DRAINAGE PLAN
AUBURN HILLS 15TH ADDITION
TO
WICHITA, SEDGWICK COUNTY, KANSAS

Baughman Company, P.A.

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AUBURN HILLS 15TH ADDITION
TO
WICHITA, SEDGWICK COUNTY, KANSAS

Prepared By

BAUGHMAN COMPANY, P.A.
ENGINEERING, SURVEYING & PLANNING
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October 29, 2003

INTRODUCTION

This report provides information and supporting documentation to support the "Drainage Plan" for the proposed "Auburn Hills 15th Addition" plat, located in the Southeast Quarter of Section 26, T-27-S, R-2-W in Sedgwick County, Kansas.

The "Drainage Plan" being submitted herein in 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.

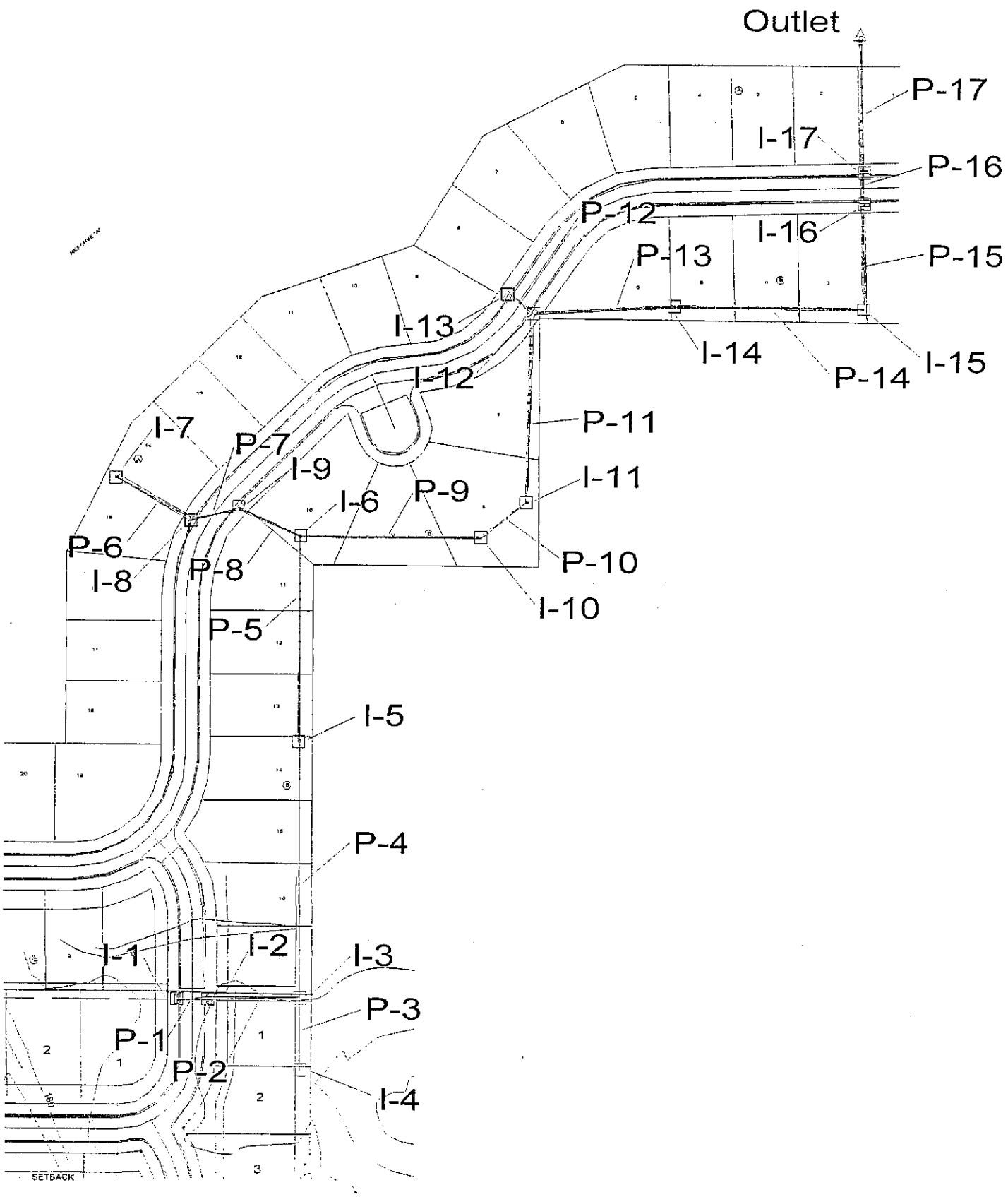
OFFSITE DRAINAGE FLOW

This proposed development has a significant upstream drainage basin that enters the property along the southern boundary. The basin includes drainage from Reece Farms Estates; Auburn Hills 5th Addition, and other properties. The drainage system was analyzed using Haestad Methods Pond Pack software. This allowed for the inclusion of the previously designed ponds that were constructed within other developments. The proposed Auburn Hills 15th Addition ponds do not have a significant impact on detention, however, as indicated within the computer model, this development will not increase the peak runoff rates.

STORMWATER SEWER SYSTEMS

The internal stormwater sewers for this development have been generally designed to convey the 2-yr rainfall event. Additionally, the 100-yr event, although not wholly conveyed by the underground stormwater sewers has been accommodated with the "Grading Plan", and redundant emergency outlets have been provided to protect the structures from surface drainage.

Stormwater Sewer System #1
StormCad Analysis



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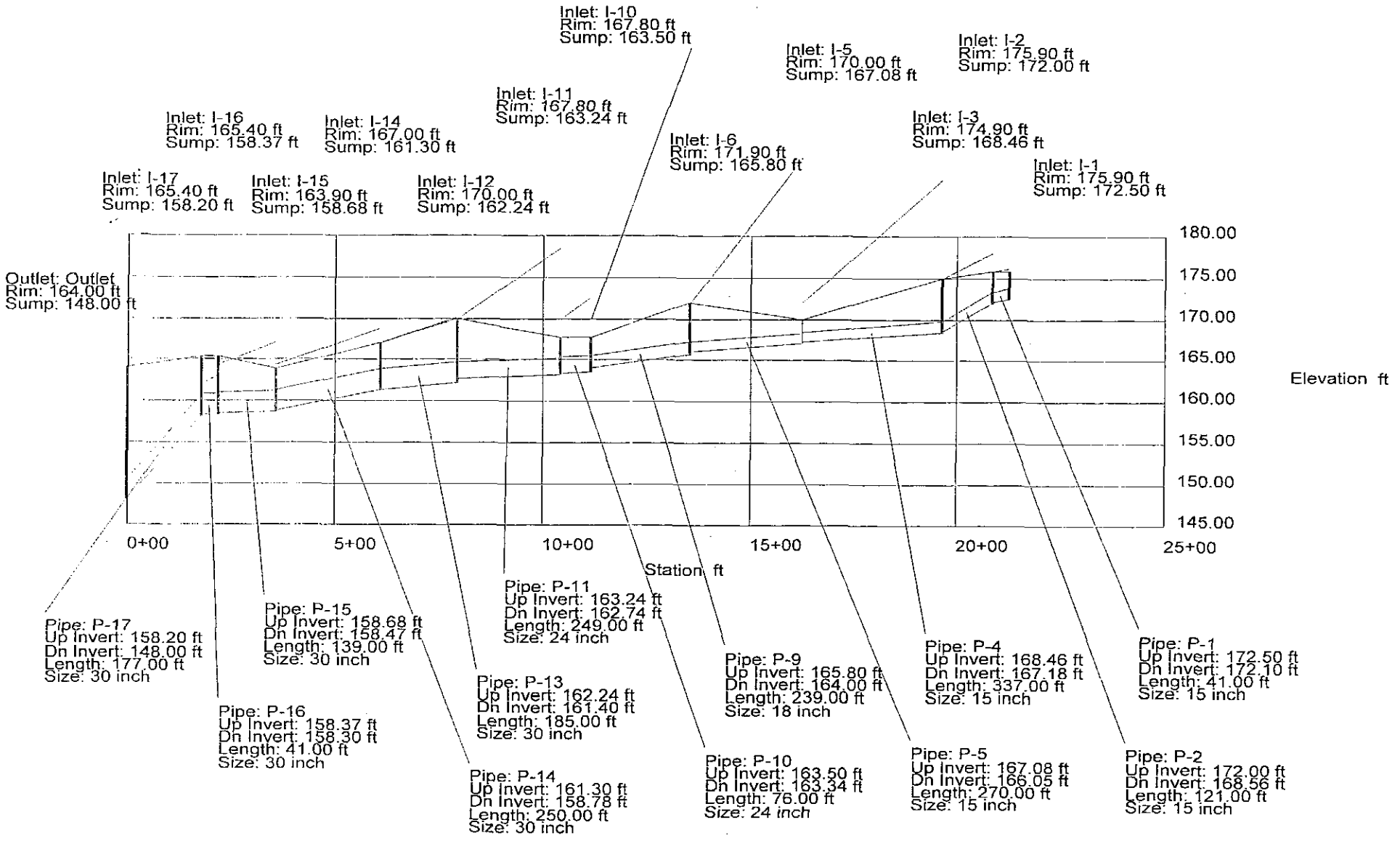
System Report

Pipe	Additional Flow (cfs)	Total Upstream Added (cfs)	Structure Discharge (cfs)	-Node- Upstream Downstream	-Section- Shape Size	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	-Ground- Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Slope- Energy Constructed (ft/ft)	-Section- Discharge Capacity (cfs)	Length (ft)	Average Velocity (ft/s)	Description
P-12	5.10	0.00	5.10	I-13	Circular	164.30	163.75	170.00	170.27	0.006234	5.10	43.00	4.16	
				I-12	15 inch			170.00	170.00	0.012791	7.31			
P-6	6.20	0.00	6.20	I-7	Circular	170.00	169.56	174.50	176.54	0.009213	6.20	113.00	5.05	
				I-8	15 inch			175.50	175.50	0.003894	4.03			
P-7	6.10	6.20	12.30	I-8	Circular	169.46	168.52	175.50	176.79	0.036259	12.30	66.00	10.02	
				I-9	15 inch			174.40	174.40	0.014242	7.71			
P-8	9.00	12.30	21.30	I-9	Circular	168.27	165.90	174.40	175.60	0.041122	21.30	90.00	12.05	
				I-6	18 inch			171.90	171.90	0.026333	17.05			
P-3	3.20	0.00	3.20	I-4	Circular	172.40	172.00	173.90	175.13	0.002454	3.20	95.00	2.61	
				I-3	15 inch			174.90	174.90	0.004211	4.19			
P-1	4.80	0.00	4.80	I-1	Circular	172.50	172.10	175.90	176.13	0.005522	4.80	41.00	3.91	
				I-2	15 inch			175.90	175.90	0.009756	6.38			
P-2	5.60	4.80	10.40	I-2	Circular	172.00	168.56	175.90	178.04	0.025922	10.40	121.00	8.47	
				I-3	15 inch			174.90	174.90	0.028430	10.89			
P-4	0.00	13.60	13.60	I-3	Circular	168.46	167.18	174.90	186.84	0.044329	13.60	337.00	11.08	
				I-5	15 inch			170.00	171.90	0.003798	3.98			
P-5	2.90	13.60	16.50	I-5	Circular	167.08	166.05	170.00	189.52	0.065250	16.50	270.00	13.45	
				I-6	15 inch			171.90	171.90	0.003815	3.99			
P-9	1.20	37.80	39.00	I-6	Circular	165.80	164.00	171.90	202.95	0.137860	39.00	239.00	22.07	
				I-10	18 inch			167.80	170.00	0.007531	9.12			
P-10	1.40	39.00	40.40	I-10	Circular	163.50	163.34	167.80	172.42	0.031896	40.40	76.00	12.86	
				I-11	24 inch			167.80	170.00	0.002105	10.38			
P-11	1.40	40.40	41.80	I-11	Circular	163.24	162.74	167.80	178.50	0.034145	41.80	249.00	13.31	
				I-12	24 inch			170.00	170.00	0.002008	10.14			
P-13	6.80	46.90	53.70	I-12	Circular	162.24	161.40	170.00	170.17	0.017142	53.70	185.00	10.94	
				I-14	30 inch			167.00	167.00	0.004541	27.64			
P-14	0.70	53.70	54.40	I-14	Circular	161.30	158.78	167.00	168.73	0.017592	54.40	250.00	11.08	
				I-15	30 inch			163.90	164.33	0.010080	41.18			
P-15	2.40	54.40	56.80	I-15	Circular	158.68	158.47	163.90	167.00	0.019178	56.80	139.00	11.57	
				I-16	30 inch			165.40	164.33	0.001511	15.94			
P-16	5.80	56.80	62.60	I-16	Circular	158.37	158.30	165.40	163.07	0.023295	62.60	41.00	12.75	
				I-17	30 inch			165.40	162.11	0.001707	16.95			
P-17	4.70	62.60	67.30	I-17	Circular	158.20	148.00	165.40	160.63	0.057627	67.30	177.00	13.82	
				Outlet	30 inch			164.00	150.43	0.057627	98.46			



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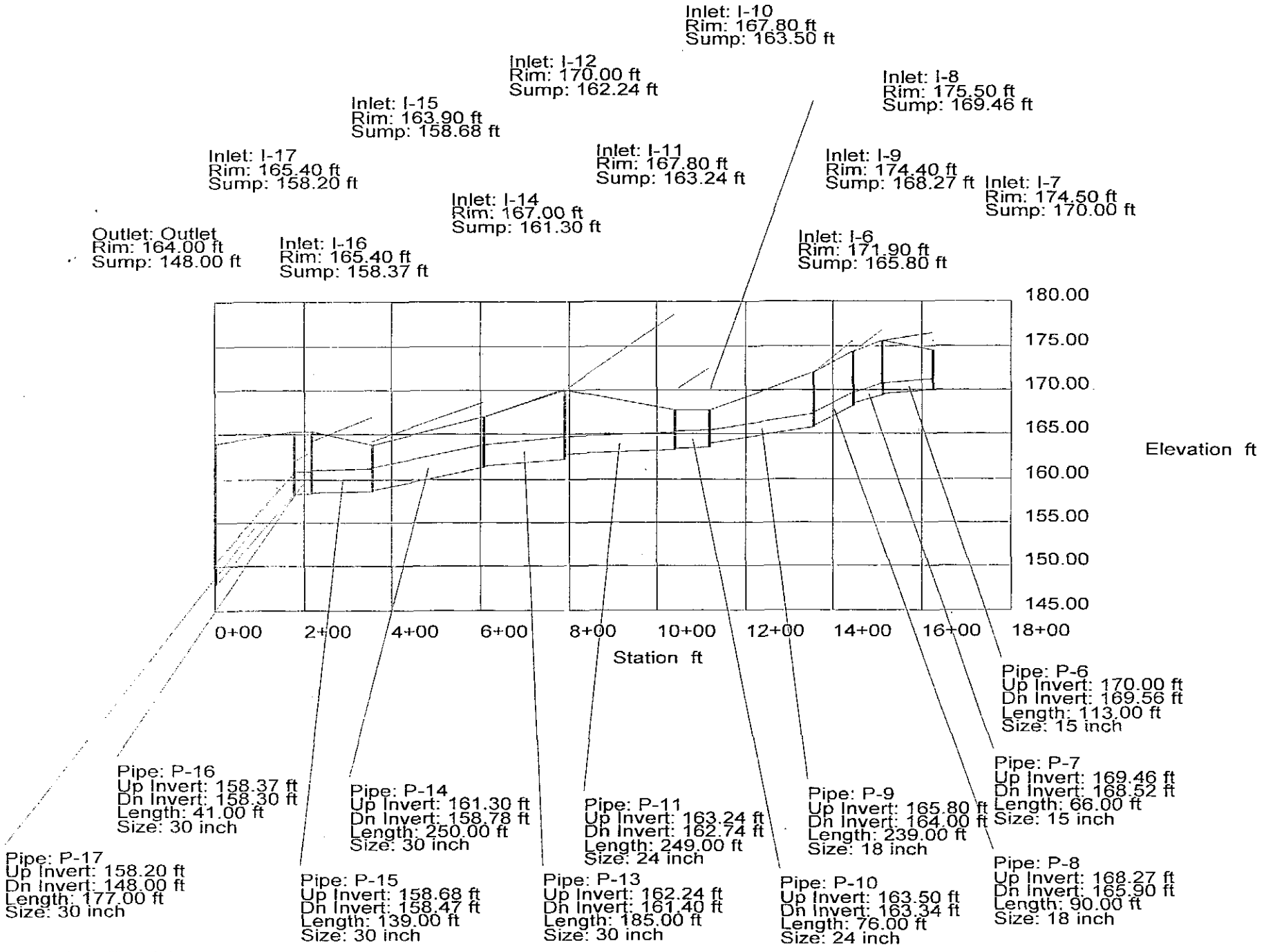

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Inlet: I-17
Rim: 165.40 ft
Sump: 158.20 ft

Inlet: I-14
Rim: 167.00 ft
Sump: 161.30 ft

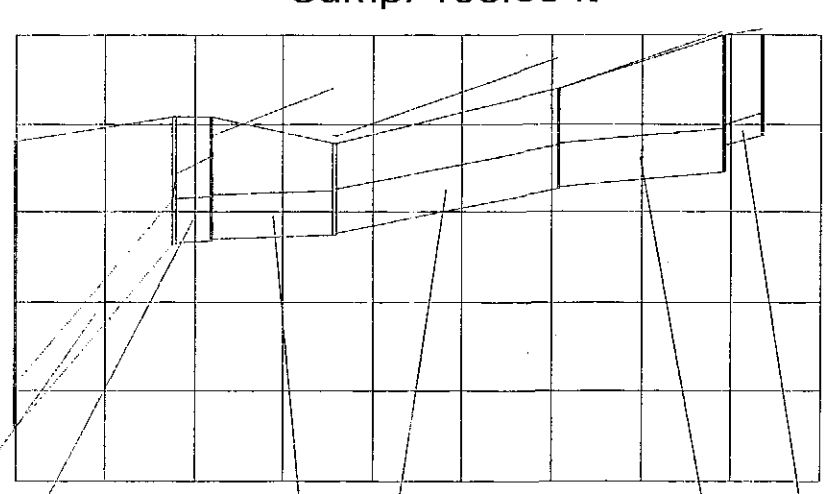
Inlet: I-13
Rim: 170.00 ft
Sump: 164.30 ft

Inlet: I-16
Rim: 165.40 ft
Sump: 158.37 ft

Outlet: Outlet
Rim: 164.00 ft
Sump: 148.00 ft

Inlet: I-15
Rim: 163.90 ft
Sump: 158.68 ft

Inlet: I-12
Rim: 170.00 ft
Sump: 162.24 ft



Pipe: P-16
Up Invert: 158.37 ft
Dn Invert: 158.30 ft
Length: 41.00 ft
Size: 30 inch

Pipe: P-14
Up Invert: 161.30 ft
Dn Invert: 158.78 ft
Length: 250.00 ft
Size: 30 inch

Pipe: P-12
Up Invert: 164.30 ft
Dn Invert: 163.75 ft
Length: 43.00 ft
Size: 15 inch

Pipe: P-17
Up Invert: 158.20 ft
Dn Invert: 148.00 ft
Length: 177.00 ft
Size: 30 inch

Pipe: P-15
Up Invert: 158.68 ft
Dn Invert: 158.47 ft
Length: 139.00 ft
Size: 30 inch

Pipe: P-13
Up Invert: 162.24 ft
Dn Invert: 161.40 ft
Length: 185.00 ft
Size: 30 inch

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System Report

Pipe	Additional Flow (cfs)	Total Upstream Added (cfs)	Structure Discharge (cfs)	-Node- Upstream Downstream	-Section- Shape Size	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	-Ground- Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Slope- Energy Constructed (ft/ft)	-Section- Discharge Capacity (cfs)	Length (ft)	Average Velocity (ft/s)	Description
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				I-12	15 inch			170.00	170.00	0.012791	7.31			
P-6	2.10	0.00	6.20	I-7	Circular	170.00	169.56	174.50	176.54	0.009213	6.20	113.00	5.05	
				I-8	15 inch			175.50	175.50	0.003894	4.03			
P-7	2.30	6.20	12.30	I-8	Circular	169.46	168.52	175.50	176.79	0.036259	12.30	66.00	10.02	
				I-9	15 inch			174.40	174.40	0.014242	7.71			
P-8	3.20	12.30	21.30	I-9	Circular	168.27	165.90	174.40	175.60	0.041122	21.30	90.00	12.05	
				I-6	18 inch			171.90	171.90	0.026333	17.05			
P-3	1.70	0.00	3.20	I-4	Circular	172.40	172.00	173.90	175.13	0.002454	3.20	95.00	2.61	
				I-3	15 inch			174.90	174.90	0.004211	4.19			
P-1	2.50	0.00	4.80	I-1	Circular	172.50	172.10	175.90	176.13	0.005522	4.80	41.00	3.91	
				I-2	15 inch			175.90	175.90	0.009756	6.38			
P-2	2.90	4.80	10.40	I-2	Circular	172.00	168.56	175.90	178.04	0.025922	10.40	121.00	8.47	
				I-3	15 inch			174.90	174.90	0.028430	10.89			
P-4	0.00	13.60	13.60	I-3	Circular	168.46	167.18	174.90	186.84	0.044329	13.60	337.00	11.08	
				I-5	15 inch			170.00	171.90	0.003798	3.98			
P-5	1.00	13.60	16.50	I-5	Circular	167.08	166.05	170.00	189.52	0.065250	16.50	270.00	13.45	
				I-6	15 inch			171.90	171.90	0.003815	3.99			
P-9	1.20	37.80	39.00	I-6	Circular	165.80	164.00	171.90	202.95	0.137860	39.00	239.00	22.07	
				I-10	18 inch			167.80	170.00	0.007531	9.12			
P-10	0.50	39.00	40.40	I-10	Circular	163.50	163.34	167.80	172.42	0.031896	40.40	76.00	12.86	
				I-11	24 inch			167.80	170.00	0.002105	10.38			
P-11	0.50	40.40	41.80	I-11	Circular	163.24	162.74	167.80	178.50	0.034145	41.80	249.00	13.31	
				I-12	24 inch			170.00	170.00	0.002008	10.14			
P-13	2.00	46.90	53.70	I-12	Circular	162.24	161.40	170.00	170.17	0.017142	53.70	185.00	10.94	
				I-14	30 inch			167.00	167.00	0.004541	27.64			
P-14	0.20	53.70	54.40	I-14	Circular	161.30	158.78	167.00	168.73	0.017592	54.40	250.00	11.08	
				I-15	30 inch			163.90	164.33	0.010080	41.18			
P-15	0.80	54.40	56.80	I-15	Circular	158.68	158.47	163.90	167.00	0.019178	56.80	139.00	11.57	
				I-16	30 inch			165.40	164.33	0.001511	15.94			
P-16	1.70	56.80	62.60	I-16	Circular	158.37	158.30	165.40	163.07	0.023295	62.60	41.00	12.75	
				I-17	30 inch			165.40	162.11	0.001707	16.95			
P-17	4.70	62.60	67.30	I-17	Circular	158.20	148.00	165.40	160.63	0.057627	67.30	177.00	13.82	
				Outlet	30 inch			164.00	150.43	0.057627	98.46			

