SUBDIVISION COMMITTEE
METROPOLITAN AREA PLANNING COMMISSION

AGENDA ITEM NO. 5
MAY 30, 2002

STAFF REPORT

(FINAL PLAT, OVERALL PRELIMINARY PLAT APPROVED 5/8/97)

CASE NUMBER: SUB 2002-43 -- HIGHLAND SPRINGS THIRD ADDITION

OWNER/APPLICANT: Kelsey Development, Inc., Attn: Paul Kelsey, 716 N. 119th St. West, Suite 112, Wichita, KS 67212

SURVEYOR/ENGINEER: Baughman Company, P.A., 315 Ellis, Wichita, KS 67211

LOCATION: West side of 135th St. West, South side of Central

SITE SIZE: 56.27 Acres

NUMBER OF LOTS

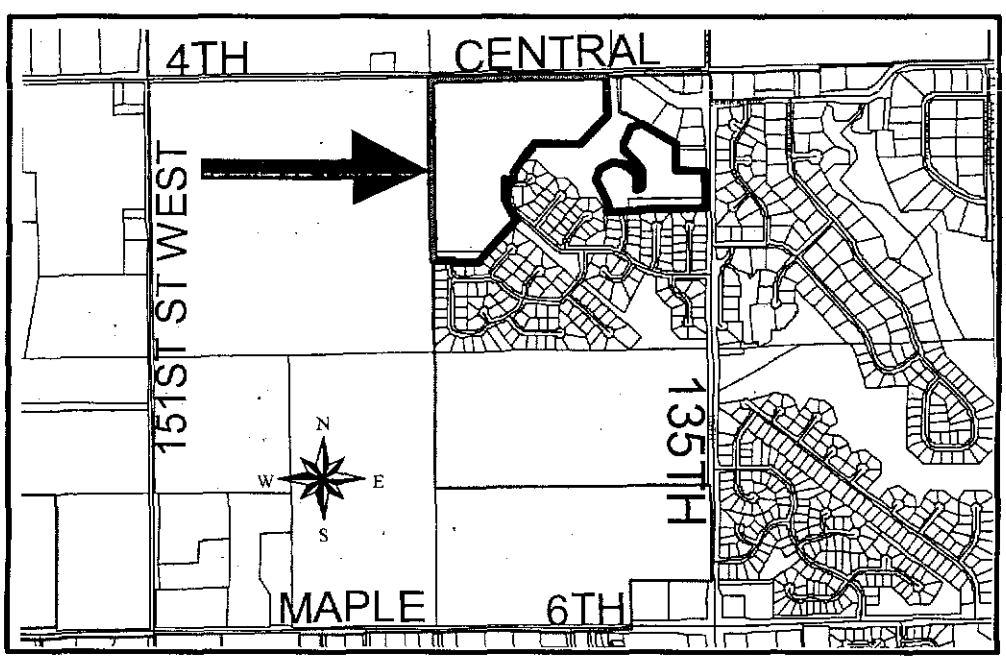
Residential:	128
Office:	
Commercial:	
Industrial:	
Total:	128

MINIMUM LOT AREA: 9,800 Sq. Ft.

CURRENT ZONING: SF-5, Single-Family Residential

PROPOSED ZONING: Same

VICINITY MAP



NOTE: An overall preliminary plat - Highland Springs Addition - was approved for this site in 1997, which covered the entire quarter section. The final plats for the first and second phase were previously recorded. This third phase contains a similar street layout and lot layout as denoted in the preliminary plat.

Planning Staff recommends approval.

STAFF COMMENTS:

A. The applicant shall guarantee the extension of sanitary sewer and City water to serve the lots being platted.

B. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning department for recording.

C. City Engineering needs to comment on the status of the applicant's drainage plan. ***County Engineering requests a drainage plan to review impact upon Central.***

D. The applicant shall guarantee the paving of the proposed interior streets. Highland Springs shall be paved to a collector street status, and sidewalks shall be guaranteed along both sides of the street. Sidewalks shall be guaranteed on one side of Rolling Hills.

E. As required with the preliminary approval, the applicant shall construct a left turn bay at Highland Springs.

F. The applicant shall submit a copy of the instrument which establishes the pipeline easements on the property, which verifies that the easements and setbacks shown are sufficient and that utilities may be located adjacent to and within the easements.

G. Provisions shall be made for ownership and maintenance of the proposed reserves. The applicant shall either form a lot owners' association prior to recording the plat or shall submit a covenant stating when the association will be formed, when the reserves will be deeded to the association and who is to own and maintain the reserves prior to the association taking over those responsibilities.

H. For those reserves being platted for drainage purposes, the required covenant which provides for ownership and maintenance of the reserves shall grant, to the City, the authority to maintain the drainage reserves in the event the owner(s) fail to do so. The covenant shall provide for the cost of such maintenance to be charged back to the owner(s) by the governing body.

I. City Fire Department needs to comment on the acceptability of the street names. ***Revised street names are required by GIS.***

J. The applicant shall submit a covenant which provides for four (4) off-street parking spaces per dwelling unit on each lot which abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.

BAUGHMAN COMPANY, P.A.
ENGINEERING, SURVEYING & PLANNING
316/262-7271 • FAX 316/262-0149 • 315 ELLIS • WICHITA, KANSAS 67211

June 5, 2002

Vicky Huang, P.E.
Department of Engineering
City Hall - 7th Floor
455 N. Main
Wichita, KS 67202

Re: **Highland Springs 3rd Addition**
Drainage Calculations

Dear Vicky,

Enclosed please find the requested calculations for the above referenced project. Calculations previously submitted under Highland Springs 2nd Addition have been ommited. These calculations represent the hydraulic analysis of the newly introduced pipe systems only. The calculations for the reservoir routing was performed prior to the construction of the lake facility.

If you have any questions or comments, please contact me at (316) 262-7271

Thank you.

Sincerely,
Baughman Co., P.A.

Brian L. Glenn, P.E.

cc: File
Phil Meyer

K. The applicant is reminded that a platting binder is required with the final plat. Approval of this plat will be subject to submittal of this binder and any relevant conditions found by such a review.

L. Complete access control shall be dedicated along the plat's frontage to Central.

M. The wall easement shall be referenced in the plattor's text.

N. The plattor's text shall include language that a drainage plan has been developed for the plat and that all drainage easements, rights-of-way, or reserves shall remain at established grades or as modified with the approval of the applicable City or County Engineer, and unobstructed to allow for the conveyance of stormwater.

O. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision Regulations. (Water service and fire hydrants required by Article 8 for fire protection shall be as per the direction and approval of the Chief of the Fire Department.)

P. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.

Q. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (phone 316-946-4556) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.

R. The applicant is advised that various State and Federal requirements [specifically but not limited to the Army Corps of Engineers, Kanopolis Project Office, Rt. 1, Box 317, Valley Center, KS 67147] for the control of soil and wind erosion and the protection of wetlands may impact how this site can be developed. It is the applicant's responsibility to contact all appropriate agencies to determine any such requirements.

S. The owner of the subdivision should be aware of the fact that the development of any subdivision greater than five (5) acres in size may require an NPDES Storm Water Discharge Permit from the Kansas Department of Health and Environment in Topeka. Further, on all construction sites, the City of Wichita requires that best management practices be used to reduce pollutant loadings in storm water runoffs.

T. Perimeter closure computations shall be submitted with the final plat tracing.

U. Recording of the plat within thirty (30) days after approval by the City Council and/or County Commission.

V. The representatives from the **utility companies** should be prepared to comment on the need for any additional utility easements to be platted on this property.

W. The applicant is reminded that a disk shall be submitted with the final plat tracing to the Planning Department detailing this plat in digital format in Release 13 version of AutoCAD. This will be used by the City and County GIS Department.

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	1.90	0.00	1.90	I-1	Circular	172.20	171.50	183.20	172.93	0.001102	1.90	179.00	2.05	
				I-2	15 inch			176.00	172.80	0.003911	4.04			
P-2	4.90	1.90	6.80	I-2	Circular	170.00	169.80	176.00	172.68	0.004190	6.80	332.00	3.85	
				I-3	18 inch			178.80	171.29	0.000602	2.58			
P-3	1.20	6.80	8.00	I-3	Circular	169.70	169.60	178.80	171.13	0.005090	8.00	35.00	4.76	
				I-4	18 inch			178.80	170.91	0.002857	5.61			
P-4	1.20	8.00	9.20	I-4	Circular	169.40	169.00	178.80	170.78	0.002859	9.20	178.00	4.63	
				Outlet	24 inch			172.00	170.08	0.002247	10.72			

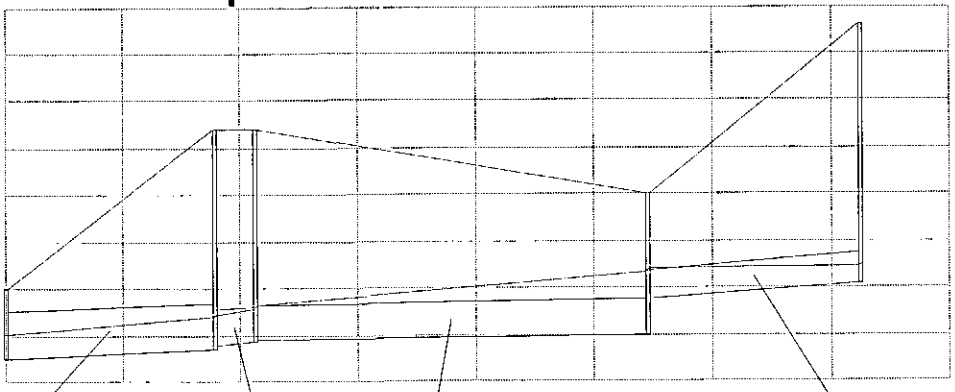
Inlet: I-1
Rim: 183.20 ft
Sump: 172.20 ft

Inlet: I-3
Rim: 178.80 ft
Sump: 169.70 ft

Outlet: Outlet
Rim: 172.00 ft
Sump: 169.00 ft

Inlet: I-2
Rim: 176.00 ft
Sump: 170.00 ft

Inlet: I-4
Rim: 178.80 ft
Sump: 169.40 ft



Pipe: P-2
Up Invert: 170.00 ft
Dn Invert: 169.80 ft
Length: 332.00 ft
Size: 18 inch

Pipe: P-4
Up Invert: 169.40 ft
Dn Invert: 169.00 ft
Length: 178.00 ft
Size: 24 inch

Pipe: P-3
Up Invert: 169.70 ft
Dn Invert: 169.60 ft
Length: 35.00 ft
Size: 18 inch

Pipe: P-1
Up Invert: 172.20 ft
Dn Invert: 171.50 ft
Length: 179.00 ft
Size: 15 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
P-1	4.50	0.00	4.50	I-1	Circular	172.20	171.50	183.20	176.87	0.004853	4.50	179.00	3.67	
				I-2	15 inch			176.00	176.00	0.003911	4.04			
P-2	11.00	4.50	15.50	I-2	Circular	170.00	169.80	176.00	181.85	0.021776	15.50	332.00	8.77	
				I-3	18 inch			178.80	174.62	0.000602	2.58			
P-3	2.80	15.50	18.30	I-3	Circular	169.70	169.60	178.80	173.79	0.030354	18.30	35.00	10.36	
				I-4	18 inch			178.80	172.73	0.002857	5.61			
P-4	2.80	18.30	21.10	I-4	Circular	169.40	169.00	178.80	172.38	0.008572	21.10	178.00	7.17	
				Outlet	24 inch			172.00	170.65	0.002247	10.72			

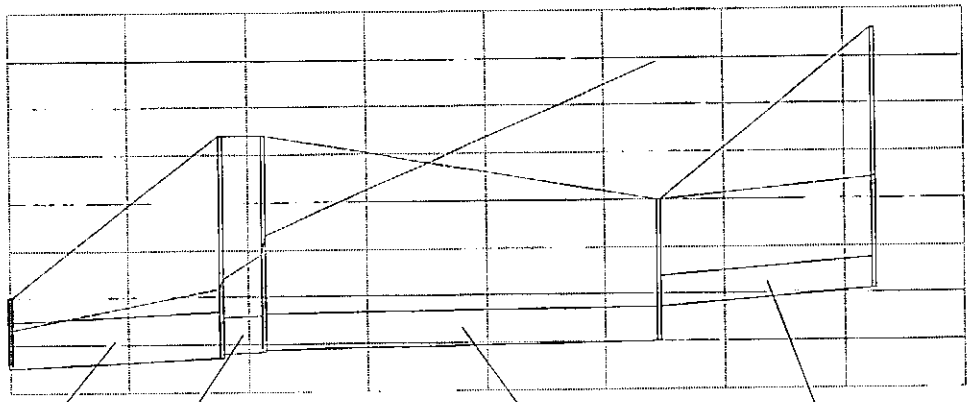
Inlet: I-4
Rim: 178.80 ft
Sump: 169.40 ft

