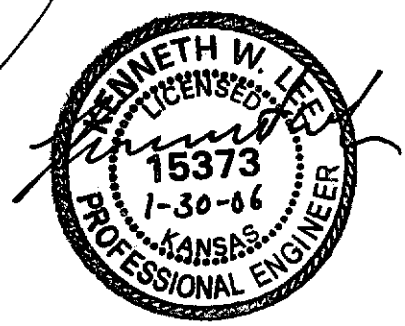
SOUTHWEST PASSAGE ADDITION

WICHITA, SEDGWICK COUNTY, KANSAS

DRAINAGE REPORT



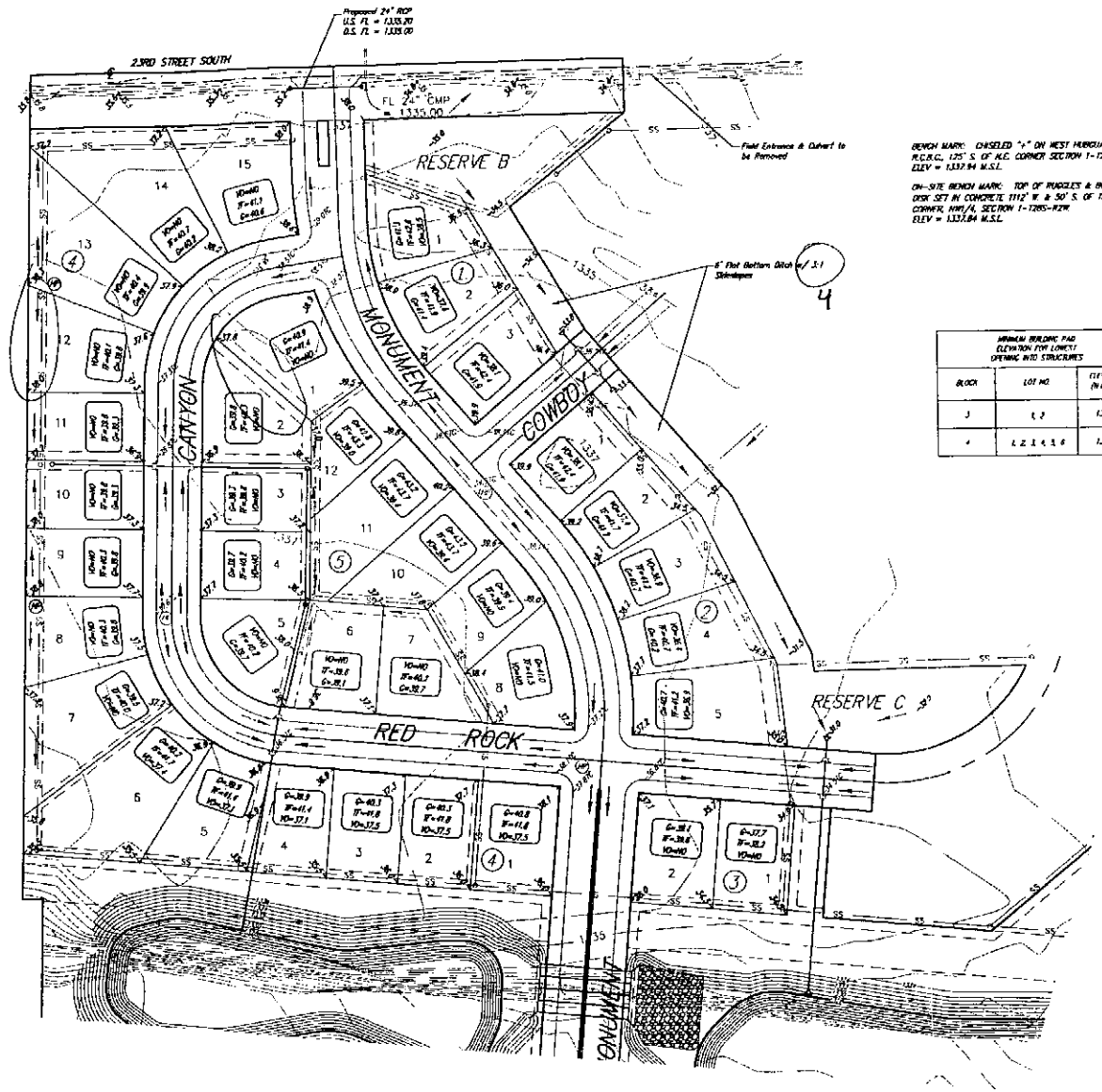
JANUARY 2006

Ruggles & Bohm P.A.

Engineering, Surveying, Land Planning

SOUTHWEST PASSAGE ADDITION

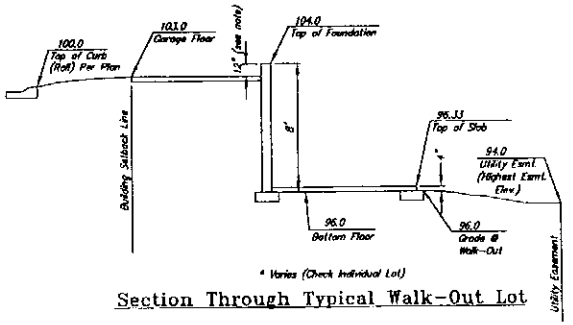
Wichita, Sedgwick County, Kansas



BENCH MARK: CHISELED "+" ON WEST HUNGUARD OF R.C.B.C., 175' S. OF N.E. CORNER SECTION 1-T28S-R2W
ELEV = 1,337.94 M.S.L.

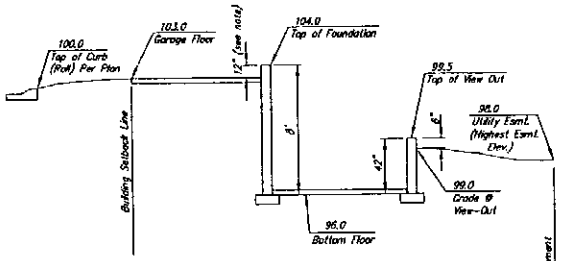
ON-SITE BENCH MARK: TOP OF RUGGLES & BOHM BRASS DISK SET IN CONCRETE, 1712' W. & 50' S. OF THE NE CORNER, NW1/4, SECTION 1-T28S-R2W
ELEV = 1,337.84 M.S.L.

MINIMUM BUILDING PAD ELEVATION FOR LOWEST OPENING INTO STRUCTURES		
BLOCK	LOT NO.	ELEVATION (N.G.V.D.)
3	1, 2	1,334.5
4	1, 2, 3, 4, 5, 6	1,336.5



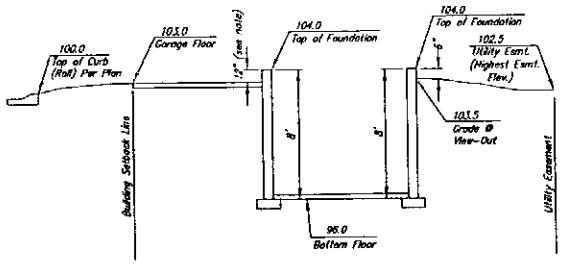
* Varies (Check Individual Lot)

Section Through Typical Walk-Out Lot



* Varies (Check Individual Lot)

Section Through Typical View-Out Lot



* Varies (Check Individual Lot)

Section Through Typical Full Basement

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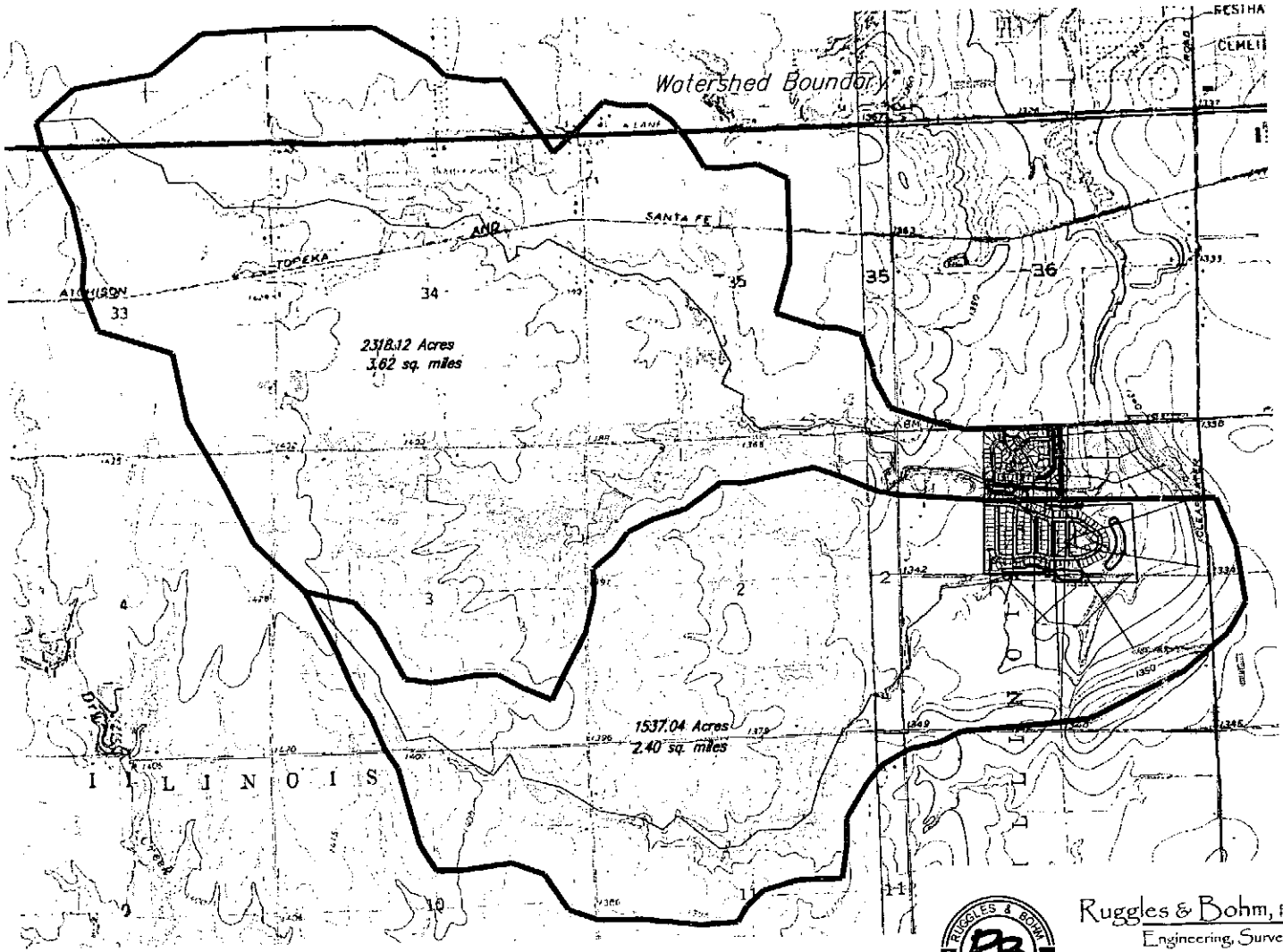
HEC-HMS INFORMATION