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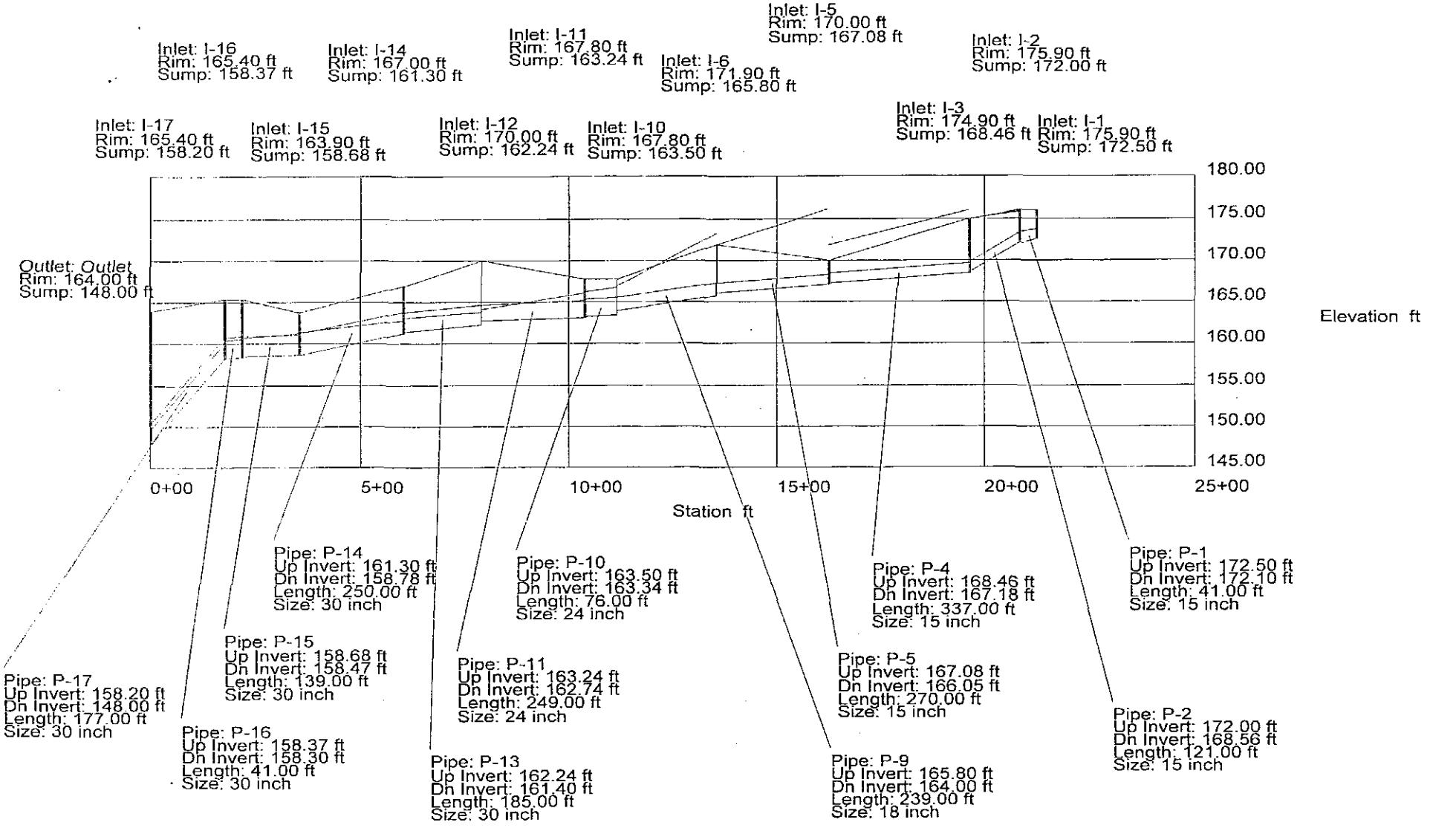

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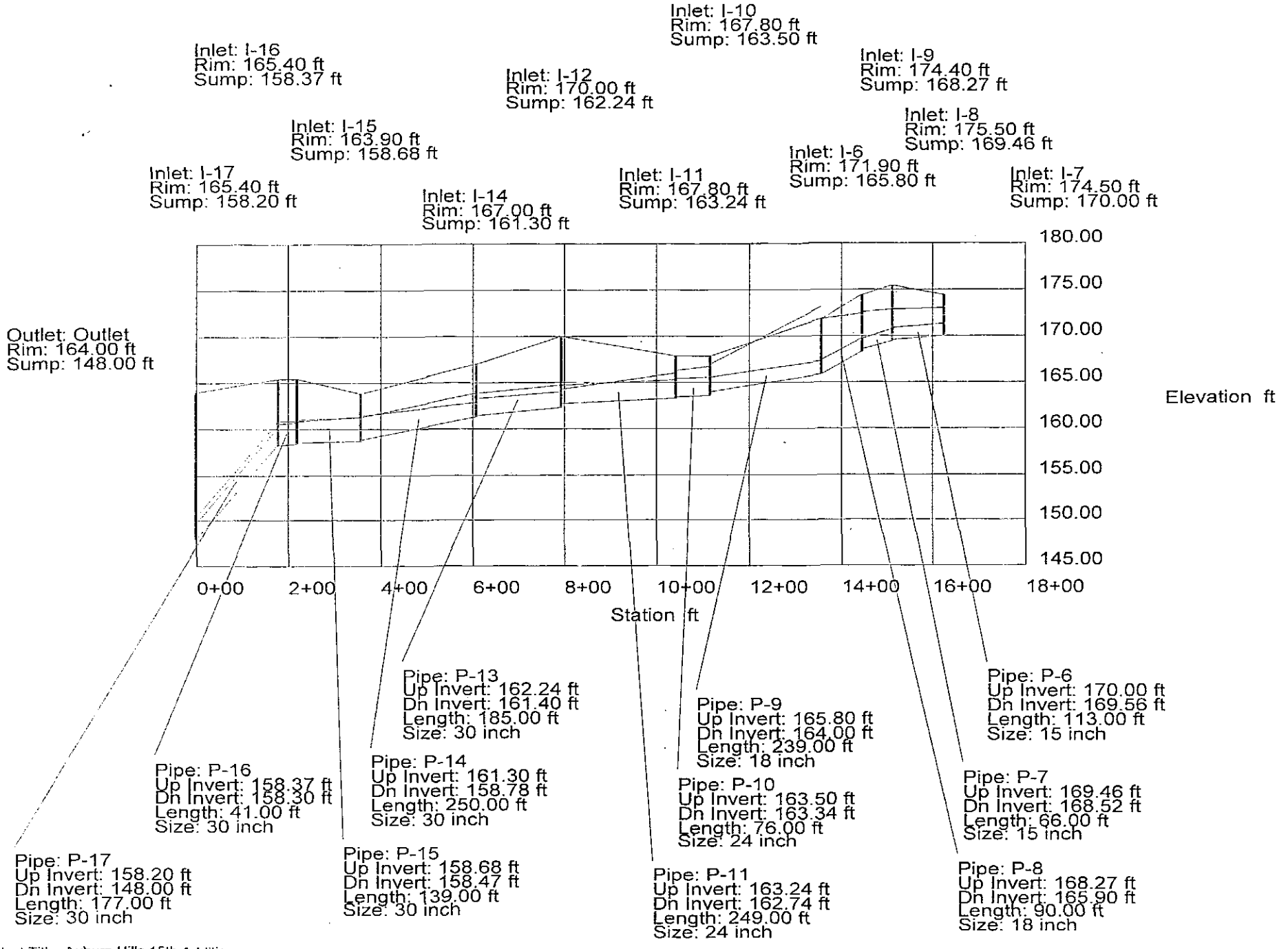

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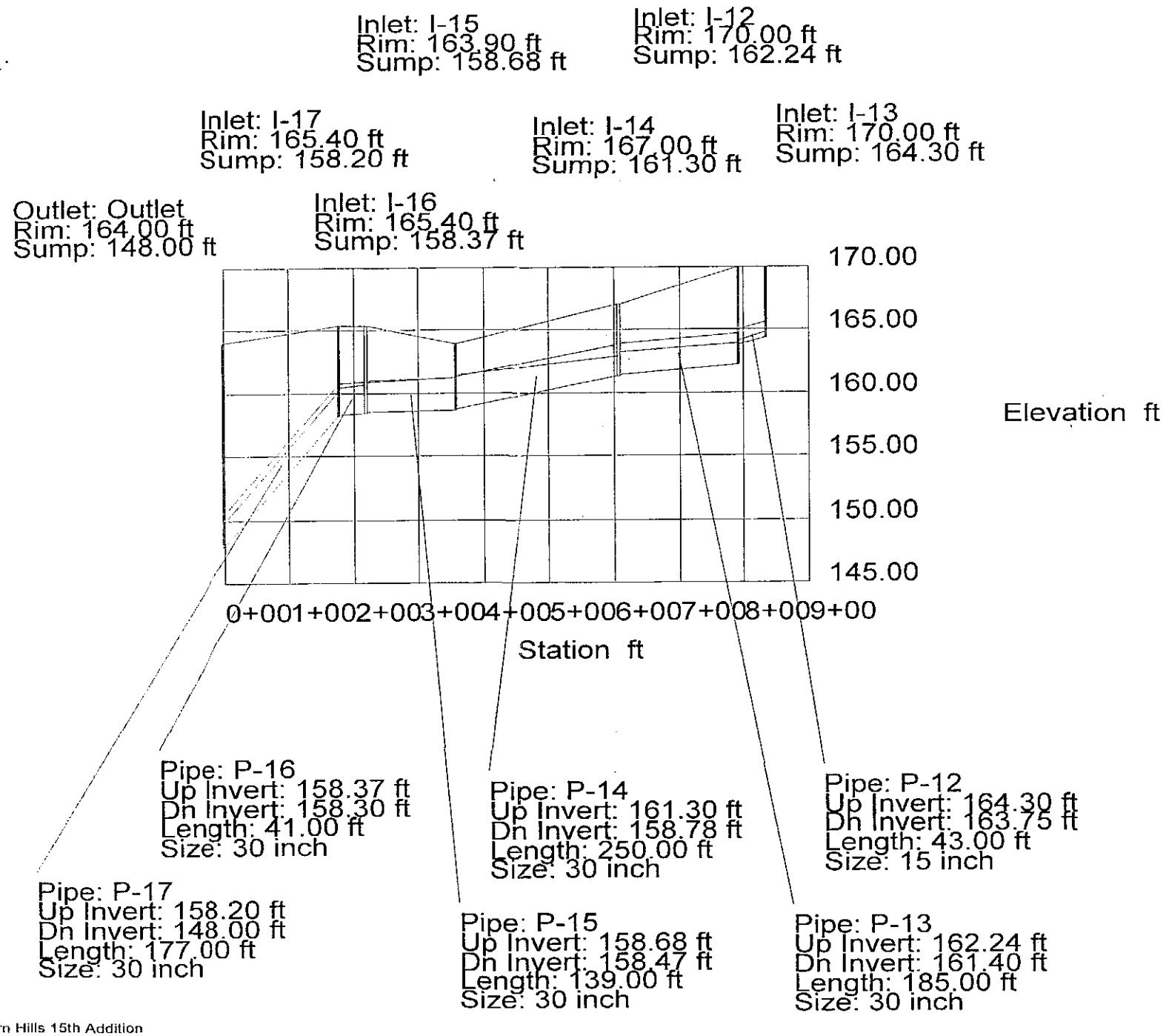

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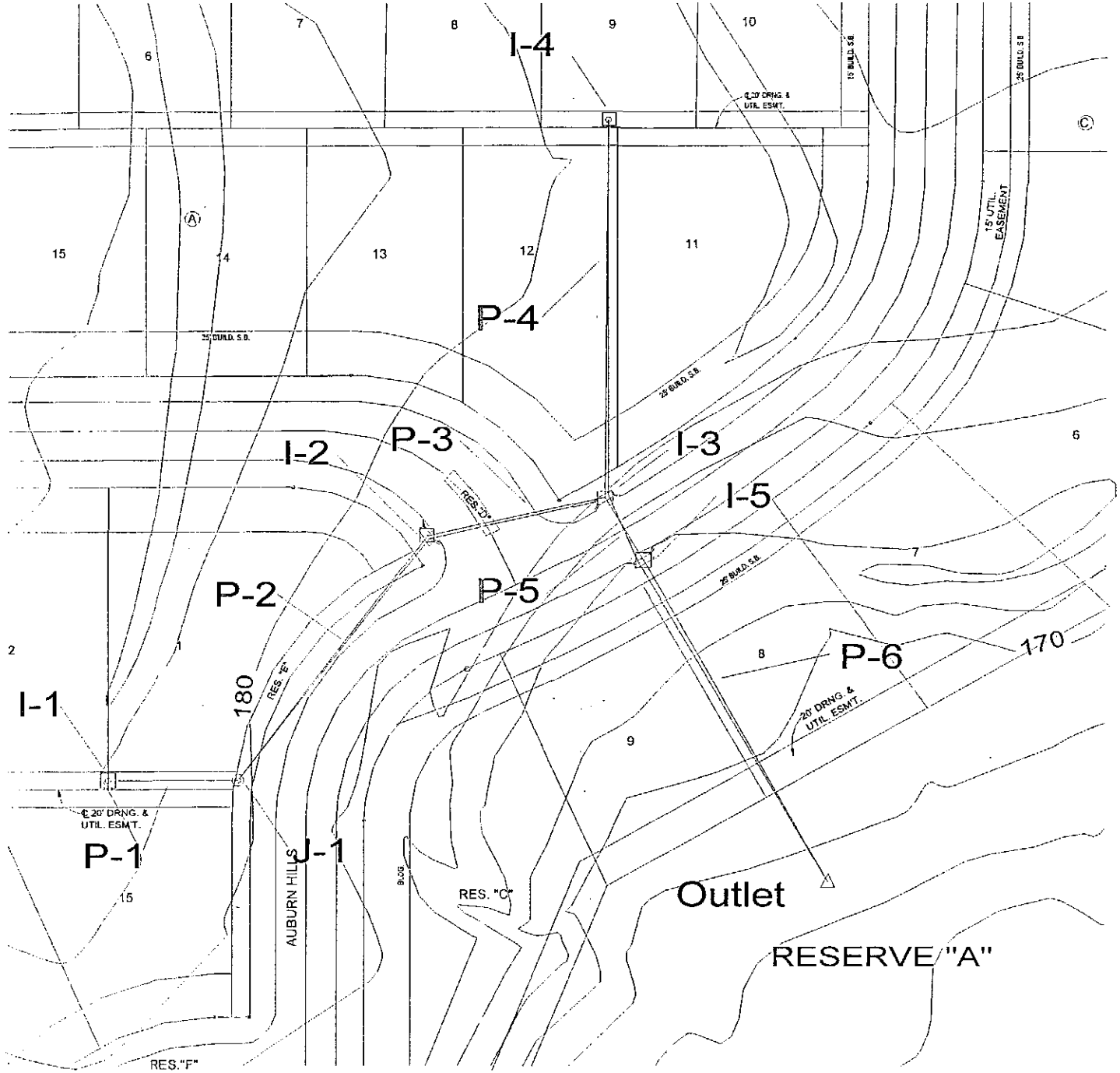
Stormwater Sewer System #2
StormCad Analysis



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System Report

Pipe	Additional Flow (cfs)	Total Upstream Added (cfs)	Structure Discharge (cfs)	-Node- Upstream Downstream	-Section- Shape Size	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	-Ground- Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Slope- Energy Constructed (ft/ft)	-Section- Discharge Capacity (cfs)	Length (ft)	Average Velocity (ft/s)	Description
P-4	5.40	0.00	5.40	I-4	Circular	170.70	169.90	174.30	171.81	0.002697	5.40	215.00	3.50	
				I-3	18 inch			174.00	171.31	0.003721	6.41			
P-1	6.60	0.00	6.60	I-1	Circular	171.50	171.20	174.10	172.67	0.004762	6.60	73.00	4.88	
				J-1	18 inch			176.80	172.19	0.004110	6.73			
P-2	N/A	6.60	6.60	J-1	Circular	170.90	170.30	176.80	171.90	0.003090	6.60	174.00	3.90	
				I-2	24 inch			174.50	171.44	0.003448	13.28			
P-3	3.40	6.60	10.00	I-2	Circular	169.80	169.50	174.50	171.36	0.000961	10.00	101.00	2.87	
				I-3	30 inch			174.00	171.31	0.002970	22.35			
P-5	5.60	15.40	21.00	I-3	Circular	169.40	169.20	174.00	170.99	0.004910	21.00	41.00	6.45	
				I-5	30 inch			174.00	170.76	0.004878	28.65			
P-6	2.00	21.00	23.00	I-5	Circular	168.50	160.00	174.00	170.13	0.036687	23.00	210.00	5.73	
				Outlet	30 inch			170.00	162.80	0.040476	82.52			

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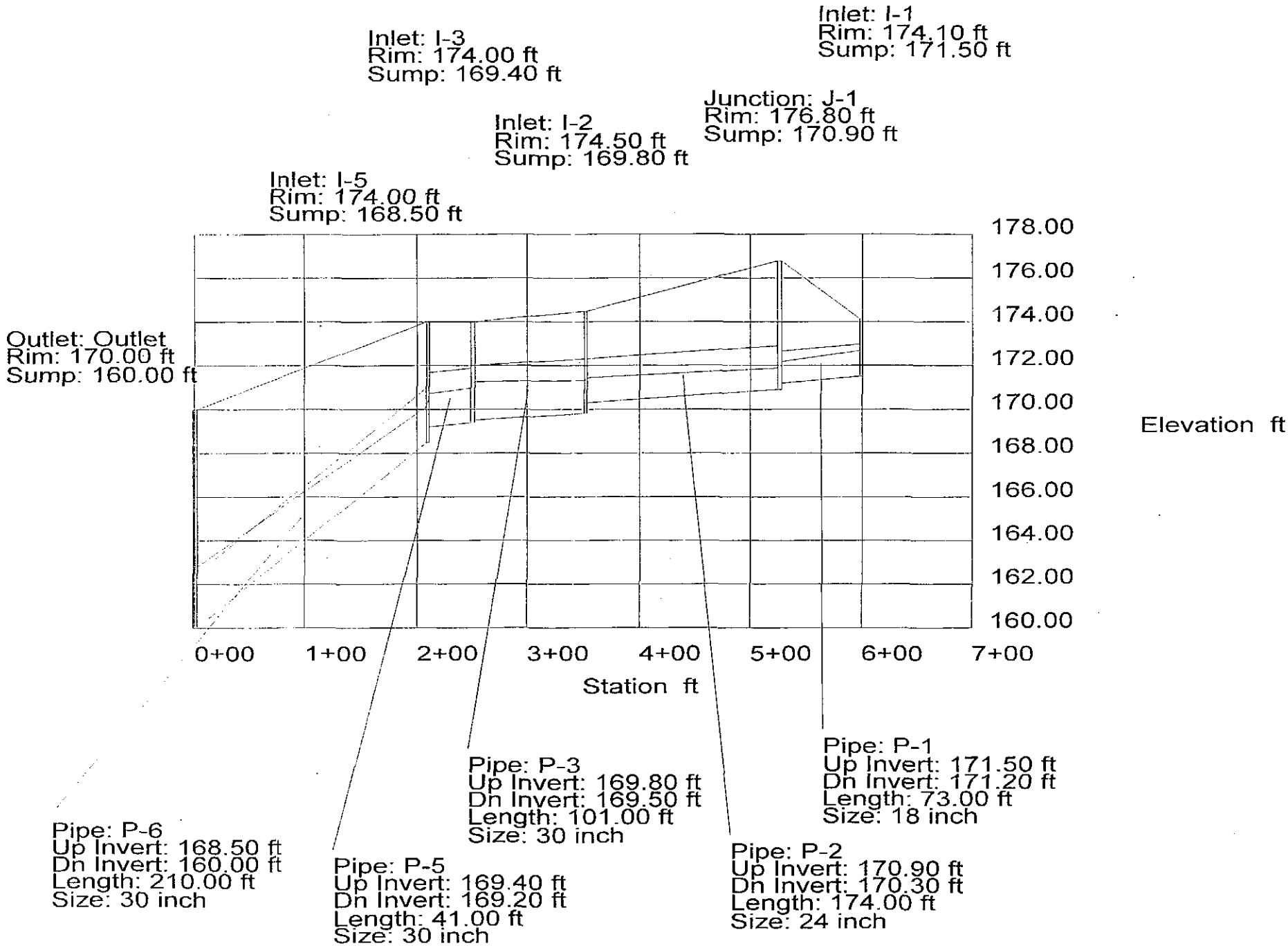

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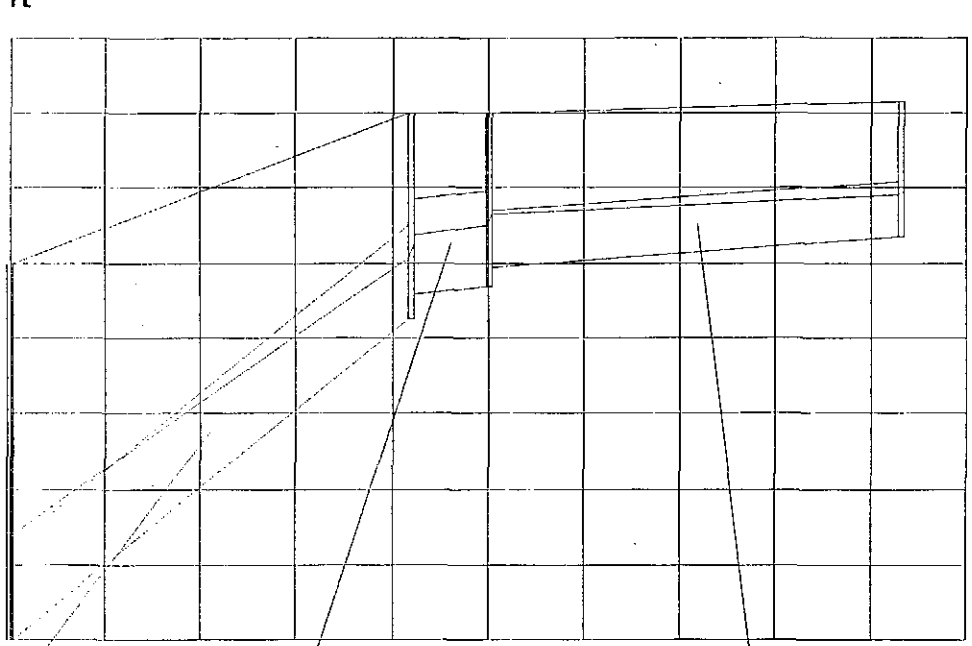
Inlet: I-3
Rim: 174.00 ft
Sump: 169.40 ft

