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Final Drainage 5YEAR.gpw

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 29 2006, 12:6 PM

5 - Year

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Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	2.96	2	190	0.170	---	---	---	DA1
2	SCS Runoff	6.21	2	190	0.358	---	---	---	DA2
3	SCS Runoff	0.59	2	190	0.034	---	---	---	DA3
4	SCS Runoff	2.07	2	190	0.119	---	---	---	DA4
5	SCS Runoff	5.32	2	190	0.306	---	---	---	DA5
6	Reservoir	2.96	2	190	0.170	1	1321.08	0.000	Route DA1
7	Reservoir	6.21	2	190	0.358	2	1322.98	0.000	Route DA2
8	Reservoir	0.59	2	190	0.034	3	1323.19	0.000	Route DA3
9	Reservoir	2.07	2	190	0.119	4	1324.51	0.000	Route DA4
10	Reservoir	4.00	2	198	0.306	5	1320.96	0.076	Route DA5
11	Combine	12.39	2	192	0.834	6, 7, 10	---	---	Combine DA1, DA2, & DA5
12	Reservoir	7.90	2	204	0.834	11	1322.06	0.191	Route Back to Pond
13	Combine	2.67	2	190	0.153	8, 9,	---	---	Combine DA3 & DA4
14	Reservoir	2.59	2	192	0.153	13	1326.19	0.007	Outflow SW
Final Drainage 5YEAR.gpw					Return Period: 5 Year		Thursday, Jun 29 2006, 12:05 PM		

Hydrograph Plot

2

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:5 PM

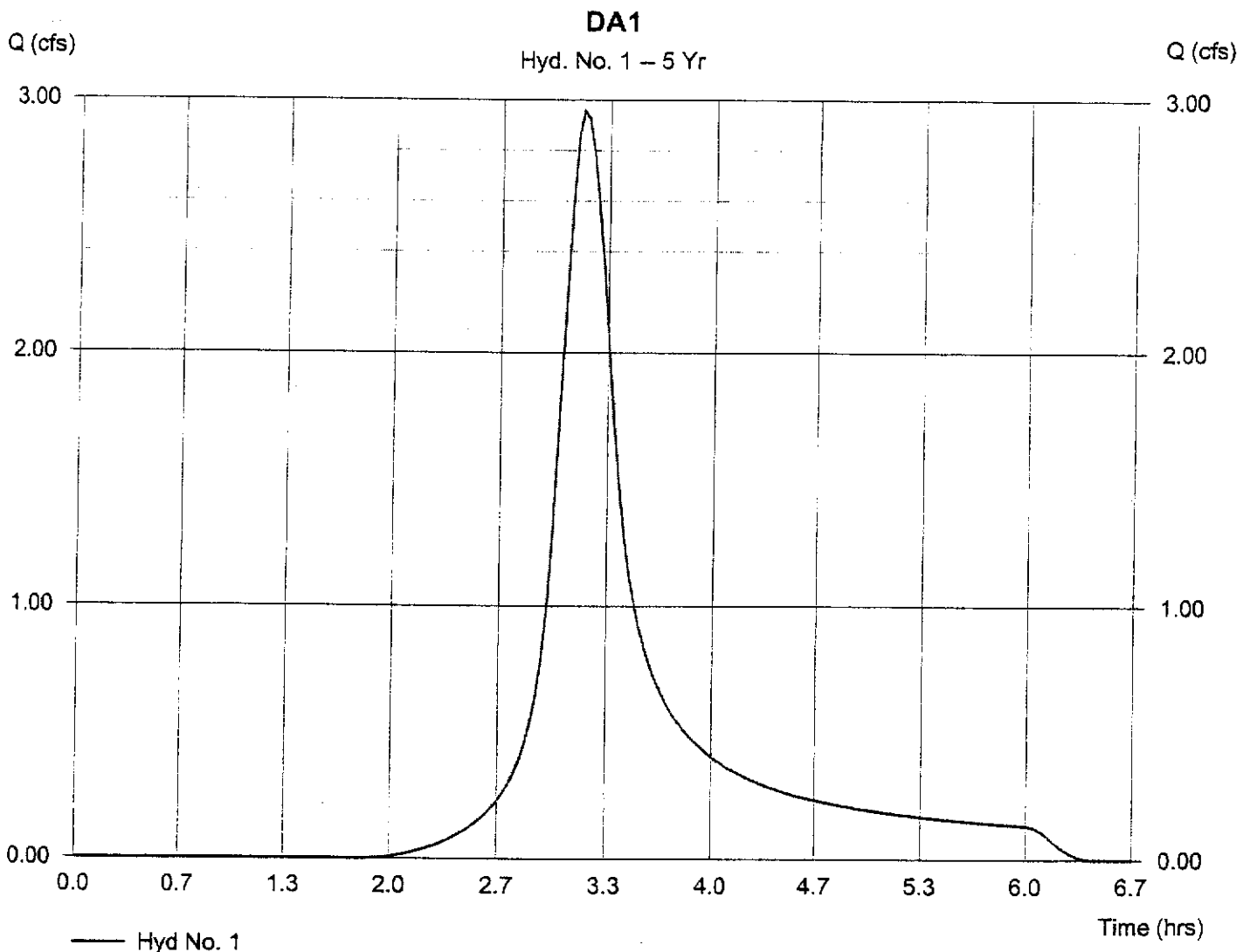
Hyd. No. 1

DA1

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Drainage area = 1.000 ac
Basin Slope = 0.5 %
Tc method = USER
Total precip. = 3.69 in
Storm duration = 6 hrs

Peak discharge = 2.96 cfs
Time interval = 2 min
Curve number = 84
Hydraulic length = 640 ft
Time of conc. (Tc) = 15.00 min
Distribution = Synthetic
Shape factor = 483

Hydrograph Volume = 0.170 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:5 PM

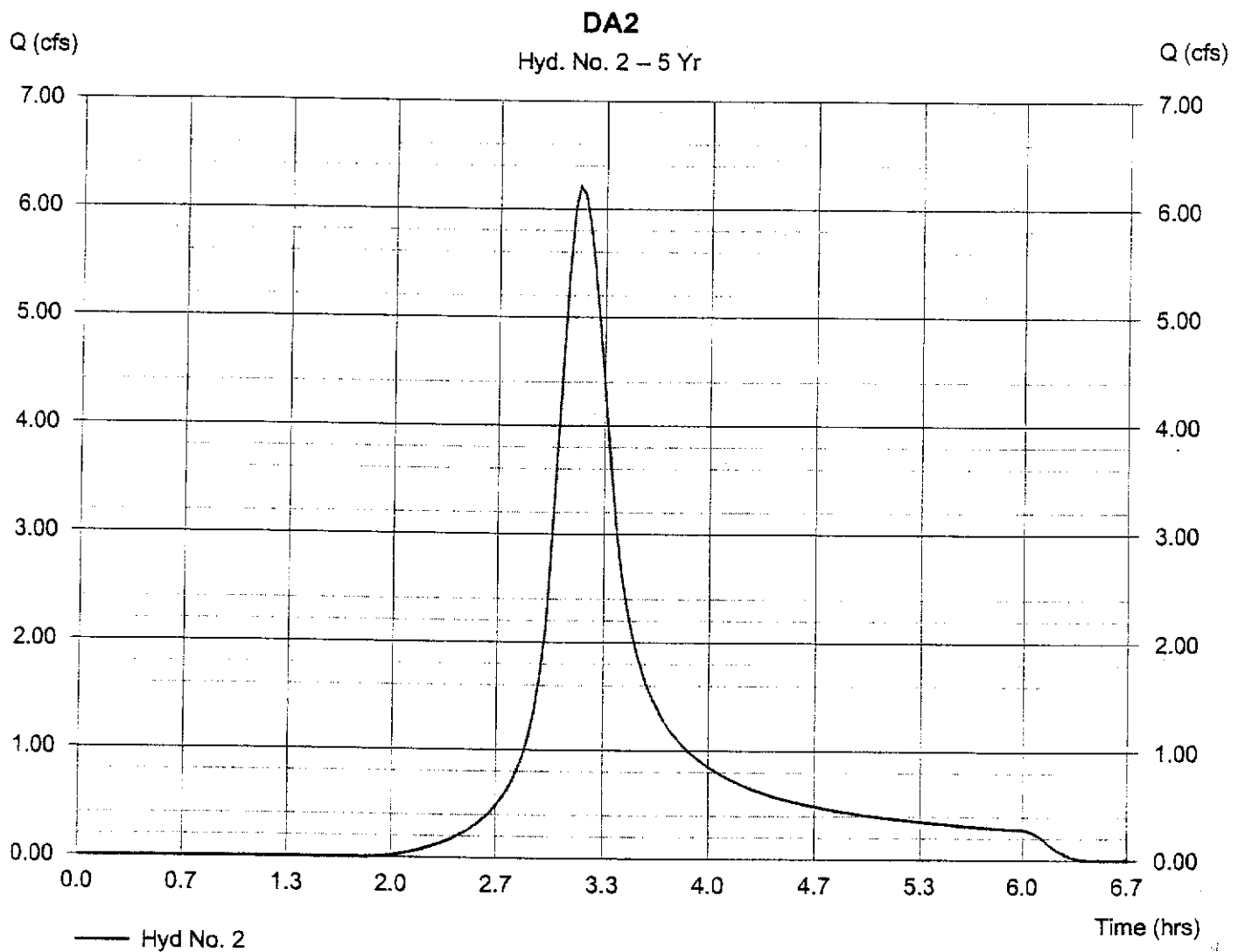
Hyd. No. 2

DA2

Hydrograph type = SCS Runoff
 Storm frequency = 5 yrs
 Drainage area = 2.100 ac
 Basin Slope = 0.5 %
 Tc method = USER
 Total precip. = 3.69 in
 Storm duration = 6 hrs

Peak discharge = 6.21 cfs
 Time interval = 2 min
 Curve number = 84.1
 Hydraulic length = 615 ft
 Time of conc. (Tc) = 15.00 min
 Distribution = Synthetic
 Shape factor = 481

Hydrograph Volume = 0.358 acft





POE & ASSOCIATES, INC.

CONSULTING ENGINEERS

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FAX: (316) 685-4444

June 22, 2006

Mr. Scott Lindebak
City of Wichita
455 N. Main; 7th Floor
Wichita, KS 67202

RE: Oak Cliff Estate Drainage Plan

Dear Scott:

Transmitted herewith is the drainage plan (including four corner lot grades and building floor elevations) and the flood routing calculations for Oak Cliff Estates 6th Addition.

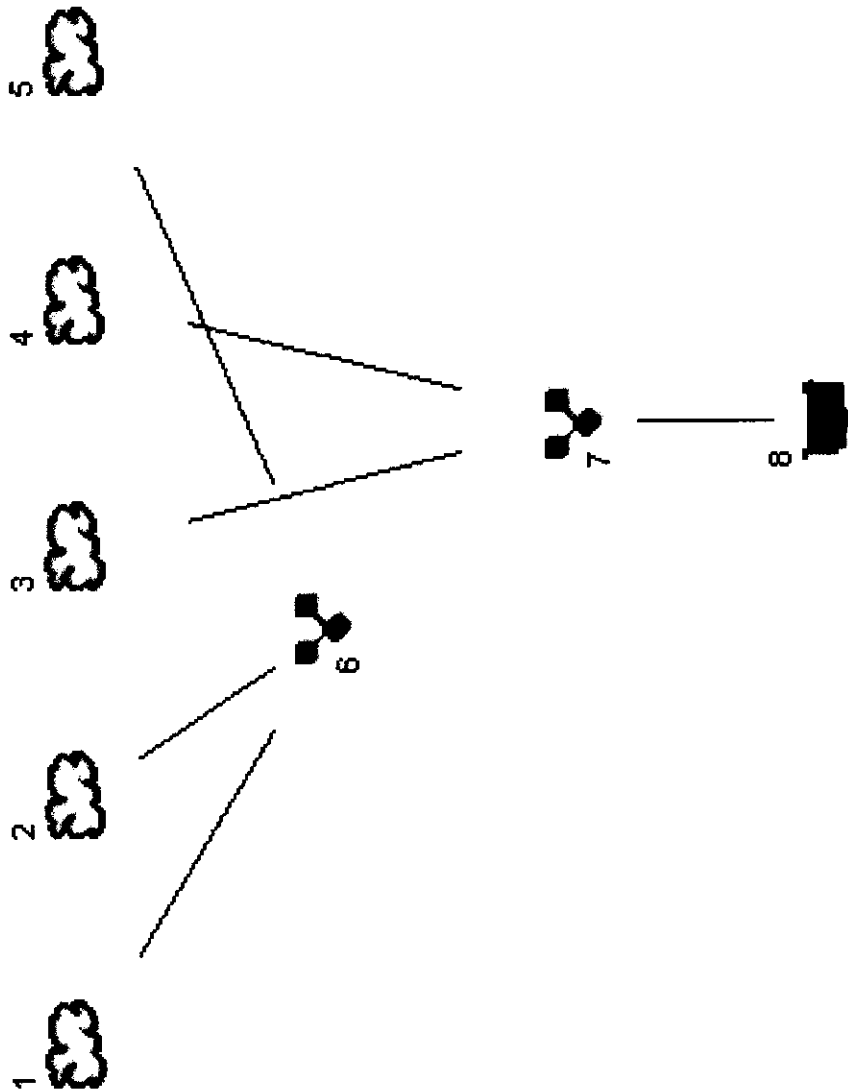
Based upon our analysis, the proposed detention pond is sufficient to hold the required detention for a 100 year storm event.

Please let me know if you have any questions.

Respectfully,



Tim Austin, PE



Legend	
Hvd.	Description
1	SCS Runoff DA1
2	SCS Runoff DA2
3	SCS Runoff DA3
4	SCS Runoff DA4
5	SCS Runoff DA5
6	Combine Outflow East
7	Combine Outflow SW
8	Reservoir SW Outflow

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Hydraflow Hydrographs by Intelisolve

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Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	-----	0.71	1.16	-----	1.81	2.33	3.05	3.60	4.17	DA1
2	SCS Runoff	-----	1.47	2.40	-----	3.75	4.82	6.31	7.45	8.61	DA2
3	SCS Runoff	-----	0.30	0.48	-----	0.73	0.93	1.21	1.43	1.64	DA3
4	SCS Runoff	-----	0.64	1.02	-----	1.59	2.05	2.67	3.15	3.63	DA4
5	SCS Runoff	-----	1.31	2.12	-----	3.31	4.26	5.57	6.58	7.60	DA5
6	Combine	1, 2, 5	3.47	5.64	-----	8.85	11.40	14.91	17.60	20.32	Outflow East
7	Combine	3, 4,	0.86	1.38	-----	2.16	2.77	3.61	4.25	4.91	Outflow SW
8	Reservoir	7	0.82	1.32	-----	2.09	2.69	3.53	4.16	4.81	SW Outflow
Proj. file: Final Initial.gpw Thursday, Jun 22 2006, 10:27 AM											

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	1.81	2	734	0.182	---	---	---	DA1
2	SCS Runoff	3.75	2	734	0.377	---	---	---	DA2
3	SCS Runoff	0.73	2	720	0.038	---	---	---	DA3
4	SCS Runoff	1.59	2	724	0.115	---	---	---	DA4
5	SCS Runoff	3.31	2	732	0.308	---	---	---	DA5
6	Combine	8.85	2	732	0.867	1, 2, 5	---	---	Outflow East
7	Combine	2.16	2	722	0.154	3, 4,	---	---	Outflow SW
8	Reservoir	2.09	2	724	0.154	7	1326.15	0.006	SW Outflow
Final Initial.gpw					Return Period: 5 Year			Thursday, Jun 22 2006, 10:27 AM	

Hydrograph Plot

3

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 22 2006, 10:27 AM

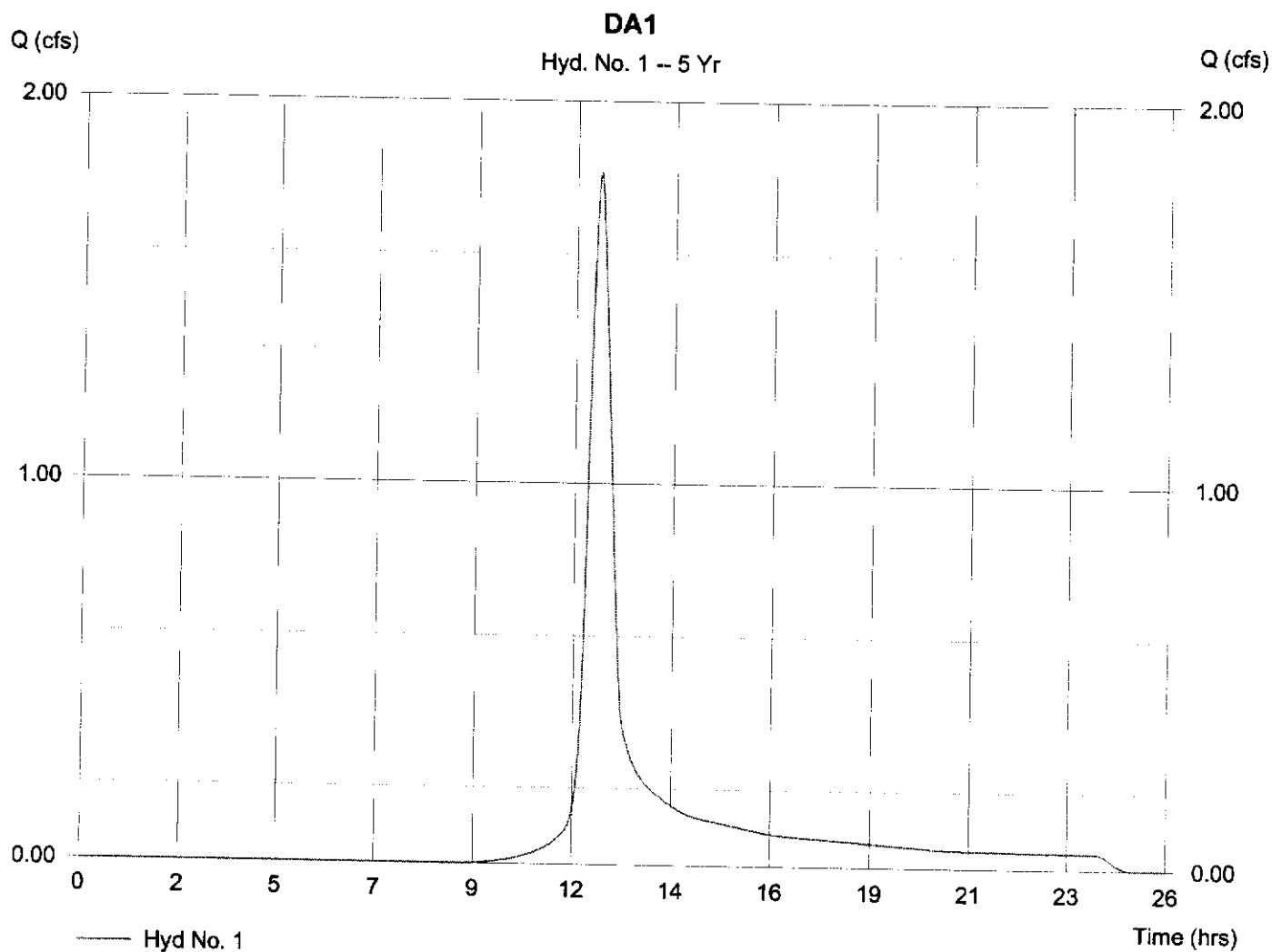
Hyd. No. 1

DA1

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Drainage area = 1.030 ac
Basin Slope = 0.7 %
Tc method = LAG
Total precip. = 4.56 in
Storm duration = 24 hrs

Peak discharge = 1.81 cfs
Time interval = 2 min
Curve number = 75
Hydraulic length = 690 ft
Time of conc. (Tc) = 33.30 min
Distribution = Type II
Shape factor = 484

Hydrograph Volume = 0.182 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:27 AM

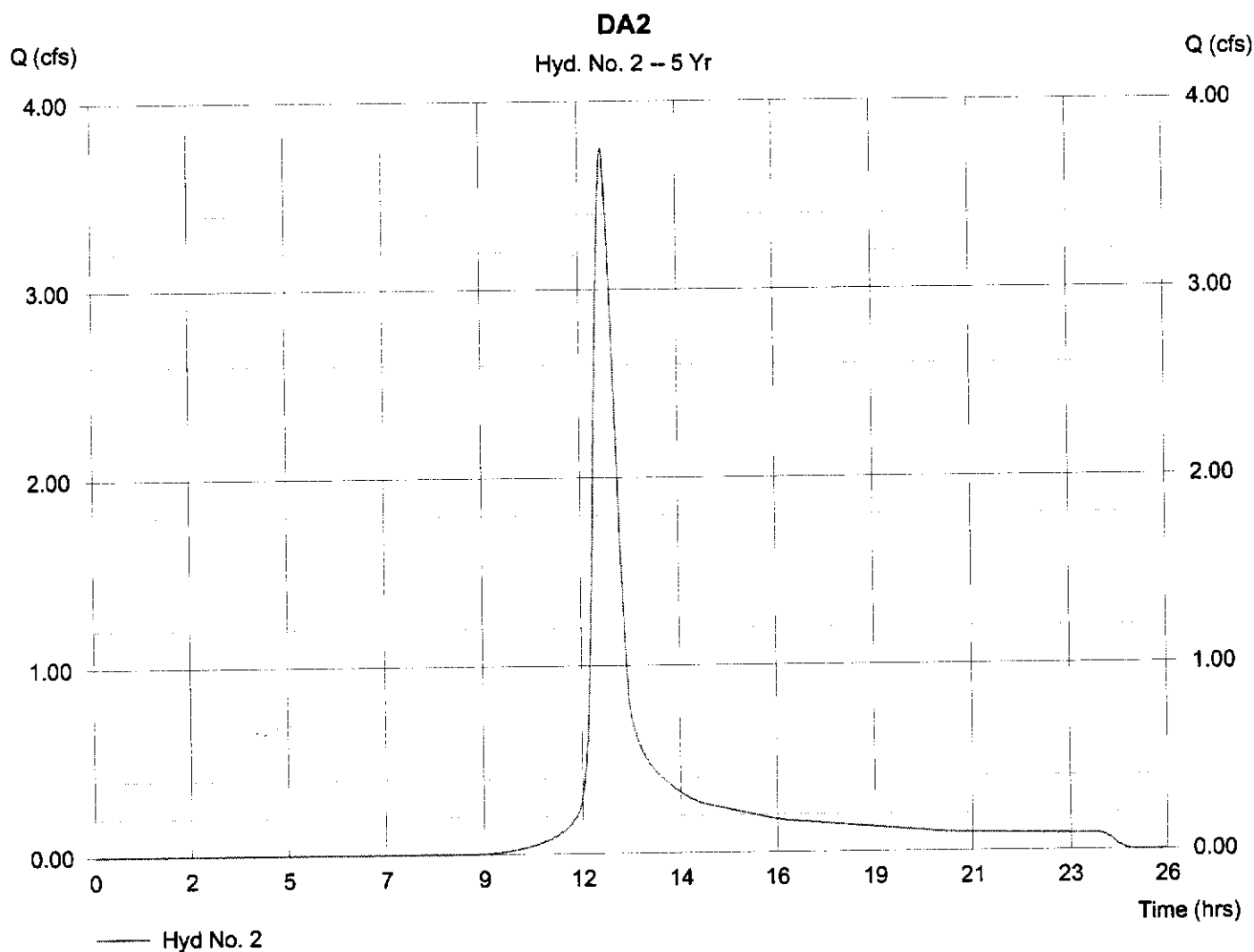
Hyd. No. 2

DA2

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Drainage area = 2.130 ac
Basin Slope = 0.8 %
Tc method = LAG
Total precip. = 4.56 in
Storm duration = 24 hrs

Peak discharge = 3.75 cfs
Time interval = 2 min
Curve number = 75
Hydraulic length = 700 ft
Time of conc. (Tc) = 31.80 min
Distribution = Type II
Shape factor = 484