Inlet: I-2
Rim: 176.00 ft
Sump: 170.00 ft

Inlet: I-1
Rim: 183.20 ft
Sump: 172.20 ft

Inlet: I-3
Rim: 178.80 ft
Sump: 169.70 ft

Outlet: Outlet
Rim: 172.00 ft
Sump: 169.00 ft



Pipe: P-3
Up Invert: 169.70 ft
Dn Invert: 169.60 ft
Length: 35.00 ft
Size: 18 inch

Pipe: P-1
Up Invert: 172.20 ft
Dn Invert: 171.50 ft
Length: 179.00 ft
Size: 15 inch

Pipe: P-4
Up Invert: 169.40 ft
Dn Invert: 169.00 ft
Length: 178.00 ft
Size: 24 inch

Pipe: P-2
Up Invert: 170.00 ft
Dn Invert: 169.80 ft
Length: 332.00 ft
Size: 18 inch

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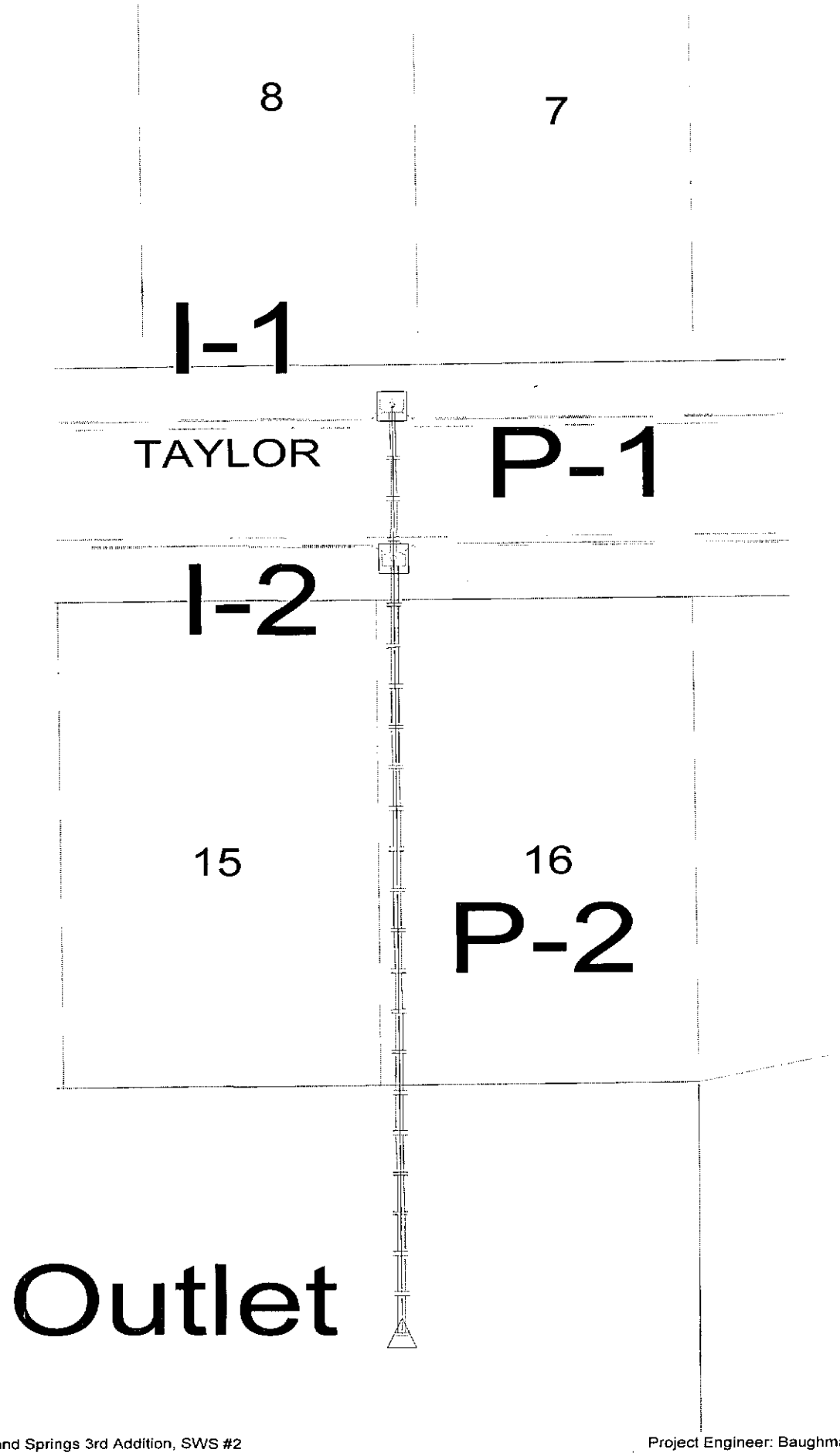
Baughman Company, P.A.
37 Brookside Road Waterbury, CT 06708 USA (203) 755-1666


8
7
I-1
TAYLOR
P-1
I-2
15
16
P-2
Outlet

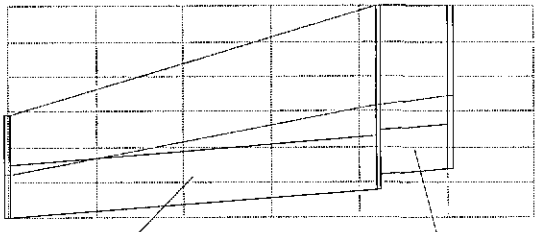
System Report

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	5.30	0.00	5.30	I-1	Circular	169.40	169.20	174.00	171.46	0.006732	5.30	41.00	4.32	
				I-2	15 inch			174.00	171.18	0.004878	4.51			
P-2	4.50	5.30	9.80	I-2	Circular	168.80	168.00	174.00	171.18	0.008583	9.80	211.00	5.99	
				Outlet	18 inch			170.90	169.21	0.003791	6.47			

Inlet: I-2
Rim: 174.00 ft
Sump: 168.80 ft

Outlet: Outlet
Rim: 170.90 ft
Sump: 168.00 ft

Inlet: I-1
Rim: 174.00 ft
Sump: 169.40 ft



Pipe: P-2
Up Invert: 168.80 ft
Dn Invert: 168.00 ft
Length: 211.00 ft
Size: 18 inch

Pipe: P-1
Up Invert: 169.40 ft
Dn Invert: 169.20 ft
Length: 41.00 ft
Size: 15 inch