Southwest Passage

USGS Quad Maps

Wichita West & Goddard



SCALE
1: 30 000

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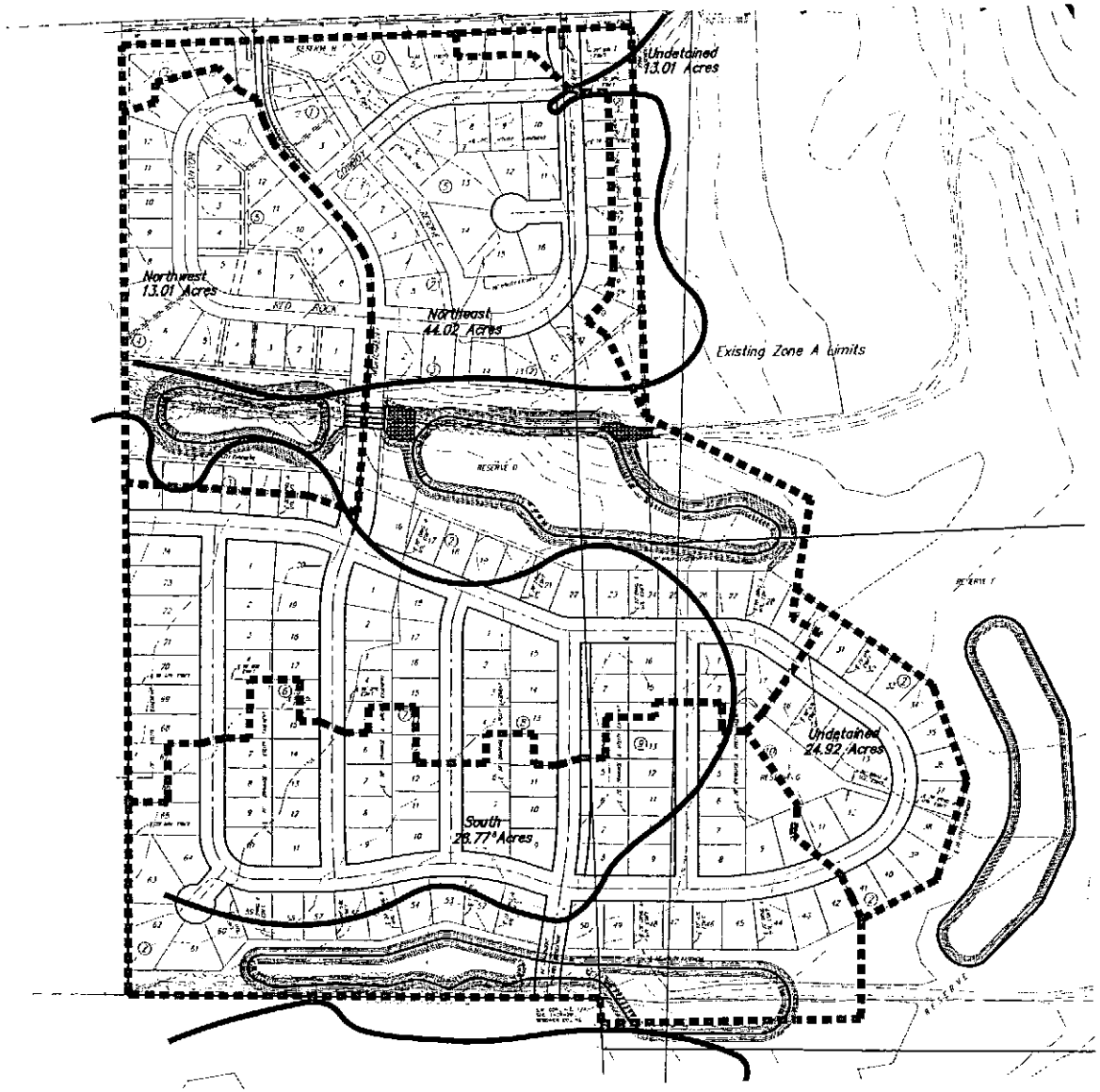
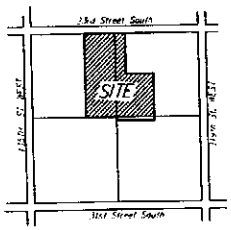


Southwest Passage
Onsite Basin Exhibit

SCALE
1" = 300'



VICINITY MAP

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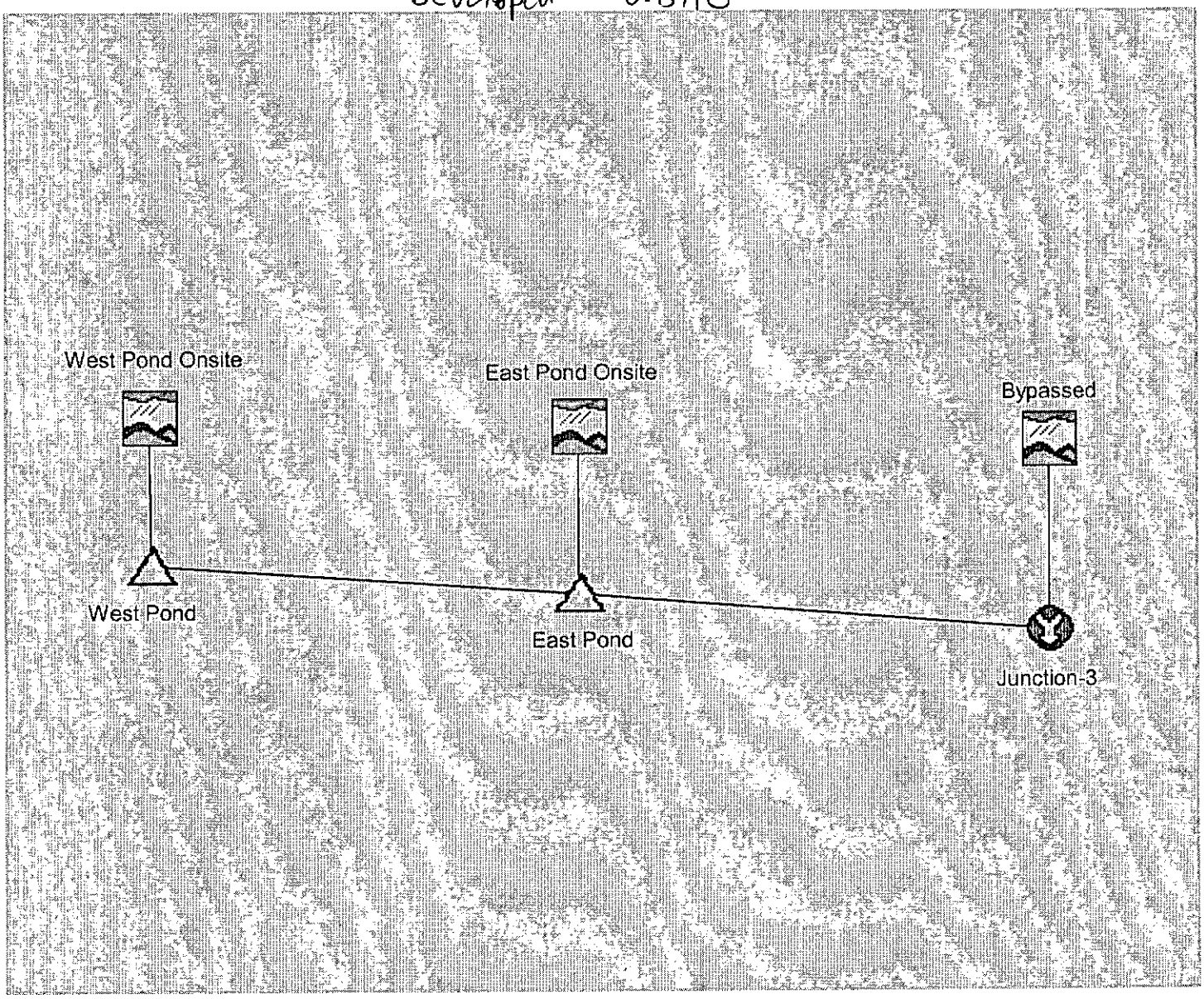
HEC-HMS Project: SW Passage Basin Model: Proposed