Hydrograph Volume = 0.377 acft



Hydrograph Plot

5

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:28 AM

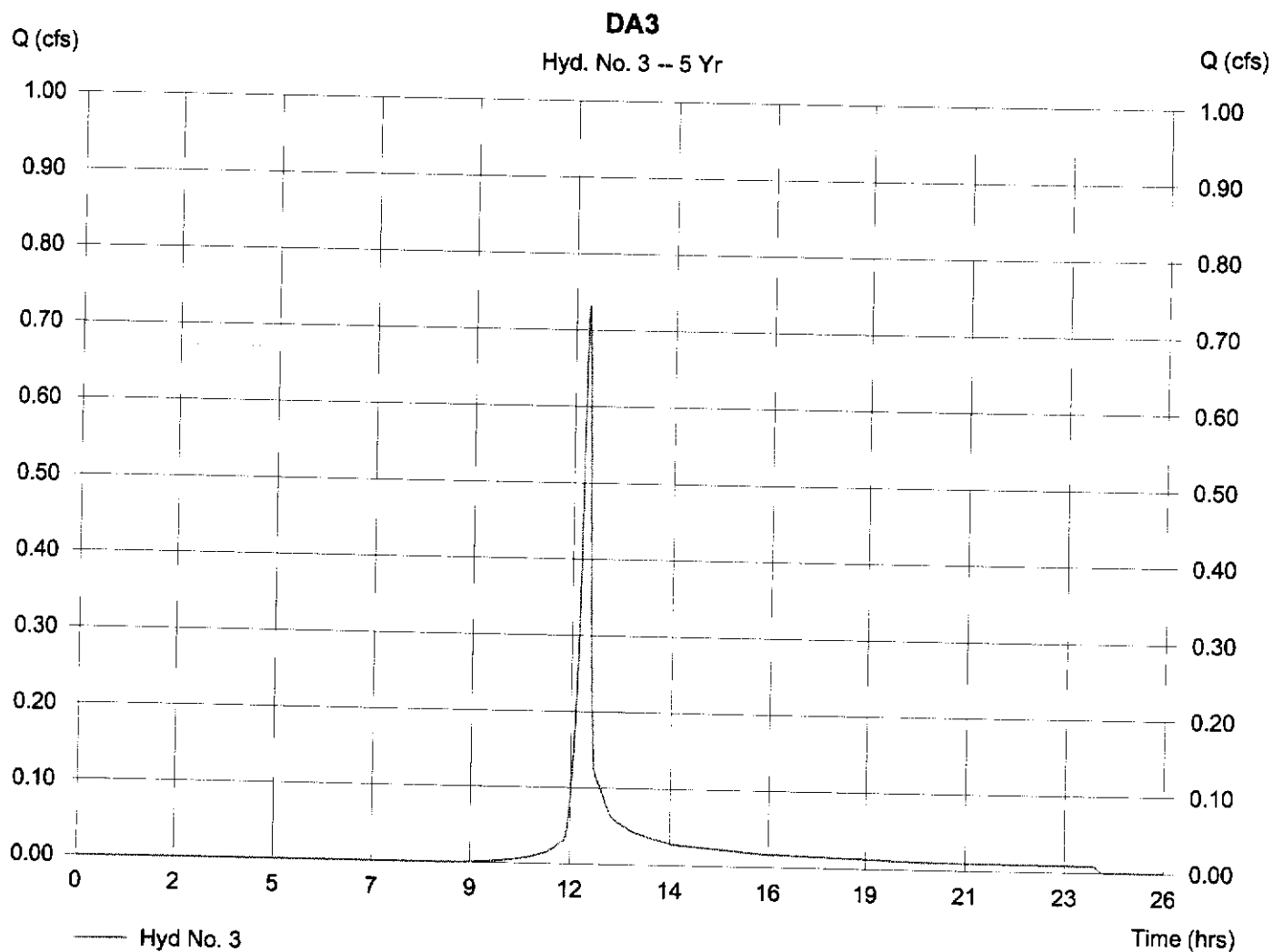
Hyd. No. 3

DA3

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Drainage area = 0.220 ac
Basin Slope = 0.8 %
Tc method = LAG
Total precip. = 4.56 in
Storm duration = 24 hrs

Peak discharge = 0.73 cfs
Time interval = 2 min
Curve number = 75
Hydraulic length = 162 ft
Time of conc. (Tc) = 9.60 min
Distribution = Type II
Shape factor = 484

Hydrograph Volume = 0.038 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:28 AM

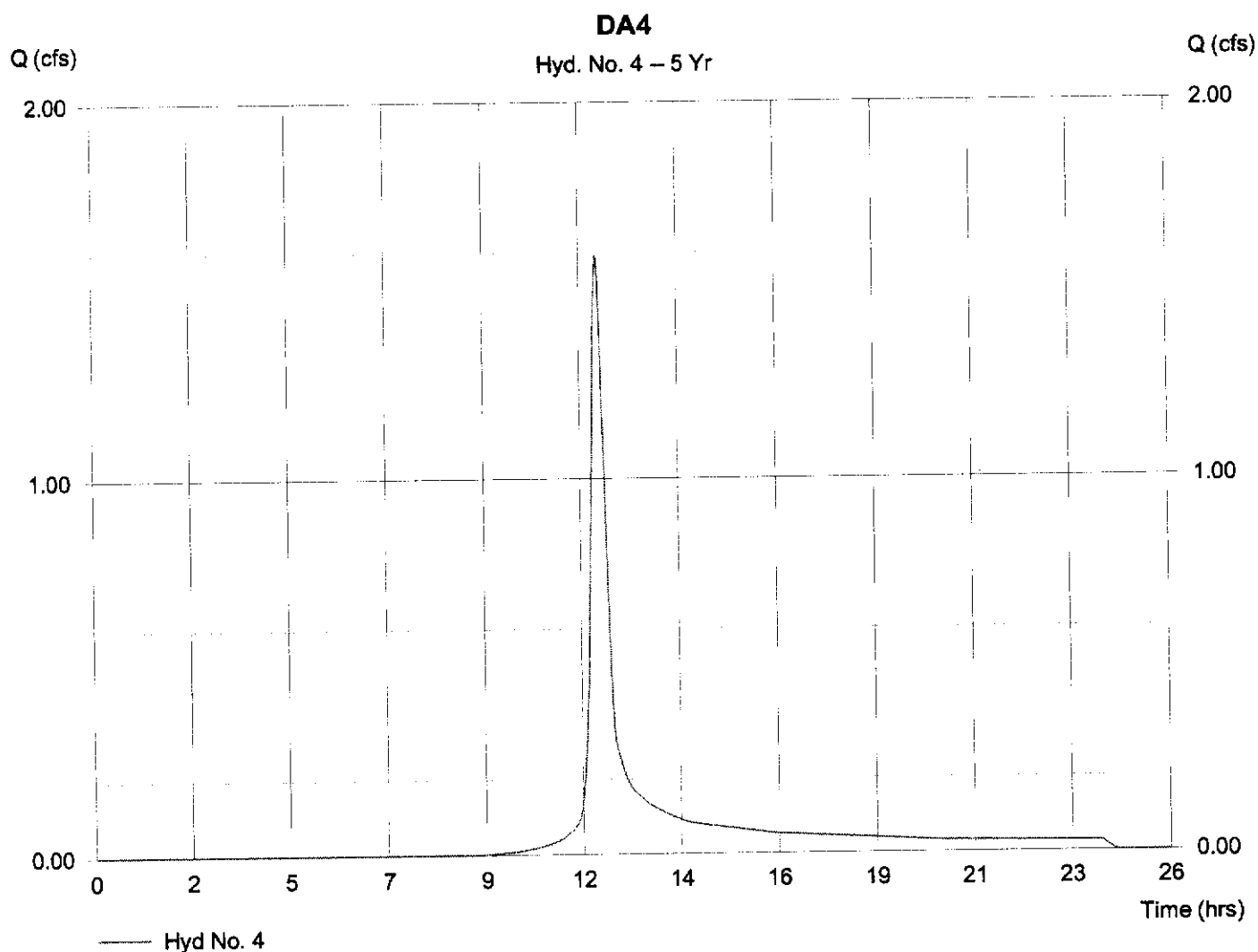
Hyd. No. 4

DA4

Hydrograph type = SCS Runoff
 Storm frequency = 5 yrs
 Drainage area = 0.660 ac
 Basin Slope = 0.3 %
 Tc method = LAG
 Total precip. = 4.56 in
 Storm duration = 24 hrs

Peak discharge = 1.59 cfs
 Time interval = 2 min
 Curve number = 75
 Hydraulic length = 180 ft
 Time of conc. (Tc) = 17.70 min
 Distribution = Type II
 Shape factor = 484

Hydrograph Volume = 0.115 acft



Hydrograph Plot

7

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:28 AM

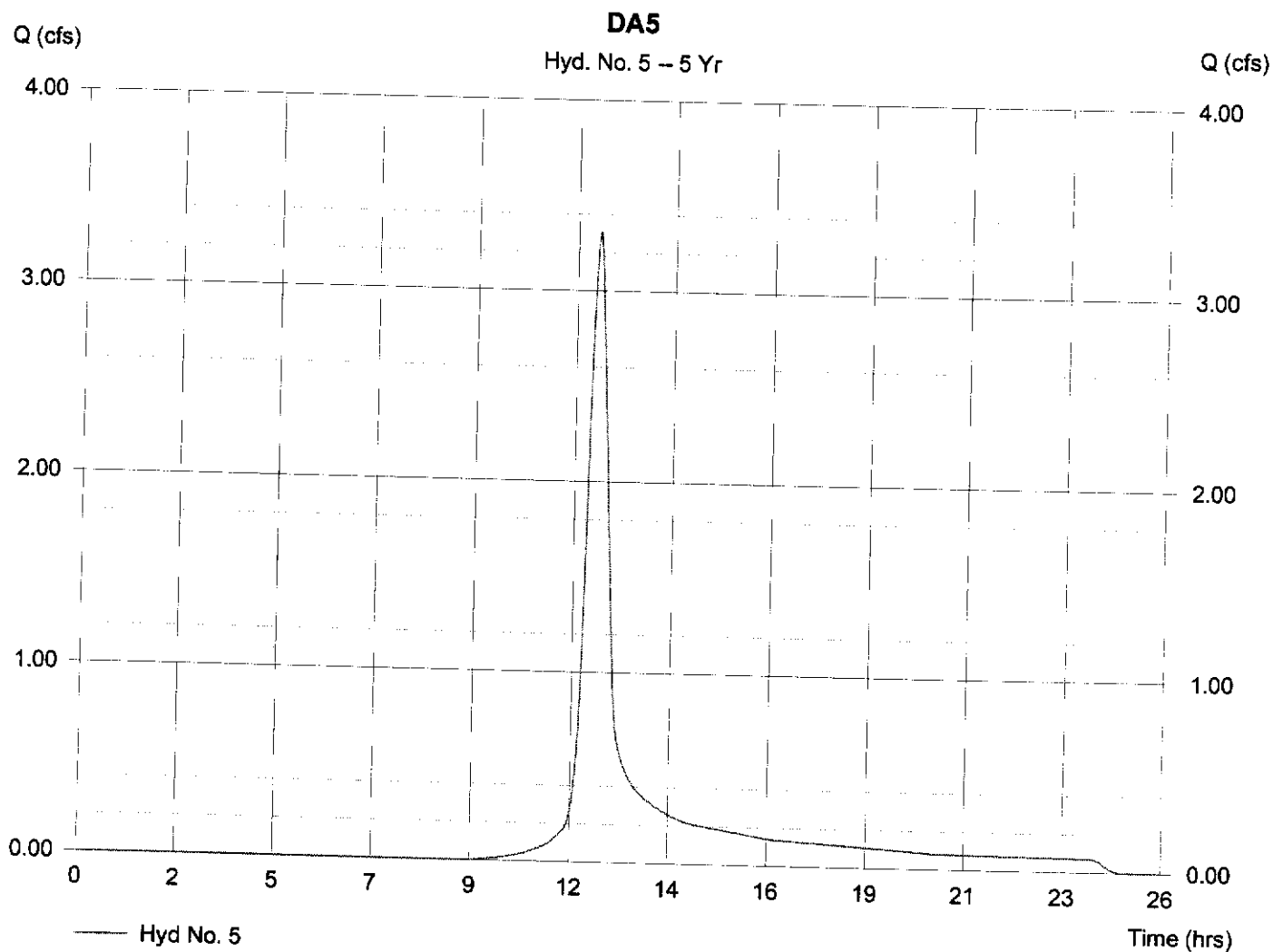
Hyd. No. 5

DA5

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Drainage area = 1.760 ac
Basin Slope = 0.6 %
Tc method = LAG
Total precip. = 4.56 in
Storm duration = 24 hrs

Peak discharge = 3.31 cfs
Time interval = 2 min
Curve number = 75
Hydraulic length = 470 ft
Time of conc. (Tc) = 27.20 min
Distribution = Type II
Shape factor = 484

Hydrograph Volume = 0.308 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:28 AM

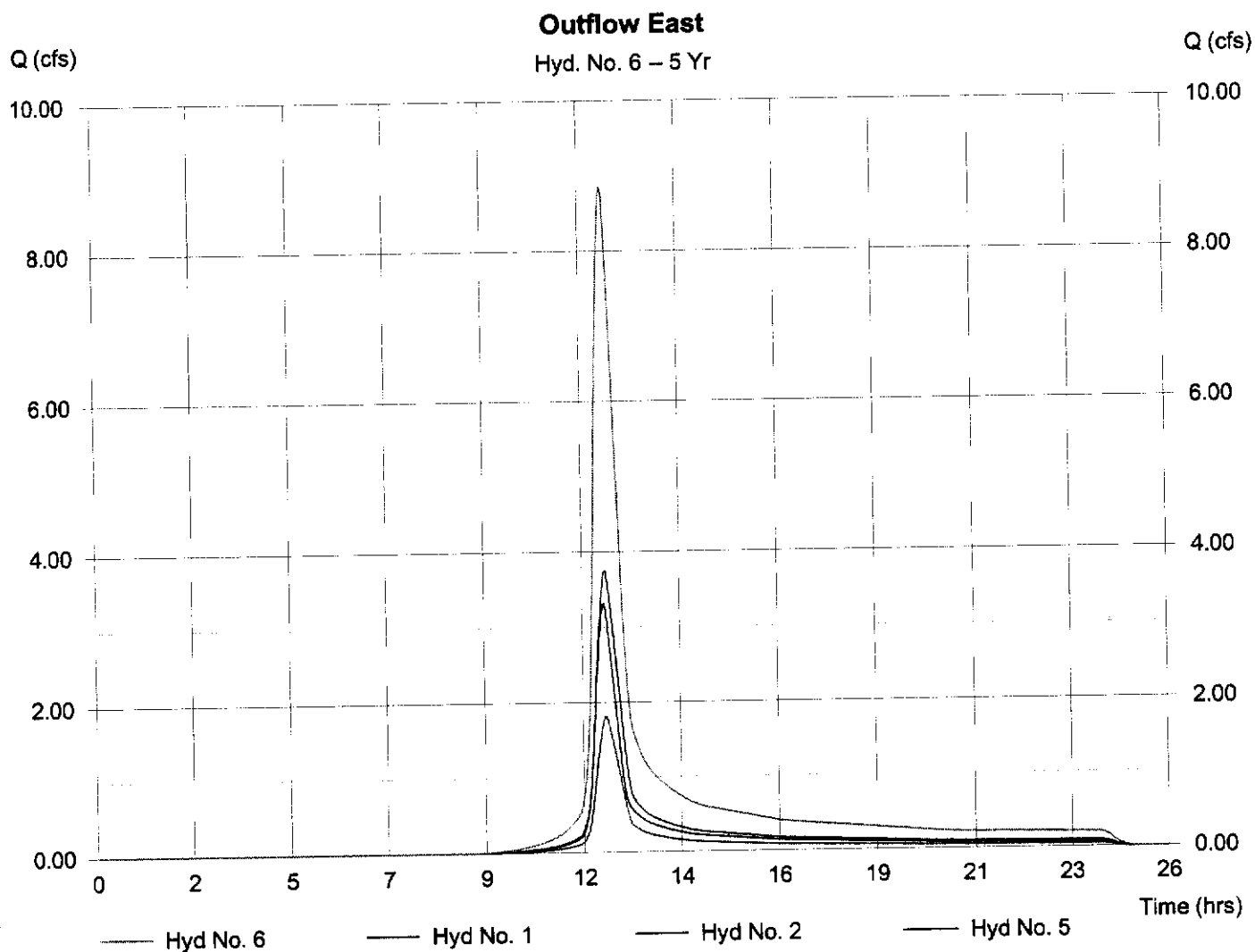
Hyd. No. 6

Outflow East

Hydrograph type = Combine
Storm frequency = 5 yrs
Inflow hyds. = 1, 2, 5

Peak discharge = 8.85 cfs
Time interval = 2 min

Hydrograph Volume = 0.867 acft



Hydrograph Plot

9

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:29 AM

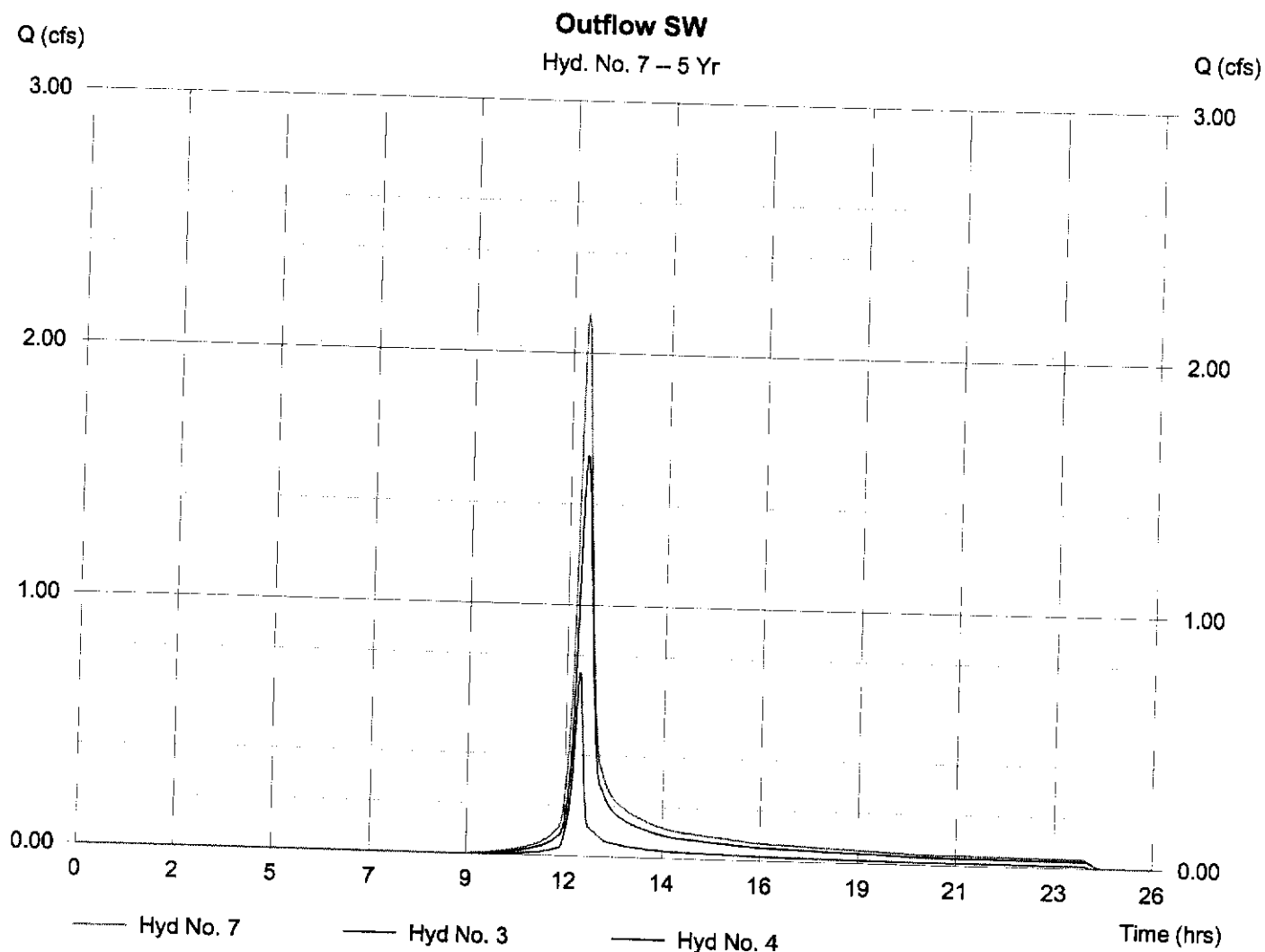
Hyd. No. 7

Outflow SW

Hydrograph type = Combine
Storm frequency = 5 yrs
Inflow hyds. = 3, 4

Peak discharge = 2.16 cfs
Time interval = 2 min

Hydrograph Volume = 0.154 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:29 AM

Hyd. No. 8

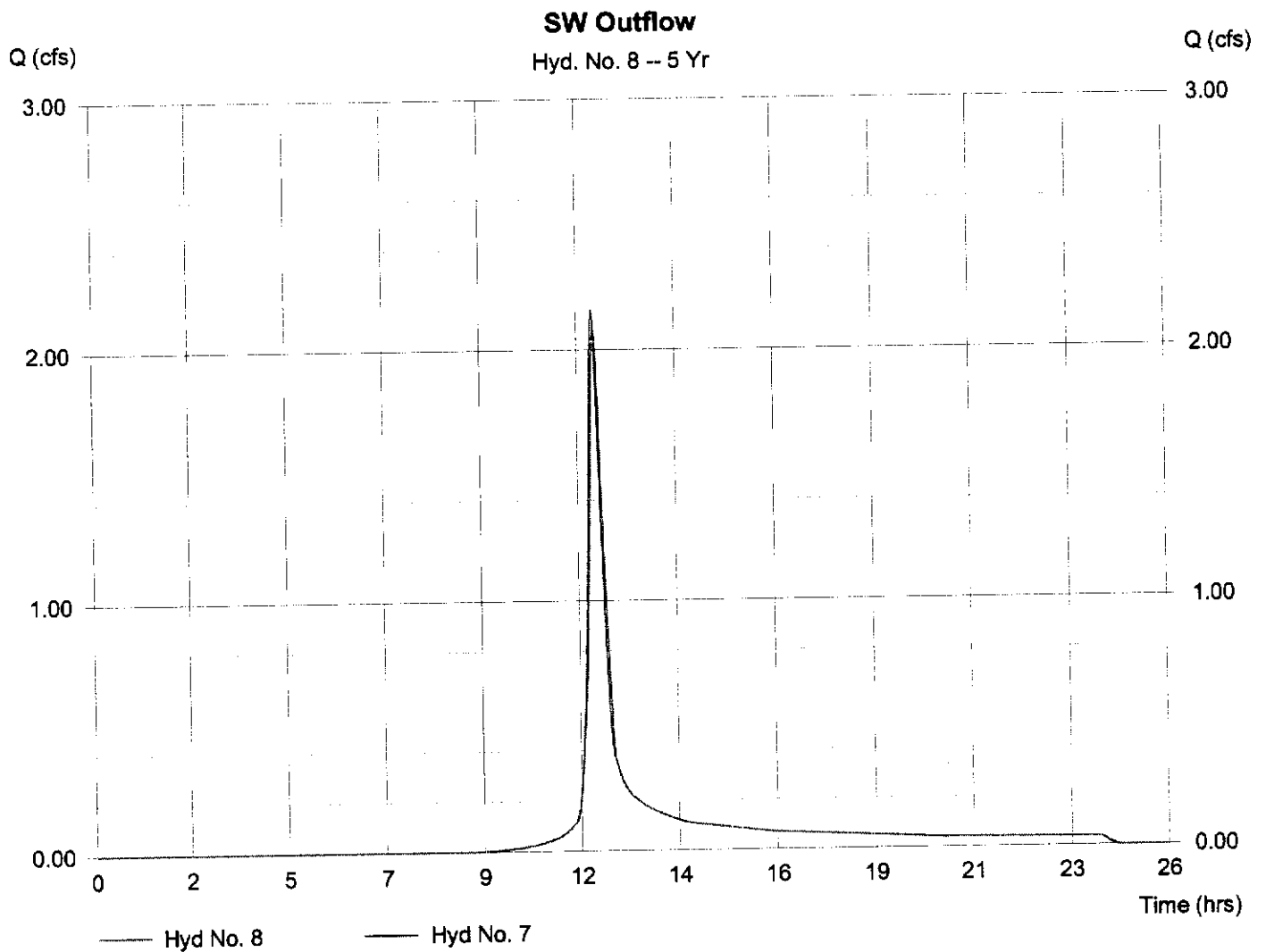
SW Outflow

Hydrograph type = Reservoir
 Storm frequency = 5 yrs
 Inflow hyd. No. = 7
 Reservoir name = SW Outflow

Peak discharge = 2.09 cfs
 Time interval = 2 min
 Max. Elevation = 1326.15 ft
 Max. Storage = 0.006 acft

Storage Indication method used.

Hydrograph Volume = 0.154 acft



Pond Report

11

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:29 AM

Pond No. 1 - SW Outflow

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1325.90	03	0.000	0.000
0.10	1326.00	692	0.001	0.001
1.10	1327.00	2,308	0.034	0.035

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1322.85	0.00	0.00	0.00
Length (ft)	= 264.93	0.00	0.00	0.00
Slope (%)	= 0.80	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 6.28	0.00	0.00	0.00
Crest El. (ft)	= 1325.90	0.00	0.00	0.00
Weir Coeff.	= 2.60	0.00	0.00	0.00
Weir Type	= Riser	---	---	---
Multi-Stage	= Yes	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.

