

DRAINAGE PLAN  
**STONEBRIDGE**  
**ADDITION**  
TO  
SEDGWICK COUNTY, KANSAS

Prepared By



**Baughman**

ENGINEERING | SURVEYING | PLANNING  
LANDSCAPE ARCHITECTURE

**08 AUGUST 2005**

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## **INTRODUCTION**

This report provides information and supporting documentation to support the "Drainage Plan" for the proposed "Stonebridge Addition" plat, located in the West half of the Southeast Quarter of Section 12, T-27-S, R-2-E in Sedgwick County, Kansas.

The "Drainage Plan" being submitted herein is intended to serve as a guide for the design of floodplain fill, detention facilities, and storm water sewer improvements to the proposed developments. Modifications to structures, pipes, etc. may be made as necessary during the final design in order to obtain the most economical design and construction possible.

## **OFFSITE DRAINAGE FLOW**

Offsite flood flows were determined using the United States Geological Survey's published regression equations. These equations can be found in the Water-Resources Investigations Report 00-4079 entitled "Estimation of Peak Stream Flows for Unregulated Rural Streams in Kansas".

This report published regression equations for common return periods from the 2-yr up to the 200-yr event, the calculated values are shown in Figure 1. In order to determine the 500-yr flood flow, a statistical analysis of the calculated flowrates was performed to derive an equation that could extrapolate to this value. The western basin will be addressed first. Since the data points involved are based on probability, a simple linear regression does not apply,

(figure 2) However, a logarithmic transformation of the exceedance probability corrects the data points to a nearly straight line (figure 3).

The statistical regression of the data yields an equation where flowrate is a function of the return period. The statistical data is shown in figure 4. Figure 5 shows the comparison of the data points to the derived best fit line.

Figure 1

Return Period years	Exceedance Probability	Flowrate cfs
2	0.5	213
5	0.2	440
10	0.1	640
25	0.04	940
50	0.02	1190
100	0.01	1471
200	0.005	1769

# USGS Regression Eq. Exceedance vs. flowrate

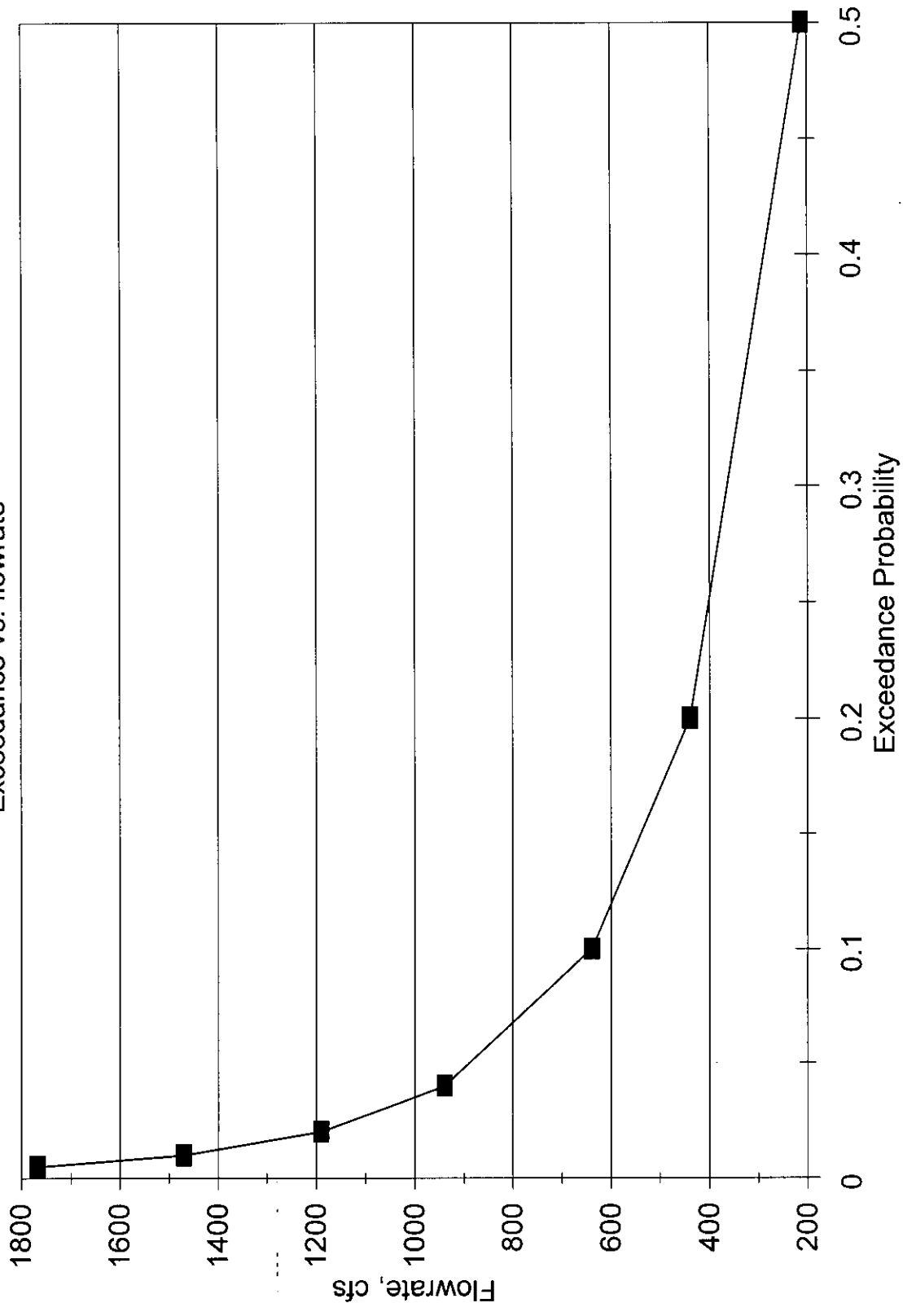


Figure 2

# USGS Regression Equations

Log of Exceedance vs. Flowrate

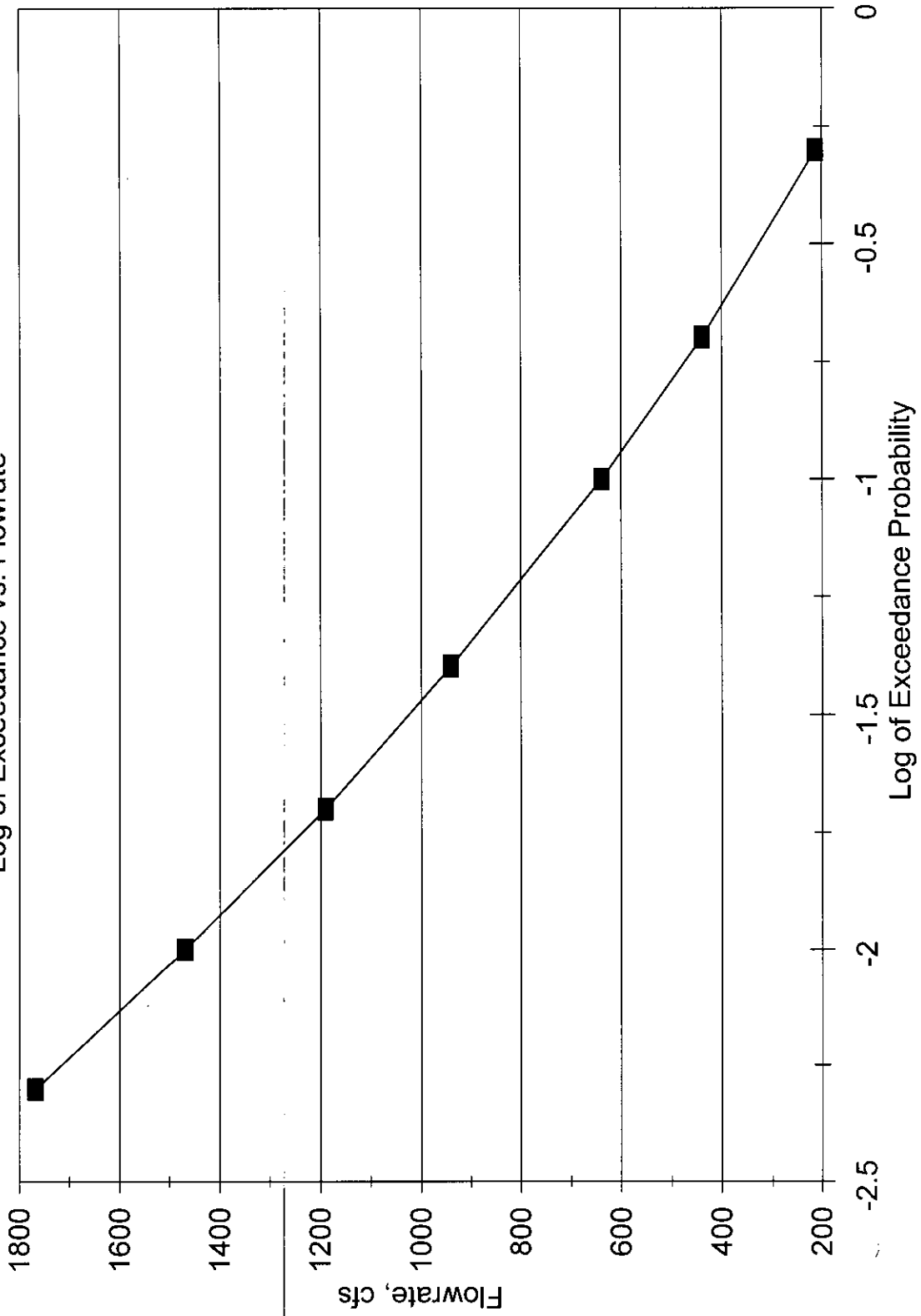


Figure 3

Figure 4

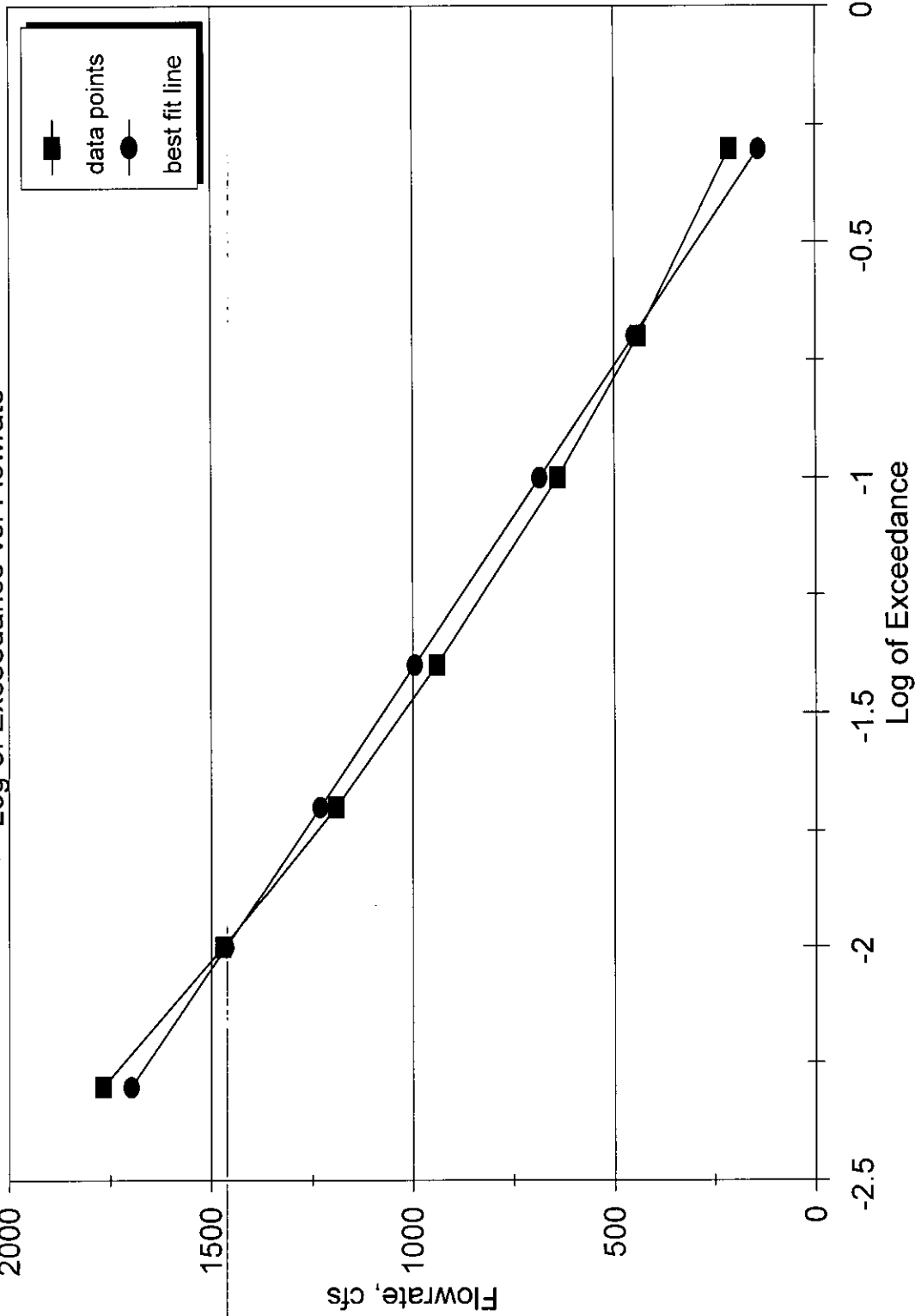
Return Period T	Exceedance Probability $x=1/T$	Log Base 10 Transformation	USGS Flowrate cfs	Regression Analysis cfs
2	$x$ 0.5	$\log x$ -0.30103	213	140
5	0.2	-0.69897	440	450
10	0.1	-1.00000	640	685
25	0.04	-1.39794	940	995
50	0.02	-1.69897	1190	1230
100	0.01	-2.00000	1471	1464
200	0.005	-2.30103	1769	1699
500	0.002	-2.69897	N/A	2009

Regression Output:	
Constant	-94.53571
Std Err of Y Est	58.210274
R Squared	0.991075
No. of Observations	7
Degrees of Freedom	5

X Coefficient(s)	-779.3655
Std Err of Coef.	33.075475

# Comparison of Data to Best Fit Line

Log of Exceedance vs. Flowrate

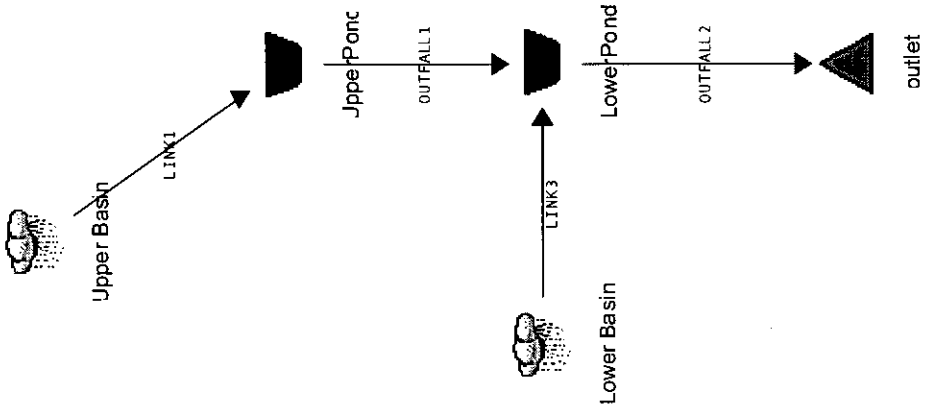


The above process was applied to the eastern basin to determine the 500-yr contributing flood flow. These calculations are supplied in the appendices of this document.

The hydraulic routing for the lake system was performed using Pond Pack computer software from Haestad Methods. The eastern and western basins were input using the known contributing drainage areas and varying the SCS curve number and the time of concentration until the peak discharge was representative of the USGS regression values. In this analysis, no credit was given to any existing detention facilities that are present upstream of the project. Realistically, the presence of any detention effect will reduce the peak discharges calculated for this site.

Since this project is within a FEMA identified flood zone, the effectiveness of the southern lake as a detention facility has not been determined. Peak flow analysis will not account for the variable distributions that are inherent in a hydrograph routing.

# Pond Pack



Job File: F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
Rain Dir: C:\HAESTAD\PPKW\RAINFALL\

=====  
JOB TITLE  
=====

JOB TITLE NOT SPECIFIED  
Click Project Summary on the File Menu to enter title

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LOWERPOND      OUT H..100  
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UPPERPOND	IN	H..100	
		Node: Pond Inflow Summary .....	6.02

MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID SEDGWICK.RNQ Sedgwick24

Return Event	Total Depth in	Rainfall Type	RNF File	RNF ID
H..100	7.9000	Synthetic Curve	SCSTYPES	TypeII 24hr

MASTER NETWORK SUMMARY  
 SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion;)  
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Storage Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond ac-ft
LOWER BASIN	AREA	100	2.255		12.0500	31.62		
LOWERPOND	IN POND	100	20.542		12.1500	153.01		
LOWERPOND	OUT POND	100	20.474		12.9000	47.92	1340.54	6.421
*OUTLET	JCT	100	20.474		12.9000	47.92		
UPPER BASIN	AREA	100	18.332		12.0500	257.07		
UPPERPOND	IN POND	100	18.332		12.0500	257.07		
UPPERPOND	OUT POND	100	18.287		12.2000	135.99	1342.82	7.325

Type.... Executive Summary (Links)  
 Name.... Watershed  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
 Storm... TypeII 24hr Tag: H..100

Page 2.01  
 Event: 100 yr

NETWORK SUMMARY -- LINKS  
 (UN=Upstream Node; DL=DNstream End of Link; DN=DNstream Node)  
 (Trun.= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left & Rt)

DEFAULT Design Storm File, ID = SEDGWICK.RNQ Sedgwick24

Storm Tag Name = H..100  
 Description: Sedgwick County 100-yr 24 hour Duration

-----  
 Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 24hr  
 Storm Frequency = 100 yr  
 Total Rainfall Depth= 7.9000 in  
 Duration Multiplier = 1  
 Resulting Duration = 24.0000 hrs  
 Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Link ID	Type		HYG Vol ac-ft	Peak Time Trun. hrs	Peak Q cfs	End Points
LINK1	ADD	UN	18.332	12.0500	257.07	UPPER BASIN
		DL	18.332	12.0500	257.07	
		DN	18.332	12.0500	257.07	UPPERPOND IN
LINK3	ADD	UN	2.255	12.0500	31.62	LOWER BASIN
		DL	2.255	12.0500	31.62	
		DN	20.542	12.1500	153.01	LOWERPOND IN
OUTFALL1 OUTFALL1	PONDrt	UN	18.332	12.0500	257.07	UPPERPOND IN
			18.287	12.2000	135.99	UPPERPOND OUT
		DL	18.287	12.2000	135.99	
		DN	20.542	12.1500	153.01	LOWERPOND IN
OUTFALL2 OUTFALL2	PONDrt	UN	20.542	12.1500	153.01	LOWERPOND IN
			20.474	12.9000	47.92	LOWERPOND OUT
		DL	20.474	12.9000	47.92	
		DN	20.474	12.9000	47.92	OUTLET

Type.... SCS Unit Hyd. Summary  
Name.... LOWER BASIN Tag: H..100  
File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
Storm... TypeII 24hr Tag: H..100

Page 3.01  
Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.9000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\  
HYG File - ID = BARRETT.HYG - LOWER BASIN H..100  
Tc = .2500 hrs  
Drainage Area = 4.600 acres Runoff CN= 83

=====  
Computational Time Increment = .03333 hrs  
Computed Peak Time = 12.0333 hrs  
Computed Peak Flow = 32.03 cfs

Time Increment for HYG File = .0500 hrs  
Peak Time, Interpolated Output = 12.0500 hrs  
Peak Flow, Interpolated Output = 31.62 cfs  
=====

DRAINAGE AREA

-----  
ID:None Selected  
CN = 83  
Area = 4.600 acres  
S = 2.0482 in  
0.25 = .4096 in

Cumulative Runoff

-----  
5.8820 in  
2.255 ac-ft

HYG Volume... 2.255 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .25000 hrs (ID: None Selected)  
Computational Incr, Tm = .03333 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp)))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 20.85 cfs  
Unit peak time Tp = .16667 hrs  
Unit receding limb, Tr = .66667 hrs  
Total unit time, Tb = .83333 hrs

