06 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.14 cfs @ 4.55 fps)

-3=Orifice/Grate (Weir Controls 6.88 cfs @ 1.98 fps)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5P: CNTY-Infiltration Basin #1

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Inflow Area = 4.165 ac, 37.45% Impervious, Inflow Depth = 1.46" for 5-yr event

Inflow = 5.89 cfs @ 12.31 hrs, Volume= 0.507 af

Outflow = 1.29 cfs @ 12.96 hrs, Volume= 0.475 af, Atten= 78%, Lag= 38.8 min

Discarded = 0.07 cfs @ 12.96 hrs, Volume= 0.122 af Primary = 1.22 cfs @ 12.96 hrs, Volume= 0.354 af

Routed to Pond 6P: County Pond - East

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 882.54' @ 12.96 hrs Surf.Area= 8,895 sf Storage= 10,208 cf

Plug-Flow detention time= 393.8 min calculated for 0.475 af (94% of inflow)

Center-of-Mass det. time= 362.8 min (1,205.1 - 842.2)

Volume	Inve	rt Avail.Sto	rage Storage	Description	
#1	880.7°	1' 30,08	38 cf Custom	Stage Data (Pri	smatic)Listed below (Recalc)
Elevation	on S	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
880.7	7 1	3,155	0	0	
881.0		3,568	975	975	
882.0	00	6,526	5,047	6,022	
883.0	00	10,890	8,708	14,730	
884.0	00	19,826	15,358	30,088	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	880.71'	12.0" Round		
					ecting, Ke= 0.500
					80.28' S= 0.0083 '/' Cc= 0.900
			•	w Area= 0.79 sf	
#2	Device 1	881.71'			/Grate C= 0.600
				r flow at low head	
#3	Device 1	882.71'		Orifice/Grate C=	
				r flow at low head	
#4	Primary	883.49'			ad-Crested Rectangular Weir
			, ,		.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.5		
			, ,	,	1 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.2		
#5	Discarded	d 880.71'			Surface area above 880.71'
			Conductivity to	o Groundwater El	levation = 875.00'

Discarded OutFlow Max=0.07 cfs @ 12.96 hrs HW=882.54' (Free Discharge) **5=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=1.22 cfs @ 12.96 hrs HW=882.54' TW=879.06' (Dynamic Tailwater)

Excluded Surface area = 3,155 sf

-1=Culvert (Passes 1.22 cfs of 4.01 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 1.22 cfs @ 2.93 fps)

3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Summary for Pond 6P: County Pond - East

Inflow Area = 15.375 ac, 65.89% Impervious, Inflow Depth = 1.98" for 5-yr event

Inflow 39.32 cfs @ 12.13 hrs, Volume= 2.534 af

13.94 cfs @ 12.32 hrs, Volume= 13.94 cfs @ 12.32 hrs, Volume= Outflow 2.526 af, Atten= 65%, Lag= 11.1 min

Primary = 2.526 af

Routed to Pond 9P: Culvert 534+50

Invert

Volume

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 879.30' @ 12.32 hrs Surf.Area= 22,150 sf Storage= 38,833 cf

Plug-Flow detention time= 125.4 min calculated for 2.524 af (100% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 124.9 min (944.4 - 819.5)

VOIGITIO	111701	t /tvaii.oto	iago otorago	Boodilption	
#1	877.19	101,76	64 cf Custon	n Stage Data (Pi	rismatic)Listed below (Recalc)
Elevation	on S	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
877.1	19	14,796	0	0	
878.0	00	17,475	13,070	13,070	
879.0		20,998	19,237	32,306	
880.0		24,807	22,903	55,209	
881.0		33,736	29,272	84,480	
881.5	50	35,400	17,284	101,764	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	877.20'	18.0" Round	d Culvert X 2.00	
	-		L= 31.8' CP	P, end-section co	onforming to fill, Ke= 0.500
			Inlet / Outlet	Invert= 877.20' /	877.00' S= 0.0063 '/' Cc= 0.900
				ow Area= 1.77 sf	
#2	Device 1	877.20'	Special & Us		
				0.00 0.20 0.40	0.60 0.80 1.00 1.20 1.40 1.60 1.80
			2.00	0.000 0.400 0.4	00 0 000 4 500 0 500 0 400 4 500
			5.600 6.900		00 0.800 1.500 2.500 3.400 4.500
#3	Device 1	879.20'			oad-Crested Rectangular Weir
#3	Device i	019.20			0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.		0.00 1.00 1.20 1.40 1.00 1.00 2.00
					61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.		01 2.00 2.00 2.70 2.77 2.00 2.00
#4	Primary	880.00'			oad-Crested Rectangular Weir
	, ,				0.80 1.00 1.20 1.40 1.60 1.80 2.00
				50 4.00 4.50 5	
					70 2.68 2.68 2.67 2.65 2.65 2.65
				66 2.67 2.69 2	

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Primary OutFlow Max=13.60 cfs @ 12.32 hrs HW=879.30' TW=876.34' (Dynamic Tailwater)

1=Culvert (Passes 13.60 cfs of 17.56 cfs potential flow)

2=Special & User-Defined (Custom Controls 8.30 cfs)

-3=Broad-Crested Rectangular Weir (Weir Controls 5.30 cfs @ 0.80 fps)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 9P: Culvert 534+50

Inflow Area = 38.657 ac, 47.50% Impervious, Inflow Depth = 1.48" for 5-yr event

Inflow = 17.22 cfs @ 12.57 hrs, Volume= 4.752 af

Outflow = 17.22 cfs @ 12.57 hrs, Volume= 4.752 af, Atten= 0%, Lag= 0.0 min

Primary = 17.22 cfs @ 12.57 hrs, Volume= 4.752 af

Routed to Pond 57P: 187+00 42" Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 876.39' @ 12.57 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.00'	53.0" W x 34.0" H, R=47.9" Elliptical RCP_Elliptical 53x34 L= 128.0' Ke= 0.270 Inlet / Outlet Invert= 875.00' / 874.50' S= 0.0039 '/' Cc= 0.900 n= 0.012, Flow Area= 10.20 sf

Primary OutFlow Max=17.06 cfs @ 12.57 hrs HW=876.38' TW=874.64' (Dynamic Tailwater) 1=RCP_Elliptical 53x34 (Barrel Controls 17.06 cfs @ 4.99 fps)

Summary for Pond 13P: Culvert at Ramp A 690+50

Inflow Area = 3.410 ac, 26.10% Impervious, Inflow Depth = 1.21" for 5-yr event

Inflow = 5.75 cfs @ 12.16 hrs, Volume= 0.343 af

Outflow = 5.75 cfs @ 12.16 hrs, Volume= 0.343 af, Atten= 0%, Lag= 0.0 min

Primary = 5.75 cfs @ 12.16 hrs, Volume= 0.343 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 879.27' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	878.35'	24.0" Round Culvert
	-		L= 132.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 878.35' / 874.50' S= 0.0292 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=5.56 cfs @ 12.16 hrs HW=879.25' TW=873.14' (Dynamic Tailwater) 1=Culvert (Inlet Controls 5.56 cfs @ 4.04 fps)

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Summary for Pond 14P: Culvert at Millpond 387+00

Inflow Area = 180.907 ac, 17.94% Impervious, Inflow Depth > 0.98" for 5-yr event

Inflow = 54.94 cfs @ 12.40 hrs, Volume= 14.787 af

Outflow = 54.94 cfs @ 12.40 hrs, Volume= 14.787 af, Atten= 0%, Lag= 0.0 min

Primary = 54.94 cfs @ 12.40 hrs, Volume= 14.787 af
Routed to Pond 64P : Pond B-reduced raised 1 ft and raised spillway

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 873.47' @ 12.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	871.30'	48.0" Round Culvert X 2.00 L= 92.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 871.30' / 871.00' S= 0.0033 '/' Cc= 0.900
			n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=54.91 cfs @ 12.40 hrs HW=873.47' TW=872.11' (Dynamic Tailwater) 1=Culvert (Barrel Controls 54.91 cfs @ 5.71 fps)

Summary for Pond 16P: Culvert 509+94 (NB CTH AB)

Inflow Area = 3.560 ac, 1.12% Impervious, Inflow Depth = 0.64" for 5-yr event

Inflow = 1.63 cfs @ 12.41 hrs, Volume= 0.188 af

Outflow = 1.63 cfs @ 12.41 hrs, Volume= 0.188 af, Atten= 0%, Lag= 0.0 min

Primary = 1.63 cfs @ 12.41 hrs, Volume= 0.188 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.47' @ 12.41 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	878.00'	24.0" Round Culvert
			L= 178.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 878.00' / 876.00' S= 0.0112 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=1.62 cfs @ 12.41 hrs HW=878.47' TW=873.47' (Dynamic Tailwater) 1=Culvert (Inlet Controls 1.62 cfs @ 2.91 fps)

Summary for Pond 18P: Culvert 505+79 (NB CTH AB)

Inflow Area = 14.235 ac, 12.61% Impervious, Inflow Depth = 0.82" for 5-yr event

Inflow = 7.57 cfs @ 12.54 hrs, Volume= 0.975 af

Outflow = 7.57 cfs @ 12.54 hrs, Volume= 0.975 af, Atten= 0%, Lag= 0.0 min

Primary = 7.57 cfs @ 12.54 hrs, Volume= 0.975 af

Routed to Pond 58P: Culvert 395+33 (Millpond)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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Peak Elev= 879.07' @ 12.54 hrs

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Device	Routing	Invert	Outlet Devices
#1	Primary	877.97'	30.0" Round Culvert
			L= 128.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 877.97' / 877.05' S= 0.0072 '/' Cc= 0.900
			n= 0.012, Flow Area= 4.91 sf

Primary OutFlow Max=7.55 cfs @ 12.54 hrs HW=879.07' TW=877.80' (Dynamic Tailwater) 1=Culvert (Barrel Controls 7.55 cfs @ 5.33 fps)

Summary for Pond 19P: Landfill Pond

Inflow Area = 28.420 ac, 1.16% Impervious, Inflow Depth = 1.60" for 5-yr event

Inflow = 59.09 cfs @ 12.19 hrs, Volume= 3.782 af

Outflow = 9.29 cfs @ 12.74 hrs, Volume= 3.765 af, Atten= 84%, Lag= 32.7 min

Primary = 9.29 cfs @ 12.74 hrs, Volume= 3.765 af

Routed to Pond 22P: 36" Culvert 182+00

1.214

1.487

1.697

Volume

882.00

883.00

884.00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 880.70' @ 12.74 hrs Surf.Area= 0.865 ac Storage= 1.808 af

Plug-Flow detention time= 432.0 min calculated for 3.765 af (100% of inflow) Center-of-Mass det. time= 429.3 min (1,257.6 - 828.3)

Invert Avail.Storage Storage Description

1.083

1.350

1.592

			9	
#1	877.33'	6.106 af Cust	om Stage Data	(Prismatic)Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)	
877.33	0.334	0.000	0.000	
878.00	0.401	0.246	0.246	
879.00	0.497	0.449	0.695	
880.00	0.661	0.579	1.274	
881.00	0.952	0.806	2.081	

3.164

4.514

6.106

Device	Routing	Invert	Outlet Devices
#1	Primary	877.33'	18.0" Round Culvert
			L= 69.6' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 877.33' / 875.77' S= 0.0224 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.33'	1.0" Vert. Orifice/Grate X 7.00 C= 0.600
			Limited to weir flow at low heads
#3	Device 1	877.68'	1.0" Vert. Orifice/Grate X 8.00 C= 0.600
			Limited to weir flow at low heads
#4	Device 1	878.03'	1.0" Vert. Orifice/Grate X 9.00 C= 0.600
			Limited to weir flow at low heads
#5	Device 1	879.77'	18.0" Horiz. Orifice/Grate C= 0.600

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Limited to weir flow at low heads

#6 Primary 882.66' 10.0' long x 10.0' breadth Broad-Crested Rectangular Weir

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=9.29 cfs @ 12.74 hrs HW=880.70' TW=875.33' (Dynamic Tailwater)

-1=Culvert (Passes 9.29 cfs of 13.77 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.34 cfs @ 8.78 fps)

-3=Orifice/Grate (Orifice Controls 0.36 cfs @ 8.31 fps)

-4=Orifice/Grate (Orifice Controls 0.38 cfs @ 7.81 fps)

-5=Orifice/Grate (Orifice Controls 8.20 cfs @ 4.64 fps)

-6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 22P: 36" Culvert 182+00

Inflow Area = 37.914 ac, 10.10% Impervious, Inflow Depth > 1.56" for 5-yr event

Inflow = 19.32 cfs @ 12.31 hrs, Volume= 4.926 af

Outflow = 19.32 cfs @ 12.31 hrs, Volume= 4.926 af, Atten= 0%, Lag= 0.0 min

Primary = 19.32 cfs @ 12.31 hrs, Volume= 4.926 af

Routed to Pond 64P: Pond B-reduced raised 1 ft and raised spillway

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 875.61' @ 12.31 hrs

Device Routing Invert Outlet Devices

#1 Primary 874.00' **36.0" Round Culvert**

L= 289.0' RCP, groove end w/headwall, Ke= 0.200

Inlet / Outlet Invert= 874.00' / 871.00' S= 0.0104 '/' Cc= 0.900

n= 0.014, Flow Area= 7.07 sf

Primary OutFlow Max=19.24 cfs @ 12.31 hrs HW=875.61' TW=871.93' (Dynamic Tailwater)

1=Culvert (Barrel Controls 19.24 cfs @ 7.24 fps)

Summary for Pond 24P: YH1 - Pond

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth = 0.82" for 5-yr event

Inflow = 25.42 cfs @ 12.88 hrs, Volume= 4.549 af

Outflow = 2.78 cfs @ 16.34 hrs, Volume= 4.250 af, Atten= 89%, Lag= 207.8 min

Primary = 2.78 cfs @ 16.34 hrs, Volume= 4.250 af

Routed to Pond 25P: Small Depression

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 896.19' @ 16.34 hrs Surf.Area= 112,821 sf Storage= 119,009 cf

Plug-Flow detention time= 682.6 min calculated for 4.250 af (93% of inflow)

Center-of-Mass det. time= 650.1 min (1,557.2 - 907.1)

Volume	Invert	Avail.Storage	Storage Description
#1	895.00'	437,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
895.00	94,949	0	0
896.00	101,543	98,246	98,246
897.00	159,762	130,653	228,899
898.00	257,486	208,624	437,523

)
r

Primary OutFlow Max=2.78 cfs @ 16.34 hrs HW=896.19' TW=894.95' (Dynamic Tailwater)

1=Culvert (Inlet Controls 2.78 cfs @ 3.54 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 25P: Small Depression

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 0.77" for 5-yr event

Inflow = 2.78 cfs @ 16.34 hrs, Volume= 4.250 af

Outflow = 2.70 cfs @ 19.06 hrs, Volume= 4.230 af, Atten= 3%, Lag= 162.8 min

Primary = 2.70 cfs @ 19.06 hrs, Volume= 4.230 af

Routed to Pond 58P: Culvert 395+33 (Millpond)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 895.01' @ 19.06 hrs Surf.Area= 15,063 sf Storage= 10,509 cf

Plug-Flow detention time= 71.6 min calculated for 4.230 af (100% of inflow)

Avail Storage Storage Description

Center-of-Mass det. time= 59.5 min (1,616.7 - 1,557.2)

Invert

Volume

volulile	IIIV	eri Avali.Sio	rage Storage	Description	
#1	894.	00' 33,87	74 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
Elevation	on	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
894.0	00	5,815	0	0	
895.0	00	14,871	10,343	10,343	
896.0	00	32,190	23,531	33,874	
Device	Routing	Invert	Outlet Devices	S	
#1	Primary	894.00'	Inlet / Outlet Ir	P, sq.cut end p	rojecting, Ke= 0.500 892.00' S= 0.0098 '/' Cc= 0.900
#2	Primary	895.50'	Head (feet) 0	.20 0.40 0.60	road-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 70 2.64 2.63 2.64 2.64 2.63

MSE 24-hr 4 5-yr Rainfall=3.45" Printed 9/27/2023

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Primary OutFlow Max=2.70 cfs @ 19.06 hrs HW=895.01' TW=876.71' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 2.70 cfs @ 3.44 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 28P: 12/18 140+35

Inflow Area = 9.510 ac, 26.18% Impervious, Inflow Depth = 1.03" for 5-yr event

Inflow = 10.89 cfs @ 12.22 hrs, Volume= 0.816 af

Outflow = 10.89 cfs @ 12.22 hrs, Volume= 0.816 af, Atten= 0%, Lag= 0.0 min

Primary = 10.89 cfs @ 12.22 hrs, Volume= 0.816 af

Routed to Pond 59P: Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 862.08' @ 12.22 hrs

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Device Routing Invert Outlet Devices

#1 Primary

860.79'

45.0" W x 29.0" H, R=39.2" Elliptical RCP_Elliptical 45x29

L= 310.0' RCP, groove end w/headwall, Ke= 0.200

Inlet / Outlet Invert= 860.79' / 859.89' S= 0.0029 '/' Cc= 0.900

n= 0.015, Flow Area= 7.36 sf

Primary OutFlow Max=10.64 cfs @ 12.22 hrs HW=862.06' TW=859.67' (Dynamic Tailwater) 1=RCP_Elliptical 45x29 (Barrel Controls 10.64 cfs @ 3.90 fps)

Summary for Pond 32P: Long Drive 440+35

Inflow Area = 4.570 ac, 14.44% Impervious, Inflow Depth = 0.77" for 5-yr event

Inflow = 3.46 cfs @ 12.27 hrs, Volume= 0.295 af

Outflow = 3.46 cfs @ 12.27 hrs, Volume= 0.295 af, Atten= 0%, Lag= 0.0 min

Primary = 3.46 cfs @ 12.27 hrs, Volume= 0.295 af

Routed to Pond 28P: 12/18 140+35

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 862.44' @ 12.25 hrs

 Device
 Routing
 Invert
 Outlet Devices

 #1
 Primary
 861.50'
 24.0" Round Culvert

 L= 62.0'
 RCP, groove end w/headwall, Ke= 0.200

 Inlet / Outlet Invert= 861.50' / 860.80'
 S= 0.0113 '/'
 Cc= 0.900

 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.40 cfs @ 12.27 hrs HW=862.43' TW=862.02' (Dynamic Tailwater) 1=Culvert (Outlet Controls 3.40 cfs @ 3.51 fps)

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Summary for Pond 34P: YH3-Pond

Inflow Area = 204.006 ac, 4.43% Impervious, Inflow Depth > 0.61" for 5-yr event

Inflow = 52.28 cfs @ 12.80 hrs, Volume= 10.368 af

Outflow = 7.29 cfs @ 16.24 hrs, Volume= 9.366 af, Atten= 86%, Lag= 206.6 min

Primary = 7.29 cfs @ 16.24 hrs, Volume= 9.366 af

Routed to Pond 38P: YH6-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 859.28' @ 16.13 hrs Surf.Area= 197,553 sf Storage= 240,447 cf

Plug-Flow detention time= 647.8 min calculated for 9.366 af (90% of inflow)

Center-of-Mass det. time= 579.3 min (1,538.4 - 959.0)

Volume	Invert	Avail.Storage	Storage	Description	
#1	858.00'	1,137,523 cf	Custom	Stage Data (Pris	smatic)Listed below (Recalc)
Elevation (feet)			c.Store pic-feet)	Cum.Store (cubic-feet)	
858.00 859.00 860.00 861.00 862.00	191 214 320	1,659 2 0,867 2	0 186,985 202,860 267,763 179,916	0 186,985 389,844 657,607 1,137,523	

Device	Routing	Invert	Outlet Devices
#1	Primary	858.00'	36.0" Round Culvert
			L= 1,066.0' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 858.00' / 855.00' S= 0.0028 '/' Cc= 0.900
			n= 0.012, Flow Area= 7.07 sf
#2	Primary	860.50'	125.0' long x 60.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=7.29 cfs @ 16.24 hrs HW=859.27' TW=856.70' (Dynamic Tailwater)

-1=Culvert (Outlet Controls 7.29 cfs @ 3.76 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 36P: YH4-Pond

Inflow Area = 12.220 ac, 4.26% Impervious, Inflow Depth = 0.73" for 5-yr event

Inflow = 7.15 cfs @ 12.36 hrs, Volume= 0.739 af

Outflow = 0.80 cfs @ 14.07 hrs, Volume= 0.715 af, Atten= 89%, Lag= 102.5 min

Primary = 0.80 cfs @ 14.07 hrs, Volume= 0.715 af

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 861.65' @ 14.07 hrs Surf.Area= 27,111 sf Storage= 15,841 cf

Plug-Flow detention time= 405.4 min calculated for 0.715 af (97% of inflow) Center-of-Mass det. time= 390.1 min (1,270.2 - 880.1)

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Volume	Inv	ert Avail.Sto	rage Storage	Description	
#1	861.	00' 64,0	01 cf Custom	n Stage Data (Pr	ismatic)Listed below (Recalc)
Elevation (fee	et) 00	Surf.Area (sq-ft) 21,906	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
862.0 863.0		29,959 46,178	25,933 38,069	25,933 64,001	
000.0	50	40,170	00,000	04,001	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	861.00'	8.0" Round	Culvert	
#2	Primary	861.80'	Inlet / Outlet In= 0.012, Flo 20.0' long x Head (feet) (Invert= 861.00' / 8 bw Area= 0.35 sf 50.0' breadth Br 0.20 0.40 0.60 (rojecting, Ke= 0.500 859.76' S= 0.0050 '/' Cc= 0.900 road-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.80 cfs @ 14.07 hrs HW=861.65' TW=859.11' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 0.80 cfs @ 2.94 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 37P: YH5 - Pond

2.350 ac, 51.91% Impervious, Inflow Depth = 1.60" for 5-yr event Inflow Area =

Inflow 5.66 cfs @ 12.15 hrs, Volume= 0.313 af

0.15 cfs @ 15.20 hrs, Volume= 0.256 af, Atten= 97%, Lag= 183.0 min Outflow

Primary = 0.15 cfs @ 15.20 hrs, Volume= 0.256 af

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 865.24' @ 15.20 hrs Surf.Area= 40,150 sf Storage= 9,560 cf

Plug-Flow detention time= 948.3 min calculated for 0.256 af (82% of inflow)

Center-of-Mass det. time= 881.0 min (1,705.9 - 824.9)

Volume	Inv	ert Avail.Sto	orage Storage	Description	
#1	865.	00' 93,4	14 cf Custon	n Stage Data (P	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
865.0	00	38,602	0	0	
866.0	00	44,980	41,791	41,791	
867.0	00	58,266	51,623	93,414	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	866.50'			Broad-Crested Rectangular Weir
#2	Primary	865.00'	Coef. (Englis	h) 2.68 2.70 2.	0.80 1.00 1.20 1.40 1.60 70 2.64 2.63 2.64 2.64 2.63

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L= 170.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 865.00' / 864.15' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.15 cfs @ 15.20 hrs HW=865.24' TW=859.24' (Dynamic Tailwater)

1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Barrel Controls 0.15 cfs @ 1.92 fps)

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Summary for Pond 38P: YH6-Pond

Inflow Area = 303.663 ac, 5.11% Impervious, Inflow Depth > 0.62" for 5-yr event

Inflow = 48.95 cfs @ 12.56 hrs, Volume= 15.789 af

Outflow = 22.20 cfs @ 13.20 hrs, Volume= 15.788 af, Atten= 55%, Lag= 38.8 min

Primary = 22.20 cfs @ 13.20 hrs, Volume= 15.788 af

Routed to Link 36L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Starting Elev= 856.60' Surf.Area= 282,460 sf Storage= 556,446 cf

Peak Elev= 856.84' @ 13.20 hrs Surf.Area= 292,812 sf Storage= 624,750 cf (68,304 cf above start)

Plug-Flow detention time= 1,582.4 min calculated for 3.014 af (19% of inflow)

Center-of-Mass det. time= 28.7 min (1,302.8 - 1,274.2)

Volume	Invert	Avail.Storage	Storage Description
#1	854.63'	2,032,289 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
854.63	282,460	0	0
856.60	282,460	556,446	556,446
857.00	299,898	116,472	672,918
858.00	336,652	318,275	991,193
859.00	486,957	411,805	1,402,997
860.00	771,626	629,292	2,032,289

<u>Device</u>	Routing	Invert	Outlet Devices
#1	Primary	854.63'	42.0" Round Culvert X 2.00

L= 28.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900

n= 0.024, Flow Area= 9.62 sf

Primary OutFlow Max=22.20 cfs @ 13.20 hrs HW=856.84' TW=856.60' (Dynamic Tailwater) 1=Culvert (Outlet Controls 22.20 cfs @ 2.48 fps)

Summary for Pond 41P: AB 520+90

Inflow Area = 3.250 ac, 21.54% Impervious, Inflow Depth = 0.98" for 5-yr event

Inflow = 4.13 cfs @ 12.18 hrs, Volume= 0.265 af

Outflow = 4.13 cfs @ 12.18 hrs, Volume= 0.265 af, Atten= 0%, Lag= 0.0 min

Primary = 4.13 cfs @ 12.18 hrs, Volume= 0.265 af

Routed to Pond 54P: Pond C

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 876.52' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.61'	24.0" Round Culvert
			L= 335.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 875.61' / 874.00' S= 0.0048 '/' Cc= 0.900
			n= 0.012. Flow Area= 3.14 sf

Primary OutFlow Max=4.02 cfs @ 12.18 hrs HW=876.51' TW=874.54' (Dynamic Tailwater) 1=Culvert (Barrel Controls 4.02 cfs @ 4.30 fps)

Summary for Pond 43P: Ramp C 805+00

Inflow Area = 7.982 ac, 32.15% Impervious, Inflow Depth > 1.26" for 5-yr event Inflow 1.85 cfs @ 12.15 hrs, Volume= 0.840 af

1.85 cfs @ 12.15 hrs, Volume= Outflow 0.840 af. Atten= 0%. Lag= 0.0 min

Primary 1.85 cfs @ 12.15 hrs, Volume= 0.840 af

Routed to Link 44L: Door Creek Combined

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 873.93' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	873.30'	24.0" Round Culvert
	-		L= 92.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 873.30' / 872.90' S= 0.0043 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=1.85 cfs @ 12.15 hrs HW=873.93' TW=0.00' (Dynamic Tailwater) 1=Culvert (Barrel Controls 1.85 cfs @ 3.28 fps)

Summary for Pond 45P: Culvert at 698+81

9.520 ac, 9.98% Impervious, Inflow Depth = 0.73" for 5-yr event Inflow Area =

Inflow 6.83 cfs @ 12.26 hrs, Volume= 0.576 af =

6.83 cfs @ 12.26 hrs, Volume= Outflow 0.576 af, Atten= 0%, Lag= 0.0 min

6.83 cfs @ 12.26 hrs, Volume= Primary 0.576 af

Routed to Pond 46P: Pond D

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 880.07' @ 12.26 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	879.00'	30.0" Round Culvert
			L= 167.0' RCP, groove end w/headwall, Ke= 0.200

Inlet / Outlet Invert= 879.00' / 878.00' S= 0.0060 '/' Cc= 0.900

n= 0.012, Flow Area= 4.91 sf

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Primary OutFlow Max=6.75 cfs @ 12.26 hrs HW=880.06' TW=876.78' (Dynamic Tailwater) 1=Culvert (Barrel Controls 6.75 cfs @ 5.01 fps)

Summary for Pond 46P: Pond D

Inflow Area = 13.201 ac, 19.51% Impervious, Inflow Depth = 0.91" for 5-yr event

Inflow = 12.39 cfs @ 12.16 hrs, Volume= 1.003 af

Outflow = 1.09 cfs @ 13.73 hrs, Volume= 0.996 af, Atten= 91%, Lag= 94.1 min

Primary = 1.09 cfs @ 13.73 hrs, Volume= 0.996 af

Routed to Pond 51P: Pond D Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 877.57' @ 13.73 hrs Surf.Area= 0.350 ac Storage= 0.508 af

Plug-Flow detention time= 319.6 min calculated for 0.996 af (99% of inflow)

Center-of-Mass det. time= 315.4 min (1,170.9 - 855.6)

Volume	Inver	t Avail.Stora	age Stora	age Description
#1	876.00	1.469	af Cust	tom Stage Data (Prismatic)Listed below (Recalc)
			0.4	0 0
Elevation			ic.Store	Cum.Store
(fee	t) (a	cres) (ad	re-feet)	(acre-feet)
876.0	00	0.299	0.000	0.000
877.0	00	0.331	0.315	0.315
878.0	00	0.364	0.347	0.662
879.0	00	0.404	0.384	1.046
880.0	00	0.442	0.423	1.469
Device	Routing	Invert	Outlet De	evices
#1	Primary	876.00'	18.0" Ro	ound Culvert
	-		L= 46.0'	RCP, square edge headwall, Ke= 0.500
			Inlet / Out	itlet Invert= 876.00' / 875.50' S= 0.0109 '/' Cc= 0.900
			n= 0.012,	, Flow Area= 1.77 sf
#2	Device 1	876.00'	•	t. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	878.25'	15.0' lone	g x 6.0' breadth Broad-Crested Rectangular Weir
	,			•
	•		L= 46.0' Inlet / Our n= 0.012, 6.0" Vert 15.0' Ion Head (fee 2.50 3.00 Coef. (En	RCP, square edge headwall, Ke= 0.500 utlet Invert= 876.00' / 875.50' S= 0.0109 '/' Cc= 0.900 y, Flow Area= 1.77 sf

Primary OutFlow Max=1.09 cfs @ 13.73 hrs HW=877.57' TW=875.78' (Dynamic Tailwater)

1=Culvert (Passes 1.09 cfs of 7.70 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.09 cfs @ 5.53 fps)

-3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Summary for Pond 47P: Ramp B 706+25

Inflow Area = 14.351 ac, 20.04% Impervious, Inflow Depth = 0.65" for 5-yr event

Inflow = 1.81 cfs @ 12.14 hrs, Volume= 0.772 af

Outflow = 1.81 cfs @ 12.14 hrs, Volume= 0.772 af, Atten= 0%, Lag= 0.0 min

Primary = 1.81 cfs @ 12.14 hrs, Volume= 0.772 af

Routed to Link 44L: Door Creek Combined

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 874.25' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	873.75'	24.0" Round Culvert
			L= 111.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 873.75' / 872.00' S= 0.0158 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=1.75 cfs @ 12.14 hrs HW=874.24' TW=0.00' (Dynamic Tailwater) 1=Culvert (Inlet Controls 1.75 cfs @ 2.97 fps)

Summary for Pond 51P: Pond D Infiltration

Inflow Area =	13.201 ac, 1	19.51% Impervious, Inflow	Depth > 0.91 " for 5-y	r event
Inflow =	1.09 cfs @	13.73 hrs, Volume=	0.996 af	
Outflow =	0.65 cfs @	21.25 hrs, Volume=	0.996 af, Atten= 40%	o, Lag= 450.9 min
Discarded =	0.08 cfs @	21.25 hrs, Volume=	0.323 af	-
Primary =	0.57 cfs @	21.25 hrs, Volume=	0.673 af	
5 11 5	1.475	D 700 0F		

Routed to Pond 47P: Ramp B 706+25

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 876.37' @ 21.25 hrs Surf.Area= 20,464 sf Storage= 16,996 cf

Plug-Flow detention time= 569.6 min calculated for 0.995 af (100% of inflow) Center-of-Mass det. time= 569.3 min (1,740.2 - 1,170.9)

Volume	Invert 1	Avail.Storage	Storage Description	
#1	875.50'	78,680 cf	Custom Stage Data (Prisma	tic)Listed below (Recalc)
Elevation (feet)	Surf.Aı (sq	rea Inc ı-ft) (cubi	tore Cum.Store feet) (cubic-feet)	

Culli.Stole	1110.01016	Suil.Alea	Lievation
(cubic-feet)	(cubic-feet)	(sq-ft)	(feet)
0	0	18,668	875.50
9,588	9,588	19,685	876.00
30,329	20,741	21,796	877.00
53,174	22,845	23,894	878.00
78,680	25,507	27,119	879.00

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Device	Routing	Invert	Outlet Devices
#1	Primary	875.50'	12.0" Round Culvert
			L= 46.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 875.50' / 875.35' S= 0.0033 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Device 1	875.75'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	878.00'	48.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	878.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Discarded	875.50'	0.140 in/hr Exfiltration over Horizontal area
			Conductivity to Groundwater Elevation = 870.00'

Discarded OutFlow Max=0.08 cfs @ 21.25 hrs HW=876.37' (Free Discharge) **5=Exfiltration** (Controls 0.08 cfs)

Primary OutFlow Max=0.57 cfs @ 21.25 hrs HW=876.37' TW=874.03' (Dynamic Tailwater)

_1=Culvert (Passes 0.57 cfs of 1.66 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.57 cfs @ 2.92 fps)

3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 54P: Pond C

Inflow Area = 7.094 ac, 32.79% Impervious, Inflow Depth = 1.31" for 5-yr event

Inflow = 13.51 cfs @ 12.14 hrs, Volume= 0.776 af

Outflow = 0.83 cfs @ 13.60 hrs, Volume= 0.763 af, Atten= 94%, Lag= 87.3 min

Primary = 0.83 cfs @ 13.60 hrs, Volume= 0.763 af

Routed to Pond 43P: Ramp C 805+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 875.02' @ 13.60 hrs Surf.Area= 0.452 ac Storage= 0.432 af

Plug-Flow detention time= 367.7 min calculated for 0.763 af (98% of inflow)

Center-of-Mass det. time= 358.3 min (1,192.0 - 833.6)

Volume	Invert	Avail.Storage	Storage Description
#1	874.00'	2.703 af	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
874.00	0.393	0.000	0.000
875.00	0.451	0.422	0.422
876.00	0.509	0.480	0.902
877.00	0.569	0.539	1.441
878.00	0.631	0.600	2.041
879.00	0.693	0.662	2.703

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Device	Routing	Invert	Outlet Devices
#1	Primary	874.00'	12.0" Round Culvert
	•		L= 41.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 874.00' / 873.80' S= 0.0049 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Device 1	874.00'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	877.00'	48.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	878.00'	
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.83 cfs @ 13.60 hrs HW=875.02' TW=873.74' (Dynamic Tailwater)

-1=Culvert (Passes 0.83 cfs of 2.28 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.83 cfs @ 4.23 fps)

-3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 57P: 187+00 42" Culvert

43.792 ac, 47.85% Impervious, Inflow Depth = 1.49" for 5-yr event Inflow Area =

21.64 cfs @ 12.30 hrs, Volume= Inflow = 5.454 af

21.64 cfs @ 12.30 hrs, Volume= 5.454 af, Atten= 0%, Lag= 0.0 min Outflow =

Primary = 21.64 cfs @ 12.30 hrs, Volume= 5.454 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 874.73' @ 12.32 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	872.70'	42.0" Round Culvert
	_		L= 297.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 872.70' / 871.50' S= 0.0040 '/' Cc= 0.900
			n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=21.59 cfs @ 12.30 hrs HW=874.72' TW=873.41' (Dynamic Tailwater) **T_1=Culvert** (Outlet Controls 21.59 cfs @ 5.40 fps)

Summary for Pond 58P: Culvert 395+33 (Millpond)

Inflow Area = 114.625 ac, 5.66% Impervious, Inflow Depth > 0.75" for 5-yr event

20.47 cfs @ 12.60 hrs, Volume= Inflow = 7.132 af

20.47 cfs @ 12.60 hrs, Volume= 7.132 af, Atten= 0%, Lag= 0.0 min Outflow

20.47 cfs @ 12.60 hrs, Volume= Primary 7.132 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 877.82' @ 12.60 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.90'	42.0" Round Culvert

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L= 148.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 875.90' / 875.40' S= 0.0034 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=20.44 cfs @ 12.60 hrs HW=877.82' TW=873.42' (Dynamic Tailwater) 1=Culvert (Barrel Controls 20.44 cfs @ 5.49 fps)

Summary for Pond 59P: Pond A

Inflow Area = 300.773 ac, 22.78% Impervious, Inflow Depth > 1.12" for 5-yr event

Inflow = 91.49 cfs @ 12.17 hrs, Volume= 27.998 af

Outflow = 16.25 cfs @ 18.54 hrs, Volume= 25.790 af, Atten= 82%, Lag= 382.4 min

Primary = 16.25 cfs @ 18.54 hrs, Volume= 25.790 af

Routed to Link 36L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 861.45' @ 18.54 hrs Surf.Area= 3.393 ac Storage= 7.989 af

Plug-Flow detention time= 528.6 min calculated for 25.790 af (92% of inflow)

Invert Avail.Storage Storage Description

Center-of-Mass det. time= 361.8 min (1,752.9 - 1,391.1)

Volume

#1	859.00'	24.336	af Custo	om Stage Data (Prismatic)Listed below (Recalc) x 0.85
Elevatio	n Surf.Area	In	c.Store	Cum.Store
(fee	t) (acres)	(acı	re-feet)	(acre-feet)
859.0	0 3.694		0.000	0.000
860.0	0 3.815		3.755	3.755
861.0			3.876	7.631
862.0			3.999	11.630
863.0			4.123	15.753
864.0	-		4.123	19.877
865.0			4.250	24.127
866.0	0 4.570		4.505	28.631
Device	Routing	Invert	Outlet Dev	vices
#1	Primary	858.20'	42.0" Ro	ound Culvert
				RCP, square edge headwall, Ke= 0.500
				tlet Invert= 858.20' / 858.00' S= 0.0132 '/' Cc= 0.900
			•	Flow Area= 9.62 sf
#2	Device 1	859.00'		Weir/Orifice, Cv= 2.62 (C= 3.28)
				et) 0.00 3.50 3.50 6.00
110	Davids and	057.001		et) 0.17 4.20 6.00 6.00
#3	Device 2	857.00'		ound Culvert
				RCP, groove end w/headwall, Ke= 0.200 tlet Invert= 857.00' / 857.00' S= 0.0000 '/' Cc= 0.900
				Flow Area= 9.62 sf
#4	Primary	865.00'		g x 10.0' breadth Broad-Crested Rectangular Weir
#4	Filliary	005.00		et) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
				glish) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
			5501. (E116	9.00.1, 2.10 2.00 2.10 2.00 2.00 2.01 2.04

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Primary OutFlow Max=16.25 cfs @ 18.54 hrs HW=861.45' TW=856.60' (Dynamic Tailwater)

—1=Culvert (Passes 16.25 cfs of 46.15 cfs potential flow)

2=Custom Weir/Orifice (Weir Controls 16.25 cfs @ 4.21 fps)

3=Culvert (Passes 16.25 cfs of 71.07 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: Pond B (Wet Basin)

Volume	Invert A	Avail.Stora	ige St	orage Description
#1	871.00'	38.463	af Cı	ustom Stage Data (Prismatic)Listed below
				, ,
Elevatio	n Surf.Area	ı In	c.Store	Cum.Store
(fee	t) (acres)) (ac	re-feet)	(acre-feet)
871.0	0 2.901		0.000	0.000
872.0	0 3.063	}	2.982	2.982
873.0	0 3.159)	3.111	6.093
874.0			4.768	
875.0)	6.487	
876.0			6.730	
877.0			7.045	
878.0	0 7.451		7.340	38.463
Davisa	Douting	lassant	041-4	Davissa
Device	Routing	Invert		Devices
#1	Primary	871.00'		Round Culvert L= 3,037.0' Ke= 0.850
				Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
				12, Flow Area= 9.62 sf
#2	Device 1	871.00'		om Weir/Orifice, Cv= 2.62 (C= 3.28)
				(feet) 0.00 1.50 1.50 6.00
" 0	0 1	070 401		(feet) 0.17 1.27 6.00 6.00
#3	Secondary	876.40'		ong x 10.0' breadth Broad-Crested Rectangular Weir
				(feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coet.	(English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge) 3=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 61P: (new Pond)

Inflow Area = 2.146 ac, 41.66% Impervious, Inflow Depth = 2.14" for 5-yr event

Inflow = 7.07 cfs @ 12.13 hrs, Volume= 0.382 af

Outflow = 7.07 cfs @ 12.13 hrs, Volume= 0.382 af, Atten= 0%, Lag= 0.0 min

Primary = 7.07 cfs @ 12.13 hrs. Volume = 0.382 af

Routed to Pond 59P: Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

¹—2=Custom Weir/Orifice (Controls 0.00 cfs)

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Peak Elev= 861.45' @ 18.54 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	859.50'	18.0" Round Culvert
	•		L= 122.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 859.50' / 859.00' S= 0.0041 '/' Cc= 0.900
			n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=6.77 cfs @ 12.13 hrs HW=861.10' TW=859.47' (Dynamic Tailwater) 1=Culvert (Barrel Controls 6.77 cfs @ 4.46 fps)

Summary for Pond 62P: Pond B (Wet Basin) Spillway change

<u>Volume</u>	Invert A	Avail.Stora	ige Sto	torage Description
#1	871.00'	38.463	af Cu	ustom Stage Data (Prismatic)Listed below
Elevation	n Surf.Area	a In	c.Store	e Cum.Store
(fee	t) (acres) (ac	re-feet)	(acre-feet)
871.0	0 2.90	1	0.000	0.000
872.0	0 3.063	3	2.982	2.982
873.0			3.111	
874.0		3	4.768	3 10.861
875.0			6.487	
876.0			6.730	
877.0			7.045	
878.0	0 7.45		7.340	38.463
Device	Routing	Invert	Outlet	Devices
#1	Primary	871.00'		Round Culvert L= 3,037.0' Ke= 0.850
π ι	1 minary	07 1.00		Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
				012, Flow Area= 9.62 sf
#2	Device 1	871.00'		om Weir/Orifice, Cv= 2.62 (C= 3.28)
				(feet) 0.00 1.50 1.50 6.00
			,	(feet) 0.17 1.27 6.00 6.00
#3	Secondary	876.40'		imetrical Weir, C= 3.27
	,		•	t (feet) 0.00 20.00 60.00 80.00
				t (feet) 1.00 0.00 0.00 1.00

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)

3=Asymmetrical Weir (Controls 0.00 cfs)

²⁼Custom Weir/Orifice (Controls 0.00 cfs)

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Summary for Pond 63P: Pond B (Dry Basin)

Volume	Invert	Avail.Stora	ige	Storage Description
#1	869.00'	1.772	2 af	Custom Stage Data (Prismatic)Listed below
Elevatior (feet			c.Sto	
869.00	0.01	8	0.0	0.000
870.00	0.05	7	0.0	0.037
871.00	0.09	7	0.0	0.77 0.114
872.00	0.13	8	0.1	117 0.232
873.00	2.94	1	1.5	540 1.772
Device	Routing	Invert	Out	tlet Devices
#1	Primary	871.00'	18.0	0" Round Culvert
	•		L= '	13.0' RCP, groove end projecting, Ke= 0.200
			Inle	et / Outlet Invert= 871.00' / 871.00' S= 0.0000 '/' Cc= 0.900
			n= (0.012, Flow Area= 1.77 sf
#2	Secondary	873.00'		8.0' long + 20.0 '/' SideZ x 15.0' breadth Broad-Crested Rectangular We
				ad (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coe	ef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

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

Summary for Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Inflow Area = 244.722 ac, 18.67% Impervious, Inflow Depth > 1.13" for 5-yr event

Inflow = 93.03 cfs @ 12.36 hrs, Volume= 22.953 af

Outflow = 17.94 cfs @ 15.27 hrs, Volume= 21.181 af, Atten= 81%, Lag= 174.8 min

Primary = 17.94 cfs @ 15.27 hrs, Volume= 21.181 af

Routed to Pond 59P: Pond A

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 20R: Overland Flow

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 873.22' @ 15.27 hrs Surf.Area= 6.161 ac Storage= 9.659 af

Plug-Flow detention time= 614.0 min calculated for 21.167 af (92% of inflow) Center-of-Mass det. time= 496.6 min (1,572.5 - 1,075.9)

Volume	Invert	Avail.Storage	Storage Description
#1	871.00'	42.125 af	Custom Stage Data (Prismatic)Listed below

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
871.00	2.930	0.000	0.000
872.00	3.134	3.032	3.032
872.50	5.890	2.256	5.288
873.00	6.100	2.998	8.285
874.00	6.376	6.238	14.524
875.00	6.599	6.487	21.011
876.00	6.861	6.730	27.741
877.00	7.228	7.044	34.785
878.00	7.451	7.339	42.125

Device	Routing	Invert	Outlet Devices
#1	Primary	871.00'	42.0" Round Culvert L= 3,037.0' Ke= 0.850
	•		Inlet / Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
			n= 0.012, Flow Area= 9.62 sf
#2	Device 1	871.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 1.50 1.50 6.00
			Width (feet) 0.17 1.27 6.00 6.00
#3	Device 2	870.00'	42.0" Round Culvert L= 20.0' Ke= 0.700
			Inlet / Outlet Invert= 870.00' / 870.00' S= 0.0000 '/' Cc= 0.900
			n= 0.012, Flow Area= 9.62 sf
#4	Secondary	876.40'	80.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=17.94 cfs @ 15.27 hrs HW=873.22' TW=861.12' (Dynamic Tailwater)

-1=Culvert (Passes 17.94 cfs of 26.47 cfs potential flow)

-2=Custom Weir/Orifice (Weir Controls 17.94 cfs @ 3.32 fps)
-3=Culvert (Passes 17.94 cfs of 38.21 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=871.00' TW=872.00' (Dynamic Tailwater) **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 65P: YH6-Pond

Inflow	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af	
Outflow	=	78.74 cfs @	0.00 hrs, Volume=	12.903 af, Atten= 0%, Lag= 0.0 m	in
Primary	=	78.74 cfs @	0.00 hrs, Volume=	12.903 af	
Secondary	/ =	0.00 cfs @	0.00 hrs, Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Starting Elev= 856.60' Surf.Area= 6.484 ac Storage= 12.773 af Peak Elev= 856.60' @ 0.00 hrs Surf.Area= 6.484 ac Storage= 12.773 af

Plug-Flow detention time= (not calculated: no plugs found) Center-of-Mass det. time= (not calculated: no inflow)

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Volume

#1

Invert

854.63'

MSE 24-hr 4 5-yr Rainfall=3.45"

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Avail.Storage Storage Description

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Elevation	on Surf.Area	In	c.Store	Cum.Store
(fee	et) (acres)	(ac	re-feet)	(acre-feet)
854.6	6.484		0.000	0.000
856.6	6.484	•	12.773	12.773
857.0	00 6.885		2.674	15.447
858.0	00 7.728		7.307	22.754
859.0	00 11.179)	9.453	32.207
860.0	00 17.714	•	14.447	46.654
Device	Routing	Invert	Outlet [Devices
#1	Primary	854.63'	108.0"	W x 36.0" H Box Culvert
			L= 28.0	' RCP, square edge headwall, Ke= 0.500
				Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900
				2 Concrete pipe, finished, Flow Area= 27.00 sf
#2	Secondary	858.60'		ng + 25.0 '/' SideZ x 15.0' breadth Broad-Crested Rectangular Wei
				eet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (E	English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

46.654 af Custom Stage Data (Prismatic)Listed below (Recalc)

Primary OutFlow Max=78.74 cfs @ 0.00 hrs HW=856.60' (Free Discharge)
—1=Culvert (Barrel Controls 78.74 cfs @ 5.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=856.60' (Free Discharge) 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link 35L: Ag. Ditch #4 Tributary

Inflow Area = 19.199 ac, 34.85% Impervious, Inflow Depth = 1.59" for 5-yr event

Inflow = 34.61 cfs @ 12.23 hrs, Volume= 2.549 af

Primary = 34.18 cfs @ 12.49 hrs, Volume= 2.549 af, Atten= 1%, Lag= 15.9 min

Routed to Link 36L: Combined to Ag Ditch #4

Primary outflow = Inflow delayed by 15.8 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Combined to Ag Ditch #4

Inflow Area = 640.771 ac, 14.16% Impervious, Inflow Depth > 0.85" for 5-yr event

Inflow = 52.13 cfs @ 12.52 hrs, Volume= 45.232 af

Primary = 52.13 cfs @ 12.52 hrs, Volume= 45.232 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Fixed water surface Elevation= 856.60'

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Summary for Link 44L: Door Creek Combined

Inflow Area = 40.584 ac, 24.45% Impervious, Inflow Depth > 0.97" for 5-yr event

Inflow = 15.98 cfs @ 12.30 hrs, Volume= 3.284 af

Primary = 15.98 cfs @ 12.30 hrs, Volume= 3.284 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 56L: Lag to Door Creek

Inflow Area = 0.750 ac, 46.67% Impervious, Inflow Depth = 1.74" for 5-yr event

Inflow = 1.01 cfs @ 12.45 hrs, Volume= 0.109 af

Primary = 1.01 cfs @ 12.88 hrs, Volume= 0.109 af, Atten= 1%, Lag= 25.7 min

Routed to Link 44L: Door Creek Combined

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Primary outflow = Inflow delayed by 25.6 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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Summary for Subcatchment 1S: C1

Runoff = 19.90 cfs @ 12.13 hrs, Volume= 1.095 af, Depth= 2.81"

Routed to Pond 1P: Niebuhr Stormwater Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	ription		
*	3.	370	98				
	1.	300	61	>75%	√ Grass co	over, Good	d, HSG B
	4.	670	88	Weig	hted Aver	age	
	1.	300		27.8	4% Pervio	us Area	
	3.	370		72.10	6% Imperv	ious Area	
	Tc (min)	Leng		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
_		(lee	ι)	(II/II)	(IVSEC)	(CIS)	
	6.0						Direct Entry,

Summary for Subcatchment 2S: C2

Runoff = 8.59 cfs @ 12.47 hrs, Volume= 0.975 af, Depth= 1.20"

Routed to Pond 2P : Storm Basin 2 with Infiltration

	Area	(ac) C	N Des	cription		
*	1.	020	98			
	5.	655	61 >75°	% Grass c	over, Good	. HSG B
					omb., Goo	
*				•	R + CR, Goo	·
_				ghted Aver	•	
		725	,	3% Pervio		
		020		-	/ious Area	
	١.	020	10.4	70 imper	nous Area	
	Тс	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	2 dodnipilon
	8.0	91	0.0830	0.19	, ,	Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	6.4	59	0.0300	0.15		Sheet Flow,
						Cultivated: Residue>20% n= 0.170 P2= 2.82"
	11.9	573	0.0080	0.80		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	3.3	337	0.0030	1.69	11.17	Channel Flow,
						Area= 6.6 sf Perim= 13.4' r= 0.49' n= 0.030
	1.1	224	0.0050	3.31	10.40	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.020 Corrugated PE, corrugated interior
	30.7	1 28/	Total			

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Summary for Subcatchment 3S: C3-A

Runoff = 12.12 cfs @ 12.35 hrs, Volume= 1.110 af, Depth= 1.96"

Routed to Pond 2P: Storm Basin 2 with Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac) C	N Desc	cription		
*			98 31 >759	% Grass c	over, Good	HSG B
				er Surface	•	,
	6.	802 7	78 Weig	ghted Aver	age	
	3.	639	53.5	0% Pervio	us Area	
	3.	163	46.5	0% Imper	vious Area	
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	12.1	86	0.0260	0.12		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	0.9	68	0.0220	1.24		Sheet Flow,
	0.4	4 000	0.0050	4.00	45.40	Smooth surfaces n= 0.011 P2= 2.82"
	9.1	1,026	0.0050	1.88	15.43	•
						Bot.W=0.00' D=1.00' Z= 8.2 '/' Top.W=16.40' n= 0.035
	1.4	224	0.0050	2.76	8.66	Pipe Channel,
	1.4	224	0.0000	2.70	0.00	24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.024
	0.1	59	0.0056	7.06	49.91	Pipe Channel,
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'
						n= 0.013
	23.6	1,463	Total			

Summary for Subcatchment 4S: C3-B

Runoff = 3.34 cfs @ 12.13 hrs, Volume= 0.187 af, Depth= 3.00"

Routed to Pond 3P: Sheriff Phase 2 Bioretention

	Area (ac)	CN	Description
*	0.580	98	
	0.165	61	>75% Grass cover, Good, HSG B
	0.745	90	Weighted Average
	0.165		22.15% Pervious Area
	0.580		77.85% Impervious Area

02_Post-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 10-yr Rainfall=4.09" Printed 9/27/2023

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
_	6.0	(.301)	(15/12)	(12,000)	(0.0)	Direct Entry,

Summary for Subcatchment 5S: C4-A

Runoff = 10.83 cfs @ 12.13 hrs, Volume= 0.631 af, Depth= 3.41"

Routed to Pond 4P: Cnty-Storm Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	cription		
*	2.	010	98				
	0.	210	61	>75%	% Grass co	over, Good	I, HSG B
	2.	220	94	Weig	hted Aver	age	
	0.	210		9.46	% Perviou	s Area	
	2.	010		90.5	4% Imper	ious Area	
	Тс	Leng		Slope	Velocity	Capacity	Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 6S: C4-B

Runoff = 7.98 cfs @ 12.31 hrs, Volume= 0.680 af, Depth= 1.96"

Routed to Pond 5P: CNTY-Infiltration Basin #1

	Area (ac)	CN	Description
*	1.560	98	
	1.455	61	>75% Grass cover, Good, HSG B
	1.150	74	>75% Grass cover, Good, HSG C
	4.165	78	Weighted Average
	2.605		62.55% Pervious Area
	1.560		37.45% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	13	0.0200	0.86		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 2.82"
0.9	10	0.2400	0.19		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
14.4	127	0.0370	0.15		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
1.6	115	0.0280	1.17		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
3.3	521	0.0080	2.66	15.95	Trap/Vee/Rect Channel Flow,
					Bot.W=2.00' D=1.00' Z= 4.0 '/' Top.W=10.00'
					n= 0.035
20.5	786	Total	·		

Summary for Subcatchment 7S: C4-C

Runoff = 1.74 cfs @ 12.14 hrs, Volume= 0.093 af, Depth= 1.66"

Routed to Pond 6P: County Pond - East

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

_	Area	(ac)	CN	Desc	cription						
*	0.	230	98								
	0.	0.440 61 >75% Grass cover, Good					I, HSG B				
	0.670 74 Weighted Average										
	0.	440		65.6	7% Pervio	us Area					
	0.230 34.33% Impervious					ious Area					
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
_	6.0	(/	(1411)	()	()	Direct Entry,				

Summary for Subcatchment 8S: C4-D

Runoff = 37.32 cfs @ 12.13 hrs, Volume= 2.083 af, Depth= 3.00"

Routed to Pond 6P: County Pond - East

	Area (ac)	CN	Description
*	6.030	98	
	1.350	61	>75% Grass cover, Good, HSG B
	0.300	98	Water Surface, HSG B
	0.640	74	>75% Grass cover, Good, HSG C
	8.320	90	Weighted Average
	1.990		23.92% Pervious Area
	6.330		76.08% Impervious Area

02_Post-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 10-yr Rainfall=4.09"

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Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.0					Direct Entry,	_

Summary for Subcatchment 9S: C5-A

Runoff = 2.00 cfs @ 12.14 hrs, Volume= 0.113

0.113 af, Depth= 1.02"

Routed to Pond 9P: Culvert 534+50

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN De	scription		
	1.	220	61 >7	5% Grass c	over, Good	, HSG B
*	0.	100	98			
	1.320 64			eighted Ave	rage	
	1.	220	92	.42% Pervio	ous Area	
	0.	100	7.	88% Impervi	ious Area	
	Tc	Length		•	Capacity	Description
_	(min)	(feet	(ft/f) (ft/sec)	(cfs)	
	1.3	16	0.240	0.21		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	1.7	533	0.030	5.30	21.19	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 '/' Top.W=8.00'
						n= 0.030
_	3.0					Direct Entry, increase to min TOC
	6.0	549	Total			

Summary for Subcatchment 10S: C5-B

Runoff = 3.56 cfs @ 12.13 hrs, Volume=

0.223 af, Depth= 3.85"

Routed to Pond 57P: 187+00 42" Culvert

O. . . .

	Area	(ac)	CN	Desc	cription		
*	0.	693	98				
	0.693 100.00% Impervious Area						а
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	6.0					·	Direct Entry,

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Summary for Subcatchment 11S: C5-C

Runoff = 11.91 cfs @ 12.16 hrs, Volume= 0

0.697 af, Depth= 1.88"

Routed to Pond 57P: 187+00 42" Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac) C	N Des	cription		
*	1.	898 9	98			
	2.	544 (31 >75°	% Grass c	over, Good	, HSG B
	4.442 77		77 Weig	ghted Aver	age	
	2.544			7% Pervio	us Area	
1.898			42.7	3% Imperv	/ious Area	
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.5	33	0.0270	1.17		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	4.8	76	0.2100	0.27		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.3	869	0.0150	4.36	61.01	Trap/Vee/Rect Channel Flow,
						Bot.W=10.00' D=1.00' Z= 4.0 '/' Top.W=18.00'
_						n= 0.035
	8.6	978	Total			

Summary for Subcatchment 12S: C5-E

Runoff = 4.44 cfs @ 12.16 hrs, Volume=

0.255 af, Depth= 2.04"

Routed to Pond 14P: Culvert at Millpond 387+00

	Area (ac)	CN	Description		
*	0.720	98			
	0.740	61	>75% Grass cover, Good, HSG B		
	0.040	74	>75% Grass cover, Good, HSG C		
	1.500	79	Weighted Average		
0.780 52.00% Pervious Area					
	0.720		48.00% Impervious Area		

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	18	0.0180	0.88		Sheet Flow,
	2.2	19	0.0950	0.15		Smooth surfaces n= 0.011 P2= 2.82" Sheet Flow,
		. •	0.000			Grass: Dense n= 0.240 P2= 2.82"
	5.7	645	0.0050	1.88	15.05	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00' n= 0.035
-	8.2	682	Total			11 0.000

Summary for Subcatchment 13S: C6-A

Runoff = 8.04 cfs @ 12.16 hrs, Volume=

0.472 af, Depth= 1.66"

Routed to Pond 13P : Culvert at Ramp A 690+50

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN Des	scription					
*	0.	890	98						
	1.	690	61 >75	% Grass c	over, Good	, HSG B			
	0.	830	74 >75	>75% Grass cover, Good, HSG C					
3.410 74 Weighted Average									
	2.	520	73.9	90% Pervio	us Area				
	0.	890	26.	10% Imper	vious Area				
	Тс	Length	•		Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	3.6	65	0.3100	0.30		Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.82"			
	1.0	85	0.0390	1.38		Shallow Concentrated Flow,			
						Short Grass Pasture Kv= 7.0 fps			
	3.9	431	0.0050	1.87	9.33	Trap/Vee/Rect Channel Flow,			
						Bot.W=0.00' D=1.00' Z= 4.0 & 6.0 '/' Top.W=10.00'			
_						n= 0.035			
	8.5	581	Total						

Summary for Subcatchment 14S: C6-B

Runoff = 21.92 cfs @ 12.35 hrs, Volume=

2.026 af, Depth= 1.73"

Routed to Pond 14P: Culvert at Millpond 387+00

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	Area	(ac)	CN	Desc	cription		
*	3.	360	98				
	5.	070	61	>75%	% Grass co	over, Good,	, HSG B
	5.	590	74	>75%	% Grass co	over, Good,	, HSG C
	14.	020	75	Weic	hted Aver	age	
	10.660 76.03% Pervious Area						
	3.360 23.97% li				7% Imperv	ious Area	
					•		
	Tc	Lengtl	ո Տ	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	•
	18.7	148	3 0.	0260	0.13		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	4.9	898	3 0.	0090	3.03	24.26	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 4.0 '/' Top.W=12.00'
							n= 0.035
	23.6	1,040	3 To	otal			

Summary for Subcatchment 15S: C6-C

Runoff = 11.70 cfs @ 12.13 hrs, Volume= 0.692 af, Depth= 3.52"

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

_	Area	(ac)	CN	Desc	Description						
*	2.	020	98								
	0.340 74 >75% Grass cover, Good,						I, HSG C				
2.360 95 Weighted Average						age					
0.340 14.41% Pervious Area											
	2.020			85.5	9% Imperv	∕ious Area					
	Tc (min)	Leng (fee	,	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
	6.0				, ,		Direct Entry,				

Summary for Subcatchment 16S: C6-D1

Runoff = 2.74 cfs @ 12.39 hrs, Volume= 0.287 af, Depth= 0.97"

Routed to Pond 16P: Culvert 509+94 (NB CTH AB)

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	Area	(ac)	CN	Desc	cription								
*	0.	040	98										
	2.	340	61	>75%	75% Grass cover, Good, HSG B								
	0.	390	58	Woo	/oods/grass comb., Good, HSG B								
*	0.	790	70	Row	crops, SR	+ CR, Go	od, HSG B						
	3.560 63 Weighted Average												
	3.520 98.88% Pervious Area												
	0.	040		1.12	% Impervi	ous Area							
	Тс	Lengtl		Slope	Velocity	Capacity	Description						
_	(min)	(feet	()	(ft/ft)	(ft/sec)	(cfs)							
	23.0	26	5 0.0	0500	0.19		Sheet Flow,						
							Grass: Dense n= 0.240 P2= 2.82"						
	0.9	22	3 0.0	0240	4.07	18.31	Trap/Vee/Rect Channel Flow,						
							Bot.W=0.00' D=1.00' Z= 6.0 & 3.0 '/' Top.W=9.00'						
							n= 0.035						
	23.9	488	8 To	otal									

Summary for Subcatchment 17S: C6-D2

Runoff = 11.71 cfs @ 12.53 hrs, Volume=

1.424 af, Depth= 1.20"

Routed to Pond 18P: Culvert 505+79 (NB CTH AB)

	Area (ac)	CN	Description
*	1.795	98	
	3.625	61	>75% Grass cover, Good, HSG B
	0.305	74	>75% Grass cover, Good, HSG C
	5.110	58	Woods/grass comb., Good, HSG B
*	2.820	70	Row crops, SR + CR, Good, HSG B
*	0.580	79	Row crops, SR + CR, Good, HSG C
	14.235	67	Weighted Average
	12.440		87.39% Pervious Area
	1.795		12.61% Impervious Area

02_Post-DevelopmentConditions_WisDOT_PondEval MSE 24-hr 4 10-yr Rainfall=4.09" Prepared by SCS Engineers Printed 9/27/2023

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
_	15.7	150	0.1150	0.16		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.82"
	7.2	545	0.0630	1.25		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	3.4	219	0.0450	1.06		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	6.7	335	0.0140	0.83		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.1	213	0.0160	3.32	13.26	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 '/' Top.W=8.00'
						n= 0.035
	0.4	150	0.0050	6.40	31.42	• •
						30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63'
_						n= 0.012
	34 5	1 612	Total			

Summary for Subcatchment 18S: YH2-B

21.43 cfs @ 12.60 hrs, Volume= Runoff

2.899 af, Depth= 1.02"

Routed to Pond 58P: Culvert 395+33 (Millpond)

	Area (ac)		N Des	cription						
*	* 2.510		98							
	11.160		31 >75°	% Grass co	over, Good	, HSG B				
	9.	490 7	74 >75°	% Grass co	over, Good	, HSG C				
	2.	240 6	35 Brus	h, Good, H	HSG C					
	8.	590 4	l8 Brus	Brush, Good, HSG B						
	33.	990 6	64 Weig	ghted Aver	age					
	31.	480	92.6	2% Pervio	us Area					
	2.	510	7.38	% Impervi	ous Area					
	Тс	Length	Slope	Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	15.5	150	0.0430	0.16		Sheet Flow,				
						Grass: Dense n= 0.240 P2= 2.82"				
	17.3	1,216	0.0280	1.17		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
	0.7	206	0.0100	4.91	3.86	· · · · · · · · · · · · · · · · · · ·				
						12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'				
	4.0	00.4	0.0040	0.00	00.40	n= 0.012				
	1.6	234	0.0040	2.38	38.12	Trap/Vee/Rect Channel Flow,				
						Bot.W=8.00' D=1.00' Z= 8.0 '/' Top.W=24.00'				
	0.4	25	0.0440	0.00	20.00	n= 0.030				
	0.1	35	0.0140	9.23	29.00	Pipe Channel,				
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012				
						11- 0.012				

02 Post-DevelopmentConditions WisDOT PondEval

MSE 24-hr 4 10-yr Rainfall=4.09"

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3.3 527 0.0140 2.68 53.55	Trap/Vee/Rect Channel Flow, Bot.W=10.00' D=1.00' Z= 10.0 '/' Top.W=30.00' n= 0.050
---------------------------	---

38.5 2,368 Total

Summary for Subcatchment 19S: C7 - Landfill

78.39 cfs @ 12.19 hrs, Volume= 5.012 af, Depth= 2.12" Runoff

Routed to Pond 19P: Landfill Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