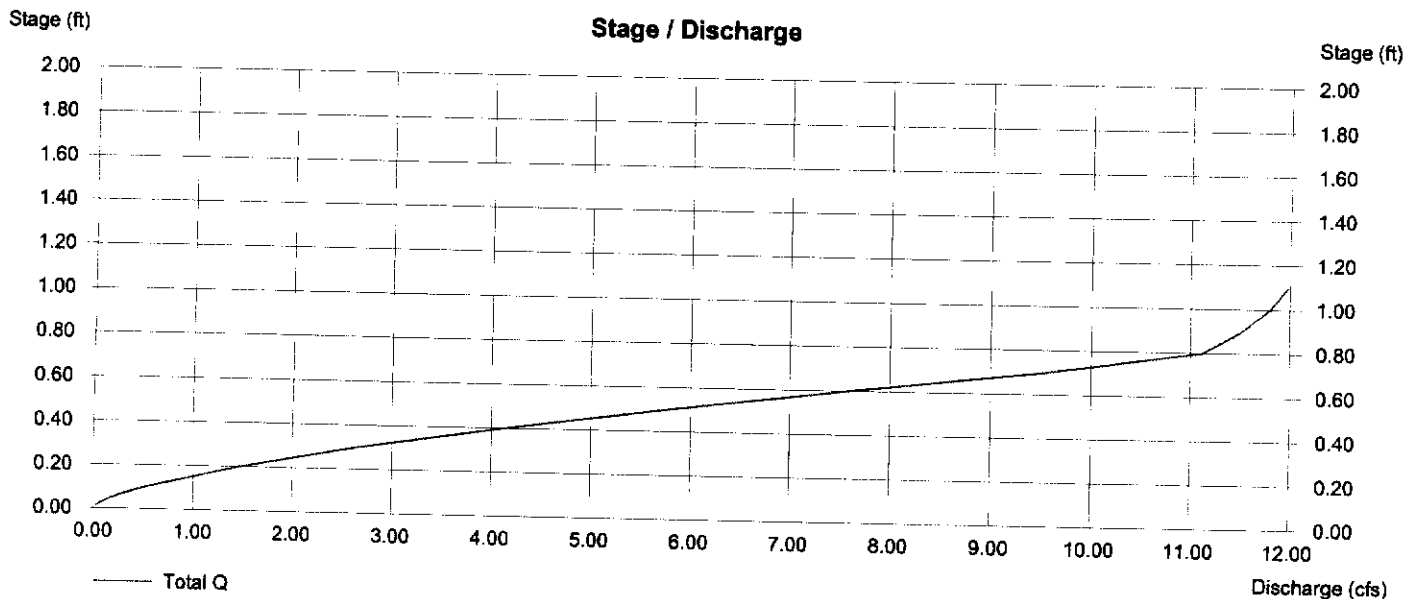


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Hydraflow Hydrographs by Intellisolve

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Hydrograph No. 4, SCS Runoff, DA4	6
Hydrograph No. 5, SCS Runoff, DA5	7
Hydrograph No. 6, Combine, Outflow East	8
Hydrograph No. 7, Combine, Outflow SW	9

Hydrograph Return Period Recap

1

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	----	0.71	1.16	----	1.81	2.33	3.05	3.60	4.17	DA1
2	SCS Runoff	----	1.47	2.40	----	3.75	4.82	6.31	7.45	8.61	DA2
3	SCS Runoff	----	0.30	0.48	----	0.73	0.93	1.21	1.43	1.64	DA3
4	SCS Runoff	----	0.64	1.02	----	1.59	2.05	2.67	3.15	3.63	DA4
5	SCS Runoff	----	1.31	2.12	----	3.31	4.26	5.57	6.58	7.60	DA5
6	Combine	1, 2, 5	3.47	5.64	----	8.85	11.40	14.91	17.60	20.32	Outflow East
7	Combine	3, 4,	0.86	1.38	----	2.16	2.77	3.61	4.25	4.91	Outflow SW
8	Reservoir	7	0.82	1.32	----	2.09	2.69	3.53	4.16	4.81	SW Outflow
Proj. file: Final Initial.gpw Thursday, Jun 22 2006, 10:32 AM											

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	4.17	2	732	0.413	---	---	---	DA1
2	SCS Runoff	8.61	2	732	0.854	---	---	---	DA2
3	SCS Runoff	1.64	2	718	0.087	---	---	---	DA3
4	SCS Runoff	3.63	2	724	0.261	---	---	---	DA4
5	SCS Runoff	7.60	2	730	0.697	---	---	---	DA5
6	Combine	20.32	2	732	1.965	1, 2, 5	---	---	Outflow East
7	Combine	4.91	2	722	0.349	3, 4,	---	---	Outflow SW
8	Reservoir	4.81	2	722	0.349	7	1326.34	0.013	SW Outflow
Final Initial.gpw					Return Period: 100 Year			Thursday, Jun 22 2006, 10:32 AM	

Hydrograph Plot

3

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:32 AM

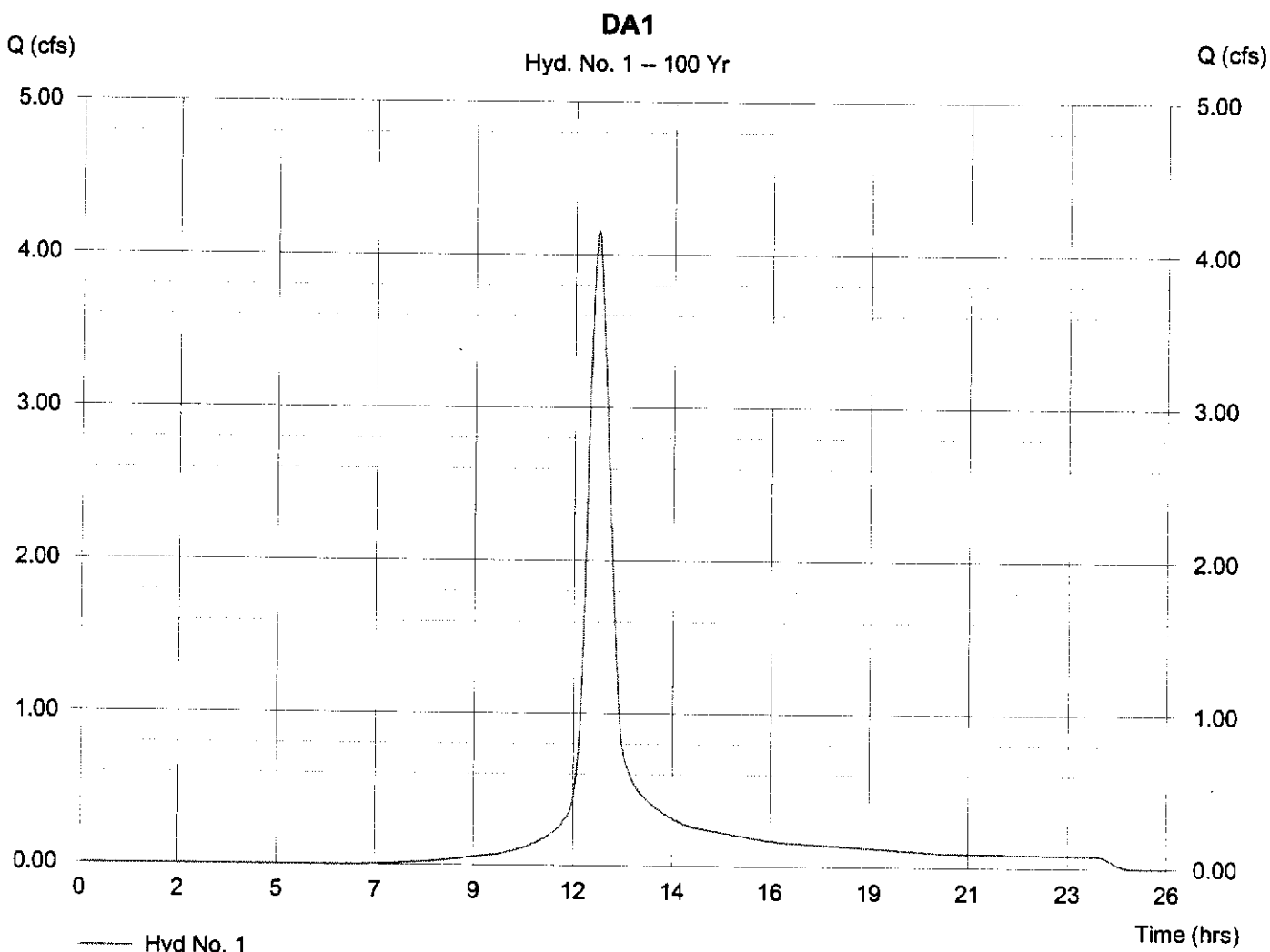
Hyd. No. 1

DA1

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Drainage area = 1.030 ac
Basin Slope = 0.7 %
Tc method = LAG
Total precip. = 7.68 in
Storm duration = 24 hrs

Peak discharge = 4.17 cfs
Time interval = 2 min
Curve number = 75
Hydraulic length = 690 ft
Time of conc. (Tc) = 33.30 min
Distribution = Type II
Shape factor = 484

Hydrograph Volume = 0.413 acft



Hydrograph Plot

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 22 2006, 10:32 AM

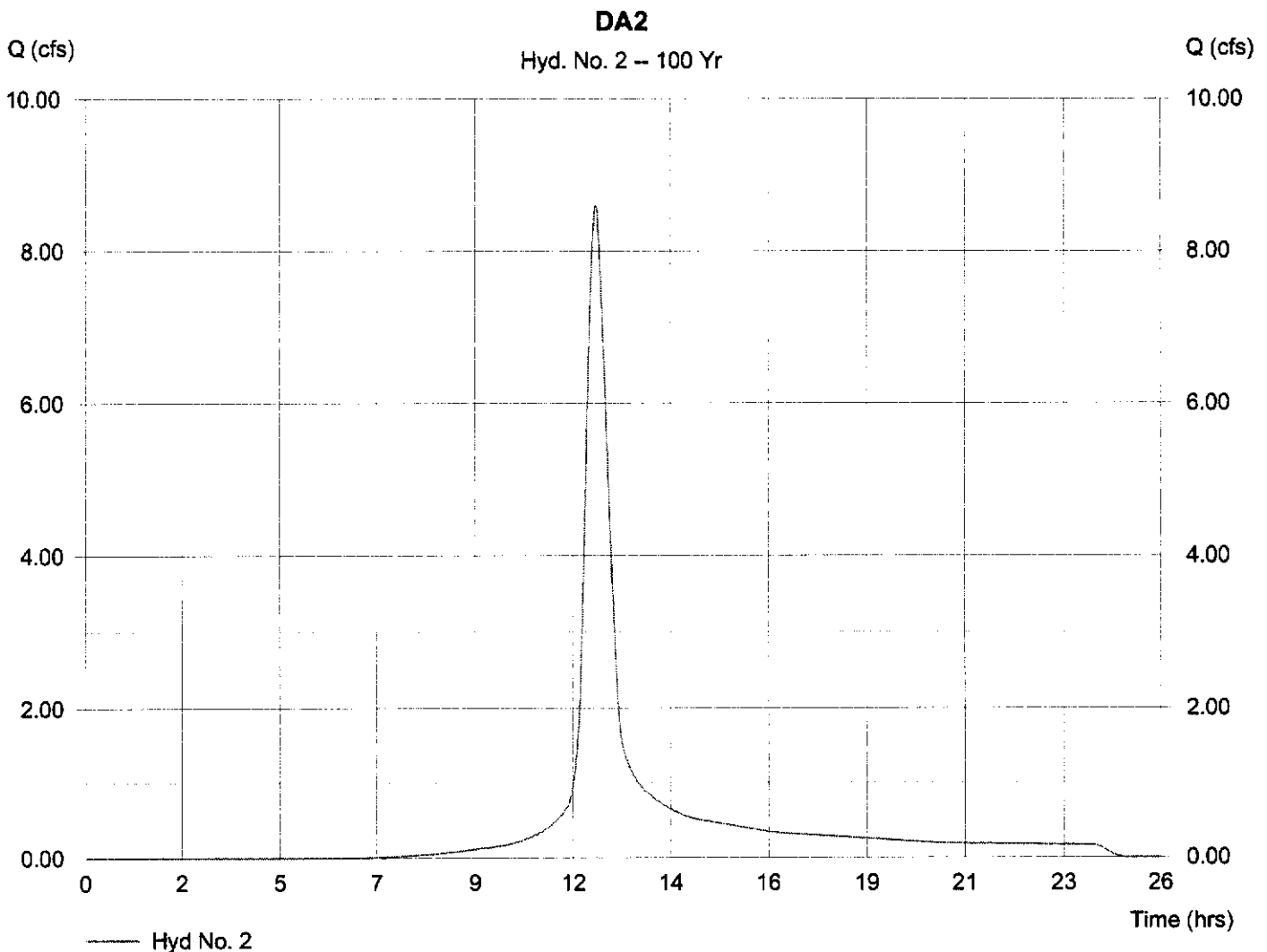
Hyd. No. 2

DA2

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Drainage area = 2.130 ac
 Basin Slope = 0.8 %
 Tc method = LAG
 Total precip. = 7.68 in
 Storm duration = 24 hrs

Peak discharge = 8.61 cfs
 Time interval = 2 min
 Curve number = 75
 Hydraulic length = 700 ft
 Time of conc. (Tc) = 31.80 min
 Distribution = Type II
 Shape factor = 484

Hydrograph Volume = 0.854 acft



Hydrograph Plot

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 22 2006, 10:33 AM

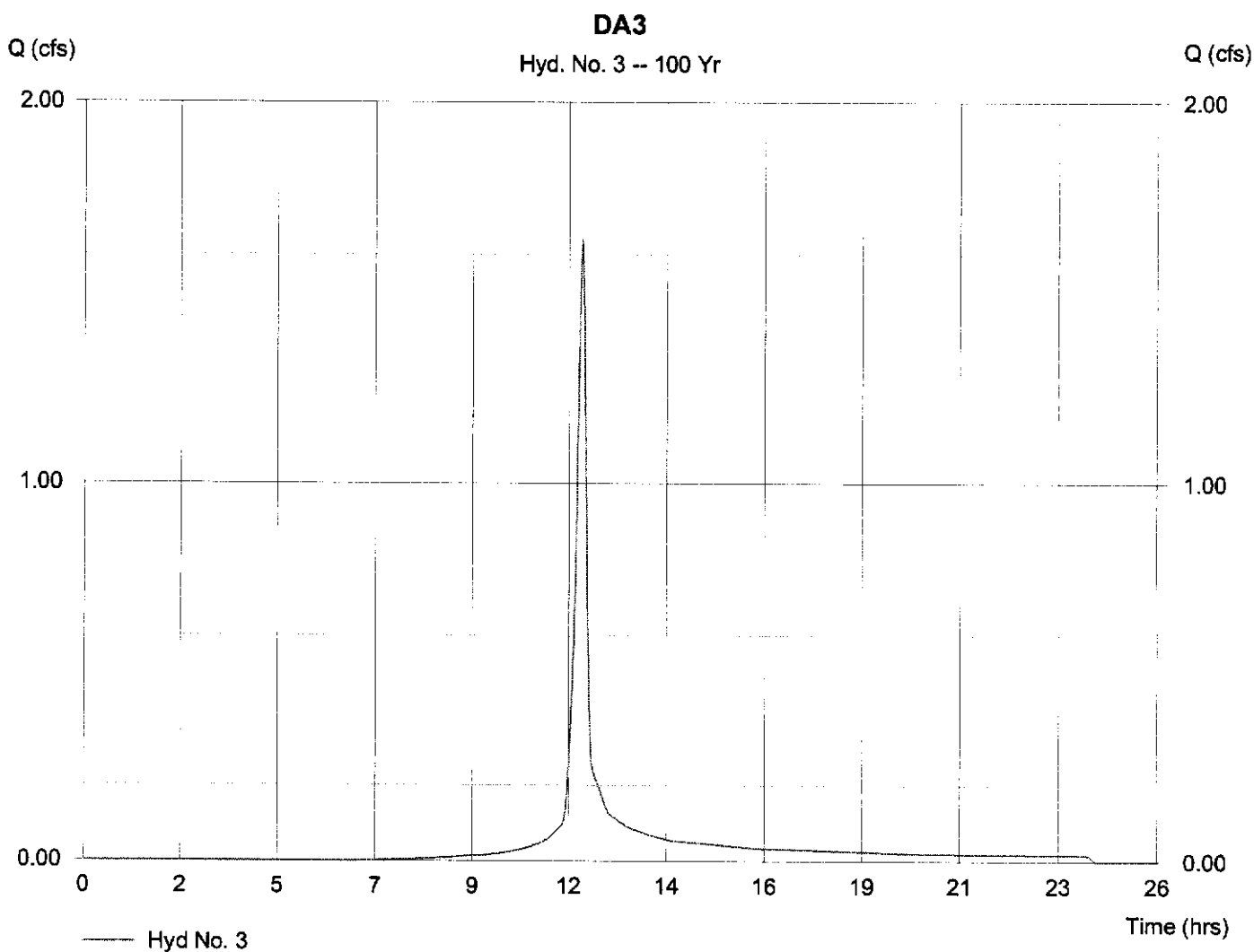
Hyd. No. 3

DA3

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Drainage area = 0.220 ac
Basin Slope = 0.8 %
Tc method = LAG
Total precip. = 7.68 in
Storm duration = 24 hrs

Peak discharge = 1.64 cfs
Time interval = 2 min
Curve number = 75
Hydraulic length = 162 ft
Time of conc. (Tc) = 9.60 min
Distribution = Type II
Shape factor = 484

Hydrograph Volume = 0.087 acft



Hydrograph Plot

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 22 2006, 10:33 AM

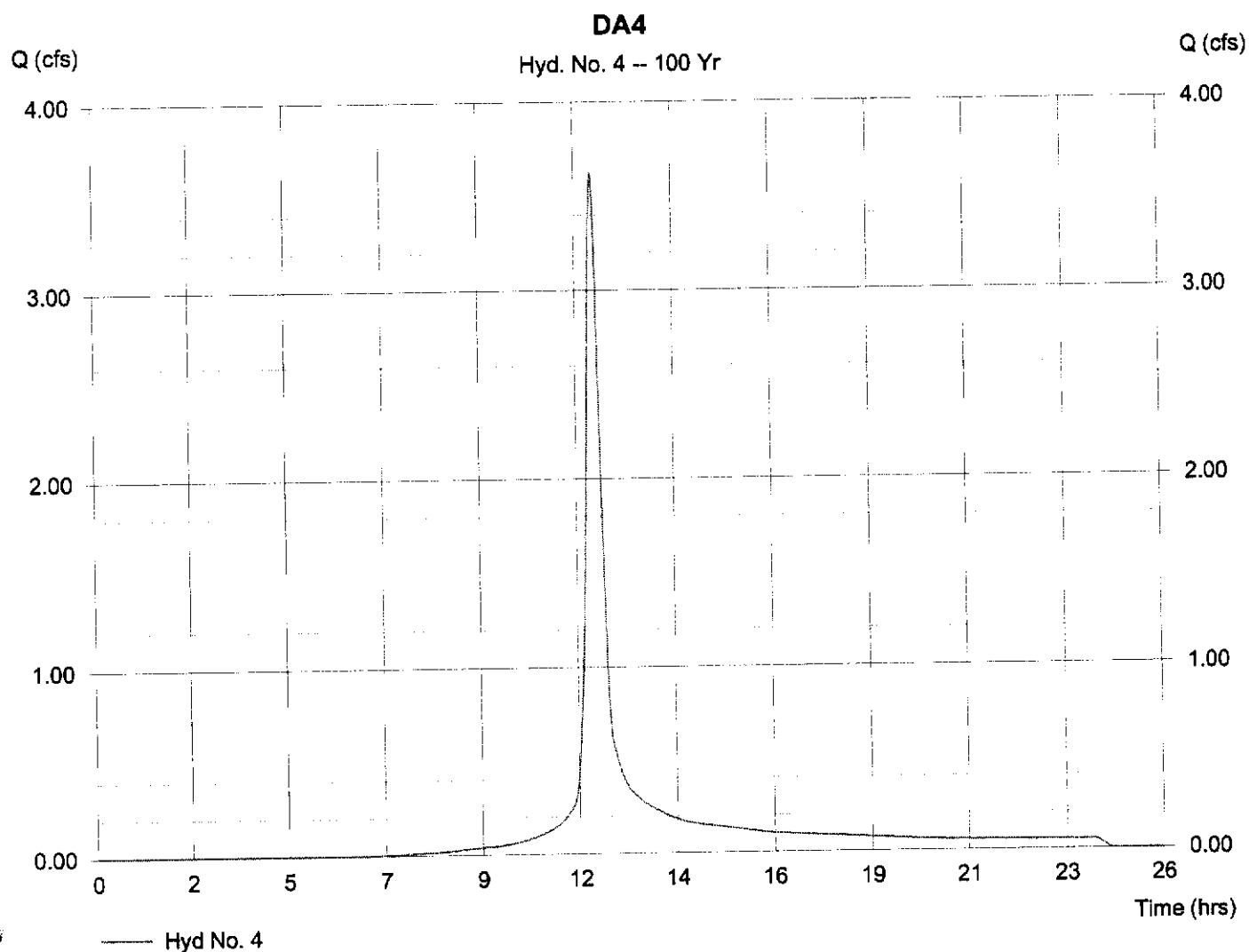
Hyd. No. 4

DA4

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Drainage area = 0.660 ac
 Basin Slope = 0.3 %
 Tc method = LAG
 Total precip. = 7.68 in
 Storm duration = 24 hrs

Peak discharge = 3.63 cfs
 Time interval = 2 min
 Curve number = 75
 Hydraulic length = 180 ft
 Time of conc. (Tc) = 17.70 min
 Distribution = Type II
 Shape factor = 484

Hydrograph Volume = 0.261 acft



Hydrograph Plot

7

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:33 AM

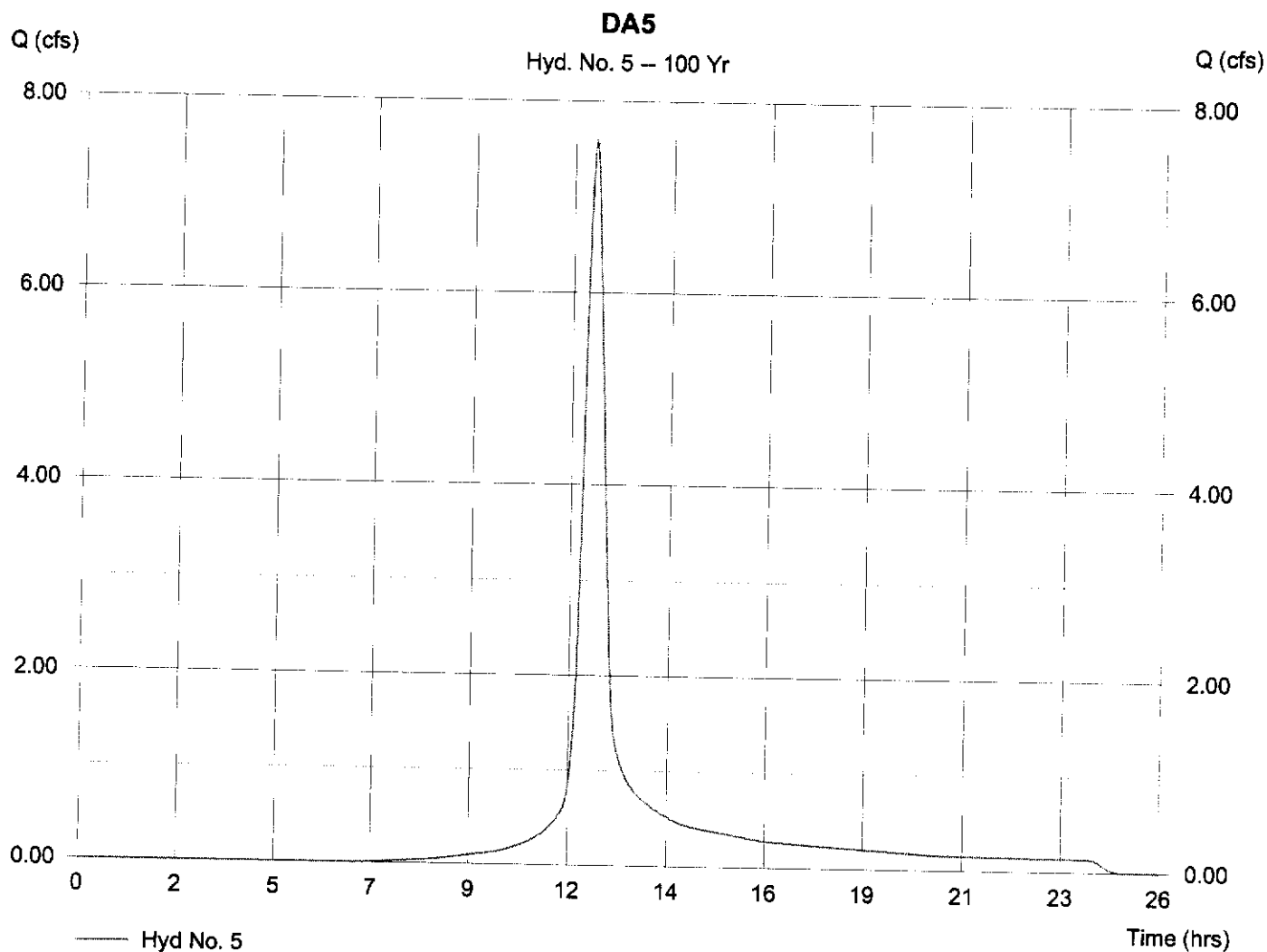
Hyd. No. 5

DA5

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Drainage area = 1.760 ac
Basin Slope = 0.6 %
Tc method = LAG
Total precip. = 7.68 in
Storm duration = 24 hrs