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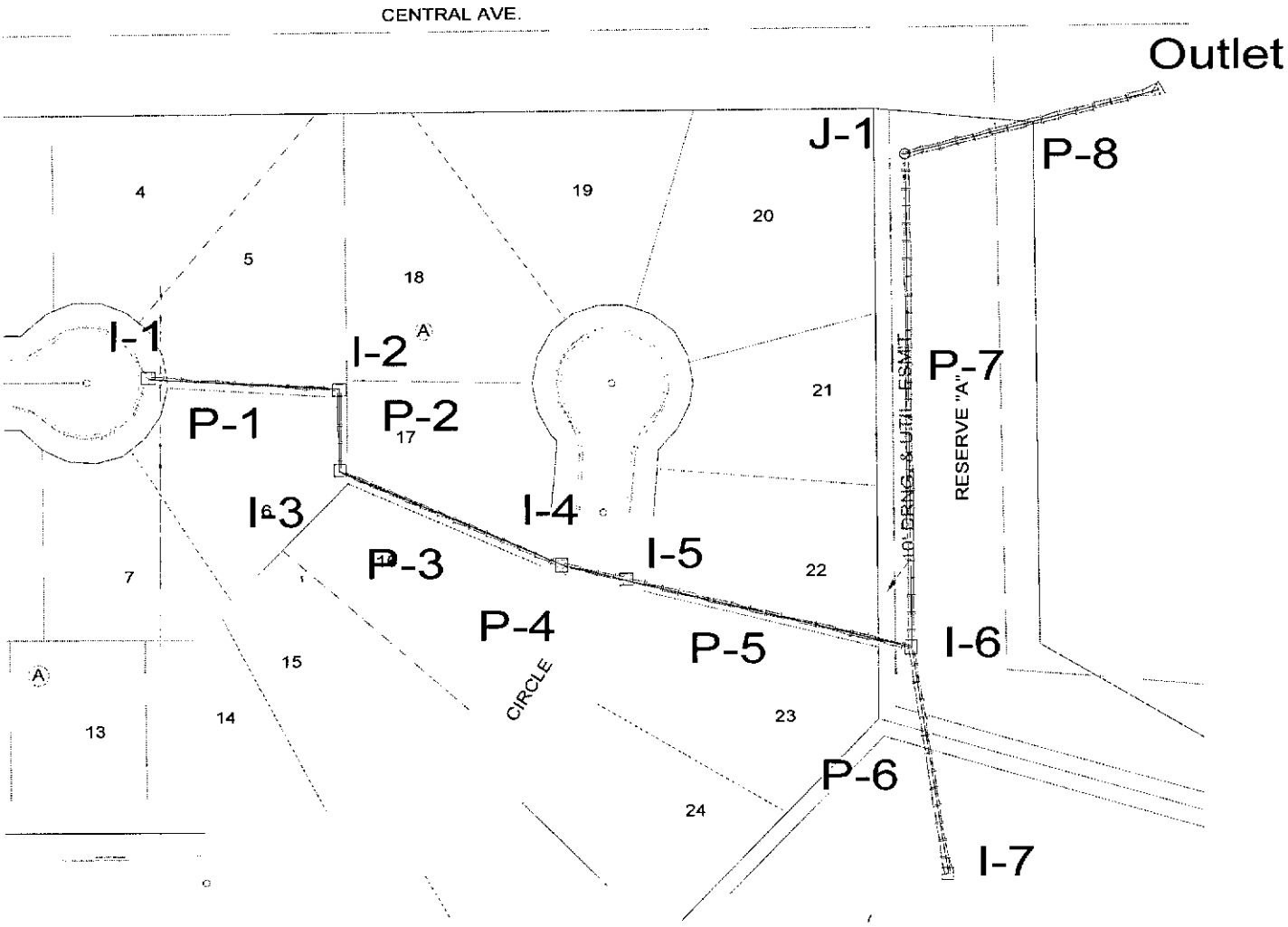

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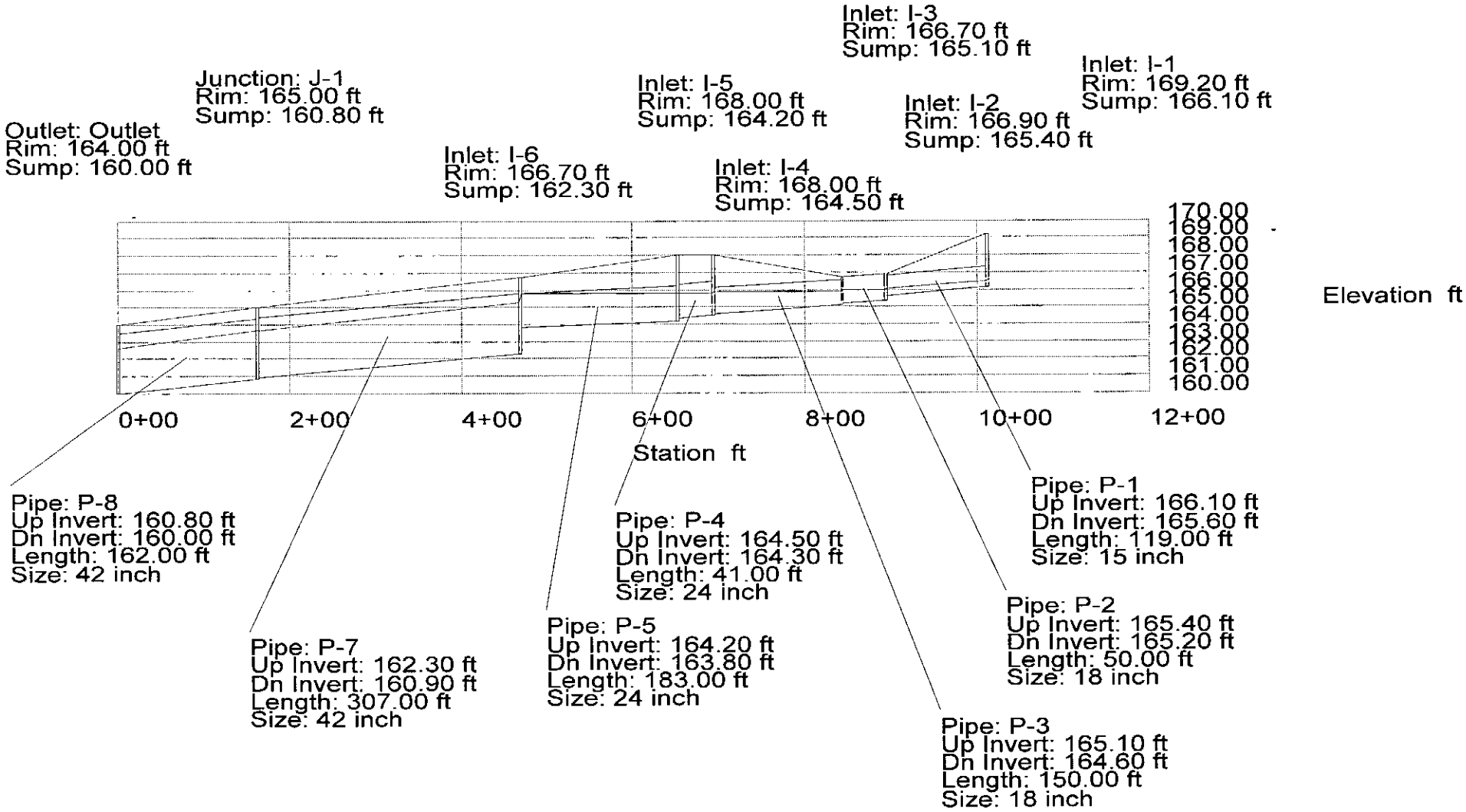
System Report