_	Area ((ac)	CN	Desc	escription								
	0.4	440	96	Grav	el surface	, HSG C							
27.650 80 >75% Grass cover, Good,							, HSG D						
0.330 98 Water Surface, HSG B													
28.420 80 Weighted Average													
	28.	090		98.8	4% Pervio	us Area							
	0.3	330		1.16	% Impervi	ous Area							
				Description									
(min) (feet) (ft/ft) (ft/sec) (cfs)													
	440							T001		1011 014/			

11.0 **Direct Entry, TOC from Landfill SWMP**

Summary for Subcatchment 20S: C8

Runoff 19.57 cfs @ 12.22 hrs, Volume= 1.378 af, Depth= 1.96"

Routed to Pond 22P: 36" Culvert 182+00

	Area (ac)	CN	Description			
*	2.980	98				
	2.750	61	>75% Grass cover, Good, HSG B			
	2.714	74	>75% Grass cover, Good, HSG C			
	8.444	78	Weighted Average			
5.464 64.71% Pervious Area						
	2.980		35.29% Impervious Area			

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	31	0.0140	0.89		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 2.82"
1.6	10	0.0520	0.10		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
5.6	1,329	0.0170	3.93	11.78	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00'
					n= 0.030
5.9	395	0.0250	1.11		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
13.7	1,765	Total			

Summary for Subcatchment 22S: C9

Runoff = 3.05 cfs @ 12.16 hrs, Volume=

0.178 af, Depth= 2.04"

Routed to Pond 22P: 36" Culvert 182+00

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

_	Area	(ac) (CN Des	cription					
*	0.	520	98						
	0.530 61		61 >75	>75% Grass cover, Good, HSG B					
	1.	050	79 Wei	ghted Aver	age				
	0.	530		8% Pervio	•				
	0.	520	49.5	2% Imper	vious Area				
				•					
	Tc	Length	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·			
	0.3	19	0.0200	0.93		Sheet Flow,			
						Smooth surfaces n= 0.011 P2= 2.82"			
	1.8	19	0.1400	0.17		Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.82"			
	6.5	572	0.0030	1.46	11.66	Trap/Vee/Rect Channel Flow,			
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'			
						n= 0.035			
	8.6	610	Total						

Summary for Subcatchment 23S: C10

Runoff = 2.84 cfs @ 12.15 hrs, Volume= 0.158 af, Depth= 2.04" Routed to Pond 64P : Pond B-reduced raised 1 ft and raised spillway

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	Area	(ac) (CN De	scription						
*	* 0.404 98									
	0			>75% Grass cover, Good, HSG B						
		153		>75% Grass cover, Good, HSG C						
_						, 1130 0				
	0.	931	79 We	Weighted Average						
	0.	527	56.	56.61% Pervious Area						
	0.	404	43.	39% Imper	vious Area					
	•									
	Tc	Length	Slope	Velocity	Capacity	Description				
		_		•		Description				
	(min)	(feet)			(cfs)					
	0.3	18	0.0200	0.92		Sheet Flow,				
						Smooth surfaces n= 0.011 P2= 2.82"				
	1.7	19	0.1700	0.19		Sheet Flow,				
	1.7	10	0.1700	0.10		Grass: Dense n= 0.240 P2= 2.82"				
		475	0.0000	4 45	0.74					
	5.5	475	0.0030	1.45	8.71	Trap/Vee/Rect Channel Flow,				
						Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'				
						n= 0.035				
_	7.5	512	Total							

Summary for Subcatchment 24S: YH1

Runoff = 39.35 cfs @ 12.85 hrs, Volume=

6.643 af, Depth= 1.20"

Routed to Pond 24P: YH1 - Pond

_	Area (ac) CN Description									
22.700 61 >75% Grass cover, Good, HSG B										
27.890 74 >75% Grass cover, Good, HSG C										
	4.	830			h, Good, F		•			
	8.	800			h, Good, F					
		180			r Surface					
	66.	400	67 W	/eig	hted Aver	age				
	64.	220	96	6.72	2% Pervio	us Area				
	2.	180	3.	289	% Impervi	ous Area				
	Tc	Length	Slop	ре	Velocity	Capacity	Description			
	(min)	(feet)	(ft/1	ft)	(ft/sec)	(cfs)				
	21.0	150	0.020	00	0.12		Sheet Flow,			
							Grass: Dense n= 0.240 P2= 2.82"			
	36.9	2,018	0.017	70	0.91		Shallow Concentrated Flow,			
		•					Short Grass Pasture Kv= 7.0 fps			
_	57.9	2.168	Total				·			

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Summary for Subcatchment 25S: YH2-A

Runoff = 20.57 cfs @ 12.42 hrs, Volume= 2.137 af, Depth= 1.46"

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	Description							
*	0.	460	98									
	6.	980	61	>759	% Grass c	over, Good	, HSG B					
	4.	750	74	>759	% Grass c	, HSG C						
2.290 58 Woods/grass comb., Good, HSG B												
	0.	200	48	Brus	h, Good, I	HSG B						
_	2.	930	98	Wate	er Surface	, HSG B						
	17.610 71 Weighted Average											
	14.	220		80.7	5% Pervio	us Area						
	3.	390		19.2	5% Imper	∕ious Area						
	Tc	Length		lope	Velocity	Capacity	Description					
_	(min)	(feet		ft/ft)	(ft/sec)	(cfs)						
	18.6	150	0.0	0.0270	0.13		Sheet Flow,					
							Grass: Dense n= 0.240 P2= 2.82"					
	8.3	493	3 0.0200		0.99	0.99	Shallow Concentrated Flow,					
		07.				00.70	Short Grass Pasture Kv= 7.0 fps					
	1.1	375	0.0	280	5.77	80.72	Trap/Vee/Rect Channel Flow,					
							Bot.W=4.00' D=1.00' Z= 15.0 & 5.0 '/' Top.W=24.00'					
	0.4	20		200	4.00		n= 0.030					
	0.1	32	2 0.3	300	4.02		Shallow Concentrated Flow,					
_	00.4	4.050					Short Grass Pasture Kv= 7.0 fps					
	28.1	1,050) Tot	tal								

Summary for Subcatchment 26S: C11,12,15,16,18

Runoff = 39.27 cfs @ 12.13 hrs, Volume= 2.124 af, Depth= 2.54"

Routed to Pond 59P: Pond A

	Area (ac)	CN	Description
*	6.350	98	
	3.330	61	>75% Grass cover, Good, HSG B
	0.360	74	>75% Grass cover, Good, HSG C
	10.040	85	Weighted Average
	3.690		36.75% Pervious Area
	6.350		63.25% Impervious Area

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry,

Summary for Subcatchment 27S: C13-A, C13-B, C14

Runoff = 28.83 cfs @ 12.25 hrs, Volume=

2.213 af, Depth= 1.39"

Routed to Pond 59P: Pond A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

_	Area	(ac)	CN	Desc	cription		
*	4.	590	98				
*	10.	730	61				
	0.	643	74	>759	% Grass co	over, Good	, HSG C
	2.	716	55	Woo	ds, Good,	HSG B	
_	0.	424	70	Woo	ds, Good,	HSG C	
	19.	103	70		hted Aver		
		513			7% Pervio		
	4.	590		24.0	3% Imper\	/ious Area	
	_						
	Tc	Lengtl		Slope	Velocity	Capacity	Description
_	(min)	(feet		(ft/ft)	(ft/sec)	(cfs)	
	0.3	18	3 0.	.0200	0.92		Sheet Flow,
							Smooth surfaces n= 0.011 P2= 2.82"
	4.9	7	5 0.	.1900	0.25		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	10.2	1,340	0.	.0050	2.20	20.87	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 6.0 & 5.0 '/' Top.W=15.00'
_							n= 0.035
	15.4	1,43	3 T	otal			

Summary for Subcatchment 28S: C17, C21, C22-A

Runoff = 10.75 cfs @ 12.20 hrs, Volume= 0.714 af, Depth= 1.73"

Routed to Pond 28P: 12/18 140+35

	Area (ac)	CN	Description
*	1.830	98	
	2.930	61	>75% Grass cover, Good, HSG B
	0.180	80	>75% Grass cover, Good, HSG D
	4.940	75	Weighted Average
	3.110		62.96% Pervious Area
	1.830		37.04% Impervious Area

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	17	0.0240	0.97		Sheet Flow,
	3.0	46	0.2490	0.26		Smooth surfaces n= 0.011 P2= 2.82" Sheet Flow,
	3.0	40	0.2490	0.20		Grass: Dense n= 0.240 P2= 2.82"
	8.5	1,279	0.0064	2.51	22.55	Trap/Vee/Rect Channel Flow,
						Bot.W=4.00' D=1.00' Z= 6.0 & 4.0 '/' Top.W=14.00'
_						n= 0.035
	11 8	1 342	Total			

11.8 1,342 Lotal

Summary for Subcatchment 29S: C19-A

Runoff = 10.46 cfs @ 12.27 hrs, Volume= 0.817

0.817 af, Depth= 1.81"

Routed to Pond 59P: Pond A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac) C	N Des	cription		
*	2.	140	98			
*	3.	280	61 Gras	ss HSG B		
	5.	420	76 Wei	ghted Aver	age	
		280	,	2% Pervio	0	
		140	39.4	8% Imperv	ious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	•
	12.6	150	0.0720	0.20	,	Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	2.1	129	0.0210	1.01		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.1	239	0.0300	3.52		Shallow Concentrated Flow,
						Paved Kv= 20.3 fps
	1.2	132	0.0050	1.87	12.18	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 9.0 & 4.0 '/' Top.W=13.00'
						n= 0.035
	17.0	650	Total			

Summary for Subcatchment 30S: C19-B

Runoff = 0.68 cfs @ 12.15 hrs, Volume= 0.040 a

0.040 af, Depth= 0.86"

Routed to Pond 59P: Pond A

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_	Area	(ac)	CN	Desc	cription		
	0.	560	61	>75%	√ Grass co	over, Good	, HSG B
	0.	560		100.0	00% Pervi	ous Area	
	т.	1	u. c	N	\	0	Description
	Tc	Lengi		Slope	,	. ,	Description
_	(min)	(fee	:()	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 31S: C19-C

Runoff 8.90 cfs @ 12.13 hrs, Volume=

0.486 af, Depth= 2.72"

Routed to Pond 61P: (new Pond)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	cription		
*	0.	894	98				
	1.	252	80	>75%	√ Grass co	over, Good	I, HSG D
	2.	146	87	Weig	hted Aver	age	
	1.	252		58.3	4% Pervio	us Area	
	0.	894		41.6	6% Imperv	ious Area	
	Тс	Leng	th S	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 32S: C19-D

33.79 cfs @ 12.19 hrs, Volume= 2.247 af, Depth= 2.91" Runoff

Routed to Pond 59P: Pond A

	Area (ac)	CN	Description
*	2.665	98	
	1.463	61	>75% Grass cover, Good, HSG B
	1.444	80	>75% Grass cover, Good, HSG D
	3.700	98	Water Surface, HSG B
	9.272	89	Weighted Average
	2.907		31.35% Pervious Area
	6.365		68.65% Impervious Area

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	Тс	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	8.2	100	0.0930	0.20		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.1	279	0.0450	1.48		Shallow Concentrated Flow,
_						Short Grass Pasture Kv= 7.0 fps
	11.3	379	Total			

Summary for Subcatchment 33S: C20

Runoff = 5.43 cfs @ 12.26 hrs, Volume=

0.434 af, Depth= 1.14"

Routed to Pond 32P: Long Drive 440+35

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

_	Area	(ac) C	N Des	cription		
*	0.	660	98			
	3.	910	31 >75	% Grass c	over, Good	, HSG B
	4.	570	36 Wei	hted Aver	age	
	3.	910	,	6% Pervio		
	0.	660	14.4	4% Imperv	ious Area	
				•		
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.3	12	0.0100	0.64		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	11.3	101	0.0430	0.15		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.9	723	0.0140	3.08	10.79	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 & 3.0 '/' Top.W=7.00'
_						n= 0.035
	15.5	836	Total			

Summary for Subcatchment 34S: YH3-A

Runoff = 4.55 cfs @ 12.19 hrs, Volume=

0.300 af, Depth= 1.14"

Routed to Pond 34P: YH3-Pond

	Area (ac)	CN	Description
*	0.357	98	
	2.668	61	>75% Grass cover, Good, HSG B
	0.131	74	>75% Grass cover, Good, HSG C
	3.156	66	Weighted Average
	2.799		88.69% Pervious Area
	0.357		11.31% Impervious Area

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Tc Length Slope Velocity Capacity Description

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(min) (feet) (ft/ft) (ft/sec) (cfs)

10.0 Direct Entry,

Summary for Subcatchment 35S: YH3-B

Runoff = 87.01 cfs @ 12.75 hrs, Volume=

14.160 af, Depth= 0.91"

Routed to Pond 34P: YH3-Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	cription		
*	2.	.750 98					
	111.110		61	>759	% Grass co	over, Good,	, HSG B
	25.	680	74	>759	% Grass co	over, Good,	, HSG C
	35.	680	48	Brus	h, Good, F	HSG B	
	6.	860	65	Brus	h, Good, F	HSG C	
	4.	200	98	Wate	er Surface,	, HSG B	
	186.	280	62	Weig	hted Aver	age	
	179.	330		96.2	7% Pervio	us Area	
	6.	950		3.73	% Impervi	ous Area	
	Tc	Lengtl		Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	19.9	150	0.	0230	0.13		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	25.0	1,662	2 0.	0250	1.11		Shallow Concentrated Flow,
							Short Grass Pasture Kv= 7.0 fps
	1.2	219	9 0.	0090	2.95	29.50	Trap/Vee/Rect Channel Flow,
							Bot.W=0.00' D=1.00' Z= 10.0 '/' Top.W=20.00'
							n= 0.030
	2.5	88	5 0.	0110	5.98	7.34	1
							15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'
_							n= 0.012
	48.6	2,916	6 To	otal			

Summary for Subcatchment 36S: YH4

Runoff = 11.48 cfs @ 12.35 hrs, Volume= 1.101 af, Depth= 1.08"

Routed to Pond 36P: YH4-Pond

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	_			_						
_	Area (ac) CN Description									
	9.630 61 >75% Grass cover, Good, HSG B									
	2.070 74 >75% Grass cover, Good, HSG C									
· · · · · · · · · · · · · · · · · · ·										
_	<u> </u>	320	98	vvale	Surface	, 113G A				
	12.	220	65	Weig	jhted Aver	age				
	11.	700		95.74	4% Pervio	us Area				
	0.	520		4.26	% Impervi	ous Area				
					•					
	Тс	Length	. SI	lope	Velocity	Capacity	Description			
	(min)	(feet)		ft/ft)	(ft/sec)	(cfs)	2 destription			
_						(013)				
	13.0	150	0.0)660	0.19		Sheet Flow,			
							Grass: Dense n= 0.240 P2= 2.82"			
	8.6	470	0.0	170	0.91		Shallow Concentrated Flow,			
							Short Grass Pasture Kv= 7.0 fps			
_	24.6	620		tal			511511 G14150 1 41514110 1111 1110 1110			
	21.6	620) Tot	เสเ						

Summary for Subcatchment 37S: YH5

Runoff = 7.49 cfs @ 12.15 hrs, Volume=

0.414 af, Depth= 2.12"

Routed to Pond 37P: YH5 - Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	cription								
*	0.	330	98										
1.130 61 >75% Grass cover, Good, HSG B													
0.890 98 Water Surface, HSG A													
	2.	350	80	Weig	hted Aver	age							
	1.	130		48.09	9% Pervio	us Area							
	1.	220		51.9°	51.91% Impervious Area								
	Tc (min)	Lengt (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description						
	0.2	1	1 0	0.0300	0.98		Sheet Flow,						
	7.1	8	7 C).1000	0.20		Smooth surfaces n= 0.011 P2= 2.82" Sheet Flow, Grass: Dense n= 0.240 P2= 2.82"						
	7.3	9	8 1	Γotal	•	•							

Summary for Subcatchment 38S: YH6

Runoff = 76.87 cfs @ 12.53 hrs, Volume= 9.468 af, Depth= 1.14"

Routed to Pond 38P: YH6-Pond

02_Post-DevelopmentConditions_WisDOT_PondEval MSE 24-hr 4 10-yr Rainfall=4.09" Prepared by SCS Engineers

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Area	(ac)	CN E	Desc	ription				
54.	390	61 >	>75%	6 Grass co	over, Good	, HSG B		
4.	340	48 E	3rus	h, Good, F	HSG B			
7.	606	65 E	3rus	h, Good, F	HSG C			
26.	837	73 E	3rus	h, Good, F	HSG D			
6.	484	98 V	Nate	r Surface	, HSG A			
99.	657	66 V	Neig	hted Aver	age			
93.	173	ç	93.49	3.49% Pervious Area				
6.	484	6	6.51% Impervious Area					
_					_			
Тс	Length		•	Velocity	Capacity	Description		
(min)	(feet)	<u>(ft</u>	/ft)	(ft/sec)	(cfs)			
19.2	150	0.02	250	0.13		Sheet Flow,		
						Grass: Dense n= 0.240 P2= 2.82"		
15.4	889	0.01	90	0.96		Shallow Concentrated Flow,		
						Short Grass Pasture Kv= 7.0 fps		
34.6	1,039) Tota	al					

Summary for Subcatchment 39S: C22B-25

44.38 cfs @ 12.23 hrs, Volume= 3.215 af, Depth= 2.12" Runoff

Routed to Link 35L : Ag. Ditch #4 Tributary

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac) (CN Des	cription						
*	6.	210	98							
	5.	320	61 >75	% Grass c	over, Good	, HSG B				
	0.	359	74 >75°	>75% Grass cover, Good, HSG C						
	6.	340	80 >75°	>75% Grass cover, Good, HSG D						
	18.	229	80 Wei	ghted Aver	age					
	12.	019	65.9	3% Pervio	us Area					
	6.	210	34.0	7% Imper	vious Area					
	Тс	Length		Velocity	Capacity	Description				
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	0.4	29	0.0250	1.10		Sheet Flow,				
						Smooth surfaces n= 0.011 P2= 2.82"				
	2.4	30	0.1740	0.20		Sheet Flow,				
						Grass: Dense n= 0.240 P2= 2.82"				
	6.1	100	0.0015	0.27		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
	5.6	874	0.0069	2.58	23.23	Trap/Vee/Rect Channel Flow,				
						Bot.W=0.00' D=1.00' Z= 9.0 '/' Top.W=18.00'				
_						n= 0.030				
	14.5	1.033	Total							

14.5 1,033 Lotal

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Summary for Subcatchment 40S: C25-B

Runoff = 3.10 cfs @ 12.13 hrs, Volume= 0.165 af, Depth= 2.04"

Routed to Link 35L : Ag. Ditch #4 Tributary

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	cription		
*	0.	480	98				
*	0.	490	61				
	0.	970	79	Weig	hted Aver	age	
						us Area	
	0.480			49.4	8% Imperv	ious Area	
	Тс	Leng		Slope	Velocity	Capacity	Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 41S: C26

Runoff = 8.38 cfs @ 13.02 hrs, Volume= 1.628 af, Depth= 1.14"

Routed to Link 36L: Combined to Ag Ditch #4

Description

Area (ac)

CN

Alea	(ac) C	14 DE20	лрион					
0.	040 6	31 >759	% Grass c	over, Good	, HSG B			
0.			>75% Grass cover, Good, HSG C					
			Brush, Good, HSG B					
			Brush, Good, HSG C					
			h, Good, I					
			hted Aver					
17.	136	100.	00% Pervi	ous Area				
Tc	Length	Slope	Velocity	Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
40.2	150	0.0110	0.06		Sheet Flow,			
					Woods: Light underbrush n= 0.400 P2= 2.82"			
9.7	380	0.0170	0.65		Shallow Concentrated Flow,			
0.7	000	0.0170	0.00		Woodland Kv= 5.0 fps			
0.4	58	0.0050	2.76	8.66				
0.4	30	0.0030	2.70	0.00				
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
					n= 0.024			
0.2	59	0.0260	4.99	29.91	Trap/Vee/Rect Channel Flow,			
					Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'			
					n= 0.030			
19.3	2,177	0.0007	1.88	53.14	Trap/Vee/Rect Channel Flow,			
					Bot.W=4.00' D=3.00' Z= 1.8 '/' Top.W=14.80'			
					n= 0.030			

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MSE 24-hr 4 10-yr Rainfall=4.09" Printed 9/27/2023

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69.8 2,824 Total

Summary for Subcatchment 42S: C5-D

Runoff = 6.11 cfs @ 12.17 hrs, Volume= 0.376 af, Depth= 1.39"

Routed to Pond 41P: AB 520+90

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	cription			
*	0.	700	98					
	2.	260	61	>759	% Grass co	over, Good	, HSG B	
	0.	290	74	>759	% Grass co	over, Good	, HSG C	
	3.250 70 Weighted Average							
	2.550 78.46% Pervious Area							
	0.700			21.54% Impervious Area				
	Тс	Lengtl	า ร	Slope	Velocity	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	2.0	23	3 0.	1600	0.19		Sheet Flow,	
							Grass: Dense n= 0.240 P2= 2.82"	
	7.1	800	0.	0050	1.87	9.33	Trap/Vee/Rect Channel Flow,	
							Bot.W=0.00' D=1.00' Z= 4.0 & 6.0 '/' Top.W=10.00'	
_							n= 0.035	
	9.1	823	3 To	otal				

Summary for Subcatchment 43S: C27-A

Runoff = 12.73 cfs @ 12.13 hrs, Volume= 0.678 af, Depth= 2.12"

Routed to Pond 54P: Pond C

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area ((ac)	CN	Desc	Description					
*	1.0	626	98							
	1.8	828	61	>75%	>75% Grass cover, Good, HSG B					
	0.390 98 Water Surface, 0% imp, HSG B						HSG B	_		
	3.	844	80	Weig						
	2.:	218		57.7	0% Pervio	us Area				
	1.626 42.30% Impervious Area						a e e e e e e e e e e e e e e e e e e e			
	Тс	Leng	ıth	Slope	Velocity	Capacity	/ Description			
	(min)	(fee		(ft/ft)	(ft/sec)	(cfs)	·			
-	6.0			•	•		Direct Entry,	_		

02_Post-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 10-yr Rainfall=4.09" Printed 9/27/2023

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Summary for Subcatchment 44S: C27-B1

Runoff = 2.01 cfs @ 12.14 hrs, Volume= 0.108 af, Depth= 1.46"

Routed to Pond 43P: Ramp C 805+00

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area (ac) CN Description							
*	0.	240	98					_
	0.	648	61		% Grass c	over, Good	, HSG B	
0.888 71 Weighted Average 0.648 72.97% Pervious Area								_
	0.	240		27.0	3% Imperv	∕ious Area		
	_		_			_		
	Tc	Leng	th	Slope	Velocity	Capacity	Description	
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)		
	3.2	5	50 (0.2500	0.26		Sheet Flow,	
							Grass: Dense n= 0.240 P2= 2.82"	
	2.8						Direct Entry, Increase to min TOC	
	6.0	5	50	Total				

Summary for Subcatchment 45S: C27-B2 & C27-C

Runoff = 13.03 cfs @ 12.44 hrs, Volume= 1.379 af, Depth= 1.46"

Routed to Link 44L: Door Creek Combined

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area (ac)	CN	Description				
*	2.620	98	impervious				
	6.800	61	>75% Grass cover, Good, HSG B				
	0.246	80	>75% Grass cover, Good, HSG D				
*	1.695	70	Row crops, SR + CR, Good, HSG B				
	11.361	71	Weighted Average				
	8.741		76.94% Pervious Area				
	2.620		23.06% Impervious Area				

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	150	0.0300	0.18		Sheet Flow,
					Cultivated: Residue>20% n= 0.170 P2= 2.82"
2.3	150	0.0142	1.07		Shallow Concentrated Flow,
4.0	074	0.0400	0.04		Cultivated Straight Rows Kv= 9.0 fps
4.9	274	0.0180	0.94		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.5	1,619	0.0130	3.60	30.61	Trap/Vee/Rect Channel Flow,
7.0	1,010	0.0100	0.00	00.01	Bot.W=4.00' D=1.00' Z= 3.0 & 6.0 '/' Top.W=13.00'
					n= 0.035
0.6	159	0.0770	4.16		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
28.9	2,352	Total			

Summary for Subcatchment 46S: C28-A

Runoff 10.91 cfs @ 12.25 hrs, Volume= 0.858 af, Depth= 1.08"

Routed to Pond 45P: Culvert at 698+81

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac) (ON D	escrip	tion					
*	0.	950	98							
	2.920 61		61 >	>75% Grass cover, Good, HSG B						
	3.	110	55 W	oods,	Good,	HSG B				
*	2.	540	70 R	ow cro	ops, SF	R + CR, Goo	od, HSG B			
	9.520 65			Weighted Average						
	8.570			90.02% Pervious Area						
	0.950		9.	98% I						
					•					
	Тс	Length	Slop	e Ve	elocity	Capacity	Description			
	(min)	(feet)	(ft/1	t) (1	ft/sec)	(cfs)				
	12.0	140	0.195	0	0.19		Sheet Flow,			
							Woods: Light underbrush n= 0.400 P2= 2.82"			
	8.0	132	0.097	0	2.80		Shallow Concentrated Flow,			
							Cultivated Straight Rows Kv= 9.0 fps			
	1.7	509	0.035	0	4.98	39.82	Trap/Vee/Rect Channel Flow,			
							Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'			
_							n= 0.035			
	14.5	781	Total							

Summary for Subcatchment 47S: C28-B

10.84 cfs @ 12.14 hrs, Volume= 0.577 af, Depth= 1.88" Runoff

Routed to Pond 46P: Pond D

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

02_Post-DevelopmentConditions_WisDOT_PondEvalMSE 24-hr 4 10-yr Rainfall=4.09" Prepared by SCS Engineers Printed 9/27/2023

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	Area ((ac)	CN	Desc	cription							
*	1.0	023	98									
	2.	055	61	>759	P75% Grass cover, Good, HSG B							
_	0.0	603	98	Wate	er Surface	, HSG B						
	3.	681	77	Weig	ghted Aver	age						
	2.	055		55.8	3% Pervio	us Area						
	1.626 44.17% Impervious Area											
	_											
	Tc	Lengt		Slope	Velocity	Capacity	Description					
_	(min)	(fee	<u>t)</u>	(ft/ft)	(ft/sec)	(cfs)						
	4.7	8	7 (0.2900	0.31		Sheet Flow,					
							Grass: Dense n= 0.240 P2= 2.82"					
	1.4						Direct Entry, Increase to min TOC					
	6.1	8	7	Total								

Summary for Subcatchment 48S: C28-C1

Runoff = 2.60 cfs @ 12.14 hrs, Volume= 0.140 af, Depth= 1.46"

Routed to Pond 47P: Ramp B 706+25

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	Description						
*	0.	300	98								
	0.	850	61	>75%	√ Grass co	over, Good	, HSG B				
	1.150 71 Weighted Average										
	0.	850		73.9	1% Pervio	us Area					
	0.300 26.09% Imperv					ious Area					
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
	6.0				, ,	,	Direct Entry,				

Summary for Subcatchment 49S: C28-C2

Runoff = 11.39 cfs @ 12.23 hrs, Volume= 0.815 af, Depth= 1.59"

Routed to Link 44L: Door Creek Combined

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

02_Post-DevelopmentConditions_WisDOT_PondEval MSE 24-hr 4 10-yr Rainfall=4.09"

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	Area	(ac)	CN	Desc	cription				
*	1.	510	98						
	3.	400	61	>75%	√ Grass co	over, Good	, HSG B		
	1.	120	80	>75%	√ Grass co	over, Good	, HSG D		
	0.	110	55	Woo	ds, Good,	HSG B			
	6.	140	73	Weig	hted Aver	age			
	4.	630		75.4	1% Pervio	us Area			
	1.510			24.5	24.59% Impervious Area				
	Тс	Lengt	th	Slope	Velocity	Capacity	Description		
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)			
	8.9	13	0 0	0.3600	0.24		Sheet Flow,		
							Woods: Light underbrush n= 0.400 P2= 2.82"		
	4.7	1,30	5 0	0.0210	4.60	37.92	Trap/Vee/Rect Channel Flow,		
							Bot.W=4.00' D=1.00' Z= 6.0 & 2.5 '/' Top.W=12.50'		
_							n= 0.035		
	13.6	1,43	5 T	「otal					

Summary for Subcatchment 51S: Luds Lane

Runoff = 1.33 cfs @ 12.45 hrs, Volume= 0

0.143 af, Depth= 2.28"

Routed to Link 56L: Lag to Door Creek

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

	Area	(ac)	CN	Desc	cription		
*	0.	350	98				
*	0.	400	68				
	0.750 82 Weighted Average						
	0.400 53.33% Pervious Area						
	0.350 46.67% Impervious Area						
	Тс	Lengt		Slope	Velocity	Capacity	Description
	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,
	25.6	2,00	4 0.	.0210	1.30		Shallow Concentrated Flow,
							Cultivated Straight Rows Kv= 9.0 fps
	31.6	2,00	4 T	otal	•		

Summary for Subcatchment 52S: Proposed Stability Campus to Pond B

Runoff = 26.49 cfs @ 12.05 hrs, Volume= 1.293 af, Depth= 3.10" Routed to Pond 64P : Pond B-reduced_raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 10-yr Rainfall=4.09"

02_Post-DevelopmentConditions_WisDOT_PondEval MSE 24-hr 4 10-yr Rainfall=4.09"

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 Area (ac)	CN	Description
5.000	91	Urban industrial, 72% imp, HSG C
 1.400		28.00% Pervious Area
3.600		72.00% Impervious Area

Summary for Reach 20R: Overland Flow

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \bigcirc 0.00 \text{ hrs}$, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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= 3.00' Flow Area= 300.0 sf, Capacity= 1,515.22 cfs

10.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 30.0 '/' Top Width= 190.00'

Length= 2,474.0' Slope= 0.0057 '/'

Inlet Invert= 872.00', Outlet Invert= 858.00'



Summary for Pond 1P: Niebuhr Stormwater Pond

Inflow Area = 4.670 ac, 72.16% Impervious, Inflow Depth = 2.81" for 10-yr event

Inflow = 19.90 cfs @ 12.13 hrs, Volume= 1.095 af

Outflow = 2.32 cfs @ 12.63 hrs, Volume= 1.093 af, Atten= 88%, Lag= 30.0 min

Primary = 2.32 cfs @ 12.63 hrs, Volume= 1.093 af

Routed to Pond 2P: Storm Basin 2 with Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 884.99' @ 12.63 hrs Surf.Area= 26,344 sf Storage= 22,611 cf

Plug-Flow detention time= 125.0 min calculated for 1.093 af (100% of inflow)

Center-of-Mass det. time= 124.1 min (919.9 - 795.8)

Volume	Invert	Avail.Storage	Storage Description
#1	882.60'	54,584 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

02_Post-DevelopmentConditions_WisDOT_PondEval

MSE 24-hr 4 10-yr Rainfall=4.09"

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
882.60	0	0	0
883.00	275	55	55
884.00	9,336	4,806	4,860
885.00	26,430	17,883	22,743
886.00	37,251	31,841	54,584

Device	Routing	Invert	Outlet Devices
#1	Primary	883.00'	Special & User-Defined
	•		Head (feet) 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90
			1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10
			2.20 2.30 2.40 2.50
			Disch. (cfs) 0.000 0.030 0.070 0.140 0.210 0.290 0.380 0.480
			0.590 0.700 0.830 0.950 1.080 1.220 1.370 1.520 1.670 1.830
			1.990 2.160 2.330 2.510 2.690 2.880 3.070 3.260
#2	Primary	885.50'	10.0' 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=2.32 cfs @ 12.63 hrs HW=884.99' TW=878.74' (Dynamic Tailwater)

1=Special & User-Defined (Custom Controls 2.32 cfs)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: Storm Basin 2 with Infiltration

Inflow Area = 21.962 ac, 37.03% Impervious, Inflow Depth = 1.80" for 10-yr event

Inflow = 22.88 cfs @ 12.40 hrs, Volume= 3.290 af

Outflow = 13.01 cfs @ 12.77 hrs, Volume= 3.290 af, Atten= 43%, Lag= 22.5 min

Discarded = 0.32 cfs @ 12.77 hrs, Volume= 0.307 af Primary = 12.69 cfs @ 12.77 hrs, Volume= 2.983 af

Routed to Pond 9P: Culvert 534+50

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.79' @ 12.77 hrs Surf.Area= 0.543 ac Storage= 0.685 af

Plug-Flow detention time= 57.0 min calculated for 3.288 af (100% of inflow)

Center-of-Mass det. time= 57.1 min (932.8 - 875.7)

Volume	Invert	Avail.Storage	Storage Description
#1	877.20'	2.160 af	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
877.20	0.137	0.000	0.000
877.37	0.141	0.024	0.024
877.38	0.415	0.003	0.026
878.00	0.449	0.268	0.294
879.00	0.568	0.509	0.803
880.00	0.658	0.613	1.416
881.00	0.831	0.744	2.160

Device	Routing	Invert	Outlet Devices
#1	Primary	877.20'	18.0" Round Culvert X 2.00
	•		L= 25.0' CPP, end-section conforming to fill, Ke= 0.500
			Inlet / Outlet Invert= 877.20' / 877.10' S= 0.0040 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.20'	Special & User-Defined
			Head (feet) 0.00 0.20 0.40 0.60 0.80 1.00
			Disch. (cfs) 0.000 0.340 0.960 1.760 2.710 3.790
#3	Device 1	878.20'	30.0' long x 2.0' 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
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32
#4	Discarded	877.20'	0.500 in/hr Exfiltration over Surface area
			Conductivity to Groundwater Elevation = 870.00'
#5	Primary	880.00'	30.0' long x 6.0' 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 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
			2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.32 cfs @ 12.77 hrs HW=878.79' (Free Discharge) 4=Exfiltration (Controls 0.32 cfs)

Primary OutFlow Max=12.67 cfs @ 12.77 hrs HW=878.79' TW=876.59' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 12.67 cfs @ 4.22 fps)

2=Special & User-Defined (Passes < 3.79 cfs potential flow)

-3=Broad-Crested Rectangular Weir (Passes < 35.16 cfs potential flow)

-5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: Sheriff Phase 2 Bioretention

Inflow Area =	0.745 ac, 77.85% Impervious, Inflow	Depth = 3.00" for 10-yr event
Inflow =	3.34 cfs @ 12.13 hrs, Volume=	0.187 af
Outflow =	0.72 cfs @ 12.42 hrs, Volume=	0.157 af, Atten= 78%, Lag= 17.2 min
Discarded =	0.02 cfs @ 12.42 hrs, Volume=	0.046 af
Primary =	0.71 cfs @ 12.42 hrs, Volume=	0.111 af
Routed to Pond	d 2P : Storm Basin 2 with Infiltration	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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Peak Elev= 880.97' @ 12.42 hrs Surf.Area= 3,554 sf Storage= 4,237 cf

Plug-Flow detention time= 525.3 min calculated for 0.157 af (84% of inflow)

Income Accell Otensons Otensons Description

Center-of-Mass det. time= 467.2 min (1,256.7 - 789.4)

<u>Volume</u>	Invert	Avail.Sto	<u>rage Storage</u>	Description	
#1	879.50'	8,28	39 cf Custom	Stage Data (Prismatic)Listed	pelow (Recalc)
Elevation		ırf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
879.5	50	2,225	0	0	
880.0	00	2,651	1,219	1,219	
881.0	00	3,579	3,115	4,334	
881.5	50	4,080	1,915	6,249	
882.0	00	4,080	2,040	8,289	
Device	Routing	Invert	Outlet Device	8	
#1	Primary	879.50'	12.0" Round	Culvert	
	Š		L= 34.0' CP	, square edge headwall, Ke= 0	.500
			Inlet / Outlet I	nvert= 879.50' / 879.00' S= 0.0	147 '/' Cc= 0.900
			n= 0.013, Flo	w Area= 0.79 sf	
#2	Device 1	880.50'	12.0" W x 3.0	" H Vert. Orifice/Grate C= 0.6	00
			Limited to we	r flow at low heads	
#3	Device 1	881.00'	24.0" Horiz.	Orifice/Grate C= 0.600	
			Limited to we	r flow at low heads	
#4	Primary	881.50'	10.0' long x	2.0' breadth Broad-Crested Re	ectangular Weir
	·		Head (feet) (.20 0.40 0.60 0.80 1.00 1.20	1.40 1.60 1.80 2.00
			2.50 3.00 3.		
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2	2.70 2.77 2.89 2.88
			2.85 3.07 3.		
#5	Discarded	879.50'	0.500 in/hr E	diltration over Surface area a	bove 879.50'
				Groundwater Elevation = 875.	
				ace area = 2,225 sf	
				, -	

Discarded OutFlow Max=0.02 cfs @ 12.42 hrs HW=880.97' (Free Discharge) **5=Exfiltration** (Controls 0.02 cfs)

Primary OutFlow Max=0.71 cfs @ 12.42 hrs HW=880.97' TW=878.43' (Dynamic Tailwater)

-1=Culvert (Passes 0.71 cfs of 3.73 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.71 cfs @ 2.82 fps)

3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: Cnty-Storm Basin 1

Inflow Area = 2.220 ac, 90.54% Impervious, Inflow Depth = 3.41" for 10-yr event 10.83 cfs @ 12.13 hrs, Volume= 0.631 af 0.04 cfs @ 12.16 hrs, Volume= 0.620 af, Atten= 8%, Lag= 1.7 min 0.04 cfs @ 12.16 hrs, Volume= 0.058 af Primary = 9.97 cfs @ 12.16 hrs, Volume= 0.562 af

Routed to Pond 6P: County Pond - East

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 881.93' @ 12.16 hrs Surf.Area= 3,843 sf Storage= 5,620 cf

Plug-Flow detention time= 149.7 min calculated for 0.620 af (98% of inflow)

Center-of-Mass det. time= 141.0 min (914.9 - 773.8)

Volume	Invert	Avail.Sto	rage Storage	Description	
#1	879.72'	10,75	66 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevatio		ırf.Area	Inc.Store	Cum.Store	
(fee	t)	(sq-ft)	(cubic-feet)	(cubic-feet)	
879.7	2	1,306	0	0	
880.0	0	1,599	407	407	
881.0	0	2,711	2,155	2,562	
882.0	0	3,924	3,318	5,879	
883.0	0	5,830	4,877	10,756	
Device	Routing	Invert	Outlet Devices	3	
#1	Primary	879.72'	18.0" Round	Culvert	
	,		L= 66.5' RCF	, sq.cut end pro	pjecting, Ke= 0.500
			Inlet / Outlet Ir	nvert= 879.72' /	878.47' S= 0.0188 '/' Cc= 0.900
			n= 0.013, Flo	w Area= 1.77 sf	
#2	Device 1	880.72'	6.0" W x 6.0"	H Vert. Orifice	/Grate C= 0.600
			Limited to wei	r flow at low hea	ads
#3	Device 1	881.50'	36.0" Horiz. C	Orifice/Grate C	C= 0.600
			Limited to wei	r flow at low hea	ads
#4	Primary	882.74'	10.0' long x 4	4.0' breadth Bre	oad-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 3.5	50 4.00 4.50 5	.00 5.50
			Coef. (English) 2.38 2.54 2.0	69 2.68 2.67 2.67 2.65 2.66 2.66
			2.68 2.72 2.7	⁷ 3 2.76 2.79 2	.88 3.07 3.32
#5	Discarded	879.72'	0.500 in/hr Ex	diltration over	Surface area above 879.72'
			Conductivity to	Groundwater E	Elevation = 875.00'
			Excluded Surf	ace area = 1,30	6 sf

Discarded OutFlow Max=0.03 cfs @ 12.16 hrs HW=881.93' (Free Discharge) **5=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=9.82 cfs @ 12.16 hrs HW=881.93' TW=879.32' (Dynamic Tailwater)

-1=Culvert (Passes 9.82 cfs of 10.28 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.18 cfs @ 4.70 fps)

-3=Orifice/Grate (Weir Controls 8.64 cfs @ 2.14 fps)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5P: CNTY-Infiltration Basin #1

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Inflow Area = 4.165 ac, 37.45% Impervious, Inflow Depth = 1.96" for 10-yr event

Inflow = 7.98 cfs @ 12.31 hrs, Volume= 0.680 af

Outflow = 2.68 cfs @ 12.74 hrs, Volume= 0.648 af, Atten= 66%, Lag= 25.6 min

Discarded = 0.09 cfs @ 12.74 hrs, Volume= 0.127 af Primary = 2.58 cfs @ 12.74 hrs, Volume= 0.521 af

Routed to Pond 6P: County Pond - East

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 882.82' @ 12.74 hrs Surf.Area= 10,110 sf Storage= 12,854 cf

Plug-Flow detention time= 309.4 min calculated for 0.648 af (95% of inflow)

Center-of-Mass det. time= 285.1 min (1,120.2 - 835.1)

Volume	Inver	t Avail.Sto	rage Storage	Description	
#1	880.71	30,08	38 cf Custom	Stage Data (Pri	ismatic)Listed below (Recalc)
Elevation	on S	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
880.7	71	3,155	0	0	
881.0	00	3,568	975	975	
882.0	00	6,526	5,047	6,022	
883.0	00	10,890	8,708	14,730	
884.0	00	19,826	15,358	30,088	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	880.71'	12.0" Round		
					jecting, Ke= 0.500
			Inlet / Outlet I	nvert= 880.71' / 8	380.28' S= 0.0083 '/' Cc= 0.900
				ow Area= 0.79 sf	
#2	Device 1	881.71'			e/Grate C= 0.600
				ir flow at low head	
#3	Device 1	882.71'		Orifice/Grate Ca	
				ir flow at low head	
#4	Primary	883.49'			oad-Crested Rectangular Weir
					0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.		
			, -	•	31 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.		
#5	Discarded	l 880.71'			Surface area above 880.71'
			Conductivity t	o Groundwater E	levation = 875.00'

Discarded OutFlow Max=0.09 cfs @ 12.74 hrs HW=882.82' (Free Discharge) **5=Exfiltration** (Controls 0.09 cfs)

Primary OutFlow Max=2.58 cfs @ 12.74 hrs HW=882.82' TW=879.23' (Dynamic Tailwater)

Excluded Surface area = 3,155 sf

-1=Culvert (Passes 2.58 cfs of 4.42 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.82 cfs @ 3.64 fps)

-3=Orifice/Grate (Weir Controls 0.76 cfs @ 1.09 fps)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Summary for Pond 6P: County Pond - East

Inflow Area = 15.375 ac, 65.89% Impervious, Inflow Depth = 2.54" for 10-yr event

Inflow 48.68 cfs @ 12.13 hrs, Volume= 3.259 af

20.32 cfs @ 12.28 hrs, Volume= 20.32 cfs @ 12.28 hrs, Volume= Outflow 3.251 af, Atten= 58%, Lag= 8.7 min

Primary 3.251 af

Routed to Pond 9P: Culvert 534+50

Invert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 879.57' @ 12.28 hrs Surf.Area= 23,165 sf Storage= 44,868 cf

Plug-Flow detention time= 110.7 min calculated for 3.251 af (100% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 108.9 min (923.7 - 814.9)

VOIGITIC	IIIVCII	, , (vaii.Oto	lage Clorag	c Description	
#1	877.19	101,76	64 cf Custor	m Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation		urf.Area	Inc.Store	Cum.Store	
(feet))	(sq-ft)	(cubic-feet)	(cubic-feet)	
877.19)	14,796	0	0	
878.00		17,475	13,070	13,070	
879.00		20,998	19,237	32,306	
880.00		24,807	22,903	55,209	
881.00		33,736	29,272	84,480	
881.50)	35,400	17,284	101,764	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	877.20'	18.0" Roun	d Culvert X 2.00	
					onforming to fill, Ke= 0.500
					877.00' S= 0.0063 '/' Cc= 0.900
			•	low Area= 1.77 sf	
#2	Device 1	877.20'		ser-Defined	
			Head (feet) 2.00	0.00 0.20 0.40	0.60 0.80 1.00 1.20 1.40 1.60 1.80
				0.000 0.100 0.4	00 0.800 1.500 2.500 3.400 4.500
			5.600 6.900		00 0.800 1.300 2.300 3.400 4.300
#3	Device 1	879.20'			oad-Crested Rectangular Weir
,, •		0.0.20			0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3		
			Coef. (Englis	sh) 2.54 2.61 2.6	61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3		
#4 l	Primary	880.00'	30.0' long 3	k 6.0' breadth Bre	oad-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
				3.50 4.00 4.50 5	
					70 2.68 2.68 2.67 2.65 2.65 2.65
			2.65 2.66 2	2.66 2.67 2.69 2	.72 2.76 2.83

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Primary OutFlow Max=20.29 cfs @ 12.28 hrs HW=879.57' TW=876.69' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 20.29 cfs @ 5.74 fps)

2=Special & User-Defined (Passes < 8.30 cfs potential flow)

-3=Broad-Crested Rectangular Weir (Passes < 38.95 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 9P: Culvert 534+50

Inflow Area = 38.657 ac, 47.50% Impervious, Inflow Depth = 1.97" for 10-yr event

Inflow = 29.54 cfs @ 12.48 hrs, Volume= 6.346 af

Outflow = 29.54 cfs @ 12.48 hrs, Volume= 6.346 af, Atten= 0%, Lag= 0.0 min

Primary = 29.54 cfs @ 12.48 hrs, Volume= 6.346 af

Routed to Pond 57P: 187+00 42" Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 876.91' @ 12.48 hrs

 Device
 Routing
 Invert
 Outlet Devices

 #1
 Primary
 875.00'
 53.0" W x 34.0" H, R=47.9" Elliptical RCP_Elliptical 53x34

 L= 128.0'
 Ke= 0.270

 Inlet / Outlet Invert= 875.00' / 874.50'
 S= 0.0039 '/' Cc= 0.900

 n= 0.012, Flow Area= 10.20 sf

Primary OutFlow Max=29.21 cfs @ 12.48 hrs HW=876.89' TW=875.41' (Dynamic Tailwater) 1=RCP_Elliptical 53x34 (Barrel Controls 29.21 cfs @ 5.71 fps)

Summary for Pond 13P: Culvert at Ramp A 690+50

Inflow Area = 3.410 ac, 26.10% Impervious, Inflow Depth = 1.66" for 10-yr event

Inflow = 8.04 cfs @ 12.16 hrs, Volume= 0.472 af

Outflow = 8.04 cfs @ 12.16 hrs, Volume= 0.472 af, Atten= 0%, Lag= 0.0 min

Primary = 8.04 cfs @ 12.16 hrs, Volume= 0.472 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 879.46' @ 12.16 hrs

Primary OutFlow Max=7.81 cfs @ 12.16 hrs HW=879.44' TW=873.69' (Dynamic Tailwater)
—1=Culvert (Inlet Controls 7.81 cfs @ 4.45 fps)

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Summary for Pond 14P: Culvert at Millpond 387+00

Inflow Area = 180.907 ac, 17.94% Impervious, Inflow Depth > 1.39" for 10-yr event

Inflow 88.46 cfs @ 12.45 hrs, Volume= 20.909 af

88.46 cfs @ 12.45 hrs, Volume= Outflow 20.909 af, Atten= 0%, Lag= 0.0 min

Primary = 88.46 cfs @ 12.45 hrs, Volume= 20.909 af Routed to Pond 64P: Pond B-reduced raised 1 ft and raised spillway

Routing by Dvn-Stor-Ind method. Time Span= 0.00-72.00 hrs. dt= 0.05 hrs / 3 Peak Elev= 874.16' @ 12.45 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	871.30'	48.0" Round Culvert X 2.00
			L= 92.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 871.30' / 871.00' S= 0.0033 '/' Cc= 0.900
			n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=88.40 cfs @ 12.45 hrs HW=874.15' TW=872.58' (Dynamic Tailwater) 1=Culvert (Barrel Controls 88.40 cfs @ 6.46 fps)

Summary for Pond 16P: Culvert 509+94 (NB CTH AB)

3.560 ac, 1.12% Impervious, Inflow Depth = 0.97" for 10-yr event Inflow Area =

Inflow 2.74 cfs @ 12.39 hrs, Volume= 0.287 af

Outflow 2.74 cfs @ 12.39 hrs, Volume= 0.287 af, Atten= 0%, Lag= 0.0 min

2.74 cfs @ 12.39 hrs, Volume= 0.287 af Primary

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.61' @ 12.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	878.00'	24.0" Round Culvert
			L= 178.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 878.00' / 876.00' S= 0.0112 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=2.72 cfs @ 12.39 hrs HW=878.61' TW=874.12' (Dynamic Tailwater) 1=Culvert (Inlet Controls 2.72 cfs @ 3.33 fps)

Summary for Pond 18P: Culvert 505+79 (NB CTH AB)

Inflow Area = 14.235 ac, 12.61% Impervious, Inflow Depth = 1.20" for 10-yr event

Inflow 11.71 cfs @ 12.53 hrs, Volume= 1.424 af

11.71 cfs @ 12.53 hrs, Volume= 1.424 af, Atten= 0%, Lag= 0.0 min Outflow =

11.71 cfs @ 12.53 hrs, Volume= 1.424 af Primary =

Routed to Pond 58P: Culvert 395+33 (Millpond)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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Peak Elev= 879.47' @ 12.54 hrs

Device	Routing	Invert	Outlet Devices	
#1	Primary	877.97'	30.0" Round Culvert	
	-		L= 128.0' RCP, groove end w/headwall, Ke= 0.200	
			Inlet / Outlet Invert= 877.97' / 877.05' S= 0.0072 '/' Cc= 0.900	
			n= 0.012, Flow Area= 4.91 sf	

Primary OutFlow Max=11.66 cfs @ 12.53 hrs HW=879.47' TW=878.40' (Dynamic Tailwater) 1=Culvert (Outlet Controls 11.66 cfs @ 5.46 fps)

Summary for Pond 19P: Landfill Pond

Inflow Area = 28.420 ac, 1.16% Impervious, Inflow Depth = 2.12" for 10-yr event

Inflow = 78.39 cfs @ 12.19 hrs, Volume= 5.012 af

Outflow = 11.91 cfs @ 12.73 hrs, Volume= 4.995 af, Atten= 85%, Lag= 32.6 min

Primary = 11.91 cfs @ 12.73 hrs, Volume= 4.995 af

Routed to Pond 22P: 36" Culvert 182+00

Volume

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 881.36' @ 12.73 hrs Surf.Area= 1.045 ac Storage= 2.435 af

Plug-Flow detention time= 355.4 min calculated for 4.995 af (100% of inflow)

Invert Avail.Storage Storage Description

Center-of-Mass det. time= 353.4 min (1,174.9 - 821.5)

#1	877.33'	6.106 af Cus	stom Stage Data (Prismatic)Listed below (Recalc)	<u>.</u>
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)	
877.33	0.334	0.000	0.000	
878.00	0.401	0.246	0.246	
879.00	0.497	0.449	0.695	
880.00	0.661	0.579	1.274	
881.00	0.952	0.806	2.081	
882.00	1.214	1.083	3.164	
883.00	1.487	1.350	4.514	
884.00	1.697	1.592	6.106	
Device P	outing	Invert Outlet F	Davicas	

Device	Routing	invert	Outlet Devices
#1	Primary	877.33'	18.0" Round Culvert
			L= 69.6' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 877.33' / 875.77' S= 0.0224 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.33'	1.0" Vert. Orifice/Grate X 7.00 C= 0.600
			Limited to weir flow at low heads
#3	Device 1	877.68'	1.0" Vert. Orifice/Grate X 8.00 C= 0.600
			Limited to weir flow at low heads
#4	Device 1	878.03'	1.0" Vert. Orifice/Grate X 9.00 C= 0.600
			Limited to weir flow at low heads
#5	Device 1	879.77'	18.0" Horiz. Orifice/Grate C= 0.600

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Limited to weir flow at low heads

#6 Primary 882.66'

10.0' long x 10.0' breadth Broad-Crested Rectangular Weir

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=11.91 cfs @ 12.73 hrs HW=881.35' TW=875.57' (Dynamic Tailwater)

1=Culvert (Passes 11.91 cfs of 15.40 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.37 cfs @ 9.61 fps)

-3=Orifice/Grate (Orifice Controls 0.40 cfs @ 9.18 fps)

-4=Orifice/Grate (Orifice Controls 0.43 cfs @ 8.72 fps)

5=Orifice/Grate (Orifice Controls 10.71 cfs @ 6.06 fps)

-6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 22P: 36" Culvert 182+00

Inflow Area = 37.914 ac, 10.10% Impervious, Inflow Depth > 2.07" for 10-yr event

Inflow = 30.18 cfs @ 12.24 hrs, Volume= 6.552 af

Outflow = 30.18 cfs @ 12.24 hrs, Volume= 6.552 af, Atten= 0%, Lag= 0.0 min

Primary = 30.18 cfs @ 12.24 hrs, Volume= 6.552 af

Routed to Pond 64P: Pond B-reduced raised 1 ft and raised spillway

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 876.10' @ 12.24 hrs

Device Routing Invert Outlet Devices

#1 Primary 874.00' **36.0" Round Culvert**

L= 289.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 874.00' / 871.00' S= 0.0104 '/' Cc= 0.900

Inlet / Outlet Invert= 874.00' / 871.00' S= 0.0104 '/' Cc= 0.90 n= 0.014. Flow Area= 7.07 sf

Primary OutFlow Max=29.94 cfs @ 12.24 hrs HW=876.09' TW=872.10' (Dynamic Tailwater) 1=Culvert (Barrel Controls 29.94 cfs @ 8.00 fps)

Summary for Pond 24P: YH1 - Pond

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth = 1.20" for 10-yr event

Inflow = 39.35 cfs @ 12.85 hrs, Volume= 6.643 af

Outflow = 3.44 cfs @ 14.82 hrs, Volume= 6.302 af, Atten= 91%, Lag= 118.7 min

Primary = 3.44 cfs @ 14.82 hrs, Volume= 6.302 af

Routed to Pond 25P: Small Depression

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 896.70' @ 17.10 hrs Surf.Area= 142,180 sf Storage= 183,306 cf

Plug-Flow detention time= 748.4 min calculated for 6.298 af (95% of inflow)

Center-of-Mass det. time= 723.7 min (1,620.0 - 896.2)

Volume	Invert	Avail.Storage	Storage Description
#1	895.00'	437,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
895.00	94,949	0	0
896.00	101,543	98,246	98,246
897.00	159,762	130,653	228,899
898.00	257,486	208,624	437,523

Device	Routing	Invert	Outlet Devices	
#1	Primary	895.00'	12.0" Round Culvert	
	•		L= 140.0' RCP, mitered to conform to fill, Ke= 0.700	
			Inlet / Outlet Invert= 895.00' / 894.00' S= 0.0071 '/' Cc= 0.900	
			n= 0.012, Flow Area= 0.79 sf	
#2	Primary	897.00'	10.0' long x 100.0' breadth Broad-Crested Rectangular Weir	
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60	
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63	

Primary OutFlow Max=3.44 cfs @ 14.82 hrs HW=896.62' TW=895.00' (Dynamic Tailwater)

1=Culvert (Outlet Controls 3.44 cfs @ 4.38 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 25P: Small Depression

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 1.14" for 10-yr event

Inflow = 3.44 cfs @ 14.82 hrs, Volume= 6.302 af

Outflow = 3.23 cfs @ 20.17 hrs, Volume= 6.280 af, Atten= 6%, Lag= 320.7 min

Primary = 3.23 cfs @ 20.17 hrs, Volume= 6.280 af

Routed to Pond 58P: Culvert 395+33 (Millpond)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 895.23' @ 20.17 hrs Surf.Area= 18,860 sf Storage= 14,227 cf

Plug-Flow detention time= 72.7 min calculated for 6.280 af (100% of inflow)

Avail Storage Storage Description

Center-of-Mass det. time= 63.4 min (1,683.4 - 1,620.0)

Invert

Volume

volume	IIIV	eri Avali.Sio	rage Storage	Description	
#1	894.	00' 33,8	74 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevation	on	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
894.0	00	5,815	0	0	
895.0	00	14,871	10,343	10,343	
896.0	00	32,190	23,531	33,874	
Device	Routing	Invert	Outlet Devices	S	
#1	Primary	894.00'	12.0" Round		
					rojecting, Ke= 0.500
			· -		892.00' S= 0.0098 '/' Cc= 0.900
	. .	005 501	•	w Area= 0.79 sf	
#2	Primary	895.50'			road-Crested Rectangular Weir
					0.80 1.00 1.20 1.40 1.60
			Coei. (English	1) 2.00 2.70 2.	70 2.64 2.63 2.64 2.64 2.63

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Primary OutFlow Max=3.23 cfs @ 20.17 hrs HW=895.23' TW=876.78' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 3.23 cfs @ 4.11 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 28P: 12/18 140+35

Inflow Area = 9.510 ac, 26.18% Impervious, Inflow Depth = 1.45" for 10-yr event

Inflow = 15.79 cfs @ 12.22 hrs, Volume= 1.148 af

Outflow = 15.79 cfs @ 12.22 hrs, Volume= 1.148 af, Atten= 0%, Lag= 0.0 min

Primary = 15.79 cfs @ 12.22 hrs, Volume= 1.148 af

Routed to Pond 59P: Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 862.37' @ 12.22 hrs

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Device Routing Invert Outlet Devices

#1 Primary

860.79'

45.0" W x 29.0" H, R=39.2" Elliptical RCP_Elliptical 45x29

L= 310.0' RCP, groove end w/headwall, Ke= 0.200

Inlet / Outlet Invert= 860.79' / 859.89' S= 0.0029 '/' Cc= 0.900

n= 0.015, Flow Area= 7.36 sf

Primary OutFlow Max=15.45 cfs @ 12.22 hrs HW=862.35' TW=859.93' (Dynamic Tailwater) 1=RCP_Elliptical 45x29 (Barrel Controls 15.45 cfs @ 4.36 fps)

Summary for Pond 32P: Long Drive 440+35

Inflow Area = 4.570 ac, 14.44% Impervious, Inflow Depth = 1.14" for 10-yr event

Inflow = 5.43 cfs @ 12.26 hrs, Volume= 0.434 af

Outflow = 5.43 cfs @ 12.26 hrs, Volume= 0.434 af, Atten= 0%, Lag= 0.0 min

Primary = 5.43 cfs @ 12.26 hrs, Volume= 0.434 af

Routed to Pond 28P: 12/18 140+35

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 862.75' @ 12.24 hrs

 Device
 Routing
 Invert
 Outlet Devices

 #1
 Primary
 861.50'
 24.0" Round Culvert

 L= 62.0'
 RCP, groove end w/headwall, Ke= 0.200

 Inlet / Outlet Invert= 861.50' / 860.80'
 S= 0.0113 '/'
 Cc= 0.900

 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=5.37 cfs @ 12.26 hrs HW=862.73' TW=862.31' (Dynamic Tailwater) 1=Culvert (Outlet Controls 5.37 cfs @ 3.79 fps)

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Summary for Pond 34P: YH3-Pond

Inflow Area = 204.006 ac, 4.43% Impervious, Inflow Depth > 0.93" for 10-yr event

Inflow = 88.93 cfs @ 12.75 hrs, Volume= 15.891 af

Outflow = 14.51 cfs @ 15.44 hrs, Volume= 14.858 af, Atten= 84%, Lag= 161.3 min

Primary = 14.51 cfs @ 15.44 hrs, Volume= 14.858 af

Routed to Pond 38P: YH6-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 859.82' @ 15.37 hrs Surf.Area= 210,306 sf Storage= 350,652 cf

Plug-Flow detention time= 521.1 min calculated for 14.848 af (93% of inflow)

Center-of-Mass det. time= 473.4 min (1,410.5 - 937.2)

Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	858.0	00' 1,137,52	23 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevatio (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
858.0	0	182,909	0	0	
859.0	0	191,060	186,985	186,985	
860.0	0	214,659	202,860	389,844	
861.0	0	320,867	267,763	657,607	
862.0	0	638,965	479,916	1,137,523	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	858.00'	36.0" Round	l Culvert	
	·		Inlet / Outlet I		projecting, Ke= 0.500 855.00' S= 0.0028 '/' Cc= 0.900

Primary OutFlow Max=14.51 cfs @ 15.44 hrs HW=859.82' TW=856.90' (Dynamic Tailwater)
1-Culvert (Outlet Controls 14.51 cfs @ 4.65 fps)

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 36P: YH4-Pond

860.50' **125.0' long x 60.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.63

Inflow Area = 12.220 ac, 4.26% Impervious, Inflow Depth = 1.08" for 10-yr event

Inflow = 11.48 cfs @ 12.35 hrs, Volume= 1.101 af

Outflow = 2.12 cfs @ 13.43 hrs, Volume= 1.076 af, Atten= 82%, Lag= 65.2 min

Primary = 2.12 cfs @ 13.43 hrs, Volume= 1.076 af

Routed to Pond 34P: YH3-Pond

#2

Primary

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 861.88' @ 13.43 hrs Surf.Area= 28,967 sf Storage= 22,302 cf

Plug-Flow detention time= 343.3 min calculated for 1.076 af (98% of inflow) Center-of-Mass det. time= 332.9 min (1,201.0 - 868.1)

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Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	861.0	00' 64,00	01 cf Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
861.0 862.0 863.0)0)0	21,906 29,959 46,178	0 25,933 38,069	0 25,933 64,001	
Device	Routing	Invert	Outlet Devices	S	
#1	Primary	861.00'	Inlet / Outlet In	CP, sq.cut end p	rojecting, Ke= 0.500 859.76' S= 0.0050 '/' Cc= 0.900
#2	Primary	861.80'	20.0' long x ! Head (feet) 0	50.0' breadth B .20 0.40 0.60	Broad-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=2.12 cfs @ 13.43 hrs HW=861.88' TW=859.45' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 0.98 cfs @ 2.82 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 1.14 cfs @ 0.74 fps)

Summary for Pond 37P: YH5 - Pond

Inflow Area = 2.350 ac, 51.91% Impervious, Inflow Depth = 2.12" for 10-yr event

Inflow = 7.49 cfs @ 12.15 hrs, Volume= 0.414 af

Outflow = 0.24 cfs @ 15.09 hrs, Volume= 0.355 af, Atten= 97%, Lag= 176.3 min

Primary = 0.24 cfs @ 15.09 hrs, Volume= 0.355 af

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 865.31' @ 15.09 hrs Surf.Area= 40,593 sf Storage= 12,358 cf

Plug-Flow detention time= 849.4 min calculated for 0.355 af (86% of inflow)

Center-of-Mass det. time= 792.3 min (1,610.4 - 818.1)

Volume	In	vert Avail.St	orage Storage	Description	
#1	865	.00' 93,4	114 cf Custon	n Stage Data (P	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
865.0	00	38,602	0	0	
866.0	00	44,980	41,791	41,791	
867.0	00	58,266	51,623	93,414	
Device	Routing	g Invert	Outlet Device	es	
#1	Primar	y 866.50°			Broad-Crested Rectangular Weir
			, ,		0.80 1.00 1.20 1.40 1.60
40	Duine e m	. 005.00	, ,	,	70 2.64 2.63 2.64 2.64 2.63
#2	Primar	/ 865.00	8.0" Round	Cuivert	

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L= 170.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 865.00' / 864.15' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.24 cfs @ 15.09 hrs HW=865.31' TW=859.81' (Dynamic Tailwater)

1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Barrel Controls 0.24 cfs @ 2.19 fps)

Summary for Pond 38P: YH6-Pond

Inflow Area = 303.663 ac, 5.11% Impervious, Inflow Depth > 0.96" for 10-yr event

Inflow = 77.17 cfs @ 12.54 hrs, Volume= 24.326 af

Outflow = 32.63 cfs @ 13.34 hrs, Volume= 24.326 af, Atten= 58%, Lag= 48.5 min

Primary = 32.63 cfs @ 13.34 hrs, Volume= 24.326 af

Routed to Link 36L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Starting Elev= 856.60' Surf.Area= 282,460 sf Storage= 556,446 cf

Peak Elev= 857.01' @ 13.34 hrs Surf.Area= 300,438 sf Storage= 677,324 cf (120,878 cf above start)

Plug-Flow detention time= 785.2 min calculated for 11.552 af (47% of inflow)

Center-of-Mass det. time= 40.9 min (1,243.9 - 1,203.0)

Volume	Invert	Avail.Storage	Storage Description
#1	854.63'	2,032,289 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
854.63	282,460	0	0
856.60	282,460	556,446	556,446
857.00	299,898	116,472	672,918
858.00	336,652	318,275	991,193
859.00	486,957	411,805	1,402,997
860.00	771,626	629,292	2,032,289