Type.... SCS Unit Hyd. Summary  
Name.... UPPER BASIN Tag: H..100  
File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
Storm... TypeII 24hr Tag: H..100

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Event: 100 yr

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.9000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\  
HYG File - ID = BARRETT.HYG - UPPER BASIN H..100  
Tc = .2500 hrs  
Drainage Area = 37.400 acres Runoff CN= 83

=====  
Computational Time Increment = .03333 hrs  
Computed Peak Time = 12.0333 hrs  
Computed Peak Flow = 260.42 cfs

Time Increment for HYG File = .0500 hrs  
Peak Time, Interpolated Output = 12.0500 hrs  
Peak Flow, Interpolated Output = 257.07 cfs  
=====

DRAINAGE AREA

-----  
ID:None Selected  
CN = 83  
Area = 37.400 acres  
S = 2.0482 in  
0.25 = .4096 in

Cumulative Runoff

-----  
5.8820 in  
18.332 ac-ft

HYG Volume... 18.332 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .25000 hrs (ID: None Selected)  
Computational Incr, Tm = .03333 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp)))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 169.50 cfs  
Unit peak time Tp = .16667 hrs  
Unit receding limb, Tr = .66667 hrs  
Total unit time, Tb = .83333 hrs

Type.... Node: Addition Summary  
 Name.... OUTLET  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
 Storm... TypeII 24hr Tag: H..100

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 Event: 100 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: OUTLET

HYG Directory: F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
OUTFALL2          LOWERPOND      IN            BARRETT.HYG   OUTFALL2      H..100
=====

```

INFLOWS TO: OUTLET

```

-----
HYG file      HYG ID        HYG tag      Volume      Peak Time    Peak Flow
ac-ft         hrs           cfs
-----
BARRETT.HYG  OUTFALL2      H..100       20.474      12.9000     47.92

```

TOTAL FLOW INTO: OUTLET

```

-----
HYG file      HYG ID        HYG tag      Volume      Peak Time    Peak Flow
ac-ft         hrs           cfs
-----
BARRETT.HYG  OUTFALL2      H..100       20.474      12.9000     47.92

```

Type.... Node: Addition Summary  
 Name.... OUTLET  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
 Storm... TypeII 24hr Tag: H..100

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 Event: 100 yr

TOTAL NODE INFLOW...  
 HYG file = F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\BARRETT.HYG  
 HYG ID = OUTLET  
 HYG Tag = H..100

-----  
 Peak Discharge = 47.92 cfs  
 Time to Peak = 12.9000 hrs  
 HYG Volume = 20.474 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)  
 Output Time increment = .0500 hrs  
 Time on left represents time for first value in each row.

Time hrs					
5.1000	.00	.00	.00	.00	.00
5.3500	.00	.00	.00	.00	.00
5.6000	.00	.00	.00	.00	.00
5.8500	.00	.00	.01	.01	.01
6.1000	.01	.01	.01	.01	.01
6.3500	.01	.01	.01	.01	.01
6.6000	.01	.01	.01	.01	.01
6.8500	.02	.02	.02	.02	.02
7.1000	.02	.02	.02	.02	.02
7.3500	.02	.02	.03	.03	.03
7.6000	.03	.03	.03	.03	.03
7.8500	.03	.04	.04	.04	.04
8.1000	.04	.04	.04	.05	.05
8.3500	.05	.05	.05	.05	.05
8.6000	.06	.06	.06	.06	.06
8.8500	.07	.07	.07	.07	.07
9.1000	.08	.08	.08	.08	.09
9.3500	.09	.09	.10	.10	.10
9.6000	.10	.11	.11	.11	.12
9.8500	.12	.13	.13	.13	.14
10.1000	.14	.15	.15	.16	.16
10.3500	.17	.17	.18	.19	.19
10.6000	.20	.21	.21	.22	.23
10.8500	.24	.25	.26	.26	.28
11.1000	.29	.30	.31	.33	.37
11.3500	.41	.45	.50	.55	.60
11.6000	.66	.72	.81	.91	1.05
11.8500	1.24	1.66	2.33	3.61	5.79
12.1000	9.09	13.37	18.23	23.16	27.81
12.3500	31.94	35.56	38.56	41.03	43.03
12.6000	44.62	45.82	46.71	47.32	47.71
12.8500	47.89	47.92	47.80	47.57	47.25
13.1000	46.85	46.38	45.85	45.28	44.66

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .0500 hrs  
Time on left represents time for first value in each row.

Time hrs					
13.3500	44.00	43.32	42.62	41.90	41.16
13.6000	40.42	39.68	38.95	38.22	37.50
13.8500	36.79	36.09	35.39	34.71	34.03
14.1000	33.36	32.70	32.05	31.41	30.80
14.3500	30.20	29.61	29.03	28.46	27.90
14.6000	27.36	26.82	26.30	25.80	25.31
14.8500	24.83	24.36	23.90	23.45	23.01
15.1000	22.58	22.16	21.76	21.38	21.01
15.3500	20.65	20.29	19.94	19.60	19.26
15.6000	18.93	18.61	18.30	18.00	17.72
15.8500	17.45	17.20	16.95	16.70	16.47
16.1000	16.24	16.02	15.80	15.59	15.38
16.3500	15.18	14.99	14.80	14.61	14.43
16.6000	14.26	14.09	13.92	13.77	13.62
16.8500	13.48	13.34	13.20	13.07	12.94
17.1000	12.81	12.69	12.57	12.45	12.33
17.3500	12.21	12.10	11.99	11.88	11.77
17.6000	11.67	11.57	11.46	11.37	11.27
17.8500	11.17	11.08	10.99	10.90	10.81
18.1000	10.72	10.63	10.55	10.46	10.38
18.3500	10.31	10.24	10.17	10.10	10.03
18.6000	9.96	9.90	9.83	9.76	9.70
18.8500	9.63	9.57	9.51	9.45	9.38
19.1000	9.32	9.26	9.20	9.14	9.08
19.3500	9.02	8.97	8.91	8.85	8.80
19.6000	8.74	8.69	8.63	8.58	8.53
19.8500	8.47	8.42	8.37	8.32	8.27
20.1000	8.21	8.16	8.11	8.06	8.02
20.3500	7.97	7.92	7.87	7.82	7.78
20.6000	7.73	7.68	7.64	7.59	7.55
20.8500	7.50	7.46	7.41	7.37	7.33
21.1000	7.30	7.26	7.22	7.19	7.15
21.3500	7.12	7.08	7.04	7.01	6.97
21.6000	6.94	6.91	6.87	6.84	6.80
21.8500	6.77	6.74	6.71	6.67	6.64
22.1000	6.61	6.58	6.54	6.51	6.48
22.3500	6.45	6.42	6.39	6.36	6.33
22.6000	6.30	6.27	6.24	6.21	6.18
22.8500	6.15	6.12	6.10	6.07	6.04
23.1000	6.01	5.98	5.96	5.93	5.90
23.3500	5.88	5.85	5.82	5.80	5.77
23.6000	5.75	5.72	5.70	5.67	5.65
23.8500	5.62	5.60	5.58	5.55	5.53
24.1000	5.50	5.48	5.45	5.42	5.39
24.3500	5.36	5.33	5.29	5.26	5.23
24.6000	5.19	5.16	5.12	5.08	5.05
24.8500	5.01	4.98	4.94	4.90	4.87

Type.... Node: Addition Summary  
 Name.... OUTLET  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
 Storm... TypeII 24hr Tag: H..100

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 Event: 100 yr

HYDROGRAPH ORDINATES (cfs)  
 Output Time increment = .0500 hrs  
 Time on left represents time for first value in each row.

Time hrs					
25.1000	4.83	4.80	4.77	4.73	4.70
25.3500	4.67	4.64	4.61	4.58	4.55
25.6000	4.52	4.49	4.46	4.42	4.39
25.8500	4.36	4.33	4.30	4.26	4.23
26.1000	4.20	4.17	4.14	4.11	4.07
26.3500	4.04	4.01	3.98	3.95	3.92
26.6000	3.89	3.86	3.83	3.79	3.76
26.8500	3.73	3.71	3.68	3.65	3.62
27.1000	3.59	3.56	3.53	3.50	3.47
27.3500	3.45	3.42	3.39	3.36	3.34
27.6000	3.31	3.28	3.25	3.23	3.20
27.8500	3.17	3.15	3.12	3.10	3.07
28.1000	3.05	3.02	3.00	2.97	2.95
28.3500	2.92	2.90	2.87	2.85	2.83
28.6000	2.80	2.78	2.75	2.74	2.72
28.8500	2.70	2.68	2.67	2.65	2.63
29.1000	2.62	2.60	2.58	2.57	2.55
29.3500	2.53	2.52	2.50	2.48	2.47
29.6000	2.45	2.43	2.42	2.40	2.38
29.8500	2.37	2.35	2.34	2.32	2.30
30.1000	2.29	2.27	2.26	2.24	2.23
30.3500	2.21	2.19	2.18	2.16	2.15
30.6000	2.13	2.12	2.10	2.09	2.07
30.8500	2.06	2.05	2.03	2.02	2.00
31.1000	1.99	1.97	1.96	1.95	1.93
31.3500	1.92	1.91	1.89	1.88	1.87
31.6000	1.86	1.84	1.83	1.82	1.81
31.8500	1.79	1.78	1.77	1.76	1.74
32.1000	1.73	1.72	1.71	1.70	1.69
32.3500	1.68	1.66	1.65	1.64	1.63
32.6000	1.62	1.61	1.60	1.59	1.58
32.8500	1.57	1.56	1.55	1.54	1.52
33.1000	1.51	1.50	1.49	1.48	1.47
33.3500	1.47	1.46	1.45	1.44	1.43
33.6000	1.42	1.41	1.40	1.39	1.38
33.8500	1.37	1.36	1.35	1.34	1.34
34.1000	1.33	1.32	1.31	1.30	1.29
34.3500	1.28	1.28	1.27	1.26	1.25
34.6000	1.24	1.24	1.23	1.23	1.22
34.8500	1.22	1.21	1.21	1.20	1.20
35.1000	1.19	1.19	1.18	1.18	1.17
35.3500	1.17	1.17	1.16	1.16	1.15
35.6000	1.15	1.14	1.14	1.13	1.13
35.8500	1.12	1.12	1.11	1.11	1.10
36.1000	1.10	1.09	1.09	1.08	1.08
36.3500	1.07	1.07	1.06	1.06	1.06
36.6000	1.05	1.05	1.04	1.04	1.03

Type.... Node: Addition Summary  
 Name.... OUTLET  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
 Storm... TypeII 24hr Tag: H..100

Page 4.05  
 Event: 100 yr

HYDROGRAPH ORDINATES (cfs)  
 Output Time increment = .0500 hrs  
 Time on left represents time for first value in each row.

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Time hrs					
36.8500	1.03	1.02	1.02	1.01	1.01
37.1000	1.01	1.00	1.00	.99	.99
37.3500	.98	.98	.97	.97	.97
37.6000	.96	.96	.95	.95	.94
37.8500	.94	.93	.93	.93	.92
38.1000	.92	.91	.91	.91	.90
38.3500	.90	.89	.89	.88	.88
38.6000	.88	.87	.87	.86	.86
38.8500	.86	.85	.85	.84	.84
39.1000	.84	.83	.83	.82	.82
39.3500	.82	.81	.81	.81	.80
39.6000	.80	.79	.79	.79	.78
39.8500	.78	.77	.77	.77	.76
40.1000	.76	.76	.75	.75	.75
40.3500	.74	.74	.73	.73	.73
40.6000	.72	.72	.72	.71	.71
40.8500	.71	.70	.70	.70	.69
41.1000	.69	.69	.68	.68	.68
41.3500	.67	.67	.67	.66	.66
41.6000	.66	.65	.65	.65	.64
41.8500	.64	.64	.63	.63	.63
42.1000	.62	.62	.62	.62	.61
42.3500	.61	.61	.60	.60	.60
42.6000	.59	.59	.59	.59	.58
42.8500	.58	.58	.57	.57	.57
43.1000	.57	.56	.56	.56	.56
43.3500	.55	.55	.55	.55	.54
43.6000	.54	.54	.54	.53	.53
43.8500	.53	.53	.52	.52	.52
44.1000	.52	.51	.51	.51	.51
44.3500	.50	.50	.50	.50	.50
44.6000	.49	.49	.49	.49	.49
44.8500	.48	.48	.48	.48	.47
45.1000	.47	.47	.47	.47	.46
45.3500	.46	.46	.46	.46	.46
45.6000	.45	.45	.45	.45	.45
45.8500	.44	.44	.44	.44	.44
46.1000	.43	.43	.43	.43	.43
46.3500	.43	.42	.42	.42	.42
46.6000	.42	.42	.41	.41	.41
46.8500	.41	.41	.41	.40	.40
47.1000	.40	.40	.40	.40	.40
47.3500	.39	.39	.39	.39	.39
47.6000	.39	.39	.38	.38	.38
47.8500	.38	.38	.38	.38	.37
48.1000	.37	.37	.37	.37	.37
48.3500	.37	.36	.36	.36	.36

Type.... Node: Addition Summary  
 Name.... OUTLET  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
 Storm... TypeII 24hr Tag: H..100

Page 4.06  
 Event: 100 yr

HYDROGRAPH ORDINATES (cfs)  
 Output Time increment = .0500 hrs  
 Time on left represents time for first value in each row.

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Time hrs					
48.6000	.36	.36	.36	.36	.35
48.8500	.35	.35	.35	.35	.35
49.1000	.35	.35	.34	.34	.34
49.3500	.34	.34	.34	.34	.34
49.6000	.34	.33	.33	.33	.33
49.8500	.33	.33	.33	.33	.33
50.1000	.32	.32	.32	.32	.32
50.3500	.32	.32	.32	.32	.32
50.6000	.32	.32	.32	.31	.31
50.8500	.31	.31	.31	.31	.31
51.1000	.31	.31	.31	.31	.31
51.3500	.31	.31	.31	.31	.31
51.6000	.31	.31	.31	.31	.31
51.8500	.31	.31	.31	.31	.31
52.1000	.31	.30	.30	.30	.30
52.3500	.30	.30	.30	.30	.30
52.6000	.30	.30	.30	.30	.30
52.8500	.30	.30	.30	.30	.30
53.1000	.30	.30	.30	.30	.30
53.3500	.30	.30	.30	.29	.29
53.6000	.29	.29	.29	.29	.29
53.8500	.29	.29	.29	.29	.29
54.1000	.29	.29	.29	.29	.29
54.3500	.29	.29	.29	.29	.29
54.6000	.29	.29	.29	.29	.29
54.8500	.28	.28	.28	.28	.28
55.1000	.28	.28	.28	.28	.28
55.3500	.28	.28	.28	.28	.28
55.6000	.28	.28	.28	.28	.28
55.8500	.28	.28	.28	.28	.28
56.1000	.28	.28	.28	.27	.27
56.3500	.27	.27	.27	.27	.27
56.6000	.27	.27	.27	.27	.27
56.8500	.27	.27	.27	.27	.27
57.1000	.27	.27	.27	.27	.27
57.3500	.27	.27	.27	.27	.27
57.6000	.26	.26	.26	.26	.26
57.8500	.26	.26	.26	.26	.26
58.1000	.26	.26	.26	.26	.26
58.3500	.26	.26	.26	.26	.26
58.6000	.26	.26	.26	.26	.26
58.8500	.26	.26	.26	.25	.25
59.1000	.25	.25	.25	.25	.25
59.3500	.25	.25	.25	.25	.25
59.6000	.25	.25	.25	.25	.25
59.8500	.25	.25	.25	.25	.25
60.1000	.25	.25	.25	.25	.25

HYDROGRAPH ORDINATES (cfs)  
Output Time increment = .0500 hrs

Time on left represents time for first value in each row.

---

Time hrs					
60.3500	.25	.24	.24	.24	.24
60.6000	.24	.24	.24	.24	.24
60.8500	.24	.24	.24	.24	.24
61.1000	.24	.24	.24	.24	.24
61.3500	.24	.24	.24	.24	.24
61.6000	.24	.24	.24	.24	.24
61.8500	.23	.23	.23	.23	.23
62.1000	.23	.23	.23	.23	.23
62.3500	.23	.23	.23	.23	.23
62.6000	.23	.23	.23	.23	.23
62.8500	.23	.23	.23	.23	.23
63.1000	.23	.23	.23	.23	.22
63.3500	.22	.22	.22	.22	.22
63.6000	.22	.22	.22	.22	.22
63.8500	.22	.22	.22	.22	.22
64.1000	.22	.22	.22	.22	.22
64.3500	.22	.22	.22	.22	.22
64.6000	.22	.22	.22	.22	.22
64.8500	.21	.21	.21	.21	.21
65.1000	.21	.21	.21	.21	.21
65.3500	.21	.21	.21	.21	.21
65.6000	.21	.21	.21	.21	.21
65.8500	.21	.21	.21	.21	.21
66.1000	.21	.21	.21	.21	.21
66.3500	.21	.20	.20	.20	.20
66.6000	.20	.20	.20	.20	.20
66.8500	.20	.20	.20	.20	.20
67.1000	.20	.20	.20	.20	.20
67.3500	.20	.20	.20	.20	.20
67.6000	.20	.20	.20	.20	.20
67.8500	.20	.20	.20	.19	.19
68.1000	.19	.19	.19	.19	.19
68.3500	.19	.19	.19	.19	.19
68.6000	.19	.19	.19	.19	.19
68.8500	.19	.19	.19	.19	.19
69.1000	.19	.19	.19	.19	.19
69.3500	.19	.19	.19	.19	.19
69.6000	.19	.18	.18	.18	.18
69.8500	.18	.18	.18	.18	.18
70.1000	.18	.18	.18	.18	.18
70.3500	.18	.18	.18	.18	.18
70.6000	.18	.18	.18	.18	.18
70.8500	.18	.18	.18	.18	.18
71.1000	.18	.18	.18	.18	.18
71.3500	.17	.17	.17	.17	.17
71.6000	.17	.17	.17	.17	.17
71.8500	.17	.17	.17	.17	.17

Type.... Node: Addition Summary  
 Name.... OUTLET  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
 Storm... TypeII 24hr Tag: H..100

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 Event: 100 yr

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .0500 hrs  
 Time on left represents time for first value in each row.

Time hrs					
72.1000	.17	.17	.17	.17	.17
72.3500	.17	.17	.17	.17	.17
72.6000	.17	.17	.17	.17	.17
72.8500	.17	.17	.17	.17	.17
73.1000	.17	.16	.16	.16	.16
73.3500	.16	.16	.16	.16	.16
73.6000	.16	.16	.16	.16	.16
73.8500	.16	.16	.16	.16	.16
74.1000	.16	.16	.16	.16	.16
74.3500	.16	.16	.16	.16	.16
74.6000	.16	.16	.16	.16	.16
74.8500	.16	.16	.16	.15	.15
75.1000	.15	.15	.15	.15	.15
75.3500	.15	.15	.15	.15	.15
75.6000	.15	.15	.15	.15	.15
75.8500	.15	.15	.15	.15	.15
76.1000	.15	.15	.15	.15	.15
76.3500	.15	.15	.15	.15	.15
76.6000	.15	.15	.15	.15	.15
76.8500	.15	.15	.15	.14	.14
77.1000	.14	.14	.14	.14	.14
77.3500	.14	.14	.14	.14	.14
77.6000	.14	.14	.14	.14	.14
77.8500	.14	.14	.14	.14	.14
78.1000	.14	.14	.14	.14	.14
78.3500	.14	.14	.14	.14	.14
78.6000	.14	.14	.14	.14	.14
78.8500	.14	.14	.14	.14	.14
79.1000	.13	.13	.13	.13	.13
79.3500	.13	.13	.13	.13	.13
79.6000	.13	.13	.13	.13	.13
79.8500	.13	.13	.13	.13	.13
80.1000	.13	.13	.13	.13	.13
80.3500	.13	.13	.13	.13	.13
80.6000	.13	.13	.13	.13	.13
80.8500	.13	.13	.13	.13	.13
81.1000	.13	.13	.13	.13	.12
81.3500	.12	.12	.12	.12	.12
81.6000	.12	.12	.12	.12	.12
81.8500	.12	.12	.12	.12	.12
82.1000	.12	.12	.12	.12	.12
82.3500	.12	.12	.12	.12	.12
82.6000	.12	.12	.12	.12	.12
82.8500	.12	.12	.12	.12	.12
83.1000	.12	.12	.12	.12	.12
83.3500	.12	.12	.12	.12	.12
83.6000	.12	.12	.11	.11	.11

Type.... Node: Addition Summary  
 Name.... OUTLET  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
 Storm... TypeII 24hr Tag: H..100

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 Event: 100 yr

HYDROGRAPH ORDINATES (cfs)  
 Output Time increment = .0500 hrs  
 Time on left represents time for first value in each row.

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Time hrs					
83.8500	.11	.11	.11	.11	.11
84.1000	.11	.11	.11	.11	.11
84.3500	.11	.11	.11	.11	.11
84.6000	.11	.11	.11	.11	.11
84.8500	.11	.11	.11	.11	.11
85.1000	.11	.11	.11	.11	.11
85.3500	.11	.11	.11	.11	.11
85.6000	.11	.11	.11	.11	.11
85.8500	.11	.11	.11	.11	.11
86.1000	.11	.11	.11	.10	.10
86.3500	.10	.10	.10	.10	.10
86.6000	.10	.10	.10	.10	.10
86.8500	.10	.10	.10	.10	.10
87.1000	.10	.10	.10	.10	.10
87.3500	.10	.10	.10	.10	.10
87.6000	.10	.10	.10	.10	.10
87.8500	.10	.10	.10	.10	.10
88.1000	.10	.10	.10	.10	.10
88.3500	.10	.10	.10	.10	.10
88.6000	.10	.10	.10	.10	.10
88.8500	.10	.10	.10	.10	.09
89.1000	.09	.09	.09	.09	.09
89.3500	.09	.09	.09	.09	.09
89.6000	.09	.09	.09	.09	.09
89.8500	.09	.09	.09	.09	.09
90.1000	.09	.09	.09	.09	.09
90.3500	.09	.09	.09	.09	.09
90.6000	.09	.09	.09	.09	.09
90.8500	.09	.09	.09	.09	.09
91.1000	.09	.09	.09	.09	.09
91.3500	.09	.09	.09	.09	.09
91.6000	.09	.09	.09	.09	.09
91.8500	.09	.09	.09	.09	.09
92.1000	.08	.08	.08	.08	.08
92.3500	.08	.08	.08	.08	.08
92.6000	.08	.08	.08	.08	.08
92.8500	.08	.08	.08	.08	.08
93.1000	.08	.08	.08	.08	.08
93.3500	.08	.08	.08	.08	.08
93.6000	.08	.08	.08	.08	.08
93.8500	.08	.08	.08	.08	.08
94.1000	.08	.08	.08	.08	.08
94.3500	.08	.08	.08	.08	.08
94.6000	.08	.08	.08	.08	.08
94.8500	.08	.08	.08	.08	.08
95.1000	.08	.08	.08	.08	.08
95.3500	.08	.08	.08	.07	.07

HYDROGRAPH ORDINATES (cfs)  
Output Time increment = .0500 hrs  
Time on left represents time for first value in each row.

---

Time hrs					
95.6000	.07	.07	.07	.07	.07
95.8500	.07	.07	.07	.07	.07
96.1000	.07	.07	.07	.07	.07
96.3500	.07	.07	.07	.07	.07
96.6000	.07	.07	.07	.07	.07
96.8500	.07	.07	.07	.07	.07
97.1000	.07	.07	.07	.07	.07
97.3500	.07	.07	.07	.07	.07
97.6000	.07	.07	.07	.07	.07
97.8500	.07	.07	.07	.07	.07
98.1000	.07	.07	.07	.07	.07
98.3500	.07	.07	.07	.07	.07
98.6000	.07	.07	.07	.07	.07
98.8500	.07	.07	.07	.07	.07
99.1000	.07	.07	.07	.07	.07
99.3500	.06	.06	.06	.06	.06
99.6000	.06	.06	.06	.06	.06
99.8500	.06	.06	.06	.06	.06
100.1000	.06	.06	.06	.06	.06
100.3500	.06	.06	.06	.06	.06
100.6000	.06	.06	.06	.06	.06
100.8500	.06	.06	.06	.06	.06
101.1000	.06	.06	.06	.06	.06
101.3500	.06	.06	.06	.06	.06
101.6000	.06	.06	.06	.06	.06
101.8500	.06	.06	.06	.06	.06
102.1000	.06	.06	.06	.06	.06
102.3500	.06	.06	.06	.06	.06
102.6000	.06	.06	.06	.06	.06
102.8500	.06	.06	.06	.06	.06
103.1000	.06	.06	.06	.06	.06
103.3500	.06	.06	.06	.06	.06
103.6000	.06	.06	.06	.05	.05
103.8500	.05	.05	.05	.05	.05
104.1000	.05	.05	.05	.05	.05
104.3500	.05	.05			

Type.... Outlet Input Data  
Name.... OUTFALL1A

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 1340.00 ft  
Increment = .25 ft  
Max. Elev.= 1345.00 ft

\*\*\*\*\*  
OUTLET CONNECTIVITY  
\*\*\*\*\*

---> Forward Flow Only (UpStream to DnStream)  
<--- Reverse Flow Only (DnStream to UpStream)  
<---> Forward and Reverse Both Allowed

Structure	No.		Outfall	E1, ft	E2, ft
Culvert-Circular	CV	--->	TW	1340.000	1345.000
Weir-Rectangular	WR	--->	TW	1341.500	1345.000
TW SETUP, DS Channel					

Type.... Outlet Input Data  
Name.... OUTFALL1A

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW

OUTLET STRUCTURE INPUT DATA

Structure ID = CV  
Structure Type = Culvert-Circular  
-----  
No. Barrels = 1  
Barrel Diameter = 3.0000 ft  
Upstream Invert = 1340.00 ft  
Dnstream Invert = 1337.00 ft  
Horiz. Length = 60.00 ft  
Barrel Length = 60.07 ft  
Barrel Slope = .05000 ft/ft

OUTLET CONTROL DATA...

Mannings n = .0130  
Ke = .5000 (forward entrance loss)  
Kb = .007228 (per ft of full flow)  
Kr = .5000 (reverse entrance loss)  
HW Convergence = .001 +/- ft

INLET CONTROL DATA...

Equation form = 1  
Inlet Control K = .0098  
Inlet Control M = 2.0000  
Inlet Control c = .03980  
Inlet Control Y = .6700  
T1 ratio (HW/D) = 1.135  
T2 ratio (HW/D) = 1.282  
Slope Factor = -.500

Use unsubmerged inlet control Form 1 equ. below T1 elev.  
Use submerged inlet control Form 1 equ. above T2 elev.

In transition zone between unsubmerged and submerged inlet control,  
interpolate between flows at T1 & T2...

At T1 Elev = 1343.41 ft ---> Flow = 42.85 cfs  
At T2 Elev = 1343.85 ft ---> Flow = 48.97 cfs

Type.... Outlet Input Data  
Name.... OUTFALL1A

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW

OUTLET STRUCTURE INPUT DATA

Structure ID = WR  
Structure Type = Weir-Rectangular

-----  
# of Openings = 1  
Crest Elev. = 1341.50 ft  
Weir Length = 25.00 ft  
Weir Coeff. = 2.860000

Weir TW effects (Use adjustment equation)

Structure ID = TW  
Structure Type = TW SETUP, DS Channel

-----  
FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...  
Maximum Iterations= 30  
Min. TW tolerance = .01 ft  
Max. TW tolerance = .01 ft  
Min. HW tolerance = .01 ft  
Max. HW tolerance = .01 ft  
Min. Q tolerance = .10 cfs  
Max. Q tolerance = .10 cfs

Type.... Composite Rating Curve  
Name.... OUTFALL1A

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW

\*\*\*\*\* COMPOSITE OUTFLOW SUMMARY \*\*\*\*\*

WS Elev, Total Q		Converge		Notes
Elev. ft	Q cfs	TW Elev ft	Error +/-ft	Contributing Structures
1340.00	.00	Free Outfall		None contributing
1340.25	.29	Free Outfall		CV
1340.50	1.14	Free Outfall		CV
1340.75	2.52	Free Outfall		CV
1341.00	4.38	Free Outfall		CV
1341.25	6.70	Free Outfall		CV
1341.50	9.42	Free Outfall		CV +WR
1341.75	21.46	Free Outfall		CV +WR
1342.00	41.14	Free Outfall		CV +WR
1342.25	65.85	Free Outfall		CV +WR
1342.50	94.56	Free Outfall		CV +WR
1342.75	126.69	Free Outfall		CV +WR
1343.00	161.83	Free Outfall		CV +WR
1343.25	199.63	Free Outfall		CV +WR
1343.50	239.84	Free Outfall		CV +WR
1343.75	282.19	Free Outfall		CV +WR
1344.00	326.58	Free Outfall		CV +WR
1344.25	372.79	Free Outfall		CV +WR
1344.50	419.35	Free Outfall		CV +WR
1344.75	467.47	Free Outfall		CV +WR
1345.00	517.10	Free Outfall		CV +WR

Type.... Outlet Input Data  
Name.... OUTFALL2

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 1337.00 ft  
Increment = .25 ft  
Max. Elev.= 1341.00 ft

\*\*\*\*\*  
OUTLET CONNECTIVITY  
\*\*\*\*\*

---> Forward Flow Only (UpStream to DnStream)  
<--- Reverse Flow Only (DnStream to UpStream)  
<---> Forward and Reverse Both Allowed

Structure	No.	Outfall	E1, ft	E2, ft
Culvert-Circular TW SETUP, DS Channel	CV	---> TW	1337.000	1341.000

Type.... Outlet Input Data  
Name.... OUTFALL2

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW

OUTLET STRUCTURE INPUT DATA

Structure ID = CV  
Structure Type = Culvert-Circular  
-----  
No. Barrels = 1  
Barrel Diameter = 3.5000 ft  
Upstream Invert = 1337.00 ft  
Dnstream Invert = 1334.00 ft  
Horiz. Length = 400.00 ft  
Barrel Length = 400.01 ft  
Barrel Slope = .00750 ft/ft

OUTLET CONTROL DATA...

Mannings n = .0130  
Ke = .5000 (forward entrance loss)  
Kb = .005885 (per ft of full flow)  
Kr = .5000 (reverse entrance loss)  
HW Convergence = .001 +/- ft

INLET CONTROL DATA...

Equation form = 1  
Inlet Control K = .0098  
Inlet Control M = 2.0000  
Inlet Control c = .03980  
Inlet Control Y = .6700  
T1 ratio (HW/D) = 1.156  
T2 ratio (HW/D) = 1.303  
Slope Factor = -.500

Use unsubmerged inlet control Form 1 equ. below T1 elev.  
Use submerged inlet control Form 1 equ. above T2 elev.

In transition zone between unsubmerged and submerged inlet control,  
interpolate between flows at T1 & T2...

At T1 Elev = 1341.05 ft ---> Flow = 63.00 cfs  
At T2 Elev = 1341.56 ft ---> Flow = 72.00 cfs

Structure ID = TW  
Structure Type = TW SETUP, DS Channel  
-----

FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...

Maximum Iterations= 30  
Min. TW tolerance = .01 ft  
Max. TW tolerance = .01 ft  
Min. HW tolerance = .01 ft  
Max. HW tolerance = .01 ft  
Min. Q tolerance = .10 cfs  
Max. Q tolerance = .10 cfs

S/N: 121201A06A8A  
PondPack Ver. 7.5 (767)

Baughman Company PA  
Compute Time: 11:44:30

Date: 08/08/2005

Type.... Composite Rating Curve  
Name.... OUTFALL2

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW

\*\*\*\*\* COMPOSITE OUTFLOW SUMMARY \*\*\*\*\*

WS Elev, Total Q		Converge		Notes
Elev. ft	Q cfs	TW Elev ft	Error +/-ft	Contributing Structures
1337.00	.00	Free Outfall		None contributing
1337.25	.32	Free Outfall		CV
1337.50	1.25	Free Outfall		CV
1337.75	2.75	Free Outfall		CV
1338.00	4.80	Free Outfall		CV
1338.25	7.36	Free Outfall		CV
1338.50	10.39	Free Outfall		CV
1338.75	13.88	Free Outfall		CV
1339.00	17.76	Free Outfall		CV
1339.25	21.98	Free Outfall		CV
1339.50	26.56	Free Outfall		CV
1339.75	31.37	Free Outfall		CV
1340.00	36.46	Free Outfall		CV
1340.25	41.69	Free Outfall		CV
1340.50	47.12	Free Outfall		CV
1340.75	52.59	Free Outfall		CV
1341.00	58.16	Free Outfall		CV

Type.... Pond Routing Summary  
Name.... LOWERPOND OUT Tag: H..100  
File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
Storm... TypeII 24hr Tag: H..100

Page 6.01  
Event: 100 yr

LEVEL POOL ROUTING SUMMARY

HYG Dir = F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\  
Inflow HYG file = BARRETT.HYG - LOWERPOND IN H..100  
Outflow HYG file = BARRETT.HYG - LOWERPOND OUT H..100

Pond Node Data = LOWERPOND  
Pond Volume Data = LOWERPOND  
Pond Outlet Data = OUTFALL2

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 1337.00 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .0500 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====

Peak Inflow	=	153.01 cfs	at	12.1500 hrs
Peak Outflow	=	47.92 cfs	at	12.9000 hrs

-----

Peak Elevation	=	1340.54 ft
Peak Storage	=	6.421 ac-ft

=====

MASS BALANCE (ac-ft)

-----

+ Initial Vol	=	.000
+ HYG Vol IN	=	20.542
- Infiltration	=	.000
- HYG Vol OUT	=	20.474
- Retained Vol	=	.068

-----

Unrouted Vol	=	-.000 ac-ft (.002% of Inflow Volume)
--------------	---	--------------------------------------

Type.... Node: Pond Inflow Summary  
 Name.... UPPERPOND IN  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
 Storm... TypeII 24hr Tag: H..100

Page 6.02  
 Event: 100 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: UPPERPOND IN

HYG Directory: F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
LINK1              UPPER BASIN    BARRETT.HYG   UPPER BASIN   H..100
=====
  