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-6	66.00	0.00	66.00	I-7	Circular	163.00	162.40	167.00	166.27	0.003735	66.00	143.00	7.00	
				I-6	42 inch			166.70	165.76	0.004196	65.17			
P-1	1.00	0.00	1.00	I-1	Circular	166.10	165.60	169.20	166.52	0.004068	1.00	119.00	2.61	
				I-2	15 inch			166.90	166.06	0.004202	4.19			
P-2	1.00	1.00	2.00	I-2	Circular	165.40	165.20	166.90	165.99	0.002463	2.00	50.00	2.73	
				I-3	18 inch			166.70	165.93	0.004000	6.64			
P-3	0.00	2.00	2.00	I-3	Circular	165.10	164.60	166.70	165.90	0.000646	2.00	150.00	1.69	
				I-4	18 inch			168.00	165.84	0.003333	6.06			
P-4	1.00	2.00	3.00	I-4	Circular	164.50	164.30	168.00	165.83	0.000246	3.00	41.00	1.26	
				I-5	24 inch			168.00	165.82	0.004878	15.80			
P-5	1.00	3.00	4.00	I-5	Circular	164.20	163.80	168.00	165.81	0.000292	4.00	183.00	1.38	
				I-6	24 inch			166.70	165.76	0.002186	10.58			
P-7	0.00	70.00	70.00	I-6	Circular	162.30	160.90	166.70	165.25	0.004770	70.00	307.00	8.39	
				J-1	42 inch			165.00	163.63	0.004560	67.94			
P-8	N/A	70.00	70.00	J-1	Circular	160.80	160.00	165.00	163.63	0.005122	70.00	162.00	8.73	
				Outlet	42 inch			164.00	162.62	0.004938	70.70			

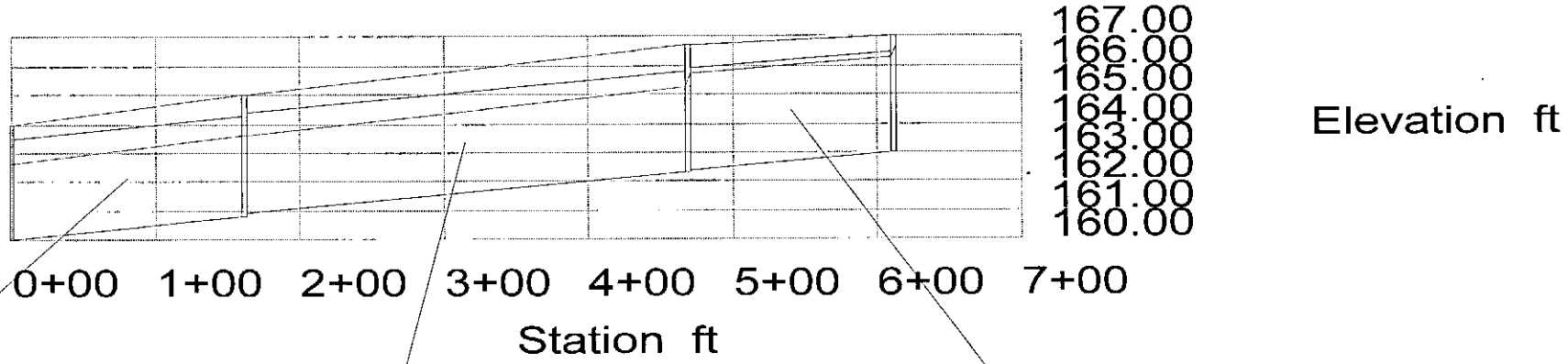

Inlet: I-3
Rim: 166.70 ft
Sump: 165.10 ft
Inlet: I-1
Rim: 169.20 ft
Sump: 166.10 ft
Junction: J-1
Rim: 165.00 ft
Sump: 160.80 ft
Inlet: I-5
Rim: 168.00 ft
Sump: 164.20 ft
Inlet: I-2
Rim: 166.90 ft
Sump: 165.40 ft
Outlet: Outlet
Rim: 164.00 ft
Sump: 160.00 ft
Inlet: I-6
Rim: 166.70 ft
Sump: 162.30 ft
Inlet: I-4
Rim: 168.00 ft
Sump: 164.50 ft
170.00
169.00
168.00
167.00
166.00
165.00
164.00
163.00
162.00
161.00
160.00
Elevation ft
0+00
2+00
4+00
6+00
8+00
10+00
12+00
Station ft
Pipe: P-8
Up Invert: 160.80 ft
Dn Invert: 160.00 ft
Length: 162.00 ft
Size: 42 inch
Pipe: P-7
Up Invert: 162.30 ft
Dn Invert: 160.90 ft
Length: 307.00 ft
Size: 42 inch
Pipe: P-5
Up Invert: 164.20 ft
Dn Invert: 163.80 ft
Length: 183.00 ft
Size: 24 inch
Pipe: P-4
Up Invert: 164.50 ft
Dn Invert: 164.30 ft
Length: 41.00 ft
Size: 24 inch
Pipe: P-3
Up Invert: 165.10 ft
Dn Invert: 164.60 ft
Length: 150.00 ft
Size: 18 inch
Pipe: P-2
Up Invert: 165.40 ft
Dn Invert: 165.20 ft
Length: 50.00 ft
Size: 18 inch
Pipe: P-1
Up Invert: 166.10 ft
Dn Invert: 165.60 ft
Length: 119.00 ft
Size: 15 inch