Device	Routing	Invert	Outlet Devices
#1	Primary	854.63'	42.0" Round Culvert X 2.00

L= 28.0' CMP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900

n= 0.024, Flow Area= 9.62 sf

Primary OutFlow Max=32.63 cfs @ 13.34 hrs HW=857.01' TW=856.60' (Dynamic Tailwater) 1=Culvert (Outlet Controls 32.63 cfs @ 3.30 fps)

Summary for Pond 41P: AB 520+90

Inflow Area = 3.250 ac, 21.54% Impervious, Inflow Depth = 1.39" for 10-yr event

Inflow = 6.11 cfs @ 12.17 hrs, Volume= 0.376 af

Outflow = 6.11 cfs @ 12.17 hrs, Volume= 0.376 af, Atten= 0%, Lag= 0.0 min

Primary = 6.11 cfs @ 12.17 hrs, Volume= 0.376 af

Routed to Pond 54P: Pond C

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Device	Routing	Invert	Outlet Devices
#1	Primary	875.61'	24.0" Round Culvert
			L= 335.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 875.61' / 874.00' S= 0.0048 '/' Cc= 0.900
			n= 0.012. Flow Area= 3.14 sf

Primary OutFlow Max=5.92 cfs @ 12.17 hrs HW=876.73' TW=874.77' (Dynamic Tailwater) 1=Culvert (Barrel Controls 5.92 cfs @ 4.75 fps)

Summary for Pond 43P: Ramp C 805+00

Inflow Area = 7.982 ac, 32.15% Impervious, Inflow Depth > 1.73" for 10-yr event Inflow 2.63 cfs @ 12.14 hrs, Volume= 1.149 af

2.63 cfs @ 12.14 hrs, Volume= Outflow 1.149 af. Atten= 0%. Lag= 0.0 min

2.63 cfs @ 12.14 hrs, Volume= 1.149 af Primary

Routed to Link 44L: Door Creek Combined

Peak Elev= 876.75' @ 12.17 hrs

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 874.06' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	873.30'	24.0" Round Culvert
	_		L= 92.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 873.30' / 872.90' S= 0.0043 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=2.59 cfs @ 12.14 hrs HW=874.05' TW=0.00' (Dynamic Tailwater) 1=Culvert (Barrel Controls 2.59 cfs @ 3.58 fps)

Summary for Pond 45P: Culvert at 698+81

9.520 ac, 9.98% Impervious, Inflow Depth = 1.08" for 10-yr event Inflow Area =

Inflow 10.91 cfs @ 12.25 hrs, Volume= 0.858 af

10.91 cfs @ 12.25 hrs, Volume= 10.91 cfs @ 12.25 hrs, Volume= Outflow 0.858 af, Atten= 0%, Lag= 0.0 min

Primary 0.858 af

Routed to Pond 46P: Pond D

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 880.39' @ 12.25 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	879.00'	30.0" Round Culvert
			L= 167.0' RCP, groove end w/headwall, Ke= 0.200

Inlet / Outlet Invert= 879.00' / 878.00' S= 0.0060 '/' Cc= 0.900

n= 0.012, Flow Area= 4.91 sf

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Primary OutFlow Max=10.91 cfs @ 12.25 hrs HW=880.39' TW=877.19' (Dynamic Tailwater) 1=Culvert (Barrel Controls 10.91 cfs @ 5.62 fps)

Summary for Pond 46P: Pond D

Inflow Area = 13.201 ac, 19.51% Impervious, Inflow Depth = 1.30" for 10-yr event

18.50 cfs @ 12.17 hrs, Volume= 1.435 af Inflow =

1.71 cfs @ 13.64 hrs, Volume= Outflow 1.427 af, Atten= 91%, Lag= 88.4 min =

1.71 cfs @ 13.64 hrs, Volume= 1.427 af Primary =

Routed to Pond 51P: Pond D Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.30' @ 13.64 hrs Surf.Area= 0.376 ac Storage= 0.772 af

Plug-Flow detention time= 380.4 min calculated for 1.426 af (99% of inflow)

Center-of-Mass det. time= 378.7 min (1,225.1 - 846.5)

Volume	Inve	ert Avail.Stor	age St	torage Description
#1	876.0	0' 1.46	9 af C ı	ustom Stage Data (Prismatic)Listed below (Recalc)
	_			
Elevation			nc.Store	· · · · · · · · · · · · · · · · · · ·
(fee	et) (acres) (a	cre-feet)	<u>(acre-feet)</u>
876.0	00	0.299	0.000	0.000
877.0	00	0.331	0.315	0.315
878.0	00	0.364	0.347	0.662
879.0	00	0.404	0.384	1.046
880.0	00	0.442	0.423	3 1.469
Device	Routing	Invert	Outlet	t Devices
#1	Primary	876.00'	18.0"	Round Culvert
	•		L= 46.	.0' RCP, square edge headwall, Ke= 0.500
				Outlet Invert= 876.00' / 875.50' S= 0.0109 '/' Cc= 0.900
			n = 0.0	012, Flow Area= 1.77 sf
#2	Device 1	876.00'	6.0" V	/ert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	878.25'	15.0' I	long x 6.0' breadth Broad-Crested Rectangular Weir
	,			(feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
				3.00 3.50 4.00 4.50 5.00 5.50
			Coef.	(English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65

2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=1.70 cfs @ 13.64 hrs HW=878.30' TW=875.85' (Dynamic Tailwater)

-1=Culvert (Passes 1.35 cfs of 10.58 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.35 cfs @ 6.89 fps)

-3=Broad-Crested Rectangular Weir (Weir Controls 0.35 cfs @ 0.51 fps)

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Summary for Pond 47P: Ramp B 706+25

Inflow Area = 14.351 ac, 20.04% Impervious, Inflow Depth = 1.01" for 10-yr event

Inflow 2.60 cfs @ 12.14 hrs, Volume= 1.210 af

2.60 cfs @ 12.14 hrs, Volume= Outflow 1.210 af, Atten= 0%, Lag= 0.0 min

2.60 cfs @ 12.14 hrs, Volume= Primary = 1.210 af

Routed to Link 44L: Door Creek Combined

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878.00

879.00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 874.35' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	873.75'	24.0" Round Culvert
			L= 111.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 873.75' / 872.00' S= 0.0158 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=2.50 cfs @ 12.14 hrs HW=874.34' TW=0.00' (Dynamic Tailwater) 1=Culvert (Inlet Controls 2.50 cfs @ 3.26 fps)

Summary for Pond 51P: Pond D Infiltration

Inflow Area =	13.201 ac, 19.51% Impervious, Inflow D	epth > 1.30" for 10-yr event
Inflow =	1.71 cfs @ 13.64 hrs, Volume=	1.427 af
Outflow =	0.82 cfs @ 22.19 hrs, Volume=	1.414 af, Atten= 52%, Lag= 513.0 min
Discarded =	0.08 cfs @ 22.19 hrs, Volume=	0.344 af
Primary =	0.73 cfs @ 22.19 hrs, Volume=	1.070 af
Routed to Pond	d 47P : Ramp B 706+25	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

23,894

27,119

Peak Elev= 876.60' @ 22.19 hrs Surf.Area= 20,959 sf Storage= 21,851 cf

Plug-Flow detention time= 522.8 min calculated for 1.413 af (99% of inflow) Center-of-Mass det. time= 504.6 min (1,729.8 - 1,225.1)

22,845

25,507

Volume	Invert	Avail.Storage	Storage	Description	
#1	875.50'	78,680 cf	Custom	Stage Data (Pr	ismatic)Listed below (Recalc)
Elevation (feet)	Surf. <i>A</i> (se		c.Store ic-feet)	Cum.Store (cubic-feet)	
875.50	18,	668	0	0	
876.00	19,	685	9,588	9,588	
877.00	21,	796	20,741	30,329	

53,174

78,680

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Device	Routing	Invert	Outlet Devices
#1	Primary	875.50'	12.0" Round Culvert
	•		L= 46.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 875.50' / 875.35' S= 0.0033 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Device 1	875.75'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	878.00'	48.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	878.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Discarded	875.50'	0.140 in/hr Exfiltration over Horizontal area
			Conductivity to Groundwater Elevation = 870.00'

Discarded OutFlow Max=0.08 cfs @ 22.19 hrs HW=876.60' (Free Discharge) **5=Exfiltration** (Controls 0.08 cfs)

Primary OutFlow Max=0.73 cfs @ 22.19 hrs HW=876.60' TW=874.07' (Dynamic Tailwater)

-1=Culvert (Passes 0.73 cfs of 2.33 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.73 cfs @ 3.74 fps)

-3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 54P: Pond C

Inflow Area = 7.094 ac, 32.79% Impervious, Inflow Depth = 1.78" for 10-yr event

Inflow = 18.47 cfs @ 12.14 hrs, Volume= 1.054 af

Outflow = 1.02 cfs @ 13.62 hrs, Volume= 1.041 af, Atten= 94%, Lag= 88.6 min

Primary = 1.02 cfs @ 13.62 hrs, Volume= 1.041 af

Routed to Pond 43P: Ramp C 805+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 875.41' @ 13.62 hrs Surf.Area= 0.475 ac Storage= 0.612 af

Plug-Flow detention time= 389.7 min calculated for 1.040 af (99% of inflow)

Center-of-Mass det. time= 384.0 min (1,210.4 - 826.4)

Volume	Invert	Avail.Storage	Storage Description
#1	874.00'	2.703 af	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
874.00	0.393	0.000	0.000
875.00	0.451	0.422	0.422
876.00	0.509	0.480	0.902
877.00	0.569	0.539	1.441
878.00	0.631	0.600	2.041
879.00	0.693	0.662	2.703

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Device	Routing	Invert	Outlet Devices
#1	Primary	874.00'	12.0" Round Culvert
			L= 41.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 874.00' / 873.80' S= 0.0049 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Device 1	874.00'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	877.00'	48.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	878.00'	20.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.02 cfs @ 13.62 hrs HW=875.41' TW=873.79' (Dynamic Tailwater)

-1=Culvert (Passes 1.02 cfs of 3.06 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.02 cfs @ 5.19 fps)

-3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 57P: 187+00 42" Culvert

43.792 ac, 47.85% Impervious, Inflow Depth = 1.99" for 10-yr event Inflow Area =

35.97 cfs @ 12.20 hrs, Volume= Inflow 7.266 af

35.97 cfs @ 12.20 hrs, Volume= Outflow = 7.266 af, Atten= 0%, Lag= 0.0 min

35.97 cfs @ 12.20 hrs, Volume= 7.266 af Primary

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 875.42' @ 12.43 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	872.70'	42.0" Round Culvert
			L= 297.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 872.70' / 871.50' S= 0.0040 '/' Cc= 0.900
			n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=35.82 cfs @ 12.20 hrs HW=875.38' TW=873.84' (Dynamic Tailwater) **T_1=Culvert** (Outlet Controls 35.82 cfs @ 6.25 fps)

Summary for Pond 58P: Culvert 395+33 (Millpond)

114.625 ac, 5.66% Impervious, Inflow Depth > 1.11" for 10-yr event Inflow Area =

Inflow 32.90 cfs @ 12.57 hrs, Volume= 10.603 af

32.90 cfs @ 12.57 hrs, Volume= 10.603 af, Atten= 0%, Lag= 0.0 min Outflow

Primary 32.90 cfs @ 12.57 hrs, Volume= 10.603 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 878.42' @ 12.57 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.90'	42.0" Round Culvert

02_Post-DevelopmentConditions_WisDOT_PondEval

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Volume

MSE 24-hr 4 10-yr Rainfall=4.09" Printed 9/27/2023

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L= 148.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 875.90' / 875.40' S= 0.0034 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=32.77 cfs @ 12.57 hrs HW=878.42' TW=874.00' (Dynamic Tailwater) 1=Culvert (Barrel Controls 32.77 cfs @ 6.19 fps)

Summary for Pond 59P: Pond A

Inflow Area = 300.773 ac, 22.78% Impervious, Inflow Depth > 1.55" for 10-yr event

Inflow = 122.80 cfs @ 12.17 hrs, Volume= 38.896 af

Outflow = 28.07 cfs @ 16.76 hrs, Volume= 36.538 af, Atten= 77%, Lag= 275.2 min

Primary = 28.07 cfs @ 16.76 hrs, Volume= 36.538 af

Routed to Link 36L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 862.08' @ 16.76 hrs Surf.Area= 3.460 ac Storage= 10.153 af

Plug-Flow detention time= 433.5 min calculated for 36.538 af (94% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 299.0 min (1,633.7 - 1,334.7)

Invert

			, 10.0.9	j
#1	859.00'	24.336	af Custo ı	om Stage Data (Prismatic)Listed below (Recalc) x 0.85
Elevation	Surf.Area	Inc	.Store	Cum.Store
(feet)	(acres)	(acre	e-feet)	(acre-feet)
859.00	3.694		0.000	0.000
860.00	3.815		3.755	3.755
861.00	3.937		3.876	7.631
862.00	4.061		3.999	11.630
863.00	4.186		4.123	15.753
864.00	4.061		4.123	19.877
865.00	4.439		4.250	24.127
866.00	4.570		4.505	28.631
Device R	Routing	Invert	Outlet Devi	vices
#1 P	rimary	858.20'	42.0" Rou	und Culvert
			L= 15.2' R	RCP, square edge headwall, Ke= 0.500
			Inlet / Outle	let Invert= 858.20' / 858.00' S= 0.0132 '/' Cc= 0.900
				Flow Area= 9.62 sf
#2 D	evice 1			Veir/Orifice, Cv= 2.62 (C= 3.28)
				t) 0.00 3.50 3.50 6.00
			`	et) 0.17 4.20 6.00 6.00
#3 D	evice 2			und Culvert
				RCP, groove end w/headwall, Ke= 0.200
				let Invert= 857.00' / 857.00' S= 0.0000 '/' Cc= 0.900
// D	\			Flow Area = 9.62 sf
#4 P	rimary			x 10.0' breadth Broad-Crested Rectangular Weir
			,	t) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coei. (⊏ngi	glish) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

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Primary OutFlow Max=28.07 cfs @ 16.76 hrs HW=862.08' TW=856.60' (Dynamic Tailwater)

1=Culvert (Passes 28.07 cfs of 59.39 cfs potential flow)

-2=Custom Weir/Orifice (Weir Controls 28.07 cfs @ 4.70 fps)

3=Culvert (Passes 28.07 cfs of 85.71 cfs potential flow)

4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: Pond B (Wet Basin)

Volume	Invert A	vail.Stora	ige St	storage Description
#1	871.00'	38.463	af Cı	Custom Stage Data (Prismatic)Listed below
Elevation			c.Store	
(feet)	(acres)	(ac	<u>re-feet)</u>	<u>) (acre-feet)</u>
871.00	2.901		0.000	0.000
872.00	3.063	}	2.982	2 2.982
873.00	3.159)	3.111	1 6.093
874.00	6.376	;	4.768	3 10.861
875.00	6.599)	6.487	7 17.348
876.00	6.861		6.730	24.078
877.00	7.228	}	7.045	5 31.123
878.00	7.451		7.340	38.463
Device I	Routing	Invert	Outlet	t Devices
#1 I	Primary	871.00'	42.0"	Round Culvert L= 3,037.0' Ke= 0.850
			Inlet /	Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
			n = 0.0	012, Flow Area= 9.62 sf
#2 I	Device 1	871.00'	Custo	om Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head	(feet) 0.00 1.50 1.50 6.00
			Width	(feet) 0.17 1.27 6.00 6.00
#3	Secondary	876.40'	80.0' I	long x 10.0' breadth Broad-Crested Rectangular Weir
			Head	(feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef.	(English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)

-1=Culvert (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge) 3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 61P: (new Pond)

2.146 ac, 41.66% Impervious, Inflow Depth = 2.72" for 10-yr event Inflow Area =

8.90 cfs @ 12.13 hrs, Volume= Inflow 0.486 af

Outflow 8.90 cfs @ 12.13 hrs, Volume= 0.486 af, Atten= 0%, Lag= 0.0 min

= 8.90 cfs @ 12.13 hrs, Volume= 0.486 af Primary

Routed to Pond 59P: Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

¹—2=Custom Weir/Orifice (Controls 0.00 cfs)

02 Post-DevelopmentConditions WisDOT PondEval

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Peak Elev= 862.08' @ 16.76 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	859.50'	18.0" Round Culvert
	-		L= 122.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 859.50' / 859.00' S= 0.0041 '/' Cc= 0.900
			n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=8.51 cfs @ 12.13 hrs HW=861.74' TW=859.67' (Dynamic Tailwater) 1=Culvert (Barrel Controls 8.51 cfs @ 4.82 fps)

Summary for Pond 62P: Pond B (Wet Basin) Spillway change

<u>Volume</u>	Invert A	Avail.Stora	ige Sto	torage Description
#1	871.00'	38.463	af Cu	ustom Stage Data (Prismatic)Listed below
Elevation	n Surf.Area	a In	c.Store	e Cum.Store
(fee	t) (acres) (ac	re-feet)	(acre-feet)
871.0	0 2.90	1	0.000	0.000
872.0	0 3.063	3	2.982	2.982
873.0			3.111	
874.0		3	4.768	3 10.861
875.0			6.487	
876.0			6.730	
877.0			7.045	
878.0	0 7.45		7.340	38.463
Device	Routing	Invert	Outlet	Devices
#1	Primary	871.00'		Round Culvert L= 3,037.0' Ke= 0.850
π ι	1 minary	07 1.00		Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
				012, Flow Area= 9.62 sf
#2	Device 1	871.00'		om Weir/Orifice, Cv= 2.62 (C= 3.28)
				(feet) 0.00 1.50 1.50 6.00
			,	(feet) 0.17 1.27 6.00 6.00
#3	Secondary	876.40'		imetrical Weir, C= 3.27
	,		•	t (feet) 0.00 20.00 60.00 80.00
				t (feet) 1.00 0.00 0.00 1.00

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)

3=Asymmetrical Weir (Controls 0.00 cfs)

²⁼Custom Weir/Orifice (Controls 0.00 cfs)

Avail Storage Storage Description

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Summary for Pond 63P: Pond B (Dry Basin)

Volume	Invert	Avail.Storag	je Stoi	prage Description
#1	869.00'	1.772	af Cus	stom Stage Data (Prismatic)Listed below
Elevation	on Surf.Are	a Inc	.Store	Cum.Store
(fee	et) (acres	s) (acre	e-feet)	(acre-feet)
869.0	0.01	8	0.000	0.000
870.0	0.05	57	0.037	0.037
871.0	0.09	7	0.077	0.114
872.0	0.13	8	0.117	0.232
873.0	00 2.94	.1	1.540	1.772
Device	Routing	Invert	Outlet D	Devices
#1	Primary	871.00'	18.0" R	Round Culvert
#2	Secondary	873.00'	Inlet / O n= 0.012 378.0' l e Head (fe	O' RCP, groove end projecting, Ke= 0.200 Outlet Invert= 871.00' / 871.00' S= 0.0000 '/' Cc= 0.900 12, Flow Area= 1.77 sf Iong + 20.0 '/' SideZ x 15.0' breadth Broad-Crested Rectangular Weir feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 English) 2.68 2.70 2.70 2.64 2.63 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

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

Summary for Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Inflow Area = 244.722 ac, 18.67% Impervious, Inflow Depth > 1.56" for 10-yr event

Inflow = 138.29 cfs @ 12.40 hrs, Volume= 31.741 af

Outflow = 30.58 cfs @ 14.64 hrs, Volume= 29.822 af, Atten= 78%, Lag= 134.1 min

Primary = 30.58 cfs @ 14.64 hrs, Volume= 29.822 af

Routed to Pond 59P: Pond A

Valuma

Invort

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 20R: Overland Flow

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 873.63' @ 14.64 hrs Surf.Area= 6.275 ac Storage= 12.238 af

Plug-Flow detention time= 514.6 min calculated for 29.822 af (94% of inflow) Center-of-Mass det. time= 413.4 min (1,490.9 - 1,077.5)

Volume	Invert	Avail.Storage	Storage Description
#1	871.00'	42.125 af	Custom Stage Data (Prismatic)Listed below

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
871.00	2.930	0.000	0.000
872.00	3.134	3.032	3.032
872.50	5.890	2.256	5.288
873.00	6.100	2.998	8.285
874.00	6.376	6.238	14.524
875.00	6.599	6.487	21.011
876.00	6.861	6.730	27.741
877.00	7.228	7.044	34.785
878.00	7.451	7.339	42.125

Device	Routing	Invert	Outlet Devices
#1	Primary	871.00'	42.0" Round Culvert L= 3,037.0' Ke= 0.850
			Inlet / Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
			n= 0.012, Flow Area= 9.62 sf
#2	Device 1	871.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 1.50 1.50 6.00
			Width (feet) 0.17 1.27 6.00 6.00
#3	Device 2	870.00'	42.0" Round Culvert L= 20.0' Ke= 0.700
			Inlet / Outlet Invert= 870.00' / 870.00' S= 0.0000 '/' Cc= 0.900
			n= 0.012, Flow Area= 9.62 sf
#4	Secondary	876.40'	80.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=30.58 cfs @ 14.64 hrs HW=873.63' TW=861.74' (Dynamic Tailwater)

-1=Culvert (Passes 30.58 cfs of 34.79 cfs potential flow)

-2=Custom Weir/Orifice (Weir Controls 30.58 cfs @ 3.88 fps)
-3=Culvert (Passes 30.58 cfs of 46.11 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=871.00' TW=872.00' (Dynamic Tailwater) **1**—4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 65P: YH6-Pond

Inflow =	:	0.00 cfs @	0.00 hrs, Volume=	0.000 af	
Outflow =	:	78.74 cfs @	0.00 hrs, Volume=	12.903 af, Atten= 0%, Lag= 0.0 min	1
Primary =	:	78.74 cfs @	0.00 hrs, Volume=	12.903 af	
Secondary =	:	0.00 cfs @	0.00 hrs. Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Starting Elev= 856.60' Surf.Area= 6.484 ac Storage= 12.773 af Peak Elev= 856.60' @ 0.00 hrs Surf.Area= 6.484 ac Storage= 12.773 af

Plug-Flow detention time= (not calculated: no plugs found) Center-of-Mass det. time= (not calculated: no inflow)

02_Post-DevelopmentConditions_WisDOT_PondEval MSE 24-hr 4 10-yr Rainfall=4.09"

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Avail.Storage Storage Description

Invert

Volume

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om Stage Data (Prismatic)Listed below (Recalc)
Cum.Store
(acre-feet)
0.000
12.773
15.447
22.754
32.207
46.654
vices
x 36.0" H Box Culvert
RCP, square edge headwall, Ke= 0.500 let Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900 Concrete pipe, finished, Flow Area= 27.00 sf y + 25.0 '/' SideZ x 15.0' breadth Broad-Crested Rectangular Weir t) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 glish) 2.68 2.70 2.70 2.64 2.63 2.64 2.63
1

Primary OutFlow Max=78.74 cfs @ 0.00 hrs HW=856.60' (Free Discharge)
—1=Culvert (Barrel Controls 78.74 cfs @ 5.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=856.60' (Free Discharge) 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link 35L: Ag. Ditch #4 Tributary

Inflow Area = 19.199 ac, 34.85% Impervious, Inflow Depth = 2.11" for 10-yr event

Inflow = 46.01 cfs @ 12.23 hrs, Volume= 3.379 af

Primary = 45.44 cfs @ 12.49 hrs, Volume= 3.379 af, Atten= 1%, Lag= 15.9 min

Routed to Link 36L: Combined to Ag Ditch #4

Primary outflow = Inflow delayed by 15.8 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Combined to Ag Ditch #4

Inflow Area = 640.771 ac, 14.16% Impervious, Inflow Depth > 1.23" for 10-yr event

Inflow = 73.43 cfs @ 12.52 hrs, Volume= 65.872 af

Primary = 73.43 cfs @ 12.52 hrs, Volume= 65.872 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Fixed water surface Elevation= 856.60'

02_Post-DevelopmentConditions_WisDOT_PondEval

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Summary for Link 44L: Door Creek Combined

Inflow Area = 40.584 ac, 24.45% Impervious, Inflow Depth > 1.39" for 10-yr event

Inflow = 23.08 cfs @ 12.28 hrs, Volume= 4.694 af

Primary = 23.08 cfs @ 12.28 hrs, Volume= 4.694 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 56L: Lag to Door Creek

Inflow Area = 0.750 ac, 46.67% Impervious, Inflow Depth = 2.28" for 10-yr event

Inflow = 1.33 cfs @ 12.45 hrs, Volume= 0.143 af

Primary = 1.32 cfs @ 12.88 hrs, Volume= 0.143 af, Atten= 1%, Lag= 25.6 min

Routed to Link 44L: Door Creek Combined

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Primary outflow = Inflow delayed by 25.6 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

02_Post-DevelopmentConditions_WisDOT_PondEval MSE 24-hr 4 100-yr Rainfall=6.66"

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Summary for Subcatchment 1S: C1

Runoff = 35.89 cfs @ 12.13 hrs, Volume=

2.048 af, Depth= 5.26"

Routed to Pond 1P: Niebuhr Stormwater Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	cription				
*	3.	370	98						
	1.	300	61	>75%	% Grass co	over, Good	, HSG B		
	4.	670	88	Weig	hted Aver	age			
	1.	300		27.8	4% Pervio	us Area			
	3.	370		72.10	6% Imper	ious Area			
	Тс	Leng	th :	Slope	Velocity	Capacity	Description		
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)			
	6.0						Direct Entry.		

Summary for Subcatchment 2S: C2

Runoff = 23.24 cfs @ 12.45 hrs, Volume=

2.467 af, Depth= 3.04"

Routed to Pond 2P: Storm Basin 2 with Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac) (CN Des	cription			
*	1.	020	98				
	5.655 61		61 >75°	>75% Grass cover, Good, HSG B			
	0.	685	58 Woo	ds/grass d	comb., Goo	d, HSG B	
*	2.	385	70 Row	crops, SF	R + CR, Go	od, HSG B	
	9.	745	67 Wei				
		725	•	3% Pervio			
	1.	020	10.4	7% Imperv	ious Area		
				'			
	Tc	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	•	(ft/sec)	(cfs)	•	
	8.0	91	0.0830	0.19		Sheet Flow,	
						Grass: Dense n= 0.240 P2= 2.82"	
	6.4	59	0.0300	0.15		Sheet Flow,	
						Cultivated: Residue>20% n= 0.170 P2= 2.82"	
	11.9	573	0.0080	0.80		Shallow Concentrated Flow,	
						Cultivated Straight Rows Kv= 9.0 fps	
	3.3	337	0.0030	1.69	11.17	Channel Flow,	
						Area= 6.6 sf Perim= 13.4' r= 0.49' n= 0.030	
	1.1	224	0.0050	3.31	10.40	Pipe Channel,	
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'	
						n= 0.020 Corrugated PE, corrugated interior	
	30.7	1,284	Total				

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Summary for Subcatchment 3S: C3-A

Runoff = 25.81 cfs @ 12.34 hrs, Volume= 2.362 af, Depth= 4.17"

Routed to Pond 2P: Storm Basin 2 with Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac) C	N Desc	cription		
*	2.	890 9	98			
	3.	639 6	31 >759	% Grass c	over, Good	, HSG B
	0.	273	98 Wate	er Surface	, HSG B	
	6.	802 7	78 Weig	ghted Aver	age	
	3.	639	53.5	0% Pervio	us Area	
	3.	163	46.5	0% Imper	vious Area	
	_		0.1			
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	12.1	86	0.0260	0.12		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	0.9	68	0.0220	1.24		Sheet Flow,
	0.4	4 000	0.0050	4.00	45.40	Smooth surfaces n= 0.011 P2= 2.82"
	9.1	1,026	0.0050	1.88	15.43	•
						Bot.W=0.00' D=1.00' Z= 8.2 '/' Top.W=16.40'
	1 1	224	0.0050	2.76	0.66	n= 0.035
	1.4	224	0.0050	2.70	8.66	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.024
	0.1	59	0.0056	7.06	49.91	Pipe Channel,
	0.1	33	0.0000	7.00	49.91	36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'
						n= 0.013
_	23.6	1,463	Total			11 0.010
	25.0	1,400	iotai			

Summary for Subcatchment 4S: C3-B

Runoff = 5.88 cfs @ 12.13 hrs, Volume= 0.341 af, Depth= 5.49" Routed to Pond 3P : Sheriff Phase 2 Bioretention

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area (ac)	CN	Description
*	0.580	98	
	0.165	61	>75% Grass cover, Good, HSG B
	0.745	90	Weighted Average
	0.165		22.15% Pervious Area
	0.580		77.85% Impervious Area

02_Post-DevelopmentConditions_WisDOT_PondEval MSE 24-hr 4 100-yr Rainfall=6.66"

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Тс	Length		,	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry,

Summary for Subcatchment 5S: C4-A

Runoff = 18.24 cfs @ 12.13 hrs, Volume=

1.101 af, Depth= 5.95"

Routed to Pond 4P: Cnty-Storm Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	cription				
*	2.	010	98						
	0.	210	61	>75%	% Grass co	over, Good	d, HSG B		
	2.	220	94	Weig	hted Aver	age			
	0.210				9.46% Pervious Area				
	2.010			90.54% Impervious Area					
	Тс	Leng	th :	Slope	Velocity	Capacity	Description		
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)			
	6.0						Direct Entry,		

Summary for Subcatchment 6S: C4-B

Runoff = 16.95 cfs @ 12.30 hrs, Volume= 1.447 af, Depth= 4.17"

Routed to Pond 5P: CNTY-Infiltration Basin #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area (ac)	CN	Description
*	1.560	98	
	1.455	61	>75% Grass cover, Good, HSG B
	1.150	74	>75% Grass cover, Good, HSG C
	4.165	78	Weighted Average
	2.605		62.55% Pervious Area
	1.560		37.45% Impervious Area

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(r	Tc min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	13	0.0200	0.86	, ,	Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	0.9	10	0.2400	0.19		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
1	14.4	127	0.0370	0.15		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	1.6	115	0.0280	1.17		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	3.3	521	0.0080	2.66	15.95	Trap/Vee/Rect Channel Flow,
						Bot.W=2.00' D=1.00' Z= 4.0 '/' Top.W=10.00'
						n= 0.035
2	20.5	786	Total			

Summary for Subcatchment 7S: C4-C

Runoff = 3.91 cfs @ 12.13 hrs, Volume= 0.209 af, Depth= 3.75"

Routed to Pond 6P: County Pond - East

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	Description						
*	0.	230	98								
	0.	440	61	>75%	√ Grass co	over, Good	I, HSG B				
	0.670 74 Weighted Average										
	0.440 65.67% Pervious Area										
	0.230 34.33% Impervious Area					ious Area					
	Тс	Leng		Slope	Velocity	Capacity	Description				
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)					
	6.0						Direct Entry,				

Summary for Subcatchment 8S: C4-D

Runoff = 65.63 cfs @ 12.13 hrs, Volume= 3.807 af, Depth= 5.49"

Routed to Pond 6P: County Pond - East

	Area (ac)	CN	Description					
*	6.030	98						
	1.350	61	>75% Grass cover, Good, HSG B					
	0.300	98	Water Surface, HSG B					
	0.640	74	>75% Grass cover, Good, HSG C					
	8.320	90	Weighted Average					
	1.990		23.92% Pervious Area					
	6.330		76.08% Impervious Area					

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
6.0					Direct Entry,

Summary for Subcatchment 9S: C5-A

Runoff = 5.68 cfs @ 12.14 hrs, Volume=

0.302 af, Depth= 2.75"

Routed to Pond 9P: Culvert 534+50

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	cription		
1.220 61 >75% Grass cover, Good, HSG B							, HSG B
*	0.	100	98				
	1.	320	64	Weig	ghted Aver	age	
	1.	220		92.4	2% Pervio	us Area	
	0.	100		7.58	% Impervi	ous Area	
	Тс	Lengtl		Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	1.3	16	6 0.	2400	0.21		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	1.7	533	3 0.	0300	5.30	21.19	Trap/Vee/Rect Channel Flow,
							Bot.W=0.00' D=1.00' Z= 4.0 '/' Top.W=8.00'
							n= 0.030
_	3.0						Direct Entry, increase to min TOC
	6.0	549) To	otal			

Summary for Subcatchment 10S: C5-B

Runoff = 5.82 cfs @ 12.13 hrs, Volume=

0.371 af, Depth= 6.42"

Routed to Pond 57P: 187+00 42" Culvert

	Area	(ac)	CN	Desc	cription		
*	0.	693	98				
	0.693			100.	00% Impe	rvious Area	
	Тс	Leng	ıth	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

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Summary for Subcatchment 11S: C5-C

Runoff = 25.49 cfs @ 12.16 hrs, Volume=

1.503 af, Depth= 4.06"

Routed to Pond 57P: 187+00 42" Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac) C	N Des	cription			
*	* 1.898		98				
	2.	544 (31 >75°	75% Grass cover, Good, HSG B			
	4.	442	77 Weig	ghted Aver	age		
	2.	544	57.2	7% Pervio	us Area		
	1.	898	42.7	3% Imper	∕ious Area		
	_				_		
	Tc	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	0.5	33	0.0270	1.17		Sheet Flow,	
						Smooth surfaces n= 0.011 P2= 2.82"	
	4.8	76	0.2100	0.27		Sheet Flow,	
						Grass: Dense n= 0.240 P2= 2.82"	
	3.3	869	0.0150	4.36	61.01	Trap/Vee/Rect Channel Flow,	
						Bot.W=10.00' D=1.00' Z= 4.0 '/' Top.W=18.00'	
_						n= 0.035	
	8.6	978	Total				

Summary for Subcatchment 12S: C5-E

Runoff = 9.17 cfs @ 12.15 hrs, Volume=

0.534 af, Depth= 4.27"

Routed to Pond 14P: Culvert at Millpond 387+00

	Area (ac)	CN	Description			
*	0.720	98				
	0.740 61 >75% Grass cover, Good, HSG B					
	0.040	74	>75% Grass cover, Good, HSG C			
	1.500	79	Weighted Average			
	0.780		52.00% Pervious Area			
	0.720		48.00% Impervious Area			

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	18	0.0180	0.88		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	2.2	19	0.0950	0.15		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	5.7	645	0.0050	1.88	15.05	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'
						n= 0.035
-	8.2	682	Total			

Summary for Subcatchment 13S: C6-A

Runoff = 18.18 cfs @ 12.16 hrs, Volume=

1.065 af, Depth= 3.75"

Routed to Pond 13P : Culvert at Ramp A 690+50

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac) (CN Des	cription					
*	0.	890	98						
	1.	690	61 >75	% Grass c	over, Good	, HSG B			
_	0.	830	74 >75	>75% Grass cover, Good, HSG C					
	3.	410	74 Wei	ghted Aver	age				
	2.	520	73.9	0% Pervio	us Area				
	0.	890	26.1	0% Imperv	vious Area				
	_								
	Tc	Length	•	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	3.6	65	0.3100	0.30		Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.82"			
	1.0	85	0.0390	1.38		Shallow Concentrated Flow,			
						Short Grass Pasture Kv= 7.0 fps			
	3.9	431	0.0050	1.87	9.33	Trap/Vee/Rect Channel Flow,			
						Bot.W=0.00' D=1.00' Z= 4.0 & 6.0 '/' Top.W=10.00'			
						n= 0.035			
	8.5	581	Total						

Summary for Subcatchment 14S: C6-B

Runoff = 49.31 cfs @ 12.34 hrs, Volume=

4.500 af, Depth= 3.85"

Routed to Pond 14P: Culvert at Millpond 387+00

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	Area (ac) CN De				cription					
*	* 3.360 98									
	5.	070	61	>75%	>75% Grass cover, Good, HSG B					
	5.	590	74	>75%	% Grass c	over, Good	, HSG C			
	14.020 75 Weighted Average									
	10.	660		76.0	3% Pervio	us Area				
	3.360			23.9	23.97% Impervious Area					
	Тс	Lengt	h S	Slope	Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	18.7	14	B 0.	0260	0.13		Sheet Flow,			
							Grass: Dense n= 0.240 P2= 2.82"			
	4.9	89	3 O.	0090	3.03	24.26	Trap/Vee/Rect Channel Flow,			
							Bot.W=4.00' D=1.00' Z= 4.0 '/' Top.W=12.00'			
_							n= 0.035			
	23.6	1,04	3 To	otal						

Summary for Subcatchment 15S: C6-C

Runoff = 19.53 cfs @ 12.13 hrs, Volume= 1.193 af, Depth= 6.07"

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

_	Area	(ac)	CN	Desc	cription							
*	2.	020	98									
	0.	340	74	>75%	√ Grass co	over, Good	I, HSG C					
	2.	360	95	Weig	hted Aver	age						
	0.	340		14.4	1% Pervio	us Area						
	2.020 85.59% Impe					ious Area						
	Tc Len		Length Slope		Velocity	Capacity	Description					
	(min)	(fee		(ft/ft)	(ft/sec)	(cfs)	Doonplon					
	6.0						Direct Entry,					

Summary for Subcatchment 16S: C6-D1

Runoff = 8.40 cfs @ 12.36 hrs, Volume= 0.786 af, Depth= 2.65"

Routed to Pond 16P: Culvert 509+94 (NB CTH AB)

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	Area	(ac)	CN	Desc	cription						
*	0.	040	98		·						
	2.	340	61	>75%	75% Grass cover, Good, HSG B						
	0.	390	58	Woo	Voods/grass comb., Good, HSG B						
*	0.	790	70	Row	crops, SR	t + CR, God	od, HSG B				
	3.	560	63	Weig	hted Aver	age					
	3.	520		98.88	8% Pervio	us Area					
	0.	040		1.12	% Impervi	ous Area					
	Tc (min)	Lengt (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
	23.0	26	5 0	0.0500	0.19		Sheet Flow,				
							Grass: Dense n= 0.240 P2= 2.82"				
	0.9	22	3 0	0.0240	4.07	18.31	Trap/Vee/Rect Channel Flow,				
							Bot.W=0.00' D=1.00' Z= 6.0 & 3.0 '/' Top.W=9.00'				
_							n= 0.035				
	23.9	48	8 T	otal							

Summary for Subcatchment 17S: C6-D2

Runoff = 31.74 cfs @ 12.49 hrs, Volume=

3.604 af, Depth= 3.04"

Routed to Pond 18P: Culvert 505+79 (NB CTH AB)

	Area (ac)	CN	Description
*	1.795	98	
	3.625	61	>75% Grass cover, Good, HSG B
	0.305	74	>75% Grass cover, Good, HSG C
	5.110	58	Woods/grass comb., Good, HSG B
*	2.820	70	Row crops, SR + CR, Good, HSG B
*	0.580	79	Row crops, SR + CR, Good, HSG C
	14.235	67	Weighted Average
	12.440		87.39% Pervious Area
	1.795		12.61% Impervious Area

02_Post-DevelopmentConditions_WisDOT_PondEval MSE 24-hr 4 100-yr Rainfall=6.66"

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	15.7	150	0.1150	0.16		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.82"
	7.2	545	0.0630	1.25		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	3.4	219	0.0450	1.06		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	6.7	335	0.0140	0.83		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.1	213	0.0160	3.32	13.26	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 '/' Top.W=8.00'
						n= 0.035
	0.4	150	0.0050	6.40	31.42	• •
						30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63'
_						n= 0.012
	34.5	1 612	Total			

Summary for Subcatchment 18S: YH2-B

Runoff = 63.65 cfs @ 12.56 hrs, Volume= Routed to Pond 58P : Culvert 395+33 (Millpond) 7.776 af, Depth= 2.75"

reduced to Forta our . Curvert occito (wiiiporta)

Area	(ac) C	N Desc	cription		
2.	510 9	98			
11.	160 6	31 >759	% Grass co	over, Good.	, HSG B
9.	490				
2.	240 6	35 Brus	h, Good, H	HSG C	
8.	590 4				
33.	990 6				
			•	•	
		7.38	% Impervi	ous Area	
			'		
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
15.5	150	0.0430	0.16	,	Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
17.3	1,216	0.0280	1.17		Shallow Concentrated Flow,
	ŕ				Short Grass Pasture Kv= 7.0 fps
0.7	206	0.0100	4.91	3.86	·
					12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
					n= 0.012
1.6	234	0.0040	2.38	38.12	Trap/Vee/Rect Channel Flow,
					Bot.W=8.00' D=1.00' Z= 8.0 '/' Top.W=24.00'
					n= 0.030
0.1	35	0.0140	9.23	29.00	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.012
	2. 11. 9. 2. 8. 33. 31. 2. Tc (min) 15.5 17.3	2.510 9 11.160 9.490 7 2.240 8.590 4 33.990 31.480 2.510 Tc Length (min) (feet) 15.5 150 17.3 1,216 0.7 206	2.510 98 11.160 61 >759 9.490 74 >759 2.240 65 Brus 8.590 48 Brus 33.990 64 Weig 31.480 92.6 2.510 7.38 Tc Length Slope (min) (feet) (ft/ft) 15.5 150 0.0430 17.3 1,216 0.0280 0.7 206 0.0100 1.6 234 0.0040	2.510 98 11.160 61 >75% Grass co 9.490 74 >75% Grass co 9.490 65 Brush, Good, F 8.590 48 Brush, Good, F 33.990 64 Weighted Aver 31.480 92.62% Pervio 2.510 7.38% Impervio Tc Length Slope Velocity (min) (feet) (ft/ft) (ft/sec) 15.5 150 0.0430 0.16 17.3 1,216 0.0280 1.17 0.7 206 0.0100 4.91 1.6 234 0.0040 2.38	2.510 98 11.160 61 >75% Grass cover, Good 9.490 74 >75% Grass cover, Good 2.240 65 Brush, Good, HSG C 8.590 48 Brush, Good, HSG B 33.990 64 Weighted Average 31.480 92.62% Pervious Area 2.510 7.38% Impervious Area Tc Length Slope Velocity Capacity (min) (feet) (ft/ft) (ft/sec) (cfs) 15.5 150 0.0430 0.16 17.3 1,216 0.0280 1.17 0.7 206 0.0100 4.91 3.86 1.6 234 0.0040 2.38 38.12

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3.3	527	0.0140	2.68	53.55	Trap/Vee/Rect Channel Flow, Bot.W=10.00' D=1.00' Z= 10.0 '/' Top.W=30.00' n= 0.050
38.5	2,368	Total			

Summary for Subcatchment 19S: C7 - Landfill

Runoff = 159.75 cfs @ 12.19 hrs, Volume=

10.377 af, Depth= 4.38"

Routed to Pond 19P: Landfill Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

Area	(ac)									
0.	440	96	Grav	el surface	, HSG C					
27.	650	80	>75%	% Grass co	over, Good	, HSG D				
0.	330	98	Wate	r Surface	, HSG B					
28.	420	80	Weig	hted Aver	age					
28.	.090		98.84	4% Pervio	us Area					
0.	330		1.16	% Impervi	ous Area					
_						—				
Tc	Lengt		Slope	Velocity	Capacity	Description				
(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)					
11.0						Direct Entry, TOC from Landfill SWMP				

Summary for Subactahment 205, C

Summary for Subcatchment 20S: C8

Runoff = 41.43 cfs @ 12.22 hrs, Volume=

2.933 af, Depth= 4.17"

Routed to Pond 22P: 36" Culvert 182+00

	Area (ac)	CN	Description
*	2.980	98	
	2.750	61	>75% Grass cover, Good, HSG B
	2.714	74	>75% Grass cover, Good, HSG C
	8.444	78	Weighted Average
	5.464		64.71% Pervious Area
	2.980		35.29% Impervious Area

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.6	31	0.0140	0.89		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	1.6	10	0.0520	0.10		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	5.6	1,329	0.0170	3.93	11.78	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00'
						n= 0.030
	5.9	395	0.0250	1.11		Shallow Concentrated Flow,
	0.0		0.0200			Short Grass Pasture Kv= 7.0 fps
_	13.7	1,765	Total			·

Summary for Subcatchment 22S: C9

Runoff = 6.31 cfs @ 12.16 hrs, Volume=

0.374 af, Depth= 4.27"

Routed to Pond 22P: 36" Culvert 182+00

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

_	Area	(ac) (CN Des	cription		
*	0.	520	98			
			61 >75	% Grass c	over, Good	, HSG B
	1.050 79		79 Wei	ghted Aver	age	
	0.530			8% Pervio	•	
	0.	520	49.5	2% Imper	vious Area	
	0.020 10.0270 Importiodo / 110d					
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
	0.3	19	0.0200	0.93		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	1.8	19	0.1400	0.17		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	6.5	572	0.0030	1.46	11.66	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'
						n= 0.035
	8.6	610	Total			

Summary for Subcatchment 23S: C10

Runoff = 5.86 cfs @ 12.15 hrs, Volume= 0.332 af, Depth= 4.27"

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

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	Area	(ac) (CN De	scription					
*	0.	404	98						
	0			% Grass c	over, Good	HSG B			
		153			over, Good	,			
_						, 1130 0			
	0.	931	79 We	Weighted Average					
	0.	527	56.	61% Pervic	us Area				
	0.	404	43.	39% Imper	vious Area				
	•								
	Tc	Length	Slope	Velocity	Capacity	Description			
		_		•		Description			
	(min)	(feet)			(cfs)				
	0.3	18	0.0200	0.92		Sheet Flow,			
						Smooth surfaces n= 0.011 P2= 2.82"			
	1.7	19	0.1700	0.19		Sheet Flow,			
	1.7	10	0.1700	0.10		Grass: Dense n= 0.240 P2= 2.82"			
		475	0.0000	4 45	0.74				
	5.5	475	0.0030	1.45	8.71	Trap/Vee/Rect Channel Flow,			
						Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'			
						n= 0.035			
_	7.5	512	Total						

Summary for Subcatchment 24S: YH1

Runoff = 107.68 cfs @ 12.80 hrs, Volume= 16.811 af, Depth= 3.04"

Routed to Pond 24P: YH1 - Pond

_	Area	(ac) (<u>CN D</u>	esc	ription			
	22.700 61 >75% Grass cover, Good, HSG B							
	27.890 74 >75% Grass cover, Good, HSG C							
	4.830 48 Brush, Good, HSG B							
	8.	800			h, Good, F			
		180			r Surface			
	66.	400	67 W	/eig	hted Aver	age		
	64.	220	96	6.72	2% Pervio	us Area		
	2.	180	3.	289	% Impervi	ous Area		
	Tc	Length	Slop	ре	Velocity	Capacity	Description	
	(min)	(feet)	(ft/1	ft)	(ft/sec)	(cfs)		
	21.0	150	0.020	00	0.12		Sheet Flow,	
							Grass: Dense n= 0.240 P2= 2.82"	
	36.9	2,018	0.017	70	0.91		Shallow Concentrated Flow,	
		•					Short Grass Pasture Kv= 7.0 fps	
_	57.9	2.168	Total				·	

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Summary for Subcatchment 25S: YH2-A

Runoff = 50.36 cfs @ 12.41 hrs, Volume= 5.047 af, Depth= 3.44"

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac) (CN Des	cription				
*	0.	460	98					
	6.	980	61 >75	% Grass c	over, Good	, HSG B		
	4.	750	74 >75	% Grass c	over, Good	, HSG C		
	2.290 58 Woods/grass comb., Good, HSG B							
				sh, Good, F				
_	2.	930	98 Wat	<u>er Surface</u>	, HSG B			
				ghted Aver				
		220		5% Pervio				
	3.	390	19.2	25% Imper	/ious Area			
	т.	1	01	17.1	0	December		
	Tc	Length		Velocity	Capacity	Description		
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	01 (5)		
	18.6	150	0.0270	0.13		Sheet Flow,		
	0.0	400	0.0000	0.00		Grass: Dense n= 0.240 P2= 2.82"		
	8.3	493	0.0200	0.99		Shallow Concentrated Flow,		
	1.1	375	0.0280	5.77	80.72	Short Grass Pasture Kv= 7.0 fps Trap/Vee/Rect Channel Flow,		
	1.1	3/3	0.0200	5.11	00.72	Bot.W=4.00' D=1.00' Z= 15.0 & 5.0 '/' Top.W=24.00'		
						n= 0.030		
	0.1	32	0.3300	4.02		Shallow Concentrated Flow,		
	0.1	32	3.0000	4.02		Short Grass Pasture Kv= 7.0 fps		
_	28 1	1.050	Total			2 2.3.2 . dotato 117 / 10 ipo		

28.1 1,050 Total

Summary for Subcatchment 26S: C11,12,15,16,18

Runoff = 73.72 cfs @ 12.13 hrs, Volume= 4.123 af, Depth= 4.93"

Routed to Pond 59P: Pond A

	Area (ac)	CN	Description
*	6.350	98	
	3.330	61	>75% Grass cover, Good, HSG B
	0.360	74	>75% Grass cover, Good, HSG C
	10.040	85	Weighted Average
	3.690		36.75% Pervious Area
	6.350		63.25% Impervious Area

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
 6.0					Direct Entry,

Summary for Subcatchment 27S: C13-A, C13-B, C14

Runoff = 71.56 cfs @ 12.24 hrs, Volume=

5.313 af, Depth= 3.34"

Routed to Pond 59P: Pond A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	cription		
*	4.	590	98				
*	10.	730	61				
	0.	643	74	>759	% Grass co	over, Good	, HSG C
	2.	716	55	Woo	ds, Good,	HSG B	
_	0.	424	70	Woo	ds, Good,	HSG C	
	19.	103	70	Weig	hted Aver	age	
		513			7% Pervio		
	4.	590		24.0	3% Imper\	/ious Area	
	_						
	Tc	Lengt		Slope	Velocity	Capacity	Description
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	0.3	1	8 0	.0200	0.92		Sheet Flow,
							Smooth surfaces n= 0.011 P2= 2.82"
	4.9	7	5 0	.1900	0.25		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	10.2	1,34	0 0	.0050	2.20	20.87	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 6.0 & 5.0 '/' Top.W=15.00'
_							n= 0.035
	15.4	1,43	3 T	otal			

Summary for Subcatchment 28S: C17, C21, C22-A

Runoff = 23.95 cfs @ 12.20 hrs, Volume= 1.585 af, Depth= 3.85"

Routed to Pond 28P: 12/18 140+35

	Area (ac)	CN	Description			
*	1.830	98				
	2.930	61	>75% Grass cover, Good, HSG B			
	0.180	80	>75% Grass cover, Good, HSG D			
	4.940	75	Weighted Average			
	3.110		62.96% Pervious Area			
1.830 37.04% Impervious Area						

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 Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
 0.3	17	0.0240	0.97		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 2.82"
3.0	46	0.2490	0.26		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
8.5	1,279	0.0064	2.51	22.55	Trap/Vee/Rect Channel Flow,
					Bot.W=4.00' D=1.00' Z= 6.0 & 4.0 '/' Top.W=14.00'
					n= 0.035
11.8	1,342	Total			

Summary for Subcatchment 29S: C19-A

Runoff = 23.01 cfs @ 12.26 hrs, Volume= 1.787 af, Depth= 3.96"

Routed to Pond 59P: Pond A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac) (CN Des	cription		
*	2.	140	98			
*	3.	280	61 Gras	ss HSG B		
	3.	420 280 140	60.5	ghted Aver 52% Pervio 18% Imper	0	
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	12.6	150	0.0720	0.20	•	Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	2.1	129	0.0210	1.01		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.1	239	0.0300	3.52		Shallow Concentrated Flow,
						Paved Kv= 20.3 fps
	1.2	132	0.0050	1.87	12.18	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 9.0 & 4.0 '/' Top.W=13.00' n= 0.035
	17.0	650	Total			

Summary for Subcatchment 30S: C19-B

Runoff = 2.15 cfs @ 12.14 hrs, Volume= 0.115 af, Depth= 2.46"

Routed to Pond 59P: Pond A

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_	Area	(ac)	CN	Desc	ription		
	0.	560	61	>75%	√ Grass co	over, Good	, HSG B
	0.	560		100.0	00% Pervi	ous Area	
	_						
	Tc	Leng	th S	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
_	6.0						Direct Entry,

Summary for Subcatchment 31S: C19-C

Runoff = 16.26 cfs @ 12.13 hrs, Volume=

0.921 af, Depth= 5.15"

Routed to Pond 61P: (new Pond)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	cription		
*	0.	894	98				
	1.	252	80	>75%	% Grass co	over, Good	I, HSG D
	2.	146	87	Weig	hted Aver	age	
	1.	252		58.3	4% Pervio	us Area	
	0.	894		41.6	6% Imperv	ious Area	
	Тс	Leng	th :	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 32S: C19-D

Runoff = 60.41 cfs @ 12.19 hrs, Volume= 4.154 af, Depth= 5.38"

Routed to Pond 59P: Pond A

	Area (ac)	CN	Description
*	2.665	98	
	1.463	61	>75% Grass cover, Good, HSG B
	1.444	80	>75% Grass cover, Good, HSG D
	3.700	98	Water Surface, HSG B
	9.272	89	Weighted Average
	2.907		31.35% Pervious Area
	6.365		68.65% Impervious Area

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	Тс	Length	Slope	,	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	8.2	100	0.0930	0.20		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.1	279	0.0450	1.48		Shallow Concentrated Flow,
_						Short Grass Pasture Kv= 7.0 fps
	11.3	379	Total			

Summary for Subcatchment 33S: C20

Runoff = 14.95 cfs @ 12.25 hrs, Volume=

1.120 af, Depth= 2.94"

Routed to Pond 32P: Long Drive 440+35

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac) (N Des	cription		
*	0.	660	98			
	3.	910	61 >75	% Grass c	over, Good	, HSG B
	4.	570	66 Wei	ghted Aver	age	
	3.	910		6% Pervio	•	
	0.	660	14.4	4% Imper	vious Area	
				•		
	Тс	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.3	12	0.0100	0.64		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	11.3	101	0.0430	0.15		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.9	723	0.0140	3.08	10.79	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 & 3.0 '/' Top.W=7.00'
_						n= 0.035
	15.5	836	Total			

Summary for Subcatchment 34S: YH3-A

Runoff = 12.36 cfs @ 12.18 hrs, Volume= 0.

0.773 af, Depth= 2.94"

Routed to Pond 34P: YH3-Pond

_	Area (ac)	CN	Description
*	0.357	98	
	2.668	61	>75% Grass cover, Good, HSG B
_	0.131	74	>75% Grass cover, Good, HSG C
	3.156	66	Weighted Average
	2.799		88.69% Pervious Area
	0.357		11.31% Impervious Area

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Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
10.0					Direct Entry,	

Summary for Subcatchment 35S: YH3-B

Runoff = 278.90 cfs @ 12.70 hrs, Volume=

39.644 af, Depth= 2.55"

Routed to Pond 34P: YH3-Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	cription		
*	2.	750	98				
	111.	110	61	>759	√ Grass co	over, Good,	HSG B
	25.	680	74	>759	√ Grass co	over, Good,	HSG C
	35.	680	48	Brus	h, Good, F	ISG B	
	6.	860	65	Brus	h, Good, F	HSG C	
	4.:	200	98	Wate	er Surface,	, HSG B	
	186.	280	62	Weig	hted Aver	age	
	179.	330		96.2	7% Pervio	us Area	
	6.	950		3.73	% Impervi	ous Area	
	Tc	Length		Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	19.9	150	0.	0230	0.13		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	25.0	1,662	2 0.	0250	1.11		Shallow Concentrated Flow,
							Short Grass Pasture Kv= 7.0 fps
	1.2	219	9 0.	0090	2.95	29.50	Trap/Vee/Rect Channel Flow,
							Bot.W=0.00' D=1.00' Z= 10.0 '/' Top.W=20.00'
							n= 0.030
	2.5	888	5 0.	0110	5.98	7.34	F
							15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'
_							n= 0.012
	48.6	2,916	3 To	otal			

Summary for Subcatchment 36S: YH4

Runoff = 32.93 cfs @ 12.32 hrs, Volume=

2.894 af, Depth= 2.84"

Routed to Pond 36P: YH4-Pond

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	_			_						
_	Area	(ac) (<u> </u>	Desc	ription					
	9.	630	61	>75%	>75% Grass cover, Good, HSG B					
	2	070		>75% Grass cover, Good, HSG C						
					er Surface		, 1100 0			
_	<u> </u>	320	90	vvale	Juliace	, 113G A				
	12.	220	65	Weig	jhted Aver	age				
	11.	700		95.74	4% Pervio	us Area				
	0.	520		4.26	% Impervi	ous Area				
					•					
	Тс	Length	. SI	lope	Velocity	Capacity	Description			
	(min)	(feet)		ft/ft)	(ft/sec)	(cfs)	2 de comparent			
_						(013)				
	13.0	150	0.0)660	0.19		Sheet Flow,			
							Grass: Dense n= 0.240 P2= 2.82"			
	8.6	470	0.0	170	0.91		Shallow Concentrated Flow,			
							Short Grass Pasture Kv= 7.0 fps			
_	24.6	620		tal			511511 G14150 1 41514110 1111 1110 1110			
	21.6	620) Tot	เสเ						

Summary for Subcatchment 37S: YH5

Runoff = 15.18 cfs @ 12.14 hrs, Volume=

0.858 af, Depth= 4.38"

Routed to Pond 37P: YH5 - Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	cription		
*	0.	330	98				
	1.	130	61	>75%	% Grass co	over, Good	, HSG B
_	0.	890	98	Wate	er Surface	, HSG A	
	2.	350	80	Weig	hted Aver	age	
	1.	130		48.0	9% Pervio	us Area	
	1.	220		51.9	1% Imperv	/ious Area	
	Tc (min)	Lengtl (feet		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.2	1	1 0.	.0300	0.98		Sheet Flow,
	7.1	8	7 0.	.1000	0.20		Smooth surfaces n= 0.011 P2= 2.82" Sheet Flow, Grass: Dense n= 0.240 P2= 2.82"
	7.3	98	8 To	otal	•	•	

Summary for Subcatchment 38S: YH6

Runoff = 214.41 cfs @ 12.50 hrs, Volume= 24.413 af, Depth= 2.94"

Routed to Pond 38P: YH6-Pond

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	Area	(ac)	CN	Desc	cription						
	54.	390	61	>75%	>75% Grass cover, Good, HSG B						
	4.340 48			Brus	Brush, Good, HSG B						
	7.	606	65	Brus	Brush, Good, HSG C						
	26.	837	73	Brus	Brush, Good, HSG D						
	6.	484	98	Wate	er Surface	, HSG A					
	99.	657	66	Weig	ghted Aver	age					
	93.173			93.4	93.49% Pervious Area						
	6.484			6.51	% Impervi	ous Area					
	Тс	Length	n S	Slope	Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	19.2	150	0.0	0250	0.13		Sheet Flow,				
							Grass: Dense n= 0.240 P2= 2.82"				
	15.4	889	0.0	0190	0.96		Shallow Concentrated Flow,				
							Short Grass Pasture Kv= 7.0 fps				
	34.6	1,039	To	otal	<u> </u>						

Summary for Subcatchment 39S: C22B-25

Runoff = 90.82 cfs @ 12.23 hrs, Volume=

6.656 af, Depth= 4.38"

Routed to Link 35L : Ag. Ditch #4 Tributary

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN Des	cription					
*		210	98	•					
	_	320		% Grass c	over, Good	. HSG B			
		359			over, Good	•			
		6.340 8			over, Good	•			
_	18	18.229 80		Weighted Average					
	12.019			33% Pervio					
		210		7% Imper					
	Tc	Length	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	0.4	29	0.0250	1.10		Sheet Flow,			
						Smooth surfaces n= 0.011 P2= 2.82"			
	2.4	30	0.1740	0.20		Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.82"			
	6.1	100	0.0015	0.27		Shallow Concentrated Flow,			
						Short Grass Pasture Kv= 7.0 fps			
	5.6	874	0.0069	2.58	23.23	Trap/Vee/Rect Channel Flow,			
						Bot.W=0.00' D=1.00' Z= 9.0 '/' Top.W=18.00'			
_						n= 0.030			
	4 A E	4 000	Tatal						

14.5 1,033 Total

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Summary for Subcatchment 40S: C25-B

Runoff = 6.36 cfs @ 12.13 hrs, Volume=

0.346 af, Depth= 4.27"

Routed to Link 35L : Ag. Ditch #4 Tributary

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	ription			
*	0.	480	98					
*	0.	490	61					
	0.	970	79 Weighted Average					
	0.	490		50.5	2% Pervio	us Area		
	0.	480		49.48	3% Imperv	ious Area		
	Тс	Length	ı Sl	ope	Velocity	Capacity	Description	
	(min)	(feet)) (f	ft/ft)	(ft/sec)	(cfs)		
	6.0						Direct Entry,	

Summary for Subcatchment 41S: C26

Runoff = 23.65 cfs @ 12.96 hrs, Volume=

4.198 af, Depth= 2.94"

Routed to Link 36L: Combined to Ag Ditch #4

Area	(ac) C	N Desc	cription		
0.	040 6	31 >75°	% Grass co	over, Good	, HSG B
0.	016			over, Good	
3.	950 4	18 Brus	h, Good, F	HSG B	
1.	800 6	35 Brus	h, Good, F	HSG C	
11.	.330	73 Brus	h, Good, I	HSG D	
17.	136 6	66 Weig	hted Aver	age	
17.	136		00% Pervi		
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
40.2	150	0.0110	0.06		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 2.82"
9.7	380	0.0170	0.65		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.4	58	0.0050	2.76	8.66	Pipe Channel, CMP_Round 24"
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.024
0.2	59	0.0260	4.99	29.91	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'
					n= 0.030
19.3	2,177	0.0007	1.88	53.14	Trap/Vee/Rect Channel Flow,
					Bot.W=4.00' D=3.00' Z= 1.8 '/' Top.W=14.80'
					n= 0.030

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69.8 2,824 Total

Summary for Subcatchment 42S: C5-D

Runoff = 15.06 cfs @ 12.17 hrs, Volume=

0.904 af, Depth= 3.34"

Routed to Pond 41P: AB 520+90

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	cription				
*	0.	700	98						
	2.	260	61	>75%	% Grass co	over, Good	, HSG B		
	0.	290	74	>75%	% Grass co	over, Good	, HSG C		
	3.	250	70	Weid	hted Aver	age			
	2.550			78.46% Pervious Area					
	0.700			21.54% Impervious Area					
	Tc	Length	າ S	Slope	Velocity	Capacity	Description		
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	2.0	23	3 0.	1600	0.19		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.82"		
	7.1	800	0.	0050	1.87	9.33	Trap/Vee/Rect Channel Flow,		
							Bot.W=0.00' D=1.00' Z= 4.0 & 6.0 '/' Top.W=10.00'		
							n= 0.035		
	9.1	823	3 To	otal	_				

Summary for Subcatchment 43S: C27-A

Runoff = 25.73 cfs @ 12.13 hrs, Volume= 1.404 af, Depth= 4.38"

Routed to Pond 54P: Pond C

	Area (ac)	CN	Desc	cription			
*	1.6	626	98					
	1.8	828	61	>759	% Grass co	over, Good	d, HSG B	
	0.0	390	98	Wate	er Surface,	, 0% imp, F	HSG B	
	3.8	844	80	Weig	hted Aver	age		
	2.2	218		57.7	0% Pervio	us Area		
	1.6	626		42.3	0% Imperv	ious Area		
	Tc	Leng	ıth	Slope	Velocity	Capacity	Description	
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)		
	6.0						Direct Entry,	

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Summary for Subcatchment 44S: C27-B1

Runoff = 4.78 cfs @ 12.13 hrs, Volume=

0.254 af, Depth= 3.44"

Routed to Pond 43P: Ramp C 805+00

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

_	Area	(ac)	CN	Desc	cription				
*	0.	240	98						
	0.	648	61	>75%	% Grass co	over, Good	, HSG B		
	0.888 71 Weighted Average					age			
	0.	648		72.9	72.97% Pervious Area				
	0.240			27.0	3% Imperv	∕ious Area			
	Tc (min)	Lengt (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description		
	3.2	5	0 0	.2500	0.26		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.82"		
_	2.8						Direct Entry, Increase to min TOC		
	6.0	5	0 T	otal					

Summary for Subcatchment 45S: C27-B2 & C27-C

Runoff = 31.94 cfs @ 12.42 hrs, Volume=

3.256 af, Depth= 3.44"