```

INFLOWS TO: UPPERPOND IN

```

-----
HYG file      HYG ID        HYG tag      Volume      Peak Time    Peak Flow
              HYG ID        HYG tag      ac-ft       hrs          cfs
-----
BARRETT.HYG  UPPER BASIN   H..100       18.332      12.0500     257.07
  
```

TOTAL FLOW INTO: UPPERPOND IN

```

-----
HYG file      HYG ID        HYG tag      Volume      Peak Time    Peak Flow
              HYG ID        HYG tag      ac-ft       hrs          cfs
-----
BARRETT.HYG  UPPERPOND     IN  H..100       18.332      12.0500     257.07
  
```

Type.... Node: Pond Inflow Summary  
 Name.... UPPERPOND IN  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
 Storm... TypeII 24hr Tag: H..100

Page 6.03  
 Event: 100 yr

TOTAL NODE INFLOW...  
 HYG file = F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\BARRETT.HYG  
 HYG ID = UPPERPOND IN  
 HYG Tag = H..100

-----  
 Peak Discharge = 257.07 cfs  
 Time to Peak = 12.0500 hrs  
 HYG Volume = 18.332 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .0500 hrs  
 Time on left represents time for first value in each row.

Time hrs					
4.3000	.00	.00	.01	.02	.03
4.5500	.05	.07	.09	.12	.14
4.8000	.17	.19	.22	.25	.28
5.0500	.30	.33	.36	.39	.41
5.3000	.44	.47	.50	.53	.56
5.5500	.59	.62	.65	.68	.71
5.8000	.74	.78	.81	.84	.87
6.0500	.90	.94	.97	1.00	1.03
6.3000	1.07	1.10	1.13	1.17	1.20
6.5500	1.24	1.27	1.30	1.34	1.37
6.8000	1.41	1.44	1.48	1.51	1.55
7.0500	1.59	1.62	1.66	1.69	1.73
7.3000	1.77	1.80	1.84	1.88	1.91
7.5500	1.95	1.99	2.03	2.06	2.10
7.8000	2.14	2.18	2.22	2.25	2.29
8.0500	2.33	2.38	2.43	2.49	2.56
8.3000	2.63	2.72	2.80	2.89	2.98
8.5500	3.07	3.17	3.27	3.36	3.47
8.8000	3.57	3.67	3.78	3.88	3.99
9.0500	4.10	4.20	4.29	4.37	4.44
9.3000	4.50	4.55	4.60	4.65	4.69
9.5500	4.74	4.80	4.88	4.98	5.10
9.8000	5.24	5.39	5.56	5.72	5.90
10.0500	6.08	6.26	6.47	6.68	6.92
10.3000	7.16	7.42	7.68	7.95	8.22
10.5500	8.50	8.80	9.13	9.49	9.89
10.8000	10.30	10.75	11.20	11.66	12.13
11.0500	12.64	13.20	13.86	14.63	15.53
11.3000	16.50	17.55	18.64	19.78	20.94
11.5500	23.08	27.33	35.96	49.12	68.71
11.8000	93.03	126.38	169.95	218.37	253.03
12.0500	257.07	232.09	184.43	137.86	102.74
12.3000	79.40	64.69	54.06	46.54	40.62

Type.... Node: Pond Inflow Summary  
 Name.... UPPERPOND IN  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW  
 Storm... TypeII 24hr Tag: H..100

Page 6.04  
 Event: 100 yr

HYDROGRAPH ORDINATES (cfs)  
 Output Time increment = .0500 hrs  
 Time on left represents time for first value in each row.

Time hrs					
12.5500	35.91	32.00	28.86	26.42	24.65
12.8000	23.31	22.30	21.40	20.58	19.81
13.0500	19.07	18.38	17.75	17.19	16.69
13.3000	16.23	15.81	15.40	15.00	14.61
13.5500	14.22	13.85	13.50	13.16	12.85
13.8000	12.55	12.26	11.98	11.70	11.42
14.0500	11.15	10.90	10.67	10.48	10.32
14.3000	10.19	10.07	9.96	9.85	9.75
14.5500	9.65	9.56	9.46	9.36	9.27
14.8000	9.17	9.07	8.98	8.88	8.79
15.0500	8.69	8.59	8.50	8.40	8.30
15.3000	8.21	8.11	8.02	7.92	7.82
15.5500	7.72	7.63	7.53	7.43	7.34
15.8000	7.24	7.14	7.04	6.95	6.85
16.0500	6.75	6.66	6.58	6.52	6.46
16.3000	6.41	6.37	6.33	6.29	6.26
16.5500	6.22	6.19	6.15	6.12	6.08
16.8000	6.05	6.01	5.98	5.95	5.91
17.0500	5.88	5.84	5.81	5.77	5.74
17.3000	5.70	5.67	5.63	5.60	5.56
17.5500	5.53	5.50	5.46	5.43	5.39
17.8000	5.36	5.32	5.29	5.25	5.22
18.0500	5.18	5.15	5.11	5.08	5.04
18.3000	5.01	4.97	4.94	4.90	4.87
18.5500	4.83	4.80	4.76	4.73	4.69
18.8000	4.66	4.62	4.59	4.56	4.52
19.0500	4.48	4.45	4.42	4.38	4.34
19.3000	4.31	4.28	4.24	4.20	4.17
19.5500	4.13	4.10	4.06	4.03	3.99
19.8000	3.96	3.92	3.89	3.85	3.82
20.0500	3.78	3.75	3.73	3.70	3.69
20.3000	3.67	3.66	3.66	3.65	3.64
20.5500	3.63	3.63	3.62	3.61	3.60
20.8000	3.60	3.59	3.58	3.58	3.57
21.0500	3.56	3.55	3.55	3.54	3.53
21.3000	3.53	3.52	3.51	3.51	3.50
21.5500	3.49	3.49	3.48	3.47	3.47
21.8000	3.46	3.45	3.44	3.44	3.43
22.0500	3.42	3.42	3.41	3.40	3.40
22.3000	3.39	3.38	3.38	3.37	3.36
22.5500	3.36	3.35	3.34	3.33	3.33
22.8000	3.32	3.31	3.31	3.30	3.29
23.0500	3.29	3.28	3.27	3.27	3.26
23.3000	3.25	3.24	3.24	3.23	3.22
23.5500	3.22	3.21	3.20	3.19	3.19
23.8000	3.18	3.17	3.17	3.16	3.15
24.0500	3.03	2.64	1.96	1.29	.79

Type.... Node: Pond Inflow Summary

Page 6.05

Name.... UPPERPOND IN

Event: 100 yr

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\PONDS.PPW

Storm... TypeII 24hr Tag: H..100

HYDROGRAPH ORDINATES (cfs)  
Output Time increment = .0500 hrs  
Time on left represents time for first value in each row.