Peak discharge = 7.60 cfs
Time interval = 2 min
Curve number = 75
Hydraulic length = 470 ft
Time of conc. (Tc) = 27.20 min
Distribution = Type II
Shape factor = 484

Hydrograph Volume = 0.697 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:33 AM

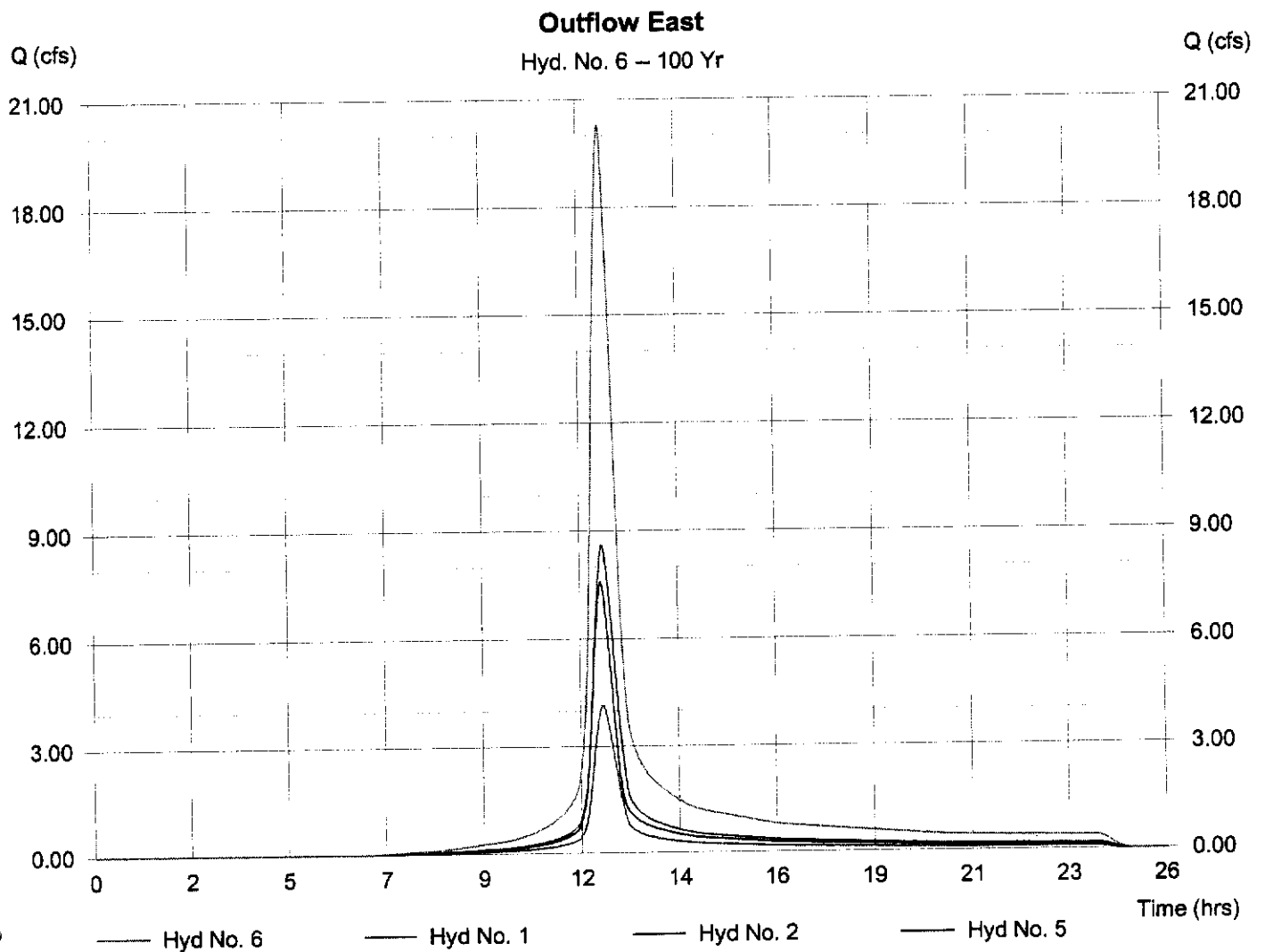
Hyd. No. 6

Outflow East

Hydrograph type = Combine
Storm frequency = 100 yrs
Inflow hyds. = 1, 2, 5

Peak discharge = 20.32 cfs
Time interval = 2 min

Hydrograph Volume = 1.965 acft



Hydrograph Plot

9

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:33 AM

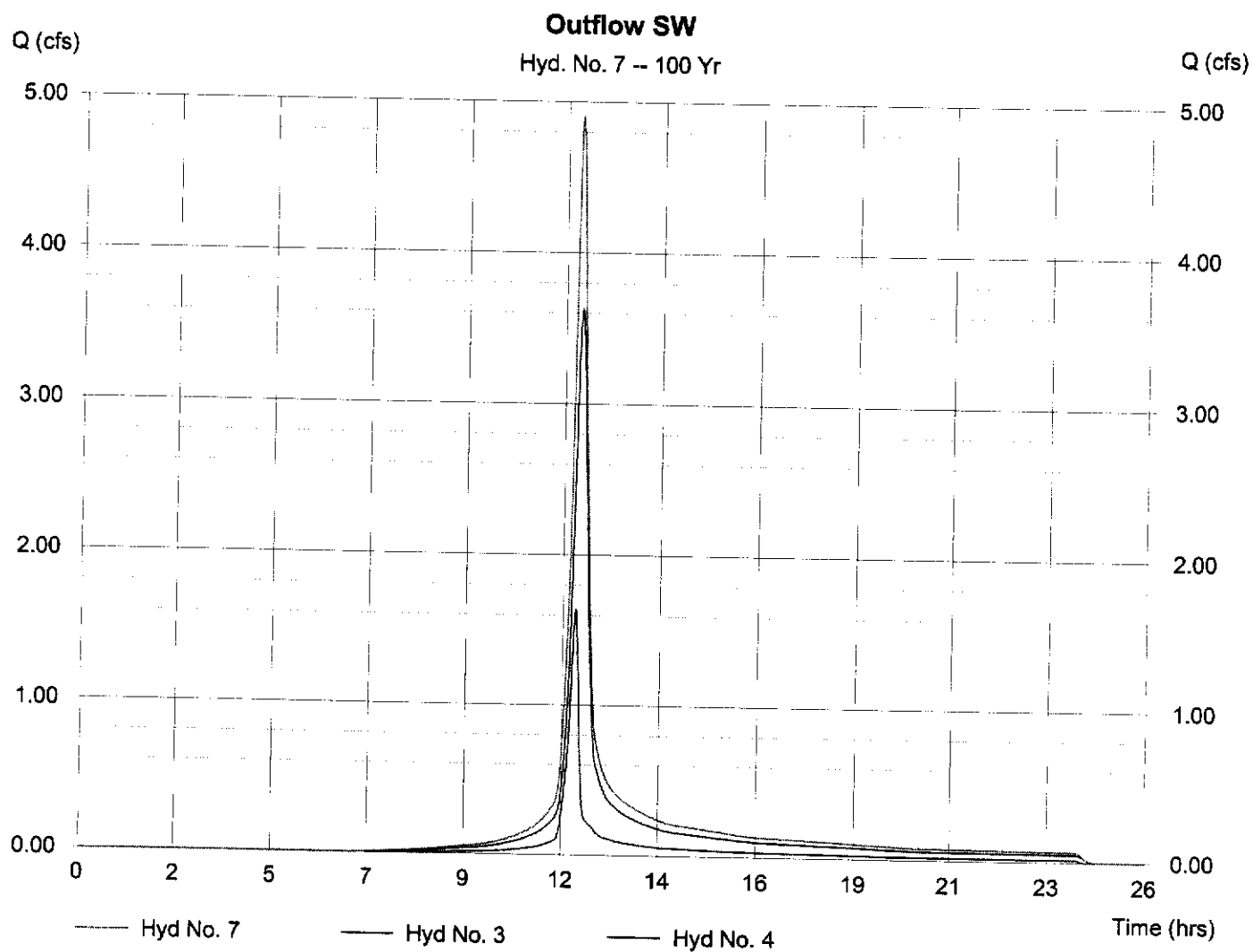
Hyd. No. 7

Outflow SW

Hydrograph type = Combine
Storm frequency = 100 yrs
Inflow hyds. = 3, 4

Peak discharge = 4.91 cfs
Time interval = 2 min

Hydrograph Volume = 0.349 acft



Hydrograph Plot

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 22 2006, 10:34 AM

Hyd. No. 8

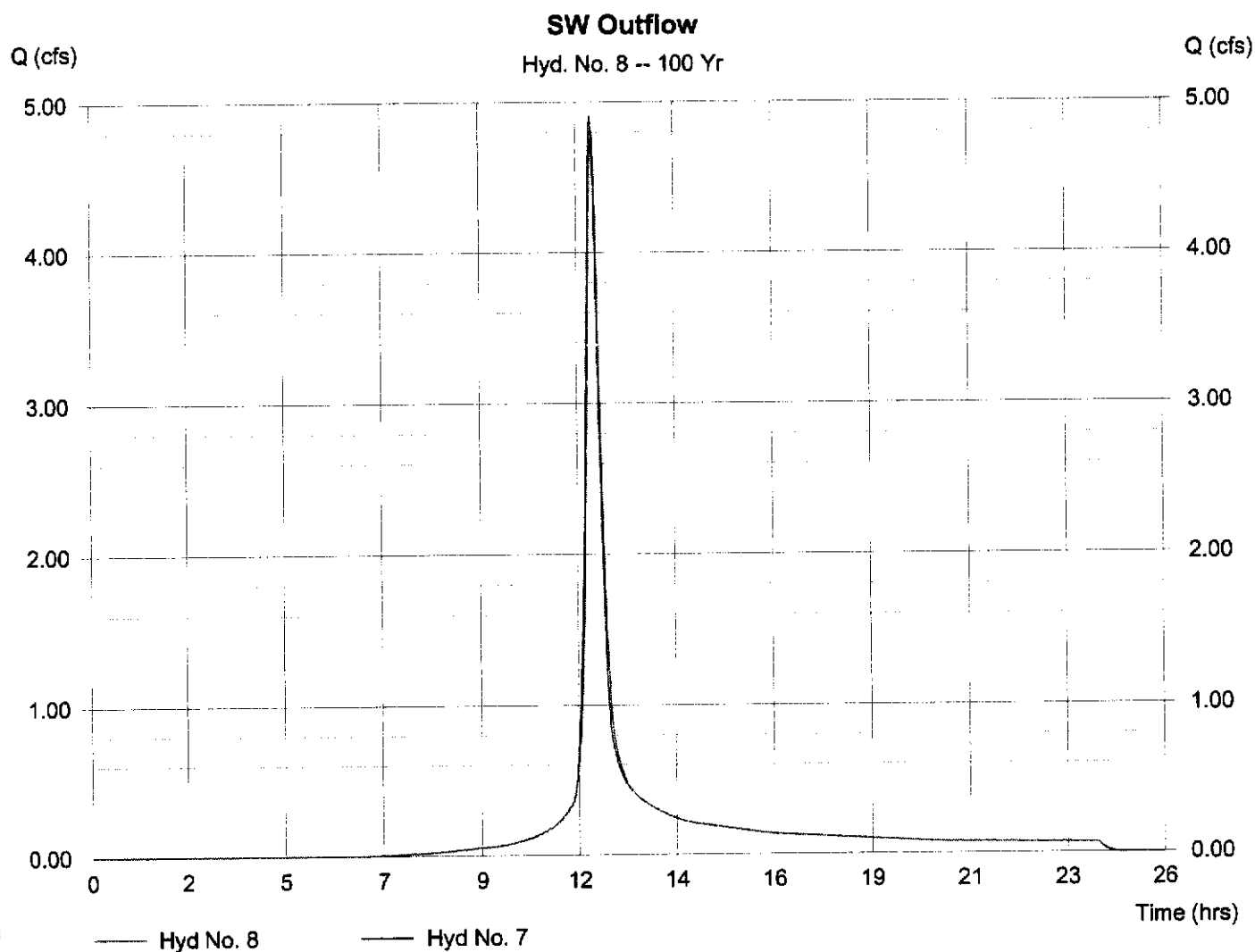
SW Outflow

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 7
Reservoir name = SW Outflow

Peak discharge = 4.81 cfs
Time interval = 2 min
Max. Elevation = 1326.34 ft
Max. Storage = 0.013 acft

Storage Indication method used.

Hydrograph Volume = 0.349 acft



Pond Report

11

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:34 AM

Pond No. 1 - SW Outflow

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1325.90	03	0.000	0.000
0.10	1326.00	692	0.001	0.001
1.10	1327.00	2,308	0.034	0.035

Culvert / Orifice Structures

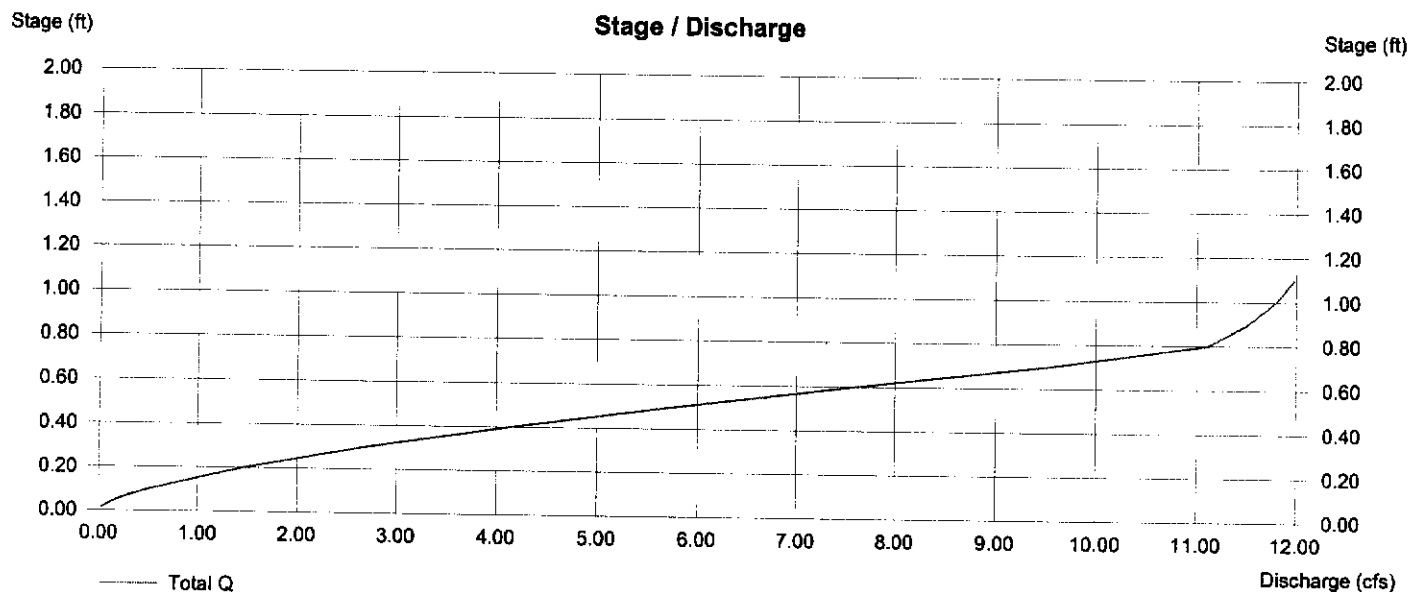
	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1322.85	0.00	0.00	0.00
Length (ft)	= 264.93	0.00	0.00	0.00
Slope (%)	= 0.80	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

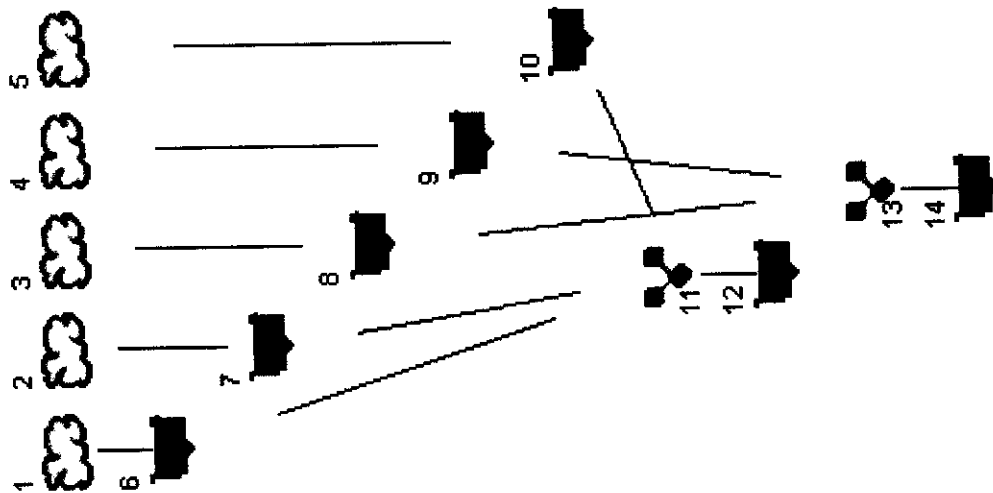
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 6.28	0.00	0.00	0.00
Crest El. (ft)	= 1325.90	0.00	0.00	0.00
Weir Coeff.	= 2.60	0.00	0.00	0.00
Weir Type	= Riser	---	---	---
Multi-Stage	= Yes	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.





Legend	
Hyd.	Description
1	SCS Runoff
2	SCS Runoff
3	SCS Runoff
4	SCS Runoff
5	SCS Runoff
6	Reservoir
7	Reservoir
8	Reservoir
9	Reservoir
10	Reservoir
11	Combine
12	Reservoir
13	Combine
14	Reservoir

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Final Drainage.gpw

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Hydrograph Return Period Recap

1

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	-----	2.50	3.27	-----	4.28	5.04	6.04	6.78	7.53	DA1
2	SCS Runoff	-----	4.08	5.54	-----	7.51	8.98	10.94	12.40	13.86	DA2
3	SCS Runoff	-----	0.41	0.59	-----	0.85	1.05	1.32	1.52	1.72	DA3
4	SCS Runoff	-----	1.78	2.43	-----	3.31	3.96	4.83	5.48	6.13	DA4
5	SCS Runoff	-----	2.19	3.33	-----	4.96	6.22	7.94	9.24	10.55	DA5
6	Reservoir	1	2.50	3.27	-----	4.28	5.04	6.04	6.79	7.52	Route DA1
7	Reservoir	2	4.08	5.54	-----	7.51	8.99	10.95	12.38	13.90	Route DA2
8	Reservoir	3	0.41	0.59	-----	0.85	1.05	1.32	1.52	1.72	Route DA3
9	Reservoir	4	1.78	2.43	-----	3.31	3.96	4.82	5.48	6.12	Route DA4
10	Reservoir	5	0.62	1.62	-----	3.12	4.27	5.65	6.18	6.49	Route DA5
11	Combine	6, 7, 10	6.54	9.42	-----	13.93	17.37	21.83	24.79	27.39	Combine DA1, DA2, & DA5
12	Reservoir	11	4.95	6.24	-----	8.44	9.74	11.22	14.12	17.56	Route Back to Pond
13	Combine	8, 9,	2.16	2.98	-----	4.10	4.94	6.06	6.91	7.74	Combine DA3 & DA4
14	Reservoir	13	2.05	2.87	-----	3.98	4.84	5.95	6.80	7.63	Outflow SW

Hydrograph Summary Report

No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	4.28	2	724	0.323	---	----	----	DA1
2	SCS Runoff	7.51	2	726	0.606	---	----	----	DA2
3	SCS Runoff	0.85	2	720	0.051	---	----	----	DA3
4	SCS Runoff	3.31	2	718	0.179	---	----	----	DA4
5	SCS Runoff	4.96	2	724	0.356	---	----	----	DA5
6	Reservoir	4.28	2	724	0.323	1	1321.35	0.000	Route DA1
7	Reservoir	7.51	2	726	0.606	2	1323.49	0.000	Route DA2
8	Reservoir	0.85	2	720	0.051	3	1323.26	0.000	Route DA3
9	Reservoir	3.31	2	718	0.179	4	1324.75	0.000	Route DA4
10	Reservoir	3.12	2	734	0.319	5	1321.33	0.114	Route DA5
11	Combine	13.93	2	726	1.248	6, 7, 10	----	----	Combine DA1, DA2, & DA5
12	Reservoir	8.44	2	740	1.211	11	1322.74	0.280	Route Back to Pond
13	Combine	4.10	2	718	0.230	8, 9,	----	----	Combine DA3 & DA4
14	Reservoir	3.98	2	720	0.230	13	1326.29	0.011	Outflow SW
Final Drainage.gpw					Return Period: 5 Year			Thursday, Jun 22 2006, 9:59 AM	

Hydrograph Plot

3

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 22 2006, 10:0 AM

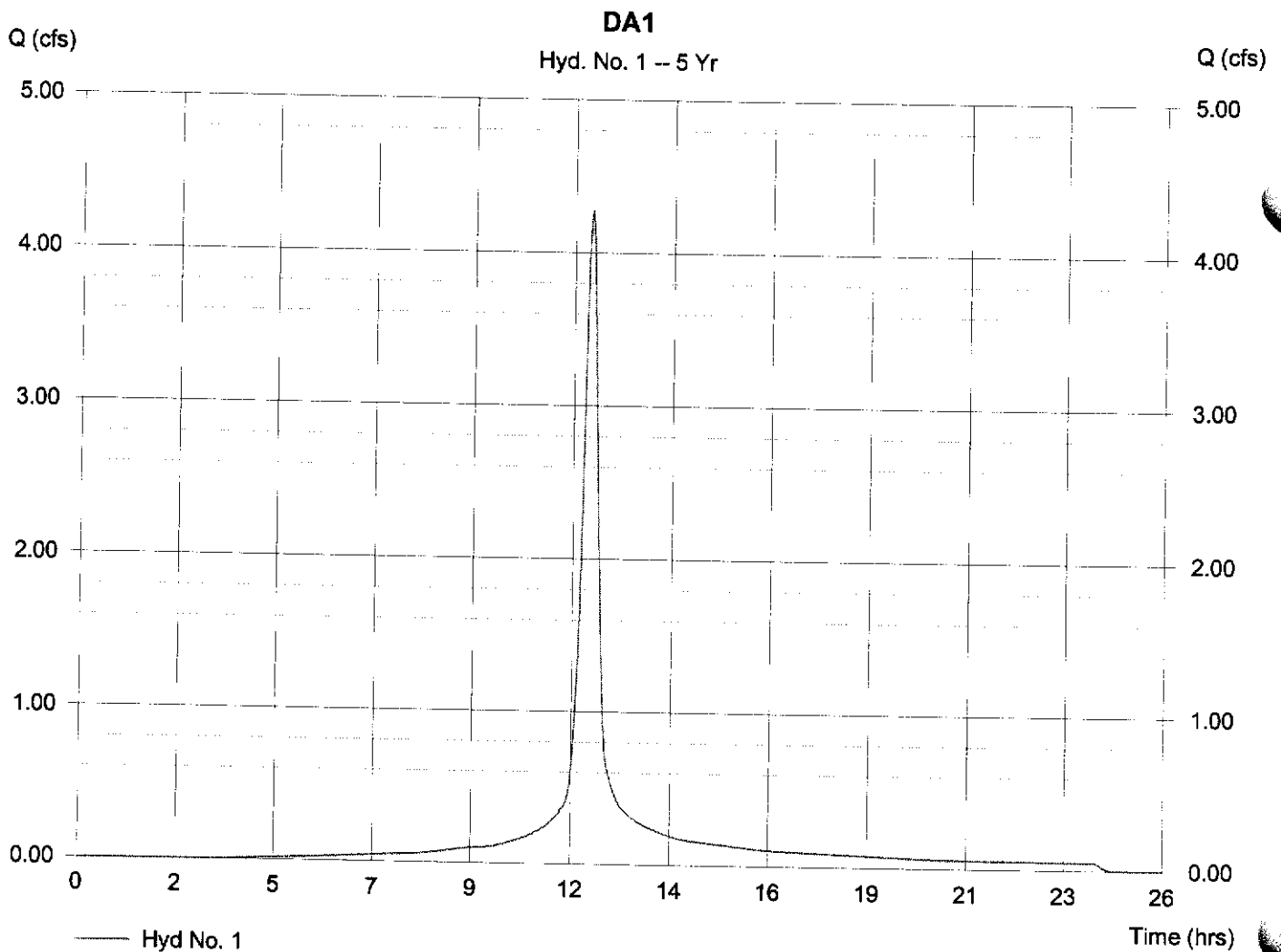
Hyd. No. 1

DA1

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Drainage area = 1.030 ac
Basin Slope = 0.5 %
Tc method = LAG
Total precip. = 4.56 in
Storm duration = 24 hrs