Developed Onsite



HMS * Summary of Results

Project : SW Passage Run Name : Prop2

Start of Run : 31Oct05 0000 Basin Model : Proposed Onsite
End of Run : 31Oct05 2400 Met. Model : Met2
Execution Time : 24Jan06 1430 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
West Pond Onsite	23.894	31 Oct 05 1210	2.3299	0.020
West Pond	22.039	31 Oct 05 1215	2.3269	0.020
East Pond Onsite	82.435	31 Oct 05 1210	8.0382	0.069
East Pond	42.308	31 Oct 05 1230	10.185	0.089
Bypassed	3.2521	31 Oct 05 1215	0.34771	0.004
Junction-3	44.279	31 Oct 05 1230	10.533	0.093

HMS * Summary of Results for West Pond

Project : SW Passage Run Name : Prop2

Start of Run : 31Oct05 0000 Basin Model : Proposed Onsite

End of Run : 31Oct05 2400 Met. Model : Met2

Execution Time : 24Jan06 1241 Control Specs : Control 1

Computed Results

Peak Inflow : 23.894 (cfs) Date/Time of Peak Inflow : 31 Oct 05 1210

Peak Outflow : 21.511 (cfs) Date/Time of Peak Outflow : 31 Oct 05 1215

Total Inflow : 2.18 (in) Peak Storage : 0.19434(ac-ft)

Total Outflow : 2.18 (in) Peak Elevation : 1328.2(ft)

HMS * Summary of Results for East Pond

Project : SW Passage Run Name : Prop2

Start of Run : 31Oct05 0000 Basin Model : Proposed Onsite

End of Run : 31Oct05 2400 Met. Model : Met2

Execution Time : 24Jan06 1435 Control Specs : Control 1

Computed Results

Peak Inflow : 104.44 (cfs) Date/Time of Peak Inflow : 31 Oct 05 1210

Peak Outflow : 42.308 (cfs) Date/Time of Peak Outflow : 31 Oct 05 1230

Total Inflow : 2.18 (in) Peak Storage : 3.3091(ac-ft)

Total Outflow : 2.15 (in) Peak Elevation : 1327.1(ft)

HMS * Summary of Results

Project : SW Passage Run Name : Prop5

Start of Run : 31Oct05 0000 Basin Model : Proposed Onsite
End of Run : 31Oct05 2400 Met. Model : Met5
Execution Time : 24Jan06 1430 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
West Pond Onsite	33.756	31 Oct 05 1210	3.2619	0.020
West Pond	31.257	31 Oct 05 1210	3.2578	0.020
East Pond Onsite	116.46	31 Oct 05 1210	11.254	0.069
East Pond	66.466	31 Oct 05 1230	14.269	0.089
Bypassed	4.8637	31 Oct 05 1215	0.51566	0.004
Junction-3	69.749	31 Oct 05 1225	14.785	0.093

HMS * Summary of Results for West Pond

Project : SW Passage Run Name : Prop5

Start of Run : 31Oct05 0000 Basin Model : Proposed Onsite

End of Run : 31Oct05 2400 Met. Model : Met5

Execution Time : 24Jan06 1242 Control Specs : Control 1

Computed Results

Peak Inflow : 33.756 (cfs) Date/Time of Peak Inflow : 31 Oct 05 1210

Peak Outflow : 30.447 (cfs) Date/Time of Peak Outflow : 31 Oct 05 1215

Total Inflow : 3.06 (in) Peak Storage : 0.27508(ac-ft)

Total Outflow : 3.05 (in) Peak Elevation : 1328.2(ft)

HMS * Summary of Results for East Pond

Project : SW Passage Run Name : Prop5

Start of Run : 31Oct05 0000 Basin Model : Proposed Onsite

End of Run : 31Oct05 2400 Met. Model : Met5

Execution Time : 24Jan06 1434 Control Specs : Control 1

Computed Results

Peak Inflow : 147.72 (cfs) Date/Time of Peak Inflow : 31 Oct 05 1210

Peak Outflow : 66.466 (cfs) Date/Time of Peak Outflow : 31 Oct 05 1230

Total Inflow : 3.06 (in) Peak Storage : 4.4883(ac-ft)

Total Outflow : 3.01 (in) Peak Elevation : 1327.5(ft)

HMS * Summary of Results

Project : SW Passage Run Name : Prop100

Start of Run : 31Oct05 0000 Basin Model : Proposed Onsite
End of Run : 31Oct05 2400 Met. Model : Met100
Execution Time : 24Jan06 1430 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
West Pond Onsite	68.032	31 Oct 05 1205	6.5266	0.020
West Pond	63.124	31 Oct 05 1210	6.5190	0.020
East Pond Onsite	234.71	31 Oct 05 1205	22.517	0.069
East Pond	166.81	31 Oct 05 1225	28.588	0.089
Bypassed	10.550	31 Oct 05 1210	1.1187	0.004
Junction-3	174.46	31 Oct 05 1225	29.706	0.093

HMS * Summary of Results for West Pond

Project : SW Passage Run Name : Prop100

Start of Run : 31Oct05 0000 Basin Model : Proposed Onsite

End of Run : 31Oct05 2400 Met. Model : Met100

Execution Time : 24Jan06 1243 Control Specs : Control 1

Computed Results

Peak Inflow : 68.032 (cfs) Date/Time of Peak Inflow : 31 Oct 05 1205

Peak Outflow : 61.083 (cfs) Date/Time of Peak Outflow : 31 Oct 05 1215

Total Inflow : 6.12 (in) Peak Storage : 0.55185(ac-ft)

Total Outflow : 6.11 (in) Peak Elevation : 1328.5(ft)

HMS * Summary of Results for East Pond

Project : SW Passage Run Name : Prop100

Start of Run : 31Oct05 0000 Basin Model : Proposed Onsite

End of Run : 31Oct05 2400 Met. Model : Met100

Execution Time : 24Jan06 1434 Control Specs : Control 1

Computed Results

Peak Inflow : 295.91 (cfs) Date/Time of Peak Inflow : 31 Oct 05 1210

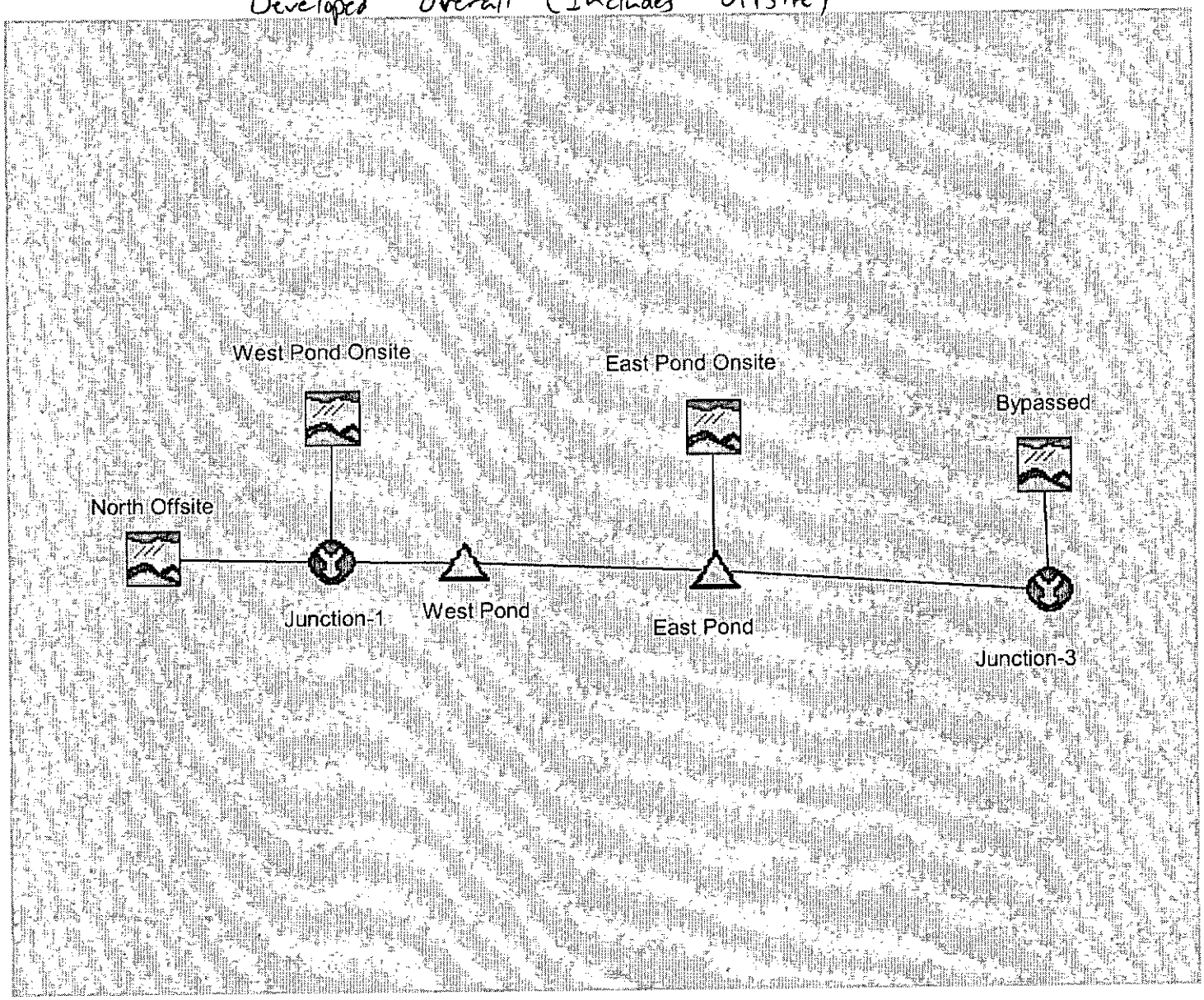
Peak Outflow : 166.81 (cfs) Date/Time of Peak Outflow : 31 Oct 05 1225

Total Inflow : 6.12 (in) Peak Storage : 8.1736(ac-ft)

Total Outflow : 6.02 (in) Peak Elevation : 1328.4(ft)

HEC-HMS | Project: SW Passage | Basin Model: Proposed

Developed overall (Includes offsite)