---

Time hrs					
24.3000	.48	.29	.18	.11	.06
24.5500	.04	.02	.01	.01	.00
24.8000	.00				

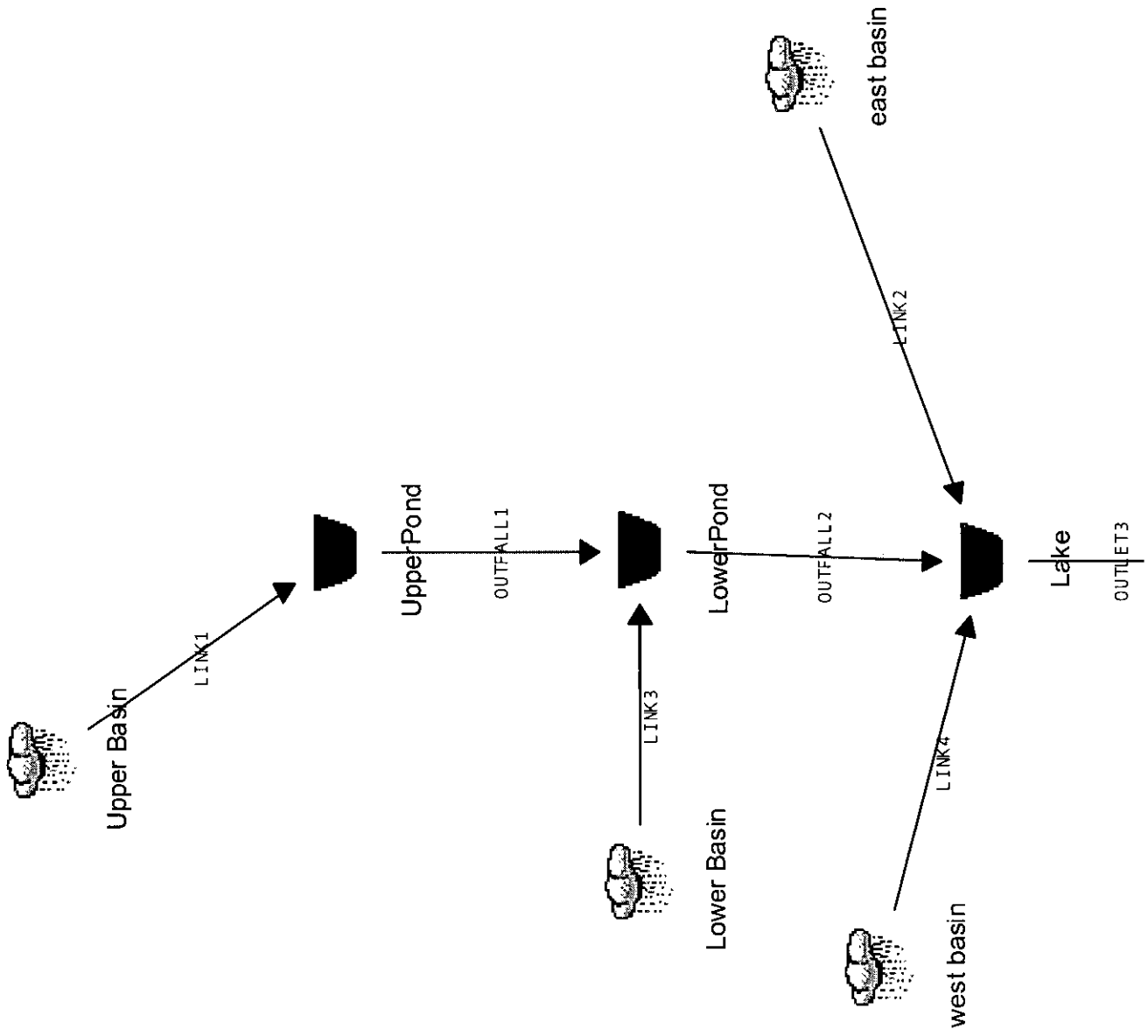
Index of Starting Page Numbers for ID Names

----- L -----  
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----- O -----  
OUTFALL1A... 5.01, 5.04  
OUTFALL2... 5.05, 5.07  
OUTLET H..100... 4.01

----- U -----  
UPPER BASIN H..100... 3.02  
UPPERPOND IN H..100... 6.02

----- W -----  
Watershed... 1.01, 2.01



Job File: F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW  
Rain Dir: C:\HAESTAD\PPKW\RAINFALL\

=====  
JOB TITLE  
=====

JOB TITLE NOT SPECIFIED  
Click Project Summary on the File Menu to enter title

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\*\*\*\*\* MASTER SUMMARY \*\*\*\*\*

Watershed..... Master Network Summary ..... 1.01

\*\*\*\*\* RUNOFF HYDROGRAPHS \*\*\*\*\*

EAST BASIN..... M..100  
SCS Unit Hyd. Summary ..... 2.01

LOWER BASIN..... M..100  
SCS Unit Hyd. Summary ..... 2.02

UPPER BASIN..... M..100  
SCS Unit Hyd. Summary ..... 2.03

WEST BASIN..... M..100  
SCS Unit Hyd. Summary ..... 2.04

\*\*\*\*\* HYG ADDITION \*\*\*\*\*

13TH STREET..... M..100  
Node: Addition Summary ..... 3.01

\*\*\*\*\* OUTLET STRUCTURES \*\*\*\*\*

OUTFALL1A..... Outlet Input Data ..... 4.01  
Composite Rating Curve ..... 4.04

OUTFALL2B..... Composite Rating Curve ..... 4.05

OUTLET3\_USER.... Outlet Input Data ..... 4.06  
Composite Rating Curve ..... 4.08

\*\*\*\*\* POND ROUTING \*\*\*\*\*

LAKE            OUT M..100  
Pond Routing Summary ..... 5.01

Table of Contents (continued)

LOWERPOND	OUT M..100	
	Pond Routing Summary .....	5.02
UPPERPOND	IN M..100	
	Node: Pond Inflow Summary .....	5.03
UPPERPOND	OUT M..100	
	Pond Routing Summary .....	5.07

MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID SEDGWICK.RNQ Sedgwick24

Return Event	Total Depth in	Rainfall Type	RNF File	RNF ID
M..100	7.9000	Synthetic Curve	SCSTYPES	TypeII 24hr

MASTER NETWORK SUMMARY  
SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion;)  
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Storage Node ID	Return Type	Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond ac-ft
*13TH STREET	JCT	100	368.754		12.4500	2551.37		
EAST BASIN	AREA	100	142.843		12.3000	1134.79		
LAKE	IN POND	100	379.956		12.3500	2590.55		
LAKE	OUT POND	100	368.754		12.4500	2551.37	1335.18	43.406
LOWER BASIN	AREA	100	2.255		12.0500	31.62		
LOWERPOND	IN POND	100	20.542		12.1500	153.01		
LOWERPOND	OUT POND	100	20.462		12.9500	43.58	1340.66	6.679
UPPER BASIN	AREA	100	18.332		12.0500	257.07		
UPPERPOND	IN POND	100	18.332		12.0500	257.07		
UPPERPOND	OUT POND	100	18.287		12.2000	135.99	1342.82	7.325
WEST BASIN	AREA	100	216.651		12.4000	1465.93		

Type.... SCS Unit Hyd. Summary Page 2.01  
Name.... EAST BASIN Tag: M..100 Event: 100 yr  
File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW  
Storm... TypeII 24hr Tag: M..100

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.9000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\  
HYG File - ID = BARRETT.HYG - EAST BASIN M..100  
Tc = .7250 hrs  
Drainage Area = 310.000 acres Runoff CN= 80

=====  
Computational Time Increment = .09667 hrs  
Computed Peak Time = 12.2767 hrs  
Computed Peak Flow = 1140.44 cfs

Time Increment for HYG File = .0500 hrs  
Peak Time, Interpolated Output = 12.3000 hrs  
Peak Flow, Interpolated Output = 1134.79 cfs  
=====

DRAINAGE AREA

-----  
ID:None Selected  
CN = 80  
Area = 310.000 acres  
S = 2.5000 in  
0.25 = .5000 in

Cumulative Runoff

-----  
5.5313 in  
142.892 ac-ft

HYG Volume... 142.843 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .72500 hrs (ID: None Selected)  
Computational Incr, Tm = .09667 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp)))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 484.47 cfs  
Unit peak time Tp = .48333 hrs  
Unit receding limb, Tr = 1.93333 hrs  
Total unit time, Tb = 2.41667 hrs

Type.... SCS Unit Hyd. Summary Page 2.02  
Name.... LOWER BASIN Tag: M..100 Event: 100 yr  
File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW  
Storm... TypeII 24hr Tag: M..100

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.9000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\  
HYG File - ID = BARRETT.HYG - LOWER BASIN M..100  
Tc = .2500 hrs  
Drainage Area = 4.600 acres Runoff CN= 83

=====  
Computational Time Increment = .03333 hrs  
Computed Peak Time = 12.0333 hrs  
Computed Peak Flow = 32.03 cfs

Time Increment for HYG File = .0500 hrs  
Peak Time, Interpolated Output = 12.0500 hrs  
Peak Flow, Interpolated Output = 31.62 cfs  
=====

DRAINAGE AREA

-----  
ID:None Selected  
CN = 83  
Area = 4.600 acres  
S = 2.0482 in  
0.2S = .4096 in

Cumulative Runoff

-----  
5.8820 in  
2.255 ac-ft

HYG Volume... 2.255 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .25000 hrs (ID: None Selected)  
Computational Incr, Tm = .03333 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp)))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 20.85 cfs  
Unit peak time Tp = .16667 hrs  
Unit receding limb, Tr = .66667 hrs  
Total unit time, Tb = .83333 hrs

Type.... SCS Unit Hyd. Summary Page 2.03  
Name.... UPPER BASIN Tag: M..100 Event: 100 yr  
File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW  
Storm... TypeII 24hr Tag: M..100

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.9000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\  
HYG File - ID = BARRETT.HYG - UPPER BASIN M..100  
Tc = .2500 hrs  
Drainage Area = 37.400 acres Runoff CN= 83

=====  
Computational Time Increment = .03333 hrs  
Computed Peak Time = 12.0333 hrs  
Computed Peak Flow = 260.42 cfs

Time Increment for HYG File = .0500 hrs  
Peak Time, Interpolated Output = 12.0500 hrs  
Peak Flow, Interpolated Output = 257.07 cfs  
=====

DRAINAGE AREA

-----  
ID:None Selected  
CN = 83  
Area = 37.400 acres  
S = 2.0482 in  
0.2S = .4096 in

Cumulative Runoff

-----  
5.8820 in  
18.332 ac-ft

HYG Volume... 18.332 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .25000 hrs (ID: None Selected)  
Computational Incr, Tm = .03333 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp)))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 169.50 cfs  
Unit peak time Tp = .16667 hrs  
Unit receding limb, Tr = .66667 hrs  
Total unit time, Tb = .83333 hrs

Type.... SCS Unit Hyd. Summary Page 2.04  
Name.... WEST BASIN Tag: M..100 Event: 100 yr  
File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW  
Storm... TypeII 24hr Tag: M..100

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm  
Duration = 24.0000 hrs Rain Depth = 7.9000 in  
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\  
Rain File -ID = SCSTYPES.RNF - TypeII 24hr  
Unit Hyd Type = Default Curvilinear  
HYG Dir = F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\  
HYG File - ID = BARRETT.HYG - WEST BASIN M..100  
Tc = .9100 hrs  
Drainage Area = 470.000 acres Runoff CN= 80

=====  
Computational Time Increment = .12133 hrs  
Computed Peak Time = 12.3760 hrs  
Computed Peak Flow = 1470.83 cfs

Time Increment for HYG File = .0500 hrs  
Peak Time, Interpolated Output = 12.4000 hrs  
Peak Flow, Interpolated Output = 1465.93 cfs  
=====

DRAINAGE AREA

-----  
ID:None Selected  
CN = 80  
Area = 470.000 acres  
S = 2.5000 in  
0.2S = .5000 in

Cumulative Runoff

-----  
5.5313 in  
216.643 ac-ft

HYG Volume... 216.651 ac-ft (area under HYG curve)

\*\*\*\*\* UNIT HYDROGRAPH PARAMETERS \*\*\*\*\*

Time Concentration, Tc = .91000 hrs (ID: None Selected)  
Computational Incr, Tm = .12133 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)  
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp)))  
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 585.20 cfs  
Unit peak time Tp = .60667 hrs  
Unit receding limb, Tr = 2.42667 hrs  
Total unit time, Tb = 3.03333 hrs

Type.... Node: Addition Summary

Page 3.01

Name.... 13TH STREET

Event: 100 yr

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW

Storm... TypeII 24hr Tag: M..100

SUMMARY FOR HYDROGRAPH ADDITION  
at Node: 13TH STREET

HYG Directory: F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID      HYG tag
-----
OUTLET3           LAKE             IN  BARRETT.HYG  OUTLET3      M..100
=====

```

INFLOWS TO: 13TH STREET

```

-----
HYG file      HYG ID      HYG tag      Volume      Peak Time      Peak Flow
ac-ft        hrs          cfs
-----
BARRETT.HYG  OUTLET3      M..100      368.754     12.4500       2551.37

```

TOTAL FLOW INTO: 13TH STREET