Inlet: I-4
Rim: 174.30 ft
Sump: 170.70 ft

Outlet: Outlet
Rim: 170.00 ft
Sump: 160.00 ft

Inlet: I-5
Rim: 174.00 ft
Sump: 168.50 ft



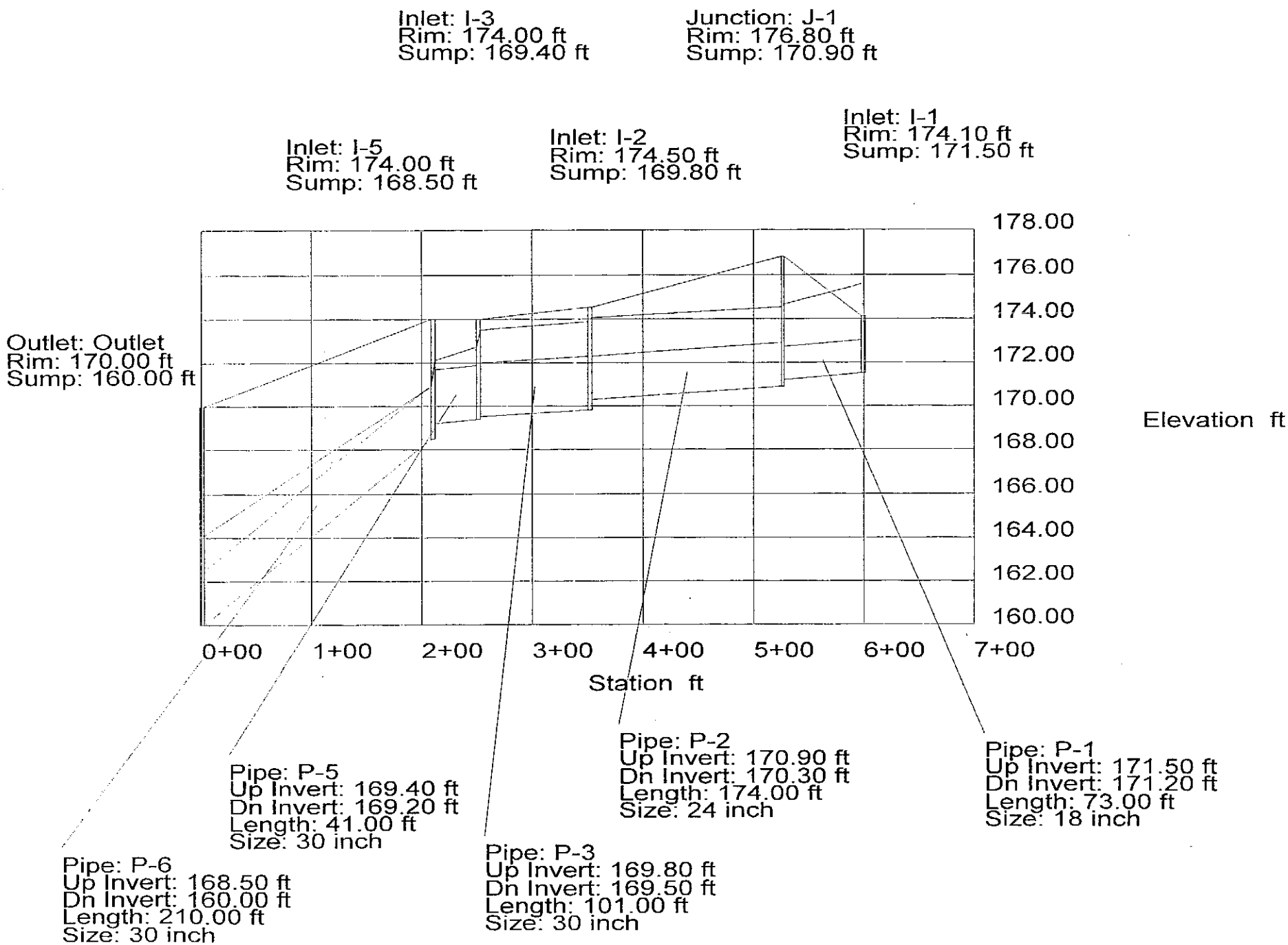
Pipe: P-6
Up Invert: 168.50 ft
Dn Invert: 160.00 ft
Length: 210.00 ft
Size: 30 inch

Pipe: P-5
Up Invert: 169.40 ft
Dn Invert: 169.20 ft
Length: 41.00 ft
Size: 30 inch

Pipe: P-4
Up Invert: 170.70 ft
Dn Invert: 169.90 ft
Length: 215.00 ft
Size: 18 inch

System Report

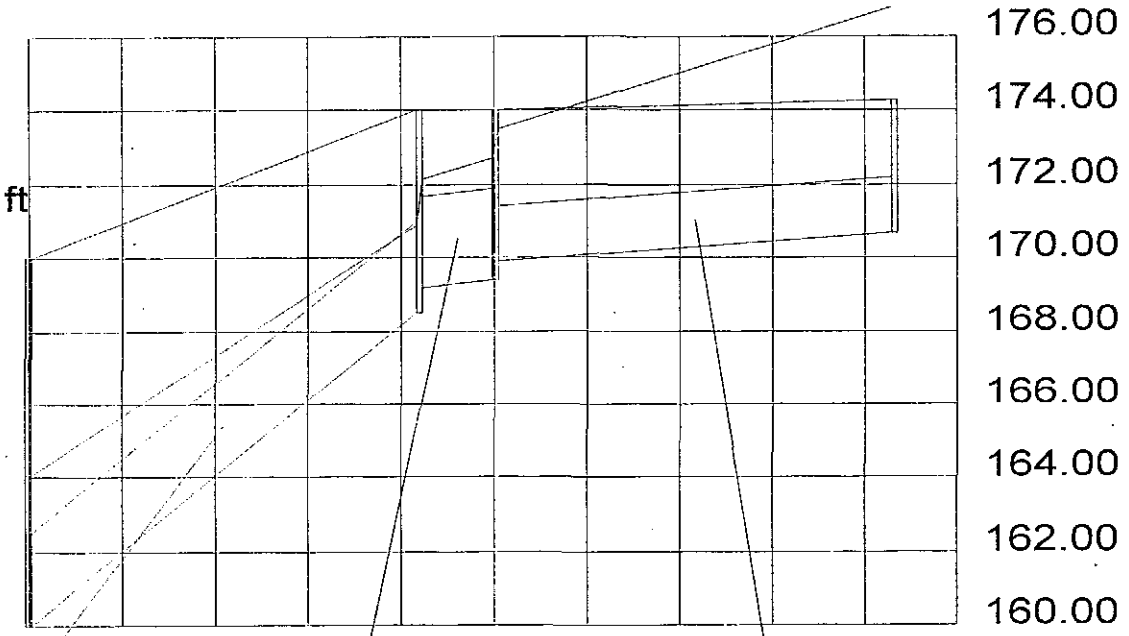
Pipe	Additional Flow (cfs)	Total Upstream Added (cfs)	Structure Discharge (cfs)	-Node- Upstream Downstream	-Section- Shape Size	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	-Ground- Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Slope- Energy Constructed (ft/ft)	-Section- Discharge Capacity (cfs)	Length (ft)	Average Velocity (ft/s)	Description
P-4	13.00	0.00	13.00	I-4	Circular	170.70	169.90	174.30	176.79	0.015318	13.00	215.00	7.36	
				I-3	18 inch			174.00	173.49	0.003721	6.41			
P-1	12.00	0.00	12.00	I-1	Circular	171.50	171.20	174.10	175.58	0.013052	12.00	73.00	6.79	
				J-1	18 inch			176.80	174.63	0.004110	6.73			
P-2	N/A	12.00	12.00	J-1	Circular	170.90	170.30	176.80	174.51	0.002814	12.00	174.00	3.82	
				I-2	24 inch			174.50	174.02	0.003448	13.28			
P-3	12.00	12.00	24.00	I-2	Circular	169.80	169.50	174.50	173.84	0.003424	24.00	101.00	4.89	
				I-3	30 inch			174.00	173.49	0.002970	22.35			
P-5	12.00	37.00	49.00	I-3	Circular	169.40	169.20	174.00	172.72	0.014273	49.00	41.00	9.98	
				I-5	30 inch			174.00	172.13	0.004878	28.65			
P-6	12.00	49.00	61.00	I-5	Circular	168.50	160.00	174.00	170.90	0.032789	61.00	210.00	12.51	
				Outlet	30 inch			170.00	164.08	0.040476	82.52			


Inlet: I-3
Rim: 174.00 ft
Sump: 169.40 ft
Junction: J-1
Rim: 176.80 ft
Sump: 170.90 ft
Inlet: I-1
Rim: 174.10 ft
Sump: 171.50 ft
Inlet: I-5
Rim: 174.00 ft
Sump: 168.50 ft
Inlet: I-2
Rim: 174.50 ft
Sump: 169.80 ft
Outlet: Outlet
Rim: 170.00 ft
Sump: 160.00 ft
178.00
176.00
174.00
172.00
170.00
168.00
166.00
164.00
162.00
160.00
Elevation ft
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
Station ft
Pipe: P-5
Up Invert: 169.40 ft
Dn Invert: 169.20 ft
Length: 41.00 ft
Size: 30 inch
Pipe: P-2
Up Invert: 170.90 ft
Dn Invert: 170.30 ft
Length: 174.00 ft
Size: 24 inch
Pipe: P-1
Up Invert: 171.50 ft
Dn Invert: 171.20 ft
Length: 73.00 ft
Size: 18 inch
Pipe: P-6
Up Invert: 168.50 ft
Dn Invert: 160.00 ft
Length: 210.00 ft
Size: 30 inch
Pipe: P-3
Up Invert: 169.80 ft
Dn Invert: 169.50 ft
Length: 101.00 ft
Size: 30 inch

Inlet: I-3
Rim: 174.00 ft
Sump: 169.40 ft

Inlet: I-4
Rim: 174.30 ft
Sump: 170.70 ft

Inlet: I-5
Rim: 174.00 ft
Sump: 168.50 ft



Outlet: Outlet
Rim: 170.00 ft
Sump: 160.00 ft

Pipe: P-6
Up Invert: 168.50 ft
Dn Invert: 160.00 ft
Length: 210.00 ft
Size: 30 inch

Pipe: P-5
Up Invert: 169.40 ft
Dn Invert: 169.20 ft
Length: 41.00 ft
Size: 30 inch

Pipe: P-4
Up Invert: 170.70 ft
Dn Invert: 169.90 ft
Length: 215.00 ft
Size: 18 inch

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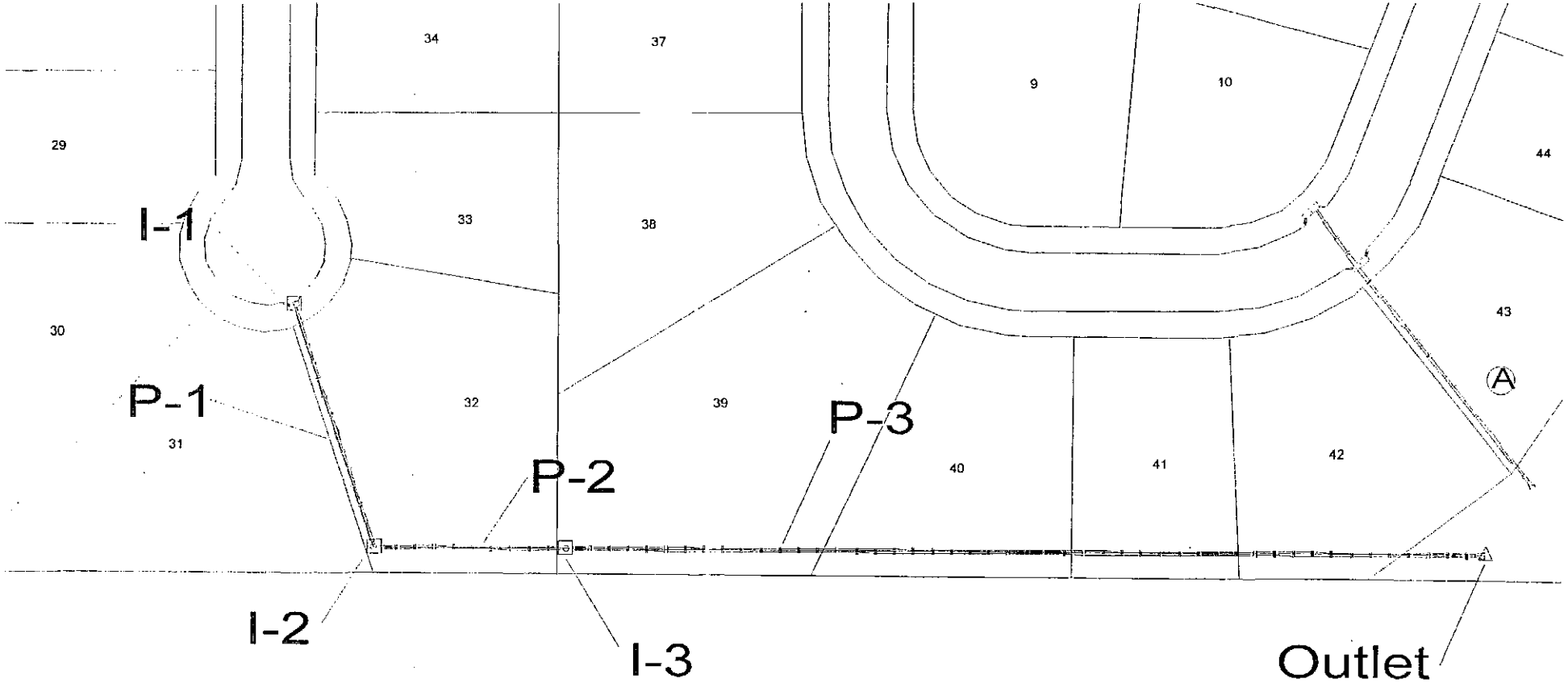
Stormwater Sewer System #3
StormCad Analysis


34
37
9
10
29
44
I-1
33
38
30
43
A
P-1
32
39
P-3
31
P-2
40
41
42
I-2
I-3
Outlet

System Report

Pipe	Additional Flow (cfs)	Total Upstream Added (cfs)	Structure Discharge (cfs)	-Node- Upstream Downstream	-Section- Shape Size	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	-Ground- Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Slope- Energy Constructed (ft/ft)	-Section- Discharge Capacity (cfs)	Length (ft)	Average Velocity (ft/s)	Description
P-1	2.40	0.00	2.40	I-1	Circular	189.00	180.00	193.00	189.62	0.059474	2.40	149.00	3.24	
				I-2	15 inch			184.00	180.90	0.060403	15.88			
P-2	1.00	2.40	3.40	I-2	Circular	179.90	179.50	184.00	180.80	0.003976	3.40	111.00	3.86	
				I-3	15 inch			183.00	180.30	0.003604	3.88			
P-3	4.00	3.40	7.40	I-3	Circular	179.00	161.00	183.00	180.05	0.029312	7.40	531.00	4.88	
				Outlet	18 inch			170.00	164.70	0.033898	19.34			

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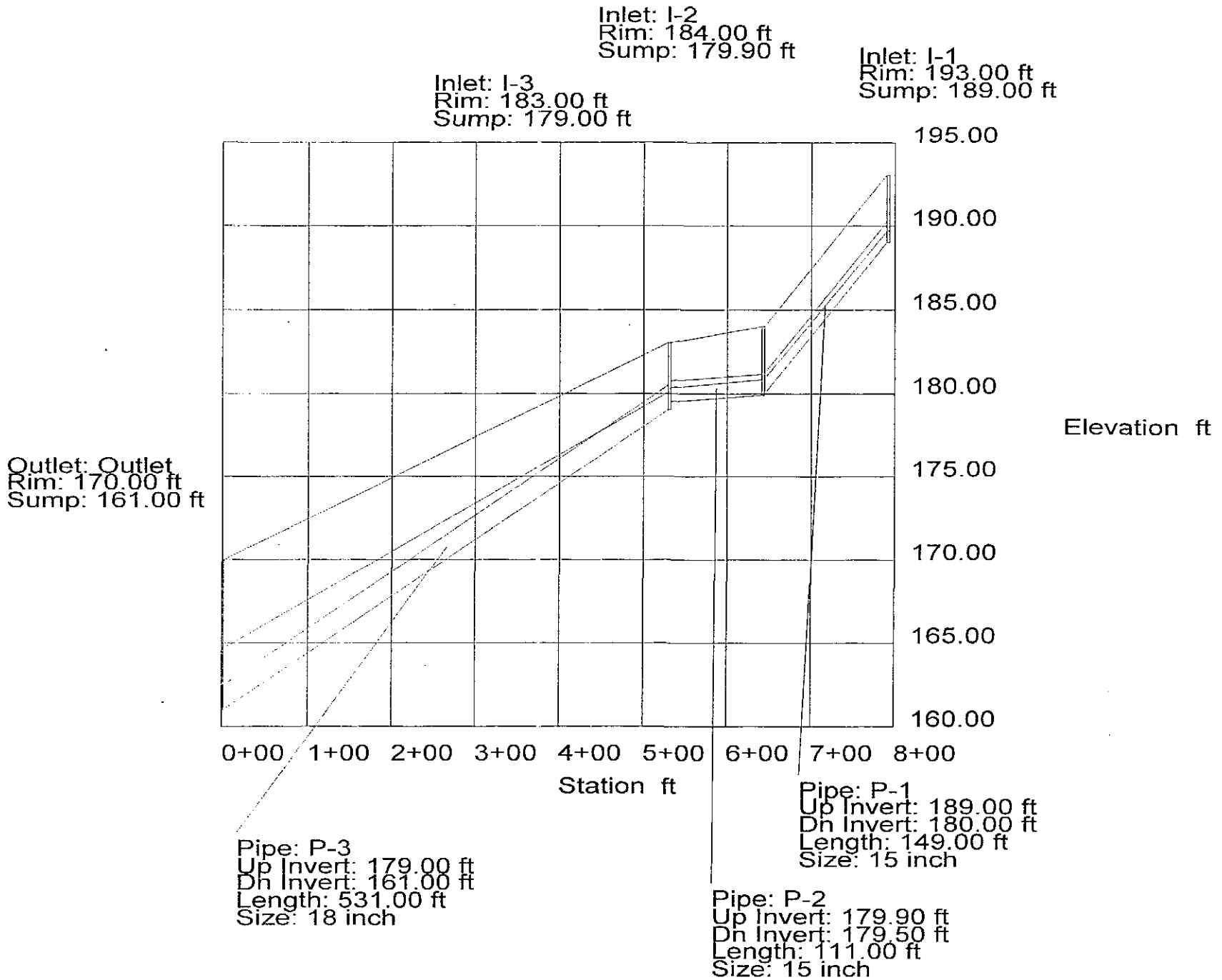
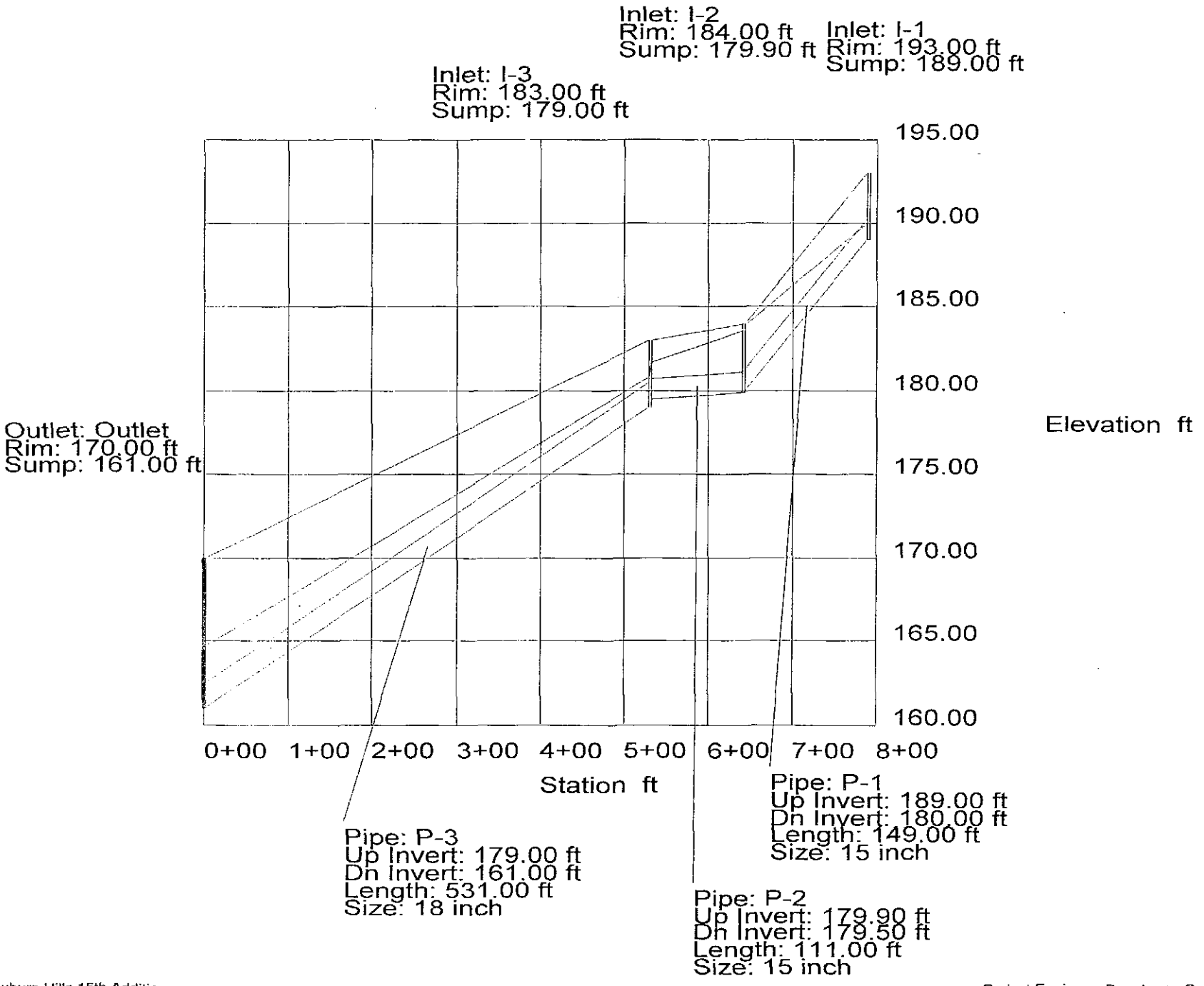