HMS * Summary of Results

Project : SW Passage Run Name : DevAll2

Start of Run : 31Oct05 0000 Basin Model : Proposed Overall
End of Run : 31Oct05 2400 Met. Model : Met2
Execution Time : 24Jan06 1431 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
North Offsite	654.80	31 Oct 05 1600	346.29	3.620
West Pond Onsite	23.894	31 Oct 05 1210	2.3299	0.020
Junction-1	655.75	31 Oct 05 1600	348.62	3.640
West Pond	655.47	31 Oct 05 1600	347.40	3.640
East Pond Onsite	82.435	31 Oct 05 1210	8.0382	0.069
Junction-2	658.75	31 Oct 05 1600	355.43	3.709
East Pond	657.24	31 Oct 05 1610	347.87	3.709
Bypassed	2.7711	31 Oct 05 1220	0.33788	0.004
Junction-3	657.40	31 Oct 05 1610	348.21	3.713

HMS * Summary of Results

Project : SW Passage Run Name : DevAll5

Start of Run : 31Oct05 0000 Basin Model : Proposed Overall
End of Run : 31Oct05 2400 Met. Model : Met5
Execution Time : 24Jan06 1431 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
North Offsite	950.77	31 Oct 05 1555	503.19	3.620
West Pond Onsite	33.756	31 Oct 05 1210	3.2619	0.020
Junction-1	952.09	31 Oct 05 1555	506.46	3.640
West Pond	951.80	31 Oct 05 1600	504.95	3.640
East Pond Onsite	116.46	31 Oct 05 1210	11.254	0.069
Junction-2	956.26	31 Oct 05 1600	516.21	3.709
East Pond	954.98	31 Oct 05 1605	507.10	3.709
Bypassed	4.1529	31 Oct 05 1220	0.50116	0.004
Junction-3	955.21	31 Oct 05 1605	507.61	3.713

HMS * Summary of Results

Project : SW Passage Run Name : Devall100

Start of Run : 31Oct05 0000 Basin Model : Proposed Overall
End of Run : 31Oct05 2400 Met. Model : Met100
Execution Time : 24Jan06 1431 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
North Offsite	1964.4	31 Oct 05 1550	1053.3	3.620
West Pond Onsite	68.032	31 Oct 05 1205	6.5266	0.020
Junction-1	1966.9	31 Oct 05 1550	1059.9	3.640
West Pond	1966.5	31 Oct 05 1555	1057.5	3.640
East Pond Onsite	234.71	31 Oct 05 1205	22.517	0.069
Junction-2	1975.0	31 Oct 05 1555	1080.0	3.709
East Pond	1973.3	31 Oct 05 1600	1067.9	3.709
Bypassed	9.0293	31 Oct 05 1215	1.0875	0.004
Junction-3	1973.8	31 Oct 05 1600	1069.0	3.713

HMS * Summary of Results for West Pond

Project : SW Passage Run Name : Devall100

Start of Run : 31Oct05 0000 Basin Model : Proposed Overall

End of Run : 31Oct05 2400 Met. Model : Met100

Execution Time : 24Jan06 1309 Control Specs : Control 1

Computed Results

Peak Inflow : 1966.9 (cfs) Date/Time of Peak Inflow : 31 Oct 05 1550

Peak Outflow : 1966.5 (cfs) Date/Time of Peak Outflow : 31 Oct 05 1555

Total Inflow : 5.46 (in) Peak Storage : 8.9498(ac-ft)

Total Outflow : 5.45 (in) Peak Elevation : 1334.0(ft)

HMS * Summary of Results for East Pond

Project : SW Passage Run Name : Devall100

Start of Run : 31Oct05 0000 Basin Model : Proposed Overall

End of Run : 31Oct05 2400 Met. Model : Met100

Execution Time : 24Jan06 1309 Control Specs : Control 1

Computed Results

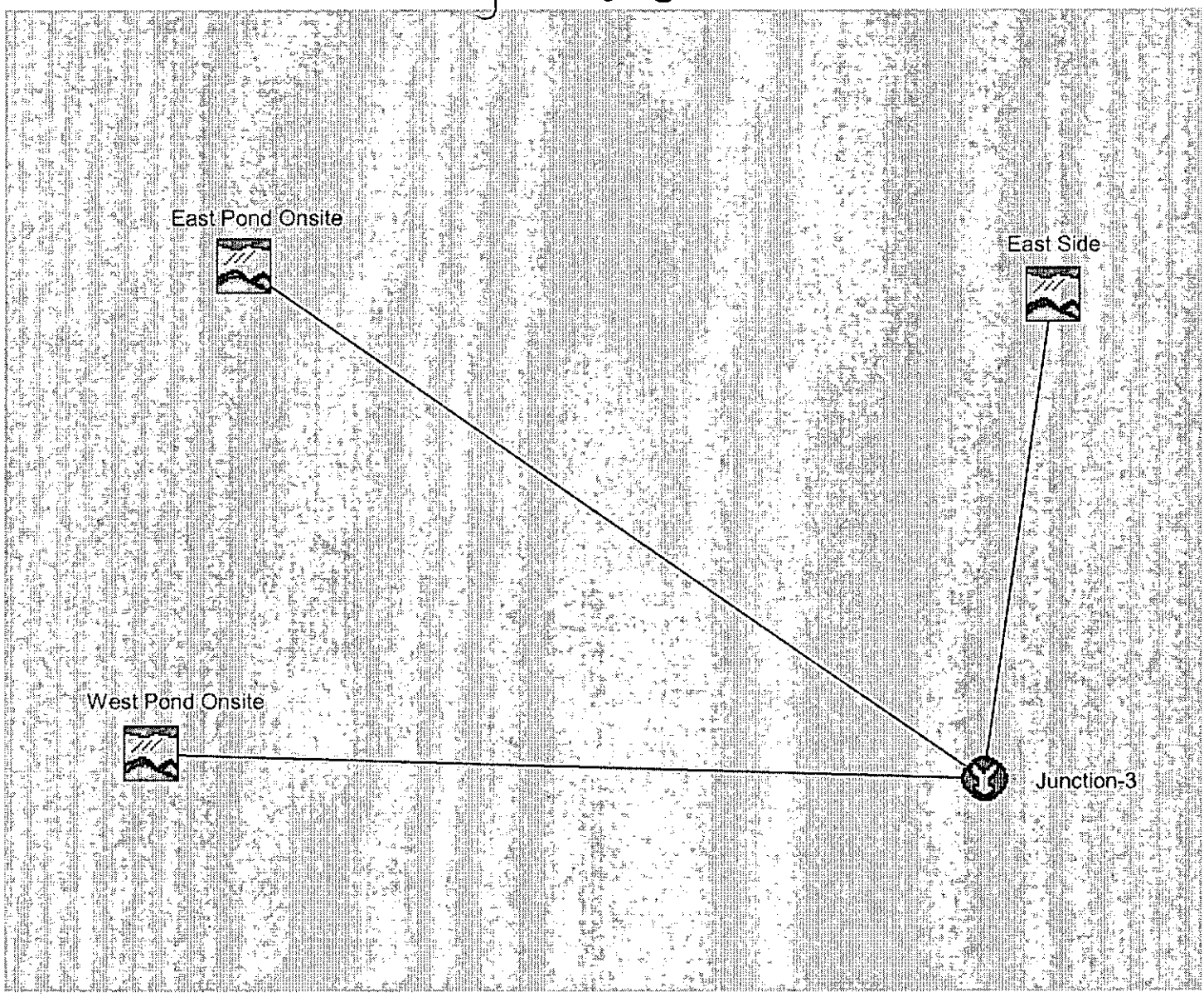
Peak Inflow : 1975.0 (cfs) Date/Time of Peak Inflow : 31 Oct 05 1555

Peak Outflow : 1973.3 (cfs) Date/Time of Peak Outflow : 31 Oct 05 1600

Total Inflow : 5.46 (in) Peak Storage : 27.489(ac-ft)

Total Outflow : 5.43 (in) Peak Elevation : 1332.9(ft)

Existing Onsite



HMS * Summary of Results

Project : SW Passage Run Name : Exist2

Start of Run : 31Oct05 0000 Basin Model : Existing Onsite
End of Run : 31Oct05 2400 Met. Model : Met2
Execution Time : 24Jan06 1259 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
West Pond Onsite	14.366	31 Oct 05 1220	1.7272	0.020
East Pond Onsite	49.562	31 Oct 05 1220	5.9590	0.069
East Side	3.0399	31 Oct 05 1215	0.32021	0.004
Junction-3	66.682	31 Oct 05 1220	8.0064	0.093

HMS * Summary of Results

Project : SW Passage Run Name : Exist5

Start of Run : 31Oct05 0000 Basin Model : Existing Onsite
End of Run : 31Oct05 2400 Met. Model : Met5
Execution Time : 24Jan06 1259 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
West Pond Onsite	21.827	31 Oct 05 1220	2.6005	0.020
East Pond Onsite	75.305	31 Oct 05 1220	8.9716	0.069
East Side	4.6079	31 Oct 05 1215	0.48201	0.004
Junction-3	101.27	31 Oct 05 1220	12.054	0.093