Peak discharge = 4.28 cfs
Time interval = 2 min
Curve number = 93
Hydraulic length = 640 ft
Time of conc. (Tc) = 19.40 min
Distribution = Type II
Shape factor = 484

Hydrograph Volume = 0.323 acft



Hydrograph Plot

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 22 2006, 10:0 AM

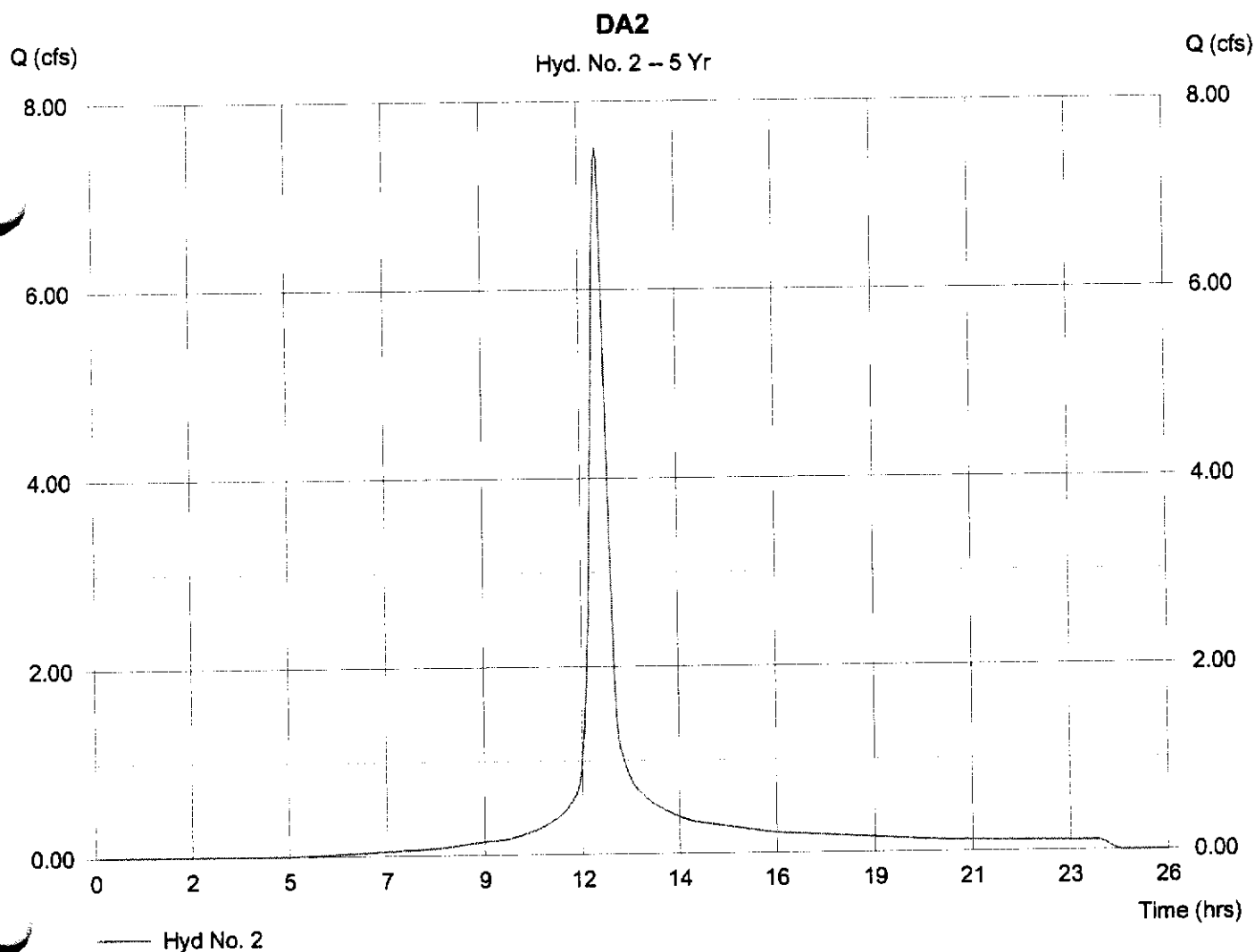
Hyd. No. 2

DA2

Hydrograph type = SCS Runoff
 Storm frequency = 5 yrs
 Drainage area = 2.130 ac
 Basin Slope = 0.5 %
 Tc method = LAG
 Total precip. = 4.56 in
 Storm duration = 24 hrs

Peak discharge = 7.51 cfs
 Time interval = 2 min
 Curve number = 89
 Hydraulic length = 615 ft
 Time of conc. (Tc) = 22.30 min
 Distribution = Type II
 Shape factor = 484

Hydrograph Volume = 0.606 acft



Hydrograph Plot

5

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:0 AM

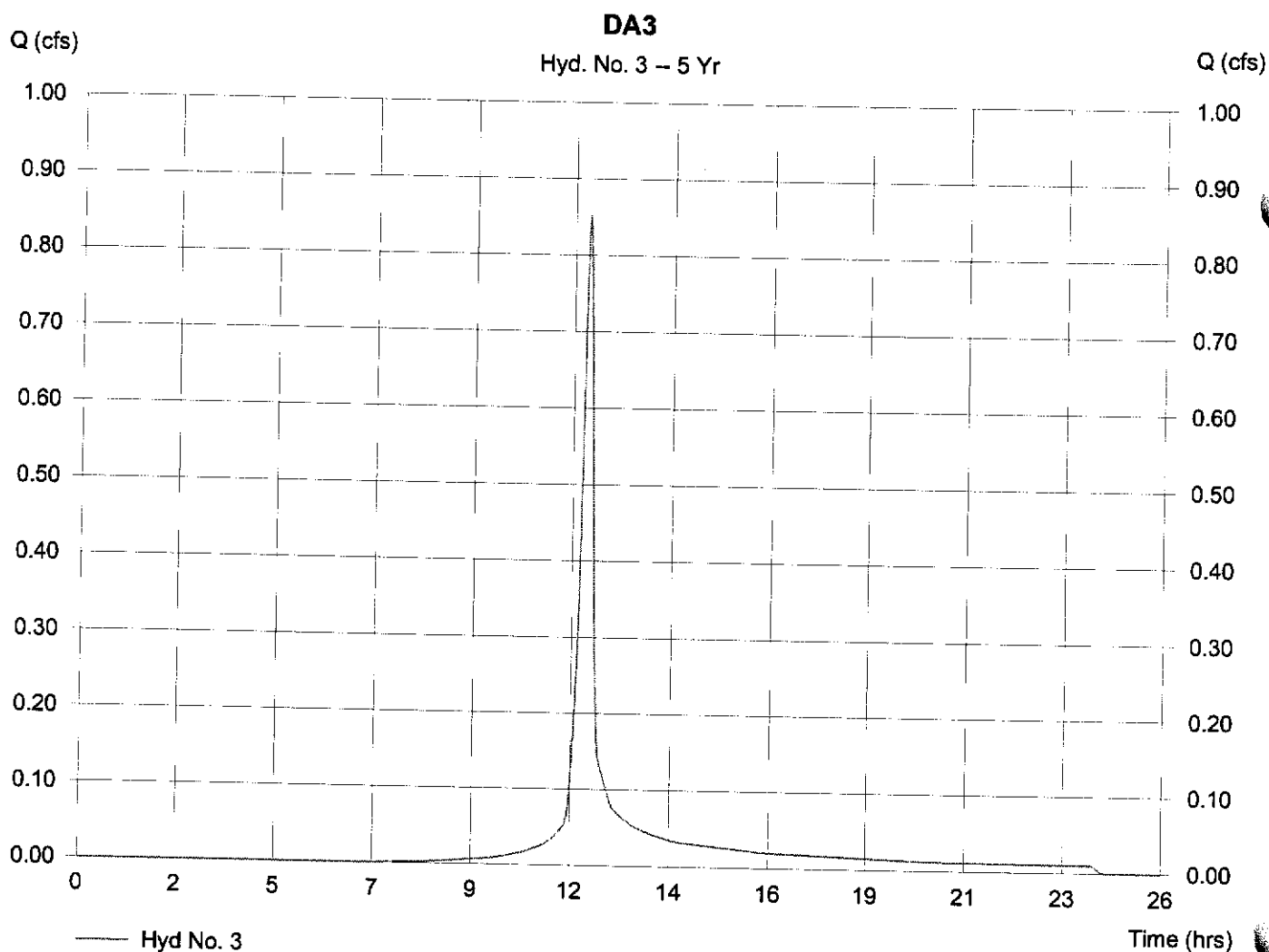
Hyd. No. 3

DA3

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Drainage area = 0.220 ac
Basin Slope = 1.0 %
Tc method = LAG
Total precip. = 4.56 in
Storm duration = 24 hrs

Peak discharge = 0.85 cfs
Time interval = 2 min
Curve number = 82
Hydraulic length = 315 ft
Time of conc. (Tc) = 11.80 min
Distribution = Type II
Shape factor = 484

Hydrograph Volume = 0.051 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:0 AM

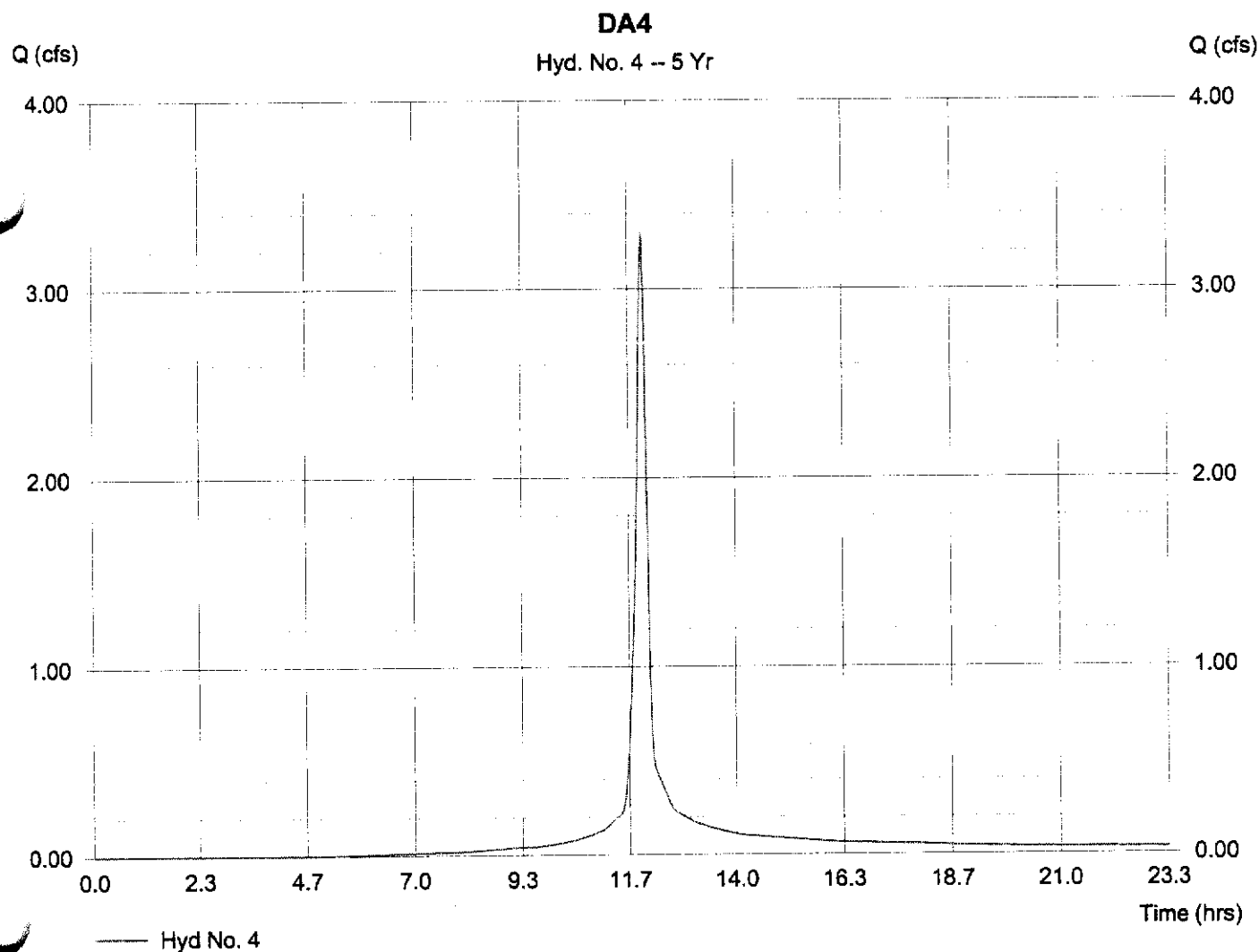
Hyd. No. 4

DA4

Hydrograph type = SCS Runoff
 Storm frequency = 5 yrs
 Drainage area = 0.660 ac
 Basin Slope = 0.5 %
 Tc method = LAG
 Total precip. = 4.56 in
 Storm duration = 24 hrs

Peak discharge = 3.31 cfs
 Time interval = 2 min
 Curve number = 88
 Hydraulic length = 165 ft
 Time of conc. (Tc) = 8.00 min
 Distribution = Type II
 Shape factor = 484

Hydrograph Volume = 0.179 acft



Hydrograph Plot

7

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:0 AM

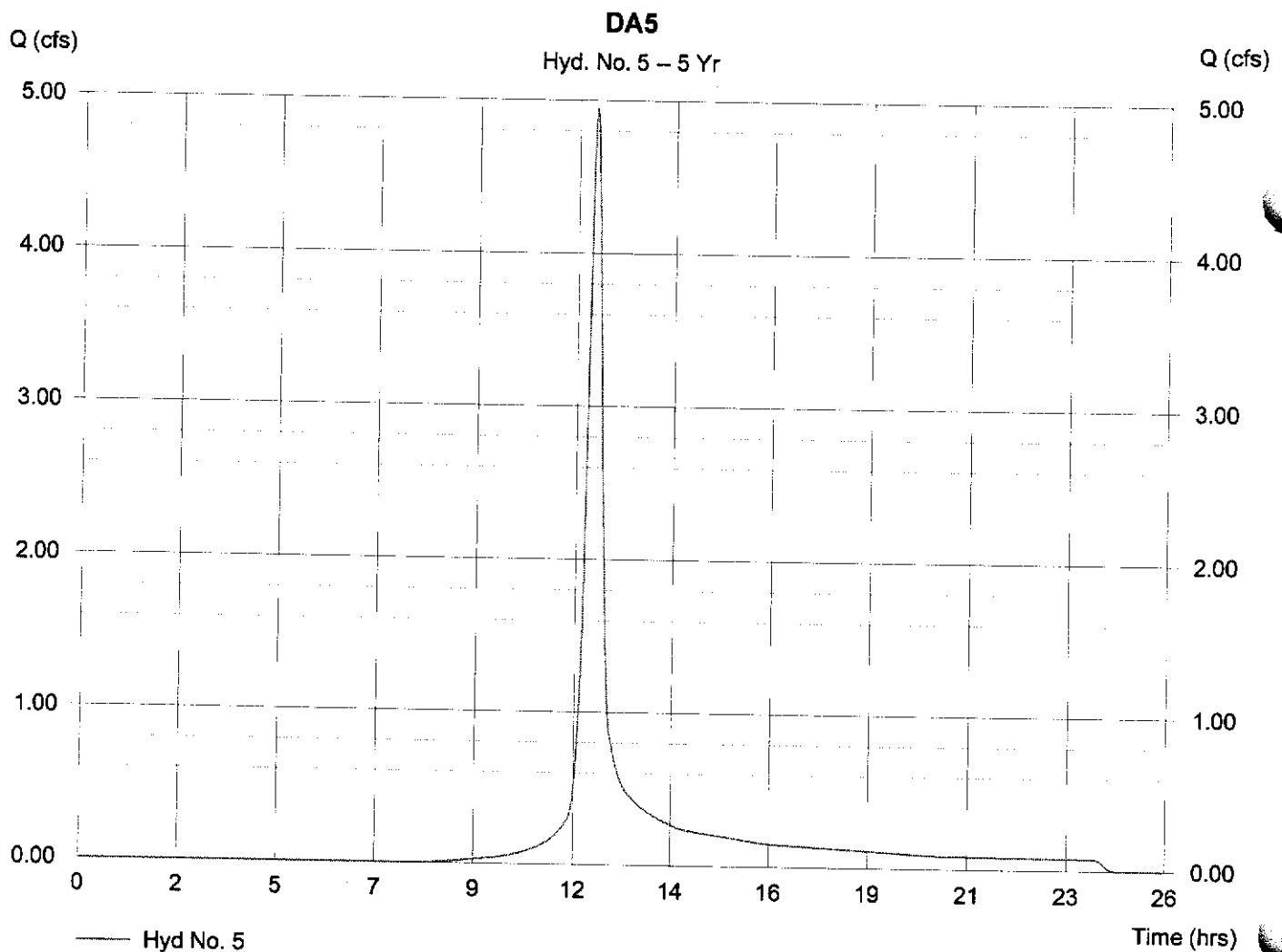
Hyd. No. 5

DA5

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Drainage area = 1.760 ac
Basin Slope = 1.0 %
Tc method = LAG
Total precip. = 4.56 in
Storm duration = 24 hrs

Peak discharge = 4.96 cfs
Time interval = 2 min
Curve number = 79
Hydraulic length = 435 ft
Time of conc. (Tc) = 16.80 min
Distribution = Type II
Shape factor = 484

Hydrograph Volume = 0.356 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:0 AM

Hyd. No. 6

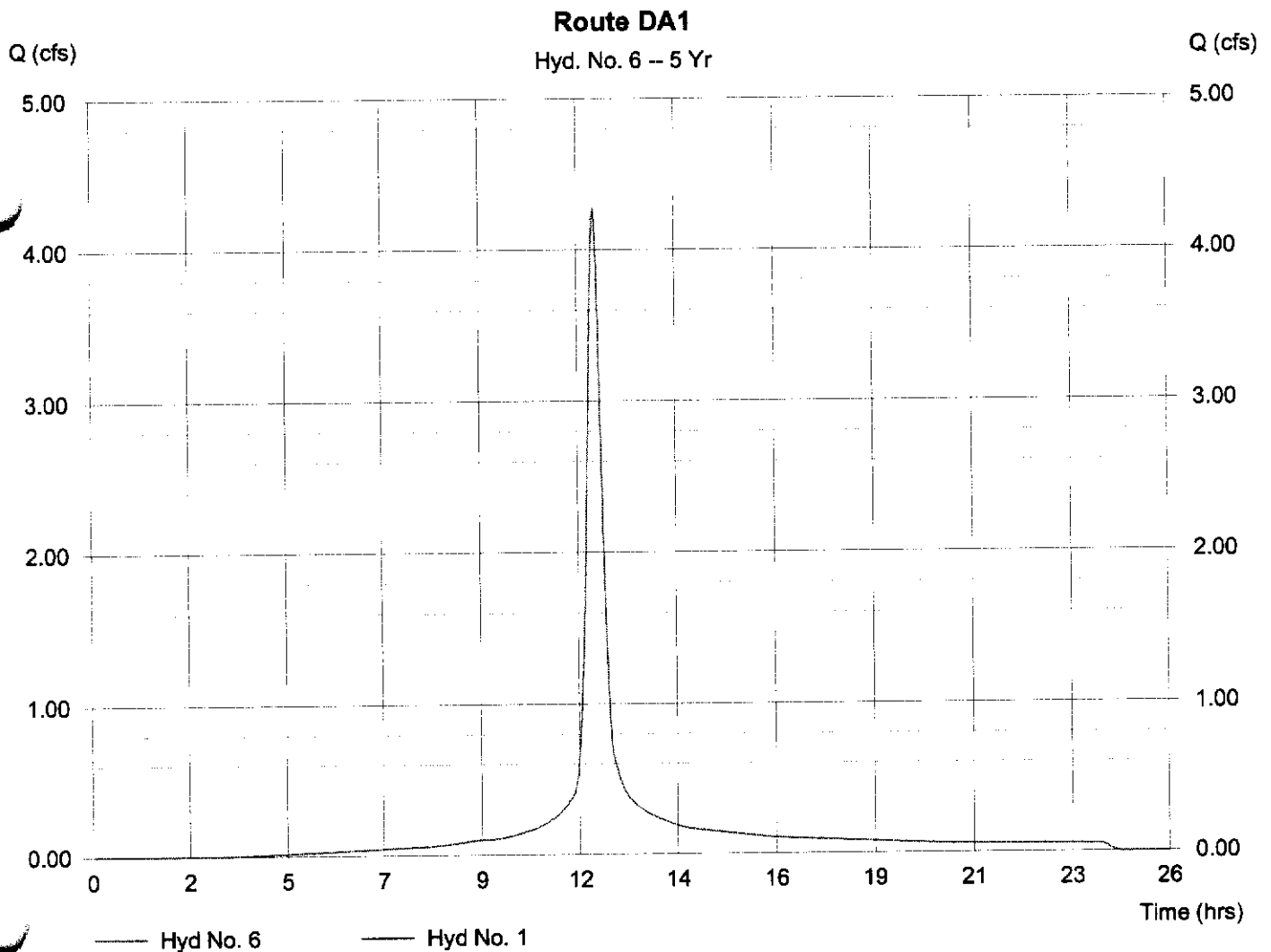
Route DA1

Hydrograph type = Reservoir
Storm frequency = 5 yrs
Inflow hyd. No. = 1
Reservoir name = To Drop Inlet 1

Peak discharge = 4.28 cfs
Time interval = 2 min
Max. Elevation = 1321.35 ft
Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 0.323 acft



Pond Report

9

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:0 AM

Pond No. 1 - To Drop Inlet 1

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1320.20	09	0.000	0.000
1.00	1321.20	09	0.000	0.000
2.00	1322.20	09	0.000	0.000
3.00	1323.20	09	0.000	0.000
4.00	1324.20	09	0.000	0.001
4.80	1325.00	09	0.000	0.001
5.30	1325.50	09	0.000	0.001

Culvert / Orifice Structures

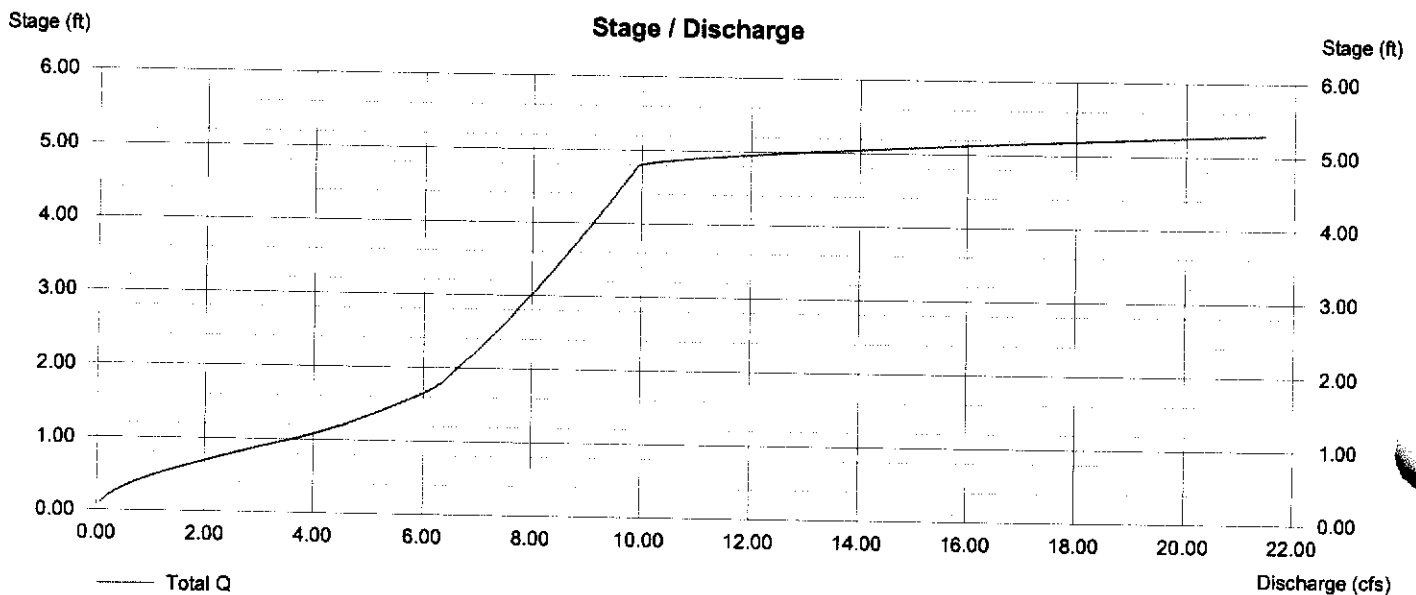
	[A]	[B]	[C]	[D]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1320.20	0.00	0.00	0.00
Length (ft)	= 150.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.00	10.00	0.00	0.00
Crest El. (ft)	= 1325.00	1325.50	0.00	0.00
Weir Coeff.	= 2.60	2.60	0.00	0.00
Weir Type	= Rect	Broad	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 22 2006, 10:0 AM