```

-----
HYG file      HYG ID      HYG tag      Volume      Peak Time      Peak Flow
ac-ft        hrs          cfs
-----
BARRETT.HYG  13TH STREET  M..100      368.754     12.4500       2551.37

```

Type.... Node: Addition Summary  
 Name.... 13TH STREET  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW  
 Storm... TypeII 24hr Tag: M..100

Page 3.02  
 Event: 100 yr

TOTAL NODE INFLOW...  
 HYG file = F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\BARRETT.HYG  
 HYG ID = 13TH STREET  
 HYG Tag = M..100

-----  
 Peak Discharge = 2551.37 cfs  
 Time to Peak = 12.4500 hrs  
 HYG Volume = 368.754 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .0500 hrs  
 Time on left represents time for first value in each row.

Time hrs					
9.9500	.00	2.07	7.13	12.00	16.71
10.2000	21.28	25.73	30.06	34.31	38.49
10.4500	42.61	46.62	50.57	54.52	58.47
10.7000	62.44	66.44	70.49	74.59	78.77
10.9500	83.03	87.39	91.78	96.30	100.97
11.2000	105.82	110.86	116.12	121.65	127.45
11.4500	133.57	140.01	146.96	154.62	163.24
11.7000	173.44	185.84	201.63	222.61	249.91
11.9500	312.60	536.31	932.87	1338.30	1700.42
12.2000	2002.23	2238.74	2396.41	2497.10	2551.20
12.4500	2551.37	2506.97	2422.52	2305.03	2151.89
12.7000	1994.75	1839.72	1690.88	1549.22	1425.08
12.9500	1322.74	1221.44	1127.81	1042.75	966.26
13.2000	897.95	836.08	788.05	745.55	703.55
13.4500	664.03	627.10	593.24	562.05	533.64
13.7000	507.78	484.17	462.72	443.00	424.89
13.9500	408.15	392.62	378.24	364.78	360.15
14.2000	355.98	351.10	345.70	339.92	333.89
14.4500	327.70	321.43	315.15	308.89	302.70
14.7000	296.61	290.66	284.85	279.23	273.82
14.9500	268.63	263.66	261.20	258.97	256.71
15.2000	254.41	252.09	249.75	247.39	245.02
15.4500	242.65	240.26	237.87	235.48	233.09
15.7000	230.70	228.31	225.92	223.54	221.17
15.9500	218.79	216.39	213.99	211.61	209.24
16.2000	206.88	204.53	202.20	199.88	197.59
16.4500	195.32	193.08	190.87	188.70	186.57
16.7000	184.47	182.42	180.42	178.45	176.54
16.9500	174.65	172.80	170.99	169.23	167.51
17.2000	165.83	164.20	162.61	161.06	159.55
17.4500	158.07	156.63	155.22	153.84	152.50
17.7000	151.18	149.89	148.63	147.40	146.18
17.9500	145.00	143.83	142.68	141.56	140.45

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .0500 hrs

Time on left represents time for first value in each row.

Time hrs	Time on left represents time for first value in each row.				
18.2000	139.36	138.29	137.23	136.19	135.16
18.4500	134.15	133.15	132.16	131.18	130.20
18.7000	129.23	128.27	127.32	126.38	125.45
18.9500	124.53	123.62	122.71	121.82	120.93
19.2000	120.04	119.16	118.29	117.43	116.57
19.4500	115.71	114.86	114.02	113.18	112.34
19.7000	111.51	110.68	109.86	109.04	108.22
19.9500	107.40	106.59	105.78	104.97	104.17
20.2000	103.37	102.57	101.78	101.00	100.22
20.4500	99.45	98.70	97.95	97.22	96.51
20.7000	95.81	95.13	94.46	93.82	93.19
20.9500	92.59	92.00	91.43	90.87	90.34
21.2000	89.82	89.32	88.84	88.37	87.92
21.4500	87.47	87.04	86.62	86.21	85.82
21.7000	85.44	85.07	84.71	84.36	84.02
21.9500	83.69	83.37	83.06	82.75	82.46
22.2000	82.17	81.89	81.61	81.34	81.08
22.4500	80.82	80.57	80.32	80.08	79.84
22.7000	79.60	79.37	79.15	78.92	78.70
22.9500	78.49	78.27	78.06	77.85	77.65
23.2000	77.44	77.24	77.04	76.84	76.65
23.4500	76.45	76.26	76.07	75.88	75.69
23.7000	75.50	75.32	75.14	74.95	74.77
23.9500	74.59	74.40	74.20	73.97	73.70
24.2000	73.35	72.90	72.32	71.57	70.64
24.4500	69.53	68.22	66.73	65.07	63.28
24.7000	61.36	59.36	57.29	55.18	53.05
24.9500	50.93	48.83	46.77	44.74	42.75
25.2000	40.79	38.90	37.08	35.33	33.66
25.4500	32.05	30.52	29.06	27.67	26.34
25.7000	25.08	23.88	22.75	21.67	20.65
25.9500	19.68	18.77	17.90	17.09	16.31
26.2000	15.58	14.89	14.24	13.62	13.04
26.4500	12.49	11.98	11.49	11.02	10.59
26.7000	10.18	9.79	9.42	9.08	8.75
26.9500	8.44	8.15	7.88	7.62	7.37
27.2000	7.14	6.92	6.71	6.52	6.33
27.4500	6.16	5.99	5.83	5.68	5.54
27.7000	5.40	5.28	5.15	5.04	4.93
27.9500	4.82	4.72	4.63	4.54	4.45
28.2000	4.37	4.29	4.21	4.14	4.07
28.4500	4.00	3.94	3.87	3.82	3.76
28.7000	3.70	3.65	3.60	3.55	3.50
28.9500	3.46	3.41	3.37	3.33	3.28
29.2000	3.24	3.21	3.17	3.13	3.10
29.4500	3.06	3.03	3.00	2.96	2.93
29.7000	2.90	2.88	2.85	2.82	2.79

HYDROGRAPH ORDINATES (cfs)  
Output Time increment = .0500 hrs  
Time on left represents time for first value in each row.

Time hrs					
29.9500	2.77	2.74	2.72	2.70	2.67
30.2000	2.65	2.63	2.61	2.58	2.56
30.4500	2.54	2.52	2.50	2.48	2.46
30.7000	2.44	2.43	2.41	2.39	2.37
30.9500	2.35	2.34	2.32	2.30	2.29
31.2000	2.27	2.25	2.24	2.22	2.21
31.4500	2.19	2.17	2.16	2.14	2.13
31.7000	2.11	2.10	2.09	2.07	2.06
31.9500	2.04	2.03	2.02	2.00	1.99
32.2000	1.98	1.96	1.95	1.94	1.92
32.4500	1.91	1.90	1.88	1.87	1.86
32.7000	1.85	1.84	1.82	1.81	1.80
32.9500	1.79	1.78	1.76	1.75	1.74
33.2000	1.73	1.72	1.71	1.70	1.69
33.4500	1.67	1.66	1.65	1.64	1.63
33.7000	1.62	1.61	1.60	1.59	1.58
33.9500	1.57	1.56	1.55	1.54	1.53
34.2000	1.52	1.51	1.50	1.49	1.48
34.4500	1.47	1.46	1.45	1.44	1.44
34.7000	1.43	1.42	1.41	1.40	1.39
34.9500	1.38	1.37	1.36	1.36	1.35
35.2000	1.34	1.33	1.32	1.31	1.30
35.4500	1.30	1.29	1.28	1.27	1.26
35.7000	1.26	1.25	1.24	1.23	1.23
35.9500	1.22	1.21	1.21	1.20	1.19
36.2000	1.19	1.18	1.18	1.17	1.16
36.4500	1.16	1.15	1.15	1.14	1.14
36.7000	1.13	1.13	1.12	1.12	1.11
36.9500	1.11	1.10	1.10	1.09	1.09
37.2000	1.08	1.08	1.07	1.07	1.06
37.4500	1.06	1.05	1.05	1.04	1.04
37.7000	1.04	1.03	1.03	1.02	1.02
37.9500	1.01	1.01	1.00	1.00	1.00
38.2000	.99	.99	.98	.98	.97
38.4500	.97	.97	.96	.96	.95
38.7000	.95	.95	.94	.94	.93
38.9500	.93	.93	.92	.92	.91
39.2000	.91	.91	.90	.90	.89
39.4500	.89	.89	.88	.88	.87
39.7000	.87	.87	.86	.86	.86
39.9500	.85	.85	.84	.84	.84
40.2000	.83	.83	.83	.82	.82
40.4500	.81	.81	.81	.80	.80
40.7000	.80	.79	.79	.79	.78
40.9500	.78	.78	.77	.77	.76
41.2000	.76	.76	.75	.75	.75
41.4500	.74	.74	.74	.73	.73

Type.... Node: Addition Summary  
 Name.... 13TH STREET  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW  
 Storm... TypeII 24hr Tag: M..100

Page 3.05  
 Event: 100 yr

HYDROGRAPH ORDINATES (cfs)  
 Output Time increment = .0500 hrs  
 Time on left represents time for first value in each row.

Time hrs					
41.7000	.73	.72	.72	.72	.71
41.9500	.71	.71	.70	.70	.70
42.2000	.69	.69	.69	.68	.68
42.4500	.68	.67	.67	.67	.67
42.7000	.66	.66	.66	.65	.65
42.9500	.65	.64	.64	.64	.64
43.2000	.63	.63	.63	.62	.62
43.4500	.62	.61	.61	.61	.61
43.7000	.60	.60	.60	.60	.59
43.9500	.59	.59	.58	.58	.58
44.2000	.58	.57	.57	.57	.57
44.4500	.56	.56	.56	.56	.55
44.7000	.55	.55	.55	.54	.54
44.9500	.54	.54	.54	.53	.53
45.2000	.53	.53	.52	.52	.52
45.4500	.52	.52	.51	.51	.51
45.7000	.51	.50	.50	.50	.50
45.9500	.50	.49	.49	.49	.49
46.2000	.49	.48	.48	.48	.48
46.4500	.48	.47	.47	.47	.47
46.7000	.47	.46	.46	.46	.46
46.9500	.46	.46	.45	.45	.45
47.2000	.45	.45	.44	.44	.44
47.4500	.44	.44	.44	.43	.43
47.7000	.43	.43	.43	.43	.42
47.9500	.42	.42	.42	.42	.42
48.2000	.42	.41	.41	.41	.41
48.4500	.41	.41	.40	.40	.40
48.7000	.40	.40	.40	.40	.39
48.9500	.39	.39	.39	.39	.39
49.2000	.39	.38	.38	.38	.38
49.4500	.38	.38	.38	.37	.37
49.7000	.37	.37	.37	.37	.37
49.9500	.37	.36	.36	.36	.36
50.2000	.36	.36	.36	.36	.35
50.4500	.35	.35	.35	.35	.35
50.7000	.35	.35	.35	.34	.34
50.9500	.34	.34	.34	.34	.34
51.2000	.34	.33	.33	.33	.33
51.4500	.33	.33	.33	.33	.33
51.7000	.33	.32	.32	.32	.32
51.9500	.32	.32	.32	.32	.32
52.2000	.31	.31	.31	.31	.31
52.4500	.31	.31	.31	.31	.31
52.7000	.31	.30	.30	.30	.30
52.9500	.30	.30	.30	.30	.30
53.2000	.30	.30	.30	.30	.29

Type.... Node: Addition Summary  
 Name.... 13TH STREET  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW  
 Storm... TypeII 24hr Tag: M..100

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .0500 hrs

Time on left represents time for first value in each row.

Time hrs					
53.4500	.29	.29	.29	.29	.29
53.7000	.29	.29	.29	.29	.29
53.9500	.29	.29	.29	.29	.29
54.2000	.29	.29	.29	.29	.29
54.4500	.29	.28	.28	.28	.28
54.7000	.28	.28	.28	.28	.28
54.9500	.28	.28	.28	.28	.28
55.2000	.28	.28	.28	.28	.28
55.4500	.28	.28	.28	.28	.28
55.7000	.28	.28	.28	.28	.28
55.9500	.28	.27	.27	.27	.27
56.2000	.27	.27	.27	.27	.27
56.4500	.27	.27	.27	.27	.27
56.7000	.27	.27	.27	.27	.27
56.9500	.27	.27	.27	.27	.27
57.2000	.27	.27	.27	.27	.27
57.4500	.27	.27	.26	.26	.26
57.7000	.26	.26	.26	.26	.26
57.9500	.26	.26	.26	.26	.26
58.2000	.26	.26	.26	.26	.26
58.4500	.26	.26	.26	.26	.26
58.7000	.26	.26	.26	.26	.26
58.9500	.26	.26	.26	.26	.25
59.2000	.25	.25	.25	.25	.25
59.4500	.25	.25	.25	.25	.25
59.7000	.25	.25	.25	.25	.25
59.9500	.25	.25	.25	.25	.25
60.2000	.25	.25	.25	.25	.25
60.4500	.25	.25	.25	.25	.25
60.7000	.25	.24	.24	.24	.24
60.9500	.24	.24	.24	.24	.24
61.2000	.24	.24	.24	.24	.24
61.4500	.24	.24	.24	.24	.24
61.7000	.24	.24	.24	.24	.24
61.9500	.24	.24	.24	.24	.24
62.2000	.24	.24	.24	.23	.23
62.4500	.23	.23	.23	.23	.23
62.7000	.23	.23	.23	.23	.23
62.9500	.23	.23	.23	.23	.23
63.2000	.23	.23	.23	.23	.23
63.4500	.23	.23	.23	.23	.23
63.7000	.23	.23	.23	.23	.23
63.9500	.22	.22	.22	.22	.22
64.2000	.22	.22	.22	.22	.22
64.4500	.22	.22	.22	.22	.22
64.7000	.22	.22	.22	.22	.22
64.9500	.22	.22	.22	.22	.22

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .0500 hrs

Time on left represents time for first value in each row.

Time hrs					
65.2000	.22	.22	.22	.22	.22
65.4500	.22	.22	.22	.21	.21
65.7000	.21	.21	.21	.21	.21
65.9500	.21	.21	.21	.21	.21
66.2000	.21	.21	.21	.21	.21
66.4500	.21	.21	.21	.21	.21
66.7000	.21	.21	.21	.21	.21
66.9500	.21	.21	.21	.21	.21
67.2000	.21	.21	.20	.20	.20
67.4500	.20	.20	.20	.20	.20
67.7000	.20	.20	.20	.20	.20
67.9500	.20	.20	.20	.20	.20
68.2000	.20	.20	.20	.20	.20
68.4500	.20	.20	.20	.20	.20
68.7000	.20	.20	.20	.20	.20
68.9500	.20	.20	.19	.19	.19
69.2000	.19	.19	.19	.19	.19
69.4500	.19	.19	.19	.19	.19
69.7000	.19	.19	.19	.19	.19
69.9500	.19	.19	.19	.19	.19
70.2000	.19	.19	.19	.19	.19
70.4500	.19	.19	.19	.19	.19
70.7000	.19	.19	.19	.18	.18
70.9500	.18	.18	.18	.18	.18
71.2000	.18	.18	.18	.18	.18
71.4500	.18	.18	.18	.18	.18
71.7000	.18	.18	.18	.18	.18
71.9500	.18	.18	.18	.18	.18
72.2000	.18	.18	.18	.18	.18
72.4500	.18	.18	.18	.18	.17
72.7000	.17	.17	.17	.17	.17
72.9500	.17	.17	.17	.17	.17
73.2000	.17	.17	.17	.17	.17
73.4500	.17	.17	.17	.17	.17
73.7000	.17	.17	.17	.17	.17
73.9500	.17	.17	.17	.17	.17
74.2000	.17	.17	.17	.17	.17
74.4500	.17	.17	.17	.16	.16
74.7000	.16	.16	.16	.16	.16
74.9500	.16	.16	.16	.16	.16
75.2000	.16	.16	.16	.16	.16
75.4500	.16	.16	.16	.16	.16
75.7000	.16	.16	.16	.16	.16
75.9500	.16	.16	.16	.16	.16
76.2000	.16	.16	.16	.16	.16
76.4500	.16	.16	.16	.15	.15
76.7000	.15	.15	.15	.15	.15

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .0500 hrs

Time on left represents time for first value in each row.

Time hrs	HYDROGRAPH ORDINATES (cfs)				
	Output Time increment = .0500 hrs				
	Time on left represents time for first value in each row.				
76.9500	.15	.15	.15	.15	.15
77.2000	.15	.15	.15	.15	.15
77.4500	.15	.15	.15	.15	.15
77.7000	.15	.15	.15	.15	.15
77.9500	.15	.15	.15	.15	.15
78.2000	.15	.15	.15	.15	.15
78.4500	.15	.15	.15	.15	.14
78.7000	.14	.14	.14	.14	.14
78.9500	.14	.14	.14	.14	.14
79.2000	.14	.14	.14	.14	.14
79.4500	.14	.14	.14	.14	.14
79.7000	.14	.14	.14	.14	.14
79.9500	.14	.14	.14	.14	.14
80.2000	.14	.14	.14	.14	.14
80.4500	.14	.14	.14	.14	.14
80.7000	.14	.14	.14	.14	.13
80.9500	.13	.13	.13	.13	.13
81.2000	.13	.13	.13	.13	.13
81.4500	.13	.13	.13	.13	.13
81.7000	.13	.13	.13	.13	.13
81.9500	.13	.13	.13	.13	.13
82.2000	.13	.13	.13	.13	.13
82.4500	.13	.13	.13	.13	.13
82.7000	.13	.13	.13	.13	.13
82.9500	.13	.13	.13	.13	.13
83.2000	.12	.12	.12	.12	.12
83.4500	.12	.12	.12	.12	.12
83.7000	.12	.12	.12	.12	.12
83.9500	.12	.12	.12	.12	.12
84.2000	.12	.12	.12	.12	.12
84.4500	.12	.12	.12	.12	.12
84.7000	.12	.12	.12	.12	.12
84.9500	.12	.12	.12	.12	.12
85.2000	.12	.12	.12	.12	.12
85.4500	.12	.12	.12	.12	.12
85.7000	.11	.11	.11	.11	.11
85.9500	.11	.11	.11	.11	.11
86.2000	.11	.11	.11	.11	.11
86.4500	.11	.11	.11	.11	.11
86.7000	.11	.11	.11	.11	.11
86.9500	.11	.11	.11	.11	.11
87.2000	.11	.11	.11	.11	.11
87.4500	.11	.11	.11	.11	.11
87.7000	.11	.11	.11	.11	.11
87.9500	.11	.11	.11	.11	.11
88.2000	.11	.11	.11	.11	.10
88.4500	.10	.10	.10	.10	.10

HYDROGRAPH ORDINATES (cfs)  
Output Time increment = .0500 hrs  
Time on left represents time for first value in each row.

Time hrs					
100.4500	.07	.07	.07	.07	.07
100.7000	.07	.07	.07	.07	.07
100.9500	.07	.07	.07	.07	.07
101.2000	.07	.07	.07	.07	.07
101.4500	.07	.07	.07	.07	.07
101.7000	.07	.07	.07	.07	.07
101.9500	.07	.06	.06	.06	.06
102.2000	.06	.06	.06	.06	.06
102.4500	.06	.06	.06	.06	.06
102.7000	.06	.06	.06	.06	.06
102.9500	.06	.06	.06	.06	.06
103.2000	.06	.06	.06	.06	.06
103.4500	.06	.06	.06	.06	.06
103.7000	.06	.06	.06	.06	.06
103.9500	.06	.06	.06	.06	.06
104.2000	.06	.06	.06	.06	.06
104.4500	.06	.05	.05	.05	.04
104.7000	.04	.04	.04	.03	.03
104.9500	.03	.03			

Type.... Outlet Input Data  
Name.... OUTFALL1A

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 1340.00 ft  
Increment = .25 ft  
Max. Elev.= 1345.00 ft

\*\*\*\*\*  
OUTLET CONNECTIVITY  
\*\*\*\*\*

---> Forward Flow Only (UpStream to DnStream)  
<--- Reverse Flow Only (DnStream to UpStream)  
<---> Forward and Reverse Both Allowed

Structure	No.	Outfall	E1, ft	E2, ft
Culvert-Circular	CV	---> TW	1340.000	1345.000
Weir-Rectangular	WR	---> TW	1341.500	1345.000
TW SETUP, DS Channel				

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW

OUTLET STRUCTURE INPUT DATA

Structure ID = CV  
Structure Type = Culvert-Circular  
-----  
No. Barrels = 1  
Barrel Diameter = 3.0000 ft  
Upstream Invert = 1340.00 ft  
Dnstream Invert = 1337.00 ft  
Horiz. Length = 60.00 ft  
Barrel Length = 60.07 ft  
Barrel Slope = .05000 ft/ft

OUTLET CONTROL DATA...

Mannings n = .0130  
Ke = .5000 (forward entrance loss)  
Kb = .007228 (per ft of full flow)  
Kr = .5000 (reverse entrance loss)  
HW Convergence = .001 +/- ft

INLET CONTROL DATA...

Equation form = 1  
Inlet Control K = .0098  
Inlet Control M = 2.0000  
Inlet Control c = .03980  
Inlet Control Y = .6700  
T1 ratio (HW/D) = 1.135  
T2 ratio (HW/D) = 1.282  
Slope Factor = -.500

Use unsubmerged inlet control Form 1 equ. below T1 elev.  
Use submerged inlet control Form 1 equ. above T2 elev.

In transition zone between unsubmerged and submerged inlet control,  
interpolate between flows at T1 & T2...

At T1 Elev = 1343.41 ft ---> Flow = 42.85 cfs  
At T2 Elev = 1343.85 ft ---> Flow = 48.97 cfs

Type.... Outlet Input Data  
Name.... OUTFALL1A

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW

OUTLET STRUCTURE INPUT DATA

Structure ID = WR  
Structure Type = Weir-Rectangular

-----  
# of Openings = 1  
Crest Elev. = 1341.50 ft  
Weir Length = 25.00 ft  
Weir Coeff. = 2.860000

Weir TW effects (Use adjustment equation)

Structure ID = TW  
Structure Type = TW SETUP, DS Channel

-----  
FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...  
Maximum Iterations= 30  
Min. TW tolerance = .01 ft  
Max. TW tolerance = .01 ft  
Min. HW tolerance = .01 ft  
Max. HW tolerance = .01 ft  
Min. Q tolerance = .10 cfs  
Max. Q tolerance = .10 cfs

Type.... Composite Rating Curve  
 Name.... OUTFALL1A

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW

\*\*\*\*\* COMPOSITE OUTFLOW SUMMARY \*\*\*\*\*

WS Elev, Total Q		Converge		Notes
Elev. ft	Q cfs	TW Elev ft	Error +/-ft	Contributing Structures
1340.00	.00	Free Outfall		None contributing
1340.25	.29	Free Outfall		CV
1340.50	1.14	Free Outfall		CV
1340.75	2.52	Free Outfall		CV
1341.00	4.38	Free Outfall		CV
1341.25	6.70	Free Outfall		CV
1341.50	9.42	Free Outfall		CV +WR
1341.75	21.46	Free Outfall		CV +WR
1342.00	41.14	Free Outfall		CV +WR
1342.25	65.85	Free Outfall		CV +WR
1342.50	94.56	Free Outfall		CV +WR
1342.75	126.69	Free Outfall		CV +WR
1343.00	161.83	Free Outfall		CV +WR
1343.25	199.63	Free Outfall		CV +WR
1343.50	239.84	Free Outfall		CV +WR
1343.75	282.19	Free Outfall		CV +WR
1344.00	326.58	Free Outfall		CV +WR
1344.25	372.79	Free Outfall		CV +WR
1344.50	419.35	Free Outfall		CV +WR
1344.75	467.47	Free Outfall		CV +WR
1345.00	517.10	Free Outfall		CV +WR

Type.... Composite Rating Curve  
Name.... OUTFALL2B

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW

\*\*\*\*\* COMPOSITE OUTFLOW SUMMARY \*\*\*\*\*

WS Elev, Total Q		Converge		Notes
Elev. ft	Q cfs	TW ft	Elev Error +/-ft	Contributing Structures
1337.00	.00	Free	Outfall	None contributing
1337.25	.29	Free	Outfall	CV
1337.50	1.14	Free	Outfall	CV
1337.75	2.53	Free	Outfall	CV
1338.00	4.39	Free	Outfall	CV
1338.25	6.71	Free	Outfall	CV
1338.50	9.45	Free	Outfall	CV
1338.75	12.55	Free	Outfall	CV
1339.00	15.96	Free	Outfall	CV
1339.25	19.68	Free	Outfall	CV
1339.50	23.62	Free	Outfall	CV
1339.75	27.77	Free	Outfall	CV
1340.00	32.05	Free	Outfall	CV
1340.25	36.42	Free	Outfall	CV
1340.50	40.82	Free	Outfall	CV
1340.75	45.25	Free	Outfall	CV
1341.00	49.60	Free	Outfall	CV

Type.... Outlet Input Data  
Name.... OUTLET3\_USER

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 1328.00 ft  
Increment = .50 ft  
Max. Elev.= 1336.00 ft

\*\*\*\*\*

OUTLET CONNECTIVITY

\*\*\*\*\*

----> Forward Flow Only (UpStream to DnStream)  
<--- Reverse Flow Only (DnStream to UpStream)  
<---> Forward and Reverse Both Allowed

Structure	No.	Outfall	E1, ft	E2, ft
User Defined Table	OT	----> TW	.000	1336.000
TW SETUP, DS Channel				

Type.... Outlet Input Data  
Name.... OUTLET3\_USER

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW

OUTLET STRUCTURE INPUT DATA

Structure ID = OT  
Structure Type = User Defined Table

-----  
ELEV-FLOW RATING TABLE

Elev, ft	Flow, cfs
1328.00	.00
1328.50	.00
1330.00	.00
1333.42	300.00
1333.80	600.00
1334.08	900.00
1334.31	1200.00
1334.53	1500.00
1334.72	1800.00
1334.89	2100.00
1335.06	2400.00
1335.11	2500.00
1335.35	3000.00
1336.00	3000.00

Structure ID = TW  
Structure Type = TW SETUP, DS Channel

-----  
FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...  
Maximum Iterations= 30  
Min. TW tolerance = .01 ft  
Max. TW tolerance = .01 ft  
Min. HW tolerance = .01 ft  
Max. HW tolerance = .01 ft  
Min. Q tolerance = .10 cfs  
Max. Q tolerance = .10 cfs

Type.... Composite Rating Curve  
Name.... OUTLET3\_USER

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW

\*\*\*\*\* COMPOSITE OUTFLOW SUMMARY \*\*\*\*\*

WS Elev, Total Q		Converge		Notes
Elev. ft	Q cfs	TW ft	Elev Error +/-ft	Contributing Structures
1328.00	.00	Free	Outfall	OT
1328.50	.00	Free	Outfall	OT
1329.00	.00	Free	Outfall	OT
1329.50	.00	Free	Outfall	OT
1330.00	.00	Free	Outfall	OT
1330.50	43.86	Free	Outfall	OT
1331.00	87.72	Free	Outfall	OT
1331.50	131.58	Free	Outfall	OT
1332.00	175.44	Free	Outfall	OT
1332.50	219.30	Free	Outfall	OT
1333.00	263.15	Free	Outfall	OT
1333.50	363.12	Free	Outfall	OT
1334.00	814.30	Free	Outfall	OT
1334.50	1459.05	Free	Outfall	OT
1335.00	2294.04	Free	Outfall	OT
1335.50	3000.00	Free	Outfall	OT
1336.00	3000.00	Free	Outfall	OT

Type.... Pond Routing Summary Page 5.01  
 Name.... LAKE OUT Tag: M..100 Event: 100 yr  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW  
 Storm... TypeII 24hr Tag: M..100

LEVEL POOL ROUTING SUMMARY

HYG Dir = F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\  
 Inflow HYG file = BARRETT.HYG - LAKE IN M..100  
 Outflow HYG file = BARRETT.HYG - LAKE OUT M..100

Pond Node Data = LAKE  
 Pond Volume Data = LAKE  
 Pond Outlet Data = OUTLET3\_USER

No Infiltration

INITIAL CONDITIONS

-----  
 Starting WS Elev = 1328.00 ft  
 Starting Volume = .000 ac-ft  
 Starting Outflow = .00 cfs  
 Starting Infiltr. = .00 cfs  
 Starting Total Qout = .00 cfs  
 Time Increment = .0500 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
 Peak Inflow = 2590.55 cfs at 12.3500 hrs  
 Peak Outflow = 2551.37 cfs at 12.4500 hrs  
 -----  
 Peak Elevation = 1335.18 ft  
 Peak Storage = 43.406 ac-ft  
 =====

MASS BALANCE (ac-ft)

-----  
 + Initial Vol = .000  
 + HYG Vol IN = 379.956  
 - Infiltration = .000  
 - HYG Vol OUT = 368.754  
 - Retained Vol = 11.202  
 -----  
 Unrouted Vol = .000 ac-ft (.000% of Inflow Volume)

Type.... Pond Routing Summary Page 5.02  
Name.... LOWERPOND OUT Tag: M..100 Event: 100 yr  
File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW  
Storm... TypeII 24hr Tag: M..100

LEVEL POOL ROUTING SUMMARY

HYG Dir = F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\  
Inflow HYG file = BARRETT.HYG - LOWERPOND IN M..100  
Outflow HYG file = BARRETT.HYG - LOWERPOND OUT M..100

Pond Node Data = LOWERPOND  
Pond Volume Data = LOWERPOND  
Pond Outlet Data = OUTFALL2B

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 1337.00 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .0500 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 153.01 cfs at 12.1500 hrs  
Peak Outflow = 43.58 cfs at 12.9500 hrs  
-----  
Peak Elevation = 1340.66 ft  
Peak Storage = 6.679 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol IN = 20.542  
- Infiltration = .000  
- HYG Vol OUT = 20.462  
- Retained Vol = .080  
-----  
Unrouted Vol = -.001 ac-ft (.003% of Inflow Volume)

Type.... Node: Pond Inflow Summary  
 Name.... UPPERPOND IN  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW  
 Storm... TypeII 24hr Tag: M..100

Page 5.03  
 Event: 100 yr

SUMMARY FOR HYDROGRAPH ADDITION  
 at Node: UPPERPOND IN

HYG Directory: F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\