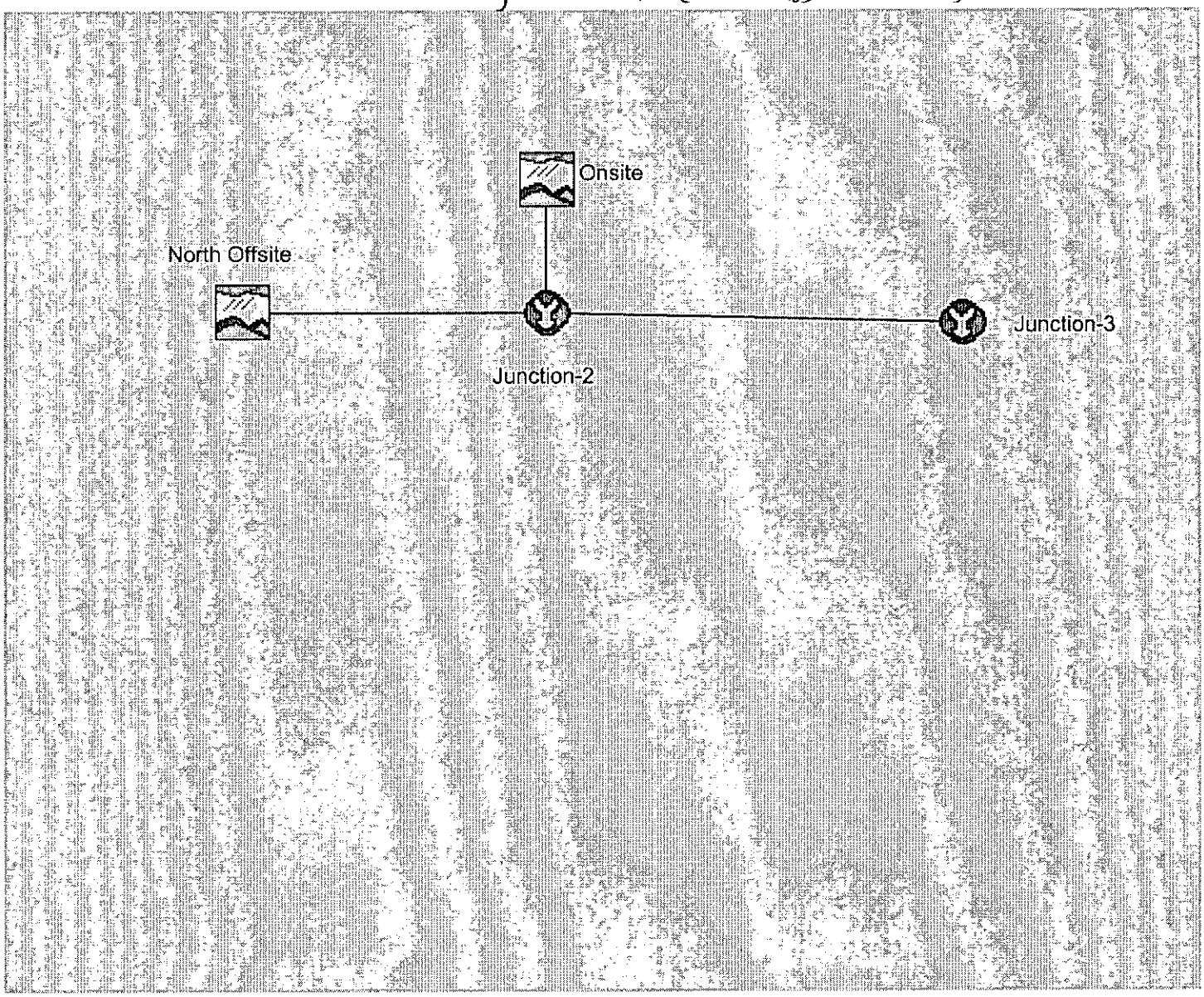
HMS * Summary of Results

Project : SW Passage Run Name : Exist100

Start of Run : 31Oct05 0000 Basin Model : Existing Onsite
End of Run : 31Oct05 2400 Met. Model : Met100
Execution Time : 24Jan06 1259 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
West Pond Onsite	48.186	31 Oct 05 1215	5.7524	0.020
East Pond Onsite	166.24	31 Oct 05 1215	19.846	0.069
East Side	10.143	31 Oct 05 1210	1.0659	0.004
Junction-3	224.49	31 Oct 05 1215	26.664	0.093

Existing Overall (Includes Offsite)



HMS * Summary of Results

Project : SW Passage Run Name : ExistAll2

Start of Run : 31Oct05 0000 Basin Model : Existing Overall
End of Run : 31Oct05 2400 Met. Model : Met2
Execution Time : 24Jan06 1402 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
North Offsite	654.80	31 Oct 05 1600	346.29	3.620
North Onsite	59.424	31 Oct 05 1225	8.0148	0.093
Junction-2	659.16	31 Oct 05 1600	354.31	3.713
Junction-3	659.16	31 Oct 05 1600	354.31	3.713

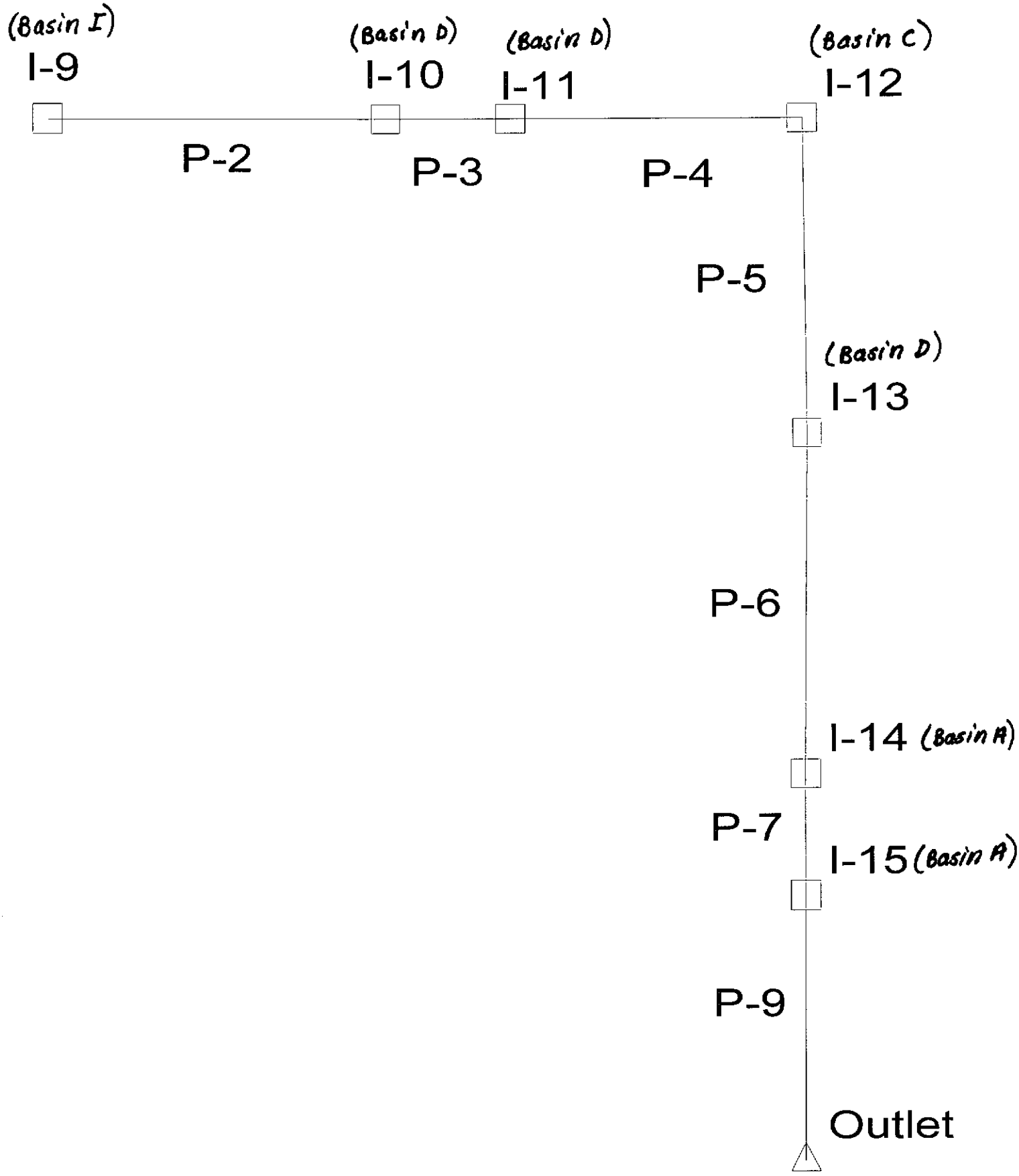
HMS * Summary of Results

Project : SW Passage Run Name : ExistAll100

Start of Run : 31Oct05 0000 Basin Model : Existing Overall
End of Run : 31Oct05 2400 Met. Model : Met100
Execution Time : 24Jan06 1305 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
North Offsite	1964.4	31 Oct 05 1550	1053.3	3.620
Onsite	199.67	31 Oct 05 1220	26.704	0.093
Junction-2	1976.8	31 Oct 05 1550	1080.0	3.713
Junction-3	1976.8	31 Oct 05 1550	1080.0	3.713

STORMCAD OUTPUT


(Basin I)
I-9
(Basin D)
I-10
(Basin D)
I-11
(Basin C)
I-12
P-2
P-3
P-4
P-5
(Basin D)
I-13
P-6
I-14 (Basin A)
P-7
I-15 (Basin A)
P-9
Outlet

Combined Pipe/Node Report

Pipe	Up Node	Dn Node	Length (ft)	Size	Cap (cfs)	V avg (ft/s)	Up Invert (ft)	Dn Invert (ft)	S (ft/ft)	Description	Q (cfs)
P-2	I-9	I-10	113.62	15 inch	4.57	4.12	1,334.70	1,334.13	0.005000		3.00
P-3	I-10	I-11	40.68	24 inch	16.00	5.36	1,333.63	1,333.43	0.005000		9.65
P-4	I-11	I-12	127.46	30 inch	29.00	5.72	1,332.93	1,332.29	0.005000		16.30
P-5	I-12	I-13	149.78	30 inch	29.00	6.25	1,332.29	1,331.54	0.005000		18.50
P-6	I-13	I-14	127.80	30 inch	29.00	6.64	1,331.29	1,330.65	0.005000		22.70
P-7	I-14	I-15	40.81	36 inch	47.16	6.46	1,330.40	1,330.20	0.005000		29.95
P-9	I-15	Outlet	197.80	36 inch	97.18	6.38	1,330.20	1,326.00	0.021230		37.20