Inlet: I-7
Rim: 167.00 ft
Sump: 163.00 ft

Outlet: Outlet
Rim: 164.00 ft
Sump: 160.00 ft

Junction: J-1
Rim: 165.00 ft
Sump: 160.80 ft

Inlet: I-6
Rim: 166.70 ft
Sump: 162.30 ft



Pipe: P-8
Up Invert: 160.80 ft
Dn Invert: 160.00 ft
Length: 162.00 ft
Size: 42 inch

Pipe: P-7
Up Invert: 162.30 ft
Dn Invert: 160.90 ft
Length: 307.00 ft
Size: 42 inch

Pipe: P-6
Up Invert: 163.00 ft
Dn Invert: 162.40 ft
Length: 143.00 ft
Size: 42 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
P-6	40.00	0.00	40.00	I-7	Circular	163.00	162.40	167.00	165.73	0.001527	40.00	143.00	4.65	
				I-6	42 inch			166.70	165.60	0.004196	65.17			
P-1	4.10	0.00	4.10	I-1	Circular	166.10	165.60	169.20	168.48	0.004029	4.10	119.00	3.34	
				I-2	15 inch			166.90	168.00	0.004202	4.19			
P-2	9.30	4.10	13.40	I-2	Circular	165.40	165.20	166.90	168.81	0.016275	13.40	50.00	7.58	
				I-3	18 inch			166.70	168.00	0.004000	6.64			
P-3	0.00	13.40	13.40	I-3	Circular	165.10	164.60	166.70	168.53	0.003509	13.40	150.00	4.27	
				I-4	24 inch			168.00	168.00	0.003333	13.06			
P-4	7.30	13.40	20.70	I-4	Circular	164.50	164.30	168.00	168.34	0.008374	20.70	41.00	6.59	
				I-5	24 inch			168.00	168.00	0.004878	15.80			
P-5	5.70	20.70	26.40	I-5	Circular	164.20	163.80	168.00	168.21	0.013564	26.40	183.00	8.63	
				I-6	24 inch			166.70	165.60	0.002186	10.58			
P-7	0.00	66.40	66.40	I-6	Circular	162.30	160.90	166.70	165.10	0.004691	66.40	307.00	8.37	
				J-1	42 inch			165.00	163.49	0.004560	67.94			
P-8	N/A	66.40	66.40	J-1	Circular	160.80	160.00	165.00	163.49	0.005026	66.40	162.00	8.59	
				Outlet	42 inch			164.00	162.55	0.004938	70.70			

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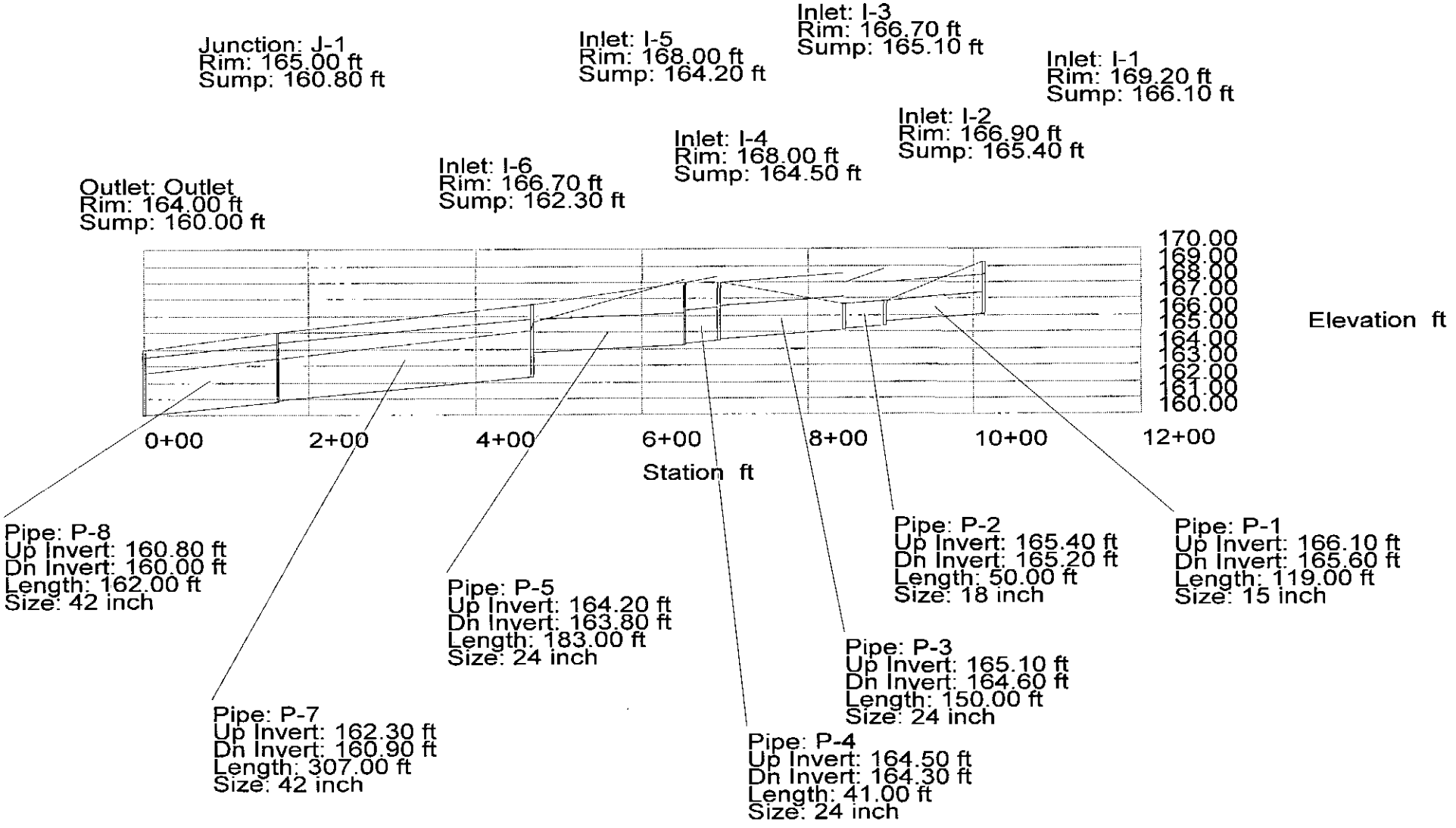
Baughman Company, P.A.
37 Brookside Road Waterbury, CT 06708 USA (203) 755-1666