Routed to Link 44L: Door Creek Combined

	Area (ac)	CN	Description
*	2.620	98	impervious
	6.800	61	>75% Grass cover, Good, HSG B
	0.246	80	>75% Grass cover, Good, HSG D
*	1.695	70	Row crops, SR + CR, Good, HSG B
	11.361	71	Weighted Average
	8.741		76.94% Pervious Area
	2.620		23.06% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	150	0.0300	0.18		Sheet Flow,
					Cultivated: Residue>20% n= 0.170 P2= 2.82"
2.3	150	0.0142	1.07		Shallow Concentrated Flow,
					Cultivated Straight Rows Kv= 9.0 fps
4.9	274	0.0180	0.94		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
7.5	1,619	0.0130	3.60	30.61	Trap/Vee/Rect Channel Flow,
					Bot.W=4.00' D=1.00' Z= 3.0 & 6.0 '/' Top.W=13.00'
					n= 0.035
0.6	159	0.0770	4.16		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
28.9	2,352	Total			

Summary for Subcatchment 46S: C28-A

Runoff = 30.89 cfs @ 12.24 hrs, Volume=

2.255 af, Depth= 2.84"

Routed to Pond 45P: Culvert at 698+81

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac) (N Des	cription		
*	0.	950	98			
	2.	920	61 >75	% Grass c	over, Good	, HSG B
	3.	110	55 Woo	ds, Good,	HSG B	
*	2.	540	70 Row	crops, SF	R + CR, Goo	od, HSG B
	9.	520	65 Wei	ghted Aver	rage	
	8.	570	90.0	2% Pervio	us Area	
	0.	950	9.98	% Impervi	ous Area	
	_					
	Tc	Length	•	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	12.0	140	0.1950	0.19		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.82"
	8.0	132	0.0970	2.80		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	1.7	509	0.0350	4.98	39.82	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'
						n= 0.035
	14.5	781	Total			

Summary for Subcatchment 47S: C28-B

Runoff = 23.02 cfs @ 12.13 hrs, Volume= 1.246 af, Depth= 4.06"

Routed to Pond 46P: Pond D

MSE 24-hr 4 100-yr Rainfall=6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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	Area	(ac)	CN	Desc	cription		
*	1.	023	98				
	2.	055	61	>759	% Grass co	over, Good	, HSG B
_	0.	603	98	Wate	er Surface	, HSG B	
	3.	681	77		hted Aver		
	2.	055		55.8	3% Pervio	us Area	
	1.	626		44.1	7% Imper\	/ious Area	
	_			01			
	Tc	Lengt		Slope	Velocity	Capacity	Description
	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	4.7	8	7 0	.2900	0.31		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	1.4						Direct Entry, Increase to min TOC
	6.1	8	7 T	otal			

Summary for Subcatchment 48S: C28-C1

Runoff = 6.19 cfs @ 12.13 hrs, Volume= 0.330 af, Depth= 3.44"

Routed to Pond 47P: Ramp B 706+25

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	ription						
*	0.	300	98								
	0.	850	61	>75%	√ Grass co	over, Good	d, HSG B				
	1.	150	71	Weig	hted Aver	age					
	0.850 73.91% Pervious Area										
	0.	300		26.09	9% Imperv	ious Area					
	Тс	Leng	th S	Slope	Velocity	Capacity	Description				
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	·				
	6.0						Direct Entry				

Summary for Subcatchment 49S: C28-C2

Runoff = 26.62 cfs @ 12.22 hrs, Volume= 1.864 af, Depth= 3.64"

Routed to Link 44L: Door Creek Combined

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	Area	(ac)	CN	Desc	ription		
*	1.	510	98				
	3.	400	61	>75%	√ Grass co	over, Good	, HSG B
	1.	120	80	>75%	√ Grass co	over, Good	, HSG D
	0.	110	55	Woo	ds, Good,	HSG B	
	6.	140	73	Weig	hted Aver	age	
	4.	630		75.4°	1% Pervio	us Area	
	1.	510		24.59	9% Imperv	/ious Area	
	Тс	Lengt	:h	Slope	Velocity	Capacity	Description
	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	8.9	13	0 0	.3600	0.24		Sheet Flow,
							Woods: Light underbrush n= 0.400 P2= 2.82"
	4.7	1,30	5 0	.0210	4.60	37.92	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 6.0 & 2.5 '/' Top.W=12.50'
							n= 0.035
	13.6	1,43	5 T	otal			

Summary for Subcatchment 51S: Luds Lane

Runoff = 2.66 cfs @ 12.44 hrs, Volume= 0.287 af, Depth= 4.60"

Routed to Link 56L: Lag to Door Creek

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 100-yr Rainfall=6.66"

	Area	(ac)	CN	Desc	cription		
*	0.	350	98				
*	0.	400	68				
	0.	750	82	Weig	hted Aver	age	
	0.400 53.33% Pervious Area						
	0.	350		46.6	7% Imper\	/ious Area	
	Tc (min)	Lengt (feet		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	6.0						Direct Entry,
	25.6	2,00	4 0	.0210	1.30		Shallow Concentrated Flow,
							Cultivated Straight Rows Kv= 9.0 fps
	31.6	2,00	4 T	otal			

Summary for Subcatchment 52S: Proposed Stability Campus to Pond B

Runoff = 45.98 cfs @ 12.05 hrs, Volume= 2.335 af, Depth= 5.60" Routed to Pond 64P : Pond B-reduced_raised 1 ft and raised spillway

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 Area (ac)	CN	Description
5.000	91	Urban industrial, 72% imp, HSG C
 1.400		28.00% Pervious Area
3.600		72.00% Impervious Area

Summary for Reach 20R: Overland Flow

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Outflow = $0.00 \text{ cfs } \bigcirc 0.00 \text{ hrs}$, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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= 3.00' Flow Area= 300.0 sf, Capacity= 1,515.22 cfs

10.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 30.0 '/' Top Width= 190.00'

Length= 2,474.0' Slope= 0.0057 '/'

Inlet Invert= 872.00', Outlet Invert= 858.00'



Summary for Pond 1P: Niebuhr Stormwater Pond

Inflow Area = 4.670 ac, 72.16% Impervious, Inflow Depth = 5.26" for 100-yr event

Inflow = 35.89 cfs @ 12.13 hrs, Volume= 2.048 af

Outflow = 5.07 cfs @ 12.55 hrs, Volume= 2.047 af, Atten= 86%, Lag= 25.5 min

Primary = 5.07 cfs @ 12.55 hrs, Volume= 2.047 af

Routed to Pond 2P: Storm Basin 2 with Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 885.68' @ 12.55 hrs Surf.Area= 33,750 sf Storage= 43,099 cf

Plug-Flow detention time= 145.0 min calculated for 2.046 af (100% of inflow)

Center-of-Mass det. time= 144.6 min (925.8 - 781.2)

Volume	Invert	Avail.Storage	Storage Description
#1	882.60'	54,584 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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on	Surf.Area	Inc.Store	Cum.Store	
et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
30	0	0	0	
00	275	55	55	
00	9,336	4,806	4,860	
00	26,430	17,883	22,743	
00	37,251	31,841	54,584	
Routing	Invert	Outlet Devices		
Primary	883.00'	Special & Use	r-Defined	
•		Head (feet) 0.	00 0.10 0.20	0.30 0.40 0.50 0.60 0.70 0.80 0.90
		1.00 1.10 1.20	0 1.30 1.40 1	.50 1.60 1.70 1.80 1.90 2.00 2.10
		2.20 2.30 2.40	2.50	
		Disch. (cfs) 0.0	0.0 0.030 0.0	070 0.140 0.210 0.290 0.380 0.480
				080 1.220 1.370 1.520 1.670 1.830
		1.990 2.160 2	.330 2.510 2.	690 2.880 3.070 3.260
Primary	885.50'	10.0' long x 3.	.0' breadth Br	oad-Crested Rectangular Weir
•				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
		` ,		
	et) 60 00 00 00 00 Routing Primary	et) (sq-ft) 60 0 00 275 00 9,336 00 26,430 00 37,251 Routing Invert Primary 883.00'	et) (sq-ft) (cubic-feet) 60 0 0 0 75 55 70 9,336 4,806 70 26,430 17,883 70 37,251 31,841 Routing Invert Outlet Devices Primary 883.00' Special & Use Head (feet) 0. 1.00 1.10 1.20 2.20 2.30 2.40 Disch. (cfs) 0.6 0.590 0.700 0 1.990 2.160 2 Primary 885.50' 10.0' long x 3 Head (feet) 0.2 2.50 3.00 3.50 Coef. (English)	et) (sq-ft) (cubic-feet) (cubic-feet) 00 0 0 0 0 00 275 55 55 00 9,336 4,806 4,860 00 26,430 17,883 22,743 00 37,251 31,841 54,584 Routing Invert Outlet Devices Primary 883.00' Special & User-Defined Head (feet) 0.00 0.10 0.20 1.00 1.10 1.20 1.30 1.40 1 2.20 2.30 2.40 2.50 Disch. (cfs) 0.000 0.030 0.00 0.590 0.700 0.830 0.950 1. 1.990 2.160 2.330 2.510 2. Primary 885.50' 10.0' long x 3.0' breadth Br Head (feet) 0.20 0.40 0.60 2.50 3.00 3.50 4.00 4.50

Primary OutFlow Max=5.07 cfs @ 12.55 hrs HW=885.68' TW=880.38' (Dynamic Tailwater)

1=Special & User-Defined (Custom Controls 3.26 cfs)

-2=Broad-Crested Rectangular Weir (Weir Controls 1.81 cfs @ 1.02 fps)

Summary for Pond 2P: Storm Basin 2 with Infiltration

Inflow Area = 21.962 ac, 37.03% Impervious, Inflow Depth = 3.90" for 100-yr event

Inflow = 54.15 cfs @ 12.38 hrs, Volume= 7.140 af

Outflow = 39.97 cfs @ 12.67 hrs, Volume= 7.140 af, Atten= 26%, Lag= 17.2 min

Discarded = 0.48 cfs @ 12.63 hrs, Volume= 0.397 af Primary = 39.49 cfs @ 12.67 hrs, Volume= 6.783 af

Routed to Pond 9P: Culvert 534+50

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 880.43' @ 12.63 hrs Surf.Area= 0.732 ac Storage= 1.714 af

Plug-Flow detention time= 50.8 min calculated for 7.135 af (100% of inflow)

Center-of-Mass det. time= 50.9 min (911.0 - 860.1)

Volume	Invert	Avail.Storage	Storage Description
#1	877.20'	2.160 af	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
877.20	0.137	0.000	0.000
877.37	0.141	0.024	0.024
877.38	0.415	0.003	0.026
878.00	0.449	0.268	0.294
879.00	0.568	0.509	0.803
880.00	0.658	0.613	1.416
881.00	0.831	0.744	2.160

Device	Routing	Invert	Outlet Devices
#1	Primary	877.20'	18.0" Round Culvert X 2.00
	•		L= 25.0' CPP, end-section conforming to fill, Ke= 0.500
			Inlet / Outlet Invert= 877.20' / 877.10' S= 0.0040 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.20'	Special & User-Defined
			Head (feet) 0.00 0.20 0.40 0.60 0.80 1.00
			Disch. (cfs) 0.000 0.340 0.960 1.760 2.710 3.790
#3	Device 1	878.20'	30.0' long x 2.0' 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
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32
#4	Discarded	877.20'	0.500 in/hr Exfiltration over Surface area
			Conductivity to Groundwater Elevation = 870.00'
#5	Primary	880.00'	30.0' long x 6.0' 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 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
			2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.48 cfs @ 12.63 hrs HW=880.43' (Free Discharge) 4=Exfiltration (Controls 0.48 cfs)

Primary OutFlow Max=39.26 cfs @ 12.67 hrs HW=880.42' TW=879.18' (Dynamic Tailwater)

1=Culvert (Inlet Controls 18.92 cfs @ 5.35 fps)

2=Special & User-Defined (Passes < 3.79 cfs potential flow)

-3=Broad-Crested Rectangular Weir (Passes < 254.90 cfs potential flow)

-5=Broad-Crested Rectangular Weir (Weir Controls 20.34 cfs @ 1.63 fps)

Summary for Pond 3P: Sheriff Phase 2 Bioretention

Inflow Area = 0.745 ac, 77.85% Impervious, Inflow Depth = 5.49" for 100-yr event
Inflow = 5.88 cfs @ 12.13 hrs, Volume= 0.341 af
Outflow = 4.41 cfs @ 12.18 hrs, Volume= 0.311 af, Atten= 25%, Lag= 3.0 min
Discarded = 0.02 cfs @ 12.19 hrs, Volume= 0.048 af
Primary = 4.39 cfs @ 12.18 hrs, Volume= 0.263 af
Routed to Pond 2P : Storm Basin 2 with Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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Peak Elev= 881.32' @ 12.19 hrs Surf.Area= 3,897 sf Storage= 5,521 cf

Plug-Flow detention time= 299.6 min calculated for 0.311 af (91% of inflow)

Income Accell Otensons Otensons Description

Center-of-Mass det. time= 258.8 min (1,034.4 - 775.6)

<u>Volume</u>	Invert	Avail.Sto	<u>rage Storage</u>	age Storage Description		
#1	879.50'	8,28	39 cf Custom	Stage Data (Prismatic)Listed	pelow (Recalc)	
Elevation		ırf.Area	Inc.Store	Cum.Store		
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)		
879.5	50	2,225	0	0		
880.0	00	2,651	1,219	1,219		
881.0	00	3,579	3,115	4,334		
881.5	50	4,080	1,915	6,249		
882.0	00	4,080	2,040	8,289		
Device	Routing	Invert	Outlet Device	8		
#1	Primary	879.50'	12.0" Round	Culvert		
	Š		L= 34.0' CP	, square edge headwall, Ke= 0	.500	
			Inlet / Outlet I	nvert= 879.50' / 879.00' S= 0.0	147 '/' Cc= 0.900	
			n= 0.013, Flo	w Area= 0.79 sf		
#2	Device 1	880.50'	12.0" W x 3.0" H Vert. Orifice/Grate C= 0.600			
			Limited to we	r flow at low heads		
#3	Device 1	881.00'	24.0" Horiz.	Orifice/Grate C= 0.600		
			Limited to we	r flow at low heads		
#4	Primary	881.50'	10.0' long x	2.0' breadth Broad-Crested Re	ectangular Weir	
	·		Head (feet) (.20 0.40 0.60 0.80 1.00 1.20	1.40 1.60 1.80 2.00	
			2.50 3.00 3.			
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2	2.70 2.77 2.89 2.88	
			2.85 3.07 3.			
#5	Discarded	879.50'	0.500 in/hr E	diltration over Surface area a	bove 879.50'	
				Groundwater Elevation = 875.		
				ace area = 2,225 sf		
				, -		

Discarded OutFlow Max=0.02 cfs @ 12.19 hrs HW=881.31' (Free Discharge) **5=Exfiltration** (Controls 0.02 cfs)

Primary OutFlow Max=4.33 cfs @ 12.18 hrs HW=881.31' TW=878.70' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 4.33 cfs @ 5.51 fps)

2=Orifice/Grate (Passes < 0.99 cfs potential flow)

3=Orifice/Grate (Passes < 3.52 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: Cnty-Storm Basin 1

2.220 ac, 90.54% Impervious, Inflow Depth = 5.95" for 100-yr event Inflow Area =

Inflow 18.24 cfs @ 12.13 hrs, Volume= 1.101 af

11.98 cfs @ 12.19 hrs, Volume= Outflow 1.090 af, Atten= 34%, Lag= 3.9 min

Discarded = 0.05 cfs @ 12.20 hrs, Volume= 0.064 af 11.93 cfs @ 12.19 hrs, Volume= Primary 1.026 af

Routed to Pond 6P: County Pond - East

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 882.48' @ 12.20 hrs Surf.Area= 4,847 sf Storage= 8,002 cf

Plug-Flow detention time= 97.6 min calculated for 1.089 af (99% of inflow) Center-of-Mass det. time= 93.1 min (855.2 - 762.1)

Volume	Invert	Avail.Stor	age Storage	Description	
#1	879.72'	10,75	66 cf Custom	Stage Data (Pri	ismatic)Listed below (Recalc)
-	0	.	. 01	0 01	
Elevation		urf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
879.7	72	1,306	0	0	
880.0	00	1,599	407	407	
881.0	00	2,711	2,155	2,562	
882.0	00	3,924	3,318	5,879	
883.0	00	5,830	4,877	10,756	
			•	•	
Device	Routing	Invert	Outlet Devices	S	
#1	Primary	879.72'	18.0" Round	Culvert	
	j		L= 66.5' RCF	o, sq.cut end pro	jecting, Ke= 0.500
			Inlet / Outlet In	nvert= 879.72' / 8	378.47' S= 0.0188 '/' Cc= 0.900
			n= 0.013, Flo	w Area= 1.77 sf	
#2	Device 1	880.72'	•		
			Limited to wei	r flow at low hea	ds
#3	Device 1	881.50'			= 0.600
			Limited to wei	r flow at low hea	ds
#4	Primary	882.74'	10.0' long x	4.0' breadth Bro	oad-Crested Rectangular Weir
	,				0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.5	50 4.00 4.50 5.0	00 5.50
			Coef. (English	i) 2.38 2.54 2.6	69 2.68 2.67 2.67 2.65 2.66 2.66
			, ,	73 2.76 2.79 2.	
#5	Discarded	879.72'	0.500 in/hr Ex	kfiltration over \$	Surface area above 879.72'
					Elevation = 875.00'
			•	ace area = 1,306	

Discarded OutFlow Max=0.05 cfs @ 12.20 hrs HW=882.48' (Free Discharge) **5=Exfiltration** (Controls 0.05 cfs)

Primary OutFlow Max=11.98 cfs @ 12.19 hrs HW=882.47' TW=880.49' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 11.98 cfs @ 6.78 fps)

2=Orifice/Grate (Passes < 1.47 cfs potential flow)

-3=Orifice/Grate (Passes < 29.28 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5P: CNTY-Infiltration Basin #1

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Inflow Area = 4.165 ac, 37.45% Impervious, Inflow Depth = 4.17" for 100-yr event

Inflow = 16.95 cfs @ 12.30 hrs, Volume= 1.447 af

Outflow = 8.60 cfs @ 12.57 hrs, Volume= 1.414 af, Atten= 49%, Lag= 16.4 min

Discarded = 0.18 cfs @ 12.57 hrs, Volume= 0.148 af Primary = 8.42 cfs @ 12.57 hrs, Volume= 1.266 af

Routed to Pond 6P: County Pond - East

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 883.64' @ 12.57 hrs Surf.Area= 16,607 sf Storage= 23,526 cf

Plug-Flow detention time= 173.6 min calculated for 1.414 af (98% of inflow)

Center-of-Mass det. time= 160.8 min (978.0 - 817.1)

Volume	Inve	rt Avail.Sto	rage Storage	Description		
#1	880.7	1' 30,08	38 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)	
Elevation		Surf.Area	Inc.Store	Cum.Store		
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)		
880.7	71	3,155	0	0		
881.0		3,568	975	975		
882.0		6,526	5,047	6,022		
883.0		10,890	8,708	14,730		
884.0	00	19,826	15,358	30,088		
Device	Routing	Invert	Outlet Device	<u>s</u>		
#1	Primary	880.71'	12.0" Round			
					ojecting, Ke= 0.500	
					880.28' S= 0.0083 '/' Cc= 0.900	
			•	w Area= 0.79 sf		
#2	Device 1	881.71'				
			Limited to weir flow at low heads			
#3	Device 1	882.71'				
	. .	000 401		ir flow at low hea		
#4	Primary	883.49'			oad-Crested Rectangular Weir	
					0.80 1.00 1.20 1.40 1.60 1.80 2.00	
			2.50 3.00 3.			
			, ,	,	61 2.60 2.66 2.70 2.77 2.89 2.88	
			2.85 3.07 3.2	20 3.32		

0.500 in/hr Exfiltration over Surface area above 880.71'

Conductivity to Groundwater Elevation = 875.00'

Discarded OutFlow Max=0.18 cfs @ 12.57 hrs HW=883.64' (Free Discharge) **5=Exfiltration** (Controls 0.18 cfs)

Primary OutFlow Max=8.35 cfs @ 12.57 hrs HW=883.64' TW=880.25' (Dynamic Tailwater)

Excluded Surface area = 3,155 sf

-1=Culvert (Barrel Controls 5.47 cfs @ 6.97 fps)

#5

Discarded

-2=Orifice/Grate (Passes < 2.86 cfs potential flow)

880.71'

-3=Orifice/Grate (Passes < 14.57 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Weir Controls 2.88 cfs @ 0.98 fps)

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Summary for Pond 6P: County Pond - East

Inflow Area = 15.375 ac, 65.89% Impervious, Inflow Depth = 4.92" for 100-yr event

Inflow 82.27 cfs @ 12.13 hrs, Volume= 6.308 af

51.97 cfs @ 12.24 hrs, Volume= 51.97 cfs @ 12.24 hrs, Volume= Outflow 6.300 af, Atten= 37%, Lag= 6.5 min

Primary 6.300 af

Routed to Pond 9P: Culvert 534+50

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 880.53' @ 12.23 hrs Surf.Area= 29,531 sf Storage= 69,582 cf

Plug-Flow detention time= 79.8 min calculated for 6.300 af (100% of inflow)

Center-of-Mass det. time= 78.7 min (879.5 - 800.9)

Volume	Inver	t Avail.Sto	rage Storag	e Description	
#1	877.19	9' 101,7	64 cf Custo	m Stage Data (Pr	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
877.1		14,796	0	0	
878.0		17,475	13,070	13,070	
879.0		20,998	19,237	32,306	
880.0		24,807	22,903	55,209	
881.0		33,736	29,272	84,480	
881.5	50	35,400	17,284	101,764	
Device	Routing	Invert	Outlet Device	ces	
#1	Primary	877.20'	18.0" Rour	nd Culvert X 2.00	
	·		Inlet / Outlet		onforming to fill, Ke= 0.500 877.00' S= 0.0063 '/' Cc= 0.900
#2	Device 1	877.20'	Head (feet) 2.00		0.60 0.80 1.00 1.20 1.40 1.60 1.80
			Disch. (cfs) 5.600 6.900		00 0.800 1.500 2.500 3.400 4.500
#3	Device 1	879.20'			oad-Crested Rectangular Weir
					0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3		04 0 00 0 00 0 70 0 77 0 00 0 00
			2.85 3.07 3		61 2.60 2.66 2.70 2.77 2.89 2.88
#4	Primary	880.00'			oad-Crested Rectangular Weir
		000.00			0.80 1.00 1.20 1.40 1.60 1.80 2.00
				3.50 4.00 4.50 5	
			Coef. (Engli	sh) 2.37 2.51 2.	70 2.68 2.68 2.67 2.65 2.65 2.65
			2.65 2.66 2	2.66 2.67 2.69 2	.72 2.76 2.83

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Primary OutFlow Max=48.28 cfs @ 12.24 hrs HW=880.52' TW=879.36' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 18.37 cfs @ 5.20 fps)

2=Special & User-Defined (Passes < 8.30 cfs potential flow)

-3=Broad-Crested Rectangular Weir (Passes < 279.63 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Weir Controls 29.90 cfs @ 1.90 fps)

Summary for Pond 9P: Culvert 534+50

Inflow Area = 38.657 ac, 47.50% Impervious, Inflow Depth = 4.15" for 100-yr event

Inflow = 63.88 cfs @ 12.67 hrs, Volume= 13.385 af

Outflow = 63.88 cfs @ 12.67 hrs, Volume= 13.385 af, Atten= 0%, Lag= 0.0 min

Primary = 63.88 cfs @ 12.67 hrs, Volume= 13.385 af

Routed to Pond 57P: 187+00 42" Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 879.92' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.00'	53.0" W x 34.0" H, R=47.9" Elliptical RCP_Elliptical 53x34 L= 128.0' Ke= 0.270 Inlet / Outlet Invert= 875.00' / 874.50' S= 0.0039 '/' Cc= 0.900 n= 0.012, Flow Area= 10.20 sf

Primary OutFlow Max=56.19 cfs @ 12.67 hrs HW=879.19' TW=878.25' (Dynamic Tailwater) 1=RCP_Elliptical 53x34 (Inlet Controls 56.19 cfs @ 5.51 fps)

Summary for Pond 13P: Culvert at Ramp A 690+50

Inflow Area = 3.410 ac, 26.10% Impervious, Inflow Depth = 3.75" for 100-yr event

Inflow = 18.18 cfs @ 12.16 hrs, Volume= 1.065 af

Outflow = 18.18 cfs @ 12.16 hrs, Volume= 1.065 af, Atten= 0%, Lag= 0.0 min

Primary = 18.18 cfs @ 12.16 hrs, Volume= 1.065 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 880.26' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	878.35'	24.0" Round Culvert
			L= 132.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 878.35' / 874.50' S= 0.0292 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=17.85 cfs @ 12.16 hrs HW=880.23' TW=875.64' (Dynamic Tailwater) 1=Culvert (Inlet Controls 17.85 cfs @ 5.83 fps)

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Summary for Pond 14P: Culvert at Millpond 387+00

Inflow Area = 180.907 ac, 17.94% Impervious, Inflow Depth > 3.31" for 100-yr event

Inflow = 210.20 cfs @ 12.46 hrs, Volume= 49.897 af

Outflow = 210.20 cfs @ 12.46 hrs, Volume= 49.897 af, Atten= 0%, Lag= 0.0 min

Primary = 210.20 cfs @ 12.46 hrs, Volume= 49.897 af Routed to Pond 64P : Pond B-reduced raised 1 ft and raised spillway

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 876.73' @ 12.46 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	871.30'	48.0" Round Culvert X 2.00
			L= 92.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 871.30' / 871.00' S= 0.0033 '/' Cc= 0.900
			n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=209.73 cfs @ 12.46 hrs HW=876.72' TW=874.04' (Dynamic Tailwater) 1=Culvert (Barrel Controls 209.73 cfs @ 8.34 fps)

Summary for Pond 16P: Culvert 509+94 (NB CTH AB)

Inflow Area = 3.560 ac, 1.12% Impervious, Inflow Depth = 2.65" for 100-yr event

Inflow = 8.40 cfs @ 12.36 hrs, Volume= 0.786 af

Outflow = 8.40 cfs @ 12.36 hrs, Volume= 0.786 af, Atten= 0%, Lag= 0.0 min

Primary = 8.40 cfs @ 12.36 hrs, Volume= 0.786 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 879.14' @ 12.36 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	878.00'	24.0" Round Culvert
			L= 178.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 878.00' / 876.00' S= 0.0112 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=8.36 cfs @ 12.36 hrs HW=879.14' TW=876.64' (Dynamic Tailwater) 1=Culvert (Inlet Controls 8.36 cfs @ 4.54 fps)

Summary for Pond 18P: Culvert 505+79 (NB CTH AB)

Inflow Area = 14.235 ac, 12.61% Impervious, Inflow Depth = 3.04" for 100-yr event

Inflow = 31.74 cfs @ 12.49 hrs, Volume= 3.604 af

Outflow = 31.74 cfs @ 12.49 hrs, Volume= 3.604 af, Atten= 0%, Lag= 0.0 min

Primary = 31.74 cfs @ 12.49 hrs, Volume= 3.604 af

Routed to Pond 58P: Culvert 395+33 (Millpond)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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Peak Elev= 883.26' @ 12.52 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	877.97'	30.0" Round Culvert
	-		L= 128.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 877.97' / 877.05' S= 0.0072 '/' Cc= 0.900
			n= 0.012, Flow Area= 4.91 sf

Primary OutFlow Max=31.70 cfs @ 12.49 hrs HW=883.20' TW=881.77' (Dynamic Tailwater) 1=Culvert (Outlet Controls 31.70 cfs @ 6.46 fps)

Summary for Pond 19P: Landfill Pond

28.420 ac, 1.16% Impervious, Inflow Depth = 4.38" for 100-yr event Inflow Area =

Inflow = 159.75 cfs @ 12.19 hrs, Volume= 10.377 af

33.91 cfs @ 12.58 hrs, Volume= 33.91 cfs @ 12.58 hrs, Volume= Outflow 10.359 af, Atten= 79%, Lag= 23.7 min

Primary = 10.359 af

Routed to Pond 22P: 36" Culvert 182+00

Volume

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 883.37' @ 12.58 hrs Surf.Area= 1.566 ac Storage= 5.085 af

Plug-Flow detention time= 238.1 min calculated for 10.352 af (100% of inflow)

Invert Avail.Storage Storage Description

Center-of-Mass det. time= 238.8 min (1,043.1 - 804.3)

#1	877.33'	6.106 af	Custom St	age Data	(Prismatic)Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Si (acre-f		n.Store re-feet)	
877.33	0.334	0.	000	0.000	
878.00	0.401	0.	246	0.246	
879.00	0.497	0.	449	0.695	
880.00	0.661	0.	579	1.274	
881.00	0.952	0.	806	2.081	
882.00	1.214	1.	083	3.164	
883.00	1.487	1.	350	4.514	
884.00	1.697	1.	592	6.106	
Device R	outing	Invert Ou	ıtlet Devices		

Device	Routing	IIIVEIL	Outlet Devices
#1	Primary	877.33'	18.0" Round Culvert
			L= 69.6' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 877.33' / 875.77' S= 0.0224 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.33'	1.0" Vert. Orifice/Grate X 7.00 C= 0.600
			Limited to weir flow at low heads
#3	Device 1	877.68'	1.0" Vert. Orifice/Grate X 8.00 C= 0.600
			Limited to weir flow at low heads
#4	Device 1	878.03'	1.0" Vert. Orifice/Grate X 9.00 C= 0.600
			Limited to weir flow at low heads
#5	Device 1	879.77'	18.0" Horiz. Orifice/Grate C= 0.600

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Limited to weir flow at low heads

#6 Primary 882.66' 10.0' long x 10.0' breadth Broad-Crested Rectangular Weir

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=33.86 cfs @ 12.58 hrs HW=883.37' TW=877.22' (Dynamic Tailwater)

1=Culvert (Passes 17.64 cfs of 19.58 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.45 cfs @ 11.80 fps)

-3=Orifice/Grate (Orifice Controls 0.50 cfs @ 11.45 fps)

—4=Orifice/Grate (Orifice Controls 0.54 cfs @ 11.09 fps)
—5=Orifice/Grate (Orifice Controls 16.15 cfs @ 9.14 fps)

-6=Broad-Crested Rectangular Weir (Weir Controls 16.21 cfs @ 2.27 fps)

Summary for Pond 22P: 36" Culvert 182+00

Inflow Area = 37.914 ac, 10.10% Impervious, Inflow Depth > 4.33" for 100-yr event

Inflow = 61.73 cfs @ 12.22 hrs, Volume= 13.666 af

Outflow = 61.73 cfs @ 12.22 hrs, Volume= 13.666 af, Atten= 0%, Lag= 0.0 min

Primary = 61.73 cfs @ 12.22 hrs, Volume= 13.666 af Routed to Pond 64P : Pond B-reduced raised 1 ft and raised spillway

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 877.77' @ 12.21 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	874.00'	36.0" Round Culvert

L= 289.0' RCP, groove end w/headwall, Ke= 0.200

Inlet / Outlet Invert= 874.00' / 871.00' S= 0.0104 '/' Cc= 0.900

n= 0.014, Flow Area= 7.07 sf

Primary OutFlow Max=60.94 cfs @ 12.22 hrs HW=877.69' TW=873.12' (Dynamic Tailwater) 1=Culvert (Barrel Controls 60.94 cfs @ 8.94 fps)

Summary for Pond 24P: YH1 - Pond

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth = 3.04" for 100-yr event

Inflow = 107.68 cfs @ 12.80 hrs, Volume= 16.811 af

Outflow = 24.45 cfs @ 14.22 hrs, Volume= 16.402 af, Atten= 77%, Lag= 85.2 min

Primary = 24.45 cfs @ 14.22 hrs, Volume= 16.402 af

Routed to Pond 25P: Small Depression

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 897.85' @ 14.23 hrs Surf.Area= 242,964 sf Storage= 400,340 cf

Plug-Flow detention time= 530.8 min calculated for 16.390 af (97% of inflow)

Center-of-Mass det. time= 518.8 min (1,391.3 - 872.5)

Volume	Invert	Avail.Storage	Storage Description
#1	895.00'	437,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store	
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)	
895.00	94,949	0	0	
896.00	101,543	98,246	98,246	
897.00	159,762	130,653	228,899	
898.00	257,486	208,624	437,523	

Device	Routing	Invert	Outlet Devices	
#1	Primary	895.00'	12.0" Round Culvert	
	•		L= 140.0' RCP, mitered to conform to fill, Ke= 0.700	
			Inlet / Outlet Invert= 895.00' / 894.00' S= 0.0071 '/' Cc= 0.900	
			n= 0.012, Flow Area= 0.79 sf	
#2	Primary	897.00'	10.0' long x 100.0' breadth Broad-Crested Rectangular Weir	
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60	
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63	

Primary OutFlow Max=24.44 cfs @ 14.22 hrs HW=897.85' TW=895.94' (Dynamic Tailwater)

-1=Culvert (Outlet Controls 3.73 cfs @ 4.75 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 20.72 cfs @ 2.43 fps)

Summary for Pond 25P: Small Depression

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 2.96" for 100-yr event

24.45 cfs @ 14.22 hrs, Volume= Inflow 16.402 af

16.374 af, Atten= 1%, Lag= 9.1 min 24.31 cfs @ 14.37 hrs, Volume= Outflow

Primary 24.31 cfs @ 14.37 hrs, Volume= 16.374 af

Routed to Pond 58P: Culvert 395+33 (Millpond)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 895.95' @ 14.37 hrs Surf.Area= 31,283 sf Storage= 32,211 cf

Plug-Flow detention time= 50.4 min calculated for 16.374 af (100% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 45.6 min (1,436.9 - 1,391.3)

Invert

Volume

#1	894.	00' 33,8	74 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)	
Elevation		Surf.Area	Inc.Store	Cum.Store		
(fee	€[)	(sq-ft)	(cubic-feet)	(cubic-feet)		
894.0	00	5,815	0	0		
895.0	00	14,871	10,343	10,343		
896.0	00	32,190	23,531	33,874		
Device	Routing	Invert	Outlet Devices	S		
#1	Primary	894.00'	12.0" Round	Culvert		
			L= 205.0' RC	= 205.0' RCP, sq.cut end projecting, Ke= 0.500		
			Inlet / Outlet Ir	nvert= 894.00' /	892.00' S= 0.0098 '/' Cc= 0.900	
			n= 0.012, Flo	w Area= 0.79 sf		
#2 Primary 895.50' 25.0' long x 40.0' breadth Broad-Cre Head (feet) 0.20 0.40 0.60 0.80 1.00			road-Crested Rectangular Weir			
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60			
			Coef. (English	i) 2.68 2.70 2. ⁻	70 2.64 2.63 2.64 2.64 2.63	

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Primary OutFlow Max=24.30 cfs @ 14.37 hrs HW=895.95' TW=878.49' (Dynamic Tailwater)

1=Culvert (Barrel Controls 4.09 cfs @ 5.21 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 20.21 cfs @ 1.81 fps)

Summary for Pond 28P: 12/18 140+35

Inflow Area = 9.510 ac, 26.18% Impervious, Inflow Depth = 3.41" for 100-yr event

Inflow = 38.17 cfs @ 12.21 hrs, Volume= 2.705 af

Outflow = 38.17 cfs @ 12.21 hrs, Volume= 2.705 af, Atten= 0%, Lag= 0.0 min

Primary = 38.17 cfs @ 12.21 hrs, Volume= 2.705 af

Routed to Pond 59P: Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 863.66' @ 12.21 hrs

Primary OutFlow Max=37.56 cfs @ 12.21 hrs HW=863.61' TW=861.18' (Dynamic Tailwater) 1=RCP_Elliptical 45x29 (Barrel Controls 37.56 cfs @ 5.52 fps)

Summary for Pond 32P: Long Drive 440+35

Inflow Area = 4.570 ac, 14.44% Impervious, Inflow Depth = 2.94" for 100-yr event

Inflow = 14.95 cfs @ 12.25 hrs, Volume= 1.120 af

Outflow = 14.95 cfs @ 12.25 hrs, Volume= 1.120 af, Atten= 0%, Lag= 0.0 min

Primary = 14.95 cfs @ 12.25 hrs, Volume= 1.120 af

Routed to Pond 28P: 12/18 140+35

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 864.26' @ 12.22 hrs

 Device
 Routing
 Invert
 Outlet Devices

 #1
 Primary
 861.50'
 24.0" Round Culvert

 L= 62.0'
 RCP, groove end w/headwall, Ke= 0.200

 Inlet / Outlet Invert= 861.50' / 860.80'
 S= 0.0113 '/'
 Cc= 0.900

 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=14.92 cfs @ 12.25 hrs HW=864.15' TW=863.52' (Dynamic Tailwater) 1=Culvert (Outlet Controls 14.92 cfs @ 4.75 fps)

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Summary for Pond 34P: YH3-Pond

Inflow Area = 204.006 ac. 4.43% Impervious, Inflow Depth = 2.59" for 100-yr event

Inflow 300.20 cfs @ 12.68 hrs, Volume= 44.078 af

Outflow 170.46 cfs @ 13.18 hrs, Volume= 42.987 af, Atten= 43%, Lag= 29.9 min

170.46 cfs @ 13.18 hrs, Volume= Primary 42.987 af

Routed to Pond 38P: YH6-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 861.06' @ 13.19 hrs Surf.Area= 339,183 sf Storage= 676,609 cf

Plug-Flow detention time= 277.5 min calculated for 42.987 af (98% of inflow)

Center-of-Mass det. time= 255.7 min (1,147.1 - 891.4)

Volume	Invert	Avail.Storage	Storage Description
#1	858.00'	1,137,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
858.00	182,909	0	0
859.00	191,060	186,985	186,985
860.00	214,659	202,860	389,844
861.00	320,867	267,763	657,607
862.00	638,965	479,916	1,137,523

Device	Routing	Invert	Outlet Devices
#1	Primary	858.00'	36.0" Round Culvert
	-		L= 1,066.0' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 858.00' / 855.00' S= 0.0028 '/' Cc= 0.900
			n= 0.012, Flow Area= 7.07 sf
#2	Primary	860.50'	125.0' long x 60.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=170.22 cfs @ 13.18 hrs HW=861.06' TW=858.31' (Dynamic Tailwater)

-1=Culvert (Outlet Controls 29.97 cfs @ 5.17 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 140.25 cfs @ 2.01 fps)

Summary for Pond 36P: YH4-Pond

Inflow Area = 12.220 ac, 4.26% Impervious, Inflow Depth = 2.84" for 100-yr event

32.93 cfs @ 12.32 hrs, Volume= Inflow 2.894 af

Outflow 21.47 cfs @ 12.54 hrs, Volume= 2.868 af, Atten= 35%, Lag= 12.7 min

Primary 21.47 cfs @ 12.54 hrs, Volume= 2.868 af

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 862.32' @ 12.54 hrs Surf.Area= 35,191 sf Storage= 36,441 cf

Plug-Flow detention time= 170.7 min calculated for 2.866 af (99% of inflow)

Center-of-Mass det. time= 167.3 min (1,010.1 - 842.8)

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Volume	Inve	ert Avail.Sto	rage Storage	e Description	
#1	861.0	00' 64,00	01 cf Custon	n Stage Data (P	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
861.0 862.0 863.0	00 00	21,906 29,959 46,178	0 25,933 38,069	0 25,933 64,001	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	861.00'	8.0" Round		
#2	Primary	861.80'	Inlet / Outlet n= 0.012, Flo 20.0' long x Head (feet)	Invert= 861.00' / ow Area= 0.35 sf 5 0.0' breadth B 0.20 0.40 0.60	Rrojecting, Ke= 0.500 859.76' S= 0.0050 '/' Cc= 0.900 Broad-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=21.39 cfs @ 12.54 hrs HW=862.32' TW=859.47' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 1.07 cfs @ 3.07 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 20.32 cfs @ 1.95 fps)

Summary for Pond 37P: YH5 - Pond

Inflow Area = 2.350 ac, 51.91% Impervious, Inflow Depth = 4.38" for 100-yr event

Inflow = 15.18 cfs @ 12.14 hrs, Volume= 0.858 af

Outflow = 0.73 cfs @ 13.61 hrs, Volume= 0.793 af, Atten= 95%, Lag= 87.7 min

Primary = 0.73 cfs @ 13.61 hrs, Volume= 0.793 af

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 865.61' @ 13.61 hrs Surf.Area= 42,467 sf Storage= 24,564 cf

Plug-Flow detention time= 645.8 min calculated for 0.792 af (92% of inflow)

Center-of-Mass det. time= 610.9 min (1,411.8 - 800.9)

Volume	Inv	ert Avail.Sto	rage Storage [Description	
#1	865.0	00' 93,4	14 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
Elevation	on	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
865.0	00	38,602	0	0	
866.0	00	44,980	41,791	41,791	
867.0	00	58,266	51,623	93,414	
	_				
Device	Routing	Invert	Outlet Devices	•	
#1	Primary	866.50'	65.0' long x 1	5.0' breadth B	road-Crested Rectangular Weir
	•				0.80 1.00 1.20 1.40 1.60
			` ,		70 2.64 2.63 2.64 2.64 2.63
#2	Primary	865.00'	8.0" Round C	,	

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L= 170.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 865.00' / 864.15' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.73 cfs @ 13.61 hrs HW=865.61' TW=860.96' (Dynamic Tailwater)

1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Barrel Controls 0.73 cfs @ 2.87 fps)

Summary for Pond 38P: YH6-Pond

Inflow Area = 303.663 ac, 5.11% Impervious, Inflow Depth > 2.66" for 100-yr event

Inflow = 245.88 cfs @ 13.08 hrs, Volume= 67.400 af

Outflow = 109.26 cfs @ 14.09 hrs, Volume= 67.400 af, Atten= 56%, Lag= 60.4 min

Primary = 109.26 cfs @ 14.09 hrs, Volume= 67.400 af

Routed to Link 36L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Starting Elev= 856.60' Surf.Area= 282,460 sf Storage= 556,446 cf

Peak Elev= 858.83' @ 14.09 hrs Surf.Area= 461,575 sf Storage= 1,322,907 cf (766,461 cf above start)

Plug-Flow detention time= 313.9 min calculated for 54.588 af (81% of inflow)

Center-of-Mass det. time= 77.6 min (1,118.1 - 1,040.5)

Volume	Invert	Avail.Storage	Storage Description
#1	854.63'	2,032,289 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
854.63	282,460	0	0
856.60	282,460	556,446	556,446
857.00	299,898	116,472	672,918
858.00	336,652	318,275	991,193
859.00	486,957	411,805	1,402,997
860.00	771,626	629,292	2,032,289

Device	Routing	Invert	Outlet Devices
#1	Primary	854.63'	42.0" Round Culvert X 2.00

L= 28.0' CMP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900

n= 0.024, Flow Area= 9.62 sf

Primary OutFlow Max=109.25 cfs @ 14.09 hrs HW=858.83' TW=856.60' (Dynamic Tailwater) 1=Culvert (Inlet Controls 109.25 cfs @ 5.68 fps)

Summary for Pond 41P: AB 520+90

Inflow Area = 3.250 ac, 21.54% Impervious, Inflow Depth = 3.34" for 100-yr event

Inflow = 15.06 cfs @ 12.17 hrs, Volume= 0.904 af

Outflow = 15.06 cfs @ 12.17 hrs, Volume= 0.904 af, Atten= 0%, Lag= 0.0 min

Primary = 15.06 cfs @ 12.17 hrs, Volume= 0.904 af

Routed to Pond 54P: Pond C

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 877.74' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.61'	24.0" Round Culvert
			L= 335.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 875.61' / 874.00' S= 0.0048 '/' Cc= 0.900
			n= 0.012. Flow Area= 3.14 sf

Primary OutFlow Max=14.62 cfs @ 12.17 hrs HW=877.70' TW=875.82' (Dynamic Tailwater) 1=Culvert (Outlet Controls 14.62 cfs @ 5.54 fps)

Summary for Pond 43P: Ramp C 805+00

Inflow Area = 7.982 ac, 32.15% Impervious, Inflow Depth > 3.83" for 100-yr event

Inflow 5.80 cfs @ 12.14 hrs, Volume= 2.546 af

5.80 cfs @ 12.14 hrs, Volume= 2.546 af. Atten= 0%. Lag= 0.0 min Outflow

Primary 5.80 cfs @ 12.14 hrs, Volume= 2.546 af

Routed to Link 44L: Door Creek Combined

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 874.47' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	873.30'	24.0" Round Culvert
	_		L= 92.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 873.30' / 872.90' S= 0.0043 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=5.63 cfs @ 12.14 hrs HW=874.45' TW=0.00' (Dynamic Tailwater) 1=Culvert (Barrel Controls 5.63 cfs @ 4.36 fps)

Summary for Pond 45P: Culvert at 698+81

9.520 ac, 9.98% Impervious, Inflow Depth = 2.84" for 100-yr event Inflow Area =

Inflow 30.89 cfs @ 12.24 hrs, Volume= 2.255 af

30.89 cfs @ 12.24 hrs, Volume= 30.89 cfs @ 12.24 hrs, Volume= Outflow 2.255 af, Atten= 0%, Lag= 0.0 min

Primary 2.255 af

Routed to Pond 46P: Pond D

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 881.79' @ 12.24 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	879.00'	30.0" Round Culvert L= 167.0' RCP, groove end w/headwall, Ke= 0.200

Inlet / Outlet Invert= 879.00' / 878.00' S= 0.0060 '/' Cc= 0.900

n= 0.012, Flow Area= 4.91 sf

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Primary OutFlow Max=30.49 cfs @ 12.24 hrs HW=881.76' TW=878.91' (Dynamic Tailwater) —1=Culvert (Barrel Controls 30.49 cfs @ 7.01 fps)

Summary for Pond 46P: Pond D

Inflow Area = 13.201 ac, 19.51% Impervious, Inflow Depth = 3.18" for 100-yr event

Inflow = 47.09 cfs @ 12.17 hrs, Volume= 3.501 af

Outflow = 31.88 cfs @ 12.33 hrs, Volume= 3.490 af, Atten= 32%, Lag= 10.0 min

Primary = 31.88 cfs @ 12.33 hrs, Volume= 3.490 af

Routed to Pond 51P: Pond D Infiltration

Invert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 879.08' @ 12.33 hrs Surf.Area= 0.407 ac Storage= 1.078 af

Plug-Flow detention time= 271.3 min calculated for 3.488 af (100% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 271.2 min (1,096.5 - 825.3)

VOIGITIC	IIIVCIL	Avaii.Otora	ige Ciore	age bescription
#1	876.00'	1.469	af Cust	tom Stage Data (Prismatic)Listed below (Recalc)
Elevatio			c.Store	Cum.Store
(fee	et) (ac	res) (ac	re-feet)	(acre-feet)
876.0	00 0.	.299	0.000	0.000
877.0	00 0.	.331	0.315	0.315
878.0	0.00	.364	0.347	0.662
879.0	0.00	.404	0.384	1.046
880.0	00 0.	.442	0.423	1.469
Device	Routing	Invert	Outlet De	evices
#1	Primary	876.00'	18.0" Ro	ound Culvert
	Ţ		Inlet / Ou	RCP, square edge headwall, Ke= 0.500 itlet Invert= 876.00' / 875.50' S= 0.0109 '/' Cc= 0.900 , Flow Area= 1.77 sf
#2	Device 1	876.00'	6.0" Vert	t. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	878.25'	Head (fee 2.50 3.0 Coef. (Er	g x 6.0' breadth Broad-Crested Rectangular Weir et) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 0 3.50 4.00 4.50 5.00 5.50 nglish) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 6 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=31.60 cfs @ 12.33 hrs HW=879.07' TW=876.32' (Dynamic Tailwater)

1=Culvert (Passes 1.57 cfs of 12.97 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.57 cfs @ 7.99 fps)

-3=Broad-Crested Rectangular Weir (Weir Controls 30.03 cfs @ 2.43 fps)

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Summary for Pond 47P: Ramp B 706+25

Inflow Area = 14.351 ac, 20.04% Impervious, Inflow Depth = 2.81" for 100-yr event

Inflow = 6.19 cfs @ 12.13 hrs, Volume= 3.361 af

Outflow = 6.19 cfs @ 12.13 hrs, Volume= 3.361 af, Atten= 0%, Lag= 0.0 min

Primary = 6.19 cfs @ 12.13 hrs, Volume= 3.361 af

Routed to Link 44L: Door Creek Combined

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 874.71' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	873.75'	24.0" Round Culvert L= 111.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 873.75' / 872.00' S= 0.0158'/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=5.93 cfs @ 12.13 hrs HW=874.68' TW=0.00' (Dynamic Tailwater) 1=Culvert (Inlet Controls 5.93 cfs @ 4.11 fps)

Summary for Pond 51P: Pond D Infiltration

Inflow Area =	13.201 ac, 1	9.51% Impervious, I	nflow Depth > 3.17"	for 100-yr event		
Inflow =	31.88 cfs @	12.33 hrs, Volume=	3.490 af			
Outflow =	5.18 cfs @	13.51 hrs, Volume=	: 3.433 af, At	ten= 84%, Lag= 70.8 min		
Discarded =	0.11 cfs @	13.51 hrs, Volume=	0.402 af			
Primary =	5.07 cfs @	13.51 hrs, Volume=	: 3.031 af			
Routed to Pond 47P : Ramp B 706+25						

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.20' @ 13.51 hrs Surf.Area= 24,538 sf Storage= 58,011 cf

Plug-Flow detention time= 476.3 min calculated for 3.433 af (98% of inflow) Center-of-Mass det. time= 445.0 min (1,541.6 - 1,096.5)

Volume	Invert	Avail.Storage	Storage	Description
#1	875.50'	78,680 cf	Custom	n Stage Data (Prismatic)Listed below (Recalc)
Elevation (feet)	Surf.A (sc		c.Store c-feet)	Cum.Store (cubic-feet)

Cum.Store	inc.Store	Suri.Area	Elevation
(cubic-feet)	(cubic-feet)	(sq-ft)	(feet)
0	0	18,668	875.50
9,588	9,588	19,685	876.00
30,329	20,741	21,796	877.00
53,174	22,845	23,894	878.00
78,680	25,507	27,119	879.00

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Device	Routing	Invert	Outlet Devices
#1	Primary	875.50'	12.0" Round Culvert
	•		L= 46.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 875.50' / 875.35' S= 0.0033 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Device 1	875.75'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	878.00'	48.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	878.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Discarded	875.50'	0.140 in/hr Exfiltration over Horizontal area
			Conductivity to Groundwater Elevation = 870.00'

Discarded OutFlow Max=0.11 cfs @ 13.51 hrs HW=878.20' (Free Discharge) **5=Exfiltration** (Controls 0.11 cfs)

Primary OutFlow Max=5.07 cfs @ 13.51 hrs HW=878.20' TW=874.64' (Dynamic Tailwater)

1=Culvert (Passes 5.07 cfs of 5.19 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.40 cfs @ 7.14 fps)

3=Orifice/Grate (Weir Controls 3.66 cfs @ 1.46 fps)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 54P: Pond C

Inflow Area = 7.094 ac, 32.79% Impervious, Inflow Depth = 3.90" for 100-yr event

Inflow = 40.07 cfs @ 12.14 hrs, Volume= 2.308 af

Outflow = 2.02 cfs @ 13.61 hrs, Volume= 2.292 af, Atten= 95%, Lag= 88.4 min

Primary = 2.02 cfs @ 13.61 hrs, Volume= 2.292 af

Routed to Pond 43P: Ramp C 805+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 877.05' @ 13.61 hrs Surf.Area= 0.572 ac Storage= 1.469 af

Plug-Flow detention time= 519.9 min calculated for 2.290 af (99% of inflow)

Center-of-Mass det. time= 517.3 min (1,325.6 - 808.3)

Volume	Invert	Avail.Storage	Storage Description
#1	874.00'	2.703 af	Custom Stage Data (Prismatic)Listed below (Recalc)

Cum.Store	Inc.Store	Surt.Area	Elevation
(acre-feet)	(acre-feet)	(acres)	(feet)
0.000	0.000	0.393	874.00
0.422	0.422	0.451	875.00
0.902	0.480	0.509	876.00
1.441	0.539	0.569	877.00
2.041	0.600	0.631	878.00
2.703	0.662	0.693	879.00

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Device	Routing	Invert	Outlet Devices
#1	Primary	874.00'	12.0" Round Culvert
			L= 41.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 874.00' / 873.80' S= 0.0049 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Device 1	874.00'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	877.00'	48.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	878.00'	20.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.02 cfs @ 13.61 hrs HW=877.05' TW=873.99' (Dynamic Tailwater)

-1=Culvert (Passes 2.02 cfs of 5.86 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.58 cfs @ 8.05 fps)

-3=Orifice/Grate (Weir Controls 0.43 cfs @ 0.72 fps)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 57P: 187+00 42" Culvert

43.792 ac, 47.85% Impervious, Inflow Depth = 4.18" for 100-yr event Inflow Area =

81.44 cfs @ 12.23 hrs, Volume= Inflow 15.259 af

81.44 cfs @ 12.23 hrs, Volume= Outflow = 15.259 af, Atten= 0%, Lag= 0.0 min

81.44 cfs @ 12.23 hrs, Volume= 15.259 af Primary

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 878.95' @ 12.24 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	872.70'	42.0" Round Culvert
	·		L= 297.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 872.70' / 871.50' S= 0.0040 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=78.11 cfs @ 12.23 hrs HW=878.89' TW=876.13' (Dynamic Tailwater) **1=Culvert** (Outlet Controls 78.11 cfs @ 8.12 fps)

Summary for Pond 58P: Culvert 395+33 (Millpond)

114.625 ac, 5.66% Impervious, Inflow Depth > 2.91" for 100-yr event Inflow Area =

95.04 cfs @ 12.54 hrs, Volume= Inflow 27.754 af

95.04 cfs @ 12.54 hrs, Volume= 27.754 af, Atten= 0%, Lag= 0.0 min Outflow

95.04 cfs @ 12.54 hrs, Volume= Primary 27.754 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 881.85' @ 12.54 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.90'	42.0" Round Culvert

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L= 148.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 875.90' / 875.40' S= 0.0034 '/' Cc= 0.900 n= 0.012. Flow Area= 9.62 sf

Primary OutFlow Max=94.81 cfs @ 12.54 hrs HW=881.83' TW=876.41' (Dynamic Tailwater) 1=Culvert (Barrel Controls 94.81 cfs @ 9.85 fps)

Summary for Pond 59P: Pond A

300.773 ac, 22.78% Impervious, Inflow Depth > 3.57" for 100-yr event Inflow Area =

Inflow 265.24 cfs @ 12.17 hrs, Volume= 89.409 af

76.68 cfs @ 15.11 hrs, Volume= Outflow 86.792 af, Atten= 71%, Lag= 175.9 min

Primary 76.68 cfs @ 15.11 hrs, Volume= 86.792 af

Routed to Link 36L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 863.55' @ 15.11 hrs Surf.Area= 3.500 ac Storage= 15.333 af

Plug-Flow detention time= 252.3 min calculated for 86.792 af (97% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 182.3 min (1,394.0 - 1,211.7)

Invert

VOIGITIC	IIIVOIT /	van.otorag	<u> </u>	age Description
#1	859.00'	24.336	af Cus	stom Stage Data (Prismatic)Listed below (Recalc) x 0.85
Elevation	Surf.Area	Inc	.Store	Cum.Store
(feet)	(acres)	(acre	e-feet)	(acre-feet)
859.00	3.694		0.000	0.000
860.00	3.815		3.755	3.755
861.00			3.876	7.631
862.00			3.999	11.630
863.00			4.123	15.753
864.00			4.123	19.877
865.00			4.250	24.127
866.00	4.570		4.505	28.631
Device F	Routing	Invert	Outlet D	Devices
#1 F	Primary	858.20'	42.0" R	Round Culvert
	-		L= 15.2'	RCP, square edge headwall, Ke= 0.500
			Inlet / O	utlet Invert= 858.20' / 858.00' S= 0.0132 '/' Cc= 0.900
				2, Flow Area= 9.62 sf
#2 [Device 1			n Weir/Orifice, Cv= 2.62 (C= 3.28)
				eet) 0.00 3.50 3.50 6.00
				eet) 0.17 4.20 6.00 6.00
#3 E	Device 2		-	Round Culvert
				RCP, groove end w/headwall, Ke= 0.200
				utlet Invert= 857.00' / 857.00' S= 0.0000 '/' Cc= 0.900
<i>!! 4</i> =	. .			2, Flow Area= 9.62 sf
#4 F	Primary			ng x 10.0' breadth Broad-Crested Rectangular Weir
				eet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coei. (E	inglish) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

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Primary OutFlow Max=76.68 cfs @ 15.11 hrs HW=863.55' TW=856.60' (Dynamic Tailwater)

-1=Culvert (Passes 76.68 cfs of 87.90 cfs potential flow)

2=Custom Weir/Orifice (Weir Controls 76.68 cfs @ 5.50 fps)

3=Culvert (Passes 76.68 cfs of 119.19 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: Pond B (Wet Basin)

Volume	Invert A	Avail.Stora	ge St	orage Description
#1	871.00'	38.463	af Cu	ustom Stage Data (Prismatic)Listed below
Elevatio	n Surf.Area	ı In	c.Store	Cum.Store
(feet	:) (acres)) (ac	re-feet)	(acre-feet)
871.00	0 2.901		0.000	0.000
872.00	0 3.063	}	2.982	2.982
873.00	0 3.159)	3.111	6.093
874.00			4.768	
875.00			6.487	
876.00			6.730	
877.00			7.045	
878.00	0 7.451		7.340	38.463
Davidaa	Davidina	1	0.41-4	Davissa
-	Routing	Invert		Devices
#1	Primary	871.00'		Round Culvert L= 3,037.0' Ke= 0.850
				Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
				12, Flow Area= 9.62 sf
#2	Device 1	871.00'		m Weir/Orifice, Cv= 2.62 (C= 3.28)
				(feet) 0.00 1.50 1.50 6.00
110	0 1	070 401		(feet) 0.17 1.27 6.00 6.00
#3	Secondary	876.40'		ong x 10.0' breadth Broad-Crested Rectangular Weir
				(feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coet. ((English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge) 3=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 61P: (new Pond)

Inflow Area = 2.146 ac, 41.66% Impervious, Inflow Depth = 5.15" for 100-yr event

Inflow = 16.26 cfs @ 12.13 hrs, Volume= 0.921 af

Outflow = 16.26 cfs @ 12.13 hrs, Volume= 0.921 af, Atten= 0%, Lag= 0.0 min

Primary = 16.26 cfs @ 12.13 hrs, Volume= 0.921 af

Routed to Pond 59P: Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

¹—2=Custom Weir/Orifice (Controls 0.00 cfs)

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Peak Elev= 865.13' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	859.50'	18.0" Round Culvert
			L= 122.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 859.50' / 859.00' S= 0.0041 '/' Cc= 0.900
			n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=15.55 cfs @ 12.13 hrs HW=864.80' TW=860.67' (Dynamic Tailwater) 1=Culvert (Outlet Controls 15.55 cfs @ 8.80 fps)

Summary for Pond 62P: Pond B (Wet Basin) Spillway change

Volume	Invert /	<u> Avail.Stora</u>	ige Sto	torage Description
#1	871.00'	38.463	af Cu	ustom Stage Data (Prismatic)Listed below
Elevation	on Surf.Area	a In	c.Store	e Cum.Store
(fee	et) (acres) (acı	re-feet)) (acre-feet)
871.0	00 2.90°	1	0.000	0.000
872.0	00 3.063	3	2.982	2 2.982
873.0			3.111	
874.0			4.768	
875.0			6.487	
876.0			6.730	
877.0			7.045	
878.0)0 7.45°	1	7.340	38.463
Device	Routing	Invert	Outlet	t Devices
#1	Primary	871.00'		Round Culvert L= 3,037.0' Ke= 0.850
#1	Filliary	07 1.00		Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
				012, Flow Area= 9.62 sf
#2	Device 1	871.00'		om Weir/Orifice, Cv= 2.62 (C= 3.28)
11 2	DOVIGO 1	07 1.00		(feet) 0.00 1.50 1.50 6.00
			,	(feet) 0.17 1.27 6.00 6.00
#3	Secondary	876.40'		nmetrical Weir, C= 3.27
	= = = = = = = = = =		•	t (feet) 0.00 20.00 60.00 80.00
				t (feet) 1.00 0.00 0.00 1.00
			•	

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)

3=Asymmetrical Weir (Controls 0.00 cfs)

²⁼Custom Weir/Orifice (Controls 0.00 cfs)

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Summary for Pond 63P: Pond B (Dry Basin)

Volume	Invert A	Avail.Stora	ge	Storage Description
#1	869.00'	1.772	af	Custom Stage Data (Prismatic)Listed below
Elevatior (feet) (acres) (acı	c.Sto	t) (acre-feet)
869.00			0.00	
870.00			0.03	• • • • • • • • • • • • • • • • • • • •
871.00	0.097	7	0.07	77 0.114
872.00	0.138	3	0.1	7 0.232
873.00	2.94	1	1.54	1.772
Device	Routing	Invert	Outl	et Devices
#1	Primary	871.00'	18.0	" Round Culvert
	•		L= 1	3.0' RCP, groove end projecting, Ke= 0.200
			Inlet	/ Outlet Invert= 871.00' / 871.00' S= 0.0000 '/' Cc= 0.900
			n= 0	.012, Flow Area= 1.77 sf
#2	Secondary	873.00'	378 . Hea	0' long + 20.0 '/' SideZ x 15.0' breadth Broad-Crested Rectangular Weir d (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 f. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge) 1=Culvert (Controls 0.00 cfs)

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

Summary for Pond 64P: Pond B-reduced raised 1 ft and raised spillway

244.722 ac, 18.67% Impervious, Inflow Depth > 3.55" for 100-yr event Inflow Area =

72.470 af Inflow 325.27 cfs @ 12.34 hrs, Volume=

Outflow 66.30 cfs @ 15.41 hrs, Volume= 70.290 af, Atten= 80%, Lag= 184.5 min

66.30 cfs @ 15.41 hrs, Volume= Primary = 70.290 af

Routed to Pond 59P: Pond A

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 20R: Overland Flow

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 876.19' @ 15.22 hrs Surf.Area= 6.930 ac Storage= 29.065 af

Plug-Flow detention time= 371.9 min calculated for 70.290 af (97% of inflow) Center-of-Mass det. time= 314.1 min (1,322.0 - 1,007.9)

Volume	Invert	Avail.Storage	Storage Description
#1	871.00'	42.125 af	Custom Stage Data (Prismatic)Listed below

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
871.00	2.930	0.000	0.000
872.00	3.134	3.032	3.032
872.50	5.890	2.256	5.288
873.00	6.100	2.998	8.285
874.00	6.376	6.238	14.524
875.00	6.599	6.487	21.011
876.00	6.861	6.730	27.741
877.00	7.228	7.044	34.785
878.00	7.451	7.339	42.125

Device	Routing	Invert	Outlet Devices
#1	Primary	871.00'	42.0" Round Culvert L= 3,037.0' Ke= 0.850
			Inlet / Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
			n= 0.012, Flow Area= 9.62 sf
#2	Device 1	871.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 1.50 1.50 6.00
			Width (feet) 0.17 1.27 6.00 6.00
#3	Device 2	870.00'	42.0" Round Culvert L= 20.0' Ke= 0.700
			Inlet / Outlet Invert= 870.00' / 870.00' S= 0.0000 '/' Cc= 0.900
			n= 0.012, Flow Area= 9.62 sf
#4	Secondary	876.40'	80.0' long x 10.0' breadth Broad-Crested Rectangular Weir
	•		Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=66.30 cfs @ 15.41 hrs HW=876.18' TW=863.54' (Dynamic Tailwater)

-1=Culvert (Outlet Controls 66.30 cfs @ 6.89 fps)

-2=Custom Weir/Orifice (Passes 66.30 cfs of 149.77 cfs potential flow) **-3=Culvert** (Passes 66.30 cfs of 86.06 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=871.00' TW=872.00' (Dynamic Tailwater) **1**—4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 65P: YH6-Pond

Inflow	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af	
Outflow	=	78.74 cfs @	0.00 hrs, Volume=	12.903 af, Atten= 0%, Lag= 0.0 m	in
Primary	=	78.74 cfs @	0.00 hrs, Volume=	12.903 af	
Secondary	/ =	0.00 cfs @	0.00 hrs, Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Starting Elev= 856.60' Surf.Area= 6.484 ac Storage= 12.773 af Peak Elev= 856.60' @ 0.00 hrs Surf.Area= 6.484 ac Storage= 12.773 af

Plug-Flow detention time= (not calculated: no plugs found) Center-of-Mass det. time= (not calculated: no inflow)

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Invert

854.63'

Volume

#1

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Avail.Storage Storage Description

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Elevation	on Surf.Area	In	c.Store	Cum.Store	
(fee	et) (acres)	(ac	re-feet)	(acre-feet)	
854.6	6.484		0.000	0.000	
856.6	6.484		12.773	12.773	
857.0	00 6.885		2.674	15.447	
858.0	00 7.728		7.307	22.754	
859.0	00 11.179)	9.453	32.207	
860.0	00 17.714		14.447	46.654	
Device	Routing	Invert	Outlet [Devices	
#1	Primary	854.63'	108.0"	W x 36.0" H Bo	ox Culvert
#2 Secondary		858.60'	Inlet / C n= 0.01 50.0' lo Head (f	Outlet Invert= 854 2 Concrete pipe ong + 25.0 '/' Sideet) 0.20 0.40	edge headwall, Ke= 0.500 4.63' / 854.25' S= 0.0136 '/' Cc= 0.900 e, finished, Flow Area= 27.00 sf deZ x 15.0' breadth Broad-Crested Rectangular Weir 0.60 0.80 1.00 1.20 1.40 1.60 70 2.70 2.64 2.63 2.64 2.64 2.63

46.654 af Custom Stage Data (Prismatic)Listed below (Recalc)

Primary OutFlow Max=78.74 cfs @ 0.00 hrs HW=856.60' (Free Discharge)
—1=Culvert (Barrel Controls 78.74 cfs @ 5.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=856.60' (Free Discharge) 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link 35L: Ag. Ditch #4 Tributary

Inflow Area = 19.199 ac, 34.85% Impervious, Inflow Depth = 4.38" for 100-yr event

Inflow = 94.50 cfs @ 12.22 hrs, Volume= 7.002 af

Primary = 93.06 cfs @ 12.49 hrs, Volume= 7.002 af, Atten= 2%, Lag= 15.9 min

Routed to Link 36L: Combined to Ag Ditch #4

Primary outflow = Inflow delayed by 15.8 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Combined to Ag Ditch #4

Inflow Area = 640.771 ac, 14.16% Impervious, Inflow Depth > 3.10" for 100-yr event

Inflow = 200.42 cfs @ 13.71 hrs, Volume= 165.392 af

Primary = 200.42 cfs @ 13.71 hrs, Volume= 165.392 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Fixed water surface Elevation= 856.60'

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Summary for Link 44L: Door Creek Combined

Inflow Area = 40.584 ac, 24.45% Impervious, Inflow Depth = 3.35" for 100-yr event

Inflow = 55.68 cfs @ 12.27 hrs, Volume= 11.315 af

Primary = 55.68 cfs @ 12.27 hrs, Volume= 11.315 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 56L: Lag to Door Creek

Inflow Area = 0.750 ac, 46.67% Impervious, Inflow Depth = 4.60" for 100-yr event

Inflow = 2.66 cfs @ 12.44 hrs, Volume= 0.287 af

Primary = 2.65 cfs @ 12.87 hrs, Volume= 0.287 af, Atten= 0%, Lag= 25.6 min

Routed to Link 44L: Door Creek Combined

Primary outflow = Inflow delayed by 25.6 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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Summary for Subcatchment 1S: C1

Runoff = 41.25 cfs @ 12.13 hrs, Volume=

2.378 af, Depth= 6.11"

Routed to Pond 1P: Niebuhr Stormwater Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	cription		
*	3.	370	98				
	1.	300	61	>75%	√ Grass co	over, Good	d, HSG B
4.670 88 Weighted Average							
	1.300 27.84% Pervious Area						
	3.	370		72.10	6% Imperv	∕ious Area	
	Тс	Lengt	th S	Slope	Velocity	Capacity	Description
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry.