DOT Report

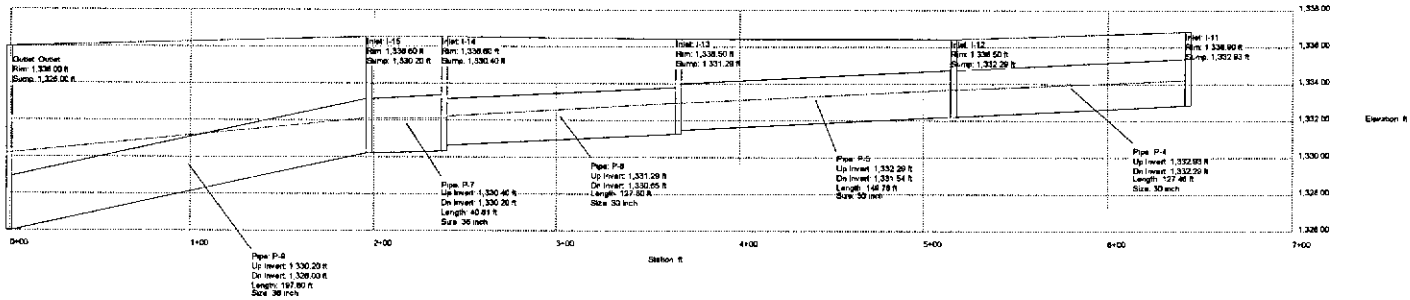
Pipe	-Node- Upstream Downstream	Inlet Area (acres)	Inlet CA (acres)	Total CA (acres)	-Ground- Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Slope- Energy Constructed (ft/ft)	-Section- Discharge Capacity (cfs)	-Section- Shape Size	Length (ft)	Average Velocity (ft/s)	Description
P-2	I-9	0.00	0.00	0.00	1,337.20	1,335.44	0.005040	3.00	Circular	113.62	4.12	
	I-10				1,336.90	1,334.83	0.005000	4.57	15 inch			
P-3	I-10	0.00	0.00	0.00	1,336.90	1,334.75	0.005004	9.65	Circular	40.68	5.36	
	I-11				1,336.90	1,334.54	0.005000	16.00	24 inch			
P-4	I-11	0.00	0.00	0.00	1,336.90	1,334.29	0.004914	16.30	Circular	127.46	5.72	
	I-12				1,336.50	1,333.75	0.005000	29.00	30 inch			
P-5	I-12	0.00	0.00	0.00	1,336.50	1,333.75	0.005000	18.50	Circular	149.78	6.25	
	I-13				1,336.50	1,332.99	0.005000	29.00	30 inch			
P-6	I-13	0.00	0.00	0.00	1,336.50	1,332.96	0.005017	22.70	Circular	127.80	6.64	
	I-14				1,336.60	1,332.27	0.005000	29.00	30 inch			
P-7	I-14	0.00	0.00	0.00	1,336.60	1,332.18	0.004009	29.95	Circular	40.81	6.46	
	I-15				1,336.60	1,332.18	0.005000	47.16	36 inch			
P-9	I-15	0.00	0.00	0.00	1,336.60	1,332.18	0.012269	37.20	Circular	197.80	6.38	
	Outlet				1,336.00	1,330.20	0.021230	97.18	36 inch			

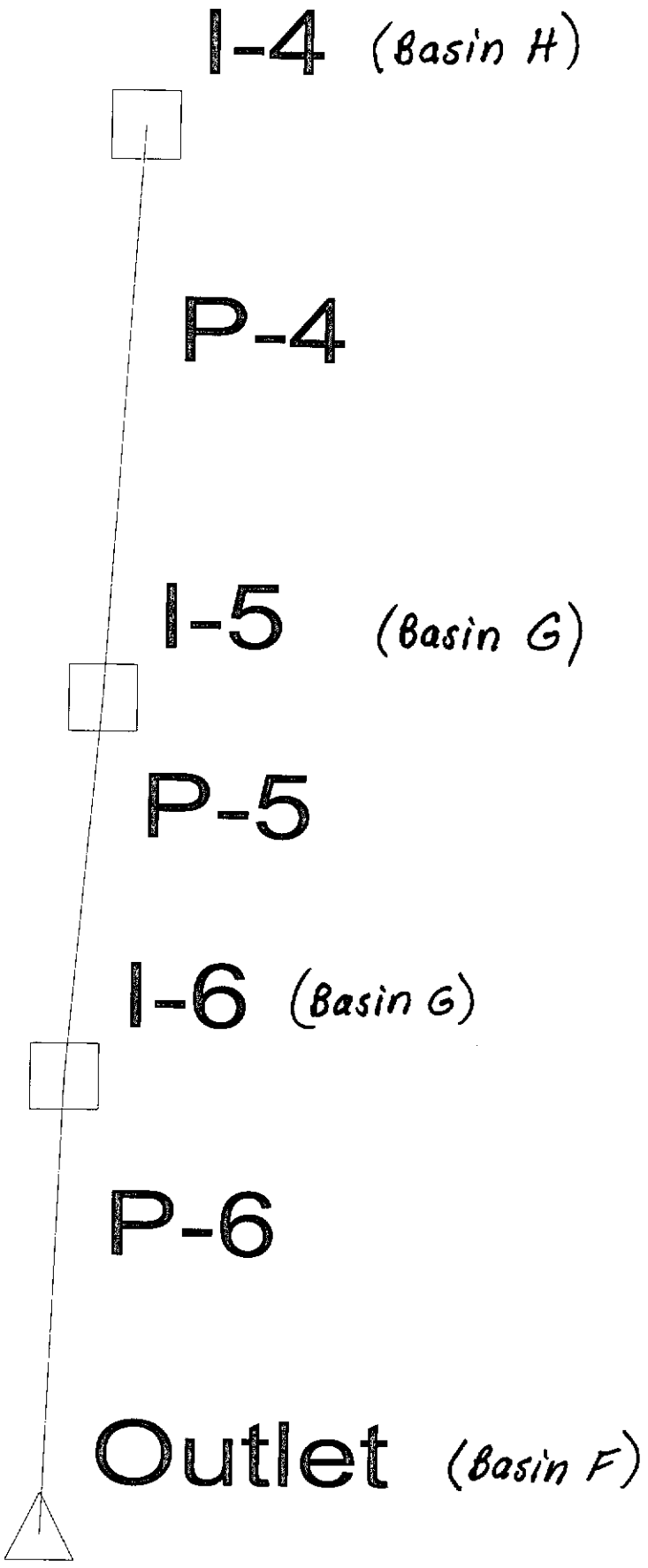
Node Report

Node	Inlet A (acres)	C	Up Flow Time (min)	Sys Flow Time (min)	Q (cfs)	Rim (ft)	Gr Elev (ft)	HGL In (ft)	HGL Out (ft)	Sump (ft)	Add. Q (cfs)	Known Flow (cfs)
I-9	0.00	0.00	0.00	0.00	3.00	1,337.20	1,337.20	1,335.44	1,335.44	1,334.70	3.00	0.00
I-10	0.00	0.00	0.46	0.46	9.65	1,336.90	1,336.90	1,334.75	1,334.75	1,333.63	6.65	0.00
I-11	0.00	0.00	0.59	0.59	16.30	1,336.90	1,336.90	1,334.29	1,334.29	1,332.93	6.65	0.00
I-12	0.00	0.00	0.96	0.96	18.50	1,336.50	1,336.50	1,333.75	1,333.75	1,332.29	2.20	0.00
I-13	0.00	0.00	1.36	1.36	22.70	1,336.50	1,336.50	1,332.96	1,332.96	1,331.29	4.20	0.00
I-14	0.00	0.00	1.68	1.68	29.95	1,336.60	1,336.60	1,332.18	1,332.18	1,330.40	7.25	0.00
I-15	0.00	0.00	1.78	1.78	37.20	1,336.60	1,336.60	1,332.18	1,332.18	1,330.20	7.25	0.00
Outlet	N/A	N/A	2.30	2.30	N/A	1,336.00	1,336.00	1,330.20	1,330.20	1,326.00	N/A	N/A

Pipe Report

Pipe	Up Node	Dn Node	Q (cfs)	Length (ft)	S (ft/ft)	Size	Roughness	Cap (cfs)	Up Invert (ft)	Dn Invert (ft)	Up Cover (ft)	Dn Cover (ft)	Up HGL (ft)	Dn HGL (ft)
P-2	I-9	I-10	3.00	113.62	0.005000	15 inch	0.013	4.57	1,334.70	1,334.13	1.25	1.52	1,335.44	1,334.83
P-3	I-10	I-11	9.65	40.68	0.005000	24 inch	0.013	16.00	1,333.63	1,333.43	1.27	1.47	1,334.75	1,334.54
P-4	I-11	I-12	16.30	127.46	0.005000	30 inch	0.013	29.00	1,332.93	1,332.29	1.47	1.71	1,334.29	1,333.75
P-5	I-12	I-13	18.50	149.78	0.005000	30 inch	0.013	29.00	1,332.29	1,331.54	1.71	2.46	1,333.75	1,332.99
P-6	I-13	I-14	22.70	127.80	0.005000	30 inch	0.013	29.00	1,331.29	1,330.65	2.71	3.45	1,332.96	1,332.27
P-7	I-14	I-15	29.95	40.81	0.005000	36 inch	0.013	47.16	1,330.40	1,330.20	3.20	3.40	1,332.18	1,332.18
P-9	I-15	Outlet	37.20	197.80	0.021230	36 inch	0.013	97.18	1,330.20	1,326.00	3.40	7.00	1,332.18	1,330.20
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A