Inlet: I-2
Rim: 184.00 ft
Sump: 179.90 ft
Inlet: I-1
Rim: 193.00 ft
Sump: 189.00 ft
Inlet: I-3
Rim: 183.00 ft
Sump: 179.00 ft
195.00
190.00
185.00
180.00
175.00
170.00
165.00
160.00
Elevation ft
Outlet: Outlet
Rim: 170.00 ft
Sump: 161.00 ft
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
Station ft
Pipe: P-1
Up Invert: 189.00 ft
Dn Invert: 180.00 ft
Length: 149.00 ft
Size: 15 inch
Pipe: P-3
Up Invert: 179.00 ft
Dn Invert: 161.00 ft
Length: 531.00 ft
Size: 18 inch
Pipe: P-2
Up Invert: 179.90 ft
Dn Invert: 179.50 ft
Length: 111.00 ft
Size: 15 inch

System Report

Pipe	Additional Flow (cfs)	Total Upstream Added (cfs)	Structure Discharge (cfs)	-Node- Upstream Downstream	-Section- Shape Size	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	-Ground- Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Slope- Energy Constructed (ft/ft)	-Section- Discharge Capacity (cfs)	Length (ft)	Average Velocity (ft/s)	Description
P-1	5.90	0.00	5.90	I-1	Circular	189.00	180.00	193.00	189.98	0.041854	5.90	149.00	5.25	
				I-2	15 inch			184.00	183.89	0.060403	15.88			
P-2	2.50	5.90	8.40	I-2	Circular	179.90	179.50	184.00	183.53	0.016911	8.40	111.00	6.84	
				I-3	15 inch			183.00	181.65	0.003604	3.88			
P-3	9.90	8.40	18.30	I-3	Circular	179.00	161.00	183.00	180.82	0.030354	18.30	531.00	10.36	
				Outlet	18 inch			170.00	164.70	0.033898	19.34			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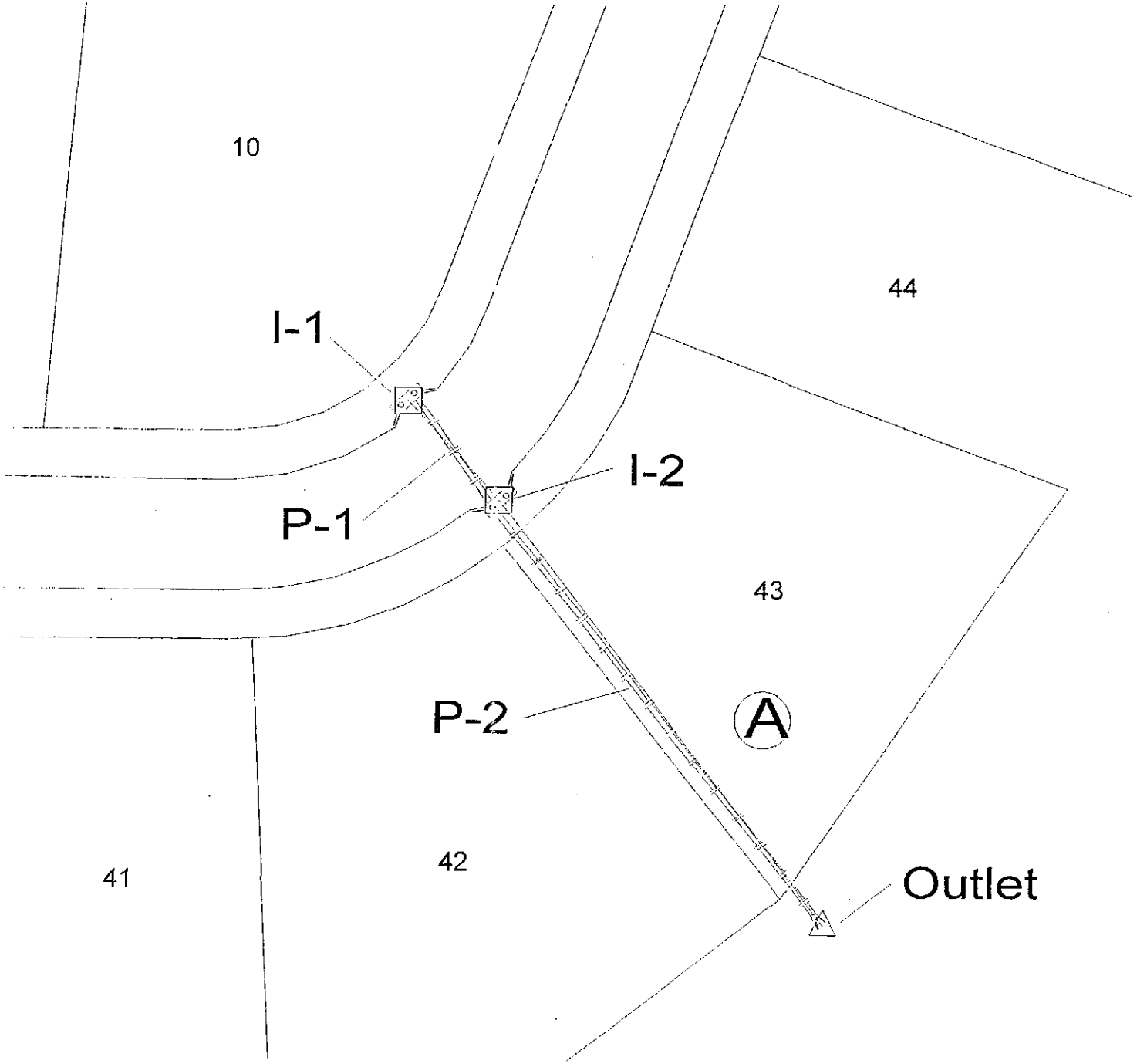
Rim: 184.00 ft
Sump: 179.90 ft
Inlet: I-1
Rim: 193.00 ft
Sump: 189.00 ft
Inlet: I-3
Rim: 183.00 ft
Sump: 179.00 ft
195.00
190.00
185.00
180.00
175.00
170.00
165.00
160.00
Elevation ft
Outlet: Outlet
Rim: 170.00 ft
Sump: 161.00 ft
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
Station ft
Pipe: P-1
Up Invert: 189.00 ft
Dn Invert: 180.00 ft
Length: 149.00 ft
Size: 15 inch
Pipe: P-3
Up Invert: 179.00 ft
Dn Invert: 161.00 ft
Length: 531.00 ft
Size: 18 inch
Pipe: P-2
Up Invert: 179.90 ft
Dn Invert: 179.50 ft
Length: 111.00 ft
Size: 15 inch

Stormwater Sewer System #4
StormCad Analysis



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10/29/03 01:22:48 PM

Baughman Company, P.A.
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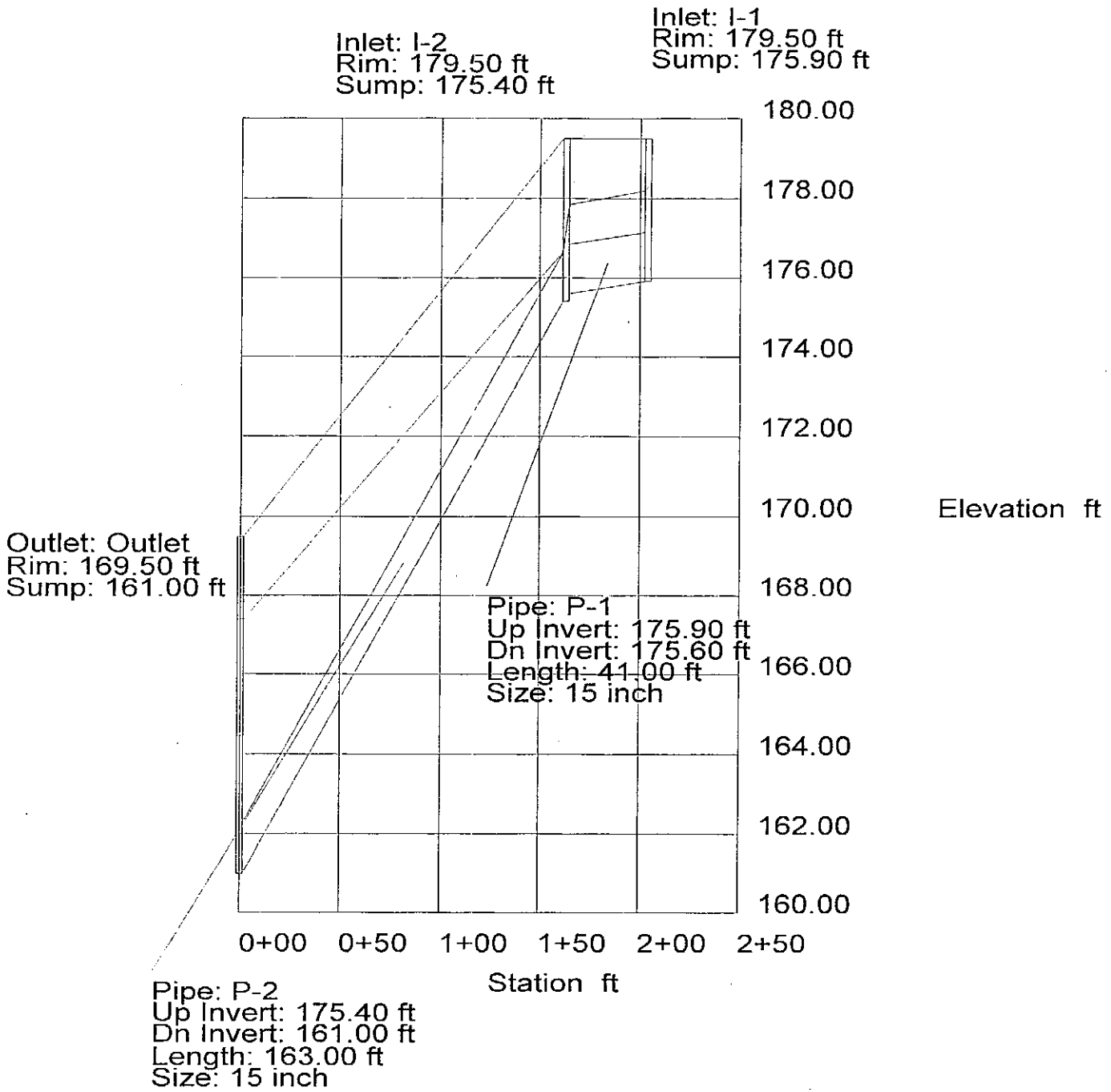
Project Engineer: Baughman Company, P.A.
StormCAD v1.0

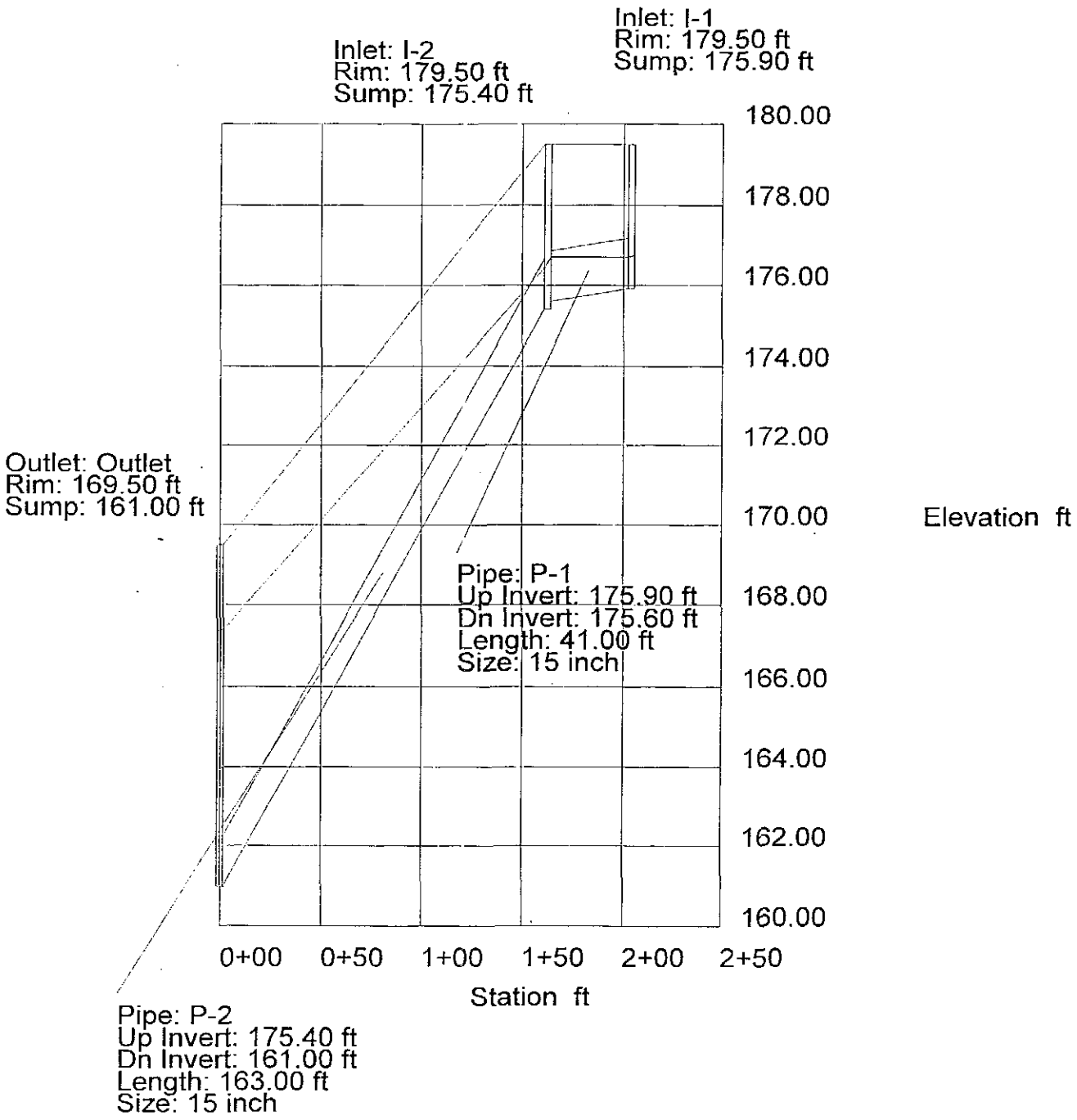
System Report

Pipe	Additional Flow (cfs)	Total Upstream Added (cfs)	Structure Discharge (cfs)	-Node- Upstream Downstream	-Section- Shape Size	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	-Ground- Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Slope- Energy Constructed (ft/ft)	-Section- Discharge Capacity (cfs)	Length (ft)	Average Velocity (ft/s)	Description
P-1	5.90	0.00	5.90	I-1	Circular	175.90	175.60	179.50	178.19	0.008343	5.90	41.00	4.81	
				I-2	15 inch			179.50	177.85	0.007317	5.53			
P-2	9.40	5.90	15.30	I-2	Circular	175.40	161.00	179.50	176.64	0.056722	15.30	163.00	12.48	
				Outlet	15 inch			169.50	167.40	0.088344	19.20			

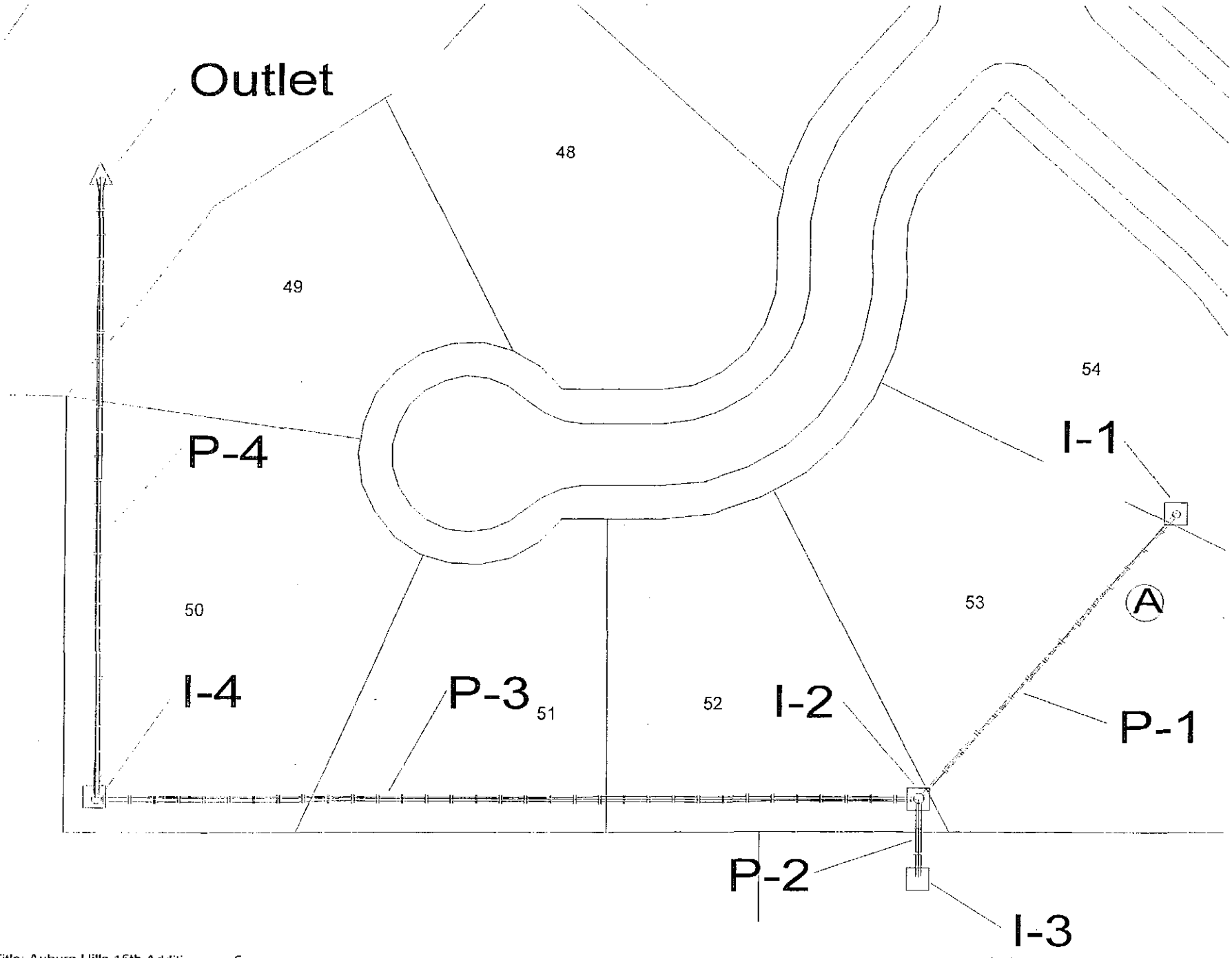

Inlet: I-2
Rim: 179.50 ft
Sump: 175.40 ft
Inlet: I-1
Rim: 179.50 ft
Sump: 175.90 ft
180.00
178.00
176.00
174.00
172.00
170.00
168.00
166.00
164.00
162.00
160.00
Elevation ft
Outlet: Outlet
Rim: 169.50 ft
Sump: 161.00 ft
Pipe: P-1
Up Invert: 175.90 ft
Dn Invert: 175.60 ft
Length: 41.00 ft
Size: 15 inch
0+00
0+50
1+00
1+50
2+00
2+50
Station ft
Pipe: P-2
Up Invert: 175.40 ft
Dn Invert: 161.00 ft
Length: 163.00 ft
Size: 15 inch

System Report

Pipe	Additional Flow (cfs)	Total Upstream Added (cfs)	Structure Discharge (cfs)	-Node- Upstream Downstream	-Section- Shape Size	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	-Ground- Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Slope- Energy Constructed (ft/ft)	-Section- Discharge Capacity (cfs)	Length (ft)	Average Velocity (ft/s)	Description
P-1	2.40	0.00	2.40	I-1	Circular	175.90	175.60	179.50	176.68	0.001807	2.40	41.00	2.56	
				I-2	15 inch			179.50	176.67	0.007317	5.53			
P-2	3.80	2.40	6.20	I-2	Circular	175.40	161.00	179.50	176.41	0.056089	6.20	163.00	5.46	
				Outlet	15 inch			169.50	167.40	0.088344	19.20			


Inlet: I-1
Rim: 179.50 ft
Sump: 175.90 ft
Inlet: I-2
Rim: 179.50 ft
Sump: 175.40 ft
Outlet: Outlet
Rim: 169.50 ft
Sump: 161.00 ft
Pipe: P-1
Up Invert: 175.90 ft
Dn Invert: 175.60 ft
Length: 41.00 ft
Size: 15 inch
Pipe: P-2
Up Invert: 175.40 ft
Dn Invert: 161.00 ft
Length: 163.00 ft
Size: 15 inch
180.00
178.00
176.00
174.00
172.00
170.00
168.00
166.00
164.00
162.00
160.00
Elevation ft
0+00
0+50
1+00
1+50
2+00
2+50
Station ft

Stormwater Sewer System #5
StormCad Analysis


Outlet
48
49
54
P-4
I-1
50
53
A
I-4
P-3
51
52
I-2
P-1
P-2
I-3

System Report

Pipe	Additional Flow (cfs)	Total Upstream Added (cfs)	Structure Discharge (cfs)	-Node- Upstream Downstream	-Section- Shape Size	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	-Ground- Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Slope- Energy Constructed (ft/ft)	-Section- Discharge Capacity (cfs)	Length (ft)	Average Velocity (ft/s)	Description
P-2	2.80	0.00	2.80	I-3	Circular	181.00	180.00	185.00	181.64	0.018996	2.80	36.00	5.51	
				I-2	18 inch			183.50	180.41	0.027778	17.51			
P-1	1.00	0.00	1.00	I-1	Circular	180.80	180.00	183.50	181.20	0.004682	1.00	171.00	2.97	
				I-2	15 inch			183.50	180.39	0.004678	4.42			
P-3	1.20	3.80	5.00	I-2	Circular	179.00	168.40	183.50	179.86	0.028859	5.00	367.00	4.56	
				I-4	18 inch			172.00	169.33	0.028883	17.85			
P-4	0.80	5.00	5.80	I-4	Circular	168.20	161.00	172.00	169.13	0.007040	5.80	278.00	4.16	
				Outlet	18 inch			172.00	167.40	0.025899	16.90			