Junction: J-1
Rim: 165.00 ft
Sump: 160.80 ft
Inlet: I-5
Rim: 168.00 ft
Sump: 164.20 ft
Inlet: I-3
Rim: 166.70 ft
Sump: 165.10 ft
Inlet: I-1
Rim: 169.20 ft
Sump: 166.10 ft
Inlet: I-2
Rim: 166.90 ft
Sump: 165.40 ft
Inlet: I-4
Rim: 168.00 ft
Sump: 164.50 ft
Inlet: I-6
Rim: 166.70 ft
Sump: 162.30 ft
Outlet: Outlet
Rim: 164.00 ft
Sump: 160.00 ft
170.00
169.00
168.00
167.00
166.00
165.00
164.00
163.00
162.00
161.00
160.00
Elevation ft
0+00
2+00
4+00
6+00
8+00
10+00
12+00
Station ft
Pipe: P-8
Up Invert: 160.80 ft
Dn Invert: 160.00 ft
Length: 162.00 ft
Size: 42 inch
Pipe: P-7
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Length: 183.00 ft
Size: 24 inch
Pipe: P-4
Up Invert: 164.50 ft
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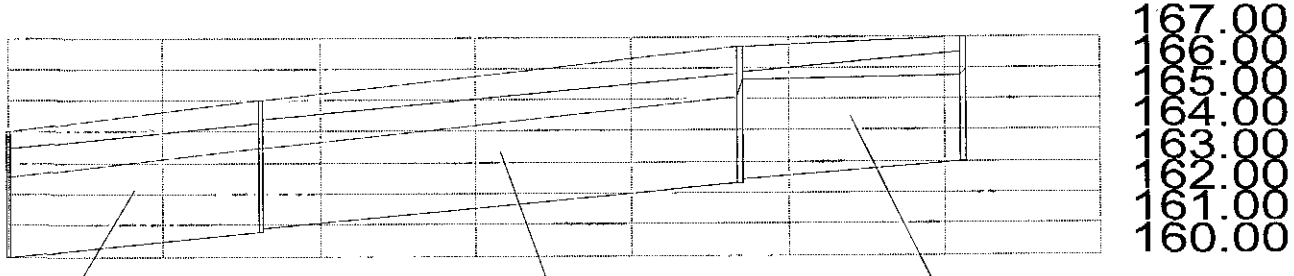
Length: 41.00 ft
Size: 24 inch
Pipe: P-3
Up Invert: 165.10 ft
Dn Invert: 164.60 ft
Length: 150.00 ft
Size: 24 inch
Pipe: P-2
Up Invert: 165.40 ft
Dn Invert: 165.20 ft
Length: 50.00 ft
Size: 18 inch
Pipe: P-1
Up Invert: 166.10 ft
Dn Invert: 165.60 ft
Length: 119.00 ft
Size: 15 inch

Junction: J-1
Rim: 165.00 ft
Sump: 160.80 ft

Inlet: I-7
Rim: 167.00 ft
Sump: 163.00 ft

Outlet: Outlet
Rim: 164.00 ft
Sump: 160.00 ft

Inlet: I-6
Rim: 166.70 ft
Sump: 162.30 ft



Pipe: P-8
Up Invert: 160.80 ft
Dn Invert: 160.00 ft
Length: 162.00 ft
Size: 42 inch

Pipe: P-7
Up Invert: 162.30 ft
Dn Invert: 160.90 ft
Length: 307.00 ft
Size: 42 inch

Pipe: P-6
Up Invert: 163.00 ft
Dn Invert: 162.40 ft
Length: 143.00 ft
Size: 42 inch

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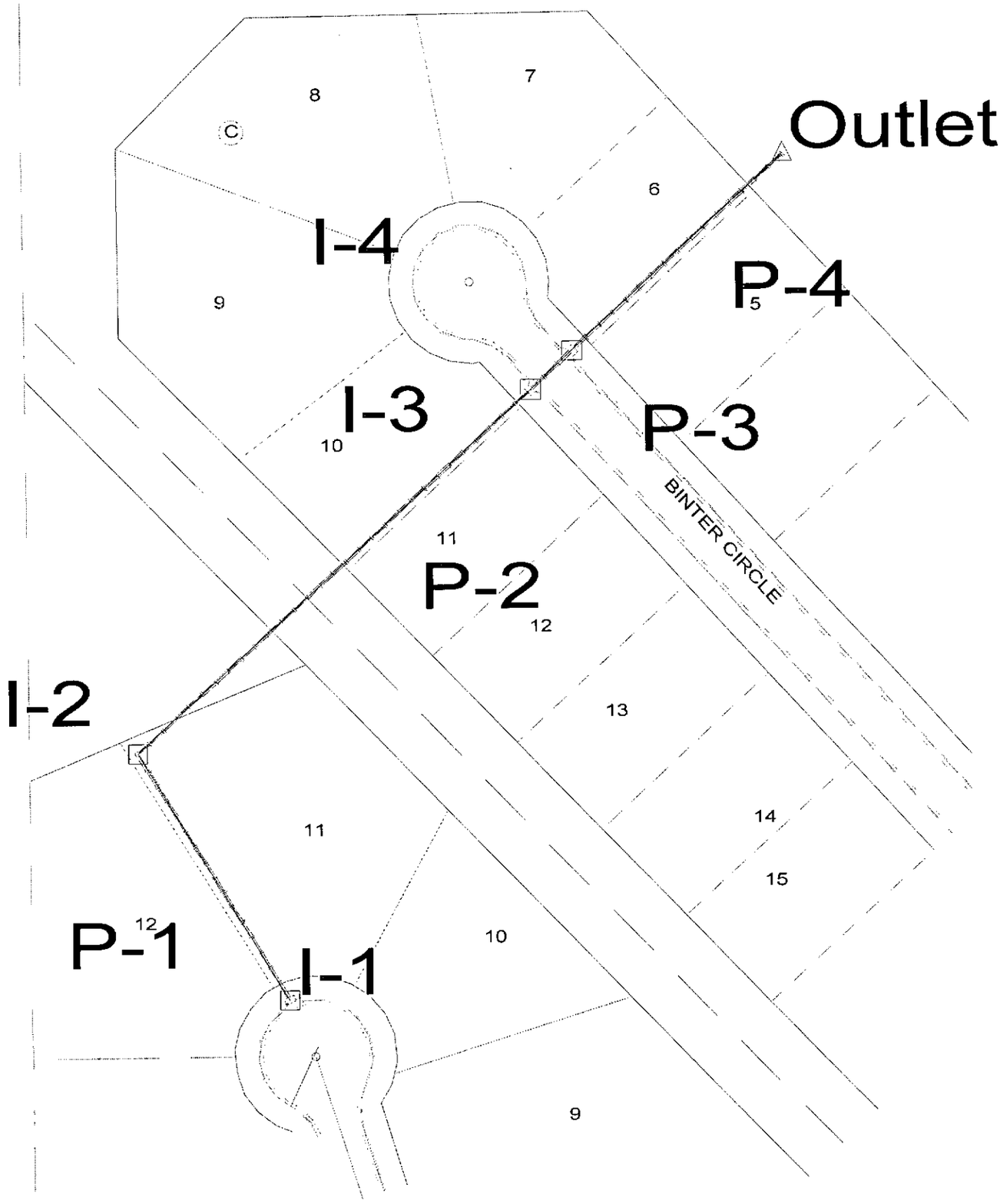
Baughman Company, P.A.
37 Brookside Road Waterbury, CT 06708 USA (203) 755-1666