Outlet: Outlet
Rim: 1,336.00 ft
Sump: 1,326.00 ft
Inlet: I-15
Rim: 1,336.60 ft
Sump: 1,330.20 ft
Inlet: I-14
Rim: 1,336.65 ft
Sump: 1,330.40 ft
Inlet: I-13
Rim: 1,338.50 ft
Sump: 1,331.29 ft
Inlet: I-12
Rim: 1,336.50 ft
Sump: 1,332.29 ft
Inlet: I-11
Rim: 1,336.90 ft
Sump: 1,332.93 ft
Pipe: P-8
Up Invert: 1,330.20 ft
Dn Invert: 1,326.00 ft
Length: 197.80 ft
Size: 36 inch
Pipe: P-7
Up Invert: 1,330.40 ft
Dn Invert: 1,330.20 ft
Length: 40.61 ft
Size: 36 inch
Pipe: P-6
Up Invert: 1,331.29 ft
Dn Invert: 1,330.65 ft
Length: 127.80 ft
Size: 33 inch
Pipe: P-5
Up Invert: 1,332.29 ft
Dn Invert: 1,331.54 ft
Length: 148.78 ft
Size: 30 inch
Pipe: P-4
Up Invert: 1,332.93 ft
Dn Invert: 1,332.29 ft
Length: 127.46 ft
Size: 30 inch
1,338.00
1,336.00
1,334.00
1,332.00
1,330.00
1,328.00
1,326.00
Elevation ft
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
Station ft


I-4 (Basin H)
P-4
I-5 (Basin G)
P-5
I-6 (Basin G)
P-6
Outlet (Basin F)

Combined Pipe/Node Report

Pipe	Up Node	Dn Node	Length (ft)	Size	Cap (cfs)	V avg (ft/s)	Up Invert (ft)	Dn Invert (ft)	S (ft/ft)	Description	Q (cfs)
P-4	I-4	I-5	21.03	24 inch	16.00	6.28	1,330.55	1,330.44	0.005000		15.60
P-5	I-5	I-6	34.75	30 inch	29.00	5.95	1,329.94	1,329.77	0.005000		22.05
P-6	I-6	Outlet	21.03	30 inch	42.05	7.44	1,329.77	1,329.55	0.010514		28.50

DOT Report

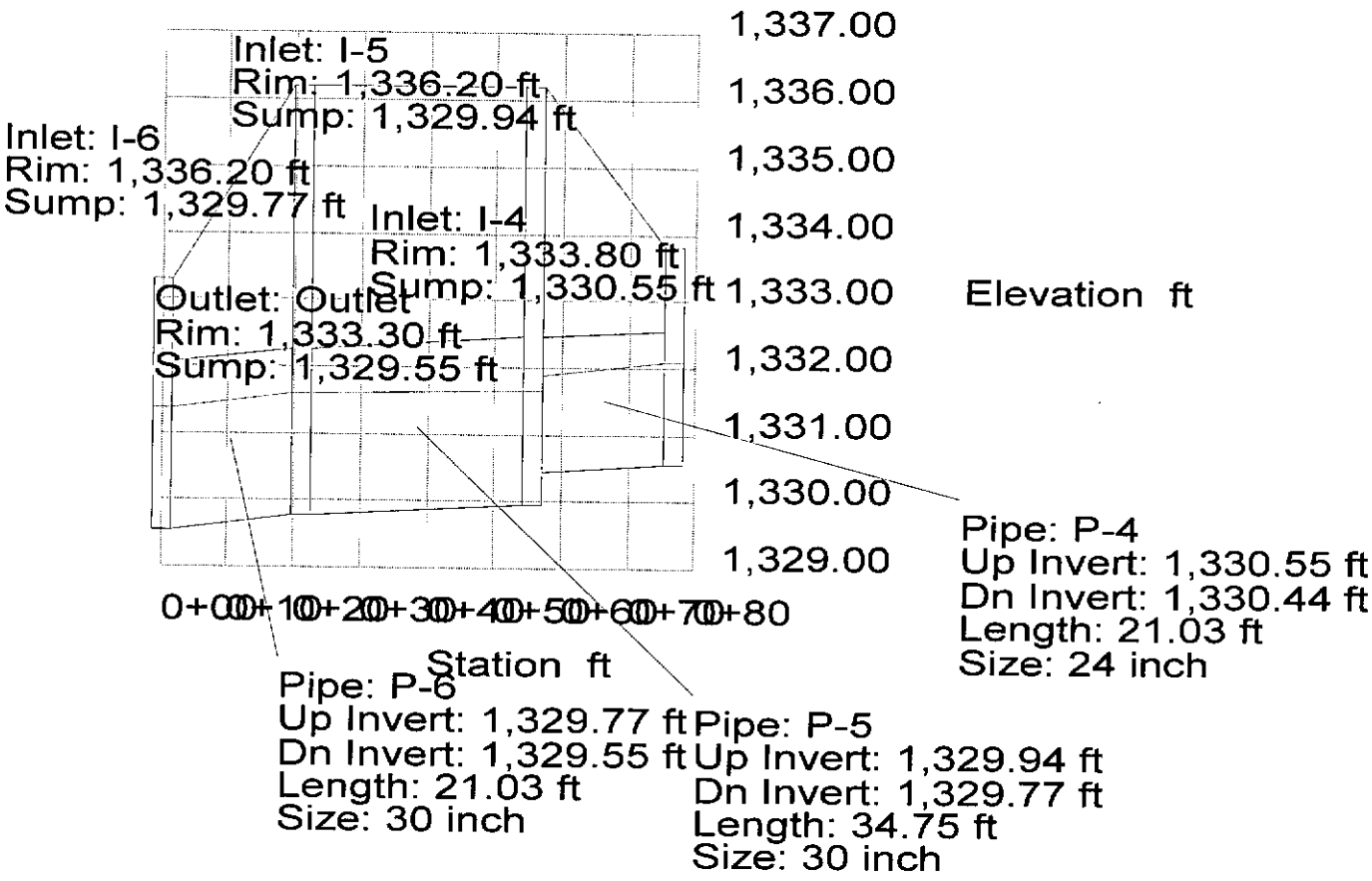
Pipe	-Node- Upstream Downstream	Inlet Area (acres)	Inlet CA (acres)	Total CA (acres)	-Ground- Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Slope- Energy Constructed (ft/ft)	-Section- Discharge Capacity (cfs)	-Section- Shape Size	Length (ft)	Average Velocity (ft/s)	Description
P-4	I-4	0.00	0.00	0.00	1,333.80	1,332.08	0.005716	15.60	Circular	21.03	6.28	
	I-5				1,336.20	1,331.87	0.005000	16.00	24 inch			
P-5	I-5	0.00	0.00	0.00	1,336.20	1,331.66	0.004027	22.05	Circular	34.75	5.95	
	I-6				1,336.20	1,331.59	0.005000	29.00	30 inch			
P-6	I-6	0.00	0.00	0.00	1,336.20	1,331.59	0.010514	28.50	Circular	21.03	7.44	
	Outlet				1,333.30	1,331.37	0.010514	42.05	30 inch			

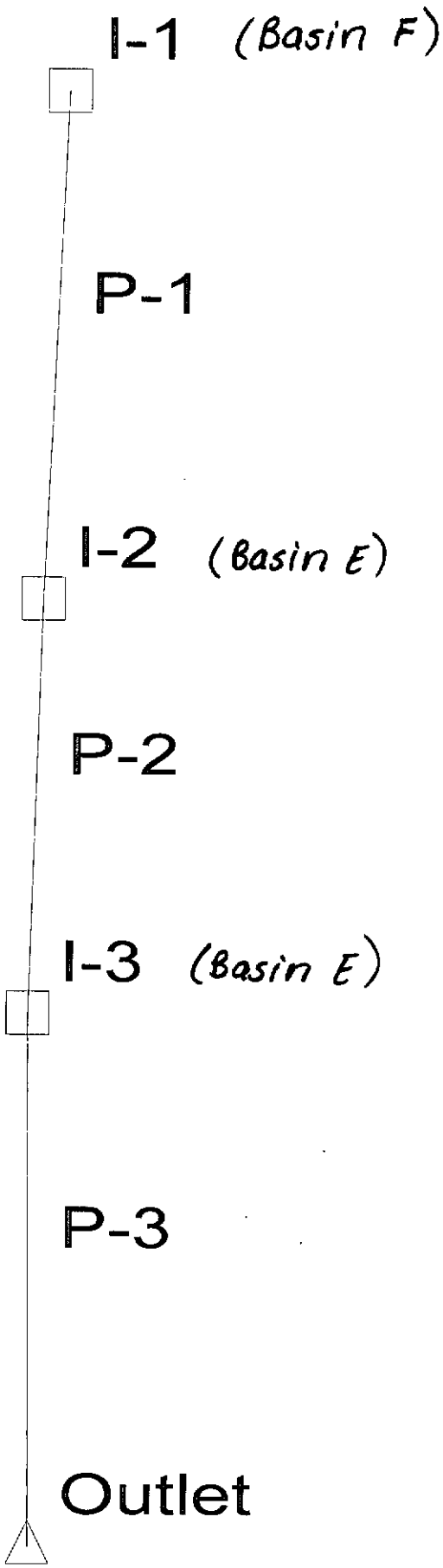
Node Report

Node	Inlet A (acres)	C	Up Flow Time (min)	Sys Flow Time (min)	Q (cfs)	Rim (ft)	Gr Elev (ft)	HGL In (ft)	HGL Out (ft)	Sump (ft)	Add. Q (cfs)	Known Flow (cfs)
I-4	0.00	0.00	0.00	0.00	15.60	1,333.80	1,333.80	1,332.08	1,332.08	1,330.55	15.60	0.00
I-5	0.00	0.00	0.06	0.06	22.05	1,336.20	1,336.20	1,331.66	1,331.66	1,329.94	6.45	0.00
I-6	0.00	0.00	0.15	0.15	28.50	1,336.20	1,336.20	1,331.59	1,331.59	1,329.77	6.45	0.00
Outlet	N/A	N/A	0.20	0.20	N/A	1,333.30	1,333.30	1,331.37	1,331.37	1,329.55	N/A	N/A