Summary for Subcatchment 2S: C2

Runoff = 28.72 cfs @ 12.44 hrs, Volume= 3.033

3.033 af, Depth= 3.73"

Routed to Pond 2P: Storm Basin 2 with Infiltration

	Area	(ac) C	N Des	cription		
*	1.	020	98			
	5.	655 6	31 >75°	% Grass c	over, Good	, HSG B
	0.	685			comb., Goo	
*	2.			•	R + CŔ, Goo	
_				ghted Aver	•	
		725		3% Pervio		
		020		_	/ious Area	
		020	10.1	7 70 IIIIpoi	7104071104	
	Тс	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	8.0	91	0.0830	0.19	, ,	Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	6.4	59	0.0300	0.15		Sheet Flow,
						Cultivated: Residue>20% n= 0.170 P2= 2.82"
	11.9	573	0.0080	0.80		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	3.3	337	0.0030	1.69	11.17	Channel Flow,
						Area= 6.6 sf Perim= 13.4' r= 0.49' n= 0.030
	1.1	224	0.0050	3.31	10.40	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.020 Corrugated PE, corrugated interior
_	20.7	4 204	Tatal			

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Summary for Subcatchment 3S: C3-A

Runoff = 30.59 cfs @ 12.34 hrs, Volume= 2.811 af, Depth= 4.96"

Routed to Pond 2P: Storm Basin 2 with Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

Area	(ac) C	N Desc	cription		
* 2	2.890	98			
3	3.639	31 >759	% Grass c	over, Good	, HSG B
	.273	98 Wate	er Surface	, HSG B	
6	3.802	78 Weig	ghted Aver	age	
3	3.639	53.5	0% Pervio	us Area	
3	3.163	46.5	0% Imper	vious Area	
Tc	-	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
12.1	86	0.0260	0.12		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
0.9	68	0.0220	1.24		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 2.82"
9.1	1,026	0.0050	1.88	15.43	• •
					Bot.W=0.00' D=1.00' Z= 8.2 '/' Top.W=16.40'
	004	0.0050	0.70	0.00	n= 0.035
1.4	224	0.0050	2.76	8.66	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
0.4	50	0.0050	7.00	40.04	n= 0.024
0.1	59	0.0056	7.06	49.91	Pipe Channel,
					36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'
					n= 0.013
23.6	1,463	Total			

Summary for Subcatchment 4S: C3-B

Runoff = 6.73 cfs @ 12.13 hrs, Volume= 0.394 af, Depth= 6.34"

Routed to Pond 3P : Sheriff Phase 2 Bioretention

	Area (ac)	CN	Description
*	0.580	98	
	0.165	61	>75% Grass cover, Good, HSG B
	0.745	90	Weighted Average
	0.165		22.15% Pervious Area
	0.580		77.85% Impervious Area

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Тс	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry,

Summary for Subcatchment 5S: C4-A

Runoff = 20.72 cfs @ 12.13 hrs, Volume=

1.261 af, Depth= 6.81"

Routed to Pond 4P: Cnty-Storm Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	cription					
*	2.	010	98							
	0.	210	61	>75%	% Grass co	over, Good	I, HSG B			
	2.220 94 Weighted Average									
	0.210 9.46% Pervious Area									
	2.010			90.54% Impervious Area						
	Тс	Leng	th :	Slope	Velocity	Capacity	Description			
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
	6.0						Direct Entry,			

Summary for Subcatchment 6S: C4-B

Runoff = 20.09 cfs @ 12.30 hrs, Volume=

1.721 af, Depth= 4.96"

Routed to Pond 5P: CNTY-Infiltration Basin #1

	Area (ac)	CN	Description
*	1.560	98	
	1.455	61	>75% Grass cover, Good, HSG B
	1.150	74	>75% Grass cover, Good, HSG C
	4.165	78	Weighted Average
	2.605	62.55% Pervious Area	
	1.560		37.45% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	13	0.0200	0.86		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 2.82"
0.9	10	0.2400	0.19		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
14.4	127	0.0370	0.15		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
1.6	115	0.0280	1.17		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
3.3	521	0.0080	2.66	15.95	Trap/Vee/Rect Channel Flow,
					Bot.W=2.00' D=1.00' Z= 4.0 '/' Top.W=10.00'
					n= 0.035
20.5	786	Total			

Summary for Subcatchment 7S: C4-C

Runoff = 4.67 cfs @ 12.13 hrs, Volume=

0.252 af, Depth= 4.51"

Routed to Pond 6P: County Pond - East

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	cription				
*	0.	230	98						
	0.	440	61	>75%	√ Grass co	over, Good	I, HSG B		
	0.670 74 Weighted Average					age			
	0.440 65.67% Pervious Area					us Area			
	0.230			34.33% Impervious Area					
	Тс	Lengt	:h S	Slope	Velocity	Capacity	Description		
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)			
	6.0						Direct Entry,		

Summary for Subcatchment 8S: C4-D

Runoff = 75.11 cfs @ 12.13 hrs, Volume= 4.398 af, Depth= 6.34"

Routed to Pond 6P: County Pond - East

	Area (ac)	CN	Description
*	6.030	98	
	1.350	61	>75% Grass cover, Good, HSG B
	0.300	98	Water Surface, HSG B
_	0.640	74	>75% Grass cover, Good, HSG C
	8.320	90	Weighted Average
	1.990		23.92% Pervious Area
	6.330		76.08% Impervious Area

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
 6.0					Direct Entry,

Summary for Subcatchment 9S: C5-A

Runoff = 7.06 cfs @ 12.13 hrs, Volume=

0.375 af, Depth= 3.41"

Routed to Pond 9P: Culvert 534+50

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	cription		
	1.	220	61	>759	% Grass co	over, Good	, HSG B
*	0.	100	98				
	1.	320	64	Weig	hted Aver	age	
	1.	220		92.4	2% Pervio	us Area	
	0.	100		7.58	% Impervi	ous Area	
	Тс	Length		Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	1.3	16	6 0.	2400	0.21		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	1.7	533	3 0.	0300	5.30	21.19	Trap/Vee/Rect Channel Flow,
							Bot.W=0.00' D=1.00' Z= 4.0 '/' Top.W=8.00'
							n= 0.030
_	3.0						Direct Entry, increase to min TOC
	6.0	549) To	otal			

Summary for Subcatchment 10S: C5-B

Runoff = 6.59 cfs @ 12.13 hrs, Volume=

0.421 af, Depth= 7.29"

Routed to Pond 57P: 187+00 42" Culvert

	Area	(ac)	CN	Desc	cription		
*	0.	693	98				
	0.	693		100.	00% Impe	rvious Area	1
	Тс	Leng	ıth :	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

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Summary for Subcatchment 11S: C5-C

Runoff = 30.24 cfs @ 12.16 hrs, Volume=

1.793 af, Depth= 4.85"

Routed to Pond 57P: 187+00 42" Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

_	Area	(ac) (CN Des	cription		
*	1.	898	98			
	2.	544	61 >75	% Grass c	over, Good	, HSG B
	4.	442	77 Wei	ghted Avei	rage	
	2.	544	57.2	7% Pervio	us Area	
	1.	898	42.7	3% Imper	vious Area	
	Тс	Length	•	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.5	33	0.0270	1.17		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	4.8	76	0.2100	0.27		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.3	869	0.0150	4.36	61.01	Trap/Vee/Rect Channel Flow,
						Bot.W=10.00' D=1.00' Z= 4.0 '/' Top.W=18.00'
						n= 0.035
	8.6	978	Total			

Summary for Subcatchment 12S: C5-E

Runoff = 10.81 cfs @ 12.15 hrs, Volume=

0.634 af, Depth= 5.07"

Routed to Pond 14P: Culvert at Millpond 387+00

	Area (ac)	CN	Description						
*	0.720	98							
	0.740	61	>75% Grass cover, Good, HSG B						
	0.040	74	>75% Grass cover, Good, HSG C						
	1.500	79	Weighted Average						
	0.780								
	0.720		48.00% Impervious Area						

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	18	0.0180	0.88		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	2.2	19	0.0950	0.15		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	5.7	645	0.0050	1.88	15.05	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'
_						n= 0.035
	8.2	682	Total			

Summary for Subcatchment 13S: C6-A

Runoff = 21.78 cfs @ 12.16 hrs, Volume=

1.281 af, Depth= 4.51"

Routed to Pond 13P: Culvert at Ramp A 690+50

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	cription		
*	0.	890	98				
	1.	690	61	>75%	% Grass co	over, Good	, HSG B
	0.	830	74	>75%	% Grass co	over, Good	, HSG C
	3.	410	74	Weig	hted Aver	age	
	2.	520		_	, 0% Pervio	•	
	0.	890		26.1	0% Imperv	ious Area	
					•		
	Tc	Lengtl	ո Տ	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
	3.6	6	5 0.	3100	0.30		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	1.0	8	5 0.	0390	1.38		Shallow Concentrated Flow,
							Short Grass Pasture Kv= 7.0 fps
	3.9	43	1 0.	0050	1.87	9.33	Trap/Vee/Rect Channel Flow,
							Bot.W=0.00' D=1.00' Z= 4.0 & 6.0 '/' Top.W=10.00'
_							n= 0.035
	8.5	58	1 To	otal			

Summary for Subcatchment 14S: C6-B

Runoff = 59.03 cfs @ 12.34 hrs, Volume=

5.397 af, Depth= 4.62"

Routed to Pond 14P: Culvert at Millpond 387+00

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	Area	(ac)	CN	Desc	cription			
*	3.	360	98					
	5.070 61		>75% Grass cover, Good, HSG B					
	5.590 74 >75% Gr			% Grass co	over, Good	, HSG C		
14.020 75 Weighted Average								
	10.660 76.03% Pervious Area					•		
	3.360			23.9	7% Imperv	ious Area		
					•			
	Tc	Length	ո Տ	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	•	
	18.7	148	3 0.	0260	0.13		Sheet Flow,	
							Grass: Dense n= 0.240 P2= 2.82"	
	4.9	898	3 0.	0090	3.03	24.26	Trap/Vee/Rect Channel Flow,	
							Bot.W=4.00' D=1.00' Z= 4.0 '/' Top.W=12.00'	
							n= 0.035	
	23.6	1,046	To	otal				

Summary for Subcatchment 15S: C6-C

Runoff = 22.17 cfs @ 12.13 hrs, Volume= 1.364 af, Depth= 6.93"

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	Area (ac) CN Description					
*	2.	2.020 98					
	0.	0.340 74 >75% Grass cover, Good,					, HSG C
	2.360 95 Weighted Average					age	
	0.340 14.41% Pervious Area					us Area	
	2.020			85.5	9% Imperv	ious Area	
	Тс	Leng	th S	Slope	Velocity	Capacity	Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 16S: C6-D1

Runoff = 10.58 cfs @ 12.36 hrs, Volume= 0.980 af, Depth= 3.30" Routed to Pond 16P : Culvert 509+94 (NB CTH AB)

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	Area	(ac)	CN	Desc	ription					
*	0.	040	98							
	2.	340	61	>75%	√ Grass co	over, Good	, HSG B			
	0.	390	58	Woo	ds/grass d	omb., Goo	d, HSG B			
*	0.	790	70	Row	low crops, SR + CR, Good, HSG B					
	3.	560	63	Weig	hted Aver	age				
	3.520 98.88% Pervious Area									
	0.040 1.12% Impervious Area									
	Tc	Lengt	:h	Slope	Velocity	Capacity	Description			
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)				
	23.0	26	5 0	.0500	0.19		Sheet Flow,			
							Grass: Dense n= 0.240 P2= 2.82"			
	0.9	22	3 0	.0240	4.07	18.31	Trap/Vee/Rect Channel Flow,			
							Bot.W=0.00' D=1.00' Z= 6.0 & 3.0 '/' Top.W=9.00'			
_							n= 0.035			
	23.9	48	8 T	otal						

Summary for Subcatchment 17S: C6-D2

Runoff = 39.24 cfs @ 12.49 hrs, Volume=

4.430 af, Depth= 3.73"

Routed to Pond 18P: Culvert 505+79 (NB CTH AB)

	Area (ac)	CN	Description
*	1.795	98	
	3.625	61	>75% Grass cover, Good, HSG B
	0.305	74	>75% Grass cover, Good, HSG C
	5.110	58	Woods/grass comb., Good, HSG B
*	2.820	70	Row crops, SR + CR, Good, HSG B
*	0.580	79	Row crops, SR + CR, Good, HSG C
	14.235	67	Weighted Average
	12.440		87.39% Pervious Area
	1.795		12.61% Impervious Area

02_Post-DevelopmentConditions_WisDOT_PondEval MSE 24-hr 4 200-yr Rainfall=7.53"

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	15.7	150	0.1150	0.16		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.82"
	7.2	545	0.0630	1.25		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	3.4	219	0.0450	1.06		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	6.7	335	0.0140	0.83		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.1	213	0.0160	3.32	13.26	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 '/' Top.W=8.00'
						n= 0.035
	0.4	150	0.0050	6.40	31.42	•
						30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63'
_						n= 0.012
	34.5	1.612	Total			

Summary for Subcatchment 18S: YH2-B

79.83 cfs @ 12.55 hrs, Volume= Runoff

9.659 af, Depth= 3.41"

Routed to Pond 58P: Culvert 395+33 (Millpond)

	Area	(ac) C	N Des	cription		
*	2.	510 9	98			
	11.	160 6	31 >75°	% Grass co	over, Good	, HSG B
	9.	490 7	74 >75°	% Grass co	over, Good	, HSG C
	2.	240 6	35 Brus	h, Good, H	HSG C	
	8.	590 4	l8 Brus	h, Good, F	HSG B	
	33.	990 6	64 Weig	ghted Aver	age	
	31.	480	92.6	2% Pervio	us Area	
	2.	510	7.38	% Impervi	ous Area	
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	15.5	150	0.0430	0.16		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	17.3	1,216	0.0280	1.17		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	0.7	206	0.0100	4.91	3.86	· · · · · · · · · · · · · · · · · · ·
						12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
	4.0	00.4	0.0040	0.00	00.40	n= 0.012
	1.6	234	0.0040	2.38	38.12	Trap/Vee/Rect Channel Flow,
						Bot.W=8.00' D=1.00' Z= 8.0 '/' Top.W=24.00'
	0.4	25	0.0440	0.00	20.00	n= 0.030
	0.1	35	0.0140	9.23	29.00	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012
						11- 0.012

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3.3	527	0.0140	2.68	53.55	Trap/Vee/Rect Channel Flow, Bot.W=10.00' D=1.00' Z= 10.0 '/' Top.W=30.00' n= 0.050
38.5	2,368	Total			

Summary for Subcatchment 19S: C7 - Landfill

Runoff = 187.77 cfs @ 12.19 hrs, Volume=

12.282 af, Depth= 5.19"

Routed to Pond 19P: Landfill Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

Area	(ac)	CN	Desc	Description					
0.440 96 Gravel surface, HSG C									
27.650 80 >75% Grass cover, Good,					over, Good	, HSG D			
0.330 98 Water Surface, HSG B					, HSG B				
28.420 80 Weighted Average					age				
28.	.090		98.8	4% Pervio	us Area				
0.	330		1.16	% Impervi	ous Area				
_						—			
Tc	Leng		Slope	Velocity	Capacity	Description			
(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)				
11.0						Direct Entry, TOC from Landfill SWMP			

Summary for Subcatchment 20S: C8

Runoff = 49.05 cfs @ 12.22 hrs, Volume=

3.489 af, Depth= 4.96"

Routed to Pond 22P: 36" Culvert 182+00

	Area (ac)	CN	Description		
*	2.980	98			
	2.750	61	>75% Grass cover, Good, HSG B		
	2.714	74	>75% Grass cover, Good, HSG C		
	8.444	78	Weighted Average		
5.464 64.71% Pervious Area					
	2.980		35.29% Impervious Area		

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	31	0.0140	0.89		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 2.82"
1.6	10	0.0520	0.10		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
5.6	1,329	0.0170	3.93	11.78	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00'
					n= 0.030
5.9	395	0.0250	1.11		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
13.7	1,765	Total			

Summary for Subcatchment 22S: C9

Runoff = 7.43 cfs @ 12.16 hrs, Volume=

0.444 af, Depth= 5.07"

Routed to Pond 22P: 36" Culvert 182+00

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac) C	N Des	cription		
*	0.	520	98			
	0.	530	31 >75°	% Grass c	over, Good	, HSG B
	1.050 79 Weighted Average					
	0.	530	•	8% Pervio	•	
	0.	520	49.5	2% Imperv	/ious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.3	19	0.0200	0.93		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	1.8	19	0.1400	0.17		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	6.5	572	0.0030	1.46	11.66	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'
						n= 0.035
	8.6	610	Total			

Summary for Subcatchment 23S: C10

Runoff = 6.91 cfs @ 12.15 hrs, Volume= 0.393 af, Depth= 5.07"

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

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	Area	(ac)	CN E)esc	cription			
*	0.	404	98		•			
	0.	374		759	√ Grass co	over, Good	, HSG B	
	0.	153				over, Good		
	0.	931	79 V	Weighted Average				
	0.	527			, 1% Pervio			
	0.404		4	43.39% Impervious Area				
					•			
	Тс	Length	n Slo	ре	Velocity	Capacity	Description	
_	(min)	(feet) (ft.	/ft)	(ft/sec)	(cfs)		
	0.3	18	0.02	00	0.92		Sheet Flow,	
							Smooth surfaces n= 0.011 P2= 2.82"	
	1.7	19	0.17	00	0.19		Sheet Flow,	
							Grass: Dense n= 0.240 P2= 2.82"	
	5.5	475	0.00	30	1.45	8.71	• • • • • • • • • • • • • • • • • • • •	
							Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'	
							n= 0.035	
	7.5	512	? Tota	I				

Summary for Subcatchment 24S: YH1

Runoff = 133.33 cfs @ 12.80 hrs, Volume=

20.664 af, Depth= 3.73"

Routed to Pond 24P: YH1 - Pond

_	Area	(ac) (<u>CN D</u>	esc	ription					
	22.	700	61 >	>75% Grass cover, Good, HSG B						
	27.	890	74 >	>75% Grass cover, Good, HSG C						
	4.	830		Brush, Good, HSG B						
	8.	800		Brush, Good, HSG C						
		180			r Surface					
	66.	400	67 W	/eig	hted Aver	age				
	64.	220	96	96.72% Pervious Area						
	2.	180	3.	289	% Impervi	ous Area				
	Tc	Length	Slop	ре	Velocity	Capacity	Description			
	(min)	(feet)	(ft/1	ft)	(ft/sec)	(cfs)				
	21.0	150	0.020	00	0.12		Sheet Flow,			
							Grass: Dense n= 0.240 P2= 2.82"			
	36.9	2,018	0.017	70	0.91		Shallow Concentrated Flow,			
		•					Short Grass Pasture Kv= 7.0 fps			
_	57.9	2.168	Total				·			

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Summary for Subcatchment 25S: YH2-A

Runoff = 61.20 cfs @ 12.40 hrs, Volume= 6.125 af, Depth= 4.17"

Routed to Pond 64P: Pond B-reduced raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	cription				
*	0.	460	98						
	6.	980	61	>759	% Grass c	over, Good	, HSG B		
	4.	750	74	>759	% Grass c	over, Good	, HSG C		
	2.	290	58	Woo	ds/grass d	comb., Goo	d, HSG B		
	0.	200	48	Brus	h, Good, I	HSG B			
_	2.	930	98	Wate	Water Surface, HSG B				
	17.	610	71	Weig	ghted Aver	age			
	14.	220		80.7	5% Pervio	us Area			
	3.390				19.25% Impervious Area				
	_			_					
	Tc	Length		lope	Velocity	Capacity	Description		
_	(min)	(feet		ft/ft)	(ft/sec)	(cfs)			
	18.6	150	0.0	270	0.13		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.82"		
	8.3	493	3 0.0	200	0.99		Shallow Concentrated Flow,		
		07.				00.70	Short Grass Pasture Kv= 7.0 fps		
	1.1	375	0.0	280	5.77	80.72	Trap/Vee/Rect Channel Flow,		
							Bot.W=4.00' D=1.00' Z= 15.0 & 5.0 '/' Top.W=24.00'		
	0.4	20		200	4.00		n= 0.030		
	0.1	32	2 0.3	300	4.02		Shallow Concentrated Flow,		
_	00.4	4.050					Short Grass Pasture Kv= 7.0 fps		
	28.1	1,050) Tot	tal					

Summary for Subcatchment 26S: C11,12,15,16,18

Runoff = 85.35 cfs @ 12.13 hrs, Volume= 4.820 af, Depth= 5.76"

Routed to Pond 59P: Pond A

	Area (ac)	CN	Description
*	6.350	98	
	3.330	61	>75% Grass cover, Good, HSG B
	0.360	74	>75% Grass cover, Good, HSG C
	10.040	85	Weighted Average
	3.690		36.75% Pervious Area
	6.350		63.25% Impervious Area

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	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
<u>-</u>	6.0					Direct Entry,

Summary for Subcatchment 27S: C13-A, C13-B, C14

Runoff = 87.14 cfs @ 12.24 hrs, Volume=

6.468 af, Depth= 4.06"

Routed to Pond 59P: Pond A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

_	Area	(ac)	CN	Desc	cription		
*	4.	590	98				
*	10.	730	61				
	0.	643	74	>759	% Grass co	over, Good	, HSG C
	2.	716	55	Woo	ds, Good,	HSG B	
_	0.	424	70	Woo	ds, Good,	HSG C	
	19.	103	70		hted Aver		
		513			7% Pervio		
	4.	590		24.0	3% Imper\	/ious Area	
	_						
	Tc	Lengtl		Slope	Velocity	Capacity	Description
_	(min)	(feet		(ft/ft)	(ft/sec)	(cfs)	
	0.3	18	3 0.	.0200	0.92		Sheet Flow,
							Smooth surfaces n= 0.011 P2= 2.82"
	4.9	7	5 0.	.1900	0.25		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	10.2	1,340	0.	.0050	2.20	20.87	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 6.0 & 5.0 '/' Top.W=15.00'
_							n= 0.035
	15.4	1,43	3 T	otal			

Summary for Subcatchment 28S: C17, C21, C22-A

Runoff = 28.61 cfs @ 12.20 hrs, Volume= 1.902 af, Depth= 4.62"

Routed to Pond 28P: 12/18 140+35

	Area (ac)	CN	Description
*	1.830	98	
	2.930	61	>75% Grass cover, Good, HSG B
	0.180	80	>75% Grass cover, Good, HSG D
	4.940	75	Weighted Average
	3.110		62.96% Pervious Area
	1.830		37.04% Impervious Area

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_	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	17	0.0240	0.97		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	3.0	46	0.2490	0.26		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	8.5	1,279	0.0064	2.51	22.55	Trap/Vee/Rect Channel Flow,
						Bot.W=4.00' D=1.00' Z= 6.0 & 4.0 '/' Top.W=14.00'
						n= 0.035
	11.8	1 342	Total			

^{1,342 |} Total

Summary for Subcatchment 29S: C19-A

27.43 cfs @ 12.26 hrs, Volume= 2.137 af, Depth= 4.73" Runoff

Routed to Pond 59P: Pond A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac) C	N Des	cription		
*	2.	140	98			
*	3.	280	31 Gras	ss HSG B		
	3.	420 280 140	60.5	ghted Aver 2% Pervio 8% Imper		
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	12.6	150	0.0720	0.20		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	2.1	129	0.0210	1.01		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.1	239	0.0300	3.52		Shallow Concentrated Flow,
	4.0	400	0.0050	4.07	40.40	Paved Kv= 20.3 fps
	1.2	132	0.0050	1.87	12.18	Trap/Vee/Rect Channel Flow, Bot.W=0.00' D=1.00' Z= 9.0 & 4.0 '/' Top.W=13.00' n= 0.035
_	17.0	650	Total			

Summary for Subcatchment 30S: C19-B

2.71 cfs @ 12.14 hrs, Volume= 0.144 af, Depth= 3.09" Runoff

Routed to Pond 59P: Pond A

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_	Area	(ac)	CN	Desc	cription		
	0.	560	61	>75%	√ Grass co	over, Good	, HSG B
	0.560			100.0	00% Pervi	ous Area	
	т.	1	u. c	N	\	0	Description
	Tc	Lengi		Slope	,	. ,	Description
_	(min)	(fee	:()	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 31S: C19-C

Runoff = 18.73 cfs @ 12.13 hrs, Volume= 1.07

1.072 af, Depth= 5.99"

Routed to Pond 61P: (new Pond)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	cription		
*	0.	894	98				
	1.	252	80	>75%	% Grass co	over, Good	d, HSG D
	2.146 87 Weighted Aver					age	
	1.252 58.34% Pervious Area					us Area	
	0.894			41.6	6% Imper	ious Area	
	Тс	Lengt	th S	Slope	Velocity	Capacity	Description
	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 32S: C19-D

Runoff = 69.35 cfs @ 12.19 hrs, Volume= 4.811 af, Depth= 6.23"

Routed to Pond 59P: Pond A

	Area (ac)	CN	Description
*	2.665	98	
	1.463	61	>75% Grass cover, Good, HSG B
	1.444	80	>75% Grass cover, Good, HSG D
	3.700	98	Water Surface, HSG B
	9.272	89	Weighted Average
	2.907		31.35% Pervious Area
	6.365		68.65% Impervious Area

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	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	<u> </u>
	8.2	100	0.0930	0.20		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.1	279	0.0450	1.48		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	11.3	379	Total			

Summary for Subcatchment 33S: C20

Runoff = 18.52 cfs @ 12.25 hrs, Volume=

1.381 af, Depth= 3.63"

Routed to Pond 32P: Long Drive 440+35

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac) (N Des	cription		
*	0.	660	98			
	3.910		61 >75	% Grass c	over, Good	, HSG B
	4.570 66		66 Wei	ghted Aver	age	
	3.910		,	6% Pervio	•	
	0.	660	14.4	4% Imper	vious Area	
				•		
	Тс	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.3	12	0.0100	0.64		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	11.3	101	0.0430	0.15		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.9	723	0.0140	3.08	10.79	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 & 3.0 '/' Top.W=7.00'
_						n= 0.035
	15.5	836	Total			

Summary for Subcatchment 34S: YH3-A

Runoff = 15.29 cfs @ 12.18 hrs, Volume=

0.954 af, Depth= 3.63"

Routed to Pond 34P: YH3-Pond

	Area (ac)	CN	Description
*	0.357	98	
	2.668	61	>75% Grass cover, Good, HSG B
	0.131	74	>75% Grass cover, Good, HSG C
	3.156	66	Weighted Average
	2.799		88.69% Pervious Area
	0.357		11.31% Impervious Area

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	Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	10.0 Direct Entry,				Direct Entry,	

Summary for Subcatchment 35S: YH3-B

Runoff = 353.81 cfs @ 12.69 hrs, Volume=

49.620 af, Depth= 3.20"

Routed to Pond 34P: YH3-Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

Area	(ac) (CN Des	cription						
* 2.	750	98							
111.	110	61 >75	% Grass c	over, Good	, HSG B				
25.	680	74 > 75	% Grass c	over, Good	, HSG C				
35.	680	48 Bru	Brush, Good, HSG B						
6.	860	65 Bru	sh, Good, I	HSG C					
4.	200	98 Wa	<u>ter Surface</u>	, HSG B					
186.	280	62 We	ighted Avei	rage					
179.	330	96.2	27% Pervio	us Area					
6.	950	3.73	3% Impervi	ous Area					
Tc	Length	Slope	•	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
19.9	150	0.0230	0.13		Sheet Flow,				
					Grass: Dense n= 0.240 P2= 2.82"				
25.0	1,662	0.0250	1.11		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
1.2	219	0.0090	2.95	29.50	Trap/Vee/Rect Channel Flow,				
					Bot.W=0.00' D=1.00' Z= 10.0 '/' Top.W=20.00'				
					n= 0.030				
2.5	885	0.0110	5.98	7.34	• •				
					15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'				
					n= 0.012				
48.6	2,916	Total							

Summary for Subcatchment 36S: YH4

Runoff = 41.05 cfs @ 12.32 hrs, Volume=

3.582 af, Depth= 3.52"

Routed to Pond 36P: YH4-Pond

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Area	(ac)	CN	Desc	cription			
9.630 61 >75% Grass cover, Good, HSG B							
2.070 74 >75% Grass cover, Good, HSG C							
0.520 98 Water Surface, HSG A							
12	.220	65	Weig	hted Aver	age		
11	.700		95.7	4% Pervio	us Area		
0	.520		4.26	% Impervi	ous Area		
Tc	Lengt	h ·	Slope	Velocity	Capacity	Description	
(min)	(feet	t)	(ft/ft)	(ft/sec)	(cfs)		
13.0	15	0 0	.0660	0.19		Sheet Flow,	
						Grass: Dense n= 0.240 P2= 2.82"	
8.6	47	0 0	.0170	0.91		Shallow Concentrated Flow,	
						Short Grass Pasture Kv= 7.0 fps	
21.6	62	0 T	otal			•	

Summary for Subcatchment 37S: YH5

Runoff = 17.83 cfs @ 12.14 hrs, Volume= 1.016 af, Depth= 5.19"

Routed to Pond 37P: YH5 - Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	cription						
*	0.	330	98								
	1.	130	61	>75%	% Grass co	over, Good	, HSG B				
	0.890 98 Water Surface, HSG A										
	2.350 80 Weighted Average										
	1.	130		48.0	9% Pervio	us Area					
	1.220 51.91% Impervious Area										
	Тс	Leng	th	Slope	Velocity	Capacity	Description				
	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)					
	0.2	1	1 (0.0300	0.98		Sheet Flow,				
							Smooth surfaces n= 0.011 P2= 2.82"				
	7.1	8	37 (0.1000	0.20		Sheet Flow,				
							Grass: Dense n= 0.240 P2= 2.82"				
	7.3	9	8	Total							

Summary for Subcatchment 38S: YH6

Runoff = 266.22 cfs @ 12.50 hrs, Volume= 30.112 af, Depth= 3.63"

Routed to Pond 38P: YH6-Pond

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	Area	(ac)	CN	Desc	cription						
	54.390 61 >75% Grass cover, Good,						, HSG B				
	4.	340	48	Brus	Brush, Good, HSG B						
	7.	606	65	Brush, Good, HSG C							
	26.	837	73	Brus	Brush, Good, HSG D						
	6.	484	98	Wate	Nater Surface, HSG A						
	99.	657	66	Weig	hted Aver	age					
	93.	173		93.4	9% Pervio	us Area					
	6.484			6.51	% Impervi	ous Area					
	Tc	Length	S	lope	Velocity	Capacity	Description				
_	(min)	(feet	((ft/ft)	(ft/sec)	(cfs)					
	19.2	150	0.0)250	0.13		Sheet Flow,				
							Grass: Dense n= 0.240 P2= 2.82"				
	15.4	889	0.0)190	0.96		Shallow Concentrated Flow,				
_							Short Grass Pasture Kv= 7.0 fps				
	34.6	1,039	То	tal							

Summary for Subcatchment 39S: C22B-25

Runoff = 106.84 cfs @ 12.23 hrs, Volume=

7.878 af, Depth= 5.19"

Routed to Link 35L : Ag. Ditch #4 Tributary

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area (ac)		CN Des	Description						
*		210	98	•						
	_	320		75% Grass cover, Good, HSG B						
		359		75% Grass cover, Good, HSG C						
		340		75% Grass cover, Good, HSG D						
_	18	229		ghted Aver		,				
	_	019		33% Pervio						
		210		7% Imper						
	Tc	Length	Slope	Velocity	Capacity	Description				
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	0.4	29	0.0250	1.10		Sheet Flow,				
						Smooth surfaces n= 0.011 P2= 2.82"				
	2.4	30	0.1740	0.20		Sheet Flow,				
						Grass: Dense n= 0.240 P2= 2.82"				
	6.1	100	0.0015	0.27		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
	5.6	874	0.0069	2.58	23.23	Trap/Vee/Rect Channel Flow,				
						Bot.W=0.00' D=1.00' Z= 9.0 '/' Top.W=18.00'				
_						n= 0.030				
	4 A E	4 000	Tatal							

14.5 1,033 Total

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Summary for Subcatchment 40S: C25-B

Runoff = 7.49 cfs @ 12.13 hrs, Volume=

0.410 af, Depth= 5.07"

Routed to Link 35L : Ag. Ditch #4 Tributary

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	ription			
*	0.	480	98					
*	0.	490	61					
	0.	970	79	Weig	hted Aver	age		
	0.490 50.52% Pervious Area							
	0.480			49.48% Impervious Area				
	Тс	Length	ı Sl	ope	Velocity	Capacity	Description	
	(min)	(feet)) (f	ft/ft)	(ft/sec)	(cfs)		
	6.0						Direct Entry,	

Summary for Subcatchment 41S: C26

Runoff = 29.44 cfs @ 12.95 hrs, Volume=

5.178 af, Depth= 3.63"

Routed to Link 36L : Combined to Ag Ditch #4

Description

Area (ac)

CN

	(40) 	<u> </u>	211011							
0.	040 6	31 >75°	% Grass c	over, Good	, HSG B					
0.	016 7			over, Good						
_				,	,					
3.950 48 Brush, Good, HSG B 1.800 65 Brush, Good, HSG C										
	11.330 73 Brush, Good, HSG D									
			ghted Aver							
17.	136	100.	00% Pervi	ous Area						
Тс	Length	Slope	Velocity	Capacity	Description					
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
40.2	150	0.0110	0.06		Sheet Flow,					
					Woods: Light underbrush n= 0.400 P2= 2.82"					
9.7	380	0.0170	0.65		Shallow Concentrated Flow,					
• • • • • • • • • • • • • • • • • • • •		0.0	0.00		Woodland Kv= 5.0 fps					
0.4	58	0.0050	2.76	8.66	•					
0.4	00	0.0000	2.70	0.00	24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'					
					n= 0.024					
0.2	E 0	0.0060	4.00	20.04						
0.2	59	0.0260	4.99	29.91	Trap/Vee/Rect Channel Flow,					
					Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'					
					n= 0.030					
19.3	2,177	0.0007	1.88	53.14	•					
					Bot.W=4.00' D=3.00' Z= 1.8 '/' Top.W=14.80'					
					n= 0.030					

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69.8 2,824 Total

Summary for Subcatchment 42S: C5-D

Runoff = 18.32 cfs @ 12.16 hrs, Volume= 1.7

1.100 af, Depth= 4.06"

Routed to Pond 41P: AB 520+90

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	cription					
*	0.700 98									
	2.260 61		>759	>75% Grass cover, Good, HSG B						
	0.	290	74	>759	>75% Grass cover, Good, HSG C					
	3.250 70 Weighted Averag									
	2.	550		78.4	78.46% Pervious Area					
	0.700			21.5	4% Imper					
	Тс	Length		Slope	Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	2.0	23	3 0.	1600	0.19		Sheet Flow,			
							Grass: Dense n= 0.240 P2= 2.82"			
	7.1	800	0.0	0050	1.87	9.33	Trap/Vee/Rect Channel Flow,			
							Bot.W=0.00' D=1.00' Z= 4.0 & 6.0 '/' Top.W=10.00'			
_							n= 0.035			
	9.1	823	3 To	otal						

Summary for Subcatchment 43S: C27-A

Runoff = 30.20 cfs @ 12.13 hrs, Volume= 1.661 af, Depth= 5.19"

Routed to Pond 54P: Pond C

	Area (ac)	CN	Desc	cription						
*	1.6	326	98								
	1.8	328	61	>75%	75% Grass cover, Good, HSG B						
	0.3	390	98	Wate	er Surface,	0% imp, H	HSG B				
	3.8	344	80	Weig	hted Aver	age					
	2.2	218		57.7	0% Pervio	us Area					
	1.626 42.30% Impervious Area						a e e e e e e e e e e e e e e e e e e e				
		Lengt		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	•				
_	(min)	(iee	ι)	(11/11)	(IVSEC)	(018)					
	6.0						Direct Entry,				

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Summary for Subcatchment 44S: C27-B1

Runoff = 5.78 cfs @ 12.13 hrs, Volume=

0.309 af, Depth= 4.17"

Routed to Pond 43P: Ramp C 805+00

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

_	Area	(ac)	CN	Desc	cription			
*	0.	240	98					
	0.648 61 >75% Grass cover, Good, H						, HSG B	
	0.888 71 Weighted Average							
	0.	648		72.9	7% Pervio	us Area		
	0.240 27.03% Impervious Area							
	Tc (min)	Length (feet		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
	3.2	50	0.:	2500	0.26		Sheet Flow,	
							Grass: Dense n= 0.240 P2= 2.82"	
_	2.8						Direct Entry, Increase to min TOC	
	6.0	50) To	otal				

Summary for Subcatchment 45S: C27-B2 & C27-C

Runoff = 38.82 cfs @ 12.41 hrs, Volume=

3.951 af, Depth= 4.17"

Routed to Link 44L: Door Creek Combined

	Area (ac)	CN	Description						
*	2.620	98	mpervious						
	6.800	61	>75% Grass cover, Good, HSG B						
	0.246	80	>75% Grass cover, Good, HSG D						
*	1.695	70	Row crops, SR + CR, Good, HSG B						
	11.361	71	Weighted Average						
	8.741		76.94% Pervious Area						
	2.620		23.06% Impervious Area						

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	13.6	150	0.0300	0.18	, ,	Sheet Flow,
						Cultivated: Residue>20% n= 0.170 P2= 2.82"
	2.3	150	0.0142	1.07		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	4.9	274	0.0180	0.94		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	7.5	1,619	0.0130	3.60	30.61	Trap/Vee/Rect Channel Flow,
						Bot.W=4.00' D=1.00' Z= 3.0 & 6.0 '/' Top.W=13.00'
						n= 0.035
	0.6	159	0.0770	4.16		Shallow Concentrated Flow,
_						Grassed Waterway Kv= 15.0 fps
	28.9	2,352	Total			

Summary for Subcatchment 46S: C28-A

Runoff = 38.43 cfs @ 12.23 hrs, Volume=

2.791 af, Depth= 3.52"

Routed to Pond 45P: Culvert at 698+81

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN	Desc	ription						
*	0.	950	98								
	2.920 61			>75%	>75% Grass cover, Good, HSG B						
	3.	110	55	Woo	Woods, Good, HSG B						
*	2.	540	70	Row	crops, SR	+ CR, God	od, HSG B				
	9.	520	65	Weig	Weighted Average						
	8.	570			2% Pervio						
	0.950		9.989	9.98% Impervious Area							
					•						
	Тс	Length	1 8	Slope	Velocity	Capacity	Description				
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	12.0	140	0.	1950	0.19		Sheet Flow,				
							Woods: Light underbrush n= 0.400 P2= 2.82"				
	8.0	132	2 0.	0970	2.80		Shallow Concentrated Flow,				
							Cultivated Straight Rows Kv= 9.0 fps				
	1.7	509	0.	0350	4.98	39.82	Trap/Vee/Rect Channel Flow,				
							Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'				
							n= 0.035				
	14.5	78′	To	otal							

Summary for Subcatchment 47S: C28-B

Runoff = 27.27 cfs @ 12.13 hrs, Volume= 1.486 af, Depth= 4.85"

Routed to Pond 46P: Pond D

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	Area	(ac)	CN	Desc	cription						
*	1.	023	98								
	2.	055	61	>759	5% Grass cover, Good, HSG B						
_	0.	603 98 Water Surface, HSG B									
	3.681 77 Weighted Average										
	2.	055		55.8	3% Pervio	us Area					
	1.626 44.17% Impervious Area										
	_			01		0 "					
	Tc	Lengt		Slope	Velocity	Capacity	Description				
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)					
	4.7	8	7 0	.2900	0.31		Sheet Flow,				
							Grass: Dense n= 0.240 P2= 2.82"				
_	1.4						Direct Entry, Increase to min TOC				
	6.1	8	7 T	otal							

Summary for Subcatchment 48S: C28-C1

Runoff = 7.48 cfs @ 12.13 hrs, Volume= 0.400 af, Depth= 4.17"

Routed to Pond 47P: Ramp B 706+25

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

_	Area	(ac)	CN	Desc	cription						
*	0.	300	98								
	0.	850	61	>75%	√ Grass co	over, Good	, HSG B				
	1.	150	71	Weig	hted Aver	age					
	0.	850		73.9	1% Pervio	us Area					
	0.300 26.09% Impervious Area					ious Area					
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
	6.0					•	Direct Entry,				

Summary for Subcatchment 49S: C28-C2

Runoff = 32.04 cfs @ 12.22 hrs, Volume= 2.249 af, Depth= 4.40"

Routed to Link 44L: Door Creek Combined

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	Area	(ac)	CN	Desc	cription		
*	1.	510	98				
	3.	400	61	>75%	√ Grass co	over, Good	, HSG B
	1.	120	80	>75%	√ Grass co	over, Good	, HSG D
	0.	110	55	Woo	ds, Good,	HSG B	
	6.	140	73	Weig	hted Aver	age	
	4.	630		75.4	1% Pervio	us Area	
	1.	510		24.5	9% Imper	ious Area	
	Тс	Leng	th	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	8.9	13	30 (0.3600	0.24		Sheet Flow,
							Woods: Light underbrush n= 0.400 P2= 2.82"
	4.7	1,30)5 (0.0210	4.60	37.92	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 6.0 & 2.5 '/' Top.W=12.50'
							n= 0.035
	13.6	1,43	35	Total			

Summary for Subcatchment 51S: Luds Lane

Runoff = 3.12 cfs @ 12.44 hrs, Volume= 0

0.338 af, Depth= 5.41"

Routed to Link 56L: Lag to Door Creek

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 200-yr Rainfall=7.53"

	Area	(ac)	CN De	scription		
*	0.	350	98			
*	_	400	68			
	0.	750	82 We	ighted Ave	rage	
	0.	400	53.	33% Pervio	us Area	
	0.	350	46.	67% Imper	vious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet	(ft/ft)	(ft/sec)	(cfs)	·
	6.0	•	•			Direct Entry,
	25.6	2,004	0.0210	1.30		Shallow Concentrated Flow,
_		,				Cultivated Straight Rows Kv= 9.0 fps
	31.6	2 004	Total			

31.6 2,004 Total

Summary for Subcatchment 52S: Proposed Stability Campus to Pond B

Runoff = 52.51 cfs @ 12.04 hrs, Volume= 2.692 af, Depth= 6.46" Routed to Pond 64P : Pond B-reduced_raised 1 ft and raised spillway

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	Area (ac)	CN	Description			
	5.000	91	Urban industrial, 72% imp, HSG C			
	1.400		28.00% Pervious Area			
3.600 72.00			72.00% Impervious Area			

Summary for Reach 20R: Overland Flow

Inflow = 76.00 cfs @ 13.78 hrs, Volume= 9.236 af

Outflow = 66.69 cfs @ 14.04 hrs, Volume= 9.236 af, Atten= 12%, Lag= 15.9 min

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Max. Velocity= 2.30 fps, Min. Travel Time= 17.9 min

Avg. Velocity = 0.60 fps, Avg. Travel Time= 69.1 min

Peak Storage= 71,765 cf @ 14.04 hrs

Average Depth at Peak Storage= 0.83', Surface Width= 59.83'

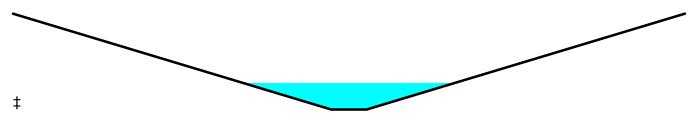
Bank-Full Depth= 3.00' Flow Area= 300.0 sf, Capacity= 1,515.22 cfs

10.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 30.0 '/' Top Width= 190.00'

Length= 2,474.0' Slope= 0.0057 '/'

Inlet Invert= 872.00', Outlet Invert= 858.00'



Summary for Pond 1P: Niebuhr Stormwater Pond

Inflow Area = 4.670 ac, 72.16% Impervious, Inflow Depth = 6.11" for 200-yr event

Inflow = 41.25 cfs @ 12.13 hrs, Volume= 2.378 af

Outflow = 7.80 cfs @ 12.45 hrs, Volume= 2.376 af, Atten= 81%, Lag= 19.5 min

Primary = 7.80 cfs @ 12.45 hrs, Volume= 2.376 af

Routed to Pond 2P: Storm Basin 2 with Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 885.82' @ 12.45 hrs Surf.Area= 35,288 sf Storage= 48,005 cf

Plug-Flow detention time= 138.0 min calculated for 2.376 af (100% of inflow) Center-of-Mass det. time= 137.5 min (915.3 - 777.8)

Volume	Invert	Avail.Storage	Storage Description
#1	882.60'	54,584 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (feet)		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)			
882.6		Ó	0	0			
883.0	00	275	55	55			
884.0	00	9,336	4,806	4,860			
885.0	00	26,430	17,883	22,743			
886.0	00	37,251	31,841	54,584			
Device	Routing	Invert	Outlet Devices				
#1	Primary	883.00'	Special & User	-Defined			
			Head (feet) 0.0	00 0.10 0.20	0.30 0.40 0.50 0.60 0.70 0.80 0.90		
			1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10				
			2.20 2.30 2.40 2.50				
			Disch. (cfs) 0.000 0.030 0.070 0.140 0.210 0.290 0.380 0.480 0.590 0.700 0.830 0.950 1.080 1.220 1.370 1.520 1.670 1.830				
			1.990 2.160 2.330 2.510 2.690 2.880 3.070 3.260				
#2	Primary	885.50'	•		oad-Crested Rectangular Weir		
			` ,		0.80 1.00 1.20 1.40 1.60 1.80 2.00		
			2.50 3.00 3.50				
			` • ,		68 2.67 2.65 2.64 2.64 2.68 2.68		
			2.72 2.81 2.92	2.97 3.07 3	3.32		

Primary OutFlow Max=7.79 cfs @ 12.45 hrs HW=885.82' TW=880.52' (Dynamic Tailwater)

1=Special & User-Defined (Custom Controls 3.26 cfs)

—2=Broad-Crested Rectangular Weir (Weir Controls 4.53 cfs @ 1.42 fps)

Summary for Pond 2P: Storm Basin 2 with Infiltration

Inflow Area = 21.962 ac, 37.03% Impervious, Inflow Depth = 4.66" for 200-yr event

Inflow = 67.73 cfs @ 12.37 hrs, Volume= 8.535 af

Outflow = 69.55 cfs @ 12.69 hrs, Volume= 8.535 af, Atten= 0%, Lag= 18.8 min

Discarded = 0.53 cfs @ 12.64 hrs, Volume= 0.422 af Primary = 69.03 cfs @ 12.69 hrs, Volume= 8.540 af

Routed to Pond 9P: Culvert 534+50

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 880.77' @ 12.64 hrs Surf.Area= 0.792 ac Storage= 1.976 af

Plug-Flow detention time= 49.0 min calculated for 8.529 af (100% of inflow) Center-of-Mass det. time= 49.1 min (902.4 - 853.3)

Volume	Invert	Avail.Storage	Storage Description
#1	877 20'	2 160 af	Custom Stage Data (Prismatic) isted below (Recalc)

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Elevation	Elevation Surf.Area		Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
877.20	0.137	0.000	0.000
877.37	0.141	0.024	0.024
877.38	0.415	0.003	0.026
878.00	0.449	0.268	0.294
879.00	0.568	0.509	0.803
880.00	0.658	0.613	1.416
881.00	0.831	0.744	2.160

Device	Routing	Invert	Outlet Devices		
#1	Primary	877.20'	18.0" Round Culvert X 2.00		
	•		L= 25.0' CPP, end-section conforming to fill, Ke= 0.500		
			Inlet / Outlet Invert= 877.20' / 877.10' S= 0.0040 '/' Cc= 0.900		
			n= 0.012, Flow Area= 1.77 sf		
#2	Device 1	877.20'	Special & User-Defined		
			Head (feet) 0.00 0.20 0.40 0.60 0.80 1.00		
			Disch. (cfs) 0.000 0.340 0.960 1.760 2.710 3.790		
#3	3 Device 1 878.20' 30.0' long x 2.0' breadth Broad-		30.0' long x 2.0' 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		
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88		
			2.85 3.07 3.20 3.32		
#4	Discarded	877.20'	0.500 in/hr Exfiltration over Surface area		
			Conductivity to Groundwater Elevation = 870.00'		
#5	Primary	880.00'	30.0' long x 6.0' 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 5.00 5.50		
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65		
			2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83		

Discarded OutFlow Max=0.53 cfs @ 12.64 hrs HW=880.76' (Free Discharge) 4=Exfiltration (Controls 0.53 cfs)

Primary OutFlow Max=0.00 cfs @ 12.69 hrs HW=880.67' TW=881.42' (Dynamic Tailwater)

1=Culvert (Controls 0.00 cfs)

2=Special & User-Defined (Passes 0.00 cfs of 3.79 cfs potential flow)

-3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: Sheriff Phase 2 Bioretention

Inflow Area = 0.745 ac, 77.85% Impervious, Inflow Depth = 6.34" for 200-yr event for 200-yr

Routed to Pond 2P: Storm Basin 2 with Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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Peak Elev= 881.42' @ 12.20 hrs Surf.Area= 4,001 sf Storage= 5,930 cf

Plug-Flow detention time= 264.8 min calculated for 0.364 af (92% of inflow)

Center-of-Mass det. time= 228.0 min (1,000.4 - 772.4)

Volume	Invert	Avail.Sto	rage Storage	Description	
#1	879.50'	8,28	39 cf Custom	Stage Data (Pr	ismatic)Listed below (Recalc)
Elevatio	n Sı	ırf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
879.5		2,225	Ó	0	
880.0	00	2,651	1,219	1,219	
881.0		3,579	3,115	4,334	
881.5	-	4,080	1,915	6,249	
882.0	00	4,080	2,040	8,289	
Device	Routing	Invert	Outlet Devices	S	
#1	Primary	879.50'	12.0" Round	Culvert	
					eadwall, Ke= 0.500
					879.00' S= 0.0147 '/' Cc= 0.900
				w Area= 0.79 sf	
#2	Device 1	880.50'			e/Grate C= 0.600
110	D : 4	004 001		flow at low hea	
#3	Device 1	881.00'		orifice/Grate C	
#4	Drimon	881.50'		flow at low hea	os pad-Crested Rectangular Weir
#4	Primary	001.00			0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.5		7.00 1.00 1.20 1.40 1.00 1.00 2.00
				-	61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.2		71 2.00 2.00 2.10 2.11 2.00 2.00
#5	Discarded	879.50'	0.500 in/hr Ex	filtration over	Surface area above 879.50'
					Elevation = 875.00'
			Excluded Surfa	ace area = 2,22	5 sf

Discarded OutFlow Max=0.02 cfs @ 12.20 hrs HW=881.42' (Free Discharge) **5=Exfiltration** (Controls 0.02 cfs)

Primary OutFlow Max=4.51 cfs @ 12.20 hrs HW=881.42' TW=879.12' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 4.51 cfs @ 5.74 fps)

2=Orifice/Grate (Passes < 1.07 cfs potential flow)

3=Orifice/Grate (Passes < 5.60 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: Cnty-Storm Basin 1

2.220 ac, 90.54% Impervious, Inflow Depth = 6.81" for 200-yr event Inflow Area =

Inflow 20.72 cfs @ 12.13 hrs, Volume= 1.261 af

12.16 cfs @ 12.15 hrs, Volume= Outflow 1.249 af, Atten= 41%, Lag= 1.3 min

Discarded = 0.06 cfs @ 12.22 hrs, Volume= 0.065 af 12.11 cfs @ 12.15 hrs, Volume= Primary 1.184 af

Routed to Pond 6P: County Pond - East

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 882.76' @ 12.22 hrs Surf.Area= 5,374 sf Storage= 9,416 cf

Plug-Flow detention time= 88.5 min calculated for 1.249 af (99% of inflow) Center-of-Mass det. time= 84.7 min (844.2 - 759.5)

Volume	Invert	Avail.Sto	rage Storage	e Description	
#1	879.72'	10,75	56 cf Custor	m Stage Data (Prismatic)Listed below (Recalc)	
Elevation		ırf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
879.7	72	1,306	0	0	
880.0	00	1,599	407	407	
881.0	00	2,711	2,155	2,562	
882.0		3,924	3,318	5,879	
883.0	00	5,830	4,877	10,756	
		_			
Device	Routing	Invert			
#1	Primary	879.72'	18.0" Roun		
				CP, sq.cut end projecting, Ke= 0.500	
				Invert= 879.72' / 878.47' S= 0.0188 '/' Cc= 0.900	
				low Area= 1.77 sf	
#2	Device 1	880.72'		"H Vert. Orifice/Grate C= 0.600	
				eir flow at low heads	
#3	Device 1	881.50'		Orifice/Grate C= 0.600	
				eir flow at low heads	
#4	Primary	882.74'		(4.0' breadth Broad-Crested Rectangular Weir	
			` ,	0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00	
				5.50 4.00 4.50 5.00 5.50	
				sh) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66	
				2.73 2.76 2.79 2.88 3.07 3.32	
#5	Discarded	879.72'		Exfiltration over Surface area above 879.72'	
			•	to Groundwater Elevation = 875.00'	
			Excluded Su	ırface area = 1,306 sf	

Discarded OutFlow Max=0.06 cfs @ 12.22 hrs HW=882.74' (Free Discharge) 5=Exfiltration (Controls 0.06 cfs)

Primary OutFlow Max=11.65 cfs @ 12.15 hrs HW=882.57' TW=880.70' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 11.65 cfs @ 6.60 fps)

2=Orifice/Grate (Passes < 1.52 cfs potential flow)

-3=Orifice/Grate (Passes < 34.18 cfs potential flow)</p>

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 5P: CNTY-Infiltration Basin #1

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Inflow Area = 4.165 ac, 37.45% Impervious, Inflow Depth = 4.96" for 200-yr event

Inflow = 20.09 cfs @ 12.30 hrs, Volume= 1.721 af

Outflow = 12.81 cfs @ 12.50 hrs, Volume= 1.688 af, Atten= 36%, Lag= 12.1 min

Discarded = 0.19 cfs @ 12.50 hrs, Volume= 0.154 af Primary = 12.62 cfs @ 12.50 hrs, Volume= 1.535 af

Routed to Pond 6P: County Pond - East

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 883.76' @ 12.50 hrs Surf.Area= 17,641 sf Storage= 25,506 cf

Plug-Flow detention time= 152.8 min calculated for 1.688 af (98% of inflow)

Center-of-Mass det. time= 141.9 min (954.9 - 813.0)

Volume	Inver	t Avail.Sto	rage Storage	Description	
#1	880.71	30,08	38 cf Custom	Stage Data (Pr	ismatic)Listed below (Recalc)
Elevation	on S	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
880.7	' 1	3,155	0	0	
881.0	00	3,568	975	975	
882.0	00	6,526	5,047	6,022	
883.0	00	10,890	8,708	14,730	
884.0	00	19,826	15,358	30,088	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	880.71'	12.0" Round	l Culvert	
			L= 51.8' RC	P, sq.cut end pro	jecting, Ke= 0.500
			Inlet / Outlet I	nvert= 880.71' / 8	880.28' S= 0.0083 '/' Cc= 0.900
			n= 0.013, Flo	ow Area= 0.79 sf	
#2	Device 1	881.71'	6.0" W x 12.0)" H Vert. Orifice	e/Grate C= 0.600
				ir flow at low hea	
#3	Device 1	882.71'	24.0" Horiz.	Orifice/Grate C	= 0.600
				ir flow at low hea	
#4	Primary	883.49'			oad-Crested Rectangular Weir
			` ,		0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.	• •	
					61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.3		
#5	Discarded	l 880.71'			Surface area above 880.71'
			Conductivity t	to Groundwater E	Elevation = 875.00'

Discarded OutFlow Max=0.19 cfs @ 12.50 hrs HW=883.75' (Free Discharge) **5=Exfiltration** (Controls 0.19 cfs)

Primary OutFlow Max=12.59 cfs @ 12.50 hrs HW=883.75' TW=880.48' (Dynamic Tailwater)

Excluded Surface area = 3,155 sf

-1=Culvert (Barrel Controls 5.61 cfs @ 7.14 fps)

2=Orifice/Grate (Passes < 2.98 cfs potential flow)

-3=Orifice/Grate (Passes < 15.46 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Weir Controls 6.98 cfs @ 1.32 fps)

Volume

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Summary for Pond 6P: County Pond - East

Inflow Area = 15.375 ac, 65.89% Impervious, Inflow Depth = 5.75" for 200-yr event

Inflow 94.64 cfs @ 12.13 hrs, Volume= 7.369 af

101.01 cfs @ 12.22 hrs, Volume= 95.47 cfs @ 12.21 hrs, Volume= Outflow 7.360 af, Atten= 0%, Lag= 5.2 min

Primary 8.006 af

Routed to Pond 9P: Culvert 534+50

Invert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 880.90' @ 12.20 hrs Surf.Area= 32,808 sf Storage= 81,022 cf

Plug-Flow detention time= 75.6 min calculated for 7.360 af (100% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 74.6 min (871.9 - 797.3)

#1	877.19	9' 101,70	64 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation		Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
877.1	19	14,796	0	0	
878.0	00	17,475	13,070	13,070	
879.0		20,998	19,237	32,306	
880.0	00	24,807	22,903	55,209	
881.0	00	33,736	29,272	84,480	
881.5	50	35,400	17,284	101,764	
Device	Routing	Invert	Outlet Device	s	
#1	Primary	877.20'	18.0" Round	Culvert X 2.00	
	•		L= 31.8' CPI	P, end-section co	onforming to fill, Ke= 0.500
			Inlet / Outlet I	nvert= 877.20' /	877.00' S= 0.0063 '/' Cc= 0.900
			n= 0.013, Flo	w Area= 1.77 sf	
#2	Device 1	877.20'	Special & Us	er-Defined	
				0.00 0.20 0.40	0.60 0.80 1.00 1.20 1.40 1.60 1.80
			2.00		
			` ,		00 0.800 1.500 2.500 3.400 4.500
			5.600 6.900		
#3	Device 1	879.20'			oad-Crested Rectangular Weir
					0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.		
					61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.2		
#4	Primary	880.00'			oad-Crested Rectangular Weir
					0.80 1.00 1.20 1.40 1.60 1.80 2.00
				50 4.00 4.50 5	
					70 2.68 2.68 2.67 2.65 2.65 2.65
			2.65 2.66 2.0	66 2.67 2.69 2	.72

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Primary OutFlow Max=0.00 cfs @ 12.21 hrs HW=880.86' TW=882.96' (Dynamic Tailwater)

-1=Culvert (Controls 0.00 cfs)

2=Special & User-Defined (Passes 0.00 cfs of 8.30 cfs potential flow)

-3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 9P: Culvert 534+50

Inflow Area = 38.657 ac, 47.50% Impervious, Inflow Depth = 5.25" for 200-yr event

Inflow = 134.30 cfs @ 12.41 hrs, Volume= 16.920 af

Outflow = 134.30 cfs @ 12.41 hrs, Volume= 16.920 af, Atten= 0%, Lag= 0.0 min

Primary = 134.30 cfs @ 12.41 hrs, Volume= 16.920 af

Routed to Pond 57P: 187+00 42" Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 883.86' @ 12.19 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.00'	53.0" W x 34.0" H, R=47.9" Elliptical RCP_Elliptical 53x34
			L= 128.0' Ke= 0.270
			Inlet / Outlet Invert= 875.00' / 874.50' S= 0.0039 '/' Cc= 0.900
			n= 0.012, Flow Area= 10.20 sf

Primary OutFlow Max=0.00 cfs @ 12.41 hrs HW=882.51' TW=885.58' (Dynamic Tailwater) 1=RCP_Elliptical 53x34 (Controls 0.00 cfs)

Summary for Pond 13P: Culvert at Ramp A 690+50

Inflow Area = 3.410 ac, 26.10% Impervious, Inflow Depth = 4.51" for 200-yr event

Inflow = 21.78 cfs @ 12.16 hrs, Volume= 1.281 af

Outflow = 21.78 cfs @ 12.16 hrs, Volume= 1.281 af, Atten= 0%, Lag= 0.0 min

Primary = 21.78 cfs @ 12.16 hrs, Volume= 1.281 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 880.68' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices		
#1	Primary	878.35'	24.0" Round Culvert		
			L= 132.0' RCP, groove end w/headwall, Ke= 0.200		
			Inlet / Outlet Invert= 878.35' / 874.50' S= 0.0292 '/' Cc= 0.900		
			n= 0.012, Flow Area= 3.14 sf		

Primary OutFlow Max=21.39 cfs @ 12.16 hrs HW=880.63' TW=876.71' (Dynamic Tailwater) 1=Culvert (Inlet Controls 21.39 cfs @ 6.81 fps)

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Summary for Pond 14P: Culvert at Millpond 387+00

Inflow Area = 180.907 ac, 17.94% Impervious, Inflow Depth > 4.10" for 200-yr event

Inflow = 326.95 cfs @ 12.41 hrs, Volume= 61.739 af

Outflow = 326.95 cfs @ 12.41 hrs, Volume= 61.739 af, Atten= 0%, Lag= 0.0 min

Primary = 326.95 cfs @ 12.41 hrs, Volume= 61.739 af Routed to Pond 64P : Pond B-reduced raised 1 ft and raised spillway