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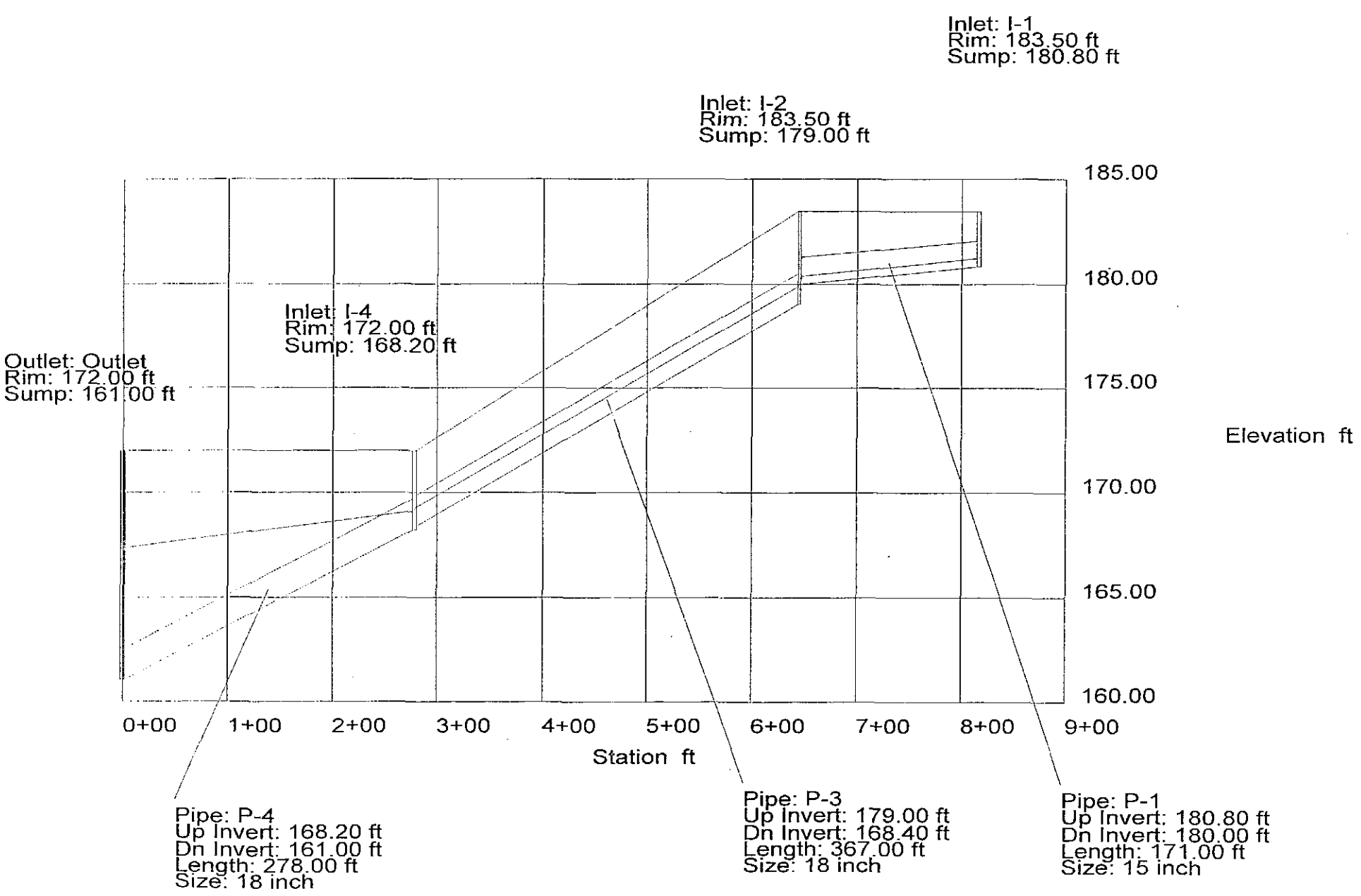
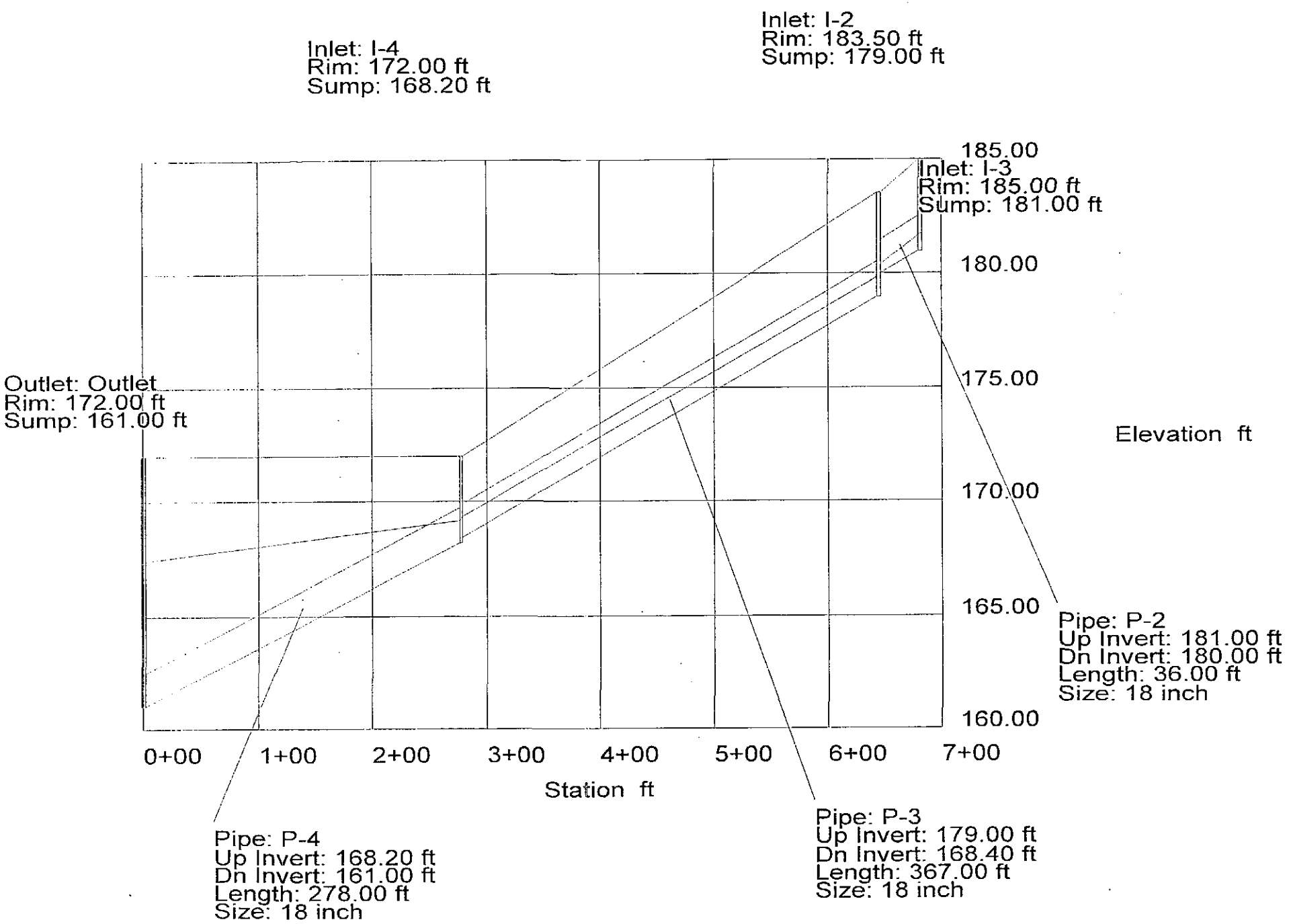

Inlet: I-1
Rim: 183.50 ft
Sump: 180.80 ft
Inlet: I-2
Rim: 183.50 ft
Sump: 179.00 ft
Inlet: I-4
Rim: 172.00 ft
Sump: 168.20 ft
Outlet: Outlet
Rim: 172.00 ft
Sump: 161.00 ft
185.00
180.00
175.00
170.00
165.00
160.00
Elevation ft
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
Station ft
Pipe: P-4
Up Invert: 168.20 ft
Dn Invert: 161.00 ft
Length: 278.00 ft
Size: 18 inch
Pipe: P-3
Up Invert: 179.00 ft
Dn Invert: 168.40 ft
Length: 367.00 ft
Size: 18 inch
Pipe: P-1
Up Invert: 180.80 ft
Dn Invert: 180.00 ft
Length: 171.00 ft
Size: 15 inch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Rim: 172.00 ft
Sump: 168.20 ft
Inlet: I-2
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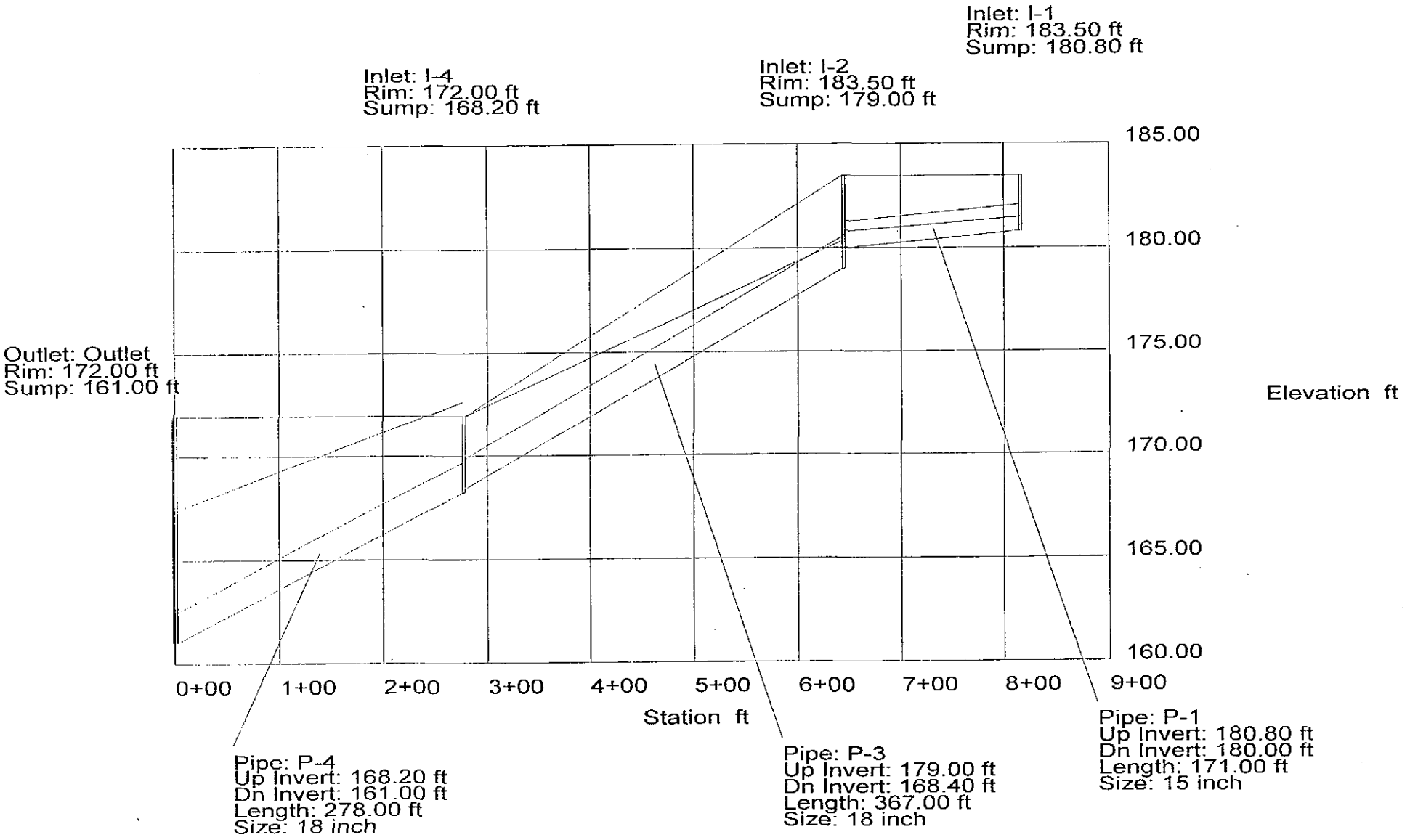
Sump: 179.00 ft
185.00
Inlet: I-3
Rim: 185.00 ft
Sump: 181.00 ft
180.00
175.00
Outlet: Outlet
Rim: 172.00 ft
Sump: 161.00 ft
Elevation ft
170.00
165.00
160.00
Pipe: P-2
Up Invert: 181.00 ft
Dn Invert: 180.00 ft
Length: 36.00 ft
Size: 18 inch
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
Station ft
Pipe: P-4
Up Invert: 168.20 ft
Dn Invert: 161.00 ft
Length: 278.00 ft
Size: 18 inch
Pipe: P-3
Up Invert: 179.00 ft
Dn Invert: 168.40 ft
Length: 367.00 ft
Size: 18 inch

System Report

Pipe	Additional Flow (cfs)	Total Upstream Added (cfs)	Structure Discharge (cfs)	-Node- Upstream Downstream	-Section- Shape Size	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	-Ground- Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Slope- Energy Constructed (ft/ft)	-Section- Discharge Capacity (cfs)	Length (ft)	Average Velocity (ft/s)	Description
P-2	6.90	0.00	6.90	I-3	Circular	181.00	180.00	185.00	182.02	0.017144	6.90	36.00	7.03	
				I-2	18 inch			183.50	180.69	0.027778	17.51			
P-1	2.50	0.00	2.50	I-1	Circular	180.80	180.00	183.50	181.47	0.004475	2.50	171.00	3.44	
				I-2	15 inch			183.50	180.77	0.004678	4.42			
P-3	3.00	9.40	12.40	I-2	Circular	179.00	168.40	183.50	180.33	0.022985	12.40	367.00	7.25	
				I-4	18 inch			172.00	172.00	0.028883	17.85			
P-4	2.00	12.40	14.40	I-4	Circular	168.20	161.00	172.00	172.62	0.018795	14.40	278.00	8.15	
				Outlet	18 inch			172.00	167.40	0.025899	16.90			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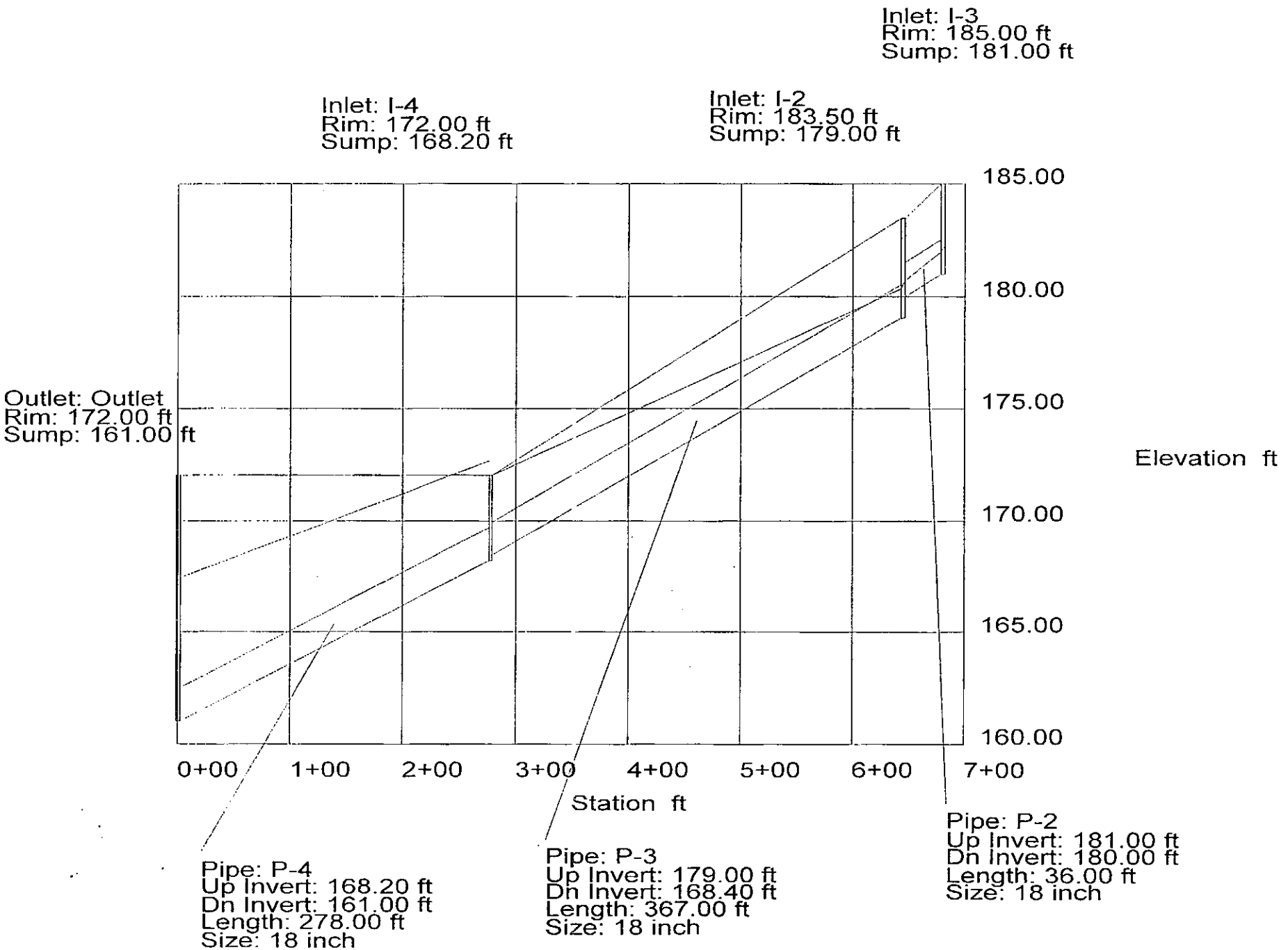
Rim: 183.50 ft
Sump: 180.80 ft
Inlet: I-2
Rim: 183.50 ft
Sump: 179.00 ft
Inlet: I-4
Rim: 172.00 ft
Sump: 168.20 ft
Outlet: Outlet
Rim: 172.00 ft
Sump: 161.00 ft
185.00
180.00
175.00
170.00
165.00
160.00
Elevation ft
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
Station ft
Pipe: P-4
Up Invert: 168.20 ft
Dn Invert: 161.00 ft
Length: 278.00 ft
Size: 18 inch
Pipe: P-3
Up Invert: 179.00 ft
Dn Invert: 168.40 ft
Length: 367.00 ft
Size: 18 inch
Pipe: P-1
Up Invert: 180.80 ft
Dn Invert: 180.00 ft
Length: 171.00 ft
Size: 15 inch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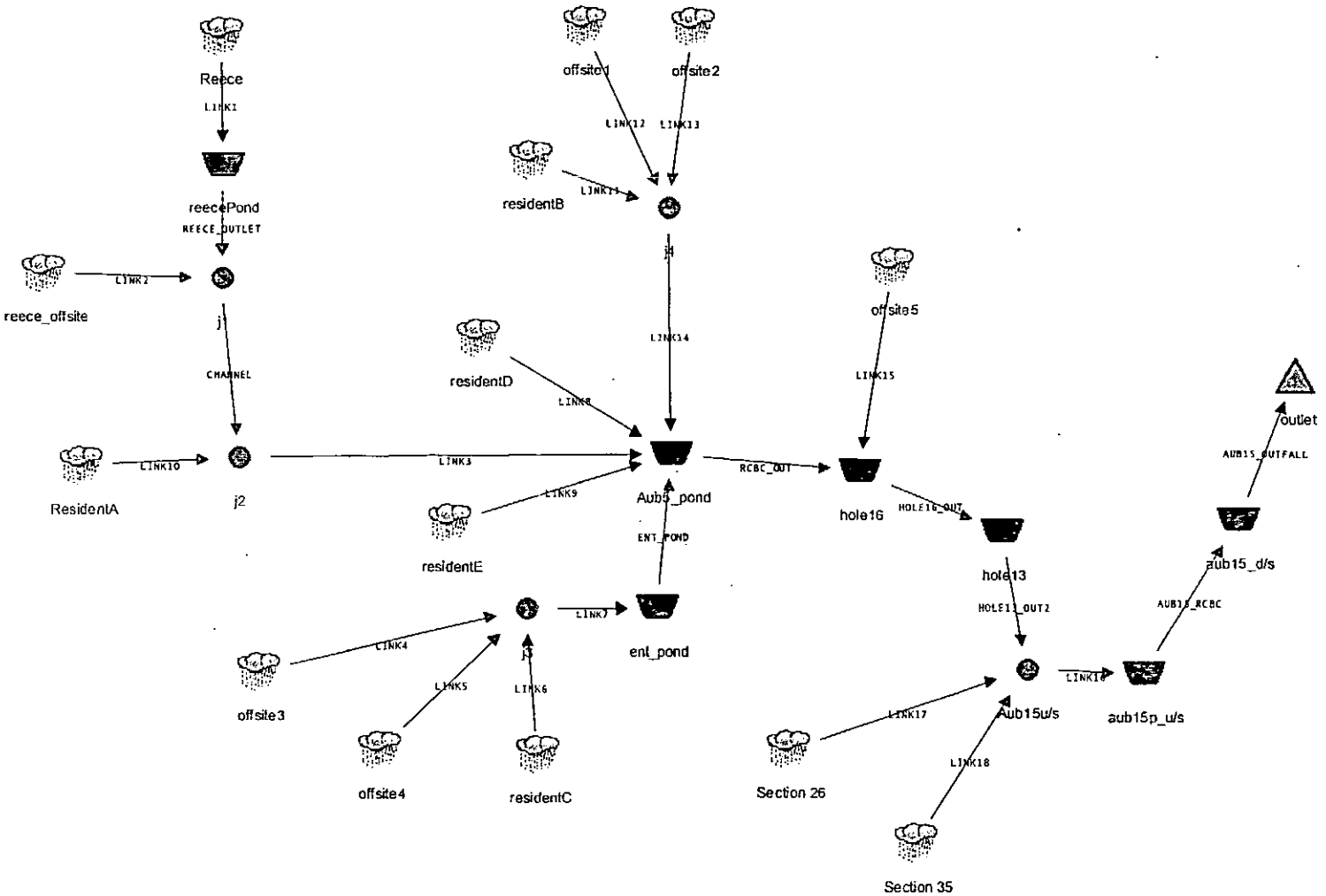
Rim: 185.00 ft
Sump: 181.00 ft
Inlet: I-4
Rim: 172.00 ft
Sump: 168.20 ft
Inlet: I-2
Rim: 183.50 ft
Sump: 179.00 ft
Outlet: Outlet
Rim: 172.00 ft
Sump: 161.00 ft
185.00
180.00
175.00
170.00
165.00
160.00
Elevation ft
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
Station ft
Pipe: P-4
Up Invert: 168.20 ft
Dn Invert: 161.00 ft
Length: 278.00 ft
Size: 18 inch
Pipe: P-3
Up Invert: 179.00 ft
Dn Invert: 168.40 ft
Length: 367.00 ft
Size: 18 inch
Pipe: P-2
Up Invert: 181.00 ft
Dn Invert: 180.00 ft
Length: 36.00 ft
Size: 18 inch

Pond Pack Analysis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LINK1
reecePond
REECE_OUTLET
reece_offsite
LINK2
j1
CHANNEL
ResidentA
LINK10
j2
offsite1
offsite2
LINK12
LINK13
residentB
LINK11
j4
residentD
LINK8
LINK14
offsite5
LINK15
LINK3
Aub5_pond
RCBC_OUT
residentE
LINK9
ENT_POND
hole16
HOLE16_OUT
hole13
HOLE13_OUT2
outlet
AUB15_OUTFALL
aub15_d/s
AUB15_RCBC
offsite3
LINK4
LINK7
ent_pond
j3
LINK5
LINK6
offsite4
residentC
Section 26
LINK17
Aub15u/s
LINK16
aub15p_u/s
LINK18
Section 35