Pipe Report

Pipe	Up Node	Dn Node	Q (cfs)	Length (ft)	S (ft/ft)	Size	Roughness	Cap (cfs)	Up Invert (ft)	Dn Invert (ft)	Up Cover (ft)	Dn Cover (ft)	Up HGL (ft)	Dn HGL (ft)
P-4	I-4	I-5	15.60	21.03	0.005000	24 inch	0.013	16.00	1,330.55	1,330.44	1.25	3.76	1,332.08	1,331.87
P-5	I-5	I-6	22.05	34.75	0.005000	30 inch	0.013	29.00	1,329.94	1,329.77	3.76	3.93	1,331.66	1,331.59
P-6	I-6	Outlet	28.50	21.03	0.010514	30 inch	0.013	42.05	1,329.77	1,329.55	3.93	1.25	1,331.59	1,331.37
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A


Inlet: I-5
Rim: 1,336.20 ft
Sump: 1,329.94 ft
Inlet: I-6
Rim: 1,336.20 ft
Sump: 1,329.77 ft
Inlet: I-4
Rim: 1,333.80 ft
Sump: 1,330.55 ft
Outlet: Outlet
Rim: 1,333.30 ft
Sump: 1,329.55 ft
1,337.00
1,336.00
1,335.00
1,334.00
1,333.00
1,332.00
1,331.00
1,330.00
1,329.00
Elevation ft
0+00 0+10 0+20 0+30 0+40 0+50 0+60 0+70 0+80
Station ft
Pipe: P-4
Up Invert: 1,330.55 ft
Dn Invert: 1,330.44 ft
Length: 21.03 ft
Size: 24 inch
Pipe: P-6
Up Invert: 1,329.77 ft
Dn Invert: 1,329.55 ft
Length: 21.03 ft
Size: 30 inch
Pipe: P-5
Up Invert: 1,329.94 ft
Dn Invert: 1,329.77 ft
Length: 34.75 ft
Size: 30 inch


I-1 (Basin F)
P-1
I-2 (Basin E)
P-2
I-3 (Basin E)
P-3
Outlet

Combined Pipe/Node Report

Pipe	Up Node	Dn Node	Length (ft)	Size	Cap (cfs)	V avg (ft/s)	Up Invert (ft)	Dn Invert (ft)	S (ft/ft)	Description	Q (cfs)
P-1	I-1	I-2	20.67	36 inch	47.16	7.86	1,326.75	1,326.65	0.005000		43.40
P-2	I-2	I-3	40.68	42 inch	71.14	7.55	1,326.15	1,325.94	0.005000		56.80
P-3	I-3	Outlet	211.98	42 inch	113.40	9.07	1,325.94	1,323.25	0.012705		70.20

DOT Report

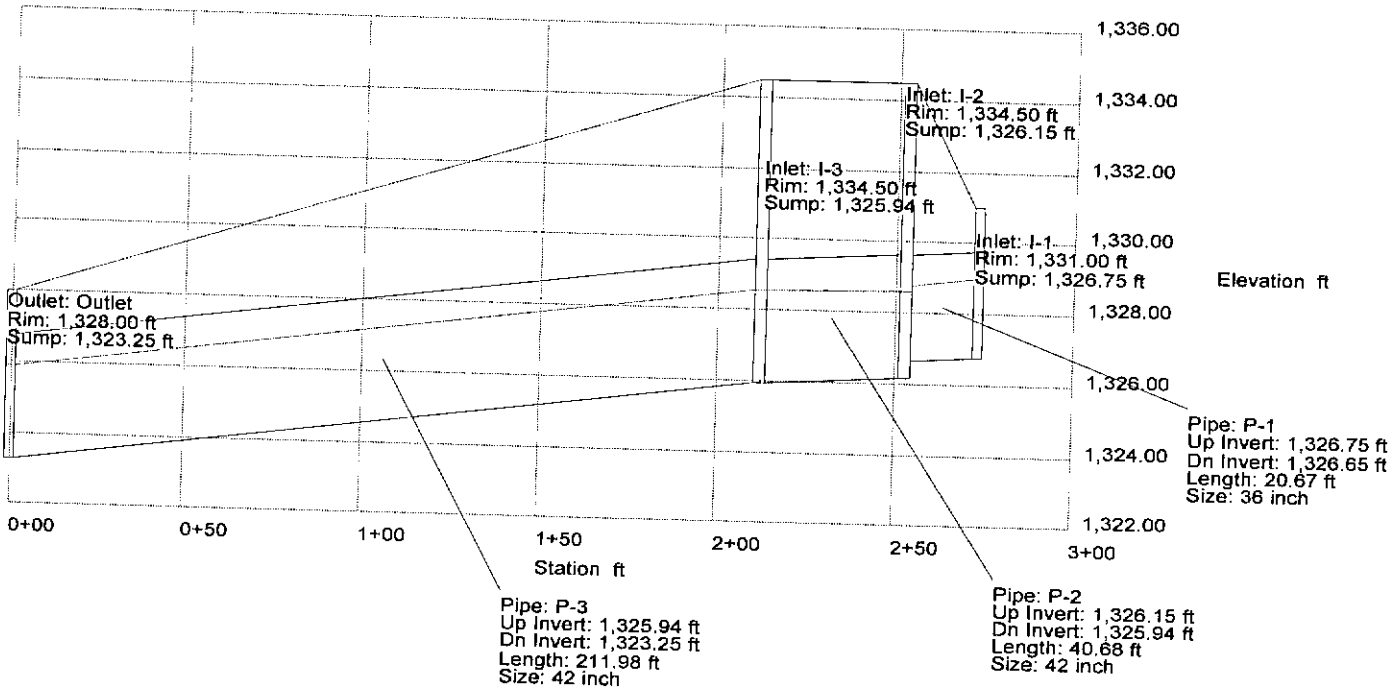
Pipe	-Node- Upstream Downstream	Inlet Area (acres)	Inlet CA (acres)	Total CA (acres)	-Ground- Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Slope- Energy Constructed (ft/ft)	-Section- Discharge Capacity (cfs)	-Section- Shape Size	Length (ft)	Average Velocity (ft/s)	Description
P-1	I-1	0.00	0.00	0.00	1,331.00	1,328.98	0.005320	43.40	Circular	20.67	7.86	
	I-2				1,334.50	1,328.79	0.005000	47.16	36 inch			
P-2	I-2	0.00	0.00	0.00	1,334.50	1,328.64	0.004088	56.80	Circular	40.68	7.55	
	I-3				1,334.50	1,328.57	0.005000	71.14	42 inch			
P-3	I-3	0.00	0.00	0.00	1,334.50	1,328.57	0.012705	70.20	Circular	211.98	9.07	
	Outlet				1,328.00	1,325.88	0.012705	113.40	42 inch			

Node Report

Node	Inlet A (acres)	C	Up Flow Time (min)	Sys Flow Time (min)	Q (cfs)	Rim (ft)	Gr Elev (ft)	HGL In (ft)	HGL Out (ft)	Sump (ft)	Add. Q (cfs)	Known Flow (cfs)
I-1	0.00	0.00	0.00	0.00	43.40	1,331.00	1,331.00	1,328.98	1,328.98	1,326.75	43.40	0.00
I-2	0.00	0.00	0.04	0.04	56.80	1,334.50	1,334.50	1,328.64	1,328.64	1,326.15	13.40	0.00
I-3	0.00	0.00	0.13	0.13	70.20	1,334.50	1,334.50	1,328.57	1,328.57	1,325.94	13.40	0.00
Outlet	N/A	N/A	0.52	0.52	N/A	1,328.00	1,328.00	1,325.88	1,325.88	1,323.25	N/A	N/A

Pipe Report

Pipe	Up Node	Dn Node	Q (cfs)	Length (ft)	S (ft/ft)	Size	Roughness	Cap (cfs)	Up Invert (ft)	Dn Invert (ft)	Up Cover (ft)	Dn Cover (ft)	Up HGL (ft)	Dn HGL (ft)
P-1	I-1	I-2	43.40	20.67	0.005000	36 inch	0.013	47.16	1,326.75	1,326.65	1.25	4.85	1,328.98	1,328.79
P-2	I-2	I-3	56.80	40.68	0.005000	42 inch	0.013	71.14	1,326.15	1,325.94	4.85	5.06	1,328.64	1,328.57
P-3	I-3	Outlet	70.20	211.98	0.012705	42 inch	0.013	113.40	1,325.94	1,323.25	5.06	1.25	1,328.57	1,325.88
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A


1,336.00
1,334.00
1,332.00
1,330.00
1,328.00
1,326.00
1,324.00
1,322.00
Elevation ft
Inlet: I-2
Rim: 1,334.50 ft
Sump: 1,326.15 ft
Inlet: I-3
Rim: 1,334.50 ft
Sump: 1,325.94 ft
Inlet: I-1
Rim: 1,331.00 ft
Sump: 1,326.75 ft
Outlet: Outlet
Rim: 1,328.00 ft
Sump: 1,323.25 ft
Pipe: P-1
Up Invert: 1,326.75 ft
Dn Invert: 1,326.65 ft
Length: 20.67 ft
Size: 36 inch
0+00
0+50
1+00
1+50
2+00
2+50
3+00
Station ft
Pipe: P-3
Up Invert: 1,325.94 ft
Dn Invert: 1,323.25 ft
Length: 211.98 ft
Size: 42 inch
Pipe: P-2
Up Invert: 1,326.15 ft
Dn Invert: 1,325.94 ft
Length: 40.68 ft
Size: 42 inch