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 879.17' @ 12.41 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	871.30'	48.0" Round Culvert X 2.00
			L= 92.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 871.30' / 871.00' S= 0.0033 '/' Cc= 0.900
			n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=319.32 cfs @ 12.41 hrs HW=878.98' TW=874.46' (Dynamic Tailwater) 1=Culvert (Barrel Controls 319.32 cfs @ 12.71 fps)

Summary for Pond 16P: Culvert 509+94 (NB CTH AB)

Inflow Area = 3.560 ac, 1.12% Impervious, Inflow Depth = 3.30" for 200-yr event

Inflow = 10.58 cfs @ 12.36 hrs, Volume= 0.980 af

Outflow = 10.58 cfs @ 12.36 hrs, Volume= 0.980 af, Atten= 0%, Lag= 0.0 min

Primary = 10.58 cfs @ 12.36 hrs, Volume= 0.980 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 879.42' @ 12.36 hrs

Device	Routing	Invert	Outlet Devices		
#1	Primary	878.00'	24.0" Round Culvert		
			L= 178.0' RCP, groove end w/headwall, Ke= 0.200		
			Inlet / Outlet Invert= 878.00' / 876.00' S= 0.0112 '/' Cc= 0.900		
			n= 0.012, Flow Area= 3.14 sf		

Primary OutFlow Max=9.83 cfs @ 12.36 hrs HW=879.41' TW=877.81' (Dynamic Tailwater) 1=Culvert (Outlet Controls 9.83 cfs @ 5.85 fps)

Summary for Pond 18P: Culvert 505+79 (NB CTH AB)

Inflow Area = 14.235 ac, 12.61% Impervious, Inflow Depth = 3.73" for 200-yr event

Inflow = 39.24 cfs @ 12.49 hrs, Volume= 4.430 af

Outflow = 39.24 cfs @ 12.49 hrs, Volume= 4.430 af, Atten= 0%, Lag= 0.0 min

Primary = 39.24 cfs @ 12.49 hrs, Volume= 4.430 af

Routed to Pond 58P: Culvert 395+33 (Millpond)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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Peak Elev= 885.67' @ 12.52 hrs

Device	Routing	Invert	Outlet Devices		
#1	Primary	877.97'	30.0" Round Culvert		
			L= 128.0' RCP, groove end w/headwall, Ke= 0.200		
			Inlet / Outlet Invert= 877.97' / 877.05' S= 0.0072 '/' Cc= 0.900		
			n= 0.012, Flow Area= 4.91 sf		

Primary OutFlow Max=39.15 cfs @ 12.49 hrs HW=885.56' TW=883.38' (Dynamic Tailwater) 1=Culvert (Outlet Controls 39.15 cfs @ 7.98 fps)

Summary for Pond 19P: Landfill Pond

28.420 ac, 1.16% Impervious, Inflow Depth = 5.19" for 200-yr event Inflow Area =

Inflow = 187.77 cfs @ 12.19 hrs, Volume= 12.282 af

49.59 cfs @ 12.54 hrs, Volume= 12.264 af, Atten= 74%, Lag= 21.0 min 49.59 cfs @ 12.54 hrs, Volume= 12.264 af Outflow

Primary =

Routed to Pond 22P: 36" Culvert 182+00

Volume

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 883.82' @ 12.51 hrs Surf.Area= 1.658 ac Storage= 5.798 af

Plug-Flow detention time= 213.2 min calculated for 12.255 af (100% of inflow)

Invert Avail.Storage Storage Description

Center-of-Mass det. time= 214.0 min (1,014.3 - 800.3)

#1	877.33'	6.106 af	Custom Stage Data	(Prismatic)Listed below (Recalc)
			J	, , , , , ,
Elevation	Surf.Area	Inc.Sto	re Cum.Store	
(feet)	(acres)	(acre-fee	et) (acre-feet)	
877.33	0.334	0.00	0.000	
878.00	0.401	0.24	16 0.246	
879.00	0.497	0.44	19 0.695	
880.00	0.661	0.57	79 1.274	
881.00	0.952	0.80	2.081	
882.00	1.214	1.08	3.164	
883.00	1.487	1.35	50 4.514	
884.00	1.697	1.59	92 6.106	
Device Ro	utina	Invert Outle	et Devices	

Device	Routing	invert	Outlet Devices
#1	Primary	877.33'	18.0" Round Culvert
			L= 69.6' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 877.33' / 875.77' S= 0.0224 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.33'	1.0" Vert. Orifice/Grate X 7.00 C= 0.600
			Limited to weir flow at low heads
#3	Device 1	877.68'	1.0" Vert. Orifice/Grate X 8.00 C= 0.600
			Limited to weir flow at low heads
#4	Device 1	878.03'	1.0" Vert. Orifice/Grate X 9.00 C= 0.600
			Limited to weir flow at low heads
#5	Device 1	879.77'	18.0" Horiz. Orifice/Grate C= 0.600

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Limited to weir flow at low heads

#6 Primary 882.66' 10.0' long x 10.0' breadth Broad-Crested Rectangular Weir

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=49.74 cfs @ 12.54 hrs HW=883.81' TW=880.03' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 16.55 cfs @ 9.36 fps)

2=Orifice/Grate (Passes < 0.36 cfs potential flow)

-3=Orifice/Grate (Passes < 0.41 cfs potential flow)

-4=Orifice/Grate (Passes < 0.46 cfs potential flow)

□5=Orifice/Grate (Passes < 16.55 cfs potential flow)

-6=Broad-Crested Rectangular Weir (Weir Controls 33.19 cfs @ 2.88 fps)

Summary for Pond 22P: 36" Culvert 182+00

Inflow Area = 37.914 ac, 10.10% Impervious, Inflow Depth > 5.13" for 200-yr event

Inflow = 77.42 cfs @ 12.29 hrs, Volume= 16.196 af

Outflow = 77.42 cfs @ 12.29 hrs, Volume= 16.196 af, Atten= 0%, Lag= 0.0 min

Primary = 77.42 cfs @ 12.29 hrs, Volume= 16.196 af Routed to Pond 64P : Pond B-reduced raised 1 ft and raised spillway

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Invert Outlet Devices

Peak Elev= 880.76' @ 12.30 hrs

Device	Rouling	mvert	Outlet Devices
#1	Primary	874.00'	36.0" Round Culvert
			L= 289.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 874.00' / 871.00' S= 0.0104 '/' Cc= 0.900
			n= 0.014, Flow Area= 7.07 sf

Primary OutFlow Max=77.25 cfs @ 12.29 hrs HW=880.74' TW=873.89' (Dynamic Tailwater) 1=Culvert (Barrel Controls 77.25 cfs @ 10.93 fps)

Summary for Pond 24P: YH1 - Pond

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth = 3.73" for 200-yr event

Inflow = 133.33 cfs @ 12.80 hrs, Volume= 20.664 af

Outflow = 89.45 cfs @ 13.50 hrs, Volume= 20.251 af, Atten= 33%, Lag= 42.2 min

Primary = 89.45 cfs @ 13.50 hrs, Volume= 20.251 af

Routed to Pond 25P: Small Depression

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 899.19' @ 13.50 hrs Surf.Area= 257,486 sf Storage= 437,523 cf

Plug-Flow detention time= 454.1 min calculated for 20.236 af (98% of inflow)

Center-of-Mass det. time= 444.3 min (1,311.9 - 867.6)

Volume	Invert	Avail.Storage	Storage Description
#1	895.00'	437,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Surf.Area	Inc.Store	Cum.Store
(sq-ft)	(cubic-feet)	(cubic-feet)
94,949	0	0
101,543	98,246	98,246
159,762	130,653	228,899
257,486	208,624	437,523
	(sq-ft) 94,949 101,543 159,762	(sq-ft) (cubic-feet) 94,949 0 101,543 98,246 159,762 130,653

Device	Routing	Invert	Outlet Devices		
#1	Primary	895.00'	12.0" Round Culvert		
	•		L= 140.0' RCP, mitered to conform to fill, Ke= 0.700		
			Inlet / Outlet Invert= 895.00' / 894.00' S= 0.0071 '/' Cc= 0.900		
			n= 0.012, Flow Area= 0.79 sf		
#2	Primary	897.00'	10.0' long x 100.0' breadth Broad-Crested Rectangular Weir		
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60		
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63		

Primary OutFlow Max=87.65 cfs @ 13.50 hrs HW=899.16' TW=896.53' (Dynamic Tailwater)

-1=Culvert (Outlet Controls 4.38 cfs @ 5.57 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 83.28 cfs @ 3.86 fps)

Summary for Pond 25P: Small Depression

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 3.66" for 200-yr event

89.45 cfs @ 13.50 hrs, Volume= Inflow 20.251 af

75.27 cfs @ 13.51 hrs, Volume= 20.223 af, Atten= 16%, Lag= 0.5 min Outflow

Primary 75.27 cfs @ 13.51 hrs, Volume= 20.223 af

Routed to Pond 58P: Culvert 395+33 (Millpond)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 896.56' @ 13.51 hrs Surf.Area= 32,190 sf Storage= 33,874 cf

Plug-Flow detention time= 42.6 min calculated for 20.209 af (100% of inflow)

Center-of-Mass det. time= 38.7 min (1,350.5 - 1,311.9)

Volume	Inv	ert Avail.Sto	rage Storage [Description	
#1	894.0	00' 33,8	74 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevatio	et)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
894.0		5,815	0	10.242	
895.0 896.0		14,871 32,190	10,343 23,531	10,343 33,874	
Device	Routing	Invert	Outlet Devices		
#1 Primary 894.00'		12.0" Round Culvert L= 205.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 894.00' / 892.00' S= 0.0098 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf			
#2	Primary	895.50'	25.0' long x 40.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.63		

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Primary OutFlow Max=69.30 cfs @ 13.51 hrs HW=896.49' TW=882.09' (Dynamic Tailwater)

1=Culvert (Barrel Controls 4.46 cfs @ 5.67 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 64.84 cfs @ 2.62 fps)

Summary for Pond 28P: 12/18 140+35

Inflow Area = 9.510 ac, 26.18% Impervious, Inflow Depth = 4.14" for 200-yr event

Inflow = 46.28 cfs @ 12.21 hrs, Volume= 3.283 af

Outflow = 46.28 cfs @ 12.21 hrs, Volume= 3.283 af, Atten= 0%, Lag= 0.0 min

Primary = 46.28 cfs @ 12.21 hrs, Volume= 3.283 af

Routed to Pond 59P: Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 864.92' @ 12.21 hrs

Device Routing Invert Outlet Devices

#1 Primary

860.79'

45.0" W x 29.0" H, R=39.2" Elliptical RCP_Elliptical 45x29

L= 310.0' RCP, groove end w/headwall, Ke= 0.200

Inlet / Outlet Invert= 860.79' / 859.89' S= 0.0029 '/' Cc= 0.900

n= 0.015, Flow Area= 7.36 sf

Primary OutFlow Max=45.55 cfs @ 12.21 hrs HW=864.84' TW=861.65' (Dynamic Tailwater) 1=RCP_Elliptical 45x29 (Barrel Controls 45.55 cfs @ 6.19 fps)

Summary for Pond 32P: Long Drive 440+35

Inflow Area = 4.570 ac, 14.44% Impervious, Inflow Depth = 3.63" for 200-yr event

Inflow = 18.52 cfs @ 12.25 hrs, Volume= 1.381 af

Outflow = 18.52 cfs @ 12.25 hrs, Volume= 1.381 af, Atten= 0%, Lag= 0.0 min

Primary = 18.52 cfs @ 12.25 hrs, Volume= 1.381 af

Routed to Pond 28P: 12/18 140+35

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 865.87' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	861.50'	24.0" Round Culvert
	-		L= 62.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 861.50' / 860.80' S= 0.0113 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=18.44 cfs @ 12.25 hrs HW=865.67' TW=864.67' (Dynamic Tailwater) 1=Culvert (Outlet Controls 18.44 cfs @ 5.87 fps)

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Summary for Pond 34P: YH3-Pond

Inflow Area = 204.006 ac. 4.43% Impervious, Inflow Depth = 3.78" for 200-yr event

Inflow 381.00 cfs @ 12.67 hrs, Volume= 64.315 af

Outflow 251.95 cfs @ 13.06 hrs, Volume= 63.210 af, Atten= 34%, Lag= 23.2 min

251.95 cfs @ 13.06 hrs, Volume= Primary 63.210 af

Routed to Pond 38P: YH6-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 861.26' @ 13.07 hrs Surf.Area= 405,016 sf Storage= 753,619 cf

Plug-Flow detention time= 205.0 min calculated for 63.166 af (98% of inflow)

Center-of-Mass det. time= 191.2 min (1,073.8 - 882.5)

Volume	Invert	Avail.Storage	Storage Description
#1	858.00'	1,137,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
858.00	182,909	0	0
859.00	191,060	186,985	186,985
860.00	214,659	202,860	389,844
861.00	320,867	267,763	657,607
862.00	638,965	479,916	1,137,523

Device	Routing	Invert	Outlet Devices
#1	Primary	858.00'	36.0" Round Culvert
	-		L= 1,066.0' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 858.00' / 855.00' S= 0.0028 '/' Cc= 0.900
			n= 0.012, Flow Area= 7.07 sf
#2	Primary	860.50'	125.0' long x 60.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=251.63 cfs @ 13.06 hrs HW=861.26' TW=858.77' (Dynamic Tailwater)

-1=Culvert (Outlet Controls 30.50 cfs @ 4.94 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 221.14 cfs @ 2.32 fps)

Summary for Pond 36P: YH4-Pond

Inflow Area = 12.220 ac, 4.26% Impervious, Inflow Depth = 3.52" for 200-yr event

41.05 cfs @ 12.32 hrs, Volume= 3.582 af Inflow

Outflow 29.52 cfs @ 12.50 hrs, Volume= 3.556 af, Atten= 28%, Lag= 10.5 min

Primary 29.52 cfs @ 12.50 hrs, Volume= 3.556 af

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 862.45' @ 12.50 hrs Surf.Area= 37,327 sf Storage= 41,215 cf

Plug-Flow detention time= 145.6 min calculated for 3.554 af (99% of inflow)

Center-of-Mass det. time= 143.1 min (980.6 - 837.6)

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Volume	Inve	ert Avail.Sto	rage Storag	ge Description	
#1	861.0	00' 64,00	01 cf Custo	m Stage Data (P	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
861.0	00	21,906	0	0	
862.0	00	29,959	25,933	25,933	
863.0	00	46,178	38,069	64,001	
Device	Routing	Invert	Outlet Device	ces	
#1	Primary	861.00'	8.0" Round		projecting Ko- 0 500
#2	Primary	861.80'	Inlet / Outlet n= 0.012, F 20.0' long Head (feet)	t Invert= 861.00' / Flow Area= 0.35 st x 50.0' breadth E 0.20 0.40 0.60	rojecting, Ke= 0.500 859.76' S= 0.0050 '/' Cc= 0.900 f Broad-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 70 2.64 2.63 2.64 2.64 2.63

Summary for Pond 37P: YH5 - Pond

Inflow Area = 2.350 ac, 51.91% Impervious, Inflow Depth = 5.19" for 200-yr event

Primary OutFlow Max=29.49 cfs @ 12.50 hrs HW=862.45' TW=859.78' (Dynamic Tailwater)

Inflow = 17.83 cfs @ 12.14 hrs, Volume= 1.016 af

Outflow = 0.89 cfs @ 13.59 hrs, Volume= 0.949 af, Atten= 95%, Lag= 86.5 min

Primary = 0.89 cfs @ 13.59 hrs, Volume= 0.949 af

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 865.71' @ 13.59 hrs Surf.Area= 43,136 sf Storage= 29,053 cf

-2=Broad-Crested Rectangular Weir (Weir Controls 28.38 cfs @ 2.17 fps)

Plug-Flow detention time= 615.1 min calculated for 0.948 af (93% of inflow)

Center-of-Mass det. time= 584.3 min (1,381.2 - 796.9)

-1=Culvert (Barrel Controls 1.11 cfs @ 3.18 fps)

Volume	ln۱	vert Avail.St	orage Storag	e Description	
#1	865.	00' 93,4	114 cf Custo	m Stage Data (P	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
865.0	00	38,602	0	0	
866.0	00	44,980	41,791	41,791	
867.0	00	58,266	51,623	93,414	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	866.50			Broad-Crested Rectangular Weir
#2	Primary	865.00	Coef. (Engli	sh) 2.68 2.70 2.	0.80 1.00 1.20 1.40 1.60 .70 2.64 2.63 2.64 2.64 2.63

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L= 170.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 865.00' / 864.15' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.89 cfs @ 13.59 hrs HW=865.71' TW=861.12' (Dynamic Tailwater)

1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Barrel Controls 0.89 cfs @ 2.97 fps)

Summary for Pond 38P: YH6-Pond

Inflow Area = 303.663 ac, 5.11% Impervious, Inflow Depth > 3.69" for 200-yr event

Inflow = 367.57 cfs @ 12.93 hrs, Volume= 93.322 af

Outflow = 129.99 cfs @ 14.74 hrs, Volume= 93.322 af, Atten= 65%, Lag= 108.4 min

Primary = 129.99 cfs @ 14.74 hrs, Volume= 93.322 af

Routed to Link 36L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Starting Elev= 856.60' Surf.Area= 282,460 sf Storage= 556,446 cf

Peak Elev= 859.76' @ 14.74 hrs Surf.Area= 702,804 sf Storage= 1,854,060 cf (1,297,613 cf above start)

Plug-Flow detention time= 283.3 min calculated for 80.547 af (86% of inflow)

Center-of-Mass det. time= 108.6 min (1,109.5 - 1,000.9)

Volume	Invert	Avail.Storage	Storage Description
#1	854.63'	2,032,289 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
854.63	282,460	0	0
856.60	282,460	556,446	556,446
857.00	299,898	116,472	672,918
858.00	336,652	318,275	991,193
859.00	486,957	411,805	1,402,997
860.00	771,626	629,292	2,032,289

<u>Device</u>	Routing	Invert	Outlet Devices
#1	Primary	854.63'	42.0" Round Culvert X 2.00

L= 28.0' CMP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900

n= 0.024, Flow Area= 9.62 sf

Primary OutFlow Max=129.99 cfs @ 14.74 hrs HW=859.76' TW=856.60' (Dynamic Tailwater) 1=Culvert (Inlet Controls 129.99 cfs @ 6.76 fps)

Summary for Pond 41P: AB 520+90

Inflow Area = 3.250 ac, 21.54% Impervious, Inflow Depth = 4.06" for 200-yr event

Inflow = 18.32 cfs @ 12.16 hrs, Volume= 1.100 af

Outflow = 18.32 cfs @ 12.16 hrs, Volume= 1.100 af, Atten= 0%, Lag= 0.0 min

Primary = 18.32 cfs @ 12.16 hrs, Volume= 1.100 af

Routed to Pond 54P: Pond C

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.66' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.61'	24.0" Round Culvert
			L= 335.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 875.61' / 874.00' S= 0.0048 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=17.80 cfs @ 12.16 hrs HW=878.56' TW=876.19' (Dynamic Tailwater) 1=Culvert (Outlet Controls 17.80 cfs @ 5.66 fps)

Summary for Pond 43P: Ramp C 805+00

7.982 ac, 32.15% Impervious, Inflow Depth > 4.59" for 200-yr event Inflow Area =

Inflow 6.89 cfs @ 12.14 hrs, Volume= 3.054 af

6.89 cfs @ 12.14 hrs, Volume= Outflow 3.054 af. Atten= 0%. Lag= 0.0 min

6.89 cfs @ 12.14 hrs, Volume= 3.054 af Primary

Routed to Link 44L: Door Creek Combined

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 874.59' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	873.30'	24.0" Round Culvert
	_		L= 92.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 873.30' / 872.90' S= 0.0043 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=6.67 cfs @ 12.14 hrs HW=874.56' TW=0.00' (Dynamic Tailwater) 1=Culvert (Barrel Controls 6.67 cfs @ 4.55 fps)

Summary for Pond 45P: Culvert at 698+81

9.520 ac, 9.98% Impervious, Inflow Depth = 3.52" for 200-yr event Inflow Area =

Inflow 38.43 cfs @ 12.23 hrs, Volume= 2.791 af

38.43 cfs @ 12.23 hrs, Volume= 38.43 cfs @ 12.23 hrs, Volume= Outflow 2.791 af, Atten= 0%, Lag= 0.0 min

Primary 2.791 af

Routed to Pond 46P: Pond D

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 882.89' @ 12.24 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	879.00'	30.0" Round Culvert L= 167.0' RCP, groove end w/headwall, Ke= 0.200

Inlet / Outlet Invert= 879.00' / 878.00' S= 0.0060 '/' Cc= 0.900

n= 0.012, Flow Area= 4.91 sf

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Primary OutFlow Max=37.89 cfs @ 12.23 hrs HW=882.83' TW=879.22' (Dynamic Tailwater) 1=Culvert (Barrel Controls 37.89 cfs @ 7.72 fps)

Summary for Pond 46P: Pond D

Inflow Area = 13.201 ac, 19.51% Impervious, Inflow Depth = 3.89" for 200-yr event

Inflow = 57.63 cfs @ 12.17 hrs, Volume= 4.277 af

Outflow = 44.58 cfs @ 12.30 hrs, Volume= 4.266 af, Atten= 23%, Lag= 7.7 min

Primary = 44.58 cfs @ 12.30 hrs, Volume= 4.266 af

Routed to Pond 51P: Pond D Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 879.30' @ 12.30 hrs Surf.Area= 0.415 ac Storage= 1.168 af

Plug-Flow detention time= 231.7 min calculated for 4.263 af (100% of inflow)

Center-of-Mass det. time= 231.9 min (1,052.7 - 820.8)

Volume	Inve	ert Avail.St	orage	Storage Description
#1	876.0	0' 1.4	69 af	Custom Stage Data (Prismatic)Listed below (Recalc)
-	0		. 01	0 0
Elevation		f.Area	Inc.St	
(fee	et) (acres) (acre-fe	eet) (acre-feet)
876.0	00	0.299	0.0	0.000
877.0	00	0.331	0.3	315 0.315
878.0	00	0.364	0.3	347 0.662
879.0	00	0.404	0.3	384 1.046
880.0	00	0.442	0.4	1.469
Device	Routing	Inve	rt Ou	tlet Devices
#1	Primary	876.00)' 18 .	.0" Round Culvert
	•		L=	46.0' RCP, square edge headwall, Ke= 0.500
				et / Outlet Invert= 876.00' / 875.50' S= 0.0109 '/' Cc= 0.900
			n=	0.012, Flow Area= 1.77 sf
#2	Device 1	876.00		" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	878.2		.0' long x 6.0' breadth Broad-Crested Rectangular Weir
•		0.0		ad (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
				50 3.00 3.50 4.00 4.50 5.00 5.50
			_	ef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65
				35 2.66 2.66 2.67 2.69 2.72 2.76 2.83
			۷.0	0 2.00 2.00 2.01 2.00 2.12 2.10 2.00

Primary OutFlow Max=44.42 cfs @ 12.30 hrs HW=879.29' TW=876.67' (Dynamic Tailwater)

-1=Culvert (Passes 1.53 cfs of 13.57 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.53 cfs @ 7.79 fps)

-3=Broad-Crested Rectangular Weir (Weir Controls 42.89 cfs @ 2.74 fps)

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Summary for Pond 47P: Ramp B 706+25

Inflow Area = 14.351 ac, 20.04% Impervious, Inflow Depth = 3.51" for 200-yr event

Inflow = 7.46 cfs @ 12.13 hrs, Volume= 4.196 af

Outflow = 7.46 cfs @ 12.13 hrs, Volume= 4.196 af, Atten= 0%, Lag= 0.0 min

Primary = 7.46 cfs @ 12.13 hrs, Volume= 4.196 af

Routed to Link 44L: Door Creek Combined

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 874.82' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	873.75'	24.0" Round Culvert L= 111.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 873.75' / 872.00' S= 0.0158 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=7.16 cfs @ 12.13 hrs HW=874.79' TW=0.00' (Dynamic Tailwater) 1=Culvert (Inlet Controls 7.16 cfs @ 4.34 fps)

Summary for Pond 51P: Pond D Infiltration

Inflow Area = 13.201 ac, 19.51% Impervious, Inflow Depth = 3.88" for 200-yr event
Inflow = 44.58 cfs @ 12.30 hrs, Volume= 4.266 af
Outflow = 6.84 cfs @ 13.29 hrs, Volume= 4.206 af, Atten= 85%, Lag= 59.9 min
Discarded = 0.12 cfs @ 13.29 hrs, Volume= 0.410 af
Primary = 6.72 cfs @ 13.29 hrs, Volume= 3.796 af
Routed to Pond 47P : Ramp B 706+25

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.62' @ 13.29 hrs Surf.Area= 25,879 sf Storage= 68,494 cf

Plug-Flow detention time= 411.5 min calculated for 4.206 af (99% of inflow) Center-of-Mass det. time= 383.9 min (1,436.5 - 1,052.7)

Volume	Invert	Avail.Storage	Storage	Description
#1	875.50'	78,680 cf	Custom	Stage Data (Prismatic)Listed below (Recalc)
Elevation	Surf.A		Store	Cum.Store

Cum.Store	inc.Store	Suri.Area	Elevation
(cubic-feet)	(cubic-feet)	(sq-ft)	(feet)
0	0	18,668	875.50
9,588	9,588	19,685	876.00
30,329	20,741	21,796	877.00
53,174	22,845	23,894	878.00
78,680	25,507	27,119	879.00

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Device	Routing	Invert	Outlet Devices		
#1	Primary	875.50'	12.0" Round Culvert		
	•		L= 46.0' RCP, square edge headwall, Ke= 0.500		
			Inlet / Outlet Invert= 875.50' / 875.35' S= 0.0033 '/' Cc= 0.900		
			n= 0.012, Flow Area= 0.79 sf		
#2	Device 1	875.75'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads		
#3	Device 1	878.00'	48.0" Horiz. Orifice/Grate C= 0.600		
			Limited to weir flow at low heads		
#4	Primary	878.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir		
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60		
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64		
#5	Discarded	875.50'	0.140 in/hr Exfiltration over Horizontal area		
			Conductivity to Groundwater Elevation = 870.00'		

Discarded OutFlow Max=0.12 cfs @ 13.29 hrs HW=878.62' (Free Discharge) **5=Exfiltration** (Controls 0.12 cfs)

Primary OutFlow Max=6.72 cfs @ 13.29 hrs HW=878.62' TW=874.80' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 5.74 cfs @ 7.31 fps)

2=Orifice/Grate (Passes < 1.53 cfs potential flow)

3=Orifice/Grate (Passes < 19.85 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Weir Controls 0.98 cfs @ 0.85 fps)

Summary for Pond 54P: Pond C

Inflow Area = 7.094 ac, 32.79% Impervious, Inflow Depth = 4.67" for 200-yr event

Inflow = 47.67 cfs @ 12.14 hrs, Volume= 2.762 af

Outflow = 5.40 cfs @ 12.76 hrs, Volume= 2.746 af, Atten= 89%, Lag= 37.3 min

Primary = 5.40 cfs @ 12.76 hrs, Volume= 2.746 af

Routed to Pond 43P: Ramp C 805+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 877.21' @ 12.76 hrs Surf.Area= 0.582 ac Storage= 1.559 af

Plug-Flow detention time= 461.4 min calculated for 2.744 af (99% of inflow)

Center-of-Mass det. time= 459.5 min (1,263.7 - 804.2)

Volume	Invert	Avail.Storage	Storage Description
#1	874.00'	2.703 af	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
874.00	0.393	0.000	0.000
875.00	0.451	0.422	0.422
876.00	0.509	0.480	0.902
877.00	0.569	0.539	1.441
878.00	0.631	0.600	2.041
879.00	0.693	0.662	2.703

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Device	Routing	Invert	Outlet Devices
#1	Primary	874.00'	12.0" Round Culvert
			L= 41.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 874.00' / 873.80' S= 0.0049 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Device 1	874.00'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	877.00'	48.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	878.00'	20.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=5.39 cfs @ 12.76 hrs HW=877.21' TW=874.49' (Dynamic Tailwater)

-1=Culvert (Passes 5.39 cfs of 6.07 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.56 cfs @ 7.94 fps)

-3=Orifice/Grate (Weir Controls 3.84 cfs @ 1.48 fps)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 57P: 187+00 42" Culvert

43.792 ac, 47.85% Impervious, Inflow Depth = 5.24" for 200-yr event Inflow Area =

144.44 cfs @ 12.41 hrs, Volume= Inflow 19.135 af

144.44 cfs @ 12.41 hrs, Volume= Outflow = 19.135 af, Atten= 0%, Lag= 0.0 min

144.44 cfs @ 12.41 hrs, Volume= 19.135 af Primary

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 886.54' @ 12.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	872.70'	42.0" Round Culvert
	·		L= 297.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 872.70' / 871.50' S= 0.0040 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=121.48 cfs @ 12.41 hrs HW=885.67' TW=879.00' (Dynamic Tailwater) **1=Culvert** (Outlet Controls 121.48 cfs @ 12.63 fps)

Summary for Pond 58P: Culvert 395+33 (Millpond)

Inflow Area = 114.625 ac, 5.66% Impervious, Inflow Depth > 3.59" for 200-yr event

118.86 cfs @ 12.53 hrs, Volume= Inflow 34.312 af

118.86 cfs @ 12.53 hrs, Volume= 34.312 af, Atten= 0%, Lag= 0.0 min Outflow

118.86 cfs @ 12.53 hrs, Volume= Primary 34.312 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 883.51' @ 12.53 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.90'	42.0" Round Culvert

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L= 148.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 875.90' / 875.40' S= 0.0034 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=118.49 cfs @ 12.53 hrs HW=883.48' TW=878.49' (Dynamic Tailwater) 1=Culvert (Barrel Controls 118.49 cfs @ 12.32 fps)

Summary for Pond 59P: Pond A

Inflow Area = 300.773 ac, 22.78% Impervious, Inflow Depth > 3.98" for 200-yr event

Inflow = 317.32 cfs @ 12.18 hrs, Volume= 99.808 af

Outflow = 87.62 cfs @ 13.66 hrs, Volume= 97.171 af, Atten= 72%, Lag= 88.7 min

Primary = 87.62 cfs @ 13.66 hrs, Volume= 97.171 af

Routed to Link 36L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 863.80' @ 13.66 hrs Surf.Area= 3.474 ac Storage= 16.187 af

Plug-Flow detention time= 235.7 min calculated for 97.171 af (97% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 172.3 min (1,374.4 - 1,202.1)

Invert

#1	859.00'	24.336	af Custo	om Stage Data (Prismatic)Listed below (Recalc) x 0.85
Elevatio			c.Store	Cum.Store
(fee	t) (acres)	(acr	e-feet)	(acre-feet)
859.0	0 3.694		0.000	0.000
860.0	0 3.815		3.755	3.755
861.0	0 3.937		3.876	7.631
862.0	0 4.061		3.999	11.630
863.0	0 4.186		4.123	15.753
864.0	0 4.061		4.123	19.877
865.0	0 4.439		4.250	24.127
866.0	0 4.570		4.505	28.631
Device	Routing	Invert	Outlet Dev	vices
-				
#1	Primary	858.20'		DOD aguera adga baadwall Kaz 0.500
				RCP, square edge headwall, Ke= 0.500 tlet Invert= 858.20' / 858.00' S= 0.0132 '/' Cc= 0.900
#2	Device 1	859.00'		Flow Area= 9.62 sf
#2	Device i	659.00		Weir/Orifice, Cv= 2.62 (C= 3.28)
				et) 0.00 3.50 3.50 6.00
#3	Device 2	857.00'		et) 0.17 4.20 6.00 6.00 ound Culvert
#3	Device 2	007.00		RCP, groove end w/headwall, Ke= 0.200
				tlet Invert= 857.00' / 857.00' S= 0.0000 '/' Cc= 0.900
				Flow Area= 9.62 sf
#4	Drimory	865.00'		x 10.0' breadth Broad-Crested Rectangular Weir
#4	Primary	805.00		
				et) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 glish) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
			COEI. (EII(yiisii) 2.43 2.30 2.10 2.03 2.00 2.03 2.01 2.04

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Primary OutFlow Max=87.61 cfs @ 13.66 hrs HW=863.80' TW=856.60' (Dynamic Tailwater)

—1=Culvert (Passes 87.61 cfs of 90.84 cfs potential flow)

2=Custom Weir/Orifice (Weir Controls 87.61 cfs @ 5.68 fps)

3=Culvert (Passes 87.61 cfs of 123.88 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: Pond B (Wet Basin)

Volume	Invert A	vail.Stora	ge St	orage Description
#1	871.00'	38.463	af Cı	stom Stage Data (Prismatic)Listed below
Elevatio	n Surf.Area	ı In	c.Store	Cum.Store
(feet	(acres	(acı	re-feet)	(acre-feet)
871.00	2.901		0.000	0.000
872.00	3.063	}	2.982	2.982
873.00	3.159)	3.111	6.093
874.00	0 6.376	;	4.768	10.861
875.00	0 6.599		6.487	17.348
876.00	0 6.861		6.730	24.078
877.00			7.045	31.123
878.00	7.451		7.340	38.463
Device	Routing	Invert		Devices
#1	Primary	871.00'		Round Culvert L= 3,037.0' Ke= 0.850
				Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
				12, Flow Area= 9.62 sf
#2	Device 1	871.00'		m Weir/Orifice, Cv= 2.62 (C= 3.28)
				feet) 0.00 1.50 1.50 6.00
				(feet) 0.17 1.27 6.00 6.00
#3	Secondary	876.40'		ong x 10.0' breadth Broad-Crested Rectangular Weir
			,	feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge) 3=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 61P: (new Pond)

Inflow Area = 2.146 ac, 41.66% Impervious, Inflow Depth = 5.99" for 200-yr event

Inflow = 18.73 cfs @ 12.13 hrs, Volume= 1.072 af

Outflow = 18.73 cfs @ 12.13 hrs, Volume= 1.072 af, Atten= 0%, Lag= 0.0 min

Primary = 18.73 cfs @ 12.13 hrs, Volume= 1.072 af

Routed to Pond 59P: Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

¹—2=Custom Weir/Orifice (Controls 0.00 cfs)

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Peak Elev= 866.98' @ 12.13 hrs

<u>Device</u>	Routing	Invert	Outlet Devices
#1	Primary	859.50'	18.0" Round Culvert
	-		L= 122.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 859.50' / 859.00' S= 0.0041 '/' Cc= 0.900
			n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=17.92 cfs @ 12.13 hrs HW=866.54' TW=861.06' (Dynamic Tailwater) 1=Culvert (Outlet Controls 17.92 cfs @ 10.14 fps)

Summary for Pond 62P: Pond B (Wet Basin) Spillway change

Volume	Invert A	vail.Stora	ge Sto	torage Description	
#1	871.00'	38.463	af Cu	custom Stage Data (Prismatic)Listed below	
-	0 (4		01	0 0	
Elevation	Surf.Area		c.Store		
(feet)	(acres)	(acr	e-feet)	<u>) (acre-feet)</u>	
871.00	2.901		0.000	0.000	
872.00	3.063	i	2.982	2 2.982	
873.00	3.159	1	3.111	1 6.093	
874.00	6.376		4.768	3 10.861	
875.00	6.599)	6.487	7 17.348	
876.00	6.861		6.730	24.078	
877.00	7.228		7.045	5 31.123	
878.00	7.451		7.340	38.463	
Device R	louting	Invert	Outlet	t Devices	
#1 P	rimary	871.00'	42.0"	Round Culvert L= 3,037.0' Ke= 0.850	
	,		Inlet / 0	Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.	900
			$n = 0.0^{\circ}$	012, Flow Area= 9.62 sf	
#2 D	evice 1	871.00'	Custo	om Weir/Orifice, Cv= 2.62 (C= 3.28)	
#3 S	econdary	876.40'			
	,				
874.00 875.00 876.00 877.00 878.00 Device R #1 P	6.376 6.599 6.861 7.228 7.451 couting	Invert 871.00'	4.768 6.487 6.730 7.045 7.340 Outlet 42.0" Inlet / (n= 0.0° Custor Head (Width (Asymr Offset	3 10.861 7 17.348 0 24.078 5 31.123 0 38.463 t Devices Round Culvert L= 3,037.0' Ke= 0.850 Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.	900

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)

1=Culvert (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge) 3=Asymmetrical Weir (Controls 0.00 cfs)

²⁼Custom Weir/Orifice (Controls 0.00 cfs)

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Summary for Pond 63P: Pond B (Dry Basin)

Volume	Invert A	Avail.Stora	ge	Storage Description
#1	869.00'	1.772	af	Custom Stage Data (Prismatic)Listed below
Elevatior (feet) (acres) (acı	c.Sto	t) (acre-feet)
869.00			0.00	
870.00			0.03	• • • • • • • • • • • • • • • • • • • •
871.00	0.097	7	0.07	77 0.114
872.00	0.138	3	0.1	7 0.232
873.00	2.94	1	1.54	1.772
Device	Routing	Invert	Outl	et Devices
#1	Primary	871.00'	18.0	" Round Culvert
	•		L= 1	3.0' RCP, groove end projecting, Ke= 0.200
			Inlet	/ Outlet Invert= 871.00' / 871.00' S= 0.0000 '/' Cc= 0.900
			n= 0	.012, Flow Area= 1.77 sf
#2	Secondary	873.00'	378 . Hea	0' long + 20.0 '/' SideZ x 15.0' breadth Broad-Crested Rectangular Weir d (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 f. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge) 1=Culvert (Controls 0.00 cfs)

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

Summary for Pond 64P: Pond B-reduced raised 1 ft and raised spillway

244.722 ac, 18.67% Impervious, Inflow Depth > 4.34" for 200-yr event Inflow Area =

Inflow 474.78 cfs @ 12.41 hrs, Volume= 88.509 af

Outflow 143.53 cfs @ 13.78 hrs, Volume= 86.309 af, Atten= 70%, Lag= 82.2 min

67.54 cfs @ 13.85 hrs, Volume= Primary = 77.074 af

Routed to Pond 59P: Pond A

Secondary = 76.00 cfs @ 13.78 hrs, Volume= 9.236 af

Routed to Reach 20R: Overland Flow

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 876.91' @ 13.78 hrs Surf.Area= 7.194 ac Storage= 34.128 af

Plug-Flow detention time= 338.3 min calculated for 86.309 af (98% of inflow) Center-of-Mass det. time= 289.8 min (1,270.3 - 980.5)

Volume	Invert	Avail.Storage	Storage Description
#1	871.00'	42.125 af	Custom Stage Data (Prismatic)Listed below

Cum.Store

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Surf.Area

Elevation

#3

Device 2

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Inc.Store

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(fee	et) ((acres) (a	cre-feet)	(acre-feet)			
871.0	00	2.930	0.000	0.000			
872.0	00	3.134	3.032	3.032			
872.5	50	5.890	2.256	5.288			
873.0	00	6.100	2.998	8.285			
874.0	00	6.376	6.238	14.524			
875.0	00	6.599	6.487	21.011			
876.0	00	6.861	6.730	27.741			
877.0	00	7.228	7.044	34.785			
878.0	00	7.451	7.339	42.125			
Device	Routing	Invert	Outlet Devi	ces			
#1	Primary	871.00	42.0" Rou	nd Culvert L	= 3,037.0' k	<e= 0.850<="" p=""></e=>	
			Inlet / Outle	et Invert= 871.	00' / 859.50'	S= 0.0038 '/'	Cc= 0.900
			n= 0.012, I	Flow Area= 9.	62 sf		
#2	Device 1	871.00	Custom W	eir/Orifice, C	v= 2.62 (C=	3.28)	
			Head (feet)	0.00 1.50 1	.50 6.00		
			Width (feet) 0.17 1.27 (6.00 6.00		

#4 Secondary 876.40' Inlet / Outlet Invert= 870.00' / 870.00' S= 0.0000 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

#876.40' 80.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

870.00' **42.0" Round Culvert** L= 20.0' Ke= 0.700

Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=67.54 cfs @ 13.85 hrs HW=876.90' TW=863.78' (Dynamic Tailwater)

-1=Culvert (Outlet Controls 67.54 cfs @ 7.02 fps)

2=Custom Weir/Orifice (Passes 67.54 cfs of 193.43 cfs potential flow)

1 3=Culvert (Passes 67.54 cfs of 92.80 cfs potential flow)

Secondary OutFlow Max=75.93 cfs @ 13.78 hrs HW=876.91' TW=872.77' (Dynamic Tailwater) 4=Broad-Crested Rectangular Weir (Weir Controls 75.93 cfs @ 1.87 fps)

Summary for Pond 65P: YH6-Pond

Inflow	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af	
Outflow	=	78.74 cfs @	0.00 hrs, Volume=	12.903 af, Atten= 0%, Lag= 0.0 mi	n
Primary	=	78.74 cfs @	0.00 hrs, Volume=	12.903 af	
Secondary	/ =	0.00 cfs @	0.00 hrs, Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Starting Elev= 856.60' Surf.Area= 6.484 ac Storage= 12.773 af Peak Elev= 856.60' @ 0.00 hrs Surf.Area= 6.484 ac Storage= 12.773 af

Plug-Flow detention time= (not calculated: no plugs found) Center-of-Mass det. time= (not calculated: no inflow)

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Invert

854.63'

Volume

#1

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Avail.Storage Storage Description

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	0 ()		01	0 01	
Elevation			ic.Store	Cum.Store	
(fee	et) (acre	es) (ac	re-feet)	(acre-feet)	
854.6	6.4	84	0.000	0.000	
856.6	6.4	84	12.773	12.773	
857.0	00 6.8	85	2.674	15.447	
858.0	00 7.7	'28	7.307	22.754	
859.0	00 11.1	79	9.453	32.207	
860.0	00 17.7	'14	14.447	46.654	
Device	Routing	Invert	Outlet [Devices	
#1	Primary	854.63'	108.0"	W x 36.0" H Bo	x Culvert
#2 Secondary		858.60'	Inlet / C n= 0.01 50.0' lo Head (f	Outlet Invert= 854 2 Concrete pipe ng + 25.0 '/' Sid eet) 0.20 0.40 (edge headwall, Ke= 0.500 1.63' / 854.25' S= 0.0136 '/' Cc= 0.900 2, finished, Flow Area= 27.00 sf deZ x 15.0' breadth Broad-Crested Rectangular Weir 0.60 0.80 1.00 1.20 1.40 1.60 70 2.70 2.64 2.63 2.64 2.64 2.63

46.654 af Custom Stage Data (Prismatic)Listed below (Recalc)

Primary OutFlow Max=78.74 cfs @ 0.00 hrs HW=856.60' (Free Discharge)
—1=Culvert (Barrel Controls 78.74 cfs @ 5.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=856.60' (Free Discharge) 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link 35L: Ag. Ditch #4 Tributary

Inflow Area = 19.199 ac, 34.85% Impervious, Inflow Depth = 5.18" for 200-yr event

Inflow = 111.20 cfs @ 12.22 hrs, Volume= 8.288 af

Primary = 109.49 cfs @ 12.48 hrs, Volume= 8.288 af, Atten= 2%, Lag= 15.9 min

Routed to Link 36L: Combined to Ag Ditch #4

Primary outflow = Inflow delayed by 15.8 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Combined to Ag Ditch #4

Inflow Area = 640.771 ac, 14.16% Impervious, Inflow Depth > 3.82" for 200-yr event

Inflow = 241.65 cfs @ 12.54 hrs, Volume= 203.958 af

Primary = 241.65 cfs @ 12.54 hrs, Volume= 203.958 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Fixed water surface Elevation= 856.60'

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Summary for Link 44L: Door Creek Combined

Inflow Area = 40.584 ac, 24.45% Impervious, Inflow Depth = 4.08" for 200-yr event

Inflow = 67.90 cfs @ 12.27 hrs, Volume= 13.790 af

Primary = 67.90 cfs @ 12.27 hrs, Volume= 13.790 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 56L: Lag to Door Creek

Inflow Area = 0.750 ac, 46.67% Impervious, Inflow Depth = 5.41" for 200-yr event

Inflow = 3.12 cfs @ 12.44 hrs, Volume= 0.338 af

Primary = 3.10 cfs @ 12.86 hrs, Volume= 0.338 af, Atten= 0%, Lag= 25.6 min

Routed to Link 44L: Door Creek Combined

Primary outflow = Inflow delayed by 25.6 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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Summary for Subcatchment 1S: C1

Runoff = 49.90 cfs @ 12.13 hrs, Volume=

2.914 af, Depth= 7.49"

Routed to Pond 1P: Niebuhr Stormwater Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN	Desc	cription							
*	3.	370	98									
	1.	300	61	>75%	√ Grass co	over, Good	H, HSG B					
	4.	670	88	Weig	hted Aver	age						
	1.300 27.84% Pervious Area											
	3.370 72.16% Impervious Area				6% Imperv	ious Area						
	Тс	Leng		Slope	Velocity	Capacity	Description					
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)						
	6.0						Direct Entry,					

Summary for Subcatchment 2S: C2

Runoff = 37.90 cfs @ 12.44 hrs, Volume=

3.990 af, Depth= 4.91"

Routed to Pond 2P: Storm Basin 2 with Infiltration

	Area	(ac) C	N Des	cription		
*	1.	020	98			
	5.	655 6	31 >75°	% Grass c	over, Good	, HSG B
	0.	685			comb., Goo	
*	2.			•	R + CŔ, Goo	
_				ghted Aver	•	
		725		3% Pervio		
		020		_	/ious Area	
	• • •	020	10.1	7 70 IIIIpoi	7104071104	
	Тс	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	8.0	91	0.0830	0.19	, ,	Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	6.4	59	0.0300	0.15		Sheet Flow,
						Cultivated: Residue>20% n= 0.170 P2= 2.82"
	11.9	573	0.0080	0.80		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	3.3	337	0.0030	1.69	11.17	Channel Flow,
						Area= 6.6 sf Perim= 13.4' r= 0.49' n= 0.030
	1.1	224	0.0050	3.31	10.40	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
						n= 0.020 Corrugated PE, corrugated interior
_	20.7	4 204	Tatal			

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Summary for Subcatchment 3S: C3-A

Runoff = 38.39 cfs @ 12.34 hrs, Volume= 3.552 af, Depth= 6.27"

Routed to Pond 2P: Storm Basin 2 with Infiltration

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

Area	(ac) C	N Desc	cription		
* 2	2.890	98			
3	3.639	31 >759	>75% Grass cover, Good		, HSG B
	.273	98 Wate	er Surface	, HSG B	
6	3.802	78 Weig	ghted Aver	age	
3	3.639	53.5	0% Pervio	us Area	
3	3.163	46.5	0% Imper	vious Area	
Tc	-	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
12.1	86	0.0260	0.12		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
0.9	68	0.0220	1.24		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 2.82"
9.1	1,026	0.0050	1.88	15.43	• •
					Bot.W=0.00' D=1.00' Z= 8.2 '/' Top.W=16.40'
	004	0.0050	0.70	0.00	n= 0.035
1.4	224	0.0050	2.76	8.66	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
0.4	50	0.0050	7.00	40.04	n= 0.024
0.1	59	0.0056	7.06	49.91	Pipe Channel,
					36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'
					n= 0.013
23.6	1,463	Total			

Summary for Subcatchment 4S: C3-B

Runoff = 8.10 cfs @ 12.13 hrs, Volume= 0.480 af, Depth= 7.73" Routed to Pond 3P : Sheriff Phase 2 Bioretention

	Area (ac)	CN	Description
*	0.580	98	
	0.165	61	>75% Grass cover, Good, HSG B
	0.745	90	Weighted Average
	0.165		22.15% Pervious Area
	0.580		77.85% Impervious Area

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Tc	Length	Slope	Velocity	Capacity	Description
 (min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·
6.0					Direct Entry,

Summary for Subcatchment 5S: C4-A

Runoff = 24.74 cfs @ 12.13 hrs, Volume=

1.520 af, Depth= 8.22"

Routed to Pond 4P: Cnty-Storm Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN	Desc	cription					
*	2.	010	98							
	0.	210	61	>75%	% Grass co	over, Good	H, HSG B			
2.220 94 Weighted Average						age				
	0.210 9.46% Pervious Area									
	2.010			90.54% Impervious Area						
	Тс	Lengt	h S	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	6.0				·		Direct Entry,			

Summary for Subcatchment 6S: C4-B

Runoff = 25.20 cfs @ 12.30 hrs, Volume=

2.175 af, Depth= 6.27"

Routed to Pond 5P: CNTY-Infiltration Basin #1

	Area (ac)	CN	Description
*	1.560	98	
	1.455	61	>75% Grass cover, Good, HSG B
	1.150	74	>75% Grass cover, Good, HSG C
	4.165	78	Weighted Average
	2.605		62.55% Pervious Area
	1.560		37.45% Impervious Area

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	0.3	13	0.0200	0.86		Sheet Flow,
		4.0	0.0400	0.40		Smooth surfaces n= 0.011 P2= 2.82"
	0.9	10	0.2400	0.19		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	14.4	127	0.0370	0.15		Sheet Flow,
						Grass: Dense
	1.6	115	0.0280	1.17		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	3.3	521	0.0080	2.66	15.95	Trap/Vee/Rect Channel Flow,
						Bot.W=2.00' D=1.00' Z= 4.0 '/' Top.W=10.00'
						n= 0.035
_	20.5	786	Total			

Summary for Subcatchment 7S: C4-C

Runoff = 5.93 cfs @ 12.13 hrs, Volume= 0.322 af, Depth= 5.77"

Routed to Pond 6P: County Pond - East

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN	Desc	ription		
*	0.	230	98				
	0.	440	61	>75%	√ Grass co	over, Good	d, HSG B
	0.670 74 Weighted Average						
	0.440 65.67% Pervious Area						
	0.	230	34.33% Impervious Area				
	Tc Length		th S	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	·
	6.0						Direct Entry.

Summary for Subcatchment 8S: C4-D

Runoff = 90.41 cfs @ 12.13 hrs, Volume= 5.361 af, Depth= 7.73"

Routed to Pond 6P: County Pond - East

	Area (ac)	CN	Description					
*	6.030	98						
	1.350	61	>75% Grass cover, Good, HSG B					
	0.300	98	Water Surface, HSG B					
	0.640	74	>75% Grass cover, Good, HSG C					
	8.320 1.990 6.330	90	Weighted Average 23.92% Pervious Area 76.08% Impervious Area					

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry,

Summary for Subcatchment 9S: C5-A

Runoff = 9.39 cfs @ 12.13 hrs, Volume=

0.500 af, Depth= 4.54"

Routed to Pond 9P: Culvert 534+50

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN	Desc	cription		
	1.	220	61	>75%	% Grass co	over, Good	, HSG B
*	0.	100	98				
	1.	320	64	Weig	ghted Aver	age	
	1.	220		92.4	2% Pervio	us Area	
0.100 7.58% Impervious Area						ous Area	
	Тс	Lengtl		Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	1.3	16	6 0.	2400	0.21		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	1.7	533	3 0.	0300	5.30	21.19	Trap/Vee/Rect Channel Flow,
							Bot.W=0.00' D=1.00' Z= 4.0 '/' Top.W=8.00'
							n= 0.030
_	3.0						Direct Entry, increase to min TOC
	6.0	549) To	otal			

Summary for Subcatchment 10S: C5-B

Runoff = 7.83 cfs @ 12.13 hrs, Volume=

0.502 af, Depth= 8.70"

Routed to Pond 57P: 187+00 42" Culvert

	Area	(ac)	CN	Desc	cription		
*	0.	693	98				
0.693 100.00% Impervious Area					00% Impe	а	
	Tc	Leng		Slope	,	Capacity	Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

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Summary for Subcatchment 11S: C5-C

Runoff 37.97 cfs @ 12.16 hrs, Volume= 2.274 af, Depth= 6.14"

Routed to Pond 57P: 187+00 42" Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

_	Area	(ac) (CN Des	cription		
*	1.	898	98			
	2.	544	61 >75	% Grass c	over, Good	, HSG B
	4.	442	77 Wei	ghted Avei	rage	
	2.	544	57.2	7% Pervio	us Area	
	1.	898	42.7	3% Imper	vious Area	
	Тс	Length	•	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.5	33	0.0270	1.17		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	4.8	76	0.2100	0.27		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.3	869	0.0150	4.36	61.01	Trap/Vee/Rect Channel Flow,
						Bot.W=10.00' D=1.00' Z= 4.0 '/' Top.W=18.00'
						n= 0.035
	8.6	978	Total			

Summary for Subcatchment 12S: C5-E

13.47 cfs @ 12.15 hrs, Volume= Runoff

0.799 af, Depth= 6.39"

Routed to Pond 14P: Culvert at Millpond 387+00

	Area (ac)	CN	Description
*	0.720	98	
	0.740	61	>75% Grass cover, Good, HSG B
	0.040	74	>75% Grass cover, Good, HSG C
	1.500	79	Weighted Average
	0.780		52.00% Pervious Area
	0.720		48.00% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	18	0.0180	0.88		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 2.82"
2.2	19	0.0950	0.15		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
5.7	645	0.0050	1.88	15.05	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'
					n= 0.035
8.2	682	Total		·	

Summary for Subcatchment 13S: C6-A

Runoff = 27.68 cfs @ 12.16 hrs, Volume=

1.641 af, Depth= 5.77"

Routed to Pond 13P: Culvert at Ramp A 690+50

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac) (CN Des	cription					
*	0.	890	98						
	1.	690	61 >75	% Grass c	over, Good	, HSG B			
_	0.	830	74 >75	>75% Grass cover, Good, HSG C					
	3.	410	74 Wei	ghted Aver	age				
	2.	520	73.9	0% Pervio	us Area				
	0.	890	26.1	0% Imperv	vious Area				
	_								
	Tc	Length	•	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	3.6	65	0.3100	0.30		Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.82"			
	1.0	85	0.0390	1.38		Shallow Concentrated Flow,			
						Short Grass Pasture Kv= 7.0 fps			
	3.9	431	0.0050	1.87	9.33	Trap/Vee/Rect Channel Flow,			
						Bot.W=0.00' D=1.00' Z= 4.0 & 6.0 '/' Top.W=10.00'			
						n= 0.035			
	8.5	581	Total						

Summary for Subcatchment 14S: C6-B

Runoff = 74.98 cfs @ 12.34 hrs, Volume=

6.890 af, Depth= 5.90"

Routed to Pond 14P: Culvert at Millpond 387+00

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	Area	(ac)	CN	Desc	cription		
*	3.	360	98				
	5.	070	61	>75%	% Grass co	over, Good	, HSG B
	5.	590	74	>75%	% Grass co	over, Good	, HSG C
14.020 75 Weighted Average							
	10.	660		76.0	3% Pervio	us Area	
	3.360			23.97% Impervious Area			
	Тс	Length	າ S	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	18.7	148	3 0.	0260	0.13		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	4.9	898	3 0.	0090	3.03	24.26	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 4.0 '/' Top.W=12.00'
_							n= 0.035
	23.6	1,046	3 To	otal			

Summary for Subcatchment 15S: C6-C

Runoff = 26.42 cfs @ 12.13 hrs, Volume= 1.640 af, Depth= 8.34"

Routed to Pond 64P: Pond B-reduced raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN	Desc	ription		
*	2.	020	98				
	0.	0.340 74 >75% Grass cover, Good					, HSG C
	2.360 95 Weighted Average					age	
	0.340 14.41% Pervious Area					us Area	
	2.020			85.5	9% Imperv	ious Area	
	Тс	Leng	th S	Slope	Velocity	Capacity	Description
_	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 16S: C6-D1

Runoff = 14.28 cfs @ 12.35 hrs, Volume= 1.312 af, Depth= 4.42" Routed to Pond 16P : Culvert 509+94 (NB CTH AB)

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	Area	(ac)	CN	Desc	cription						
*	0.	040	98								
	2.	340	61	>75% Grass cover, Good, HSG B							
	0.	390	58	Woo	ds/grass d	omb., Goo	d, HSG B				
*	0.	790	70	Row	crops, SR	+ CR, Go	od, HSG B				
	3.560 63 Weighted Average										
	3.520 98.88% Pervious Area										
	0.040			1.12	1.12% Impervious Area						
	Тс	Lengtl		Slope	Velocity	Capacity	Description				
_	(min)	(feet	()	(ft/ft)	(ft/sec)	(cfs)					
	23.0	26	5 0.0	0500	0.19		Sheet Flow,				
							Grass: Dense n= 0.240 P2= 2.82"				
	0.9	22	3 0.0	0240	4.07	18.31	Trap/Vee/Rect Channel Flow,				
							Bot.W=0.00' D=1.00' Z= 6.0 & 3.0 '/' Top.W=9.00'				
							n= 0.035				
	23.9	488	8 To	otal							

Summary for Subcatchment 17S: C6-D2

Runoff = 51.83 cfs @ 12.48 hrs, Volume=

5.828 af, Depth= 4.91"

Routed to Pond 18P: Culvert 505+79 (NB CTH AB)

	Area (ac)	CN	Description
*	1.795	98	
	3.625	61	>75% Grass cover, Good, HSG B
	0.305	74	>75% Grass cover, Good, HSG C
	5.110	58	Woods/grass comb., Good, HSG B
*	2.820	70	Row crops, SR + CR, Good, HSG B
*	0.580	79	Row crops, SR + CR, Good, HSG C
	14.235	67	Weighted Average
	12.440		87.39% Pervious Area
	1.795		12.61% Impervious Area

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	15.7	150	0.1150	0.16		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 2.82"
	7.2	545	0.0630	1.25		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	3.4	219	0.0450	1.06		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	6.7	335	0.0140	0.83		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.1	213	0.0160	3.32	13.26	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 '/' Top.W=8.00'
						n= 0.035
	0.4	150	0.0050	6.40	31.42	• •
						30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63'
_						n= 0.012
	34.5	1.612	Total			

Summary for Subcatchment 18S: YH2-B

Runoff = 107.20 cfs @ 12.55 hrs, Volume=

12.871 af, Depth= 4.54"

Routed to Pond 58P: Culvert 395+33 (Millpond)

	Area	(ac) C	N Des	cription		
*	2.	510 9	98			
	11.	160 6	31 >75°	% Grass co	over, Good	, HSG B
	9.	490 7	74 >75°	% Grass co	over, Good	, HSG C
	2.	240 6	35 Brus	h, Good, H	HSG C	
	8.	590 4	l8 Brus	h, Good, F	HSG B	
	33.	990 6	64 Weig	ghted Aver	age	
	31.	480	92.6	2% Pervio	us Area	
	2.	510	7.38	% Impervi	ous Area	
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	15.5	150	0.0430	0.16		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	17.3	1,216	0.0280	1.17		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	0.7	206	0.0100	4.91	3.86	· · · · · · · · · · · · · · · · · · ·
						12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
	4.0	00.4	0.0040	0.00	00.40	n= 0.012
	1.6	234	0.0040	2.38	38.12	Trap/Vee/Rect Channel Flow,
						Bot.W=8.00' D=1.00' Z= 8.0 '/' Top.W=24.00'
	0.4	25	0.0440	0.00	20.00	n= 0.030
	0.1	35	0.0140	9.23	29.00	Pipe Channel,
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012
						11- 0.012

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3.3	527	0.0140	2.68	53.55	Trap/Vee/Rect Channel Flow, Bot.W=10.00' D=1.00' Z= 10.0 '/' Top.W=30.00' n= 0.050
38.5	2,368	Total			

Summary for Subcatchment 19S: C7 - Landfill

Runoff = 233.24 cfs @ 12.19 hrs, Volume=

15.421 af, Depth= 6.51"

Routed to Pond 19P: Landfill Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

Area	(ac)	CN	Desc	ription		
0.	440	96	Grav	el surface	, HSG C	
27.	27.650 80 >75% Grass cover, Good,					, HSG D
0.330 98 Water Surface, HSG B						
28.420 80 Weighted Average					age	
28.	.090		98.84	4% Pervio	us Area	
0.	330		1.16	% Impervi	ous Area	
_						—
Tc	Lengt		Slope	Velocity	Capacity	Description
(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
11.0						Direct Entry, TOC from Landfill SWMP

Summary for Subcatchment 20S: C8

Runoff = 61.44 cfs @ 12.22 hrs, Volume= 4.409 af, Depth= 6.27"

Routed to Pond 22P: 36" Culvert 182+00

	Area (ac)	CN	Description
*	2.980	98	
	2.750	61	>75% Grass cover, Good, HSG B
	2.714	74	>75% Grass cover, Good, HSG C
<u> </u>	8.444	78	Weighted Average
	5.464		64.71% Pervious Area
	2.980		35.29% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	31	0.0140	0.89	,	Sheet Flow,
					Smooth surfaces n= 0.011 P2= 2.82"
1.6	10	0.0520	0.10		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
5.6	1,329	0.0170	3.93	11.78	Trap/Vee/Rect Channel Flow,
					Bot.W=0.00' D=1.00' Z= 3.0 '/' Top.W=6.00'
					n= 0.030
5.9	395	0.0250	1.11		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
13.7	1,765	Total			

Summary for Subcatchment 22S: C9

Runoff = 9.26 cfs @ 12.16 hrs, Volume=

0.559 af, Depth= 6.39"

Routed to Pond 22P: 36" Culvert 182+00

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 $\,$ 500-yr Rainfall=8.94"

	Area	(ac) C	N Des	cription		
*	0.520 98		98			
	0.	530	31 >75°	% Grass c	over, Good	, HSG B
	1.	050	79 Wei	hted Aver	age	
	0.	530	•	8% Pervio	•	
	0.	520	49.5	2% Imperv	ious Area	
	0.020			•		
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.3	19	0.0200	0.93		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	1.8	19	0.1400	0.17		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	6.5	572	0.0030	1.46	11.66	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'
						n= 0.035
	8.6	610	Total			

Summary for Subcatchment 23S: C10

Runoff = 8.60 cfs @ 12.15 hrs, Volume= 0.496 af, Depth= 6.39"

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

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	_								
_	Area	(ac)	CN Des	cription					
*	0.	404	98						
	0	374	61 >75	% Grass c	over, Good	HSG B			
	_	153		>75% Grass cover, Good, HSG C					
_						, 1100 0			
	U.	931		ghted Avei					
	0.	527	56.6	31% Pervio	us Area				
	0.	404	43.3	39% Imper	vious Area				
				•					
	Тс	Length	Slope	Velocity	Capacity	Description			
	(min)	(feet)		(ft/sec)	(cfs)	2000			
_					(0.0)	Ob and Element			
	0.3	18	0.0200	0.92		Sheet Flow,			
						Smooth surfaces n= 0.011 P2= 2.82"			
	1.7	19	0.1700	0.19		Sheet Flow,			
						Grass: Dense n= 0.240 P2= 2.82"			
	5.5	475	0.0030	1.45	8.71				
	3.0		0.0000	1.10	0.7 1	Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'			
						· ·			
_						n= 0.035			
	7.5	512	Total						

Summary for Subcatchment 24S: YH1

Runoff = 176.39 cfs @ 12.79 hrs, Volume= 27.185 af, Depth= 4.91"

Routed to Pond 24P: YH1 - Pond

Area (ac) CN Description							
22.700 61 >75% Grass cover, Good, HSG B							, HSG B
	27.	890	74 >	75%	6 Grass co	over, Good	, HSG C
	4.	830			h, Good, F		•
	8.	800			h, Good, F		
		180			r Surface		
	66.	400	67 W	/eig	hted Aver	age	
	64.	220	96	6.72	2% Pervio	us Area	
	2.	180	3.	289	% Impervi	ous Area	
	Tc	Length	Slop	ре	Velocity	Capacity	Description
	(min)	(feet)	(ft/1	ft)	(ft/sec)	(cfs)	
	21.0	150	0.020	00	0.12		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	36.9	2,018	0.017	70	0.91		Shallow Concentrated Flow,
		•					Short Grass Pasture Kv= 7.0 fps
_	57.9	2.168	Total				·

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Summary for Subcatchment 25S: YH2-A

Runoff = 79.17 cfs @ 12.40 hrs, Volume= 7.932 af, Depth= 5.41"