```

=====
Upstream Link ID  Upstream Node ID  HYG file      HYG ID        HYG tag
-----
LINK1              UPPER BASIN      BARRETT.HYG   UPPER BASIN   M..100
=====
  
```

INFLOWS TO: UPPERPOND IN

```

-----
HYG file      HYG ID        HYG tag      Volume      Peak Time     Peak Flow
ac-ft         hrs           cfs
-----
BARRETT.HYG  UPPER BASIN   M..100       18.332      12.0500      257.07
  
```

TOTAL FLOW INTO: UPPERPOND IN

```

-----
HYG file      HYG ID        HYG tag      Volume      Peak Time     Peak Flow
ac-ft         hrs           cfs
-----
BARRETT.HYG  UPPERPOND    IN  M..100       18.332      12.0500      257.07
  
```

Type.... Node: Pond Inflow Summary  
 Name.... UPPERPOND IN  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW  
 Storm... TypeII 24hr Tag: M..100

Page 5.04  
 Event: 100 yr

TOTAL NODE INFLOW...  
 HYG file = F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\BARRETT.HYG  
 HYG ID = UPPERPOND IN  
 HYG Tag = M..100

-----  
 Peak Discharge = 257.07 cfs  
 Time to Peak = 12.0500 hrs  
 HYG Volume = 18.332 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)  
 Output Time increment = .0500 hrs  
 Time on left represents time for first value in each row.

Time hrs					
4.3000	.00	.00	.01	.02	.03
4.5500	.05	.07	.09	.12	.14
4.8000	.17	.19	.22	.25	.28
5.0500	.30	.33	.36	.39	.41
5.3000	.44	.47	.50	.53	.56
5.5500	.59	.62	.65	.68	.71
5.8000	.74	.78	.81	.84	.87
6.0500	.90	.94	.97	1.00	1.03
6.3000	1.07	1.10	1.13	1.17	1.20
6.5500	1.24	1.27	1.30	1.34	1.37
6.8000	1.41	1.44	1.48	1.51	1.55
7.0500	1.59	1.62	1.66	1.69	1.73
7.3000	1.77	1.80	1.84	1.88	1.91
7.5500	1.95	1.99	2.03	2.06	2.10
7.8000	2.14	2.18	2.22	2.25	2.29
8.0500	2.33	2.38	2.43	2.49	2.56
8.3000	2.63	2.72	2.80	2.89	2.98
8.5500	3.07	3.17	3.27	3.36	3.47
8.8000	3.57	3.67	3.78	3.88	3.99
9.0500	4.10	4.20	4.29	4.37	4.44
9.3000	4.50	4.55	4.60	4.65	4.69
9.5500	4.74	4.80	4.88	4.98	5.10
9.8000	5.24	5.39	5.56	5.72	5.90
10.0500	6.08	6.26	6.47	6.68	6.92
10.3000	7.16	7.42	7.68	7.95	8.22
10.5500	8.50	8.80	9.13	9.49	9.89
10.8000	10.30	10.75	11.20	11.66	12.13
11.0500	12.64	13.20	13.86	14.63	15.53
11.3000	16.50	17.55	18.64	19.78	20.94
11.5500	23.08	27.33	35.96	49.12	68.71
11.8000	93.03	126.38	169.95	218.37	253.03
12.0500	257.07	232.09	184.43	137.86	102.74
12.3000	79.40	64.69	54.06	46.54	40.62

Type.... Node: Pond Inflow Summary  
 Name.... UPPERPOND IN  
 File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW  
 Storm... TypeII 24hr Tag: M..100

Page 5.05  
 Event: 100 yr

HYDROGRAPH ORDINATES (cfs)  
 Output Time increment = .0500 hrs  
 Time on left represents time for first value in each row.

Time hrs					
12.5500	35.91	32.00	28.86	26.42	24.65
12.8000	23.31	22.30	21.40	20.58	19.81
13.0500	19.07	18.38	17.75	17.19	16.69
13.3000	16.23	15.81	15.40	15.00	14.61
13.5500	14.22	13.85	13.50	13.16	12.85
13.8000	12.55	12.26	11.98	11.70	11.42
14.0500	11.15	10.90	10.67	10.48	10.32
14.3000	10.19	10.07	9.96	9.85	9.75
14.5500	9.65	9.56	9.46	9.36	9.27
14.8000	9.17	9.07	8.98	8.88	8.79
15.0500	8.69	8.59	8.50	8.40	8.30
15.3000	8.21	8.11	8.02	7.92	7.82
15.5500	7.72	7.63	7.53	7.43	7.34
15.8000	7.24	7.14	7.04	6.95	6.85
16.0500	6.75	6.66	6.58	6.52	6.46
16.3000	6.41	6.37	6.33	6.29	6.26
16.5500	6.22	6.19	6.15	6.12	6.08
16.8000	6.05	6.01	5.98	5.95	5.91
17.0500	5.88	5.84	5.81	5.77	5.74
17.3000	5.70	5.67	5.63	5.60	5.56
17.5500	5.53	5.50	5.46	5.43	5.39
17.8000	5.36	5.32	5.29	5.25	5.22
18.0500	5.18	5.15	5.11	5.08	5.04
18.3000	5.01	4.97	4.94	4.90	4.87
18.5500	4.83	4.80	4.76	4.73	4.69
18.8000	4.66	4.62	4.59	4.56	4.52
19.0500	4.48	4.45	4.42	4.38	4.34
19.3000	4.31	4.28	4.24	4.20	4.17
19.5500	4.13	4.10	4.06	4.03	3.99
19.8000	3.96	3.92	3.89	3.85	3.82
20.0500	3.78	3.75	3.73	3.70	3.69
20.3000	3.67	3.66	3.66	3.65	3.64
20.5500	3.63	3.63	3.62	3.61	3.60
20.8000	3.60	3.59	3.58	3.58	3.57
21.0500	3.56	3.55	3.55	3.54	3.53
21.3000	3.53	3.52	3.51	3.51	3.50
21.5500	3.49	3.49	3.48	3.47	3.47
21.8000	3.46	3.45	3.44	3.44	3.43
22.0500	3.42	3.42	3.41	3.40	3.40
22.3000	3.39	3.38	3.38	3.37	3.36
22.5500	3.36	3.35	3.34	3.33	3.33
22.8000	3.32	3.31	3.31	3.30	3.29
23.0500	3.29	3.28	3.27	3.27	3.26
23.3000	3.25	3.24	3.24	3.23	3.22
23.5500	3.22	3.21	3.20	3.19	3.19
23.8000	3.18	3.17	3.17	3.16	3.15
24.0500	3.03	2.64	1.96	1.29	.79

Type.... Node: Pond Inflow Summary

Page 5.06

Name.... UPPERPOND IN

Event: 100 yr

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW

Storm... TypeII 24hr Tag: M..100

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .0500 hrs  
Time on left represents time for first value in each row.

Time hrs					
24.3000	.48	.29	.18	.11	.06
24.5500	.04	.02	.01	.01	.00
24.8000	.00				

Type.... Pond Routing Summary

Page 5.07

Name.... UPPERPOND OUT Tag: M..100

Event: 100 yr

File.... F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\FULL\_SYS2.PPW

Storm... TypeII 24hr Tag: M..100

LEVEL POOL ROUTING SUMMARY

HYG Dir = F:\HYDRO\PROJECTS\STONEBRIDGE\PONDPACK\  