Hyd. No. 7

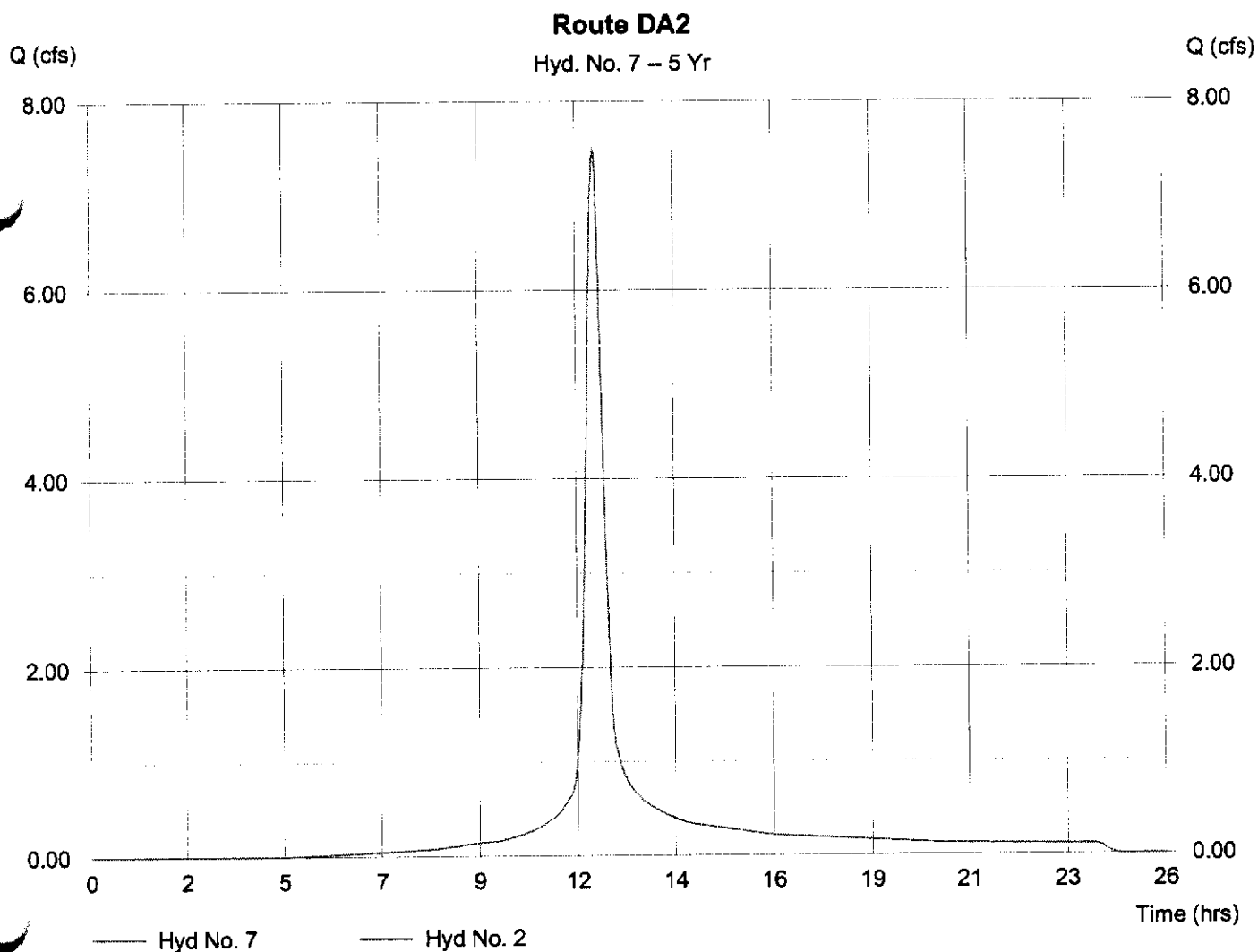
Route DA2

Hydrograph type = Reservoir
Storm frequency = 5 yrs
Inflow hyd. No. = 2
Reservoir name = To Drop Inlet 2

Peak discharge = 7.51 cfs
Time interval = 2 min
Max. Elevation = 1323.49 ft
Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 0.606 acft



Pond Report

11

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:0 AM

Pond No. 2 - To Drop Inlet 2

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1321.25	08	0.000	0.000
1.00	1322.25	08	0.000	0.000
2.00	1323.25	08	0.000	0.000
2.90	1324.15	08	0.000	0.001
3.25	1324.50	08	0.000	0.001

Culvert / Orifice Structures

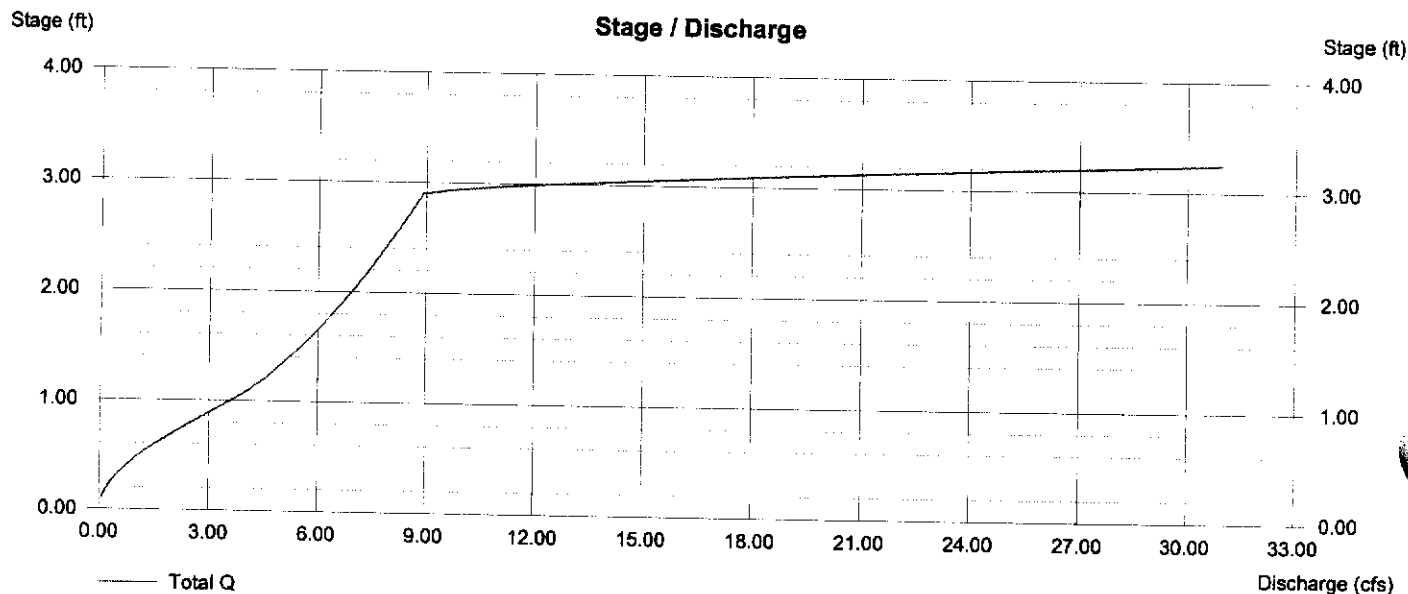
	[A]	[B]	[C]	[D]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1321.25	0.00	0.00	0.00
Length (ft)	= 100.00	0.00	0.00	0.00
Slope (%)	= 1.50	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.00	28.00	0.00	0.00
Crest El. (ft)	= 1324.15	1324.15	0.00	0.00
Weir Coeff.	= 2.60	2.60	0.00	0.00
Weir Type	= Rect	Broad	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:0 AM

Hyd. No. 8

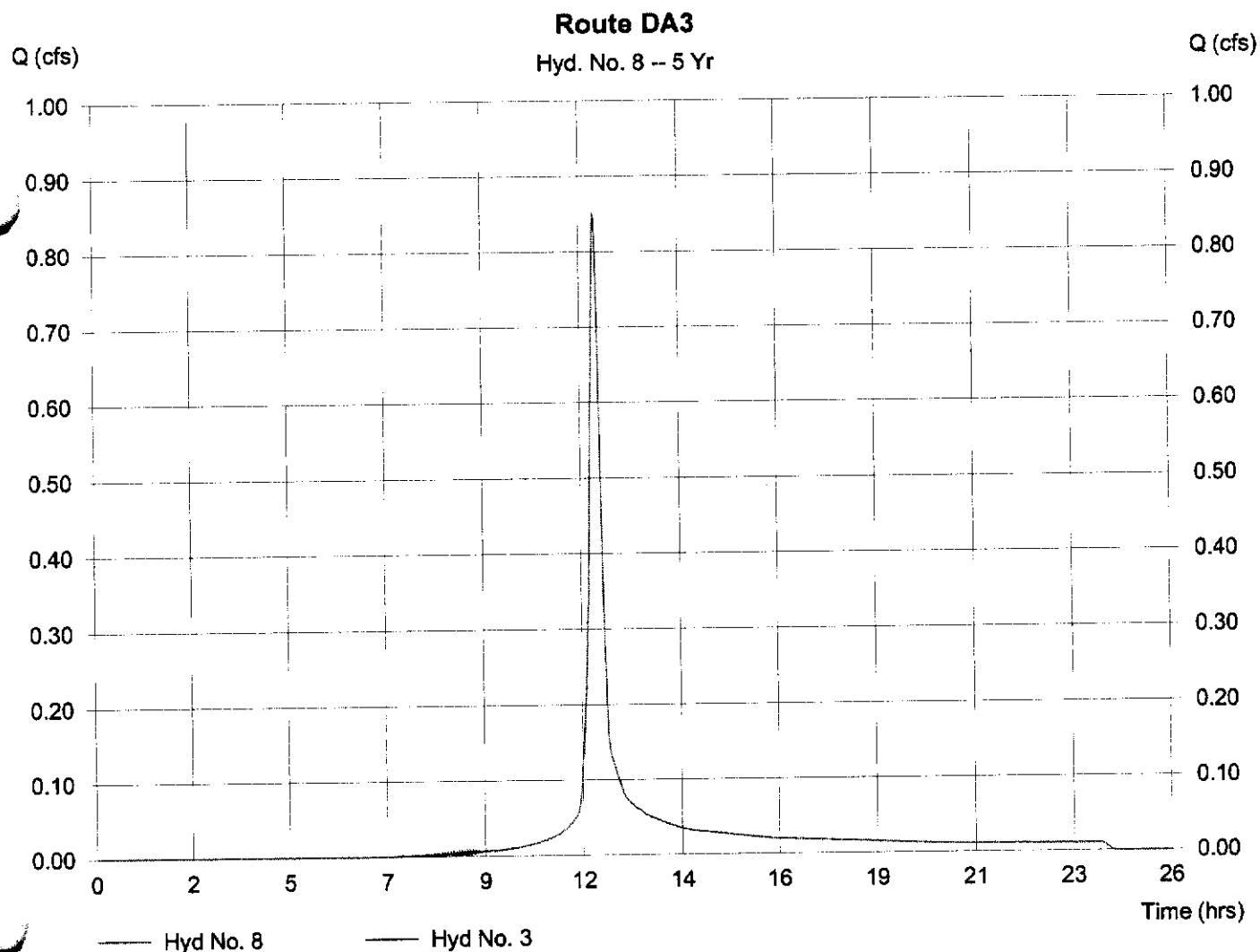
Route DA3

Hydrograph type = Reservoir
Storm frequency = 5 yrs
Inflow hyd. No. = 3
Reservoir name = To Drop Inlet 3

Peak discharge = 0.85 cfs
Time interval = 2 min
Max. Elevation = 1323.26 ft
Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 0.051 acft



Pond Report

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Hydraflow Hydrographs by Intellisolve

Thursday, Jun 22 2006, 10:0 AM

Pond No. 3 - To Drop Inlet 3

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1322.85	03	0.000	0.000
1.00	1323.85	03	0.000	0.000
2.00	1324.85	03	0.000	0.000
3.00	1325.85	03	0.000	0.000
3.05	1325.90	03	0.000	0.000
3.15	1326.00	03	0.000	0.000

Culvert / Orifice Structures

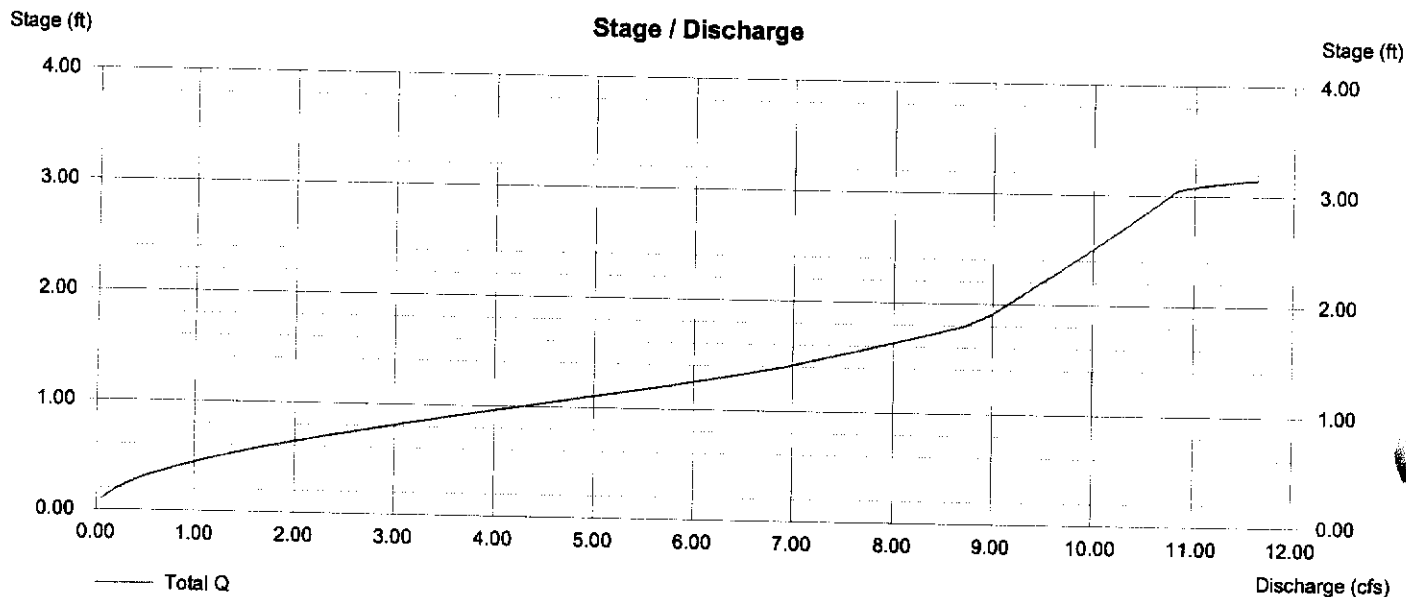
	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1322.85	0.00	0.00	0.00
Length (ft)	= 264.93	0.00	0.00	0.00
Slope (%)	= 0.80	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 6.28	0.00	0.00	0.00
Crest El. (ft)	= 1325.90	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:0 AM

Hyd. No. 9

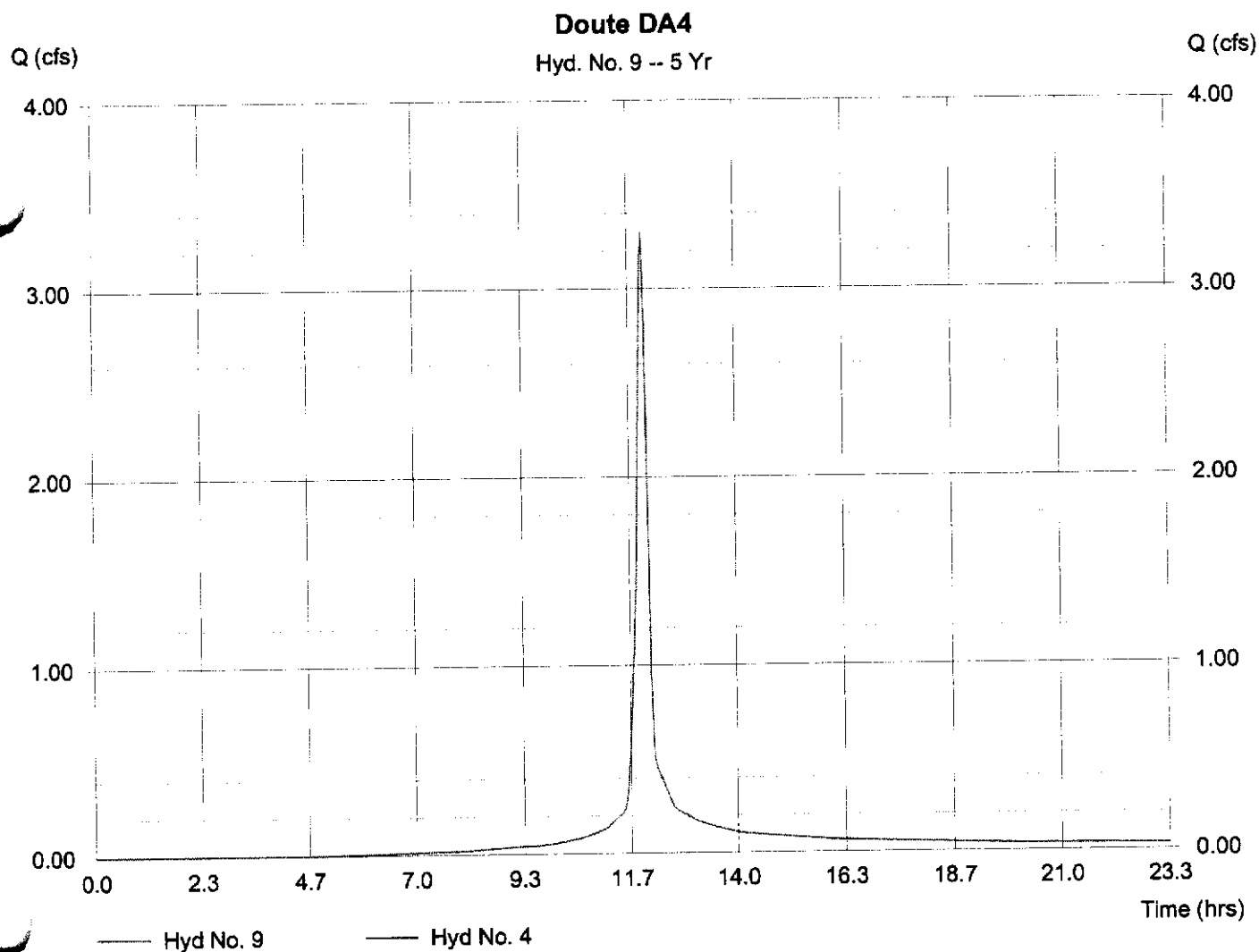
Doute DA4

Hydrograph type = Reservoir
Storm frequency = 5 yrs
Inflow hyd. No. = 4
Reservoir name = To Drop Inlet 4

Peak discharge = 3.31 cfs
Time interval = 2 min
Max. Elevation = 1324.75 ft
Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 0.179 acft



Pond Report

15

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:0 AM

Pond No. 4 - To Drop Inlet 4

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1323.80	04	0.000	0.000
1.00	1324.80	04	0.000	0.000
2.00	1325.80	04	0.000	0.000
2.50	1326.30	04	0.000	0.000
3.00	1326.80	04	0.000	0.000

Culvert / Orifice Structures

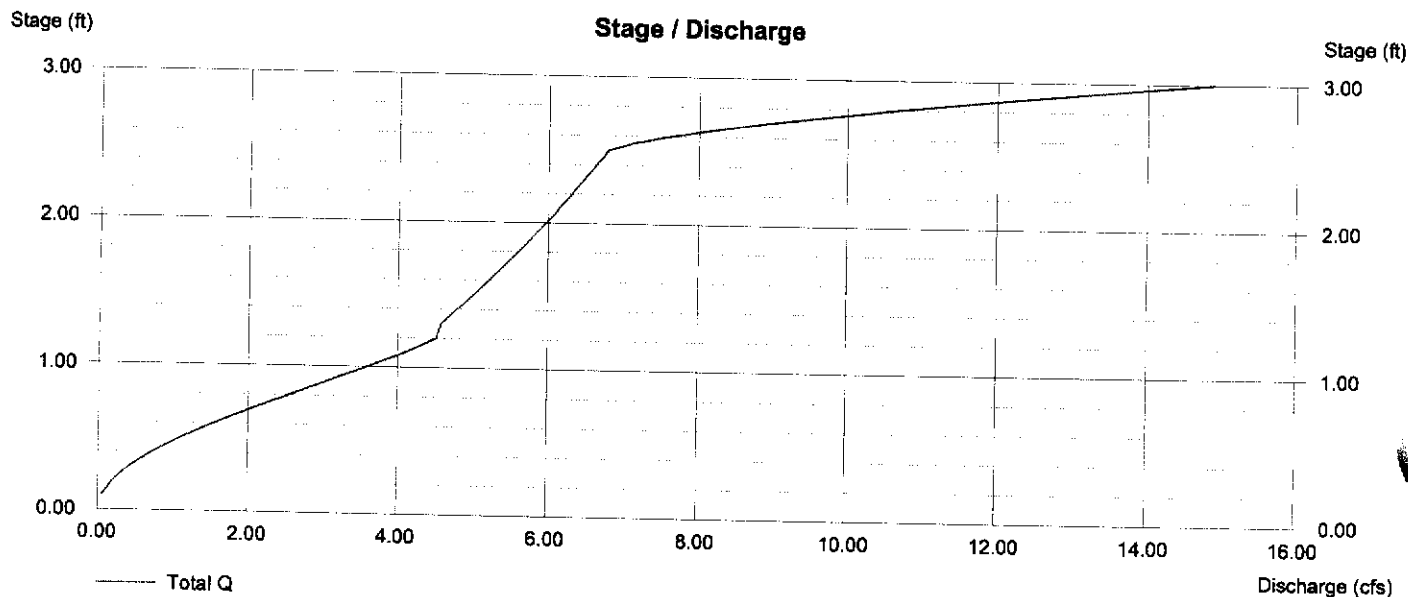
	[A]	[B]	[C]	[D]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1323.80	0.00	0.00	0.00
Length (ft)	= 135.00	0.00	0.00	0.00
Slope (%)	= 0.70	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 8.00	0.00	0.00	0.00
Crest El. (ft)	= 1326.30	0.00	0.00	0.00
Weir Coeff.	= 2.60	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 22 2006, 10:1 AM

Hyd. No. 10

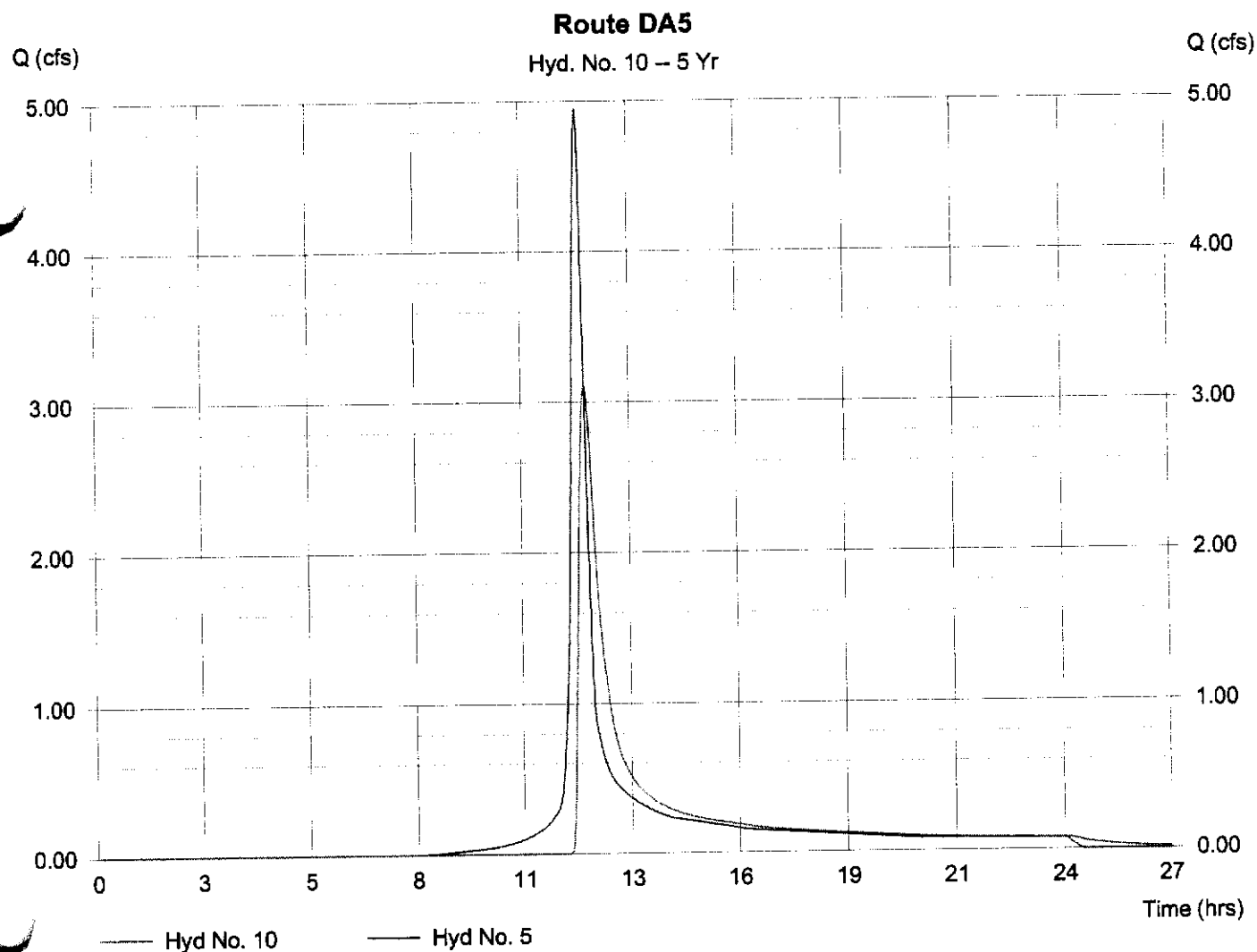
Route DA5

Hydrograph type = Reservoir
 Storm frequency = 5 yrs
 Inflow hyd. No. = 5
 Reservoir name = To Detention Pond

Peak discharge = 3.12 cfs
 Time interval = 2 min
 Max. Elevation = 1321.33 ft
 Max. Storage = 0.114 acft

Storage Indication method used.