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN D	escriptio	n				
*	* 0.460 98								
	6.	980	61 >	'5% Gra	ISS C	over, Good	, HSG B		
	4.	750	74 >	'5% Gra	iss c	over, Good	, HSG C		
	2.	290	58 W	Woods/grass comb., Good, HSG B					
	0.	200	48 B	ush, Ğo	od, ł	HSG B			
	2.	930	98 W	ater Sur	face	, HSG B			
	17.610 71 Weighted Average								
	14.220).75% P	ervio	us Area			
	3.390			19.25% Impervious Area					
	Тс	Length			city	Capacity	Description		
_	(min)	(feet) (ft/1	t) (ft/s	sec)	(cfs)			
	18.6	150	0.027	0 0	0.13		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.82"		
	8.3	493	0.020	0 0	0.99		Shallow Concentrated Flow,		
							Short Grass Pasture Kv= 7.0 fps		
	1.1	375	0.028	0 5	5.77	80.72	Trap/Vee/Rect Channel Flow,		
							Bot.W=4.00' D=1.00' Z= 15.0 & 5.0 '/' Top.W=24.00'		
							n= 0.030		
	0.1	32	0.330	0 4	1.02		Shallow Concentrated Flow,		
_							Short Grass Pasture Kv= 7.0 fps		
	28 1	1.050) Total						

28.1 1,050 Total

Summary for Subcatchment 26S: C11,12,15,16,18

Runoff = 104.12 cfs @ 12.13 hrs, Volume= 5.960 af, Depth= 7.12"

Routed to Pond 59P: Pond A

	Area (ac)	CN	Description
*	6.350	98	
	3.330	61	>75% Grass cover, Good, HSG B
	0.360	74	>75% Grass cover, Good, HSG C
	10.040	85	Weighted Average
	3.690		36.75% Pervious Area
	6.350		63.25% Impervious Area

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Тс	Length	Slope	Velocity	Capacity	Description	
 (min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.0					Direct Entry,	

Summary for Subcatchment 27S: C13-A, C13-B, C14

Runoff = 112.99 cfs @ 12.24 hrs, Volume=

8.409 af, Depth= 5.28"

Routed to Pond 59P: Pond A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN	Desc	cription					
*	4.	590	98							
*	* 10.730 61									
	0.	643	74	>75%	>75% Grass cover, Good, HSG C					
		716	55		Woods, Good, HSG B					
_	0.	424	70	Woo	<u>ds, Good,</u>	HSG C				
	19.103 70			_	hted Aver	•				
	14.513			7% Pervio						
	4.590		24.0	3% Imper\	/ious Area					
	т.	ا ممیا	· I=	Clana	\/alaaitu	Canacitu	Description			
	Tc (min)	Lengt		Slope	Velocity (ft/sec)	Capacity	Description			
_	(min)	(fee		(ft/ft)		(cfs)	O L (T)			
	0.3	1	8 0	0.0200	0.92		Sheet Flow,			
	4.0	7	·	1000	0.05		Smooth surfaces n= 0.011 P2= 2.82"			
	4.9	7	'5 C).1900	0.25		Sheet Flow, Grass: Dense n= 0.240 P2= 2.82"			
	10.2	1,34	0 0	0.0050	2.20	20.87				
	10.2	1,34	.0 (7.0030	2.20	20.07	Trap/Vee/Rect Channel Flow, Bot.W=4.00' D=1.00' Z= 6.0 & 5.0 '/' Top.W=15.00'			
							n= 0.035			
	15.4	1,43	3 T	Γotal						

Summary for Subcatchment 28S: C17, C21, C22-A

Runoff = 36.24 cfs @ 12.20 hrs, Volume= 2.428 af, Depth= 5.90"

Routed to Pond 28P: 12/18 140+35

	Area (ac)	CN	Description							
*	1.830	98								
	2.930	>75% Grass cover, Good, HSG B								
	0.180	80	>75% Grass cover, Good, HSG D							
	4.940	75	Weighted Average							
	3.110		62.96% Pervious Area							
	1.830		37.04% Impervious Area							

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	17	0.0240	0.97		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 2.82"
3.0	46	0.2490	0.26		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
8.5	1,279	0.0064	2.51	22.55	Trap/Vee/Rect Channel Flow,
					Bot.W=4.00' D=1.00' Z= 6.0 & 4.0 '/' Top.W=14.00'
					n= 0.035
11.8	1 342	Total			

^{1,342 |} Total

Summary for Subcatchment 29S: C19-A

34.67 cfs @ 12.26 hrs, Volume= 2.719 af, Depth= 6.02" Runoff

Routed to Pond 59P: Pond A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac) (CN Des	cription		
*	2.	140	98			
*	3.	280	61 Gras	ss HSG B		
	3.	420 280 140	60.5	ghted Aver 52% Pervio 18% Imper	0	
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	12.6	150	0.0720	0.20	•	Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	2.1	129	0.0210	1.01		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.1	239	0.0300	3.52		Shallow Concentrated Flow,
						Paved Kv= 20.3 fps
	1.2	132	0.0050	1.87	12.18	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 9.0 & 4.0 '/' Top.W=13.00' n= 0.035
	17.0	650	Total			

Summary for Subcatchment 30S: C19-B

3.67 cfs @ 12.13 hrs, Volume= 0.195 af, Depth= 4.18" Runoff

Routed to Pond 59P: Pond A

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	Area (ac) CN Description						
	0.	0.560 61			% Grass co	over, Good	I, HSG B
0.560 100.00% Pervious Area							
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	6.0	·		·			Direct Entry,

Summary for Subcatchment 31S: C19-C

Runoff 22.72 cfs @ 12.13 hrs, Volume= 1.317 af, Depth= 7.37"

Routed to Pond 61P: (new Pond)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN	Desc	cription		
*	0.	894	98				
	1.	252	80	>75%	% Grass co	over, Good	d, HSG D
	2.146 87 Weighted Average						
	1.	252		58.3	4% Pervio	us Area	
	0.894 41.66% Impervious Area						
	Тс	Lengt	th S	Slope	Velocity	Capacity	Description
	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	6.0						Direct Entry,

Summary for Subcatchment 32S: C19-D

83.75 cfs @ 12.19 hrs, Volume= 5.881 af, Depth= 7.61"

Routed to Pond 59P: Pond A

	Area (ac)	CN	Description				
*	2.665	98					
	1.463	61	>75% Grass cover, Good, HSG B				
	1.444	80	>75% Grass cover, Good, HSG D				
	3.700	98	Water Surface, HSG B				
	9.272	89	Weighted Average				
	2.907		31.35% Pervious Area				
	6.365		68.65% Impervious Area				

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Tc	J	•	,		Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
8.2	100	0.0930	0.20		Sheet Flow,
					Grass: Dense n= 0.240 P2= 2.82"
3.1	279	0.0450	1.48		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
11.3	379	Total			

Summary for Subcatchment 33S: C20

Runoff = 24.50 cfs @ 12.24 hrs, Volume=

1.824 af, Depth= 4.79"

Routed to Pond 32P: Long Drive 440+35

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac) C	N Des	cription		
*	0.	660	98			
	3.	910	31 >75°	% Grass c	over, Good	, HSG B
	4.	570	36 Wei	ghted Aver	age	
	3.	910	,	6% Pervio	•	
	0.	660	14.4	4% Imper	vious Area	
				•		
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	0.3	12	0.0100	0.64		Sheet Flow,
						Smooth surfaces n= 0.011 P2= 2.82"
	11.3	101	0.0430	0.15		Sheet Flow,
						Grass: Dense n= 0.240 P2= 2.82"
	3.9	723	0.0140	3.08	10.79	Trap/Vee/Rect Channel Flow,
						Bot.W=0.00' D=1.00' Z= 4.0 & 3.0 '/' Top.W=7.00'
_						n= 0.035
	15.5	836	Total			

Summary for Subcatchment 34S: YH3-A

Runoff = 20.18 cfs @ 12.18 hrs, Volume= 1.260 af, Depth= 4.79"

Routed to Pond 34P: YH3-Pond

	Area (ac)	CN	Description				
*	0.357	98					
	2.668	61	>75% Grass cover, Good, HSG B				
	0.131	74	>75% Grass cover, Good, HSG C				
	3.156	66	Weighted Average				
	2.799		88.69% Pervious Area				
	0.357		11.31% Impervious Area				

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Tc	Length	•	•	Capacity	Description
 (min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
 10.0					Direct Entry,

Summary for Subcatchment 35S: YH3-B

Runoff = 481.51 cfs @ 12.68 hrs, Volume=

66.731 af, Depth= 4.30"

Routed to Pond 34P: YH3-Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN	Desc	cription		
*	2.	750	98				
	111.	110	61	>759	√ Grass co	over, Good,	HSG B
	25.	680	74	>759	√ Grass co	over, Good,	HSG C
	35.	680	48	Brus	h, Good, F	ISG B	
	6.	860	65	Brus	h, Good, F	HSG C	
	4.:	200	98	Wate	er Surface,	, HSG B	
	186.	280	62	Weig	hted Aver	age	
	179.	330		96.2	7% Pervio	us Area	
	6.	950		3.73	% Impervi	ous Area	
	Tc	Length		Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	19.9	150	0.	0230	0.13		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	25.0	1,662	2 0.	0250	1.11		Shallow Concentrated Flow,
							Short Grass Pasture Kv= 7.0 fps
	1.2	219	9 0.	0090	2.95	29.50	Trap/Vee/Rect Channel Flow,
							Bot.W=0.00' D=1.00' Z= 10.0 '/' Top.W=20.00'
							n= 0.030
	2.5	888	5 0.	0110	5.98	7.34	F
							15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'
_							n= 0.012
	48.6	2,916	3 To	otal			

Summary for Subcatchment 36S: YH4

Runoff = 54.73 cfs @ 12.32 hrs, Volume= 4.753 af, Depth= 4.67"

Routed to Pond 36P: YH4-Pond

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	Area	(ac)	CN	Desc	ription		
	9.	630	61	>75%	√ Grass co	over, Good	, HSG B
	2.	070	74	>75%	√ Grass co ✓ Grass co √ Grass co ✓ Gras	over, Good	, HSG C
	0.	520	98	Wate	er Surface,	, HSG A	
12.220 65 Weighted Average							
	11.	700		95.7	4% Pervio	us Area	
	0.	520		4.26	% Impervi	ous Area	
	·						
	Tc	Lengt	h :	Slope	Velocity	Capacity	Description
	(min)	(feet	t)	(ft/ft)	(ft/sec)	(cfs)	
	13.0	15	0 0	.0660	0.19		Sheet Flow,
							Grass: Dense n= 0.240 P2= 2.82"
	8.6	47	0 0	.0170	0.91		Shallow Concentrated Flow,
							Short Grass Pasture Kv= 7.0 fps
	21.6	62	0 T	otal			·

Summary for Subcatchment 37S: YH5

Runoff = 22.12 cfs @ 12.14 hrs, Volume= 1.275 af, Depth= 6.51"

Routed to Pond 37P: YH5 - Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN	Desc	cription				
*	0.	330	98						
	1.	130	61	>75%	% Grass co	over, Good	, HSG B		
_	0.	890	98	Wate	er Surface	, HSG A			
	2.	350	80	Weig	hted Aver	age			
	1.	130		48.0	9% Pervio	us Area			
	1.	220		51.9	51.91% Impervious Area				
	Тс	Lengt		Slope	Velocity	Capacity	Description		
_	(min)	(fee	<u>t)</u>	(ft/ft)	(ft/sec)	(cfs)			
	0.2	1	1 (0.0300	0.98		Sheet Flow,		
							Smooth surfaces n= 0.011 P2= 2.82"		
	7.1	8	7 (0.1000	0.20		Sheet Flow,		
_							Grass: Dense n= 0.240 P2= 2.82"		
	7.3	9	8 1	Γotal					

Summary for Subcatchment 38S: YH6

Runoff = 353.32 cfs @ 12.49 hrs, Volume= 39.780 af, Depth= 4.79"

Routed to Pond 38P: YH6-Pond

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	Area	(ac)	CN	Desc	cription						
	54.	390	61	>75%	% Grass co	over, Good	, HSG B				
	4.	340	48	Brush, Good, HSG B							
	7.	606	65	Brus	Brush, Good, HSG C						
	26.	837	73	Brus	Brush, Good, HSG D						
	6.484 98 Water Surface, HSG A										
	99.	657	66	Weig	ghted Aver	age					
	93.	173		93.4	9% Pervio	us Area					
	6.	484		6.51	% Impervi	ous Area					
	Тс	Length	n S	Slope	Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	19.2	150	0.0	0250	0.13		Sheet Flow,				
							Grass: Dense n= 0.240 P2= 2.82"				
	15.4	889	0.0	0190	0.96		Shallow Concentrated Flow,				
							Short Grass Pasture Kv= 7.0 fps				
	34.6	1,039	To	otal	<u> </u>						

Summary for Subcatchment 39S: C22B-25

Runoff = 133.31 cfs @ 12.22 hrs, Volume=

9.891 af, Depth= 6.51"

Routed to Link 35L : Ag. Ditch #4 Tributary

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN Des	cription							
*		210	98	•							
	_	320		% Grass c	over, Good	. HSG B					
		359			over, Good	•					
		340			over, Good	•					
_	18.229 80			Weighted Average							
	_	019		33% Pervio							
	6.210			7% Imper							
	Tc	Length	Slope	Velocity	Capacity	Description					
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
	0.4	29	0.0250	1.10		Sheet Flow,					
						Smooth surfaces n= 0.011 P2= 2.82"					
	2.4	30	0.1740	0.20		Sheet Flow,					
						Grass: Dense n= 0.240 P2= 2.82"					
	6.1	100	0.0015	0.27		Shallow Concentrated Flow,					
						Short Grass Pasture Kv= 7.0 fps					
	5.6	874	0.0069	2.58	23.23	Trap/Vee/Rect Channel Flow,					
						Bot.W=0.00' D=1.00' Z= 9.0 '/' Top.W=18.00'					
_						n= 0.030					
	4 A E	4 000	Tatal								

14.5 1,033 Total

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Summary for Subcatchment 40S: C25-B

Runoff = 9.31 cfs @ 12.13 hrs, Volume=

0.516 af, Depth= 6.39"

Routed to Link 35L : Ag. Ditch #4 Tributary

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN	Desc	cription			
*	0.	480	98					
*	0.	490	61					
	0.	970	79	Weig	hted Aver	age		
	0.490 50.52% Pervious Area							
	0.480			49.4	8% Imper	ious Area		
	Тс	Lengt	h S	Slope	Velocity	Capacity	Description	
_	(min)	(feet	t)	(ft/ft)	(ft/sec)	(cfs)		
	6.0						Direct Entry.	

Summary for Subcatchment 41S: C26

Runoff = 39.20 cfs @ 12.95 hrs, Volume=

6.840 af, Depth= 4.79"

Routed to Link 36L: Combined to Ag Ditch #4

Area	(ac) C	N Desc	cription		
0.	040 6	31 >75%	% Grass c	over, Good	, HSG B
0.	016 7			over, Good	
3.	950 4		h, Good, I		•
1.	800 6		h, Good, I		
11.			h, Good, I		
17	136 6		hted Aver		
	136		00% Pervi		
	100	100.	00701 0111	04071104	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	•
40.2	150	0.0110	0.06	, ,	Sheet Flow,
		0.0	0.00		Woods: Light underbrush n= 0.400 P2= 2.82"
9.7	380	0.0170	0.65		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.4	58	0.0050	2.76	8.66	• • • • • • • • • • • • • • • • • • •
• • •					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.024
0.2	59	0.0260	4.99	29.91	Trap/Vee/Rect Channel Flow,
V		0.0200		_0.0.	Bot.W=0.00' D=1.00' Z= 6.0 '/' Top.W=12.00'
					n= 0.030
19.3	2,177	0.0007	1.88	53.14	
	- ,				Bot.W=4.00' D=3.00' Z= 1.8 '/' Top.W=14.80'
					n= 0.030
					0.000

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69.8 2,824 Total

Summary for Subcatchment 42S: C5-D

Runoff = 23.71 cfs @ 12.16 hrs, Volume= 1.431 af, Depth= 5.28"

Routed to Pond 41P: AB 520+90

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN	Desc	cription			
*	0.	700	98					
	2.	260	61	>759	% Grass co	over, Good	, HSG B	
	0.	290	74	>759	% Grass co	over, Good	, HSG C	
	3.	250	70	Weig	hted Aver	age		
	2.	550		78.4	6% Pervio	us Area		
	0.700			21.54% Impervious Area				
	Тс	Lengtl	า ร	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	2.0	23	3 0.	1600	0.19		Sheet Flow,	
							Grass: Dense n= 0.240 P2= 2.82"	
	7.1	800	0.	0050	1.87	9.33	Trap/Vee/Rect Channel Flow,	
							Bot.W=0.00' D=1.00' Z= 4.0 & 6.0 '/' Top.W=10.00'	
							n= 0.035	
	9.1	823	3 To	otal				

Summary for Subcatchment 43S: C27-A

Runoff = 37.44 cfs @ 12.13 hrs, Volume= 2.086 af, Depth= 6.51"

Routed to Pond 54P: Pond C

	Area (ac)	CN	Desc	cription						
*	1.6	326	98								
	1.8	328	61	>75%	√ Grass co	over, Good	d, HSG B				
	0.3	390	98	Wate	er Surface,	0% imp, H	HSG B				
	3.844 80 Weighted Average										
	2.2	218		57.7	0% Pervio	us Area					
	1.626 42.30% Impervious Area					ious Area	a .				
		Lengt		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	•				
_	(min)	(iee	ι)	(11/11)	(IVSEC)	(018)					
	6.0						Direct Entry,				

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Summary for Subcatchment 44S: C27-B1

Runoff = 7.42 cfs @ 12.13 hrs, Volume=

0.400 af, Depth= 5.41"

Routed to Pond 43P: Ramp C 805+00

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN	Desc	cription			
*	0.	240	98					
	0.	648	61	>75%	% Grass co	over, Good	, HSG B	
	0.888 71 Weighted Average							
0.648 72.97% Pervious Area								
	0.	240		27.0	3% Imper\	/ious Area		
	Tc (min)	Lengt (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
	3.2	5	io 0	0.2500	0.26		Sheet Flow,	
							Grass: Dense n= 0.240 P2= 2.82"	
_	2.8						Direct Entry, Increase to min TOC	
	6.0	5	r 0	Total				

Summary for Subcatchment 45S: C27-B2 & C27-C

Runoff = 50.22 cfs @ 12.41 hrs, Volume= 5.117 a

5.117 af, Depth= 5.41"

Routed to Link 44L: Door Creek Combined

	Area (ac)	CN	Description
*	2.620	98	impervious
	6.800	61	>75% Grass cover, Good, HSG B
	0.246	80	>75% Grass cover, Good, HSG D
*	1.695	70	Row crops, SR + CR, Good, HSG B
	11.361	71	Weighted Average
	8.741		76.94% Pervious Area
	2.620		23.06% Impervious Area

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	13.6	150	0.0300	0.18		Sheet Flow,
						Cultivated: Residue>20% n= 0.170 P2= 2.82"
	2.3	150	0.0142	1.07		Shallow Concentrated Flow,
						Cultivated Straight Rows Kv= 9.0 fps
	4.9	274	0.0180	0.94		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	7.5	1,619	0.0130	3.60	30.61	Trap/Vee/Rect Channel Flow,
						Bot.W=4.00' D=1.00' Z= 3.0 & 6.0 '/' Top.W=13.00'
						n= 0.035
	0.6	159	0.0770	4.16		Shallow Concentrated Flow,
_						Grassed Waterway Kv= 15.0 fps
	28.9	2,352	Total			

Summary for Subcatchment 46S: C28-A

Runoff = 51.11 cfs @ 12.23 hrs, Volume=

3.703 af, Depth= 4.67"

Routed to Pond 45P: Culvert at 698+81

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac) (ON D	escrip	tion				
*	0.	950	98						
	2.	920	61 >	75% G	ass c	over, Good	, HSG B		
	3.	110	55 W	oods,	Good,	HSG B			
*	2.	540	70 R	ow cro	ops, SF	R + CR, Goo	od, HSG B		
	9.	520	65 W	Weighted Average					
	8.570					us Area			
	0.950		9.	9.98% Impervious Area					
					•				
	Тс	Length	Slop	e Ve	elocity	Capacity	Description		
	(min)	(feet)	(ft/1	t) (1	ft/sec)	(cfs)			
	12.0	140	0.195	0	0.19		Sheet Flow,		
							Woods: Light underbrush n= 0.400 P2= 2.82"		
	8.0	132	0.097	0	2.80		Shallow Concentrated Flow,		
							Cultivated Straight Rows Kv= 9.0 fps		
	1.7	509	0.035	0	4.98	39.82	Trap/Vee/Rect Channel Flow,		
							Bot.W=0.00' D=1.00' Z= 8.0 '/' Top.W=16.00'		
_							n= 0.035		
	14.5	781	Total						

Summary for Subcatchment 47S: C28-B

Runoff = 34.18 cfs @ 12.13 hrs, Volume= 1.884 af, Depth= 6.14"

Routed to Pond 46P: Pond D

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	Area	(ac)	CN	Desc	cription				
*	1.	023	98						
	2.	055	61	>75%	% Grass co	over, Good	, HSG B		
_	0.	603	98	Wate	er Surface	, HSG B			
	3.	681	77		ghted Aver				
	2.	055		55.8	3% Pervio	us Area			
	1.626			44.1	44.17% Impervious Area				
	_								
	Tc	Lengt		Slope	Velocity	Capacity	Description		
_	(min)	(fee	<u>t)</u>	(ft/ft)	(ft/sec)	(cfs)			
	4.7	8	7 (0.2900	0.31		Sheet Flow,		
							Grass: Dense n= 0.240 P2= 2.82"		
	1.4						Direct Entry, Increase to min TOC		
	6.1	8	7	Total					

Summary for Subcatchment 48S: C28-C1

Runoff = 9.61 cfs @ 12.13 hrs, Volume= 0.518 af, Depth= 5.41"

Routed to Pond 47P: Ramp B 706+25

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

_	Area	(ac)	CN	Desc	cription						
*	0.	300	98								
	0.	850	61	>75%	√ Grass co	over, Good	, HSG B				
	1.150 71 Weighted Average										
	0.	850		73.9	1% Pervio	us Area					
	0.300			26.09	9% Imperv	ious Area					
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
	6.0						Direct Entry,				

Summary for Subcatchment 49S: C28-C2

Runoff = 40.98 cfs @ 12.22 hrs, Volume= 2.892 af, Depth= 5.65"

Routed to Link 44L: Door Creek Combined

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	Area	(ac)	CN	Desc	cription		
*	1.	510	98				
	3.	400	61	>75%	√ Grass co	over, Good	, HSG B
	1.	120	80	>75%	√ Grass co	over, Good	, HSG D
	0.	110	55	Woo	ds, Good,	HSG B	
6.140 73 Weighted Average							
	4.630			75.4	1% Pervio	us Area	
	1.	510		24.5	9% Imper	ious Area	
	Тс	Leng	th	Slope	Velocity	Capacity	Description
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
	8.9	13	30 (0.3600	0.24		Sheet Flow,
							Woods: Light underbrush n= 0.400 P2= 2.82"
	4.7	1,30)5 (0.0210	4.60	37.92	Trap/Vee/Rect Channel Flow,
							Bot.W=4.00' D=1.00' Z= 6.0 & 2.5 '/' Top.W=12.50'
							n= 0.035
	13.6	1,43	35	Total			

Summary for Subcatchment 51S: Luds Lane

Runoff = 3.86 cfs @ 12.43 hrs, Volume= 0.422 af, Depth= 6.76"

Routed to Link 56L: Lag to Door Creek

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs MSE 24-hr 4 500-yr Rainfall=8.94"

	Area	(ac)	CN	Desc	cription		
*	0.	350	98				
*	0.	400	68				
	0.750 82 Weighted Average						
	0.	400		53.3	3% Pervio	us Area	
	0.350			46.6	7% Imper\	/ious Area	
	Tc (min)	Lengt (feet		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	6.0						Direct Entry,
	25.6	2,00	4 0	.0210	1.30		Shallow Concentrated Flow,
							Cultivated Straight Rows Kv= 9.0 fps
	31.6	2,00	4 T	otal			

Summary for Subcatchment 52S: Proposed Stability Campus to Pond B

Runoff = 63.03 cfs @ 12.04 hrs, Volume= 3.272 af, Depth= 7.85" Routed to Pond 64P : Pond B-reduced_raised 1 ft and raised spillway

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Area (ac)	CN	Description
5.000	91	Urban industrial, 72% imp, HSG C
1.400		28.00% Pervious Area
3.600		72.00% Impervious Area

Summary for Reach 20R: Overland Flow

Inflow = 256.20 cfs @ 13.29 hrs, Volume= 33.870 af

Outflow = 234.42 cfs @ 13.51 hrs, Volume= 33.870 af, Atten= 9%, Lag= 13.2 min

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Max. Velocity= 3.16 fps, Min. Travel Time= 13.0 min

Avg. Velocity = 0.74 fps, Avg. Travel Time= 55.6 min

Peak Storage= 183,462 cf @ 13.51 hrs

Average Depth at Peak Storage= 1.41', Surface Width= 94.86'

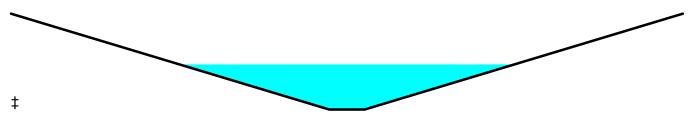
Bank-Full Depth= 3.00' Flow Area= 300.0 sf, Capacity= 1,515.22 cfs

10.00' x 3.00' deep channel, n= 0.030

Side Slope Z-value= 30.0 '/' Top Width= 190.00'

Length= 2,474.0' Slope= 0.0057 '/'

Inlet Invert= 872.00', Outlet Invert= 858.00'



Summary for Pond 1P: Niebuhr Stormwater Pond

Inflow Area = 4.670 ac, 72.16% Impervious, Inflow Depth = 7.49" for 500-yr event

Inflow = 49.90 cfs @ 12.13 hrs, Volume= 2.914 af

Outflow = 19.21 cfs @ 12.30 hrs, Volume= 2.913 af, Atten= 61%, Lag= 10.4 min

Primary = 19.21 cfs @ 12.30 hrs, Volume= 2.913 af

Routed to Pond 2P: Storm Basin 2 with Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 907.46' @ 12.45 hrs Surf.Area= 37,251 sf Storage= 54,584 cf

Plug-Flow detention time= 132.1 min calculated for 2.913 af (100% of inflow)

Center-of-Mass det. time= 131.5 min (904.8 - 773.3)

Volume	Invert	Avail.Storage	Storage Description
#1	882.60'	54,584 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
882.6		Ó	Ó	0	
883.0	00	275	55	55	
884.0	00	9,336	4,806	4,860	
885.0	00	26,430	17,883	22,743	
886.0	00	37,251	31,841	54,584	
Device	Routing	Invert	Outlet Devices		
#1	Primary	883.00'	Special & User	-Defined	
#2	Primary	885.50'	1.00 1.10 1.20 2.20 2.30 2.40 Disch. (cfs) 0.0 0.590 0.700 0.1.990 2.160 2.10.0' long x 3.0 Head (feet) 0.2 2.50 3.00 3.50	1.30 1.40 1 2.50 00 0.030 0.0 830 0.950 1. 330 2.510 2. 0' breadth Br 0 0.40 0.60 4.00 4.50 2.44 2.58 2.	0.30 0.40 0.50 0.60 0.70 0.80 0.90 .50 1.60 1.70 1.80 1.90 2.00 2.10 0.70 0.140 0.210 0.290 0.380 0.480 0.80 1.220 1.370 1.520 1.670 1.830 690 2.880 3.070 3.260 0.80 1.00 1.20 1.40 1.60 1.80 2.00 68 2.67 2.65 2.64 2.64 2.68 2.68

Primary OutFlow Max=19.16 cfs @ 12.30 hrs HW=886.21' TW=880.39' (Dynamic Tailwater)

1=Special & User-Defined (Custom Controls 3.26 cfs)

—2=Broad-Crested Rectangular Weir (Weir Controls 15.90 cfs @ 2.25 fps)

Summary for Pond 2P: Storm Basin 2 with Infiltration

Inflow Area = 21.962 ac, 37.03% Impervious, Inflow Depth = 5.99" for 500-yr event

Inflow = 92.86 cfs @ 12.32 hrs, Volume= 10.955 af

Outflow = 88.10 cfs @ 12.44 hrs, Volume= 10.955 af, Atten= 5%, Lag= 7.3 min

Discarded = 2.27 cfs @ 12.41 hrs, Volume= 0.510 af Primary = 86.70 cfs @ 12.44 hrs, Volume= 11.845 af

Routed to Pond 9P: Culvert 534+50

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 914.49' @ 12.41 hrs Surf.Area= 0.831 ac Storage= 2.160 af

Plug-Flow detention time= 50.4 min calculated for 10.955 af (100% of inflow) Center-of-Mass det. time= 50.3 min (895.5 - 845.2)

Volume	Invert	Avail.Storage	Storage Description
#1	877.20'	2.160 af	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
877.20	0.137	0.000	0.000
877.37	0.141	0.024	0.024
877.38	0.415	0.003	0.026
878.00	0.449	0.268	0.294
879.00	0.568	0.509	0.803
880.00	0.658	0.613	1.416
881.00	0.831	0.744	2.160

Device	Routing	Invert	Outlet Devices
#1	Primary	877.20'	18.0" Round Culvert X 2.00
			L= 25.0' CPP, end-section conforming to fill, Ke= 0.500
			Inlet / Outlet Invert= 877.20' / 877.10' S= 0.0040 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.20'	Special & User-Defined
			Head (feet) 0.00 0.20 0.40 0.60 0.80 1.00
			Disch. (cfs) 0.000 0.340 0.960 1.760 2.710 3.790
#3	Device 1	878.20'	30.0' long x 2.0' 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
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32
#4	Discarded	877.20'	0.500 in/hr Exfiltration over Surface area
			Conductivity to Groundwater Elevation = 870.00'
#5	Primary	880.00'	30.0' long x 6.0' 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 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
			2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=2.11 cfs @ 12.41 hrs HW=911.38' (Free Discharge) 4=Exfiltration (Controls 2.11 cfs)

Primary OutFlow Max=3,264.04 cfs @ 12.44 hrs HW=899.09' TW=897.38' (Dynamic Tailwater)

1=Culvert (Inlet Controls 22.26 cfs @ 6.30 fps)

2=Special & User-Defined (Passes < 3.79 cfs potential flow)

-3=Broad-Crested Rectangular Weir (Passes < 4,208.31 cfs potential flow)

-5=Broad-Crested Rectangular Weir (Weir Controls 3,241.78 cfs @ 5.66 fps)

Summary for Pond 3P: Sheriff Phase 2 Bioretention

Inflow Area =	0.745 ac, 77.85% Impervious, Inflow	Depth = 7.73" for 500-yr event
Inflow =	8.10 cfs @ 12.13 hrs, Volume=	0.480 af
Outflow =	6.91 cfs @ 12.96 hrs, Volume=	0.450 af, Atten= 15%, Lag= 49.8 min
Discarded =	0.03 cfs @ 12.89 hrs, Volume=	0.050 af
Primary =	6.90 cfs @ 12.94 hrs, Volume=	0.500 af
Routed to Pond	d 2P : Storm Basin 2 with Infiltration	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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Peak Elev= 881.89' @ 12.89 hrs Surf.Area= 4,080 sf Storage= 7,823 cf

Plug-Flow detention time= 234.7 min calculated for 0.450 af (94% of inflow)

Invest Aveil Otensons Otensons Description

Center-of-Mass det. time= 203.0 min (971.1 - 768.1)

<u>Volume</u>	Invert	Avail.Sto	rage Storage	e Description	
#1	879.50'	8,28	39 cf Custon	n Stage Data (Prismatic)Listed below (Recalc)	
Elevation		ırf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
879.5	50	2,225	0	0	
880.0	00	2,651	1,219	1,219	
881.0	00	3,579	3,115	4,334	
881.5	50	4,080	1,915	6,249	
882.0	00	4,080	2,040	8,289	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	879.50'	12.0" Round	d Culvert	
			L= 34.0' CP	P, square edge headwall, Ke= 0.500	
			Inlet / Outlet	Invert= 879.50' / 879.00' S= 0.0147 '/' Cc= 0.900	
				ow Area= 0.79 sf	
#2	Device 1	880.50'	12.0" W x 3.	0" H Vert. Orifice/Grate C= 0.600	
			Limited to we	eir flow at low heads	
#3	Device 1	881.00'	24.0" Horiz.	Orifice/Grate C= 0.600	
				eir flow at low heads	
#4	Primary	881.50'		2.0' breadth Broad-Crested Rectangular Weir	
				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.		
				h) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88	
			2.85 3.07 3.		
#5	Discarded	879.50'		xfiltration over Surface area above 879.50'	
			•	to Groundwater Elevation = 875.00'	
			Excluded Sur	rface area = 2,225 sf	

Discarded OutFlow Max=0.03 cfs @ 12.89 hrs HW=881.87' (Free Discharge) **5=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=7.58 cfs @ 12.94 hrs HW=881.79' TW=880.90' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 3.56 cfs @ 4.54 fps)

2=Orifice/Grate (Passes < 1.13 cfs potential flow)

-3=Orifice/Grate (Passes < 13.45 cfs potential flow)

4=Broad-Crested Rectangular Weir (Weir Controls 4.02 cfs @ 1.38 fps)

Summary for Pond 4P: Cnty-Storm Basin 1

2.220 ac, 90.54% Impervious, Inflow Depth = 8.22" for 500-yr event Inflow Area =

Inflow 24.74 cfs @ 12.13 hrs, Volume= 1.520 af

20.60 cfs @ 12.20 hrs, Volume= Outflow 1.509 af, Atten= 17%, Lag= 4.4 min

0.10 cfs @ 12.71 hrs, Volume= Discarded = 0.069 af 20.53 cfs @ 12.20 hrs, Volume= Primary 1.583 af

Routed to Pond 6P: County Pond - East

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 886.74' @ 12.71 hrs Surf.Area= 5,830 sf Storage= 10,756 cf

Plug-Flow detention time= 81.9 min calculated for 1.509 af (99% of inflow) Center-of-Mass det. time= 77.1 min (833.1 - 756.0)

Volume	Invert	Avail.Sto	rage Storage	Description	
#1	879.72'	10,75	66 cf Custon	n Stage Data (P	rismatic)Listed below (Recalc)
Elevation	on Su	ırf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
879.7	72	1,306	0	0	
880.0	00	1,599	407	407	
881.0	00	2,711	2,155	2,562	
882.0	00	3,924	3,318	5,879	
883.0	00	5,830	4,877	10,756	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	879.72'	18.0" Round	d Culvert	
					ojecting, Ke= 0.500
					878.47' S= 0.0188 '/' Cc= 0.900
			•	ow Area= 1.77 sf	
#2	Device 1	880.72'			e/Grate C= 0.600
				eir flow at low hea	
#3	Device 1	881.50'		Orifice/Grate (
				eir flow at low hea	
#4	Primary	882.74'			oad-Crested Rectangular Weir
					0.80 1.00 1.20 1.40 1.60 1.80 2.00
				50 4.00 4.50 5	
					69 2.68 2.67 2.67 2.65 2.66 2.66
				73 2.76 2.79 2	
#5	Discarded	879.72'			Surface area above 879.72'
					Elevation = 875.00'
			Excluded Sui	rface area = 1,30	16 st

Discarded OutFlow Max=0.09 cfs @ 12.71 hrs HW=886.31' (Free Discharge) **5=Exfiltration** (Controls 0.09 cfs)

Primary OutFlow Max=21.14 cfs @ 12.20 hrs HW=883.21' TW=880.99' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 12.68 cfs @ 7.18 fps)

2=Orifice/Grate (Passes < 1.77 cfs potential flow)

-3=Orifice/Grate (Passes < 44.55 cfs potential flow)

4=Broad-Crested Rectangular Weir (Weir Controls 8.46 cfs @ 1.79 fps)

Summary for Pond 5P: CNTY-Infiltration Basin #1

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Inflow Area = 4.165 ac, 37.45% Impervious, Inflow Depth = 6.27" for 500-yr event

Inflow = 25.20 cfs @ 12.30 hrs, Volume= 2.175 af

Outflow = 29.92 cfs @ 12.50 hrs, Volume= 2.142 af, Atten= 0%, Lag= 12.1 min

Discarded = 0.47 cfs @ 12.50 hrs, Volume= 0.168 af Primary = 29.45 cfs @ 12.50 hrs, Volume= 2.338 af

Routed to Pond 6P: County Pond - East

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 893.85' @ 12.50 hrs Surf.Area= 19,826 sf Storage= 30,088 cf

Plug-Flow detention time= 131.2 min calculated for 2.141 af (98% of inflow)

Center-of-Mass det. time= 124.2 min (931.7 - 807.5)

Volume	Inve	rt Avail.Sto	rage Storage D	Description	
#1	880.7	1' 30,08	38 cf Custom	Stage Data (Pri	ismatic)Listed below (Recalc)
Elevation	on S	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
880.7	71	3,155	0	0	
881.0	00	3,568	975	975	
882.0	00	6,526	5,047	6,022	
883.0		10,890	8,708	14,730	
884.0	00	19,826	15,358	30,088	
<u>Device</u>	Routing	Invert	Outlet Devices		
#1	Primary	880.71'			
					jecting, Ke= 0.500
					380.28' S= 0.0083 '/' Cc= 0.900
			,	v Area= 0.79 sf	
#2	Device 1	881.71'			e/Grate C= 0.600
				flow at low hear	
#3	Device 1	882.71'		rifice/Grate C	
				flow at low hear	-
#4	Primary	883.49'			oad-Crested Rectangular Weir
					0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50		
					1 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20		
#5	Discarded	880.71'	0.500 in/hr Ex	filtration over S	Surface area above 880.71'

Conductivity to Groundwater Elevation = 875.00'

Discarded OutFlow Max=0.47 cfs @ 12.50 hrs HW=893.84' (Free Discharge) **5=Exfiltration** (Controls 0.47 cfs)

Primary OutFlow Max=0.00 cfs @ 12.50 hrs HW=893.75' TW=895.91' (Dynamic Tailwater)

Excluded Surface area = 3,155 sf

-1=Culvert (Controls 0.00 cfs)

-2=Orifice/Grate (Controls 0.00 cfs)

-3=Orifice/Grate (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Summary for Pond 6P: County Pond - East

Inflow Area = 15.375 ac, 65.89% Impervious, Inflow Depth = 7.50" for 500-yr event

Inflow 112.22 cfs @ 12.13 hrs, Volume= 9.605 af

121.55 cfs @ 13.45 hrs, Volume= 127.88 cfs @ 13.25 hrs, Volume= Outflow 9.591 af, Atten= 0%, Lag= 79.1 min

Primary 12.888 af

Routed to Pond 9P: Culvert 534+50

Invert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 899.49' @ 13.36 hrs Surf.Area= 35,400 sf Storage= 101,764 cf

Avail.Storage Storage Description

Plug-Flow detention time= 73.0 min calculated for 9.584 af (100% of inflow)

Center-of-Mass det. time= 73.2 min (865.3 - 792.1)

#1	877.1	9' 101,70	64 cf Custon	n Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation		Surf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
877.		14,796	0	0	
878.0		17,475	13,070	13,070	
879.0		20,998	19,237	32,306	
880.0		24,807	22,903	55,209	
881.0		33,736	29,272	84,480	
881.5	50	35,400	17,284	101,764	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	877.20'	18.0" Round	d Culvert X 2.00	
	,		L= 31.8' CP	P, end-section co	onforming to fill, Ke= 0.500
					877.00' S= 0.0063 '/' Cc= 0.900
			n= 0.013. Flo	ow Area= 1.77 sf	
#2	Device 1	877.20'	Special & Us		
					0.60 0.80 1.00 1.20 1.40 1.60 1.80
			2.00 ` ′		
				0.000 0.100 0.4	00 0.800 1.500 2.500 3.400 4.500
			5.600 6.900		
#3	Device 1	879.20'			oad-Crested Rectangular Weir
•		0.0.20			0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.		
					61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.		21 2.00 2.00 2.10 2.11 2.00 2.00
#4	Primary	880.00'			oad-Crested Rectangular Weir
"-	1 minary	000.00			0.80 1.00 1.20 1.40 1.60 1.80 2.00
				50 4.00 4.50 5	
					70 2.68 2.68 2.67 2.65 2.65 2.65
				66 2.67 2.69 2	
			2.00 2.00 2.	00 2.01 2.03 2	.12 2.10 2.00

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Primary OutFlow Max=0.00 cfs @ 13.25 hrs HW=881.61' TW=905.16' (Dynamic Tailwater)

-1=Culvert (Controls 0.00 cfs)

-2=Special & User-Defined (Passes 0.00 cfs of 8.30 cfs potential flow)

-3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 9P: Culvert 534+50

Inflow Area = 38.657 ac, 47.50% Impervious, Inflow Depth = 7.83" for 500-yr event

Inflow = 204.28 cfs @ 13.45 hrs, Volume= 25.233 af

Outflow = 204.28 cfs @ 13.45 hrs, Volume= 25.233 af, Atten= 0%, Lag= 0.0 min

Primary = 204.28 cfs @ 13.45 hrs, Volume= 25.233 af

Routed to Pond 57P: 187+00 42" Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 916.65' @ 12.41 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.00'	53.0" W x 34.0" H, R=47.9" Elliptical RCP_Elliptical 53x34
			L= 128.0' Ke= 0.270
			Inlet / Outlet Invert= 875.00' / 874.50' S= 0.0039 '/' Cc= 0.900
			n= 0.012, Flow Area= 10.20 sf

Primary OutFlow Max=0.00 cfs @ 13.45 hrs HW=891.80' TW=897.42' (Dynamic Tailwater) 1=RCP_Elliptical 53x34 (Controls 0.00 cfs)

Summary for Pond 13P: Culvert at Ramp A 690+50

Inflow Area = 3.410 ac, 26.10% Impervious, Inflow Depth = 5.77" for 500-yr event

Inflow = 27.68 cfs @ 12.16 hrs, Volume= 1.641 af

Outflow = 27.68 cfs @ 12.16 hrs, Volume= 1.641 af, Atten= 0%, Lag= 0.0 min

Primary = 27.68 cfs @ 12.16 hrs, Volume= 1.641 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 884.79' @ 13.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	878.35'	24.0" Round Culvert
	-		L= 132.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 878.35' / 874.50' S= 0.0292 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=23.70 cfs @ 12.16 hrs HW=881.43' TW=879.13' (Dynamic Tailwater) 1=Culvert (Outlet Controls 23.70 cfs @ 7.54 fps)

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Summary for Pond 14P: Culvert at Millpond 387+00

Inflow Area = 180.907 ac, 17.94% Impervious, Inflow Depth > 5.58" for 500-yr event

Inflow = 452.88 cfs @ 12.41 hrs, Volume= 84.087 af

Outflow = 452.88 cfs @ 12.41 hrs, Volume= 84.087 af, Atten= 0%, Lag= 0.0 min

Primary = 452.88 cfs @ 12.41 hrs, Volume= 84.087 af Routed to Pond 64P : Pond B-reduced raised 1 ft and raised spillway

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 884.57' @ 13.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	871.30'	48.0" Round Culvert X 2.00 L= 92.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 871.30' / 871.00' S= 0.0033 '/' Cc= 0.900
			n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=431.28 cfs @ 12.41 hrs HW=883.67' TW=875.54' (Dynamic Tailwater) 1=Culvert (Inlet Controls 431.28 cfs @ 17.16 fps)

Summary for Pond 16P: Culvert 509+94 (NB CTH AB)

Inflow Area = 3.560 ac, 1.12% Impervious, Inflow Depth = 4.42" for 500-yr event

Inflow = 14.28 cfs @ 12.35 hrs, Volume= 1.312 af

Outflow = 14.28 cfs @ 12.35 hrs, Volume= 1.312 af, Atten= 0%, Lag= 0.0 min

Primary = 14.28 cfs @ 12.35 hrs, Volume= 1.312 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 885.42' @ 12.41 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	878.00'	24.0" Round Culvert
			L= 178.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 878.00' / 876.00' S= 0.0112 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=16.81 cfs @ 12.35 hrs HW=880.00' TW=878.17' (Dynamic Tailwater) 1=Culvert (Outlet Controls 16.81 cfs @ 6.64 fps)

Summary for Pond 18P: Culvert 505+79 (NB CTH AB)

Inflow Area = 14.235 ac, 12.61% Impervious, Inflow Depth = 4.91" for 500-yr event

Inflow = 51.83 cfs @ 12.48 hrs, Volume= 5.828 af

Outflow = 51.83 cfs @ 12.48 hrs, Volume= 5.828 af, Atten= 0%, Lag= 0.0 min

Primary = 51.83 cfs @ 12.48 hrs, Volume= 5.828 af

Routed to Pond 58P: Culvert 395+33 (Millpond)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

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Peak Elev= 905.83' @ 13.05 hrs

Device	Routing	Invert	Outlet Devices	
#1	Primary	877.97'	30.0" Round Culvert	
			L= 128.0' RCP, groove end w/headwall, Ke= 0.200	
			Inlet / Outlet Invert= 877.97' / 877.05' S= 0.0072 '/' Cc= 0.900	
			n= 0.012, Flow Area= 4.91 sf	

Primary OutFlow Max=49.52 cfs @ 12.48 hrs HW=893.61' TW=890.12' (Dynamic Tailwater) 1=Culvert (Outlet Controls 49.52 cfs @ 10.09 fps)

Summary for Pond 19P: Landfill Pond

Inflow Area = 28.420 ac, 1.16% Impervious, Inflow Depth = 6.51" for 500-yr event

Inflow = 233.24 cfs @ 12.19 hrs, Volume= 15.421 af

Outflow = 275.81 cfs @ 12.30 hrs, Volume= 15.403 af, Atten= 0%, Lag= 6.7 min

Primary = 274.81 cfs @ 12.30 hrs, Volume= 15.776 af

Routed to Pond 22P: 36" Culvert 182+00

Invert

Volume

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 996.92' @ 12.30 hrs Surf.Area= 1.697 ac Storage= 6.106 af

Plug-Flow detention time= 182.2 min calculated for 15.392 af (100% of inflow) Center-of-Mass det. time= 183.2 min (978.1 - 795.0)

Avail.Storage Storage Description

#1	877.33'	6.106 af Cust	om Stage Data	(Prismatic)Listed below (Recal
Elevation	Surf.Area	Inc.Store	Cum.Store	
(feet)	(acres)	(acre-feet)	(acre-feet)	
877.33	0.334	0.000	0.000	
878.00	0.401	0.246	0.246	
879.00	0.497	0.449	0.695	
880.00	0.661	0.579	1.274	
881.00	0.952	0.806	2.081	
882.00	1.214	1.083	3.164	
883.00	1.487	1.350	4.514	
884.00	1.697	1.592	6.106	

Device	Routing	Invert	Outlet Devices
#1	Primary	877.33'	18.0" Round Culvert
			L= 69.6' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 877.33' / 875.77' S= 0.0224 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf
#2	Device 1	877.33'	1.0" Vert. Orifice/Grate X 7.00 C= 0.600
			Limited to weir flow at low heads
#3	Device 1	877.68'	1.0" Vert. Orifice/Grate X 8.00 C= 0.600
			Limited to weir flow at low heads
#4	Device 1	878.03'	1.0" Vert. Orifice/Grate X 9.00 C= 0.600
			Limited to weir flow at low heads
#5	Device 1	879.77'	18.0" Horiz. Orifice/Grate C= 0.600

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Limited to weir flow at low heads

#6 Primary 882.66' 10.0' long x 10.0' breadth Broad-Crested Rectangular Weir

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=289.04 cfs @ 12.30 hrs HW=996.13' TW=996.13' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 0.16 cfs @ 0.09 fps)

-2=Orifice/Grate (Passes < 0.00 cfs potential flow)

-3=Orifice/Grate (Passes < 0.00 cfs potential flow)

-4=Orifice/Grate (Passes < 0.00 cfs potential flow)</p>
-5=Orifice/Grate (Passes < 0.16 cfs potential flow)</p>

-6=Broad-Crested Rectangular Weir (Weir Controls 288.87 cfs @ 0.25 fps)

Summary for Pond 22P: 36" Culvert 182+00

Inflow Area = 37.914 ac, 10.10% Impervious, Inflow Depth = 6.57" for 500-yr event

Inflow = 329.14 cfs @ 12.30 hrs, Volume= 20.744 af

Outflow = 329.14 cfs @ 12.30 hrs, Volume= 20.744 af, Atten= 0%, Lag= 0.0 min

Primary = 329.14 cfs @ 12.30 hrs, Volume= 20.744 af

Routed to Pond 64P: Pond B-reduced_raised 1 ft and raised spillway

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 996.90' @ 12.30 hrs

Primary OutFlow Max=324.29 cfs @ 12.30 hrs HW=993.50' TW=874.76' (Dynamic Tailwater) 1=Culvert (Outlet Controls 324.29 cfs @ 45.88 fps)

Summary for Pond 24P: YH1 - Pond

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth = 4.91" for 500-yr event

Inflow = 176.39 cfs @ 12.79 hrs, Volume= 27.185 af

Outflow = 266.34 cfs @ 13.05 hrs, Volume= 26.766 af, Atten= 0%, Lag= 15.5 min

Primary = 266.34 cfs @ 13.05 hrs, Volume= 26.766 af

Routed to Pond 25P: Small Depression

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 904.02' @ 13.05 hrs Surf.Area= 257,486 sf Storage= 437,523 cf

Plug-Flow detention time= 362.3 min calculated for 26.766 af (98% of inflow)

Center-of-Mass det. time= 353.3 min (1,214.3 - 861.0)

Volume	Invert	Avail.Storage	Storage Description
#1	895.00'	437,523 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
895.00	94,949	0	0
896.00	101,543	98,246	98,246
897.00	159,762	130,653	228,899
898.00	257,486	208,624	437,523

Device	Routing	Invert	Outlet Devices
#1	Primary	895.00'	12.0" Round Culvert
	•		L= 140.0' RCP, mitered to conform to fill, Ke= 0.700
			Inlet / Outlet Invert= 895.00' / 894.00' S= 0.0071 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Primary	897.00'	10.0' long x 100.0' breadth Broad-Crested Rectangular Weir
	_		Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 13.05 hrs HW=903.95' TW=905.14' (Dynamic Tailwater)

1=Culvert (Controls 0.00 cfs)

Invert

Volume

-2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 25P: Small Depression

Inflow Area = 66.400 ac, 3.28% Impervious, Inflow Depth > 4.84" for 500-yr event

Inflow = 266.34 cfs @ 13.05 hrs, Volume= 26.766 af

Outflow = 197.73 cfs @ 13.06 hrs, Volume= 26.737 af, Atten= 26%, Lag= 0.5 min

Primary = 197.73 cfs @ 13.06 hrs, Volume= 26.737 af

Routed to Pond 58P: Culvert 395+33 (Millpond)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 905.26' @ 13.05 hrs Surf.Area= 32,190 sf Storage= 33,874 cf

Plug-Flow detention time= 33.7 min calculated for 26.719 af (100% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 30.5 min (1,244.8 - 1,214.3)

#1	894.	00' 33,8	74 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation		Surf.Area	Inc.Store	Cum.Store	
(fee	€[)	(sq-ft)	(cubic-feet)	(cubic-feet)	
894.0	00	5,815	0	0	
895.0	00	14,871	10,343	10,343	
896.0	00	32,190	23,531	33,874	
Device	Routing	Invert	Outlet Devices	S	
#1	Primary	894.00'	12.0" Round	Culvert	
			L= 205.0' RC	P, sq.cut end p	rojecting, Ke= 0.500
			Inlet / Outlet Ir	nvert= 894.00' /	892.00' S= 0.0098 '/' Cc= 0.900
			n= 0.012, Flo	w Area= 0.79 sf	
#2	Primary	895.50'	25.0' long x 4	40.0' breadth B	road-Crested Rectangular Weir
			Head (feet) 0	.20 0.40 0.60	0.80 1.00 1.20 1.40 1.60
			Coef. (English	i) 2.68 2.70 2.7	70 2.64 2.63 2.64 2.64 2.63

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Primary OutFlow Max=958.36 cfs @ 13.06 hrs HW=903.84' TW=902.27' (Dynamic Tailwater)

-1=Culvert (Outlet Controls 2.99 cfs @ 3.81 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 955.37 cfs @ 4.58 fps)

Summary for Pond 28P: 12/18 140+35

Inflow Area = 9.510 ac, 26.18% Impervious, Inflow Depth = 5.37" for 500-yr event

Inflow = 59.72 cfs @ 12.21 hrs, Volume= 4.252 af

Outflow = 59.72 cfs @ 12.21 hrs, Volume= 4.252 af, Atten= 0%, Lag= 0.0 min

Primary = 59.72 cfs @ 12.21 hrs, Volume= 4.252 af

Routed to Pond 59P: Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 866.83' @ 12.22 hrs

Device Routing Invert Outlet Devices

#1 Primary

860.79'

45.0" W x 29.0" H, R=39.2" Elliptical RCP_Elliptical 45x29

L= 310.0' RCP, groove end w/headwall, Ke= 0.200

Inlet / Outlet Invert= 860.79' / 859.89' S= 0.0029 '/' Cc= 0.900

n= 0.015, Flow Area= 7.36 sf

Primary OutFlow Max=58.84 cfs @ 12.21 hrs HW=866.70' TW=862.47' (Dynamic Tailwater) 1=RCP_Elliptical 45x29 (Outlet Controls 58.84 cfs @ 7.99 fps)

Summary for Pond 32P: Long Drive 440+35

Inflow Area = 4.570 ac, 14.44% Impervious, Inflow Depth = 4.79" for 500-yr event

Inflow = 24.50 cfs @ 12.24 hrs, Volume= 1.824 af

Outflow = 24.50 cfs @ 12.24 hrs, Volume= 1.824 af, Atten= 0%, Lag= 0.0 min

Primary = 24.50 cfs @ 12.24 hrs, Volume= 1.824 af

Routed to Pond 28P: 12/18 140+35

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 868.52' @ 12.23 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	861.50'	24.0" Round Culvert
			L= 62.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 861.50' / 860.80' S= 0.0113 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=24.34 cfs @ 12.24 hrs HW=868.42' TW=866.69' (Dynamic Tailwater) 1=Culvert (Outlet Controls 24.34 cfs @ 7.75 fps)

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Summary for Pond 34P: YH3-Pond

Inflow Area = 204.006 ac, 4.43% Impervious, Inflow Depth = 6.37" for 500-yr event

Inflow = 527.83 cfs @ 12.77 hrs, Volume= 108.340 af

Outflow = 706.05 cfs @ 13.55 hrs, Volume= 106.895 af, Atten= 0%, Lag= 47.1 min

Primary = 706.05 cfs @ 13.55 hrs, Volume= 220.056 af

Routed to Pond 38P: YH6-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 1,023.33' @ 13.35 hrs Surf.Area= 638,965 sf Storage= 1,137,523 cf

Plug-Flow detention time= 168.8 min calculated for 106.821 af (99% of inflow)

Center-of-Mass det. time= 158.8 min (1,024.5 - 865.7)

Volume	Invert	Avail.S	torage	Storage	e Description	
#1	858.00'	1,137,	523 cf	Custom	m Stage Data (Prismatic)Listed below (Recalc)	-
Elevation (feet)		.Area sɑ-ft)		:.Store c-feet)	Cum.Store (cubic-feet)	

	(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
•	858.00	182,909	0	0
	859.00	191,060	186,985	186,985
	860.00	214,659	202,860	389,844
	861.00	320,867	267,763	657,607
	862.00	638,965	479,916	1,137,523

Device	Routing	Invert	Outlet Devices
#1	Primary	858.00'	36.0" Round Culvert
	-		L= 1,066.0' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 858.00' / 855.00' S= 0.0028 '/' Cc= 0.900
			n= 0.012, Flow Area= 7.07 sf
#2	Primary	860.50'	125.0' long x 60.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=39,040.41 cfs @ 13.55 hrs HW=942.05' TW=941.58' (Dynamic Tailwater)

1=Culvert (Outlet Controls 13.75 cfs @ 1.95 fps)

—2=Broad-Crested Rectangular Weir (Weir Controls 39,026.66 cfs @ 3.83 fps)

Summary for Pond 36P: YH4-Pond

Inflow Area = 12.220 ac, 4.26% Impervious, Inflow Depth = 4.67" for 500-yr event

Inflow = 54.73 cfs @ 12.32 hrs, Volume= 4.753 af

Outflow = 42.47 cfs @ 12.46 hrs, Volume= 4.726 af, Atten= 22%, Lag= 8.8 min

Primary = 42.47 cfs @ 12.46 hrs, Volume= 5.195 af

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 862.65' @ 12.47 hrs Surf.Area= 40,496 sf Storage= 48,818 cf

Plug-Flow detention time= 124.7 min calculated for 4.726 af (99% of inflow) Center-of-Mass det. time= 121.3 min (952.1 - 830.8)

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Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	861.0	00' 64,00	01 cf Custom	n Stage Data (P	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
861.0		21,906	0	0	
862.0	00	29,959	25,933	25,933	
863.0	00	46,178	38,069	64,001	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	861.00'	8.0" Round	Culvert	
#2	Primary	861.80'	Inlet / Outlet I n= 0.012, Flo 20.0' long x Head (feet) 0	Invert= 861.00' / ow Area= 0.35 st 50.0' breadth B 0.20 0.40 0.60	rojecting, Ke= 0.500 859.76' S= 0.0050'/' Cc= 0.900 f Broad-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=42.25 cfs @ 12.46 hrs HW=862.65' TW=860.37' (Dynamic Tailwater)

-1=Culvert (Barrel Controls 1.16 cfs @ 3.33 fps)

-2=Broad-Crested Rectangular Weir (Weir Controls 41.09 cfs @ 2.43 fps)

Summary for Pond 37P: YH5 - Pond

Inflow Area = 2.350 ac, 51.91% Impervious, Inflow Depth = 6.51" for 500-yr event

Inflow = 22.12 cfs @ 12.14 hrs, Volume= 1.275 af

Outflow = 1.00 cfs @ 12.80 hrs, Volume= 1.205 af, Atten= 95%, Lag= 39.2 min

Primary = 1.00 cfs @ 12.80 hrs, Volume= 1.285 af

Routed to Pond 34P: YH3-Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 865.94' @ 14.80 hrs Surf.Area= 44,613 sf Storage= 39,213 cf

Plug-Flow detention time= 656.4 min calculated for 1.205 af (94% of inflow)

Center-of-Mass det. time= 628.1 min (1,419.6 - 791.5)

Volume	In	vert Avail.St	orage Storage	Description	
#1	865	.00' 93,4	114 cf Custon	n Stage Data (P	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
865.0	00	38,602	0	0	
866.0	00	44,980	41,791	41,791	
867.0	00	58,266	51,623	93,414	
Device	Routing	g Invert	Outlet Device	es	
#1	Primar	y 866.50°			Broad-Crested Rectangular Weir
			, ,		0.80 1.00 1.20 1.40 1.60
40	Duine	. 005.00	, ,	,	70 2.64 2.63 2.64 2.64 2.63
#2	Primar	/ 865.00	8.0" Round	Cuivert	

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L= 170.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 865.00' / 864.15' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=1.00 cfs @ 12.80 hrs HW=865.85' TW=861.49' (Dynamic Tailwater)

-1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Barrel Controls 1.00 cfs @ 2.91 fps)

Summary for Pond 38P: YH6-Pond

Inflow Area = 303.663 ac, 5.11% Impervious, Inflow Depth > 10.27" for 500-yr event

Inflow = 776.31 cfs @ 13.55 hrs, Volume= 259.836 af

Outflow = 960.30 cfs @ 17.85 hrs, Volume= 259.835 af, Atten= 0%, Lag= 258.1 min

Primary = 960.30 cfs @ 17.85 hrs, Volume= 259.835 af

Routed to Link 36L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Starting Elev= 856.60' Surf.Area= 282,460 sf Storage= 556,446 cf

Peak Elev= 1,028.96' @ 17.85 hrs Surf.Area= 771,626 sf Storage= 2,032,289 cf (1,475,843 cf above start)

Plug-Flow detention time= 129.1 min calculated for 246.890 af (95% of inflow)

Center-of-Mass det. time= 71.5 min (1,042.0 - 970.4)

Volume	Invert	Avail.Storage	Storage Description
#1	854.63'	2,032,289 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
854.63	282,460	0	0
856.60	282,460	556,446	556,446
857.00	299,898	116,472	672,918
858.00	336,652	318,275	991,193
859.00	486,957	411,805	1,402,997
860.00	771,626	629,292	2,032,289

	Primary		42.0" Round Culvert X 2.00	_
Device	Routing	Invert	Outlet Devices	

L= 28.0' CMP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900

n= 0.024, Flow Area= 9.62 sf

Primary OutFlow Max=960.28 cfs @ 17.85 hrs HW=1,028.95' TW=856.60' (Dynamic Tailwater) 1=Culvert (Inlet Controls 960.28 cfs @ 49.90 fps)

Summary for Pond 41P: AB 520+90

Inflow Area = 3.250 ac, 21.54% Impervious, Inflow Depth = 5.28" for 500-yr event

Inflow = 23.71 cfs @ 12.16 hrs, Volume= 1.431 af

Outflow = 23.71 cfs @ 12.16 hrs, Volume= 1.431 af, Atten= 0%, Lag= 0.0 min

Primary = 23.71 cfs @ 12.16 hrs, Volume= 1.431 af

Routed to Pond 54P: Pond C

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 881.00' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.61'	24.0" Round Culvert
			L= 335.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 875.61' / 874.00' S= 0.0048 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=23.07 cfs @ 12.16 hrs HW=880.76' TW=876.77' (Dynamic Tailwater) 1=Culvert (Outlet Controls 23.07 cfs @ 7.34 fps)

Summary for Pond 43P: Ramp C 805+00

Inflow Area = 7.982 ac, 32.15% Impervious, Inflow Depth > 5.86" for 500-yr event

Inflow 9.38 cfs @ 12.27 hrs, Volume= 3.900 af

9.38 cfs @ 12.27 hrs, Volume= Outflow 3.900 af. Atten= 0%. Lag= 0.0 min

9.38 cfs @ 12.27 hrs, Volume= 3.900 af Primary

Routed to Link 44L: Door Creek Combined

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 874.85' @ 12.27 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	873.30'	24.0" Round Culvert
	-		L= 92.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 873.30' / 872.90' S= 0.0043 '/' Cc= 0.900
			n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=9.05 cfs @ 12.27 hrs HW=874.82' TW=0.00' (Dynamic Tailwater) 1=Culvert (Barrel Controls 9.05 cfs @ 4.91 fps)

Summary for Pond 45P: Culvert at 698+81

9.520 ac, 9.98% Impervious, Inflow Depth = 4.67" for 500-yr event Inflow Area =

Inflow 51.11 cfs @ 12.23 hrs, Volume= 3.703 af

51.11 cfs @ 12.23 hrs, Volume= 51.11 cfs @ 12.23 hrs, Volume= Outflow 3.703 af, Atten= 0%, Lag= 0.0 min

Primary 3.703 af

Routed to Pond 46P: Pond D

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 884.73' @ 12.23 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	879.00'	30.0" Round Culvert

L= 167.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 879.00' / 878.00' S= 0.0060 '/' Cc= 0.900

n= 0.012, Flow Area= 4.91 sf

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Primary OutFlow Max=50.34 cfs @ 12.23 hrs HW=884.61' TW=879.57' (Dynamic Tailwater) 1=Culvert (Barrel Controls 50.34 cfs @ 10.25 fps)

Summary for Pond 46P: Pond D

Inflow Area = 13.201 ac, 19.51% Impervious, Inflow Depth = 5.08" for 500-yr event

Inflow = 75.20 cfs @ 12.17 hrs, Volume= 5.587 af

Outflow = 63.96 cfs @ 12.26 hrs, Volume= 5.576 af, Atten= 15%, Lag= 5.7 min

Primary = 63.96 cfs @ 12.26 hrs, Volume= 5.792 af

Routed to Pond 51P: Pond D Infiltration

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 879.60' @ 12.26 hrs Surf.Area= 0.427 ac Storage= 1.296 af

Plug-Flow detention time= 189.6 min calculated for 5.576 af (100% of inflow)

Center-of-Mass det. time= 188.3 min (1,003.0 - 814.7)

Volume	Invert	Avail.Stora	ige Stor	age Description
#1	876.00'	1.469	af Cus	stom Stage Data (Prismatic)Listed below (Recalc)
Elevatio	n Surf.A	rea In	c.Store	Cum.Store
(fee	t) (acr	es) (ac	re-feet)	(acre-feet)
876.0	0 0.2	299	0.000	0.000
877.0	0.0	331	0.315	0.315
878.0	0.0	364	0.347	0.662
879.0	0 0.4	404	0.384	1.046
880.0	0 0.4	142	0.423	1.469
Device	Routing	Invert	Outlet D	evices
#1	Primary	876.00'	18.0" R	cound Culvert
				RCP, square edge headwall, Ke= 0.500
			Inlet / O	utlet Invert= 876.00' / 875.50' S= 0.0109 '/' Cc= 0.900
				2, Flow Area= 1.77 sf
#2	Device 1	876.00'		rt. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	878.25'		ng x 6.0' breadth Broad-Crested Rectangular Weir
				eet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
				00 3.50 4.00 4.50 5.00 5.50
			,	nglish) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
			2.65 2.6	66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=63.36 cfs @ 12.26 hrs HW=879.59' TW=877.35' (Dynamic Tailwater)