CLOSURE - HIGHLAND SPRINGS 3RD ADDITION (WEST PARCEL)

PT 01 North: 28461.7447 East : 14857.3204
Line Course: N 89-34-58 E Length: 1662.3000
PT 02 North: 28473.8493 East : 16519.5763
Line Course: S 00-25-02 E Length: 429.6900
PT 03 North: 28044.1707 East : 16522.7053
Line Course: S 44-34-58 W Length: 354.7000
PT 04 North: 27791.5402 East : 16273.7275
Line Course: S 89-34-58 W Length: 449.7000
PT 05 North: 27788.2655 East : 15824.0394
Curve Length: 125.2300 Radius: 283.0000
Delta: 25-21-14 Tangent: 63.6567
Chord: 124.2100 Course: S 31-54-19 W
Course In: N 70-46-18 W Course Out: S 45-25-04 E
RP North: 27881.4669 East : 15556.8270
PT 06 End North: 27682.8202 East : 15758.3920
Curve Length: 274.5876 Radius: 467.0000
Delta: 33-41-20 Tangent: 141.3914
Chord: 270.6500 Course: S 27-44-18 W
Course In: S 45-25-02 E Course Out: N 79-06-22 W
RP North: 27355.0146 East : 16091.0067
PT 07 End North: 27443.2733 East : 15632.4226
Line Course: N 82-39-58 W Length: 66.1100
PT 08 North: 27451.7123 East : 15566.8534
Curve Length: 222.5442 Radius: 533.0000
Delta: 23-55-22 Tangent: 112.9167
Chord: 220.9300 Course: S 01-30-30 E
Course In: S 79-32-49 E Course Out: S 76-31-49 W
RP North: 27355.0102 East : 16091.0077
PT 09 End North: 27230.8577 East : 15572.6688
Curve Length: 159.4670 Radius: 258.0000
Delta: 35-24-50 Tangent: 82.3724
Chord: 156.9400 Course: S 31-10-35 E
Course In: N 76-31-50 E Course Out: S 41-07-00 W
RP North: 27290.9528 East : 15823.5723
PT 10 End North: 27096.5828 East : 15653.9130
Line Course: S 48-53-00 E Length: 14.6900
PT 11 North: 27086.9228 East : 15664.9800
Line Course: S 41-35-42 W Length: 546.4600
PT 12 North: 26678.2494 East : 15302.2066
Line Course: S 89-41-05 W Length: 243.0500
PT 13 North: 26676.9120 East : 15059.1602
Line Course: N 00-18-55 W Length: 15.0000

PT 14 North: 26691.9117 East : 15059.0777
Line Course: S 89-41-05 W Length: 192.0200
PT 15 North: 26690.8551 East : 14867.0606
Line Course: N 00-18-55 W Length: 1770.9100
PT 01 North: 28461.7383 East : 14857.3160



CLOSURE - HIGHLAND SPRINGS 3RD ADDITION (EAST PARCEL)

PT 21 North: 27903.7254 East : 18949.4073
Line Course: S 00-06-48 E Length: 364.0400
PT 22 North: 27539.6861 East : 18950.1274
Line Course: S 89-43-32 W Length: 675.0000
PT 23 North: 27536.4529 East : 18275.1351
Line Course: S 00-06-48 E Length: 23.0300
PT 24 North: 27513.4229 East : 18275.1807
Line Course: S 89-53-12 W Length: 120.1500
PT 25 North: 27513.1852 East : 18155.0309
Line Course: S 84-45-18 W Length: 64.5100
PT 26 North: 27507.2881 East : 18090.7910
Line Course: N 82-54-46 W Length: 116.5400
PT 27 North: 27521.6668 East : 17975.1415
Line Course: N 07-05-14 E Length: 64.7500
PT 28 North: 27585.9221 East : 17983.1303
Line Course: N 22-44-58 W Length: 263.5200
PT 29 North: 27828.9415 East : 17881.2266
Line Course: N 17-19-18 E Length: 104.6900
PT 30 North: 27928.8836 East : 17912.3966
Line Course: N 59-15-54 E Length: 134.2700
PT 31 North: 27997.5047 East : 18027.8070
Line Course: S 81-41-36 E Length: 103.2600
PT 32 North: 27982.5866 East : 18129.9837
Line Course: S 46-59-44 E Length: 159.2800
PT 33 North: 27873.9489 East : 18246.4653
Line Course: S 00-06-48 E Length: 150.9600
PT 34 North: 27722.9892 East : 18246.7639
Curve Length: 46.3179 Radius: 232.0000
Delta: 11-26-20 Tangent: 23.2357
Chord: 46.2400 Course: N 76-35-43 E
Course In: S 19-07-27 E Course Out: N 07-41-07 W
RP North: 27503.7930 East : 18322.7710
PT 35 End North: 27733.7091 East : 18291.7452
Line Course: N 00-06-48 W Length: 189.8500
PT 36 North: 27923.5588 East : 18291.3697
Line Course: N 41-33-39 W Length: 254.3100
PT 37 North: 28113.8467 East : 18122.6567
Line Course: N 03-25-32 W Length: 49.9600
PT 38 North: 28163.7174 East : 18119.6715
Line Course: N 29-53-12 E Length: 170.0000
PT 39 North: 28311.1096 East : 18204.3801
Line Course: N 74-53-12 E Length: 106.0700

PT 40	North: 28338.7651		East : 18306.7813
Line	Course: S 60-06-48 E	Length:	363.8100
PT 41	North: 28157.4837		East : 18622.2092
Line	Course: S 00-06-48 E	Length:	254.4100
PT 42	North: 27903.0742		East : 18622.7125
Line	Course: N 89-53-12 E	Length:	326.7000
PT 21	North: 27903.7204		East : 18949.4118