Hydrograph Volume = 0.319 acft



Pond Report

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Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:1 AM

Pond No. 5 - To Detention Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1320.00	2,925	0.000	0.000
0.50	1320.50	3,449	0.037	0.037
1.00	1321.00	3,988	0.043	0.079
2.00	1322.00	5,107	0.104	0.184
3.00	1323.00	6,282	0.131	0.314
4.00	1324.00	8,458	0.169	0.484
5.00	1325.00	11,185	0.225	0.709

Culvert / Orifice Structures

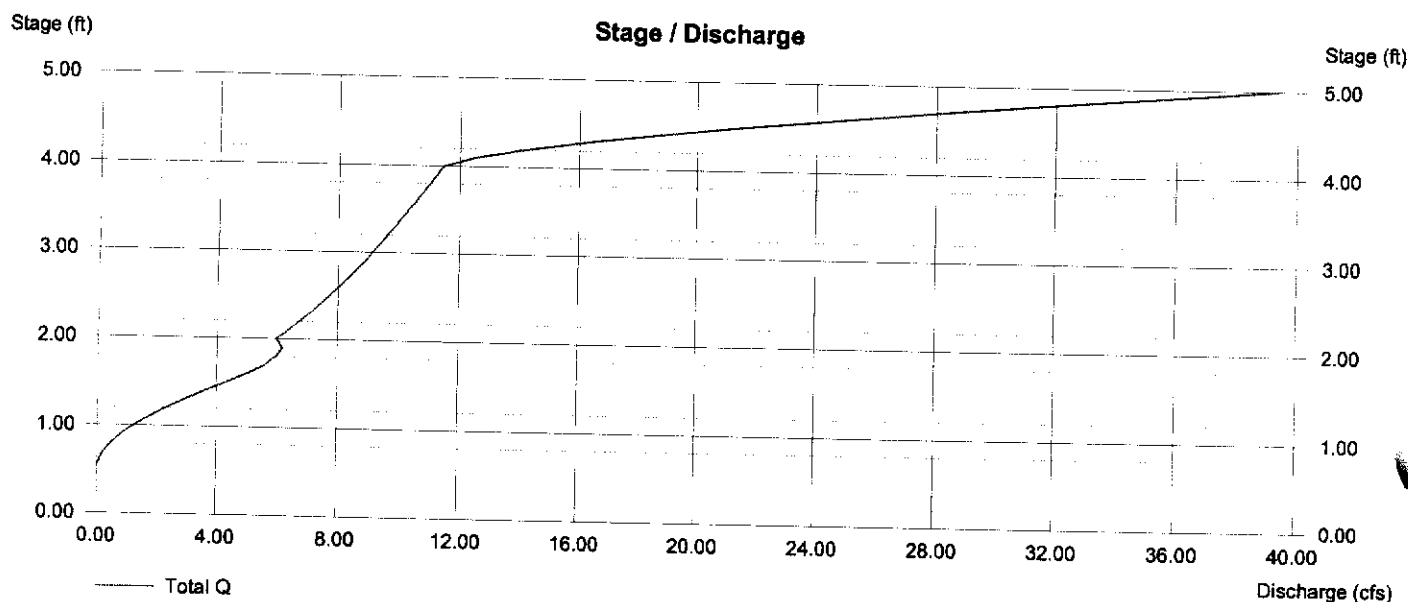
	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1320.50	0.00	0.00	0.00
Length (ft)	= 150.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	10.00	0.00	0.00
Crest El. (ft)	= 0.00	1324.00	0.00	0.00
Weir Coeff.	= 3.33	2.60	0.00	0.00
Weir Type	= ---	Broad	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:1 AM

Hyd. No. 11

Combine DA1, DA2, & DA5

Hydrograph type = Combine

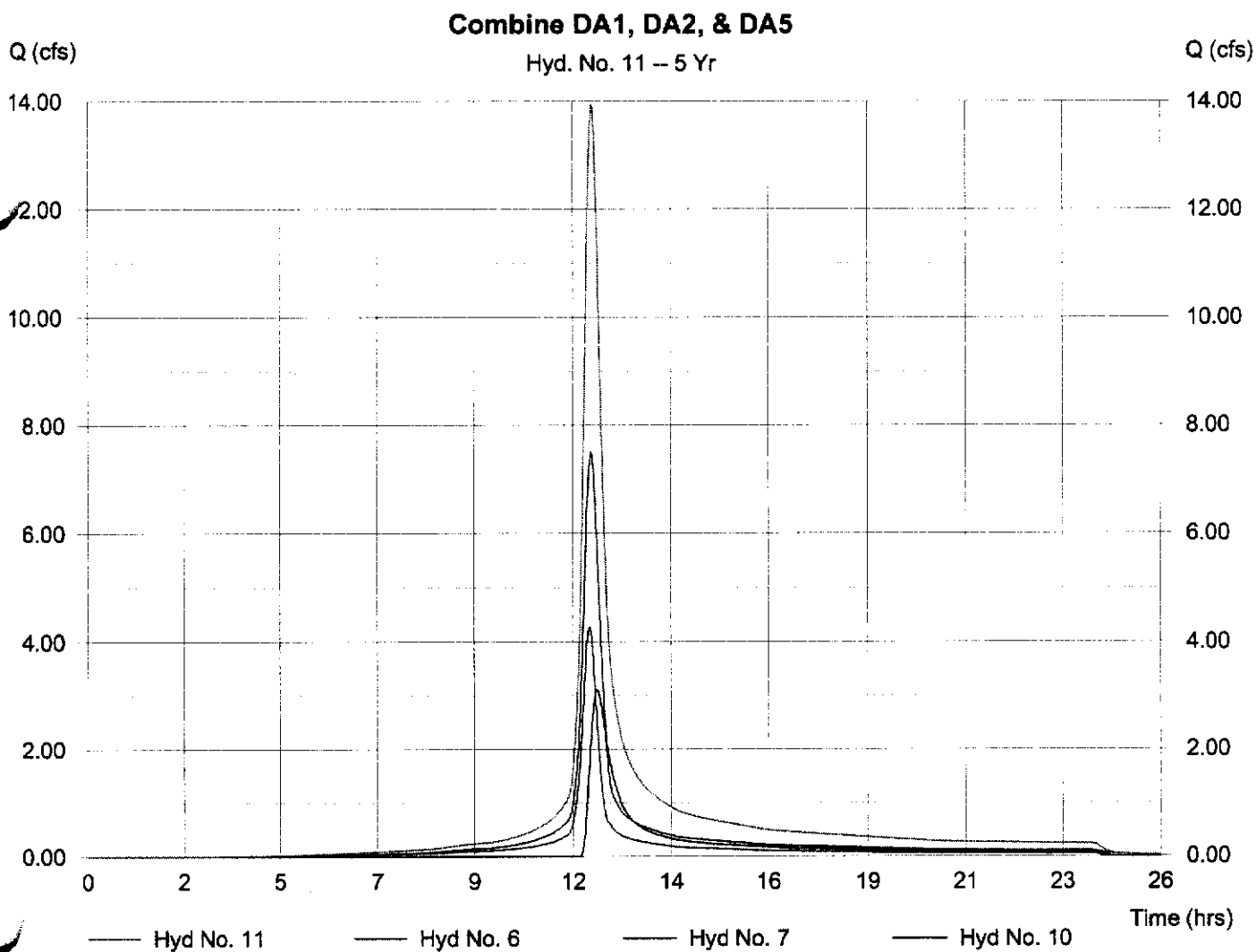
Storm frequency = 5 yrs

Inflow hyds. = 6, 7, 10

Peak discharge = 13.93 cfs

Time interval = 2 min

Hydrograph Volume = 1.248 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:1 AM

Hyd. No. 12

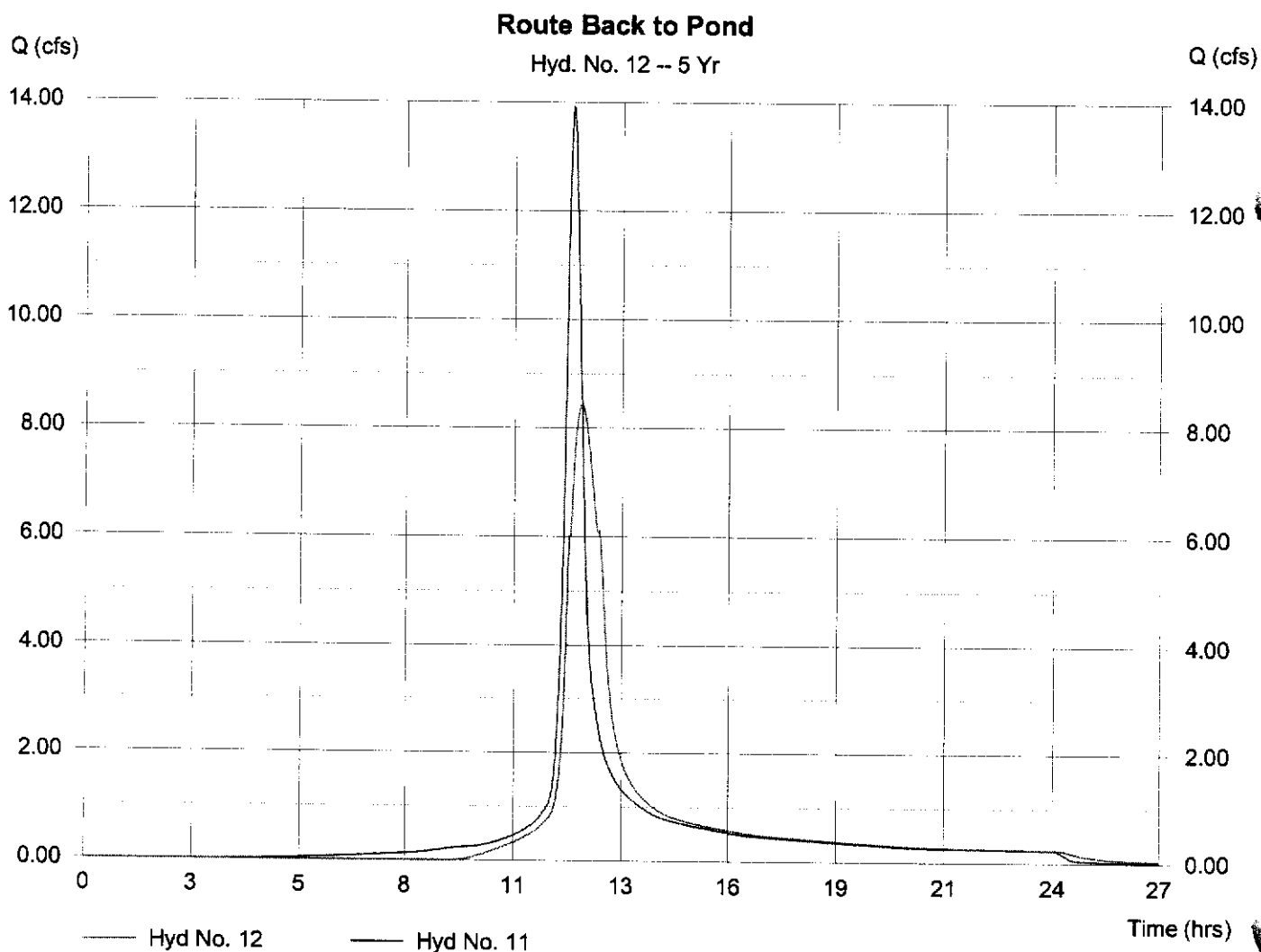
Route Back to Pond

Hydrograph type = Reservoir
Storm frequency = 5 yrs
Inflow hyd. No. = 11
Reservoir name = To Detention Pond

Peak discharge = 8.44 cfs
Time interval = 2 min
Max. Elevation = 1322.74 ft
Max. Storage = 0.280 acft

Storage Indication method used.

Hydrograph Volume = 1.211 acft



Pond Report

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:1 AM

Pond No. 5 - To Detention Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1320.00	2,925	0.000	0.000
0.50	1320.50	3,449	0.037	0.037
1.00	1321.00	3,988	0.043	0.079
2.00	1322.00	5,107	0.104	0.184
3.00	1323.00	6,282	0.131	0.314
4.00	1324.00	8,458	0.169	0.484
5.00	1325.00	11,185	0.225	0.709

Culvert / Orifice Structures

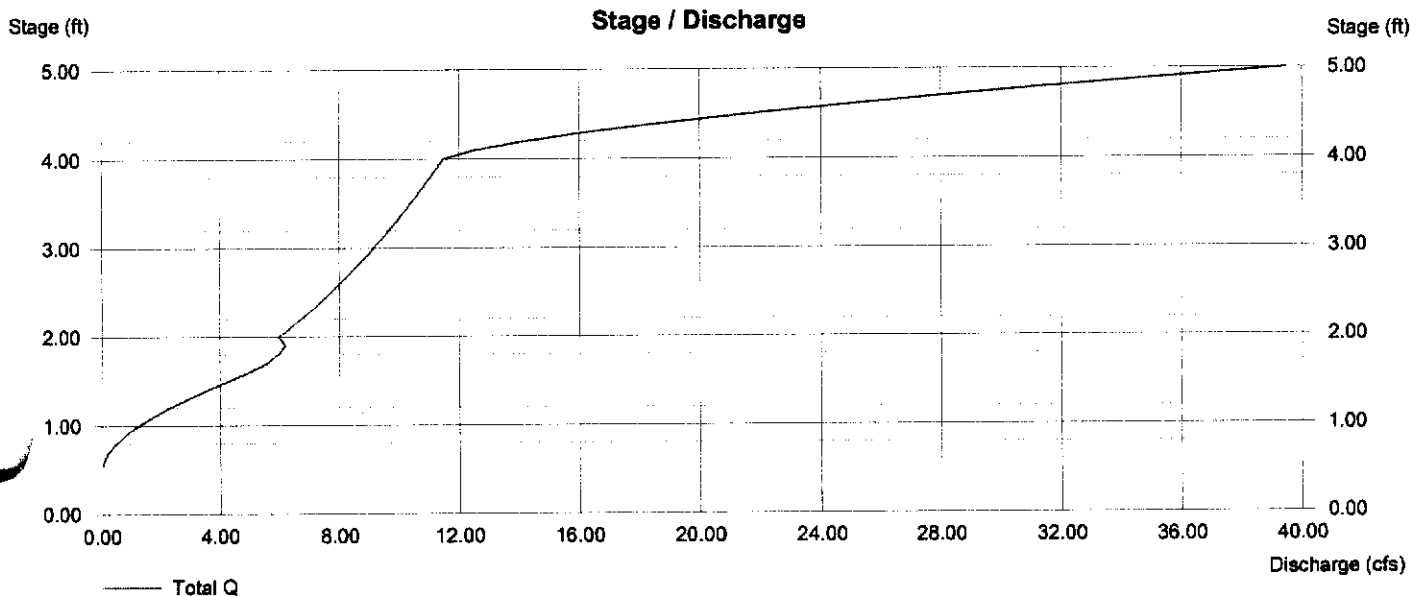
	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1320.50	0.00	0.00	0.00
Length (ft)	= 150.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	10.00	0.00	0.00
Crest El. (ft)	= 0.00	1324.00	0.00	0.00
Weir Coeff.	= 3.33	2.60	0.00	0.00
Weir Type	= —	Broad	—	—
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

21

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:1 AM

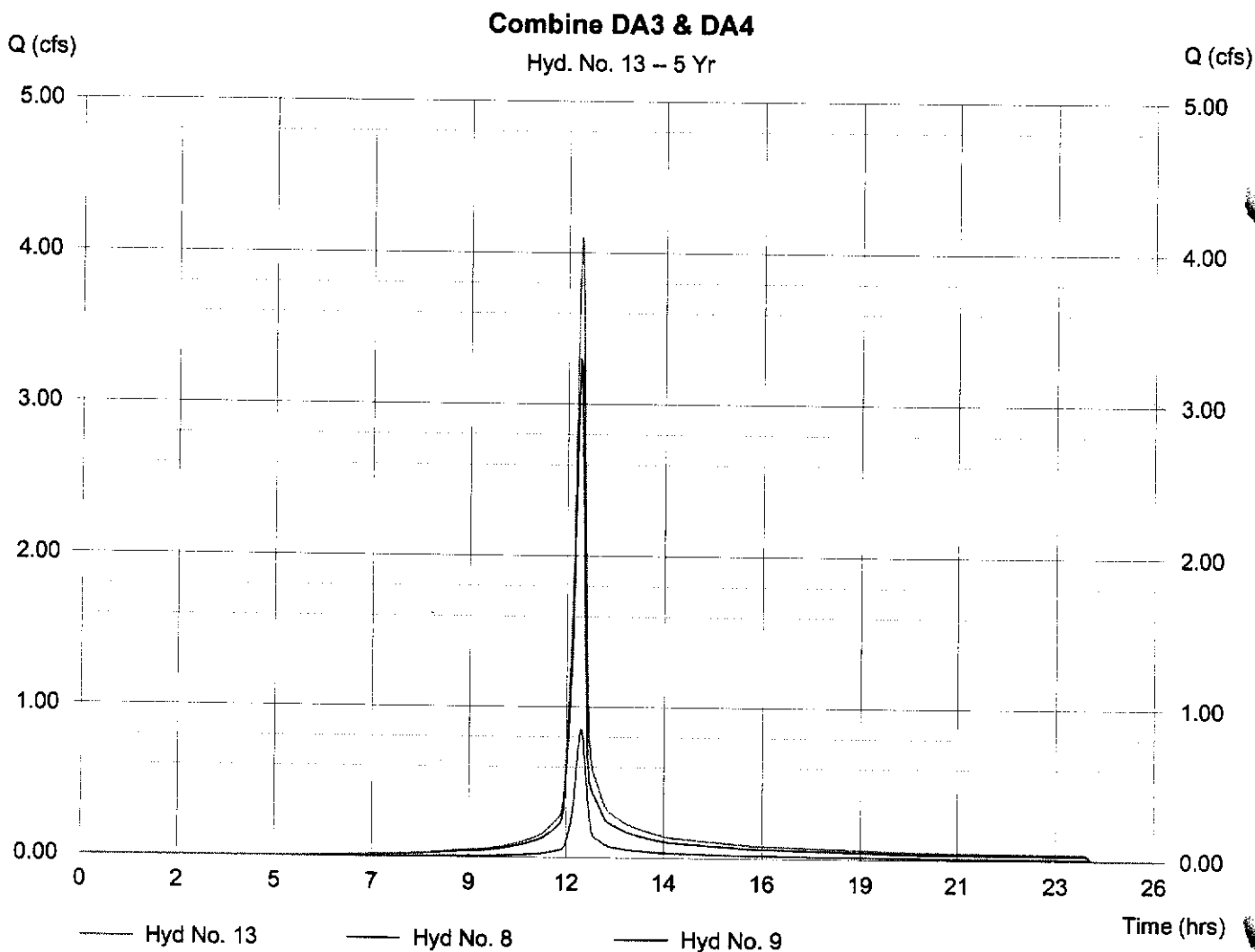
Hyd. No. 13

Combine DA3 & DA4

Hydrograph type = Combine
Storm frequency = 5 yrs
Inflow hyds. = 8, 9

Peak discharge = 4.10 cfs
Time interval = 2 min

Hydrograph Volume = 0.230 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:2 AM

Hyd. No. 14

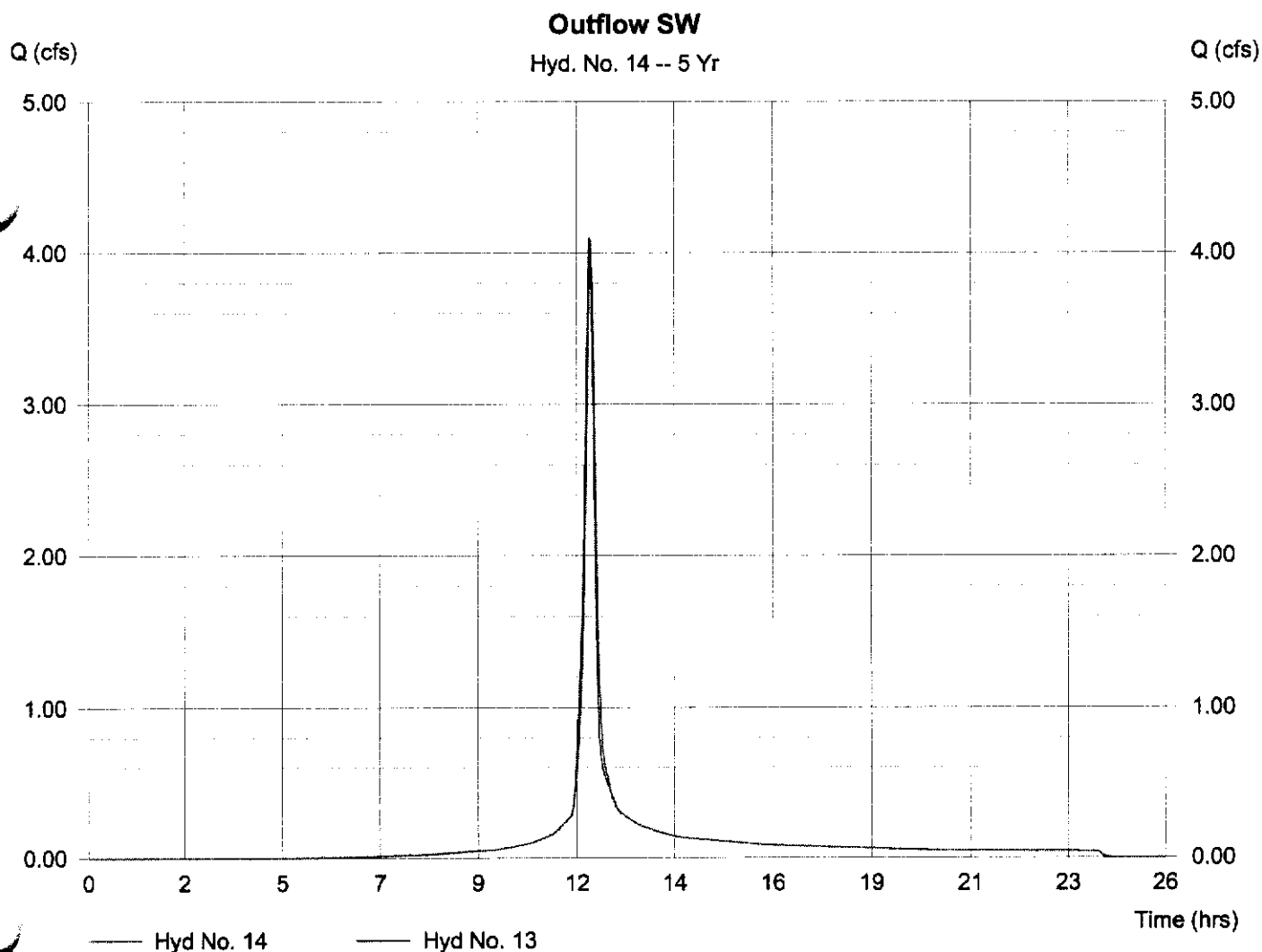
Outflow SW

Hydrograph type = Reservoir
Storm frequency = 5 yrs
Inflow hyd. No. = 13
Reservoir name = SW Outflow

Peak discharge = 3.98 cfs
Time interval = 2 min
Max. Elevation = 1326.29 ft
Max. Storage = 0.011 acft

Storage Indication method used.