Inflow HYG file = BARRETT.HYG - UPPERPOND IN M..100  
Outflow HYG file = BARRETT.HYG - UPPERPOND OUT M..100

Pond Node Data = UPPERPOND  
Pond Volume Data = UPPERPOND  
Pond Outlet Data = OUTFALL1A

No Infiltration

INITIAL CONDITIONS

-----  
Starting WS Elev = 1340.00 ft  
Starting Volume = .000 ac-ft  
Starting Outflow = .00 cfs  
Starting Infiltr. = .00 cfs  
Starting Total Qout = .00 cfs  
Time Increment = .0500 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

=====  
Peak Inflow = 257.07 cfs at 12.0500 hrs  
Peak Outflow = 135.99 cfs at 12.2000 hrs  
-----  
Peak Elevation = 1342.82 ft  
Peak Storage = 7.325 ac-ft  
=====

MASS BALANCE (ac-ft)

-----  
+ Initial Vol = .000  
+ HYG Vol IN = 18.332  
- Infiltration = .000  
- HYG Vol OUT = 18.287  
- Retained Vol = .044  
-----  
Unrouted Vol = -.001 ac-ft (.003% of Inflow Volume)

Index of Starting Page Numbers for ID Names

----- 1 -----

13TH STREET M..100... 3.01

----- E -----

EAST BASIN M..100... 2.01, 5.01

----- L -----

LOWER BASIN M..100... 2.02, 5.02

----- O -----

OUTFALL1A... 4.01, 4.04, 4.05

OUTLET3\_USER... 4.06, 4.08

----- U -----

UPPER BASIN M..100... 2.03

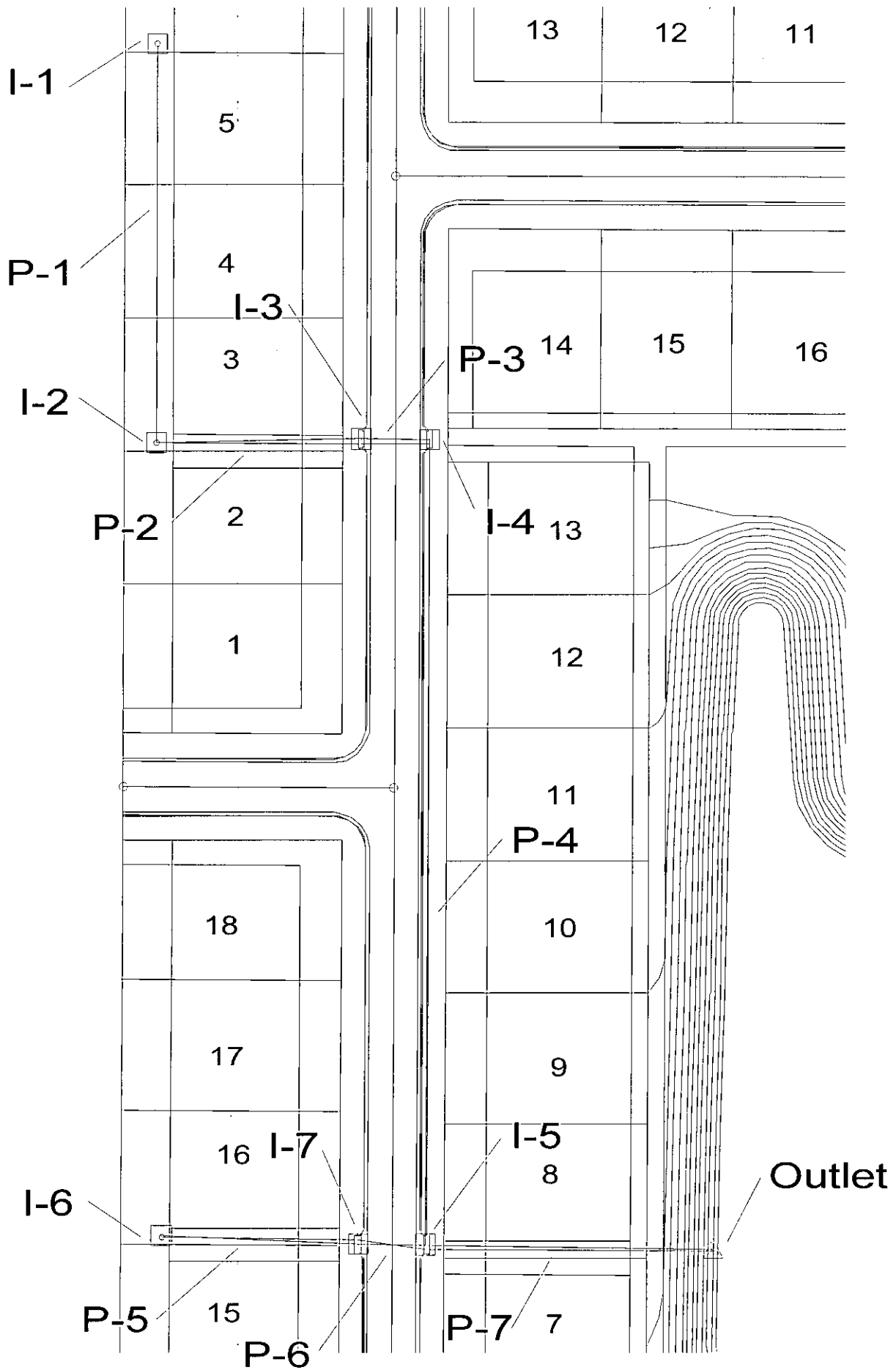
UPPERPOND IN M..100... 5.03,  
5.07

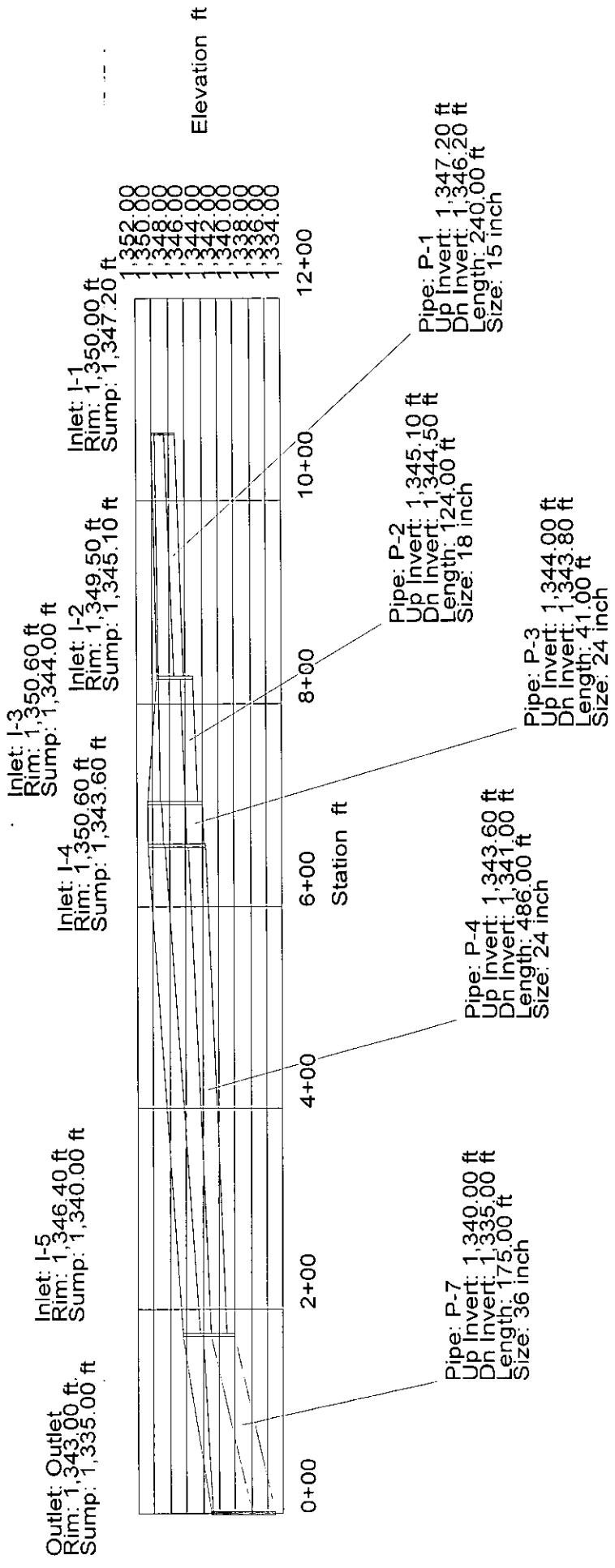
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Watershed... 1.01

WEST BASIN M..100... 2.04

StormCad





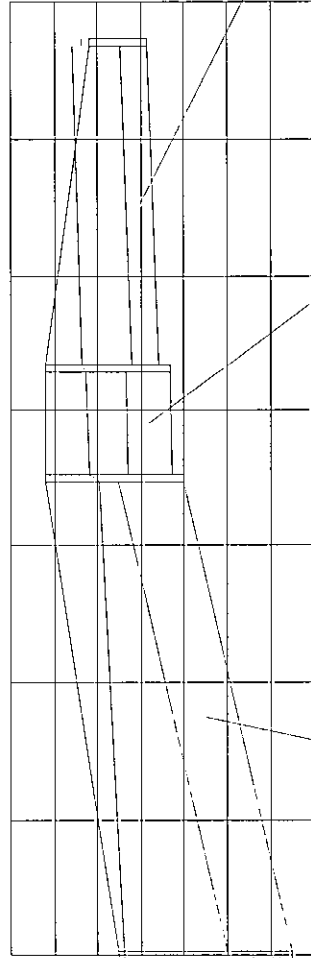
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 Rim: 1,346.40 ft  
 Sump: 1,340.00 ft

Inlet: I-6  
 Rim: 1,344.40 ft  
 Sump: 1,341.70 ft

Outlet: Outlet  
 Rim: 1,343.00 ft  
 Sump: 1,335.00 ft

Inlet: I-7  
 Rim: 1,346.40 ft  
 Sump: 1,340.70 ft  
 1,348.00  
 1,346.00  
 1,344.00  
 1,342.00  
 1,340.00  
 1,338.00  
 1,336.00

Elevation ft



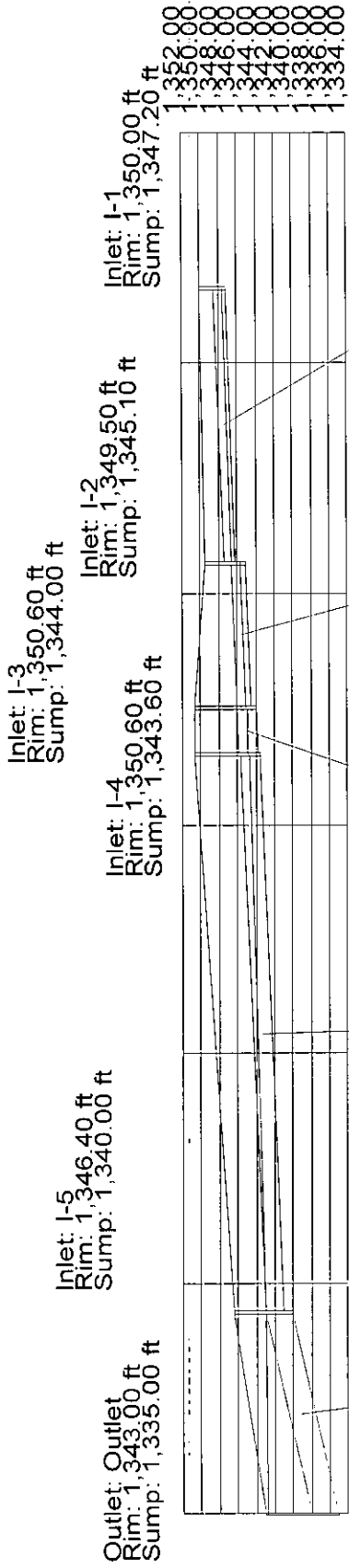
0+00+501+001+502+002+503+003+50

Station ft

Pipe: P-5  
 Up Invert: 1,341.70 ft  
 Dn Invert: 1,341.20 ft  
 Length: 119.00 ft  
 Size: 15 inch

Pipe: P-7  
 Up Invert: 1,340.00 ft  
 Dn Invert: 1,335.00 ft  
 Length: 175.00 ft  
 Size: 36 inch

Pipe: P-6  
 Up Invert: 1,340.70 ft  
 Dn Invert: 1,340.60 ft  
 Length: 41.00 ft  
 Size: 24 inch



Inlet: I-3  
Rim: 1,350.60 ft  
Sump: 1,344.00 ft

Inlet: I-5  
Rim: 1,346.40 ft  
Sump: 1,340.00 ft

Inlet: I-4  
Rim: 1,350.60 ft  
Sump: 1,343.60 ft

Inlet: I-2  
Rim: 1,349.50 ft  
Sump: 1,345.10 ft

Inlet: I-1  
Rim: 1,350.00 ft  
Sump: 1,347.20 ft

Pipe: P-1  
Up Invert: 1,347.20 ft  
Dn Invert: 1,346.20 ft  
Length: 240.00 ft  
Size: 15 inch

Pipe: P-2  
Up Invert: 1,345.10 ft  
Dn Invert: 1,344.50 ft  
Length: 124.00 ft  
Size: 18 inch

Pipe: P-3  
Up Invert: 1,344.00 ft  
Dn Invert: 1,343.80 ft  
Length: 41.00 ft  
Size: 24 inch

Pipe: P-4  
Up Invert: 1,343.60 ft  
Dn Invert: 1,341.00 ft  
Length: 486.00 ft  
Size: 24 inch

Pipe: P-7  
Up Invert: 1,340.00 ft  
Dn Invert: 1,335.00 ft  
Length: 175.00 ft  
Size: 36 inch

Elevation ft

12+00

10+00

8+00

6+00

4+00

2+00

0+00

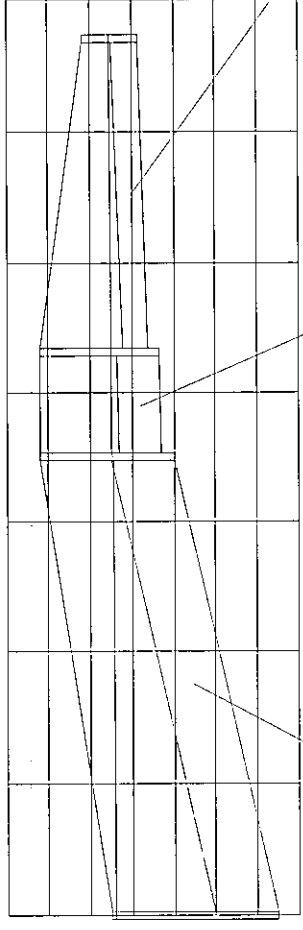
Station ft

Inlet: I-5  
 Rim: 1,346.40 ft  
 Sump: 1,340.00 ft

Inlet: I-6  
 Rim: 1,344.40 ft  
 Sump: 1,341.70 ft

Inlet: I-7  
 Rim: 1,346.40 ft  
 Sump: 1,340.70 ft

Outlet: Outlet  
 Rim: 1,343.00 ft  
 Sump: 1,335.00 ft



Elevation ft

0+00+50 01+50 02+00 02+50 03+00 03+50

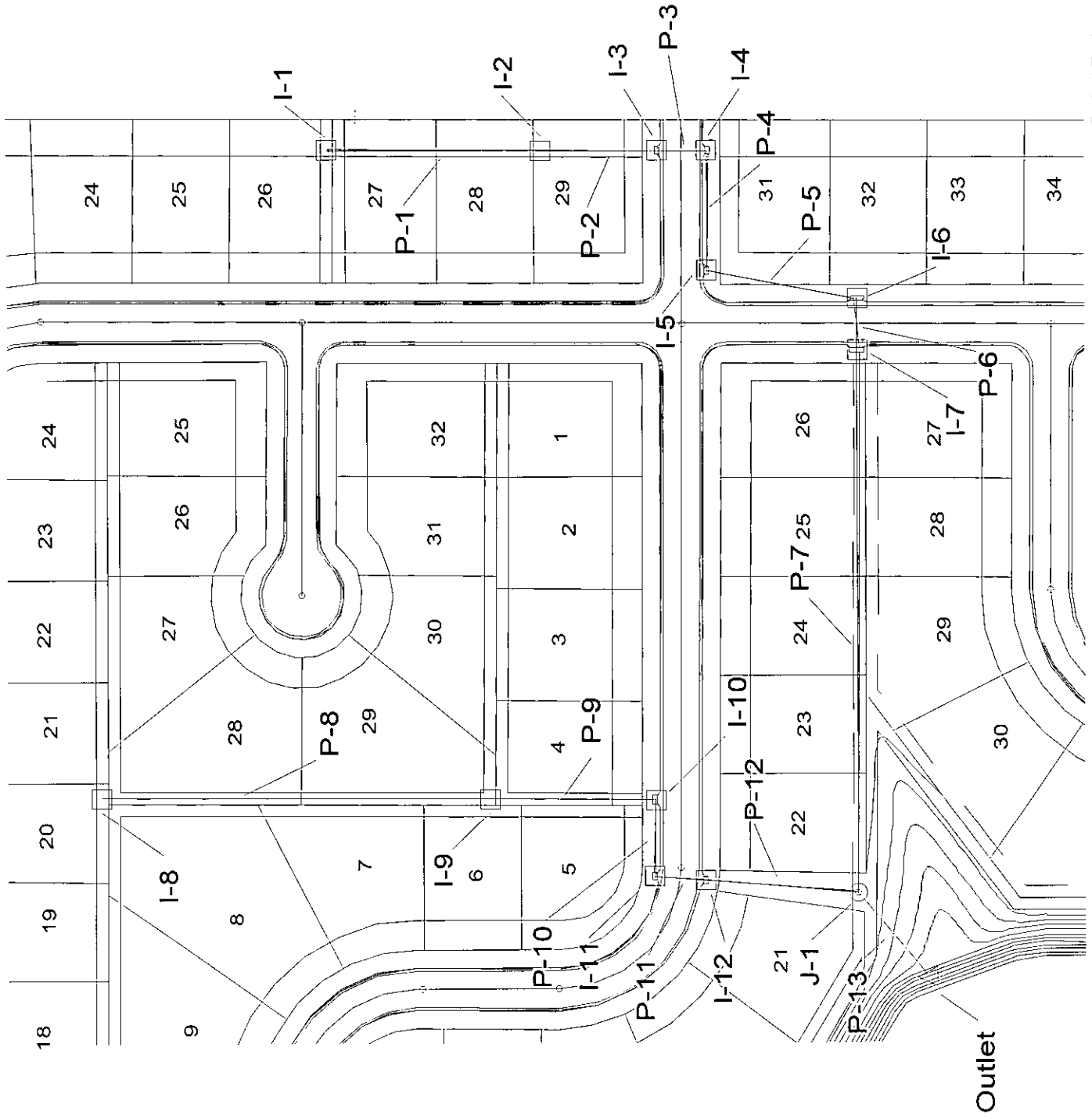
Station ft

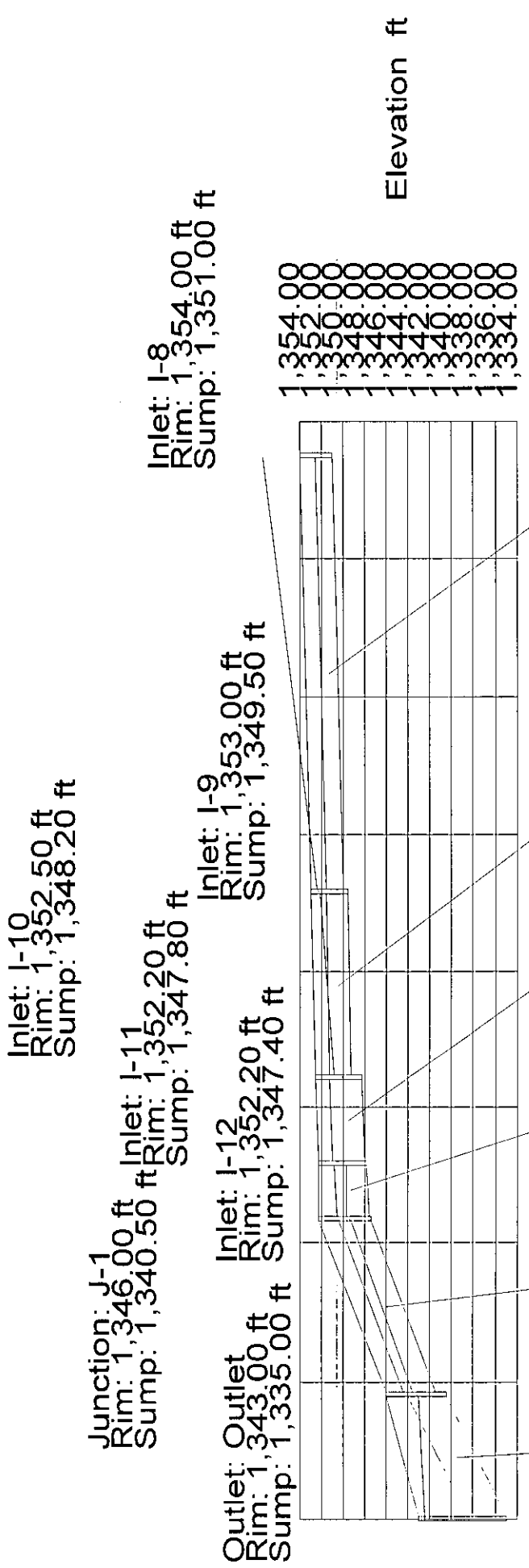
Pipe: P-5  
 Up Invert: 1,341.70 ft  
 Dn Invert: 1,341.20 ft  
 Length: 119.00 ft  
 Size: 15 inch

Pipe: P-6  
 Up Invert: 1,340.70 ft  
 Dn Invert: 1,340.60 ft  
 Length: 41.00 ft  
 Size: 24 inch

Pipe: P-7  
 Up Invert: 1,340.00 ft  
 Dn Invert: 1,335.00 ft  
 Length: 175.00 ft  
 Size: 36 inch

1,348.00  
 1,346.00  
 1,344.00  
 1,342.00  
 1,340.00  
 1,338.00  
 1,336.00





Inlet: I-3  
Rim: 1,349.40 ft  
Sump: 1,344.50 ft

Inlet: I-4  
Rim: 1,349.40 ft  
Sump: 1,343.80 ft

Inlet: I-6  
Rim: 1,351.40 ft  
Sump: 1,342.70 ft

Inlet: I-7  
Rim: 1,351.40 ft  
Sump: 1,342.30 ft

Junction: J-1  
Rim: 1,346.00 ft  
Sump: 1,340.50 ft

Outlet: Outlet  
Rim: 1,343.00 ft  
Sump: 1,335.00 ft

Inlet: I-1  
Rim: 1,349.00 ft  
Sump: 1,346.00 ft

Inlet: I-2  
Rim: 1,348.40 ft  
Sump: 1,344.90 ft

Inlet: I-5  
Rim: 1,352.80 ft  
Sump: 1,343.40 ft

1,354.00  
1,350.00  
1,348.00  
1,344.00  
1,342.00  
1,340.00  
1,338.00  
1,336.00  
1,334.00

Elevation ft

12+00

10+00

8+00

6+00

4+00

2+00

0+00

Station ft

Pipe: P-1  
Up Invert: 1,346.00 ft  
Dn Invert: 1,345.40 ft  
Length: 175.00 ft  
Size: 18 inch

Pipe: P-2  
Up Invert: 1,344.90 ft  
Dn Invert: 1,344.70 ft  
Length: 96.00 ft  
Size: 24 inch

Pipe: P-3  
Up Invert: 1,344.50 ft  
Dn Invert: 1,344.30 ft  
Length: 41.00 ft  
Size: 24 inch

Pipe: P-4  
Up Invert: 1,343.80 ft  
Dn Invert: 1,343.60 ft  
Length: 97.00 ft  
Size: 30 inch

Pipe: P-5  
Up Invert: 1,343.40 ft  
Dn Invert: 1,343.20 ft  
Length: 126.00 ft  
Size: 30 inch

Pipe: P-6  