-1=Culvert (Passes 1.41 cfs of 12.73 cfs potential flow)

2=Orifice/Grate (Orifice Controls 1.41 cfs @ 7.21 fps)

-3=Broad-Crested Rectangular Weir (Weir Controls 61.95 cfs @ 3.08 fps)

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Summary for Pond 47P: Ramp B 706+25

Inflow Area = 14.351 ac, 20.04% Impervious, Inflow Depth = 4.87" for 500-yr event

Inflow = 36.12 cfs @ 12.80 hrs, Volume= 5.827 af

Outflow = 36.12 cfs @ 12.80 hrs, Volume= 5.827 af, Atten= 0%, Lag= 0.0 min

Primary = 36.12 cfs @ 12.80 hrs, Volume= 5.827 af

Routed to Link 44L: Door Creek Combined

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 878.88' @ 12.80 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	873.75'	24.0" Round Culvert L= 111.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 873.75' / 872.00' S= 0.0158 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=36.12 cfs @ 12.80 hrs HW=878.88' TW=0.00' (Dynamic Tailwater) 1=Culvert (Barrel Controls 36.12 cfs @ 11.50 fps)

Summary for Pond 51P: Pond D Infiltration

Inflow Area = 13.201 ac, 19.51% Impervious, Inflow Depth = 5.26" for 500-yr event Inflow = 63.96 cfs @ 12.26 hrs, Volume= 5.792 af

Outflow = 35.28 cfs @ 12.80 hrs, Volume= 5.728 af, Atten= 45%, Lag= 32.2 min

Discarded = 0.14 cfs @ 12.70 hrs, Volume= 0.419 af Primary = 35.14 cfs @ 12.80 hrs, Volume= 5.309 af

Routed to Pond 47P: Ramp B 706+25

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 879.64' @ 12.70 hrs Surf.Area= 27,119 sf Storage= 78,680 cf

Plug-Flow detention time= 320.0 min calculated for 5.728 af (99% of inflow)

Center-of-Mass det. time= 297.8 min (1,291.7 - 994.0)

Volume	Invert	Avail.Storage	Storage Description
#1	875.50'	78,680 cf	Custom Stage Data (Prismatic)Listed below (Recalc)
Elevation	Surf A	rea Inc	c Store Cum Store

Cum.Store	inc.Store	Surr.Area	Elevation
(cubic-feet)	(cubic-feet)	(sq-ft)	(feet)
0	0	18,668	875.50
9,588	9,588	19,685	876.00
30,329	20,741	21,796	877.00
53,174	22,845	23,894	878.00
78,680	25,507	27,119	879.00

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Device	Routing	Invert	Outlet Devices
#1	Primary	875.50'	12.0" Round Culvert
			L= 46.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 875.50' / 875.35' S= 0.0033 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Device 1	875.75'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	878.00'	48.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	878.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Discarded	875.50'	0.140 in/hr Exfiltration over Horizontal area
			Conductivity to Groundwater Elevation = 870.00'

Discarded OutFlow Max=0.14 cfs @ 12.70 hrs HW=879.64' (Free Discharge) **5=Exfiltration** (Controls 0.14 cfs)

Primary OutFlow Max=28.77 cfs @ 12.80 hrs HW=879.54' TW=878.88' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 3.06 cfs @ 3.90 fps)

2=Orifice/Grate (Passes < 0.77 cfs potential flow)

3=Orifice/Grate (Passes < 49.00 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Weir Controls 25.70 cfs @ 2.48 fps)

Summary for Pond 54P: Pond C

Inflow Area = 7.094 ac, 32.79% Impervious, Inflow Depth = 5.95" for 500-yr event

Inflow = 60.11 cfs @ 12.14 hrs, Volume= 3.516 af

Outflow = 6.72 cfs @ 12.82 hrs, Volume= 3.500 af, Atten= 89%, Lag= 40.6 min

Primary = 6.72 cfs @ 12.82 hrs, Volume= 3.500 af

Routed to Pond 43P: Ramp C 805+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 877.81' @ 12.75 hrs Surf.Area= 0.619 ac Storage= 1.920 af

Plug-Flow detention time= 399.3 min calculated for 3.498 af (99% of inflow)

Center-of-Mass det. time= 398.1 min (1,196.7 - 798.7)

Volume	Invert	Avail.Storage	Storage Description
#1	874.00'	2.703 af	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
874.00	0.393	0.000	0.000
875.00	0.451	0.422	0.422
876.00	0.509	0.480	0.902
877.00	0.569	0.539	1.441
878.00	0.631	0.600	2.041
879.00	0.693	0.662	2.703

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Device	Routing	Invert	Outlet Devices
#1	Primary	874.00'	12.0" Round Culvert
			L= 41.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 874.00' / 873.80' S= 0.0049 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#2	Device 1	874.00'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	877.00'	48.0" Horiz. Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Primary	878.00'	20.0' long x 10.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=6.72 cfs @ 12.82 hrs HW=877.80' TW=874.65' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 6.72 cfs @ 8.55 fps)

2=Orifice/Grate (Passes < 1.68 cfs potential flow)

-3=Orifice/Grate (Passes < 29.67 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 57P: 187+00 42" Culvert

43.792 ac, 47.85% Impervious, Inflow Depth = 7.68" for 500-yr event Inflow Area =

207.25 cfs @ 13.45 hrs, Volume= Inflow 28.009 af

207.25 cfs @ 13.45 hrs, Volume= Outflow = 28.009 af, Atten= 0%, Lag= 0.0 min

207.25 cfs @ 13.45 hrs, Volume= 28.009 af Primary

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 904.06' @ 12.41 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	872.70'	42.0" Round Culvert
			L= 297.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 872.70' / 871.50' S= 0.0040 '/' Cc= 0.900
			n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=183.79 cfs @ 13.45 hrs HW=897.42' TW=882.14' (Dynamic Tailwater) **1=Culvert** (Outlet Controls 183.79 cfs @ 19.10 fps)

Summary for Pond 58P: Culvert 395+33 (Millpond)

Inflow Area = 114.625 ac, 5.66% Impervious, Inflow Depth > 4.76" for 500-yr event

Inflow 265.85 cfs @ 13.06 hrs, Volume= 45.437 af

265.85 cfs @ 13.06 hrs, Volume= 45.437 af, Atten= 0%, Lag= 0.0 min Outflow

265.85 cfs @ 13.06 hrs, Volume= Primary 45.437 af

Routed to Pond 14P: Culvert at Millpond 387+00

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 905.25' @ 13.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	875.90'	42.0" Round Culvert

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L= 148.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 875.90' / 875.40' S= 0.0034 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=250.93 cfs @ 13.06 hrs HW=902.65' TW=882.10' (Dynamic Tailwater) 1=Culvert (Outlet Controls 250.93 cfs @ 26.08 fps)

Summary for Pond 59P: Pond A

Inflow Area = 300.773 ac, 22.78% Impervious, Inflow Depth > 4.42" for 500-yr event

Inflow = 412.63 cfs @ 12.18 hrs, Volume= 110.811 af

Outflow = 99.46 cfs @ 13.48 hrs, Volume= 108.150 af, Atten= 76%, Lag= 78.0 min

Primary = 99.46 cfs @ 13.48 hrs, Volume= 108.150 af

Routed to Link 36L: Combined to Ag Ditch #4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 864.56' @ 13.48 hrs Surf.Area= 3.632 ac Storage= 18.878 af

Plug-Flow detention time= 222.6 min calculated for 108.075 af (98% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 165.3 min (1,352.9 - 1,187.6)

Invert

VOIGITIC	IIIVCIL 7	van.otora	ge clore	age bescription
#1	859.00'	24.336	af Cust	tom Stage Data (Prismatic)Listed below (Recalc) x 0.85
Elevation	Surf.Area	Inc	c.Store	Cum.Store
(feet)	(acres)	(acr	e-feet)	(acre-feet)
859.00	3.694		0.000	0.000
860.00	3.815		3.755	3.755
861.00	3.937		3.876	7.631
862.00	4.061		3.999	11.630
863.00	4.186		4.123	15.753
864.00	4.061		4.123	19.877
865.00			4.250	24.127
866.00	4.570		4.505	28.631
Device F	Routing	Invert	Outlet De	evices
#1 F	Primary	858.20'	42.0" R	ound Culvert
				RCP, square edge headwall, Ke= 0.500
				Itlet Invert= 858.20' / 858.00' S= 0.0132 '/' Cc= 0.900
				, Flow Area= 9.62 sf
#2 C	Device 1	859.00'		Weir/Orifice, Cv= 2.62 (C= 3.28)
				et) 0.00 3.50 3.50 6.00
				eet) 0.17 4.20 6.00 6.00
#3 E	Device 2	857.00'	-	ound Culvert
				RCP, groove end w/headwall, Ke= 0.200
				itlet Invert= 857.00' / 857.00' S= 0.0000 '/' Cc= 0.900
"4 =		005 001		, Flow Area= 9.62 sf
#4 F	Primary	865.00'		g x 10.0' breadth Broad-Crested Rectangular Weir
				et) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coet. (Er	nglish) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

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Primary OutFlow Max=99.46 cfs @ 13.48 hrs HW=864.56' TW=856.60' (Dynamic Tailwater)

-1=Culvert (Inlet Controls 99.46 cfs @ 10.34 fps)

2=Custom Weir/Orifice (Passes 99.46 cfs of 125.47 cfs potential flow)

3=Culvert (Passes 99.46 cfs of 136.54 cfs potential flow)

-4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 60P: Pond B (Wet Basin)

Volume	Invert A	wail.Stora	ge St	orage Description
#1	871.00'	38.463	af Cu	ustom Stage Data (Prismatic)Listed below
Elevation	Surf.Area	In	c.Store	Cum.Store
(feet)	(acres)	(acı	re-feet)	(acre-feet)
871.00	2.901		0.000	0.000
872.00	3.063		2.982	2.982
873.00	3.159		3.111	6.093
874.00	6.376		4.768	
875.00			6.487	
876.00			6.730	
877.00			7.045	
878.00	7.451		7.340	38.463
Davies I	Douting	Invert	Outlet	Davisas
	Routing	Invert		Devices
#1 I	Primary	871.00'		Round Culvert L= 3,037.0' Ke= 0.850
				Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
				12, Flow Area= 9.62 sf
#2 I	Device 1	871.00'		m Weir/Orifice, Cv= 2.62 (C= 3.28)
				(feet) 0.00 1.50 1.50 6.00
110	2	070 401		(feet) 0.17 1.27 6.00 6.00
#3	Secondary	876.40'		ong x 10.0' breadth Broad-Crested Rectangular Weir
				(feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coet.	(English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)

3=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 61P: (new Pond)

Inflow Area = 2.146 ac, 41.66% Impervious, Inflow Depth = 7.37" for 500-yr event

Inflow = 22.72 cfs @ 12.13 hrs, Volume= 1.317 af

Outflow = 22.72 cfs @ 12.13 hrs, Volume= 1.317 af, Atten= 0%, Lag= 0.0 min

Primary = 22.72 cfs @ 12.13 hrs, Volume= 1.317 af

Routed to Pond 59P: Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3

¹—2=Custom Weir/Orifice (Controls 0.00 cfs)

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Peak Elev= 870.44' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	859.50'	18.0" Round Culvert
			L= 122.0' RCP, groove end w/headwall, Ke= 0.200
			Inlet / Outlet Invert= 859.50' / 859.00' S= 0.0041 '/' Cc= 0.900
			n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=21.73 cfs @ 12.13 hrs HW=869.80' TW=861.74' (Dynamic Tailwater) —1=Culvert (Outlet Controls 21.73 cfs @ 12.30 fps)

Summary for Pond 62P: Pond B (Wet Basin) Spillway change

Volume	Invert A	<u>wail.Stora</u>	ge Sto	orage Description
#1	871.00'	38.463	af Cu	ustom Stage Data (Prismatic)Listed below
Elevation	n Surf.Area	ı Ind	c.Store	Cum.Store
(feet	(acres	(acr	e-feet)	(acre-feet)
871.00	2.901		0.000	
872.00			2.982	
873.00			3.111	
874.00			4.768	
875.00			6.487	
876.00			6.730	
877.00			7.045	
878.00	7.451		7.340	38.463
Device	Routing	Invert	Outlet	Devices
#1	Primary	871.00'	42.0"	Round Culvert L= 3,037.0' Ke= 0.850
			Inlet / 0	Outlet Invert= 871.00' / 859.50' S= 0.0038 '/' Cc= 0.900
				12, Flow Area= 9.62 sf
#2	Device 1	871.00'		m Weir/Orifice, Cv= 2.62 (C= 3.28)
			,	(feet) 0.00 1.50 1.50 6.00
" 0	0 1	070 401		(feet) 0.17 1.27 6.00 6.00
#3	Secondary	876.40'		metrical Weir, C= 3.27
				(feet) 0.00 20.00 60.00 80.00
			Height	t (feet) 1.00 0.00 0.00 1.00

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge) 3=Asymmetrical Weir (Controls 0.00 cfs)

²⁼Custom Weir/Orifice (Controls 0.00 cfs)

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Summary for Pond 63P: Pond B (Dry Basin)

Volume	Invert A	Avail.Stora	ge	Storage Description
#1	869.00'	1.772	af	Custom Stage Data (Prismatic)Listed below
Elevatior (feet) (acres) (acı	c.Sto	t) (acre-feet)
869.00			0.00	
870.00			0.03	• • • • • • • • • • • • • • • • • • • •
871.00	0.097	7	0.07	77 0.114
872.00	0.138	3	0.1	7 0.232
873.00	2.94	1	1.54	1.772
Device	Routing	Invert	Outl	et Devices
#1	Primary	871.00'	18.0	" Round Culvert
	•		L= 1	3.0' RCP, groove end projecting, Ke= 0.200
			Inlet	/ Outlet Invert= 871.00' / 871.00' S= 0.0000 '/' Cc= 0.900
			n= 0	.012, Flow Area= 1.77 sf
#2	Secondary	873.00'	378 . Hea	0' long + 20.0 '/' SideZ x 15.0' breadth Broad-Crested Rectangular Weir d (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 f. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge) 1=Culvert (Controls 0.00 cfs)

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

Summary for Pond 64P: Pond B-reduced raised 1 ft and raised spillway

244.722 ac, 18.67% Impervious, Inflow Depth > 5.79" for 500-yr event Inflow Area =

Inflow 824.14 cfs @ 12.30 hrs, Volume= 118.172 af

Outflow 323.38 cfs @ 13.29 hrs, Volume= 115.948 af, Atten= 61%, Lag= 59.4 min

67.17 cfs @ 13.30 hrs, Volume= Primary 82.078 af =

Routed to Pond 59P: Pond A

Secondary = 256.20 cfs @ 13.29 hrs, Volume= 33.870 af

Routed to Reach 20R: Overland Flow

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Peak Elev= 877.52' @ 13.29 hrs Surf.Area= 7.345 ac Storage= 38.634 af

Plug-Flow detention time= 272.1 min calculated for 115.948 af (98% of inflow) Center-of-Mass det. time= 234.6 min (1,179.7 - 945.1)

Volume	Invert	Avail.Storage	Storage Description
#1	871.00'	42.125 af	Custom Stage Data (Prismatic)Listed below

Cum.Store

Surf.Area

Elevation

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Inc.Store

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(fee	et) ((acres)	(ac	re-feet)	(acre-feet)		
871.0	00	2.930		0.000	0.000		
872.0	00	3.134		3.032	3.032		
872.5	50	5.890		2.256	5.288		
873.0	00	6.100		2.998	8.285		
874.0	00	6.376		6.238	14.524		
875.0	00	6.599		6.487	21.011		
876.0	00	6.861		6.730	27.741		
877.0	00	7.228		7.044	34.785		
878.0	00	7.451		7.339	42.125		
Device	Routing		Invert	Outlet De	evices		
#1	Primary	8	871.00'	42.0" R	ound Culvert L	_= 3,037.0' Ke= 0.850	
				Inlet / Ou	utlet Invert= 871	.00' / 859.50' S= 0.0038 '/'	Cc = 0.900
				n= 0.012	P., Flow Area = 9	.62 sf	
#2	Device 1	8	871.00'	Custom	Weir/Orifice, C	Cv= 2.62 (C= 3.28)	
				Head (fe	et) 0.00 1.50 °	1.50 6.00	
				Width (fe	eet) 0.17 1.27	6.00 6.00	

#3 Device 2 870.00' **42.0" Round Culvert** L= 20.0' Ke= 0.700 Inlet / Outlet Invert= 870.00' / 870.00' S= 0.0000 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf
#4 Secondary 876.40' **80.0' long x 10.0' breadth Broad-Crested Rectangular Weir**

Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=67.17 cfs @ 13.30 hrs HW=877.52' TW=864.55' (Dynamic Tailwater)
1=Culvert (Outlet Controls 67.17 cfs @ 6.98 fps)

2=Custom Weir/Orifice (Passes 67.17 cfs of 226.31 cfs potential flow)

3=Culvert (Passes 67.17 cfs of 98.21 cfs potential flow)

Secondary OutFlow Max=254.82 cfs @ 13.29 hrs HW=877.52' TW=873.38' (Dynamic Tailwater) 4=Broad-Crested Rectangular Weir (Weir Controls 254.82 cfs @ 2.84 fps)

Summary for Pond 65P: YH6-Pond

Inflow	=	0.00 cfs @	0.00 hrs, Volume=	0.000 af	
Outflow	=	78.74 cfs @	0.00 hrs, Volume=	12.903 af, Atten= 0%, Lag= 0.0 m	in
Primary	=	78.74 cfs @	0.00 hrs, Volume=	12.903 af	
Secondary	/ =	0.00 cfs @	0.00 hrs, Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3 Starting Elev= 856.60' Surf.Area= 6.484 ac Storage= 12.773 af Peak Elev= 856.60' @ 0.00 hrs Surf.Area= 6.484 ac Storage= 12.773 af

Plug-Flow detention time= (not calculated: no plugs found) Center-of-Mass det. time= (not calculated: no inflow)

Prepared by SCS Engineers

Invert

854.63'

Volume

#1

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Avail.Storage Storage Description

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Elevation	on Surf.Area	ı Ir	c.Store	Cum.Store	
(fee	et) (acres)) (ad	re-feet)	(acre-feet)	
854.6	6.484		0.000	0.000	
856.6	6.484	Ļ	12.773	12.773	
857.0	00 6.885	5	2.674	15.447	
858.0	00 7.728	}	7.307	22.754	
859.0	00 11.179)	9.453	32.207	
860.0	00 17.714	ļ	14.447	46.654	
Device	Routing	Invert	Outlet D	Devices	
<u>#1</u>	Primary	854.63'	108.0" \	W x 36.0" H Box Culvert	
	,		L= 28.0)' RCP, square edge headwall, Ke= 0.500	
				Outlet Invert= 854.63' / 854.25' S= 0.0136 '/' Cc= 0.900	
			n= 0.01	2 Concrete pipe, finished, Flow Area= 27.00 sf	
#2	Secondary	858.60'		ong + 25.0 '/' SideZ x 15.0' breadth Broad-Crested Rectangu	lar Weir
	,			feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60	
			`	English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63	
			(-	5 ,	

46.654 af Custom Stage Data (Prismatic)Listed below (Recalc)

Primary OutFlow Max=78.74 cfs @ 0.00 hrs HW=856.60' (Free Discharge)
—1=Culvert (Barrel Controls 78.74 cfs @ 5.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=856.60' (Free Discharge) 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link 35L: Ag. Ditch #4 Tributary

Inflow Area = 19.199 ac, 34.85% Impervious, Inflow Depth = 6.51" for 500-yr event

Inflow = 138.31 cfs @ 12.22 hrs, Volume= 10.408 af

Primary = 136.17 cfs @ 12.48 hrs, Volume= 10.408 af, Atten= 2%, Lag= 15.9 min

Routed to Link 36L: Combined to Ag Ditch #4

Primary outflow = Inflow delayed by 15.8 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 36L: Combined to Ag Ditch #4

Inflow Area = 640.771 ac, 14.16% Impervious, Inflow Depth > 7.21" for 500-yr event

Inflow = 1,090.65 cfs @ 13.35 hrs, Volume= 385.233 af

Primary = 1,090.65 cfs @ 13.35 hrs, Volume= 385.233 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Fixed water surface Elevation= 856.60'

Prepared by SCS Engineers

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Summary for Link 44L: Door Creek Combined

Inflow Area = 40.584 ac, 24.45% Impervious, Inflow Depth = 5.37" for 500-yr event

Inflow = 92.82 cfs @ 12.59 hrs, Volume= 18.158 af

Primary = 92.82 cfs @ 12.59 hrs, Volume= 18.158 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 56L: Lag to Door Creek

Inflow Area = 0.750 ac, 46.67% Impervious, Inflow Depth = 6.76" for 500-yr event

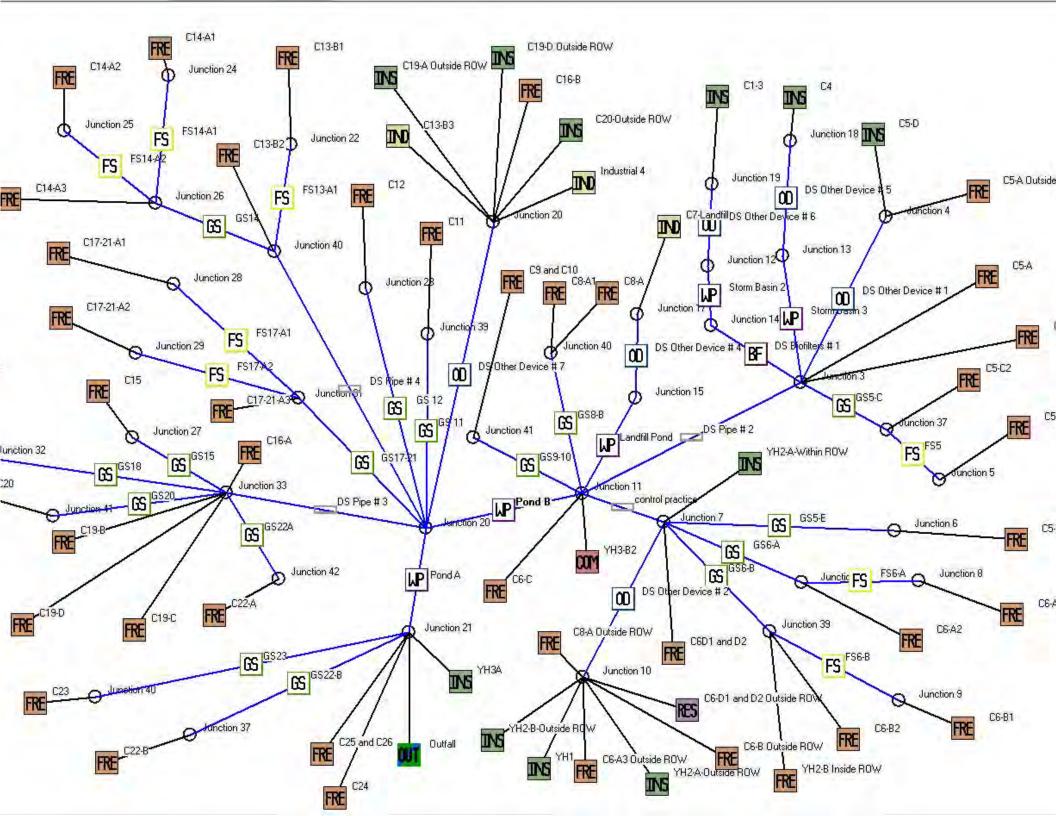
Inflow = 3.86 cfs @ 12.43 hrs, Volume= 0.422 af

Primary = 3.84 cfs @ 12.86 hrs, Volume= 0.422 af, Atten= 0%, Lag= 25.7 min

Routed to Link 44L: Door Creek Combined

Primary outflow = Inflow delayed by 25.6 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs





SLAMM for Windows Version 10.4.0

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Data file name: I:\25222268.00\Data and Calculations\Storm Water\01_WisDOT Pond B Evaluation\SCS Modified WinSLAMM Model\Scenario 3_SCS modified.mdb

Data file description:

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI GE003.ppdx

Start of Winter Season: 12/02 End of Winter Season: 03/12

Model Run Start Date: 01/01/81 Model Run End Date: 12/31/81

Total Area Modeled (acres): 317.280

Years in Model Run: 1.00

	Runott	Percent	Particulate	Particulate	Percent
	Volume	Runoff	Solids	Solids	Particulate
	(cu ft)	Volume	Conc.	Yield	Solids
		Reduction	(mg/L)	(lbs)	Reduction
otal of all Land Uses without Controls:	9.417F+06	_	64.85	38125	_

Outfall Total with Controls: Annualized Total After Outfall Controls:		8.583E+06	8.86%	11.17 5986	84.30%
		8.607E+06		6002	
Pollutant	Concentration -	Concentration -	Conc.	Pollutant Yield	
Pollutant Yield	Pol. Yield Percent				
	No Controls	With Controls	Units	No Controls	With
Controls Units	Reduction				
Particulate Solids	64.85	11.17	mg/L	38125	5986
lbs	84.30 %		_		
Total Phosphorus	0.7732	0.06367	mg/L	97.62	34.54
lbs	64.62 %		_		

Data file name: I:\25222268.00\Data and Calculations\Storm Water\01_WisDOT Pond B Evaluation\SCS Modified WinSLAMM Model\Scenario 3_SCS modified.mdb

WinSLAMM Version 10.4.0

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GE003.ppdx

Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations

Seed for random number generator: -42

Study period starting date: 01/01/81 Study period ending date: 12/31/81

Start of Winter Season: 12/02 End of Winter Season: 03/12

Date: 09-28-2023 Time: 14:47:06

Site information:

LU# 1 - Freeway: C5-A Total area (ac): 0.420

19 - Large Turf Areas 1: 0.420 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Freeway: C5-A Outside ROW Total area (ac): 0.795

- 19 Large Turf Areas 1: 0.700 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 28 Other Direct Con Imp Areas: 0.095 ac. Connected Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 3 Freeway: C5-B Total area (ac): 0.693
- 11 High Traffic Urban 1: 0.693 ac. Street Length = 0.212 curb-mi Street Width (assuming two curb-mi per street mile) = 53.9 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 4 Institutional: C5-D Total area (ac): 0.850
- 1 Roofs 1: 0.122 ac. Pitched Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 45 Large Landscaped Areas 1: 0.728 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 5 Freeway: C5-C1 Total area (ac): 1.094
- 11 High Traffic Urban 1: 0.414 ac. Street Length = 0.213 curb-mi Street Width (assuming two curb-mi per street mile) = 32.1 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.680 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 6 Freeway: C5-C2 Total area (ac): 3.330
 - 11 High Traffic Urban 1: 1.430 ac. Street Length = 0.704 curb-mi Street Width (assuming two

curb-mi per street mile) = 33.5 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

- 19 Large Turf Areas 1: 1.860 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 28 Other Direct Con Imp Areas: 0.040 ac. Connected Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 7 Freeway: C6-A1 Total area (ac): 0.636
- 11 High Traffic Urban 1: 0.159 ac. Street Length = 0.092 curb-mi Street Width (assuming two curb-mi per street mile) = 28.5 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

- 19 Large Turf Areas 1: 0.360 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 0.117 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 8 Freeway: C6-A2 Total area (ac): 2.770
- 11 High Traffic Urban 1: 0.695 ac. Street Length = 0.342 curb-mi Street Width (assuming two curb-mi per street mile) = 33.5 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

- 19 Large Turf Areas 1: 1.365 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 0.710 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 9 - Freeway: C6-B1 Total area (ac): 0.959

- 11 High Traffic Urban 1: 0.252 ac. Street Length = 0.211 curb-mi Street Width (assuming two curb-mi per street mile) = 19.7 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.074 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 0.633 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 10 Freeway: C6-B2 Total area (ac): 8.310
- 11 High Traffic Urban 1: 2.700 ac. Street Length = 1.65 curb-mi Street Width (assuming two curb-mi per street mile) = 27 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 3.440 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 1.770 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 28 Other Direct Con Imp Areas: 0.400 ac. Connected Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 11 Residential: C6-D1 and D2 Outside ROW Total area (ac): 14.820
 - 25 Driveways 1: 0.650 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 45 Large Landscaped Areas 1: 1.950 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 57 Undeveloped Areas 1: 11.410 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 58 Undeveloped Areas 2: 0.510 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

- 77 Other Direct Con Imp Areas: 0.300 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 12 Institutional: C1-3 Total area (ac): 22.592
- 45 Large Landscaped Areas 1: 11.210 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 57 Undeveloped Areas 1: 0.685 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 58 Undeveloped Areas 2: 2.384 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 70 Water Body Areas: 0.273 ac. Source Area PSD File:
- 77 Other Direct Con Imp Areas: 8.040 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 13 Institutional: C4 Total area (ac): 15.346
- 45 Large Landscaped Areas 1: 7.637 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 57 Undeveloped Areas 1: 1.439 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 70 Water Body Areas: 0.349 ac. Source Area PSD File:
- 77 Other Direct Con Imp Areas: 5.921 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 14 Industrial: C7-Landfill Total area (ac): 28.424
 - 25 Driveways 1: 0.440 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 45 Large Landscaped Areas 1: 27.650 ac. Moderately Compacted Clayey Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.334 ac. Source Area PSD File:

- LU# 15 Freeway: C5-E Total area (ac): 1.502
- 11 High Traffic Urban 1: 0.720 ac. Street Length = 0.297 curb-mi Street Width (assuming two curb-mi per street mile) = 40 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.743 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 0.039 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 16 Freeway: C8-A Total area (ac): 0.010
- 11 High Traffic Urban 1: 0.010 ac. Street Length = 0.005 curb-mi Street Width (assuming two curb-mi per street mile) = 33 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 17 Freeway: C6-A3 Outside ROW Total area (ac): 5.186
- 19 Large Turf Areas 1: 3.259 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 20 Large Turf Areas 2: 1.927 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 18 Freeway: C9 and C10 Total area (ac): 1.970
 - 11 High Traffic Urban 1: 0.920 ac. Street Length = 0.286 curb-mi Street Width (assuming two

- curb-mi per street mile) = 53.1 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.900 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 0.150 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 19 Freeway: C6-C Total area (ac): 2.360
- 11 High Traffic Urban 1: 1.710 ac. Street Length = 0.763 curb-mi Street Width (assuming two curb-mi per street mile) = 37 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.340 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 28 Other Direct Con Imp Areas: 0.310 ac. Connected Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 20 Institutional: YH2-B-Outside ROW Total area (ac): 32.140
- 45 Large Landscaped Areas 1: 9.770 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 46 Large Landscaped Areas 2: 9.490 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 57 Undeveloped Areas 1: 8.590 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 58 Undeveloped Areas 2: 2.240 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 77 Other Direct Con Imp Areas: 2.050 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

- LU# 21 Freeway: C11 Total area (ac): 0.999
- 11 High Traffic Urban 1: 0.491 ac. Street Length = 0.193 curb-mi Street Width (assuming two curb-mi per street mile) = 42 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.420 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 0.088 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 22 Freeway: C12 Total area (ac): 0.947
- 11 High Traffic Urban 1: 0.464 ac. Street Length = 0.182 curb-mi Street Width (assuming two curb-mi per street mile) = 42.1 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.483 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 23 Freeway: C20 Total area (ac): 2.970
- 11 High Traffic Urban 1: 0.480 ac. Street Length = 0.202 curb-mi Street Width (assuming two curb-mi per street mile) = 39.2 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 2.490 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 24 Freeway: C13-B1 Total area (ac): 0.952

- 11 High Traffic Urban 1: 0.523 ac. Street Length = 0.278 curb-mi Street Width (assuming two curb-mi per street mile) = 31 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.379 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 0.050 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 25 Freeway: C13-B2 Total area (ac): 1.080
- 11 High Traffic Urban 1: 0.080 ac. Street Length = 0.039 curb-mi Street Width (assuming two curb-mi per street mile) = 33.8 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 1.000 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 26 Industrial: C13-B3 Total area (ac): 5.650
- 25 Driveways 1: 1.150 ac. Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 45 Large Landscaped Areas 1: 1.430 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 46 Large Landscaped Areas 2: 0.380 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 57 Undeveloped Areas 1: 2.690 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 27 Freeway: C14-A1 Total area (ac): 3.420

- 11 High Traffic Urban 1: 1.700 ac. Street Length = 0.825 curb-mi Street Width (assuming two curb-mi per street mile) = 34 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 1.450 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 0.270 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 28 Freeway: C14-A2 Total area (ac): 2.750
- 11 High Traffic Urban 1: 1.000 ac. Street Length = 0.413 curb-mi Street Width (assuming two curb-mi per street mile) = 40 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 1.644 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 0.106 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 29 Freeway: C14-A3 Total area (ac): 1.543
- 11 High Traffic Urban 1: 0.490 ac. Street Length = 0.101 curb-mi Street Width (assuming two curb-mi per street mile) = 80 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.787 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 0.266 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

- LU# 30 Freeway: C15 Total area (ac): 1.472
- 11 High Traffic Urban 1: 0.735 ac. Street Length = 0.276 curb-mi Street Width (assuming two curb-mi per street mile) = 43.9 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.470 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 0.267 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 31 Freeway: C16-A Total area (ac): 4.919
- 11 High Traffic Urban 1: 3.300 ac. Street Length = 1.361 curb-mi Street Width (assuming two curb-mi per street mile) = 40 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 1.095 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 28 Other Direct Con Imp Areas: 0.524 ac. Connected Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 32 Freeway: C16-B Total area (ac): 0.193
 - 19 Large Turf Areas 1: 0.100 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 28 Other Direct Con Imp Areas: 0.093 ac. Connected Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 33 Freeway: C17-21-A1 Total area (ac): 1.210
- 11 High Traffic Urban 1: 0.363 ac. Street Length = 0.176 curb-mi Street Width (assuming two curb-mi per street mile) = 34 ft

- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.847 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 34 Freeway: C17-21-A2 Total area (ac): 0.403
- 11 High Traffic Urban 1: 0.208 ac. Street Length = 0.086 curb-mi Street Width (assuming two curb-mi per street mile) = 39.9 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.195 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 35 Freeway: C17-21-A3 Total area (ac): 2.210
- 11 High Traffic Urban 1: 0.710 ac. Street Length = 0.293 curb-mi Street Width (assuming two curb-mi per street mile) = 40 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 1.320 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 0.180 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 36 Freeway: C18 Total area (ac): 1.501
- 11 High Traffic Urban 1: 0.741 ac. Street Length = 0.273 curb-mi Street Width (assuming two curb-mi per street mile) = 44.8 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.760 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

- LU# 37 Freeway: C19-B Total area (ac): 3.543
 - 19 Large Turf Areas 1: 0.555 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 38 Institutional: C20-Outside ROW Total area (ac): 2.076
 - 25 Driveways 1: 0.176 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 45 Large Landscaped Areas 1: 1.900 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 39 Freeway: C25 and C26 Total area (ac): 2.241
- 11 High Traffic Urban 1: 1.540 ac. Street Length = 0.502 curb-mi Street Width (assuming two curb-mi per street mile) = 50.6 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.516 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 28 Other Direct Con Imp Areas: 0.185 ac. Connected Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 40 Freeway: C22-B Total area (ac): 1.048
- 11 High Traffic Urban 1: 0.398 ac. Street Length = 0.117 curb-mi Street Width (assuming two curb-mi per street mile) = 56.1 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 19 Large Turf Areas 1: 0.650 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

- LU# 41 Freeway: C23 Total area (ac): 0.608
- 11 High Traffic Urban 1: 0.130 ac. Street Length = 0.047 curb-mi Street Width (assuming two curb-mi per street mile) = 45.6 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 19 Large Turf Areas 1: 0.478 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 42 Freeway: C24 Total area (ac): 2.800
- 11 High Traffic Urban 1: 1.210 ac. Street Length = 0.357 curb-mi Street Width (assuming two curb-mi per street mile) = 55.9 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 19 Large Turf Areas 1: 1.590 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 43 Freeway: C8-A Outside ROW Total area (ac): 1.314
 - 19 Large Turf Areas 1: 0.234 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 1.080 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 44 Freeway: C8-A1 Total area (ac): 8.430
- 11 High Traffic Urban 1: 2.970 ac. Street Length = 1.324 curb-mi Street Width (assuming two curb-mi per street mile) = 37 ft

- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 2.750 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 2.710 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 45 Institutional: YH3A Total area (ac): 0.323
- 45 Large Landscaped Areas 1: 0.313 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 46 Large Landscaped Areas 2: 0.010 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 46 Freeway: C19-C Total area (ac): 2.143
- 11 High Traffic Urban 1: 0.893 ac. Street Length = 0.21 curb-mi Street Width (assuming two curb-mi per street mile) = 70.2 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 19 Large Turf Areas 1: 1.250 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 47 Institutional: C19-D Outside ROW Total area (ac): 4.695
- 45 Large Landscaped Areas 1: 0.995 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 70 Water Body Areas: 3.700 ac. Source Area PSD File:

- LU# 48 Institutional: C19-A Outside ROW Total area (ac): 5.330
- 45 Large Landscaped Areas 1: 3.190 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 77 Other Direct Con Imp Areas: 2.140 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 49 Freeway: C6D1 and D2 Total area (ac): 2.973
- 11 High Traffic Urban 1: 1.015 ac. Street Length = 0.305 curb-mi Street Width (assuming two curb-mi per street mile) = 54.9 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 1.530 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 0.370 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 28 Other Direct Con Imp Areas: 0.058 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 50 Institutional: YH1 Total area (ac): 66.400
- 45 Large Landscaped Areas 1: 22.700 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 46 Large Landscaped Areas 2: 27.890 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 57 Undeveloped Areas 1: 4.830 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 58 Undeveloped Areas 2: 8.800 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 70 Water Body Areas: 2.180 ac. Source Area PSD File:

- LU# 51 Freeway: C6-B Outside ROW Total area (ac): 4.750
 - 19 Large Turf Areas 1: 1.560 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 20 Large Turf Areas 2: 3.190 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 52 Freeway: YH2-B Inside ROW Total area (ac): 1.850
- 11 High Traffic Urban 1: 0.440 ac. Street Length = 0.142 curb-mi Street Width (assuming two curb-mi per street mile) = 51.1 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 1.390 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 28 Other Direct Con Imp Areas: 0.020 ac. Connected Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 53 Institutional: YH2-A-Outside ROW Total area (ac): 7.370
- 45 Large Landscaped Areas 1: 4.880 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 57 Undeveloped Areas 1: 2.490 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 54 Institutional: YH2-A-Within ROW Total area (ac): 10.240
 - 25 Driveways 1: 0.460 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 45 Large Landscaped Areas 1: 2.100 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

- 46 Large Landscaped Areas 2: 4.750 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 70 Water Body Areas: 2.930 ac. Source Area PSD File:
- LU# 55 Industrial: Industrial 4 Total area (ac): 3.695
 - 25 Driveways 1: 0.080 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 45 Large Landscaped Areas 1: 0.900 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 57 Undeveloped Areas 1: 2.715 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 56 Freeway: C22-A Total area (ac): 1.115
- 11 High Traffic Urban 1: 0.545 ac. Street Length = 0.195 curb-mi Street Width (assuming two curb-mi per street mile) = 46.1 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 19 Large Turf Areas 1: 0.570 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- LU# 57 Freeway: C19-D Total area (ac): 2.910
- 11 High Traffic Urban 1: 1.960 ac. Street Length = 0.874 curb-mi Street Width (assuming two curb-mi per street mile) = 37 ft
- Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 19 Large Turf Areas 1: 0.555 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 - 28 Other Direct Con Imp Areas: 0.395 ac. Connected Connected Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz

```
LU# 58 - Commercial: YH3-B2 Total area (ac): 5.000
13 - Paved Parking 1: 4.250 ac. Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 0.750 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Other Device CP# 1 (DS) - DS Other Device # 1
Fraction of drainage area served by device (ac) = 1.00
```

Control Practice 3: Filter Strip CP# 1 (DS) - FS5
Total drainage area (acres)= 1.094
Fraction of drainage area served by filter strips (ac) = 1.00
Total filter strip width (ft) = 496.0
Effective flow length (ft) = 60
Infiltration rate (in/hr)= 0.070
Typical longitudinal slope (ft.H/ft.V) = 0.227
Typical grass height (in) = 6.0
Swale retardance factor = C

Use stochastic analysis to determine infiltration rate: False

Particulate Concentration reduction fraction = 1.00 Filterable Concentration reduction fraction = 1.00

Runoff volume reduction fraction = 0

```
Particle size distribution file name: Not needed - calculated by program
   Surface Clogging Load (lbs/sf) = 3.50
Control Practice 4: Filter Strip CP# 2 (DS) - FS6-A
   Total drainage area (acres) = 0.636
   Fraction of drainage area served by filter strips (ac) = 1.00
   Total filter strip width (ft) = 289.0
   Effective flow length (ft) = 72
   Infiltration rate (in/hr)= 0.070
   Typical longitudinal slope (ft.H/ft.V) = 0.180
   Typical grass height (in) = 6.0
   Swale retardance factor = C
   Use stochastic analysis to determine infiltration rate: False
   Infiltration rate coeficient of variation (COV) = 0.00
   Particle size distribution file name: Not needed - calculated by program
   Surface Clogging Load (lbs/sf) = 3.50
Control Practice 5: Filter Strip CP# 3 (DS) - FS6-B
   Total drainage area (acres)= 0.959
   Fraction of drainage area served by filter strips (ac) = 1.00
   Total filter strip width (ft) = 551.0
   Effective flow length (ft) = 56
   Infiltration rate (in/hr)= 0.070
   Typical longitudinal slope (ft.H/ft.V) = 0.284
   Typical grass height (in) = 6.0
   Swale retardance factor = C
```

Infiltration rate coeficient of variation (COV) = 0.00

```
Use stochastic analysis to determine infiltration rate: False
   Infiltration rate coeficient of variation (COV) = 0.00
  Particle size distribution file name: Not needed - calculated by program
   Surface Clogging Load (lbs/sf) = 3.50
Control Practice 6: Other Device CP# 2 (DS) - DS Other Device # 2
   Fraction of drainage area served by device (ac) = 1.00
  Particulate Concentration reduction fraction = 1.00
   Filterable Concentration reduction fraction = 1.00
   Runoff volume reduction fraction = 0
Control Practice 8: Wet Detention Pond CP# 1 (DS) - Storm Basin 2
   Particle Size Distribution file name: Not needed - calculated by program
   Initial stage elevation (ft): 5.38
   Peak to Average Flow Ratio: 3.8
  Maximum flow allowed into pond (cfs): No maximum value entered
   Outlet Characteristics:
       Outlet type: Orifice 1
              1. Orifice diameter (ft):
                                           1.25
              2. Number of orifices: 1
              3. Invert elevation above datum (ft):
                                                       5.38
       Outlet type: Orifice 2
              1. Orifice diameter (ft):
                                           1.25
              2. Number of orifices: 1
              3. Invert elevation above datum (ft):
                                                       5.68
       Outlet type: Broad Crested Weir
              1. Weir crest length (ft): 170
```

2. Weir crest width (ft): 10

3. Height from datum to bottom of weir opening: 6.7

Pond stage and su	ırface area
-------------------	-------------

0					
Entry	Stage	Pond Area	Natural Seepage	Other Outflow	
Number	(ft)	(acres)	(in/hr)		(cfs)
0	0.00	0.0000	0.00		0.00
1	0.01	0.0400	0.00		0.00
2	1.00	0.0600	0.00		0.00
3	2.00	0.0800	0.00		0.00
4	3.00	0.1000	0.00		0.00
5	4.00	0.1200	0.00		0.00
6	5.00	0.1300	0.00		0.00
7	5.38	0.2730	0.00		0.00
8	6.00	0.2950	0.00		0.00
9	7.00	0.3700	0.00		0.00
10	8.00	0.434	0.00		0.00
11	9.00	0.578	0.00		0.00

Control Practice 9: Wet Detention Pond CP# 2 (DS) - Storm Basin 3

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 5.19

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

- 1. Orifice diameter (ft): 1.5
- 2. Number of orifices: 1
- 3. Invert elevation above datum (ft): 5.19

Outlet type: Orifice 2

- 1. Orifice diameter (ft): 1.5
- 2. Number of orifices: 1
- 3. Invert elevation above datum (ft): 5.22

Outlet type: Broad Crested Weir

- 1. Weir crest length (ft): 30
- 2. Weir crest width (ft): 10
- 3. Height from datum to bottom of weir opening: 8

Pond stage and surface area

Entry	Stage	Pond Area	Natural Seepage	Other Outflow	
Number	(ft)	(acres)	(in/hr)		(cfs)
0	0.00	0.0000	0.00		0.00
1	0.01	0.2000	0.00		0.00
2	1.00	0.2200	0.00		0.00
3	2.00	0.2400	0.00		0.00
4	3.00	0.2600	0.00		0.00
5	4.00	0.2800	0.00		0.00
6	5.00	0.3000	0.00		0.00
7	5.19	0.4050	0.00		0.00
8	6.00	0.4600	0.00		0.00
9	7.00	0.5500	0.00		0.00
10	8.00	0.660	0.00		0.00
11	9.00	0.910	0.00		0.00

Control Practice 10: Biofilter CP# 1 (DS) - DS Biofilters # 1

- 1. Top area (square feet) = 11154
- 2. Bottom aea (square feet) = 5889
- 3. Depth (ft): 3.88

- Biofilter width (ft) for Cost Purposes Only: 10
 Infiltration rate (in/hr) = 0.5
 Random infiltration rate generation? No
 Infiltration rate fraction (side): 1
 Infiltration rate fraction (bottom): 1
 Depth of biofilter that is rock filled (ft) 0
 Porosity of rock filled volume = 0
 Engineered soil infiltration rate: 0
 Engineered soil depth (ft) = 0
 Engineered soil porosity = 0
 Percent solids reduction due to flow through engineered soil = 0
 Biofilter peak to average flow ratio = 3.8
 Number of biofiltration control devices = 1
- 17. Particle size distribution file: Not needed calculated by program
 18. Initial water surface elevation (ft): 0
- Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

- 1. Weir crest length (ft): 30
- 2. Weir crest width (ft): 10
- 3. Height of datum to bottom of weir opening: 2.88

Outlet type: Surface Discharge Pipe

- 1. Surface discharge pipe outlet diameter (ft): 1.25
- 2. Pipe invert elevation above datum (ft): 0
- 3. Number of surface pipe outlets: 2

Control Practice 11: Wet Detention Pond CP# 3 (DS) - Landfill Pond
Particle Size Distribution file name: Not needed - calculated by program

```
Initial stage elevation (ft):
Peak to Average Flow Ratio: 3.8
Maximum flow allowed into pond (cfs): No maximum value entered
Outlet Characteristics:
    Outlet type: Orifice 1
           1. Orifice diameter (ft):
                                        0.08
           2. Number of orifices: 7
           3. Invert elevation above datum (ft):
                                                    5.33
    Outlet type: Orifice 2
           1. Orifice diameter (ft):
                                        0.08
           2. Number of orifices: 8
           3. Invert elevation above datum (ft):
                                                    5.68
     Outlet type: Orifice 3
           1. Orifice diameter (ft):
                                        0.08
           2. Number of orifices: 9
           3. Invert elevation above datum (ft):
                                                    6.03
    Outlet type: Broad Crested Weir
           1. Weir crest length (ft):
                                         10
           2. Weir crest width (ft):
                                        10
            3. Height from datum to bottom of weir opening:
                                                             10.66
    Outlet type: Vertical Stand Pipe
           1. Stand pipe diameter (ft): 1.5
           2. Stand pipe height above datum (ft):
                                                    7.77
Pond stage and surface area
                                                            Other Outflow
         Entry
                     Stage
                               Pond Area
                                           Natural Seepage
         Number
                     (ft)
                               (acres)
                                                   (in/hr)
                                                                            (cfs)
            0
                        0.00
                                    0.0000
                                                     0.00
                                                                              0.00
```

0.1000

0.1400

0.00

0.00

0.00

0.00

0.01

1.00

1

3	2.00	0.1800	0.00	0.00
4	3.00	0.2200	0.00	0.00
5	4.00	0.2600	0.00	0.00
6	5.33	0.3340	0.00	0.00
7	6.00	0.4010	0.00	0.00
8	7.00	0.4970	0.00	0.00
9	8.00	0.6610	0.00	0.00
10	9.00	0.9520	0.00	0.00
11	10.00	1.2140	0.00	0.00
12	11.00	1.4870	0.00	0.00
13	12.00	1.6970	0.00	0.00

Control Practice 12: Other Device CP# 3 (DS) - DS Other Device # 4
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 1.00
Runoff volume reduction fraction = 0

Control Practice 13: Other Device CP# 4 (DS) - DS Other Device # 5
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 1.00
Runoff volume reduction fraction = 0

Control Practice 14: Other Device CP# 5 (DS) - DS Other Device # 6 Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00 Filterable Concentration reduction fraction = 1.00 Runoff volume reduction fraction = 0

0.00

0.01

0.50

0

1

2

Control Practice 15: Wet Detention Pond CP# 4 (DS) - Pond B Particle Size Distribution file name: Not needed - calculated by program Initial stage elevation (ft): Peak to Average Flow Ratio: 3.8 Maximum flow allowed into pond (cfs): No maximum value entered Outlet Characteristics: Outlet type: Sharp Crested Weir 1. Sharp crested weir length (ft): 2. Sharp crested weir height from invert: 5.5 3. Sharp crested weir invert elevation above datum (ft): Outlet type: V - notch weir 1. Weir angle (degrees): 2. Weir height from invert: 0 3. Invert elevation above datum (ft): 5 Outlet type: Broad Crested Weir 1. Weir crest length (ft): 80 2. Weir crest width (ft): 3. Height from datum to bottom of weir opening: 10.4 Pond stage and surface area Other Outflow Entry Stage Pond Area Natural Seepage Number (ft) (acres) (in/hr) (cfs)

0.0000

0.6171

0.6301

0.00

0.00

0.00

0.00

0.00

0.00

3	1.50	0.6561	0.00	0.00
4	2.50	0.6821	0.00	0.00
5	3.50	0.7085	0.00	0.00
6	4.00	0.7216	0.00	0.00
7	5.00	2.9010	0.00	0.00
8	6.00	3.0630	0.00	0.00
9	7.00	3.1590	0.00	0.00
10	8.00	6.3760	0.00	0.00
11	9.00	6.5990	0.00	0.00
12	10.00	6.8610	0.00	0.00
13	11.00	7.2280	0.00	0.00
14	12.00	7.4510	0.00	0.00

```
Control Practice 16: Other Device CP# 6 (DS) - DS Other Device # 7
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 1.00
Runoff volume reduction fraction = 0
```

```
Control Practice 17: Wet Detention Pond CP# 5 (DS) - Pond A
Particle Size Distribution file name: Not needed - calculated by program
Initial stage elevation (ft): 5
Peak to Average Flow Ratio: 3.8
Maximum flow allowed into pond (cfs): No maximum value entered
Outlet Characteristics:
Outlet type: Sharp Crested Weir

1. Sharp crested weir length (ft): 6
```

- 2. Sharp crested weir height from invert: 3.5
- 3. Sharp crested weir invert elevation above datum (ft): 8.5

Outlet type: V - notch weir

- 1. Weir angle (degrees): 60
- 2. Weir height from invert: 0
- 3. Invert elevation above datum (ft): 5

Outlet type: Broad Crested Weir

- 1. Weir crest length (ft): 20
- 2. Weir crest width (ft): 20
- 3. Height from datum to bottom of weir opening: 11

Pond stage and surface area

Entry	Stage	Pond Area	Natural Seepage	Other Outflow	
Number	(ft)	(acres)	(in/hr)		(cfs)
0	0.00	0.0000	0.00		0.00
1	0.01	0.4282	0.00		0.00
2	1.00	0.5353	0.00		0.00
3	2.00	0.6690	0.00		0.00
4	3.00	0.8362	0.00		0.00
5	4.00	1.0453	0.00		0.00
6	5.00	3.6940	0.00		0.00
7	6.00	3.8150	0.00		0.00
8	7.00	3.9370	0.00		0.00
9	8.00	4.0610	0.00		0.00
10	9.00	4.1866	0.00		0.00
11	10.00	4.312	20 0.00		0.00
12	11.00	4.439	90 0.00		0.00
13	12.00	4.576	0.00		0.00

```
Control Practice 18: Filter Strip CP# 4 (DS) - FS13-A1
   Total drainage area (acres)= 0.952
   Fraction of drainage area served by filter strips (ac) = 1.00
   Total filter strip width (ft) = 1337.0
   Effective flow length (ft) = 14
   Infiltration rate (in/hr)= 0.070
   Typical longitudinal slope (ft.H/ft.V) = 0.250
   Typical grass height (in) = 8.0
   Swale retardance factor = C
   Use stochastic analysis to determine infiltration rate: False
   Infiltration rate coeficient of variation (COV) = 0.00
   Particle size distribution file name: Not needed - calculated by program
   Surface Clogging Load (lbs/sf) = 3.50
Control Practice 19: Grass Swale CP# 1 (DS) - GS 12
   Total drainage area (acres)= 0.947
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 570.22
   Total swale length (ft) = 540
   Average swale length to outlet (ft)= 270
   Typical bottom width (ft) = 0.0
   Typical swale side slope (H:1V) = 6.0
   Typical longitudinal slope (ft.H/ft.V) = 0.003
   Swale retardance factor: C
   Typical grass height (in) = 8.0
   Swale dynamic infiltration rate (in/hr)= 0.070
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
```

```
Control Practice 20: Filter Strip CP# 5 (DS) - FS14-A1
   Total drainage area (acres)= 3.420
   Fraction of drainage area served by filter strips (ac) = 1.00
   Total filter strip width (ft) = 2504.0
   Effective flow length (ft) = 30
   Infiltration rate (in/hr)= 0.070
   Typical longitudinal slope (ft.H/ft.V) = 0.250
   Typical grass height (in) = 8.0
   Swale retardance factor = C
   Use stochastic analysis to determine infiltration rate: False
   Infiltration rate coeficient of variation (COV) = 0.00
   Particle size distribution file name: Not needed - calculated by program
   Surface Clogging Load (lbs/sf) = 3.50
Control Practice 21: Filter Strip CP# 6 (DS) - FS14-A2
   Total drainage area (acres)= 2.750
   Fraction of drainage area served by filter strips (ac) = 1.00
   Total filter strip width (ft) = 2461.0
   Effective flow length (ft) = 31
   Infiltration rate (in/hr)= 0.070
   Typical longitudinal slope (ft.H/ft.V) = 0.167
   Typical grass height (in) = 8.0
   Swale retardance factor = C
   Use stochastic analysis to determine infiltration rate: False
   Infiltration rate coeficient of variation (COV) = 0.00
```

```
Surface Clogging Load (lbs/sf) = 3.50
Control Practice 22: Grass Swale CP# 2 (DS) - GS14
   Total drainage area (acres) = 7.713
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 339.56
   Total swale length (ft) = 2619
   Average swale length to outlet (ft)= 1310
   Typical bottom width (ft) = 4.0
   Typical swale side slope (H:1V) = 4.0
   Typical longitudinal slope (ft.H/ft.V) = 0.006
   Swale retardance factor: C
   Typical grass height (in) = 8.0
   Swale dynamic infiltration rate (in/hr)= 0.070
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations: True
Control Practice 23: Grass Swale CP# 3 (DS) - GS15
   Total drainage area (acres)= 1.472
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 541.50
   Total swale length (ft) = 659
   Average swale length to outlet (ft)= 330
   Typical bottom width (ft) = 0.0
   Typical swale side slope (H:1V) = 6.0
```

Particle size distribution file name: Not needed - calculated by program

```
Typical longitudinal slope (ft.H/ft.V) = 0.005
   Swale retardance factor: C
   Typical grass height (in) = 8.0
   Swale dynamic infiltration rate (in/hr)= 0.070
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations: True
Control Practice 24: Filter Strip CP# 7 (DS) - FS17-A1
   Total drainage area (acres)= 1.210
   Fraction of drainage area served by filter strips (ac) = 1.00
   Total filter strip width (ft) = 923.0
   Effective flow length (ft) = 40
   Infiltration rate (in/hr)= 0.070
   Typical longitudinal slope (ft.H/ft.V) = 0.240
   Typical grass height (in) = 8.0
   Swale retardance factor = C
   Use stochastic analysis to determine infiltration rate: False
   Infiltration rate coeficient of variation (COV) = 0.00
   Particle size distribution file name: Not needed - calculated by program
   Surface Clogging Load (lbs/sf) = 3.50
Control Practice 25: Filter Strip CP# 8 (DS) - FS17-A2
   Total drainage area (acres)= 0.403
   Fraction of drainage area served by filter strips (ac) = 1.00
   Total filter strip width (ft) = 427.0
   Effective flow length (ft) = 20
```

```
Infiltration rate (in/hr)= 0.070
   Typical longitudinal slope (ft.H/ft.V) = 0.167
   Typical grass height (in) = 8.0
   Swale retardance factor = C
   Use stochastic analysis to determine infiltration rate: False
   Infiltration rate coeficient of variation (COV) = 0.00
   Particle size distribution file name: Not needed - calculated by program
   Surface Clogging Load (lbs/sf) = 3.50
Control Practice 26: Grass Swale CP# 4 (DS) - GS17-21
   Total drainage area (acres)= 3.823
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 372.74
   Total swale length (ft) = 1425
   Average swale length to outlet (ft)= 356
   Typical bottom width (ft) = 4.0
   Typical swale side slope (H:1V) = 5.5
   Typical longitudinal slope (ft.H/ft.V) = 0.003
   Swale retardance factor: C
   Typical grass height (in) = 8.0
   Swale dynamic infiltration rate (in/hr)= 0.070
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations: True
Control Practice 27: Grass Swale CP# 5 (DS) - GS18
   Total drainage area (acres)= 1.501
```

```
Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 633.58
   Total swale length (ft) = 951
   Average swale length to outlet (ft)= 475
   Typical bottom width (ft) = 0.0
   Typical swale side slope (H:1V) = 6.0
   Typical longitudinal slope (ft.H/ft.V) = 0.004
   Swale retardance factor: C
   Typical grass height (in) = 8.0
   Swale dynamic infiltration rate (in/hr)= 0.070
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations: True
Control Practice 29: Grass Swale CP# 6 (DS) - GS20
   Total drainage area (acres)= 2.970
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 457.91
   Total swale length (ft) = 1360
   Average swale length to outlet (ft)= 680
   Typical bottom width (ft) = 0.0
   Typical swale side slope (H:1V) = 3.5
   Typical longitudinal slope (ft.H/ft.V) = 0.006
   Swale retardance factor: C
   Typical grass height (in) = 8.0
   Swale dynamic infiltration rate (in/hr)= 0.070
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
```

Use total swale length instead of swale density for infiltration calculations: True

```
Control Practice 30: Grass Swale CP# 7 (DS) - GS22-B
   Total drainage area (acres)= 1.048
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 1512.32
   Total swale length (ft) = 921
   Average swale length to outlet (ft)= 460
   Typical bottom width (ft) = 0.0
   Typical swale side slope (H:1V) = 6.0
   Typical longitudinal slope (ft.H/ft.V) = 0.003
   Swale retardance factor: C
   Typical grass height (in) = 8.0
   Swale dynamic infiltration rate (in/hr)= 0.070
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations: True
Control Practice 31: Grass Swale CP# 8 (DS) - GS5-C
   Total drainage area (acres)= 4.424
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 19.29
   Total swale length (ft) = 870
   Average swale length to outlet (ft)= 435
   Typical bottom width (ft) = 10.0
   Typical swale side slope (H:1V) = 4.0
   Typical longitudinal slope (ft.H/ft.V) = 0.010
```

```
Swale retardance factor: C
   Typical grass height (in) = 6.0
   Swale dynamic infiltration rate (in/hr)= 0.070
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations: True
Control Practice 32: Grass Swale CP# 9 (DS) - GS5-E
   Total drainage area (acres)= 1.502
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 578.56
   Total swale length (ft) = 869
   Average swale length to outlet (ft)= 434
   Typical bottom width (ft) = 0.0
   Typical swale side slope (H:1V) = 4.0
   Typical longitudinal slope (ft.H/ft.V) = 0.003
   Swale retardance factor: C
   Typical grass height (in) = 6.0
   Swale dynamic infiltration rate (in/hr)= 0.070
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations: True
Control Practice 33: Grass Swale CP# 10 (DS) - GS6-A
   Total drainage area (acres)= 3.406
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 1469.03
```

```
Total swale length (ft) = 830
   Average swale length to outlet (ft)= 415
   Typical bottom width (ft) = 0.0
   Typical swale side slope (H:1V) = 5.0
   Typical longitudinal slope (ft.H/ft.V) = 0.006
   Swale retardance factor: C
   Typical grass height (in) = 6.0
   Swale dynamic infiltration rate (in/hr)= 0.070
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations: True
Control Practice 34: Grass Swale CP# 11 (DS) - GS6-B
   Total drainage area (acres)= 11.119
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 272.65
   Total swale length (ft) = 2290
   Average swale length to outlet (ft)= 573
   Typical bottom width (ft) = 4.0
   Typical swale side slope (H:1V) = 3.5
   Typical longitudinal slope (ft.H/ft.V) = 0.010
   Swale retardance factor: C
   Typical grass height (in) = 6.0
   Swale dynamic infiltration rate (in/hr)= 0.070
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations: True
```

```
Control Practice 35: Grass Swale CP# 12 (DS) - GS8-B
   Total drainage area (acres)= 8.440
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 168.64
   Total swale length (ft) = 1425
   Average swale length to outlet (ft)= 713
   Typical bottom width (ft) = 4.0
   Typical swale side slope (H:1V) = 5.5
   Typical longitudinal slope (ft.H/ft.V) = 0.010
   Swale retardance factor: C
   Typical grass height (in) = 6.0
   Swale dynamic infiltration rate (in/hr)= 0.007
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations: True
Control Practice 36: Grass Swale CP# 13 (DS) - GS 11
   Total drainage area (acres)= 0.999
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 578.58
   Total swale length (ft) = 578
   Average swale length to outlet (ft)= 289
   Typical bottom width (ft) = 0.0
   Typical swale side slope (H:1V) = 6.0
   Typical longitudinal slope (ft.H/ft.V) = 0.003
   Swale retardance factor: C
   Typical grass height (in) = 8.0
```

```
Swale dynamic infiltration rate (in/hr)= 0.007
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations: True
Control Practice 38: Grass Swale CP# 14 (DS) - GS23
   Total drainage area (acres)= 0.608
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 0.00
   Total swale length (ft) = 234
   Average swale length to outlet (ft)= 117
   Typical bottom width (ft) = 0.0
   Typical swale side slope (H:1V) = 6.0
   Typical longitudinal slope (ft.H/ft.V) = 0.004
   Swale retardance factor: C
   Typical grass height (in) = 8.0
   Swale dynamic infiltration rate (in/hr)= 0.070
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations: True
Control Practice 39: Grass Swale CP# 15 (DS) - GS9-10
   Total drainage area (acres)= 1.970
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 531.47
   Total swale length (ft) = 1047
   Average swale length to outlet (ft)= 262
```

```
Typical bottom width (ft) = 0.0
   Typical swale side slope (H:1V) = 6.0
   Typical longitudinal slope (ft.H/ft.V) = 0.003
   Swale retardance factor: C
   Typical grass height (in) = 6.0
   Swale dynamic infiltration rate (in/hr)= 0.070
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations: True
Control Practice 40: Grass Swale CP# 16 (DS) - GS22A
   Total drainage area (acres)= 1.115
   Fraction of drainage area served by swales (ac) = 1.00
   Swale density (ft/ac) = 576.68
   Total swale length (ft) = 643
   Average swale length to outlet (ft)= 313
   Typical bottom width (ft) = 0.0
   Typical swale side slope (H:1V) = 6.0
   Typical longitudinal slope (ft.H/ft.V) = 0.004
   Swale retardance factor: C
   Typical grass height (in) = 8.0
   Swale dynamic infiltration rate (in/hr)= 0.070
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations: True
```