Table of Contents

********** MASTER SUMMARY **********

Watershed..... Master Network Summary 1.01

********** NETWORK SUMMARIES (DETAILED) **********

Watershed..... 2-yr
Executive Summary (Nodes) 2.01
Executive Summary (Links) 2.03

Watershed..... 5-yr
Executive Summary (Nodes) 2.07
Executive Summary (Links) 2.09

Watershed..... 100-yr
Executive Summary (Nodes) 2.13
Executive Summary (Links) 2.15

********** DESIGN STORMS SUMMARY **********

COW25100..... Design Storms 3.01

********** RUNOFF HYDROGRAPHS **********

OFFSITE1..... 100-yr
SCS Unit Hyd. Summary 4.01

OFFSITE2..... 100-yr
SCS Unit Hyd. Summary 4.02

OFFSITE3..... 100-yr
SCS Unit Hyd. Summary 4.03

OFFSITE4..... 100-yr
SCS Unit Hyd. Summary 4.04

Table of Contents (continued)

OFFSITE5..... 100-yr
SCS Unit Hyd. Summary 4.05

REECE..... 100-yr
SCS Unit Hyd. Summary 4.06

REECE_OFFSITE... 100-yr
SCS Unit Hyd. Summary 4.07

RESIDENTA..... 100-yr
SCS Unit Hyd. Summary 4.08

RESIDENTB..... 100-yr
SCS Unit Hyd. Summary 4.09

RESIDENTC..... 100-yr
SCS Unit Hyd. Summary 4.10

RESIDENTD..... 100-yr
SCS Unit Hyd. Summary 4.11

RESIDENTE..... 100-yr
SCS Unit Hyd. Summary 4.12

SECTION 26..... 100-yr
SCS Unit Hyd. Summary 4.13

SECTION 35..... 100-yr
SCS Unit Hyd. Summary 4.14

********** POND VOLUMES **********

AUB15_D/S..... Vol: Elev-Area 5.01

AUB5_POND2..... Vol: Elev-Area 5.02

ENT_POND..... Vol: Elev-Area 5.03

HOLE13..... Vol: Elev-Area 5.04

HOLE16A..... Vol: Elev-Area 5.05

REECEPOND..... Vol: Elev-Area 5.06

Table of Contents (continued)

********** OUTLET STRUCTURES **********

AUB15_OUTFALL... Outlet Input Data 6.01

AUB15_RCBC..... Outlet Input Data 6.04

ENTRANCE POND... Outlet Input Data 6.06

HOLE13_OUT..... Outlet Input Data 6.09

HOLE16_OUT..... Outlet Input Data 6.12

RCBC_OUT....... Outlet Input Data 6.15

REECE_OUTLET.... Outlet Input Data 6.18
Composite Rating Curve 6.20

MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID WICHITA.RNQ COW25100

Return Event	Total Depth in	Rainfall Type	RNF File	RNF ID
2-yr	3.6000	Synthetic Curve	SCSTYPES	TypeII 24hr
5-yr	4.5600	Synthetic Curve	SCSTYPES	TypeII 24hr
100-yr	7.6800	Synthetic Curve	SCSTYPES	TypeII 24hr

ICPM CALCULATION TOLERANCES

Target Convergence= .000 cfs +/-
Max. Iterations = 35 loops
ICPM Time Step = .0100 hrs
Output Time Step = .0100 hrs
ICPM Ending Time = 35.0000 hrs

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
AUB15P_U/S	POND	2	42.414		12.2300	84.15		
AUB15P_U/S	POND	5	63.685		13.2700	157.33		
AUB15P_U/S	POND	100	139.863		12.4600	470.89		
AUB15P_U/S	OUT POND	2	42.414		12.2300	84.15	164.38	.000
AUB15P_U/S	OUT POND	5	63.685		13.2700	157.33	165.11	.000
AUB15P_U/S	OUT POND	100	139.863		12.4600	470.89	167.37	.000
AUB15U/S	JCT	2	42.414		12.2300	84.15		
AUB15U/S	JCT	5	63.685		13.2700	157.33		
AUB15U/S	JCT	100	139.863		12.4600	470.89		
AUB15_D/S	POND	2	42.414		12.2300	84.15		
AUB15_D/S	POND	5	63.685		13.2700	157.33		
AUB15_D/S	POND	100	139.863		12.4600	470.89		

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
AUB15_D/S	OUT POND	2	42.165		12.4400	68.44	162.84	1.750
AUB15_D/S	OUT POND	5	63.405		13.4000	154.68	163.24	2.590
AUB15_D/S	OUT POND	100	139.513		12.5300	466.90	164.03	4.241
AUB5_POND	POND	2	29.761		12.1000	169.00		
AUB5_POND	POND	5	43.760		12.1000	258.28		
AUB5_POND	POND	100	93.595		12.1000	573.14		
AUB5_POND	OUT POND	2	29.745		12.3700	124.84	192.94	2.938
AUB5_POND	OUT POND	5	43.744		12.2600	198.87	194.06	4.128
AUB5_POND	OUT POND	100	93.572		12.7200	313.79	196.61	14.213
ENT_POND	POND	2	14.495		12.4000	84.27		
ENT_POND	POND	5	21.860		12.4000	131.31		
ENT_POND	POND	100	48.592		12.4000	299.37		
ENT_POND	OUT POND	2	14.444		12.8300	61.74	198.81	3.184
ENT_POND	OUT POND	5	21.804		12.7800	100.83	199.59	4.446
ENT_POND	OUT POND	100	48.528		12.8200	208.49	202.35	9.685
HOLE13	POND	2	33.594		12.8700	99.67		
HOLE13	POND	5	49.627		12.5100	192.12		
HOLE13	POND	100	106.560		12.1900	371.14		
HOLE13	OUT POND	2	32.106		14.2500	49.97	188.01	8.017
HOLE13	OUT POND	5	48.043		13.3400	133.80	189.23	10.452
HOLE13	OUT POND	100	104.782		12.9900	327.41	190.89	13.788
HOLE16	POND	2	34.603		12.1600	153.92		
HOLE16	POND	5	50.691		12.1900	247.00		
HOLE16	POND	100	107.752		12.0400	419.43		
HOLE16	OUT POND	2	33.594		12.8700	99.67	192.58	7.152
HOLE16	OUT POND	5	49.627		12.5100	192.12	193.06	8.117

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
HOLE16	OUT POND	100	106.560		12.1900	371.14	193.80	9.599
J1	JCT	2	4.626		12.0600	38.13		
J1	JCT	5	6.445		12.0600	55.09		
J1	JCT	100	12.646		12.0700	116.15		
J2	JCT	2	5.272		12.1300	45.20		
J2	JCT	5	7.367		12.1200	65.54		
J2	JCT	100	14.530		12.1000	137.56		
J3	JCT	2	14.495		12.4000	84.27		
J3	JCT	5	21.860		12.4000	131.31		
J3	JCT	100	48.592		12.4000	299.37		
J4	JCT	2	6.807		12.1300	69.43		
J4	JCT	5	9.957		12.1300	102.44		
J4	JCT	100	21.082		12.1300	215.55		
OFFSITE1	AREA	2	1.233		12.2000	12.50		
OFFSITE1	AREA	5	1.820		12.2000	18.62		
OFFSITE1	AREA	100	3.908		12.2000	39.71		
OFFSITE2	AREA	2	3.973		12.2000	40.28		
OFFSITE2	AREA	5	5.865		12.2000	60.01		
OFFSITE2	AREA	100	12.592		12.2000	127.94		
OFFSITE3	AREA	2	10.298		12.5300	62.51		
OFFSITE3	AREA	5	15.731		12.5300	98.29		
OFFSITE3	AREA	100	35.653		12.5300	226.67		
OFFSITE4	AREA	2	2.740		12.3000	21.04		
OFFSITE4	AREA	5	4.045		12.3000	31.64		
OFFSITE4	AREA	100	8.684		12.3000	68.39		
OFFSITE5	AREA	2	4.857		12.0400	70.82		

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
OFFSITE5	AREA	5	6.947		12.0400	100.87		
OFFSITE5	AREA	100	14.181		12.0300	201.24		
*OUTLET	JCT	2	42.165		12.4400	68.44		
*OUTLET	JCT	5	63.405		13.4000	154.68		
*OUTLET	JCT	100	139.513		12.5300	466.90		
REECE	AREA	2	2.333		12.0400	33.88		
REECE	AREA	5	3.262		12.0300	46.99		
REECE	AREA	100	6.423		12.0300	89.87		
REECEPOND IN	POND	2	2.333		12.0400	33.88		
REECEPOND IN	POND	5	3.262		12.0300	46.99		
REECEPOND IN	POND	100	6.423		12.0300	89.87		
REECEPOND OUT	POND	2	2.293		12.3500	8.57	195.83	.981
REECEPOND OUT	POND	5	3.182		12.3000	14.46	196.10	1.335
REECEPOND OUT	POND	100	6.223		12.2300	39.65	196.85	2.344
REECE_OFFSITE	AREA	2	2.333		12.0400	33.88		
REECE_OFFSITE	AREA	5	3.262		12.0300	46.99		
REECE_OFFSITE	AREA	100	6.423		12.0300	89.87		
RESIDENTA	AREA	2	.648		12.0400	9.44		
RESIDENTA	AREA	5	.926		12.0400	13.45		
RESIDENTA	AREA	100	1.891		12.0300	26.83		
RESIDENTB	AREA	2	1.601		12.0400	23.33		
RESIDENTB	AREA	5	2.273		12.0300	32.92		
RESIDENTB	AREA	100	4.582		12.0300	64.75		
RESIDENTC	AREA	2	1.457		11.9800	24.49		
RESIDENTC	AREA	5	2.084		11.9600	34.83		
RESIDENTC	AREA	100	4.254		11.9600	69.52		

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
RESIDENTD	AREA	2	2.429		12.0400	35.41		
RESIDENTD	AREA	5	3.474		12.0400	50.44		
RESIDENTD	AREA	100	7.090		12.0300	100.62		
RESIDENTE	AREA	2	.810		12.0400	11.80		
RESIDENTE	AREA	5	1.158		12.0400	16.81		
RESIDENTE	AREA	100	2.363		12.0300	33.54		
SECTION 26	AREA	2	7.791		12.3300	63.16		
SECTION 26	AREA	5	11.796		12.3200	97.64		
SECTION 26	AREA	100	26.366		12.2400	220.67		
SECTION 35	AREA	2	2.517		12.1000	31.71		
SECTION 35	AREA	5	3.845		12.1000	49.26		
SECTION 35	AREA	100	8.715		12.1000	111.54		

Name.... Watershed Event: 2 yr
File.... C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\AUB5.PPW
Storm... TypeII 24hr Tag: 2-yr

NETWORK SUMMARY -- NODES
(Trun.= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left & Rt)

DEFAULT Design Storm File,ID = WICHITA.RNQ COW25100

Storm Tag Name = 2-yr

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 24hr
Storm Frequency = 2 yr
Total Rainfall Depth= 3.6000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

ICPM CALCULATION TOLERANCES

Target Convergence= .000 cfs +/-
Max. Iterations = 35 loops
ICPM Time Step = .0100 hrs
Output Time Step = .0100 hrs
ICPM Ending Time = 35.0000 hrs

Node ID		Type	HYG Vol ac-ft	Trun.	Qpeak hrs	Qpeak cfs	Max WSEL ft
AUB15P_U/S		POND	42.414		12.2300	84.15	
AUB15P_U/S	OUT	POND	42.414		12.2300	84.15	164.38
AUB15U/S		JCT	42.414		12.2300	84.15	
AUB15_D/S		POND	42.414		12.2300	84.15	
AUB15_D/S	OUT	POND	42.165		12.4400	68.44	162.84
AUB5_POND		POND	29.761		12.1000	169.00	
AUB5_POND	OUT	POND	29.745		12.3700	124.84	192.94
ENT_POND		POND	14.495		12.4000	84.27	
ENT_POND	OUT	POND	14.444		12.8300	61.74	198.81
HOLE13		POND	33.594		12.8700	99.67	
HOLE13	OUT	POND	32.106		14.2500	49.97	188.01
HOLE16		POND	34.603		12.1600	153.92	
HOLE16	OUT	POND	33.594		12.8700	99.67	192.58
J1		JCT	4.626		12.0600	38.13	
J2		JCT	5.272		12.1300	45.20	
J3		JCT	14.495		12.4000	84.27	
J4		JCT	6.807		12.1300	69.43	
OFFSITE1		AREA	1.233		12.2000	12.50	
OFFSITE2		AREA	3.973		12.2000	40.28	
OFFSITE3		AREA	10.298		12.5300	62.51	
OFFSITE4		AREA	2.740		12.3000	21.04	
OFFSITE5		AREA	4.857		12.0400	70.82	
Outfall OUTLET		JCT	42.165		12.4400	68.44	

NETWORK SUMMARY -- NODES
(Trun.= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left & Rt)

Node ID	Type	HYG Vol ac-ft	Trun.	Qpeak hrs	Qpeak cfs	Max WSEL ft
REECE	AREA	2.333		12.0400	33.88	
REECEPOND IN	POND	2.333		12.0400	33.88	
REECEPOND OUT	POND	2.293		12.3500	8.57	195.83
REECE_OFFSITE	AREA	2.333		12.0400	33.88	
RESIDENTA	AREA	.648		12.0400	9.44	
RESIDENTB	AREA	1.601		12.0400	23.33	
RESIDENTC	AREA	1.457		11.9800	24.49	
RESIDENTD	AREA	2.429		12.0400	35.41	
RESIDENTE	AREA	.810		12.0400	11.80	
SECTION 26	AREA	7.791		12.3300	63.16	
SECTION 35	AREA	2.517		12.1000	31.71	

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 = WICHITA.RNQ COW25100

Storm Tag Name = 2-yr

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 24hr
Storm Frequency = 2 yr
Total Rainfall Depth= 3.6000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

ICPM CALCULATION TOLERANCES

Target Convergence= .000 cfs +/-
Max. Iterations = 35 loops
ICPM Time Step = .0100 hrs
Output Time Step = .0100 hrs
ICPM Ending Time = 35.0000 hrs

Link ID	Type		HYG Vol ac-ft	Trun.	Peak Time hrs	Peak Q cfs	End Points	
AUB15_OUTFALL	PONDrt	UN	42.414		12.2300	84.15	AUB15_D/S	IN
AUB15_OUTFALL			42.165		12.4400	68.44	AUB15_D/S	OUT
		DL	42.165		12.4400	68.44		
		DN	42.165		12.4400	68.44	OUTLET	
AUB15_RCBC	PONDrt	UN	42.414		12.2300	84.15	AUB15P_U/S	IN
AUB15_RCBC			42.414		12.2300	84.15	AUB15P_U/S	OUT
		DL	42.414		12.2300	84.15		
		DN	42.414		12.2300	84.15	AUB15_D/S	
CHANNEL	REACH	UN	4.626		12.0600	38.13	J1	
		DL	4.624		12.1400	37.69		
		DN	5.272		12.1300	45.20	J2	
ENT_POND	PONDrt	UN	14.495		12.4000	84.27	ENT_POND	IN
ENT_POND			14.444		12.8300	61.74	ENT_POND	OUT
		DL	14.444		12.8300	61.74		
		DN	29.761		12.1000	169.00	AUB5_POND	

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)

Link ID	Type		HYG Vol ac-ft	Trun.	Peak Time hrs	Peak Q cfs	End Points	
HOLE13_OUT2	PONDrt	UN	33.594		12.8700	99.67	HOLE13	IN
HOLE13_OUT2			32.106		14.2500	49.97	HOLE13	OUT
		DL	32.106		14.2500	49.97		
		DN	42.414		12.2300	84.15	AUB15U/S	
HOLE16_OUT	PONDrt	UN	34.603		12.1600	153.92	HOLE16	IN
HOLE16_OUT			33.594		12.8700	99.67	HOLE16	OUT
		DL	33.594		12.8700	99.67		
		DN	33.594		12.8700	99.67	HOLE13	
LINK1	ADD	UN	2.333		12.0400	33.88	REECE	
		DL	2.333		12.0400	33.88		
		DN	2.333		12.0400	33.88	REECEPOND	IN
LINK10	ADD	UN	.648		12.0400	9.44	RESIDENTA	
		DL	.648		12.0400	9.44		
		DN	5.272		12.1300	45.20	J2	
LINK11	ADD	UN	1.601		12.0400	23.33	RESIDENTB	
		DL	1.601		12.0400	23.33		
		DN	6.807		12.1300	69.43	J4	
LINK12	ADD	UN	1.233		12.2000	12.50	OFFSITE1	
		DL	1.233		12.2000	12.50		
		DN	6.807		12.1300	69.43	J4	
LINK13	ADD	UN	3.973		12.2000	40.28	OFFSITE2	
		DL	3.973		12.2000	40.28		
		DN	6.807		12.1300	69.43	J4	
LINK14	ADD	UN	6.807		12.1300	69.43	J4	
		DL	6.807		12.1300	69.43		
		DN	29.761		12.1000	169.00	AUB5_POND	
LINK15	ADD	UN	4.857		12.0400	70.82	OFFSITE5	
		DL	4.857		12.0400	70.82		
		DN	34.603		12.1600	153.92	HOLE16	

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)

Link ID	Type		HYG Vol ac-ft	Trun.	Peak Time hrs	Peak Q cfs	End Points
LINK16	ADD	UN	42.414		12.2300	84.15	AUB15U/S
		DL	42.414		12.2300	84.15	
		DN	42.414		12.2300	84.15	AUB15P_U/S
LINK17	ADD	UN	7.791		12.3300	63.16	SECTION 26
		DL	7.791		12.3300	63.16	
		DN	42.414		12.2300	84.15	AUB15U/S
LINK18	ADD	UN	2.517		12.1000	31.71	SECTION 35
		DL	2.517		12.1000	31.71	
		DN	42.414		12.2300	84.15	AUB15U/S
LINK2	ADD	UN	2.333		12.0400	33.88	REECE_OFFSITE
		DL	2.333		12.0400	33.88	
		DN	4.626		12.0600	38.13	J1
LINK3	ADD	UN	5.272		12.1300	45.20	J2
		DL	5.272		12.1300	45.20	
		DN	29.761		12.1000	169.00	AUB5_POND
LINK4	ADD	UN	10.298		12.5300	62.51	OFFSITE3
		DL	10.298		12.5300	62.51	
		DN	14.495		12.4000	84.27	J3
LINK5	ADD	UN	2.740		12.3000	21.04	OFFSITE4
		DL	2.740		12.3000	21.04	
		DN	14.495		12.4000	84.27	J3
LINK6	ADD	UN	1.457		11.9800	24.49	RESIDENTC
		DL	1.457		11.9800	24.49	
		DN	14.495		12.4000	84.27	J3
LINK7	ADD	UN	14.495		12.4000	84.27	J3
		DL	14.495		12.4000	84.27	
		DN	14.495		12.4000	84.27	ENT_POND
LINK8	ADD	UN	2.429		12.0400	35.41	RESIDENTD
		DL	2.429		12.0400	35.41	
		DN	29.761		12.1000	169.00	AUB5_POND

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)

Link ID	Type		HYG Vol ac-ft	Trun.	Peak Time hrs	Peak Q cfs	End Points	
LINK9	ADD	UN	.810		12.0400	11.80	RESIDENTE	
		DL	.810		12.0400	11.80		
		DN	29.761		12.1000	169.00	AUB5_POND	
RCBC_OUT	PONDrt	UN	29.761		12.1000	169.00	AUB5_POND	IN
RCBC_OUT			29.745		12.3700	124.84	AUB5_POND	OUT
		DL	29.745		12.3700	124.84		
		DN	34.603		12.1600	153.92	HOLE16	
REECE_OUTLET	PONDrt	UN	2.333		12.0400	33.88	REECEPOND	IN
REECE_OUTLET			2.293		12.3500	8.57	REECEPOND	OUT
		DL	2.293		12.3500	8.57		
		DN	4.626		12.0600	38.13	J1	

NETWORK SUMMARY -- NODES
(Trun.= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left & Rt)

DEFAULT Design Storm File,ID = WICHITA.RNQ COW25100

Storm Tag Name = 5-yr

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 24hr
Storm Frequency = 5 yr
Total Rainfall Depth= 4.5600 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

ICPM CALCULATION TOLERANCES

Target Convergence= .000 cfs +/-
Max. Iterations = 35 loops
ICPM Time Step = .0100 hrs
Output Time Step = .0100 hrs
ICPM Ending Time = 35.0000 hrs

Node ID		Type	HYG Vol ac-ft	Trun.	Qpeak hrs	Qpeak cfs	Max WSEL ft
AUB15P_U/S		POND	63.685		13.2700	157.33	
AUB15P_U/S	OUT	POND	63.685		13.2700	157.33	165.11
AUB15U/S		JCT	63.685		13.2700	157.33	
AUB15_D/S		POND	63.685		13.2700	157.33	
AUB15_D/S	OUT	POND	63.405		13.4000	154.68	163.24
AUB5_POND		POND	43.760		12.1000	258.28	
AUB5_POND	OUT	POND	43.744		12.2600	198.87	194.06
ENT_POND		POND	21.860		12.4000	131.31	
ENT_POND	OUT	POND	21.804		12.7800	100.83	199.59
HOLE13		POND	49.627		12.5100	192.12	
HOLE13	OUT	POND	48.043		13.3400	133.80	189.23
HOLE16		POND	50.691		12.1900	247.00	
HOLE16	OUT	POND	49.627		12.5100	192.12	193.06
J1		JCT	6.445		12.0600	55.09	
J2		JCT	7.367		12.1200	65.54	
J3		JCT	21.860		12.4000	131.31	
J4		JCT	9.957		12.1300	102.44	
OFFSITE1		AREA	1.820		12.2000	18.62	
OFFSITE2		AREA	5.865		12.2000	60.01	
OFFSITE3		AREA	15.731		12.5300	98.29	
OFFSITE4		AREA	4.045		12.3000	31.64	
OFFSITE5		AREA	6.947		12.0400	100.87	
Outfall OUTLET		JCT	63.405		13.4000	154.68	

NETWORK SUMMARY -- NODES
(Trun.= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left & Rt)

Node ID	Type	HYG Vol ac-ft	Trun.	Qpeak hrs	Qpeak cfs	Max WSEL ft
REECE	AREA	3.262		12.0300	46.99	
REECEPOND IN	POND	3.262		12.0300	46.99	
REECEPOND OUT	POND	3.182		12.3000	14.46	196.10
REECE_OFFSITE	AREA	3.262		12.0300	46.99	
RESIDENTA	AREA	.926		12.0400	13.45	
RESIDENTB	AREA	2.273		12.0300	32.92	
RESIDENTC	AREA	2.084		11.9600	34.83	
RESIDENTD	AREA	3.474		12.0400	50.44	
RESIDENTE	AREA	1.158		12.0400	16.81	
SECTION 26	AREA	11.796		12.3200	97.64	
SECTION 35	AREA	3.845		12.1000	49.26	