Up Invert: 1,342.70 ft  
Dn Invert: 1,342.50 ft  
Length: 41.00 ft  
Size: 36 inch

Pipe: P-7  
Up Invert: 1,342.30 ft  
Dn Invert: 1,341.00 ft  
Length: 441.00 ft  
Size: 36 inch

Pipe: P-13  
Up Invert: 1,340.50 ft  
Dn Invert: 1,335.00 ft  
Length: 91.00 ft  
Size: 42 inch

Inlet: I-11  
 Rim: 1,352.20 ft  
 Sump: 1,347.80 ft

Junction: J-1  
 Rim: 1,346.00 ft  
 Sump: 1,340.50 ft

Inlet: I-10  
 Rim: 1,352.50 ft  
 Sump: 1,348.20 ft

Inlet: I-12  
 Rim: 1,352.20 ft  
 Sump: 1,347.40 ft

Outlet: Outlet  
 Rim: 1,343.00 ft  
 Sump: 1,335.00 ft

Inlet: I-9  
 Rim: 1,353.00 ft  
 Sump: 1,349.50 ft

Inlet: I-8  
 Rim: 1,354.00 ft  
 Sump: 1,351.00 ft

1,354.00  
 1,352.00  
 1,350.00  
 1,348.00  
 1,346.00  
 1,344.00  
 1,342.00  
 1,340.00  
 1,338.00  
 1,336.00  
 1,334.00

Elevation ft

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00

Station ft

Pipe: P-9  
 Up Invert: 1,349.50 ft  
 Dn Invert: 1,349.20 ft  
 Length: 136.00 ft  
 Size: 24 inch

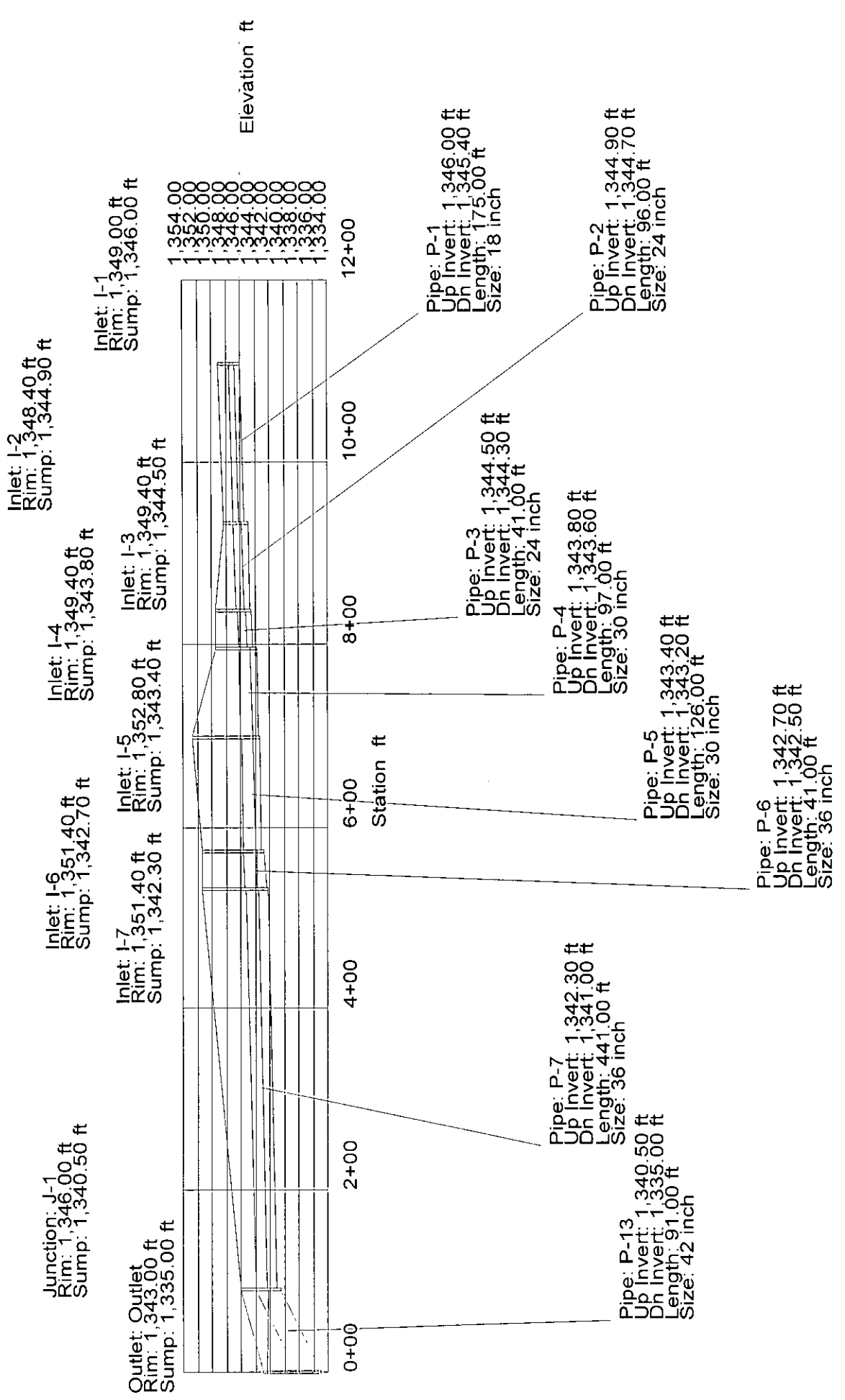
Pipe: P-10  
 Up Invert: 1,348.20 ft  
 Dn Invert: 1,348.00 ft  
 Length: 63.00 ft  
 Size: 36 inch

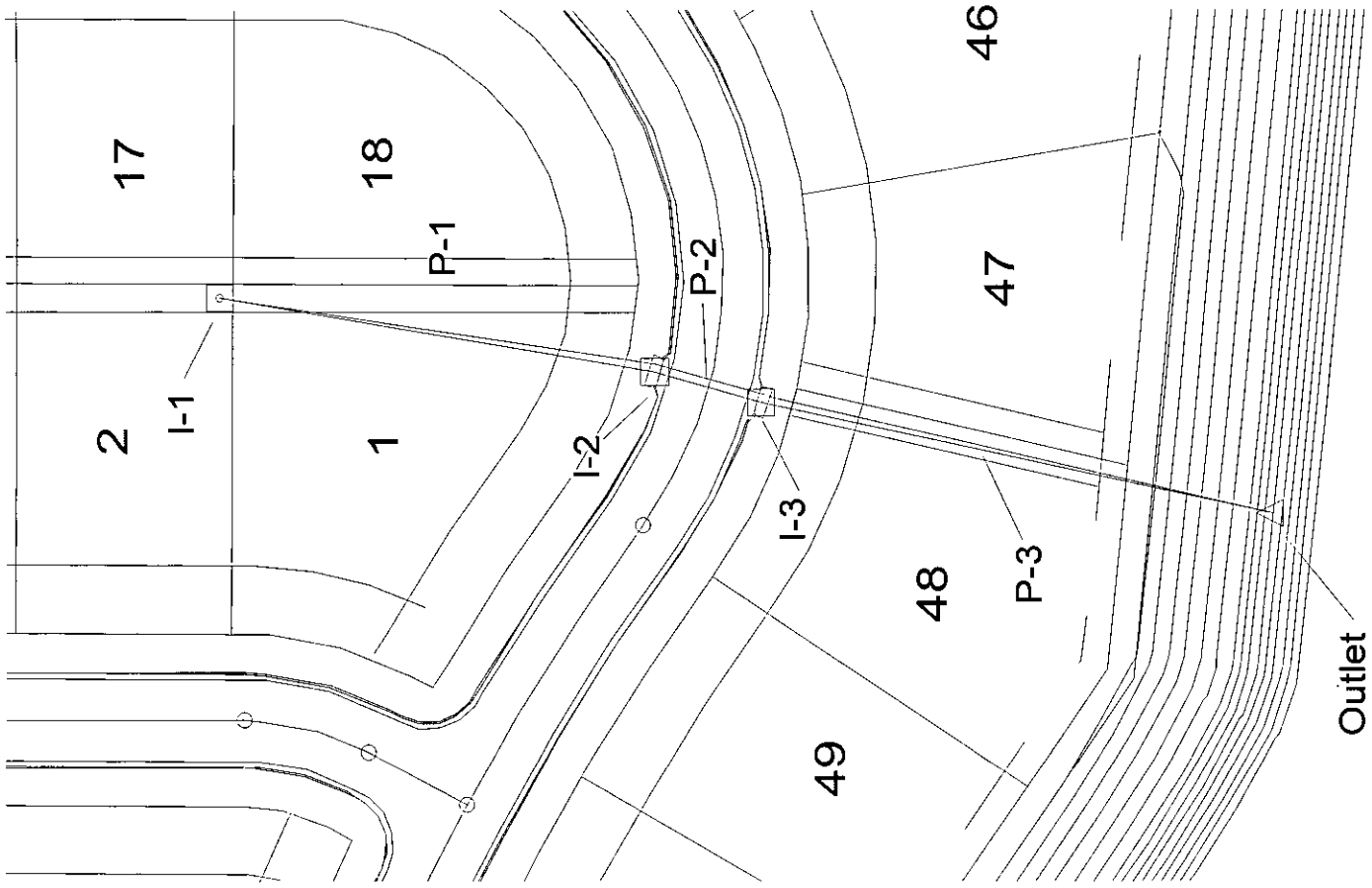
Pipe: P-8  
 Up Invert: 1,351.00 ft  
 Dn Invert: 1,350.00 ft  
 Length: 318.00 ft  
 Size: 18 inch

Pipe: P-12  
 Up Invert: 1,347.40 ft  
 Dn Invert: 1,341.50 ft  
 Length: 127.00 ft  
 Size: 36 inch

Pipe: P-11  
 Up Invert: 1,347.80 ft  
 Dn Invert: 1,347.60 ft  
 Length: 41.00 ft  
 Size: 36 inch

Pipe: P-13  
 Up Invert: 1,340.50 ft  
 Dn Invert: 1,335.00 ft  
 Length: 91.00 ft  
 Size: 42 inch





Inlet: I-2  
 Rim: 1,341.40 ft  
 Sump: 1,336.00 ft

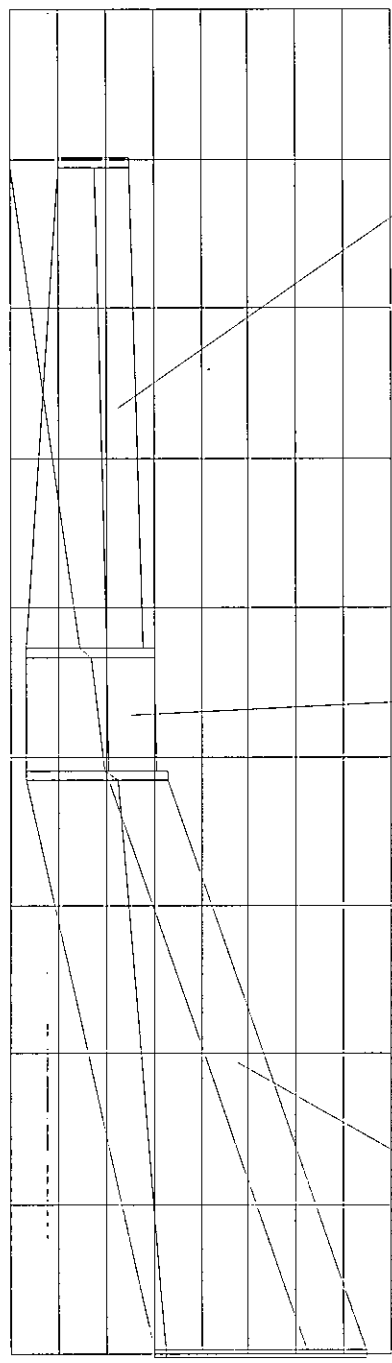
Inlet: I-1  
 Rim: 1,340.00 ft  
 Sump: 1,337.00 ft

Inlet: I-3  
 Rim: 1,341.40 ft  
 Sump: 1,335.40 ft

Outlet: Outlet  
 Rim: 1,336.00 ft  
 Sump: 1,327.00 ft

1,342.00  
 1,340.00  
 1,338.00  
 1,336.00  
 1,334.00  
 1,332.00  
 1,330.00  
 1,328.00  
 1,326.00

Elevation ft



0+00 0+50 1+00 1+50 2+00 2+50 3+00 3+50 4+00 4+50

Station ft

Pipe: P-1  
 Up Invert: 1,337.00 ft  
 Dn Invert: 1,336.50 ft  
 Length: 164.00 ft  
 Size: 18 inch

Pipe: P-2  
 Up Invert: 1,336.00 ft  
 Dn Invert: 1,335.90 ft  
 Length: 41.00 ft  
 Size: 24 inch

Pipe: P-3  
 Up Invert: 1,335.40 ft  
 Dn Invert: 1,327.00 ft  
 Length: 194.00 ft  
 Size: 30 inch

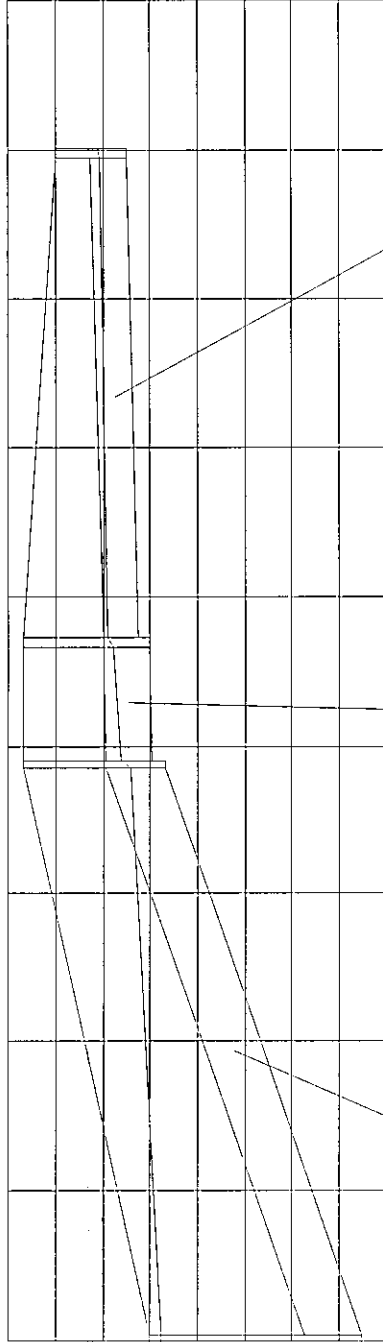
Inlet: I-2  
 Rim: 1,341.40 ft  
 Sump: 1,336.00 ft

Inlet: I-1  
 Rim: 1,340.00 ft  
 Sump: 1,337.00 ft

Inlet: I-3  
 Rim: 1,341.40 ft  
 Sump: 1,335.40 ft

Outlet: Outlet  
 Rim: 1,336.00 ft  
 Sump: 1,327.00 ft

1,342.00  
 1,340.00  
 1,338.00  
 1,336.00  
 1,334.00  
 1,332.00  
 1,330.00  
 1,328.00  
 1,326.00



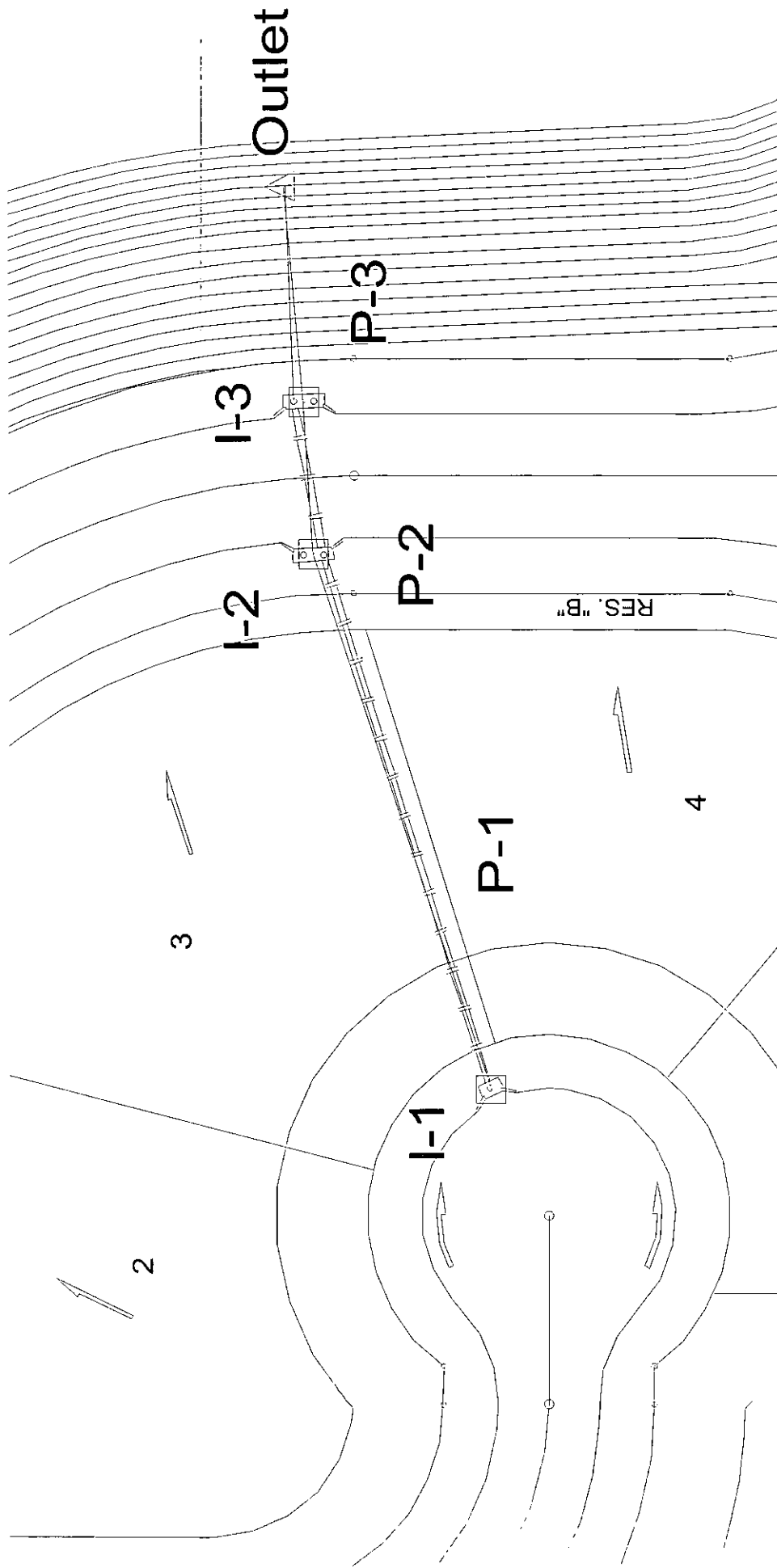
Elevation ft

Station ft

Pipe: P-1  
 Up Invert: 1,337.00 ft  
 Dn Invert: 1,336.50 ft  
 Length: 164.00 ft  
 Size: 18 inch

Pipe: P-2  
 Up Invert: 1,336.00 ft  
 Dn Invert: 1,335.90 ft  
 Length: 41.00 ft  
 Size: 24 inch

Pipe: P-3  
 Up Invert: 1,335.40 ft  
 Dn Invert: 1,327.00 ft  
 Length: 194.00 ft  
 Size: 30 inch



**Inlet: I-3**  
 Rim: 1,338.60 ft  
 Sump: 1,333.70 ft

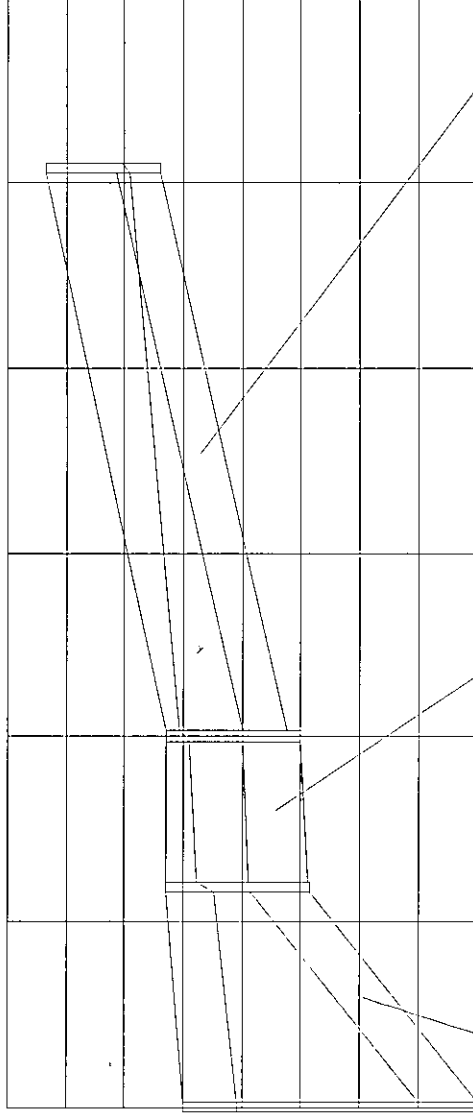
**Inlet: I-1**  
 Rim: 1,342.70 ft  
 Sump: 1,338.80 ft

**Inlet: I-2**  
 Rim: 1,338.60 ft  
 Sump: 1,334.00 ft

**Outlet: Outlet**  
 Rim: 1,338.00 ft  
 Sump: 1,328.00 ft

1,344.00  
 1,342.00  
 1,340.00  
 1,338.00  
 1,336.00  
 1,334.00  
 1,332.00  
 1,330.00  
 1,328.00

Elevation ft



0+00 0+50 1+00 1+50 2+00 2+50 3+00  
 Station ft

**Pipe: P-1**  
 Up Invert: 1,338.80 ft  
 Dn Invert: 1,334.50 ft  
 Length: 154.00 ft  
 Size: 18 inch

**Pipe: P-2**  
 Up Invert: 1,334.00 ft  
 Dn Invert: 1,333.80 ft  
 Length: 41.00 ft  
 Size: 24 inch

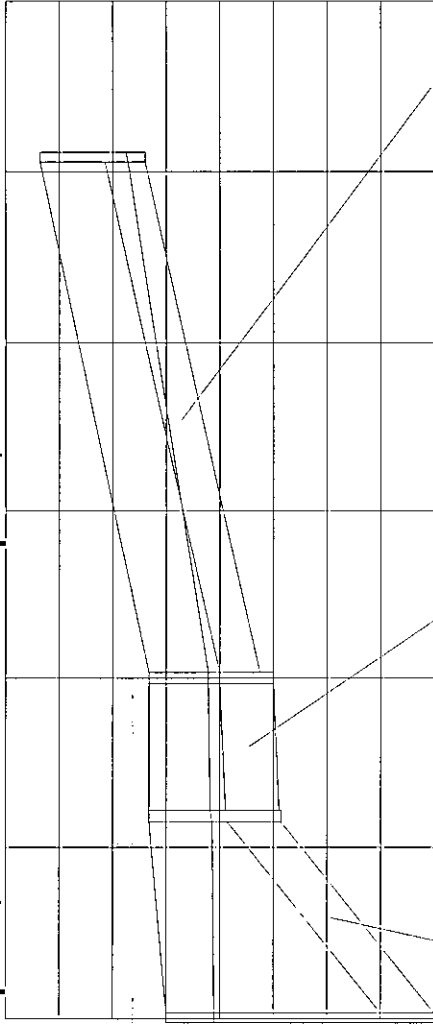
**Pipe: P-3**  
 Up Invert: 1,333.70 ft  
 Dn Invert: 1,328.00 ft  
 Length: 59.00 ft  
 Size: 24 inch

**Inlet: I-3**  
 Rim: 1,338.60 ft  
 Sump: 1,333.70 ft

**Outlet: Outlet**  
 Rim: 1,338.00 ft  
 Sump: 1,328.00 ft

**Inlet: I-1**  
 Rim: 1,342.70 ft  
 Sump: 1,338.80 ft

1,344.00  
 1,342.00  
 1,340.00  
 1,338.00  
 1,336.00  
 1,334.00  
 1,332.00  
 1,330.00  
 1,328.00



Elevation ft

0+00 0+50 1+00 1+50 2+00 2+50 3+00  
 Station ft

**Pipe: P-1**  
 Up Invert: 1,338.80 ft  
 Dn Invert: 1,334.50 ft  
 Length: 154.00 ft  
 Size: 18 inch

**Pipe: P-2**  
 Up Invert: 1,334.00 ft  
 Dn Invert: 1,333.80 ft  
 Length: 41.00 ft  
 Size: 24 inch

**Pipe: P-3**  
 Up Invert: 1,333.70 ft  
 Dn Invert: 1,328.00 ft  
 Length: 59.00 ft  
 Size: 24 inch

CLOSURE - STONEBRIDGE ADDITION

PT 1	North: 4652.0395	East : 9539.1011
Line	Course: N 89-54-11 W	Length: 1321.43
PT 2	North: 4654.2754	East : 8217.6730
Line	Course: N 00-14-12 E	Length: 2654.63
PT 3	North: 7308.8827	East : 8228.6382
Line	Course: N 89-59-01 E	Length: 1323.92
PT 4	North: 7309.2614	East : 9552.5582
Line	Course: S 00-17-25 W	Length: 2657.25
PT 1	North: 4652.0455	East : 9539.0958