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 = WICHITA.RNQ COW25100

Storm Tag Name = 5-yr

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 24hr
Storm Frequency = 5 yr
Total Rainfall Depth= 4.5600 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

ICPM CALCULATION TOLERANCES

Target Convergence= .000 cfs +/-
Max. Iterations = 35 loops
ICPM Time Step = .0100 hrs
Output Time Step = .0100 hrs
ICPM Ending Time = 35.0000 hrs

Link ID	Type		HYG Vol ac-ft	Trun.	Peak Time hrs	Peak Q cfs	End Points	
AUB15_OUTFALL	PONDrt	UN	63.685		13.2700	157.33	AUB15_D/S	IN
AUB15_OUTFALL			63.405		13.4000	154.68	AUB15_D/S	OUT
		DL	63.405		13.4000	154.68		
		DN	63.405		13.4000	154.68	OUTLET	
AUB15_RCBC	PONDrt	UN	63.685		13.2700	157.33	AUB15P_U/S	IN
AUB15_RCBC			63.685		13.2700	157.33	AUB15P_U/S	OUT
		DL	63.685		13.2700	157.33		
		DN	63.685		13.2700	157.33	AUB15_D/S	
CHANNEL	REACH	UN	6.445		12.0600	55.09	J1	
		DL	6.441		12.1300	54.52		
		DN	7.367		12.1200	65.54	J2	
ENT_POND	PONDrt	UN	21.860		12.4000	131.31	ENT_POND	IN
ENT_POND			21.804		12.7800	100.83	ENT_POND	OUT
		DL	21.804		12.7800	100.83		
		DN	43.760		12.1000	258.28	AUB5_POND	

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)

Link ID	Type		HYG Vol ac-ft	Trun.	Peak Time hrs	Peak Q cfs	End Points	
HOLE13_OUT2	PONDrt	UN	49.627		12.5100	192.12	HOLE13	IN
HOLE13_OUT2			48.043		13.3400	133.80	HOLE13	OUT
		DL	48.043		13.3400	133.80		
		DN	63.685		13.2700	157.33	AUB15U/S	
HOLE16_OUT	PONDrt	UN	50.691		12.1900	247.00	HOLE16	IN
HOLE16_OUT			49.627		12.5100	192.12	HOLE16	OUT
		DL	49.627		12.5100	192.12		
		DN	49.627		12.5100	192.12	HOLE13	
LINK1	ADD	UN	3.262		12.0300	46.99	REECE	
		DL	3.262		12.0300	46.99		
		DN	3.262		12.0300	46.99	REECEPOND	IN
LINK10	ADD	UN	.926		12.0400	13.45	RESIDENTA	
		DL	.926		12.0400	13.45		
		DN	7.367		12.1200	65.54	J2	
LINK11	ADD	UN	2.273		12.0300	32.92	RESIDENTB	
		DL	2.273		12.0300	32.92		
		DN	9.957		12.1300	102.44	J4	
LINK12	ADD	UN	1.820		12.2000	18.62	OFFSITE1	
		DL	1.820		12.2000	18.62		
		DN	9.957		12.1300	102.44	J4	
LINK13	ADD	UN	5.865		12.2000	60.01	OFFSITE2	
		DL	5.865		12.2000	60.01		
		DN	9.957		12.1300	102.44	J4	
LINK14	ADD	UN	9.957		12.1300	102.44	J4	
		DL	9.957		12.1300	102.44		
		DN	43.760		12.1000	258.28	AUB5_POND	
LINK15	ADD	UN	6.947		12.0400	100.87	OFFSITE5	
		DL	6.947		12.0400	100.87		
		DN	50.691		12.1900	247.00	HOLE16	

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)

Link ID	Type		HYG Vol ac-ft	Trun.	Peak Time hrs	Peak Q cfs	End Points
LINK16	ADD	UN	63.685		13.2700	157.33	AUB15U/S
		DL	63.685		13.2700	157.33	
		DN	63.685		13.2700	157.33	AUB15P_U/S
LINK17	ADD	UN	11.796		12.3200	97.64	SECTION 26
		DL	11.796		12.3200	97.64	
		DN	63.685		13.2700	157.33	AUB15U/S
LINK18	ADD	UN	3.845		12.1000	49.26	SECTION 35
		DL	3.845		12.1000	49.26	
		DN	63.685		13.2700	157.33	AUB15U/S
LINK2	ADD	UN	3.262		12.0300	46.99	REECE_OFFSITE
		DL	3.262		12.0300	46.99	
		DN	6.445		12.0600	55.09	J1
LINK3	ADD	UN	7.367		12.1200	65.54	J2
		DL	7.367		12.1200	65.54	
		DN	43.760		12.1000	258.28	AUB5_POND
LINK4	ADD	UN	15.731		12.5300	98.29	OFFSITE3
		DL	15.731		12.5300	98.29	
		DN	21.860		12.4000	131.31	J3
LINK5	ADD	UN	4.045		12.3000	31.64	OFFSITE4
		DL	4.045		12.3000	31.64	
		DN	21.860		12.4000	131.31	J3
LINK6	ADD	UN	2.084		11.9600	34.83	RESIDENTC
		DL	2.084		11.9600	34.83	
		DN	21.860		12.4000	131.31	J3
LINK7	ADD	UN	21.860		12.4000	131.31	J3
		DL	21.860		12.4000	131.31	
		DN	21.860		12.4000	131.31	ENT_POND
LINK8	ADD	UN	3.474		12.0400	50.44	RESIDENTD
		DL	3.474		12.0400	50.44	
		DN	43.760		12.1000	258.28	AUB5_POND

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)

Link ID	Type		HYG Vol ac-ft	Trun.	Peak Time hrs	Peak Q cfs	End Points	
LINK9	ADD	UN	1.158		12.0400	16.81	RESIDENTE	
		DL	1.158		12.0400	16.81		
		DN	43.760		12.1000	258.28	AUB5_POND	
RCBC_OUT	PONDrt	UN	43.760		12.1000	258.28	AUB5_POND	IN
RCBC_OUT			43.744		12.2600	198.87	AUB5_POND	OUT
		DL	43.744		12.2600	198.87		
		DN	50.691		12.1900	247.00	HOLE16	
REECE_OUTLET	PONDrt	UN	3.262		12.0300	46.99	REECEPOND	IN
REECE_OUTLET			3.182		12.3000	14.46	REECEPOND	OUT
		DL	3.182		12.3000	14.46		
		DN	6.445		12.0600	55.09	J1	

NETWORK SUMMARY -- NODES
(Trun.= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left & Rt)

DEFAULT Design Storm File,ID = WICHITA.RNQ COW25100

Storm Tag Name = 100-yr

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 24hr
Storm Frequency = 100 yr
Total Rainfall Depth= 7.6800 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

ICPM CALCULATION TOLERANCES

Target Convergence= .000 cfs +/-
Max. Iterations = 35 loops
ICPM Time Step = .0100 hrs
Output Time Step = .0100 hrs
ICPM Ending Time = 35.0000 hrs

Node ID		Type	HYG Vol ac-ft	Trun.	Qpeak hrs	Qpeak cfs	Max WSEL ft
AUB15P_U/S		POND	139.863		12.4600	470.89	
AUB15P_U/S	OUT	POND	139.863		12.4600	470.89	167.37
AUB15U/S		JCT	139.863		12.4600	470.89	
AUB15_D/S		POND	139.863		12.4600	470.89	
AUB15_D/S	OUT	POND	139.513		12.5300	466.90	164.03
AUB5_POND		POND	93.595		12.1000	573.14	
AUB5_POND	OUT	POND	93.572		12.7200	313.79	196.61
ENT_POND		POND	48.592		12.4000	299.37	
ENT_POND	OUT	POND	48.528		12.8200	208.49	202.35
HOLE13		POND	106.560		12.1900	371.14	
HOLE13	OUT	POND	104.782		12.9900	327.41	190.89
HOLE16		POND	107.752		12.0400	419.43	
HOLE16	OUT	POND	106.560		12.1900	371.14	193.80
J1		JCT	12.646		12.0700	116.15	
J2		JCT	14.530		12.1000	137.56	
J3		JCT	48.592		12.4000	299.37	
J4		JCT	21.082		12.1300	215.55	
OFFSITE1		AREA	3.908		12.2000	39.71	
OFFSITE2		AREA	12.592		12.2000	127.94	
OFFSITE3		AREA	35.653		12.5300	226.67	
OFFSITE4		AREA	8.684		12.3000	68.39	
OFFSITE5		AREA	14.181		12.0300	201.24	
Outfall OUTLET		JCT	139.513		12.5300	466.90	

NETWORK SUMMARY -- NODES
(Trun.= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left & Rt)

Node ID	Type	HYG Vol ac-ft	Trun.	Qpeak hrs	Qpeak cfs	Max WSEL ft
REECE	AREA	6.423		12.0300	89.87	
REECEPOND IN	POND	6.423		12.0300	89.87	
REECEPOND OUT	POND	6.223		12.2300	39.65	196.85
REECE_OFFSITE	AREA	6.423		12.0300	89.87	
RESIDENTA	AREA	1.891		12.0300	26.83	
RESIDENTB	AREA	4.582		12.0300	64.75	
RESIDENTC	AREA	4.254		11.9600	69.52	
RESIDENTD	AREA	7.090		12.0300	100.62	
RESIDENTE	AREA	2.363		12.0300	33.54	
SECTION 26	AREA	26.366		12.2400	220.67	
SECTION 35	AREA	8.715		12.1000	111.54	

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 = WICHITA.RNQ COW25100

Storm Tag Name = 100-yr

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 24hr
Storm Frequency = 100 yr
Total Rainfall Depth= 7.6800 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

ICPM CALCULATION TOLERANCES

Target Convergence= .000 cfs +/-
Max. Iterations = 35 loops
ICPM Time Step = .0100 hrs
Output Time Step = .0100 hrs
ICPM Ending Time = 35.0000 hrs

Link ID	Type		HYG Vol ac-ft	Trun.	Peak Time hrs	Peak Q cfs	End Points	
AUB15_OUTFALL	PONDrt	UN	139.863		12.4600	470.89	AUB15_D/S	IN
AUB15_OUTFALL			139.513		12.5300	466.90	AUB15_D/S	OUT
		DL	139.513		12.5300	466.90		
		DN	139.513		12.5300	466.90	OUTLET	
AUB15_RCBC	PONDrt	UN	139.863		12.4600	470.89	AUB15P_U/S	IN
AUB15_RCBC			139.863		12.4600	470.89	AUB15P_U/S	OUT
		DL	139.863		12.4600	470.89		
		DN	139.863		12.4600	470.89	AUB15_D/S	
CHANNEL	REACH	UN	12.646		12.0700	116.15	J1	
		DL	12.639		12.1300	115.19		
		DN	14.530		12.1000	137.56	J2	
ENT_POND	PONDrt	UN	48.592		12.4000	299.37	ENT_POND	IN
ENT_POND			48.528		12.8200	208.49	ENT_POND	OUT
		DL	48.528		12.8200	208.49		
		DN	93.595		12.1000	573.14	AUB5_POND	

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)

Link ID	Type		HYG Vol ac-ft	Trun.	Peak Time hrs	Peak Q cfs	End Points	
HOLE13_OUT2	PONDrt	UN	106.560		12.1900	371.14	HOLE13	IN
HOLE13_OUT2			104.782		12.9900	327.41	HOLE13	OUT
		DL	104.782		12.9900	327.41		
		DN	139.863		12.4600	470.89	AUB15U/S	
HOLE16_OUT	PONDrt	UN	107.752		12.0400	419.43	HOLE16	IN
HOLE16_OUT			106.560		12.1900	371.14	HOLE16	OUT
		DL	106.560		12.1900	371.14		
		DN	106.560		12.1900	371.14	HOLE13	
LINK1	ADD	UN	6.423		12.0300	89.87	REECE	
		DL	6.423		12.0300	89.87		
		DN	6.423		12.0300	89.87	REECEPOND	IN
LINK10	ADD	UN	1.891		12.0300	26.83	RESIDENTA	
		DL	1.891		12.0300	26.83		
		DN	14.530		12.1000	137.56	J2	
LINK11	ADD	UN	4.582		12.0300	64.75	RESIDENTB	
		DL	4.582		12.0300	64.75		
		DN	21.082		12.1300	215.55	J4	
LINK12	ADD	UN	3.908		12.2000	39.71	OFFSITE1	
		DL	3.908		12.2000	39.71		
		DN	21.082		12.1300	215.55	J4	
LINK13	ADD	UN	12.592		12.2000	127.94	OFFSITE2	
		DL	12.592		12.2000	127.94		
		DN	21.082		12.1300	215.55	J4	
LINK14	ADD	UN	21.082		12.1300	215.55	J4	
		DL	21.082		12.1300	215.55		
		DN	93.595		12.1000	573.14	AUB5_POND	
LINK15	ADD	UN	14.181		12.0300	201.24	OFFSITES	
		DL	14.181		12.0300	201.24		
		DN	107.752		12.0400	419.43	HOLE16	

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)

Link ID	Type		HYG Vol ac-ft	Trun.	Peak Time hrs	Peak Q cfs	End Points
LINK16	ADD	UN	139.863		12.4600	470.89	AUB15U/S
		DL	139.863		12.4600	470.89	
		DN	139.863		12.4600	470.89	AUB15P_U/S
LINK17	ADD	UN	26.366		12.2400	220.67	SECTION 26
		DL	26.366		12.2400	220.67	
		DN	139.863		12.4600	470.89	AUB15U/S
LINK18	ADD	UN	8.715		12.1000	111.54	SECTION 35
		DL	8.715		12.1000	111.54	
		DN	139.863		12.4600	470.89	AUB15U/S
LINK2	ADD	UN	6.423		12.0300	89.87	REECE_OFFSITE
		DL	6.423		12.0300	89.87	
		DN	12.646		12.0700	116.15	J1
LINK3	ADD	UN	14.530		12.1000	137.56	J2
		DL	14.530		12.1000	137.56	
		DN	93.595		12.1000	573.14	AUB5_POND
LINK4	ADD	UN	35.653		12.5300	226.67	OFFSITE3
		DL	35.653		12.5300	226.67	
		DN	48.592		12.4000	299.37	J3
LINK5	ADD	UN	8.684		12.3000	68.39	OFFSITE4
		DL	8.684		12.3000	68.39	
		DN	48.592		12.4000	299.37	J3
LINK6	ADD	UN	4.254		11.9600	69.52	RESIDENTC
		DL	4.254		11.9600	69.52	
		DN	48.592		12.4000	299.37	J3
LINK7	ADD	UN	48.592		12.4000	299.37	J3
		DL	48.592		12.4000	299.37	
		DN	48.592		12.4000	299.37	ENT_POND
LINK8	ADD	UN	7.090		12.0300	100.62	RESIDENTD
		DL	7.090		12.0300	100.62	
		DN	93.595		12.1000	573.14	AUB5_POND

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)

Link ID	Type		HYG Vol ac-ft	Trun.	Peak Time hrs	Peak Q cfs	End Points	
LINK9	ADD	UN	2.363		12.0300	33.54	RESIDENTE	
		DL	2.363		12.0300	33.54		
		DN	93.595		12.1000	573.14	AUB5_POND	
RCBC_OUT	PONDrt	UN	93.595		12.1000	573.14	AUB5_POND	IN
RCBC_OUT			93.572		12.7200	313.79	AUB5_POND	OUT
		DL	93.572		12.7200	313.79		
		DN	107.752		12.0400	419.43	HOLE16	
REECE_OUTLET	PONDrt	UN	6.423		12.0300	89.87	REECEPOND	IN
REECE_OUTLET			6.223		12.2300	39.65	REECEPOND	OUT
		DL	6.223		12.2300	39.65		
		DN	12.646		12.0700	116.15	J1	

File.... C:\HAESTAD\PPKW\RAINFALL\WICHITA.RNQ
Title...

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

DESIGN STORMS SUMMARY

Design Storm File,ID = WICHITA.RNQ COW25100

Storm Tag Name = 2-yr

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 24hr
Storm Frequency = 2 yr
Total Rainfall Depth= 3.6000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 5-yr

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 24hr
Storm Frequency = 5 yr
Total Rainfall Depth= 4.5600 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 100-yr

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 24hr
Storm Frequency = 100 yr
Total Rainfall Depth= 7.6800 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.6800 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\
HYG File - ID = AUBURN15.HYG - OFFSITE1 100-yr
Tc = .5000 hrs
Drainage Area = 9.000 acres Runoff CN= 79

==========

Computational Time Increment	=	.06667 hrs
Computed Peak Time	=	12.2000 hrs
Computed Peak Flow	=	39.71 cfs
Time Increment for HYG File	=	.0100 hrs
Peak Time, Interpolated Output	=	12.2002 hrs
Peak Flow, Interpolated Output	=	39.71 cfs

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DRAINAGE AREA

ID:None Selected
CN = 79
Area = 9.000 acres
S = 2.6582 in
0.2S = .5316 in

Cumulative Runoff

5.2107 in
3.908 ac-ft

HYG Volume... 3.908 ac-ft (area under HYG curve)

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

Time Concentration, Tc = .50000 hrs (ID: None Selected)
Computational Incr, Tm = .06667 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 =	20.39 cfs
Unit peak time	Tp =	.33333 hrs
Unit receding limb,	Tr =	1.33333 hrs
Total unit time,	Tb =	1.66667 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.6800 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\
HYG File - ID = AUBURN15.HYG - OFFSITE2 100-yr
Tc = .5000 hrs
Drainage Area = 29.000 acres Runoff CN= 79

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Computational Time Increment	=	.06667 hrs
Computed Peak Time	=	12.2000 hrs
Computed Peak Flow	=	127.97 cfs
Time Increment for HYG File	=	.0100 hrs
Peak Time, Interpolated Output	=	12.2002 hrs
Peak Flow, Interpolated Output	=	127.94 cfs

==========

DRAINAGE AREA

ID:None Selected
CN = 79
Area = 29.000 acres
S = 2.6582 in
0.2S = .5316 in

Cumulative Runoff

5.2107 in
12.592 ac-ft

HYG Volume... 12.592 ac-ft (area under HYG curve)

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

Time Concentration, Tc = .50000 hrs (ID: None Selected)
Computational Incr, Tm = .06667 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 =	65.72 cfs
Unit peak time	Tp =	.33333 hrs
Unit receding limb,	Tr =	1.33333 hrs
Total unit time,	Tb =	1.66667 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.6800 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\
HYG File - ID = AUBURN15.HYG - OFFSITE3 100-yr
Tc = 1.0000 hrs
Drainage Area = 90.000 acres Runoff CN= 75

==========
Computational Time Increment = .13333 hrs
Computed Peak Time = 12.5333 hrs
Computed Peak Flow = 226.73 cfs

Time Increment for HYG File = .0100 hrs
Peak Time, Interpolated Output = 12.5302 hrs
Peak Flow, Interpolated Output = 226.67 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 75
Area = 90.000 acres
S = 3.3333 in
0.2S = .6667 in

Cumulative Runoff

4.7539 in
35.654 ac-ft

HYG Volume... 35.653 ac-ft (area under HYG curve)

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

Time Concentration, Tc = 1.00000 hrs (ID: None Selected)
Computational Incr, Tm = .13333 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 = 101.97 cfs
Unit peak time Tp = .66667 hrs
Unit receding limb, Tr = 2.66667 hrs
Total unit time, Tb = 3.33333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.6800 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\
HYG File - ID = AUBURN15.HYG - OFFSITE4 100-yr
Tc = .7500 hrs
Drainage Area = 20.000 acres Runoff CN= 79

==========

Computational Time Increment	=	.10000 hrs
Computed Peak Time	=	12.3000 hrs
Computed Peak Flow	=	68.39 cfs
Time Increment for HYG File	=	.0100 hrs
Peak Time, Interpolated Output	=	12.3002 hrs
Peak Flow, Interpolated Output	=	68.39 cfs

==========

DRAINAGE AREA

ID:None Selected
CN = 79
Area = 20.000 acres
S = 2.6582 in
0.2S = .5316 in

Cumulative Runoff

5.2107 in
8.684 ac-ft

HYG Volume... 8.684 ac-ft (area under HYG curve)

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

Time Concentration, Tc = .75000 hrs (ID: None Selected)
Computational Incr, Tm = .10000 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 =	30.21 cfs
Unit peak time	Tp =	.50000 hrs
Unit receding limb,	Tr =	2.00000 hrs
Total unit time,	Tb =	2.50000 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.6800 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\
HYG File - ID = AUBURN15.HYG - OFFSITE5 100-yr
Tc = .2500 hrs
Drainage Area = 30.000 acres Runoff CN= 83

==========

Computational Time Increment	=	.03333 hrs
Computed Peak Time	=	12.0333 hrs
Computed Peak Flow	=	201.79 cfs
Time Increment for HYG File	=	.0100 hrs
Peak Time, Interpolated Output	=	12.0302 hrs
Peak Flow, Interpolated Output	=	201.24 cfs

==========

DRAINAGE AREA

ID:None Selected
CN = 83
Area = 30.000 acres
S = 2.0482 in
0.2S = .4096 in

Cumulative Runoff

5.6724 in
14.181 ac-ft

HYG Volume... 14.181 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 =	135.97 cfs
Unit peak time	Tp =	.16667 hrs
Unit receding limb,	Tr =	.66667 hrs
Total unit time,	Tb =	.83333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.6800 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\
HYG File - ID = AUBURN15.HYG - REECE 100-yr
Tc = .2500 hrs
Drainage Area = 12.800 acres Runoff CN= 86

==========
Computational Time Increment = .03333 hrs
Computed Peak Time = 12.0333 hrs
Computed Peak Flow = 90.09 cfs

Time Increment for HYG File = .0100 hrs
Peak Time, Interpolated Output = 12.0302 hrs
Peak Flow, Interpolated Output = 89.87 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 86
Area = 12.800 acres
S = 1.6279 in
0.2S = .3256 in

Cumulative Runoff

6.0215 in
6.423 ac-ft

HYG Volume... 6.423 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 = 58.01 cfs
Unit peak time Tp = .16667 hrs
Unit receding limb, Tr = .66667 hrs
Total unit time, Tb = .83333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.6800 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\
HYG File - ID = AUBURN15.HYG - REECE_OFFSITE 100-yr
Tc = .2500 hrs
Drainage Area = 12.800 acres Runoff CN= 86

==========
Computational Time Increment = .03333 hrs
Computed Peak Time = 12.0333 hrs
Computed Peak Flow = 90.09 cfs

Time Increment for HYG File = .0100 hrs
Peak Time, Interpolated Output = 12.0302 hrs
Peak Flow, Interpolated Output = 89.87 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 86
Area = 12.800 acres
S = 1.6279 in
0.2S = .3256 in

Cumulative Runoff

6.0215 in
6.423 ac-ft

HYG Volume... 6.423 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 = 58.01 cfs
Unit peak time Tp = .16667 hrs
Unit receding limb, Tr = .66667 hrs
Total unit time, Tb = .83333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.6800 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\
HYG File - ID = AUBURN15.HYG - RESIDENTA 100-yr
Tc = .2500 hrs
Drainage Area = 4.000 acres Runoff CN= 83

==========
Computational Time Increment = .03333 hrs
Computed Peak Time = 12.0333 hrs
Computed Peak Flow = 26.90 cfs

Time Increment for HYG File = .0100 hrs
Peak Time, Interpolated Output = 12.0302 hrs
Peak Flow, Interpolated Output = 26.83 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 83
Area = 4.000 acres
S = 2.0482 in
0.2S = .4096 in

Cumulative Runoff

5.6724 in
1.891 ac-ft

HYG Volume... 1.891 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 = 18.13 cfs
Unit peak time Tp = .16667 hrs
Unit receding limb, Tr = .66667 hrs
Total unit time, Tb = .83333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.6800 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\
HYG File - ID = AUBURN15.HYG - RESIDENTB 100-yr
Tc = .2500 hrs
Drainage Area = 9.500 acres Runoff CN= 84

==========

Computational Time Increment	=	.03333 hrs
Computed Peak Time	=	12.0333 hrs
Computed Peak Flow	=	64.92 cfs
Time Increment for HYG File	=	.0100 hrs
Peak Time, Interpolated Output	=	12.0302 hrs
Peak Flow, Interpolated Output	=	64.75 cfs

==========

DRAINAGE AREA

ID:None Selected
CN = 84
Area = 9.500 acres
S = 1.9048 in
0.2S = .3810 in

Cumulative Runoff

5.7885 in
4.583 ac-ft

HYG Volume... 4.582 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 =	43.06 cfs
Unit peak time	Tp =	.16667 hrs
Unit receding limb,	Tr =	.66667 hrs
Total unit time,	Tb =	.83333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.6800 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\
HYG File - ID = AUBURN15.HYG - RESIDENTC 100-yr
Tc = .1500 hrs
Drainage Area = 9.000 acres Runoff CN= 83

==========

Computational Time Increment	=	.02000 hrs
Computed Peak Time	=	11.9600 hrs
Computed Peak Flow	=	69.53 cfs
Time Increment for HYG File	=	.0100 hrs
Peak Time, Interpolated Output	=	11.9602 hrs
Peak Flow, Interpolated Output	=	69.52 cfs

==========

DRAINAGE AREA

ID:None Selected
CN = 83
Area = 9.000 acres
S = 2.0482 in
0.2S = .4096 in

Cumulative Runoff

5.6724 in
4.254 ac-ft

HYG Volume... 4.254 ac-ft (area under HYG curve)

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

Time Concentration, Tc = .15000 hrs (ID: None Selected)
Computational Incr, Tm = .02000 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 =	67.98 cfs
Unit peak time	Tp =	.10000 hrs
Unit receding limb,	Tr =	.40000 hrs
Total unit time,	Tb =	.50000 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.6800 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\
HYG File - ID = AUBURN15.HYG - RESIDENTD 100-yr
Tc = .2500 hrs
Drainage Area = 15.000 acres Runoff CN= 83

==========

Computational Time Increment	=	.03333 hrs
Computed Peak Time	=	12.0333 hrs
Computed Peak Flow	=	100.89 cfs
Time Increment for HYG File	=	.0100 hrs
Peak Time, Interpolated Output	=	12.0302 hrs
Peak Flow, Interpolated Output	=	100.62 cfs

==========

DRAINAGE AREA

ID:None Selected
CN = 83
Area = 15.000 acres
S = 2.0482 in
0.2S = .4096 in

Cumulative Runoff

5.6724 in
7.090 ac-ft

HYG Volume... 7.090 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 =	67.98 cfs
Unit peak time	Tp =	.16667 hrs
Unit receding limb,	Tr =	.66667 hrs
Total unit time,	Tb =	.83333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.6800 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\
HYG File - ID = AUBURN15.HYG - RESIDENTE 100-yr
Tc = .2500 hrs
Drainage Area = 5.000 acres Runoff CN= 83

==========
Computational Time Increment = .03333 hrs
Computed Peak Time = 12.0333 hrs
Computed Peak Flow = 33.63 cfs

Time Increment for HYG File = .0100 hrs
Peak Time, Interpolated Output = 12.0302 hrs
Peak Flow, Interpolated Output = 33.54 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 83
Area = 5.000 acres
S = 2.0482 in
0.2S = .4096 in

Cumulative Runoff

5.6724 in
2.363 ac-ft

HYG Volume... 2.363 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 = 22.66 cfs
Unit peak time Tp = .16667 hrs
Unit receding limb, Tr = .66667 hrs
Total unit time, Tb = .83333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.6800 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\
HYG File - ID = AUBURN15.HYG - SECTION 26 100-yr
Tc = .6700 hrs
Drainage Area = 65.000 acres Runoff CN= 76

==========

Computational Time Increment	=	.08933 hrs
Computed Peak Time	=	12.2387 hrs
Computed Peak Flow	=	220.69 cfs
Time Increment for HYG File	=	.0100 hrs
Peak Time, Interpolated Output	=	12.2402 hrs
Peak Flow, Interpolated Output	=	220.67 cfs

==========

DRAINAGE AREA

ID:None Selected
CN = 76
Area = 65.000 acres
S = 3.1579 in
0.2S = .6316 in

Cumulative Runoff

4.8676 in
26.366 ac-ft

HYG Volume... 26.366 ac-ft (area under HYG curve)

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

Time Concentration, Tc = .67000 hrs (ID: None Selected)
Computational Incr, Tm = .08933 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 =	109.92 cfs
Unit peak time	Tp =	.44667 hrs
Unit receding limb,	Tr =	1.78667 hrs
Total unit time,	Tb =	2.23333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.6800 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\
HYG File - ID = AUBURN15.HYG - SECTION 35 100-yr
Tc = .3300 hrs
Drainage Area = 22.000 acres Runoff CN= 75

==========

Computational Time Increment	=	.04400 hrs
Computed Peak Time	=	12.1000 hrs
Computed Peak Flow	=	111.57 cfs
Time Increment for HYG File	=	.0100 hrs
Peak Time, Interpolated Output	=	12.1002 hrs
Peak Flow, Interpolated Output	=	111.54 cfs

==========

DRAINAGE AREA

ID:None Selected
CN = 75
Area = 22.000 acres
S = 3.3333 in
0.2S = .6667 in

Cumulative Runoff

4.7539 in
8.715 ac-ft

HYG Volume... 8.715 ac-ft (area under HYG curve)

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

Time Concentration, Tc = .33000 hrs (ID: None Selected)
Computational Incr, Tm = .04400 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 = 75.54 cfs
Unit peak time Tp = .22000 hrs
Unit receding limb, Tr = .88000 hrs
Total unit time, Tb = 1.10000 hrs

Type.... Vol: Elev-Area
Name.... AUB15_D/S

File.... C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\AUB5.PPW

Elevation (ft)	Planimeter (sq.in)	Area (acres)	A1+A2+sqr(A1*A2) (acres)	Volume (ac-ft)	Volume Sum (ac-ft)
162.00	-----	1.8000	.0000	.000	.000
166.50	-----	2.4000	6.2785	9.418	9.418

POND VOLUME EQUATIONS

* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + sq.rt.(Area1*Area2))

where: EL1, EL2 = Lower and upper elevations of the increment
Area1,Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

Elevation (ft)	Planimeter (sq.in)	Area (acres)	A1+A2+sqr(A1*A2) (acres)	Volume (ac-ft)	Volume Sum (ac-ft)
190.00	-----	1.0000	.0000	.000	.000
194.00	-----	1.0000	3.0000	4.000	4.000
195.00	-----	3.7000	6.6235	2.208	6.208
196.00	-----	5.4000	13.5699	4.523	10.731
197.00	-----	6.0000	17.0921	5.697	16.429
198.00	-----	7.0000	19.4807	6.494	22.922

POND VOLUME EQUATIONS

* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + sq.rt.(Area1*Area2))

where: EL1, EL2 = Lower and upper elevations of the increment
Area1,Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

Elevation (ft)	Planimeter (sq.in)	Area (acres)	A1+A2+sqr(A1*A2) (acres)	Volume (ac-ft)	Volume Sum (ac-ft)
196.50	-----	1.2000	.0000	.000	.000
197.00	-----	1.3000	3.7490	.625	.625
198.00	-----	1.4000	4.0491	1.350	1.975
199.00	-----	1.6000	4.4967	1.499	3.473
200.00	-----	1.7000	4.9492	1.650	5.123
201.00	-----	1.9000	5.3972	1.799	6.922
202.00	-----	2.1000	5.9975	1.999	8.921
203.00	-----	2.3000	6.5977	2.199	11.121
204.00	-----	2.5000	7.1979	2.399	13.520

POND VOLUME EQUATIONS

* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + sq.rt.(Area1*Area2))

where: EL1, EL2 = Lower and upper elevations of the increment
Area1,Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

Elevation (ft)	Planimeter (sq.in)	Area (acres)	A1+A2+sqr(A1*A2) (acres)	Volume (ac-ft)	Volume Sum (ac-ft)
184.00	-----	2.0000	.0000	.000	.000
190.00	-----	2.0000	6.0000	12.000	12.000
191.00	-----	2.0000	6.0000	2.000	14.000

POND VOLUME EQUATIONS

* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + sq.rt.(Area1*Area2))

where: EL1, EL2 = Lower and upper elevations of the increment
Area1,Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

Type.... Vol: Elev-Area
Name.... HOLE16A

File.... C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\AUB5.PPW

Elevation (ft)	Planimeter (sq.in)	Area (acres)	A1+A2+sqr(A1*A2) (acres)	Volume (ac-ft)	Volume Sum (ac-ft)
189.00	-----	2.0000	.0000	.000	.000
194.00	-----	2.0000	6.0000	10.000	10.000
195.00	-----	2.0000	6.0000	2.000	12.000

POND VOLUME EQUATIONS

* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + sq.rt.(Area1*Area2))

where: EL1, EL2 = Lower and upper elevations of the increment
Area1,Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

Elevation (ft)	Planimeter (sq.in)	Area (acres)	A1+A2+sqr(A1*A2) (acres)	Volume (ac-ft)	Volume Sum (ac-ft)
195.00	-----	1.1000	.0000	.000	.000
196.00	-----	1.3000	3.5958	1.199	1.199
197.00	-----	1.4000	4.0491	1.350	2.548
199.00	-----	1.7000	4.6427	3.095	5.643
200.00	-----	1.9000	5.3972	1.799	7.443
210.00	-----	2.4000	6.4354	21.451	28.894

POND VOLUME EQUATIONS

* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + sq.rt.(Area1*Area2))

where: EL1, EL2 = Lower and upper elevations of the increment
Area1,Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

Type.... Outlet Input Data
Name.... AUB15_OUTFALL

File.... C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\AUB5.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 162.00 ft
Increment = .25 ft
Max. Elev.= 166.50 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
Weir-XY Points	WR	--->	TW	162.000	166.500

TW SETUP, DS Channel

OUTLET STRUCTURE INPUT DATA

Structure ID = WR
Structure Type = Weir-XY Points

# of Openings = 1
WEIR X-Y GROUND POINTS

X, ft	Elev, ft
.00	168.00
42.00	166.00
115.00	164.00
192.00	162.00
207.00	162.00
255.00	164.00
297.00	166.00
330.00	168.00

Lowest Elev. = 162.00 ft

Weir Coeff. = 2.800000

Weir TW effects (Use adjustment equation)

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

USE DOWNSTREAM CHANNEL NORMAL DEPTH FOR TW...
Channel Type: Chn-Irreg.
Channel ID: AUB15_OUTFALL

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

USE DOWNSTREAM CHANNEL NORMAL DEPTH FOR TW...
Channel Type: Chn-Irreg.
Channel ID: AUB15_OUTFALL

COMPOSITE CHANNEL SECTION

Slope = .003000 ft/ft
Elev.Constant= .00 ft

GROUND ELEVATION POINTS
Cross Section ID: AUB15_OUTFALL
Lowest Elev. = 162.00 ft

X Distance (ft)	Y Elev (ft)	Y+Constant (ft)
.00	168.00	168.00
42.00	166.00	166.00
115.00	164.00	164.00
192.00	162.00	162.00
207.00	162.00	162.00
255.00	164.00	164.00
297.00	166.00	166.00
330.00	168.00	168.00

THE INFORMATION BELOW WAS USED TO COMPUTE
FLOW RATE SEPARATELY FOR EACH SEGMENT.

Cross Section ID: AUB15_OUTFALL

CROSS SECTION SUBDIVIDED INTO DIFFERENT SEGMENTS

Segment	X Left (ft)	X Right (ft)	Ground n	Descr.
1	.00	115.00	0.04000	Left Overbank
2	115.00	255.00	0.08000	Main Channel
3	255.00	330.00	0.08000	Right Overbank

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 163.00 ft
Increment = .25 ft
Max. Elev.= 172.00 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-Box	BC	<--->	TW	163.000	172.000

TW SETUP, DS Channel

OUTLET STRUCTURE INPUT DATA

Structure ID	=	BC	
Structure Type	=	Culvert-Box	
No. Barrels	=	3	
Barrel Height	=	4.00	ft
Barrel Width	=	7.00	ft
Upstream Invert	=	163.00	ft
Dnstream Invert	=	162.50	ft
Horiz. Length	=	80.00	ft
Barrel Length	=	80.00	ft
Barrel Slope	=	.00625	ft/ft

OUTLET CONTROL DATA...

Mannings n	=	.0130	
Ke	=	.5000	(forward entrance loss)
Kb	=	.003571	(per ft of full flow)
Kr	=	.5000	(reverse entrance loss)
HW Convergence	=	.001	+/- ft

INLET CONTROL DATA...

Equation form	=	1	
Inlet Control K	=	.0260	
Inlet Control M	=	1.0000	
Inlet Control c	=	.03850	
Inlet Control Y	=	.8100	
T1 ratio (HW/D)	=	1.175	
T2 ratio (HW/D)	=	1.423	
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 =	167.70 ft	--->	Flow =	196.00	cfs
At T2 Elev =	168.69 ft	--->	Flow =	224.00	cfs

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 196.50 ft
Increment = .25 ft
Max. Elev.= 204.00 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	196.500	204.000
Weir-Rectangular	WR	--->	TW	203.000	204.000

TW SETUP, DS Channel

Type.... Outlet Input Data
Name.... ENTRANCE POND

File.... C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\AUB5.PPW

OUTLET STRUCTURE INPUT DATA

Structure ID	=	CV	
Structure Type	=	Culvert-Circular	
No. Barrels	=	3	
Barrel Diameter	=	3.0000	ft
Upstream Invert	=	196.50	ft
Dnstream Invert	=	195.00	ft
Horiz. Length	=	198.00	ft
Barrel Length	=	198.01	ft
Barrel Slope	=	.00758	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)	=	1.156	
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 =	199.97 ft	--->	Flow =	42.85	cfs
At T2 Elev =	200.41 ft	--->	Flow =	48.97	cfs

OUTLET STRUCTURE INPUT DATA

Structure ID	=	WR
Structure Type	=	Weir-Rectangular
# of Openings	=	1
Crest Elev.	=	203.00 ft
Weir Length	=	30.00 ft
Weir Coeff.	=	2.800000

Weir TW effects (Use adjustment equation)

Type.... Outlet Input Data
Name.... HOLE13_OUT

File.... C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\AUB5.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 184.00 ft
Increment = .25 ft
Max. Elev.= 191.00 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	184.000	191.000
Weir-Rectangular	WR	--->	TW	188.000	191.000

TW SETUP, DS Channel

OUTLET STRUCTURE INPUT DATA

Structure ID	=	CV	
Structure Type	=	Culvert-Circular	
No. Barrels	=	1	
Barrel Diameter	=	3.0000	ft
Upstream Invert	=	184.00	ft
Dnstream Invert	=	182.00	ft
Horiz. Length	=	63.00	ft
Barrel Length	=	63.03	ft
Barrel Slope	=	.03175	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)	=	1.144	
T2 ratio (HW/D)	=	1.291	
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 =	187.43 ft	--->	Flow =	42.85	cfs
At T2 Elev =	187.87 ft	--->	Flow =	48.97	cfs

Type.... Outlet Input Data
Name.... HOLE13_OUT

File.... C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\AUB5.PPW

OUTLET STRUCTURE INPUT DATA

Structure ID = WR
Structure Type = Weir-Rectangular

# of Openings = 1
Crest Elev. = 188.00 ft
Weir Length = 20.00 ft
Weir Coeff. = 2.600000

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

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 189.00 ft
Increment = .25 ft
Max. Elev.= 195.00 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	189.000	195.000
Weir-Rectangular	WR	--->	TW	192.000	195.000

TW SETUP, DS Channel

OUTLET STRUCTURE INPUT DATA

Structure ID	=	CV	
Structure Type	=	Culvert-Circular	
No. Barrels	=	1	
Barrel Diameter	=	3.0000	ft
Upstream Invert	=	189.00	ft
Dnstream Invert	=	188.50	ft
Horiz. Length	=	80.00	ft
Barrel Length	=	80.00	ft
Barrel Slope	=	.00625	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)	=	1.157	
T2 ratio (HW/D)	=	1.304	
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 =	192.47 ft	--->	Flow =	42.85	cfs
At T2 Elev =	192.91 ft	--->	Flow =	48.97	cfs

OUTLET STRUCTURE INPUT DATA

Structure ID	=	WR
Structure Type	=	Weir-Rectangular
# of Openings	=	1
Crest Elev.	=	192.00 ft
Weir Length	=	50.00 ft
Weir Coeff.	=	2.600000

Weir TW effects (Use adjustment equation)

Type.... Outlet Input Data
Name.... RCBC_OUT

File.... C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\AUB5.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 190.00 ft
Increment = .25 ft
Max. Elev.= 198.00 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-Box	CV	--->	TW	190.000	198.000
Weir-Rectangular	WR	--->	TW	196.400	198.000

TW SETUP, DS Channel

OUTLET STRUCTURE INPUT DATA

Structure ID	=	CV	
Structure Type	=	Culvert-Box	
No. Barrels	=	1	
Barrel Height	=	3.00	ft
Barrel Width	=	10.00	ft
Upstream Invert	=	190.00	ft
Dnstream Invert	=	189.70	ft
Horiz. Length	=	82.00	ft
Barrel Length	=	82.00	ft
Barrel Slope	=	.00366	ft/ft

OUTLET CONTROL DATA...

Mannings n	=	.0130	
Ke	=	.5000	(forward entrance loss)
Kb	=	.004070	(per ft of full flow)
Kr	=	.5000	(reverse entrance loss)
HW Convergence	=	.001	+/- ft

INLET CONTROL DATA...

Equation form	=	1	
Inlet Control K	=	.0260	
Inlet Control M	=	1.0000	
Inlet Control c	=	.03850	
Inlet Control Y	=	.8100	
T1 ratio (HW/D)	=	1.176	
T2 ratio (HW/D)	=	1.424	
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 = 193.53 ft ---> Flow = 181.87 cfs
At T2 Elev = 194.27 ft ---> Flow = 207.85 cfs

Type.... Outlet Input Data
Name.... RCBC_OUT

File.... C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\AUB5.PPW

OUTLET STRUCTURE INPUT DATA

Structure ID	=	WR
Structure Type	=	Weir-Rectangular
# of Openings	=	1
Crest Elev.	=	196.40 ft
Weir Length	=	30.00 ft
Weir Coeff.	=	2.860000

Weir TW effects (Use adjustment equation)

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 195.00 ft
Increment = .50 ft
Max. Elev.= 210.00 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	195.000	210.000

OUTLET STRUCTURE INPUT DATA

Structure ID = CV
Structure Type = Culvert-Circular

No. Barrels	=	1	
Barrel Diameter	=	18.0000	ft
Upstream Invert	=	195.00	ft
Dnstream Invert	=	194.50	ft
Horiz. Length	=	100.00	ft
Barrel Length	=	100.00	ft
Barrel Slope	=	.00500	ft/ft

OUTLET CONTROL DATA...

Mannings n	=	.0130	
Ke	=	.5000	(forward entrance loss)
Kb	=	.000663	(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)	=	1.158
T2 ratio (HW/D)	=	1.304
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 = 215.84 ft ---> Flow = 3778.67 cfs
At T2 Elev = 218.48 ft ---> Flow = 4318.48 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

Type.... Composite Rating Curve
Name.... REECE_OUTLET

File.... C:\PROJECTS\AUBURNHILLS15TH\PONDPACK\AUB5.PPW

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

WS Elev, Total Q		Notes		
		Converge		
Elev. ft	Q cfs	TW Elev ft	Error +/-ft	Contributing Structures
195.00	.00	Free Outfall		None contributing
195.50	2.90	Free Outfall		CV
196.00	11.47	Free Outfall		CV
196.50	25.69	Free Outfall		CV
197.00	45.46	Free Outfall		CV
197.50	70.50	Free Outfall		CV
198.00	100.84	Free Outfall		CV
198.50	136.29	Free Outfall		CV
199.00	176.81	Free Outfall		CV
199.50	222.35	Free Outfall		CV
200.00	272.61	Free Outfall		CV
200.50	327.48	Free Outfall		CV
201.00	386.85	Free Outfall		CV
201.50	450.76	Free Outfall		CV
202.00	518.86	Free Outfall		CV
202.50	591.35	Free Outfall		CV
203.00	667.56	Free Outfall		CV
203.50	748.04	Free Outfall		CV
204.00	832.00	Free Outfall		CV
204.50	919.57	Free Outfall		CV
205.00	1011.08	Free Outfall		CV
205.50	1105.51	Free Outfall		CV
206.00	1203.19	Free Outfall		CV
206.50	1303.86	Free Outfall		CV
207.00	1407.73	Free Outfall		CV
207.50	1514.10	Free Outfall		CV
208.00	1623.48	Free Outfall		CV
208.50	1735.07	Free Outfall		CV
209.00	1848.99	Free Outfall		CV
209.50	1965.16	Free Outfall		CV
210.00	2083.17	Free Outfall		CV

Index of Starting Page Numbers for ID Names

----- A -----
AUB15_D/S... 5.01, 6.01
AUB15_RCBC... 6.04
AUB5_POND2... 5.02

----- C -----
COW25100... 3.01

----- E -----
ENTRANCE POND... 6.06
ENT_POND... 5.03

----- H -----
HOLE13... 5.04
HOLE13_OUT... 6.09
HOLE16A... 5.05
HOLE16_OUT... 6.12, 4.01, 4.02,
4.03, 4.04, 4.05

----- R -----
RCBC_OUT... 6.15, 4.06
REECEPOND... 5.06, 4.07
REECE_OUTLET... 6.18, 6.20, 4.08,
4.09, 4.10, 4.11, 4.12, 4.13,
4.14

----- W -----
Watershed... 1.01, 2.01, 2.03, 2.07,
2.09, 2.13, 2.15