Hydrograph Volume = 0.230 acft



Pond Report

23

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:2 AM

Pond No. 6 - SW Outflow

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1325.90	03	0.000	0.000
0.10	1326.00	692	0.001	0.001
1.10	1327.00	2,308	0.034	0.035

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1322.85	0.00	0.00	0.00
Length (ft)	= 264.93	0.00	0.00	0.00
Slope (%)	= 0.80	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 6.28	0.00	0.00	0.00
Crest El. (ft)	= 1325.90	0.00	0.00	0.00
Weir Coeff.	= 2.60	0.00	0.00	0.00
Weir Type	= Riser	---	---	---
Multi-Stage	= Yes	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.

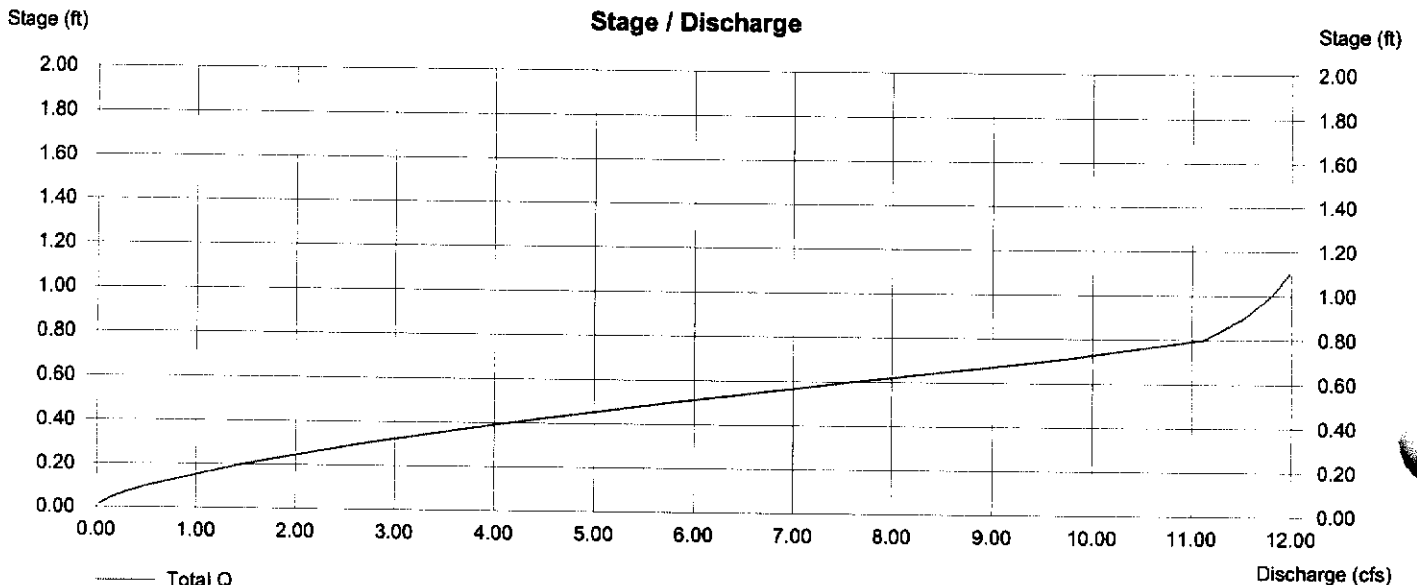


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Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	----	2.50	3.27	----	4.28	5.04	6.04	6.78	7.53	DA1
2	SCS Runoff	----	4.08	5.54	----	7.51	8.98	10.94	12.40	13.86	DA2
3	SCS Runoff	----	0.41	0.59	----	0.85	1.05	1.32	1.52	1.72	DA3
4	SCS Runoff	----	1.78	2.43	----	3.31	3.96	4.83	5.48	6.13	DA4
5	SCS Runoff	----	2.19	3.33	----	4.96	6.22	7.94	9.24	10.55	DA5
6	Reservoir	1	2.50	3.27	----	4.28	5.04	6.04	6.79	7.52	Route DA1
7	Reservoir	2	4.08	5.54	----	7.51	8.99	10.95	12.38	13.90	Route DA2
8	Reservoir	3	0.41	0.59	----	0.85	1.05	1.32	1.52	1.72	Route DA3
9	Reservoir	4	1.78	2.43	----	3.31	3.96	4.82	5.48	6.12	Route DA4
10	Reservoir	5	0.62	1.62	----	3.12	4.27	5.65	6.18	6.49	Route DA5
11	Combine	6, 7, 10	6.54	9.42	----	13.93	17.37	21.83	24.79	27.39	Combine DA1, DA2, & DA5
12	Reservoir	11	4.95	6.24	----	8.44	9.74	11.22	14.12	17.56	Route Back to Pond
13	Combine	8, 9,	2.16	2.98	----	4.10	4.94	6.06	6.91	7.74	Combine DA3 & DA4
14	Reservoir	13	2.05	2.87	----	3.98	4.84	5.95	6.80	7.63	Outflow SW

Hydrograph Summary Report

No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	7.53	2	724	0.588	---	---	---	DA1
2	SCS Runoff	13.86	2	726	1.151	---	---	---	DA2
3	SCS Runoff	1.72	2	720	0.105	---	---	---	DA3
4	SCS Runoff	6.13	2	718	0.344	---	---	---	DA4
5	SCS Runoff	10.55	2	724	0.764	---	---	---	DA5
6	Reservoir	7.52	2	724	0.588	1	1322.84	0.001	Route DA1
7	Reservoir	13.90	2	726	1.151	2	1324.28	0.001	Route DA2
8	Reservoir	1.72	2	720	0.105	3	1323.45	0.000	Route DA3
9	Reservoir	6.12	2	718	0.344	4	1325.89	0.000	Route DA4
10	Reservoir	6.49	2	734	0.727	5	1322.13	0.201	Route DA5
11	Combine	27.39	2	726	2.466	6, 7, 10	---	---	Combine DA1, DA2, & DA5
12	Reservoir	17.56	2	738	2.429	11	1324.35	0.562	Route Back to Pond
13	Combine	7.74	2	718	0.449	8, 9,	---	---	Combine DA3 & DA4
14	Reservoir	7.63	2	720	0.449	13	1326.50	0.018	Outflow SW
Final Drainage.gpw					Return Period: 100 Year			Thursday, Jun 22 2006, 10:05 AM	

Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:5 AM

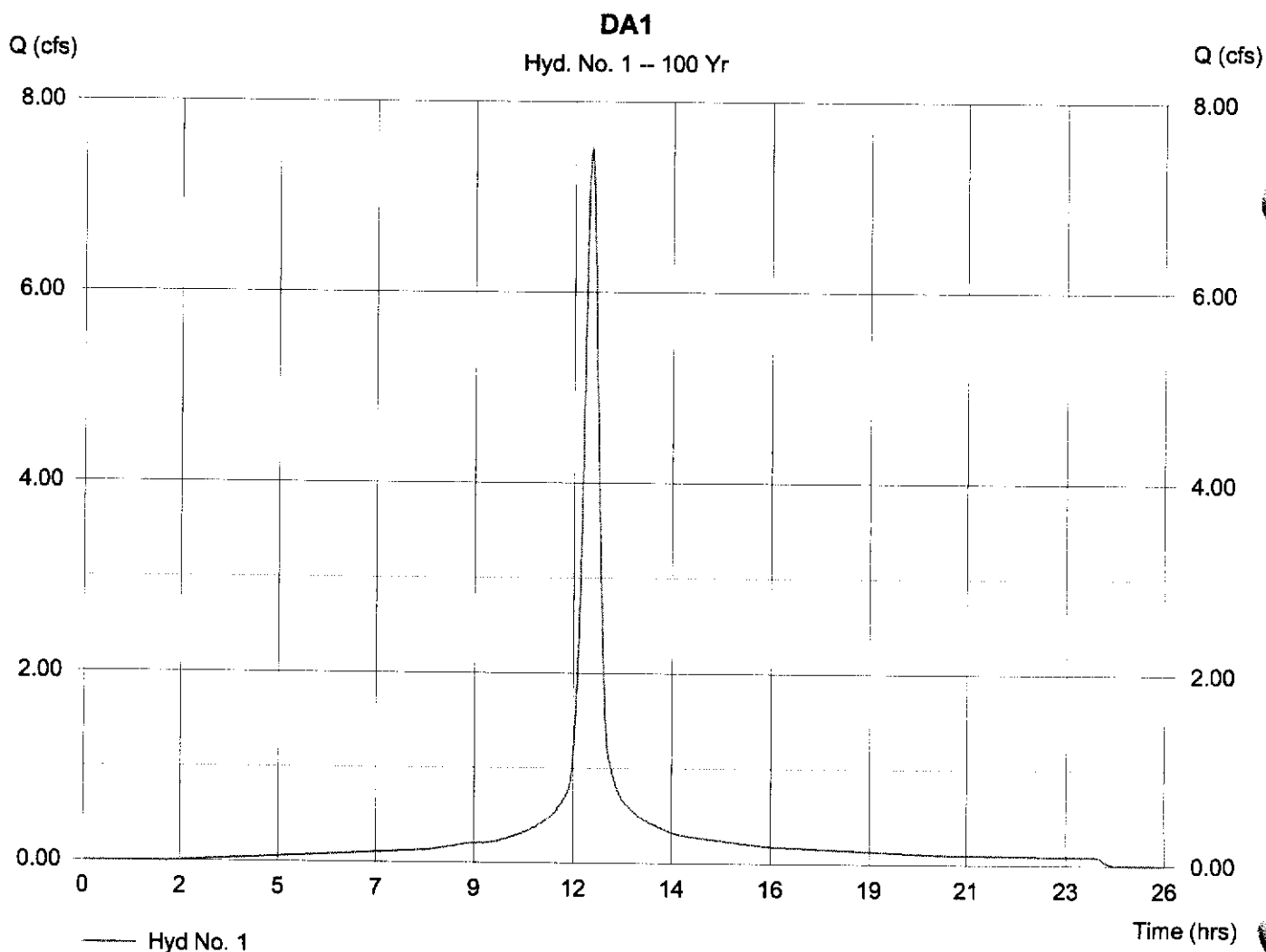
Hyd. No. 1

DA1

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Drainage area = 1.030 ac
 Basin Slope = 0.5 %
 Tc method = LAG
 Total precip. = 7.68 in
 Storm duration = 24 hrs

Peak discharge = 7.53 cfs
 Time interval = 2 min
 Curve number = 93
 Hydraulic length = 640 ft
 Time of conc. (Tc) = 19.40 min
 Distribution = Type II
 Shape factor = 484

Hydrograph Volume = 0.588 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:5 AM

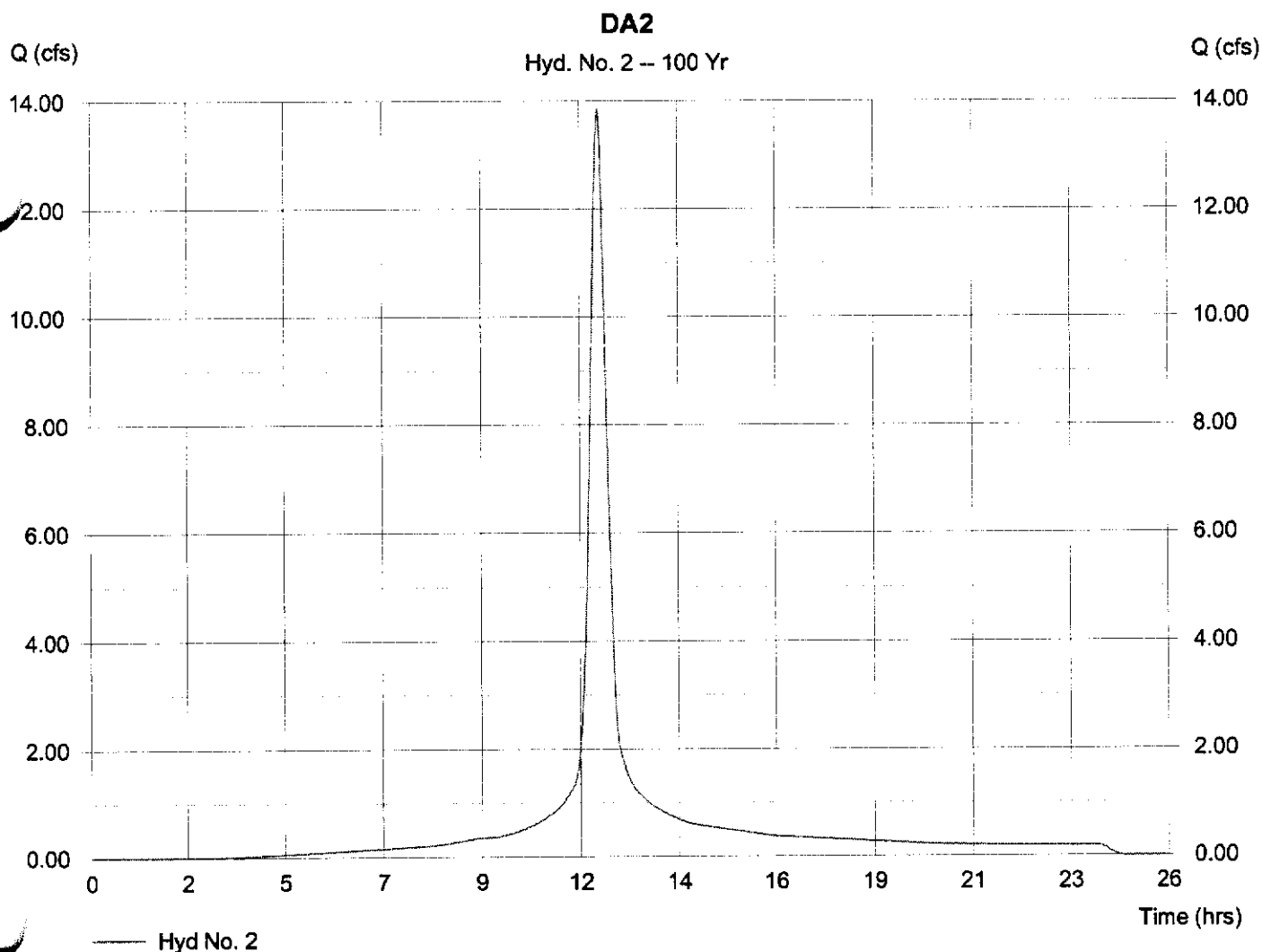
Hyd. No. 2

DA2

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Drainage area = 2.130 ac
 Basin Slope = 0.5 %
 Tc method = LAG
 Total precip. = 7.68 in
 Storm duration = 24 hrs

Peak discharge = 13.86 cfs
 Time interval = 2 min
 Curve number = 89
 Hydraulic length = 615 ft
 Time of conc. (Tc) = 22.30 min
 Distribution = Type II
 Shape factor = 484

Hydrograph Volume = 1.151 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:5 AM

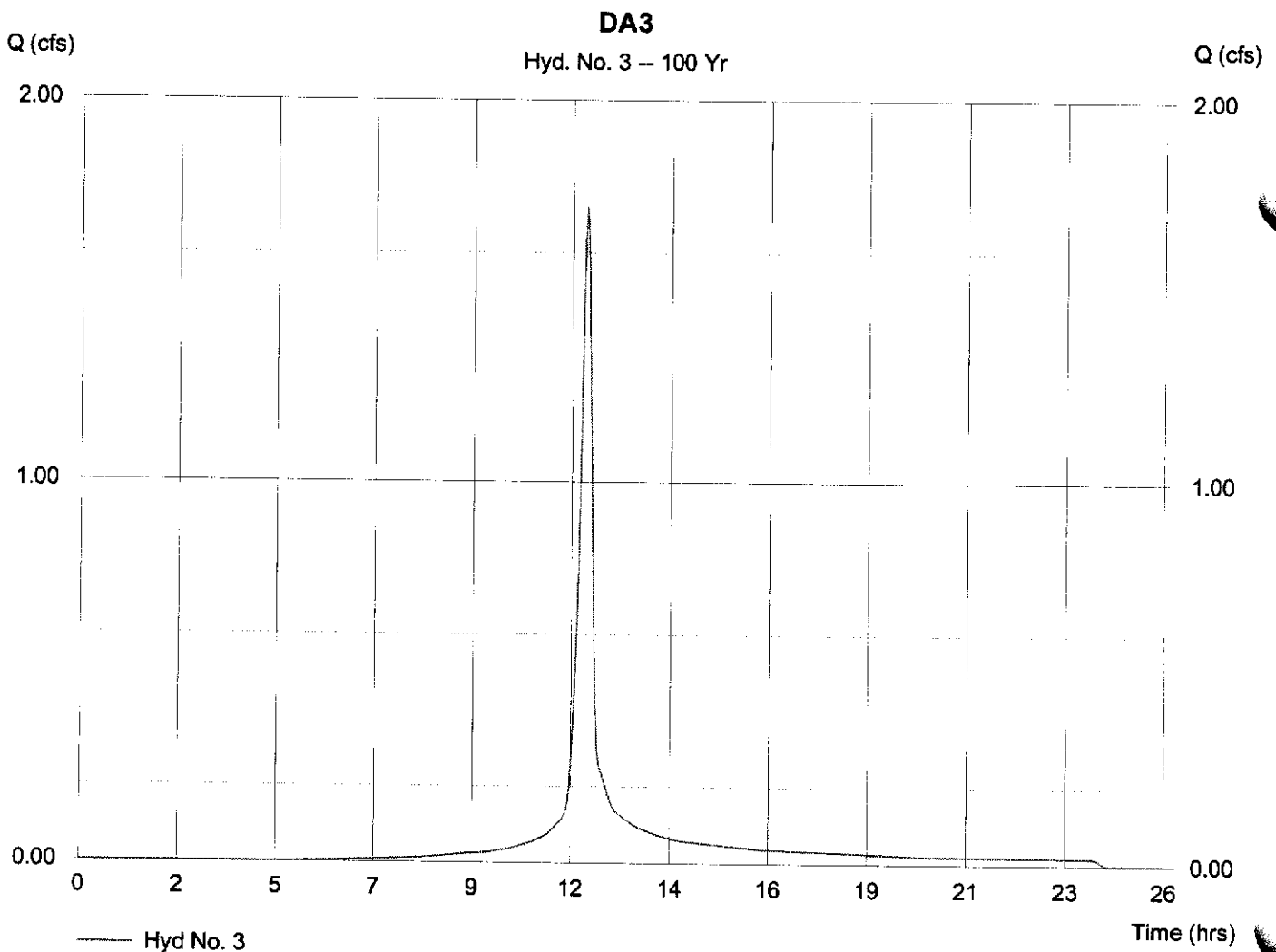
Hyd. No. 3

DA3

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Drainage area = 0.220 ac
 Basin Slope = 1.0 %
 Tc method = LAG
 Total precip. = 7.68 in
 Storm duration = 24 hrs

Peak discharge = 1.72 cfs
 Time interval = 2 min
 Curve number = 82
 Hydraulic length = 315 ft
 Time of conc. (Tc) = 11.80 min
 Distribution = Type II
 Shape factor = 484

Hydrograph Volume = 0.105 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:5 AM

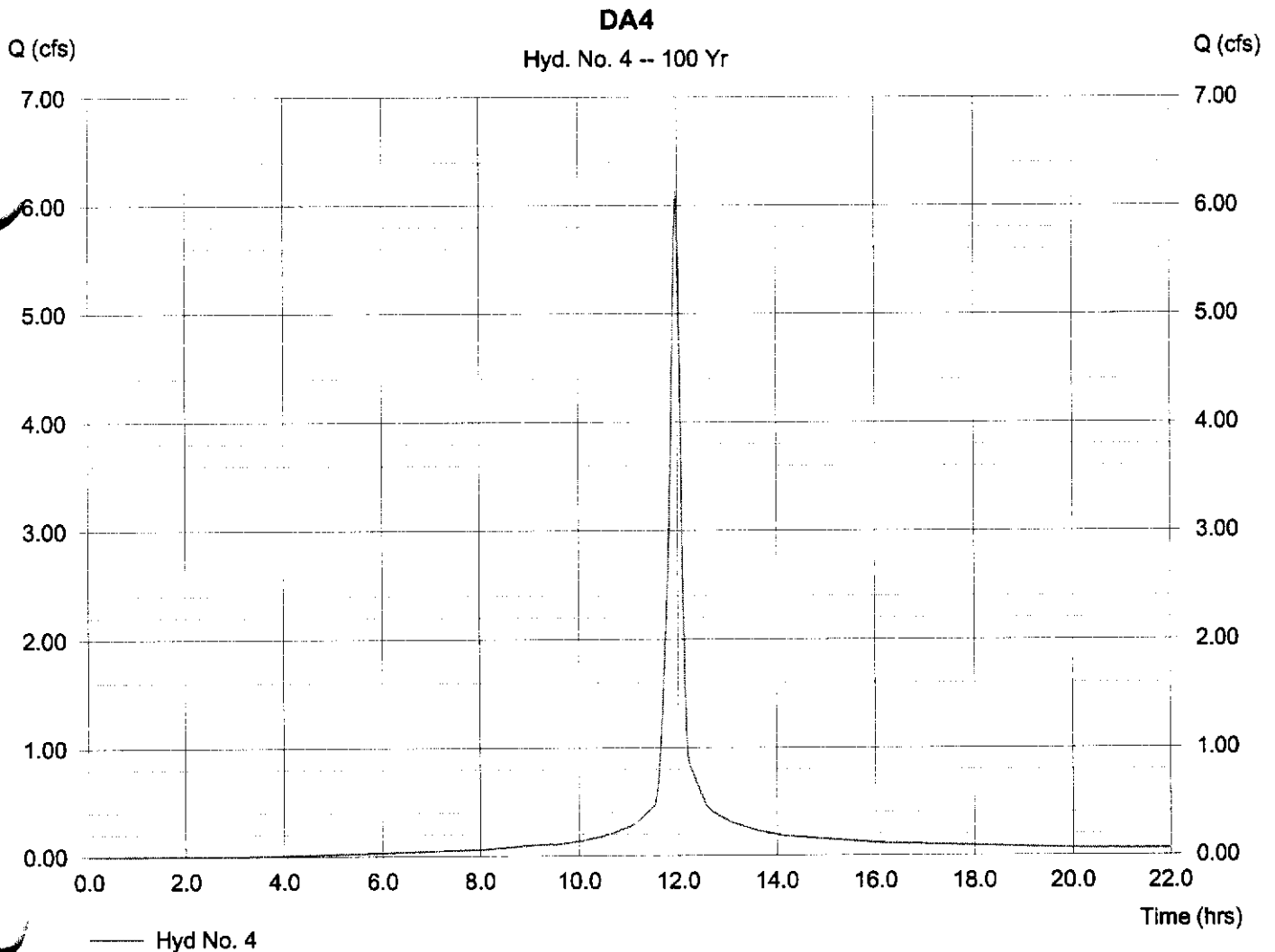
Hyd. No. 4

DA4

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Drainage area = 0.660 ac
 Basin Slope = 0.5 %
 Tc method = LAG
 Total precip. = 7.68 in
 Storm duration = 24 hrs

Peak discharge = 6.13 cfs
 Time interval = 2 min
 Curve number = 88
 Hydraulic length = 165 ft
 Time of conc. (Tc) = 8.00 min
 Distribution = Type II
 Shape factor = 484

Hydrograph Volume = 0.344 acft



Hydrograph Plot

7

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:5 AM

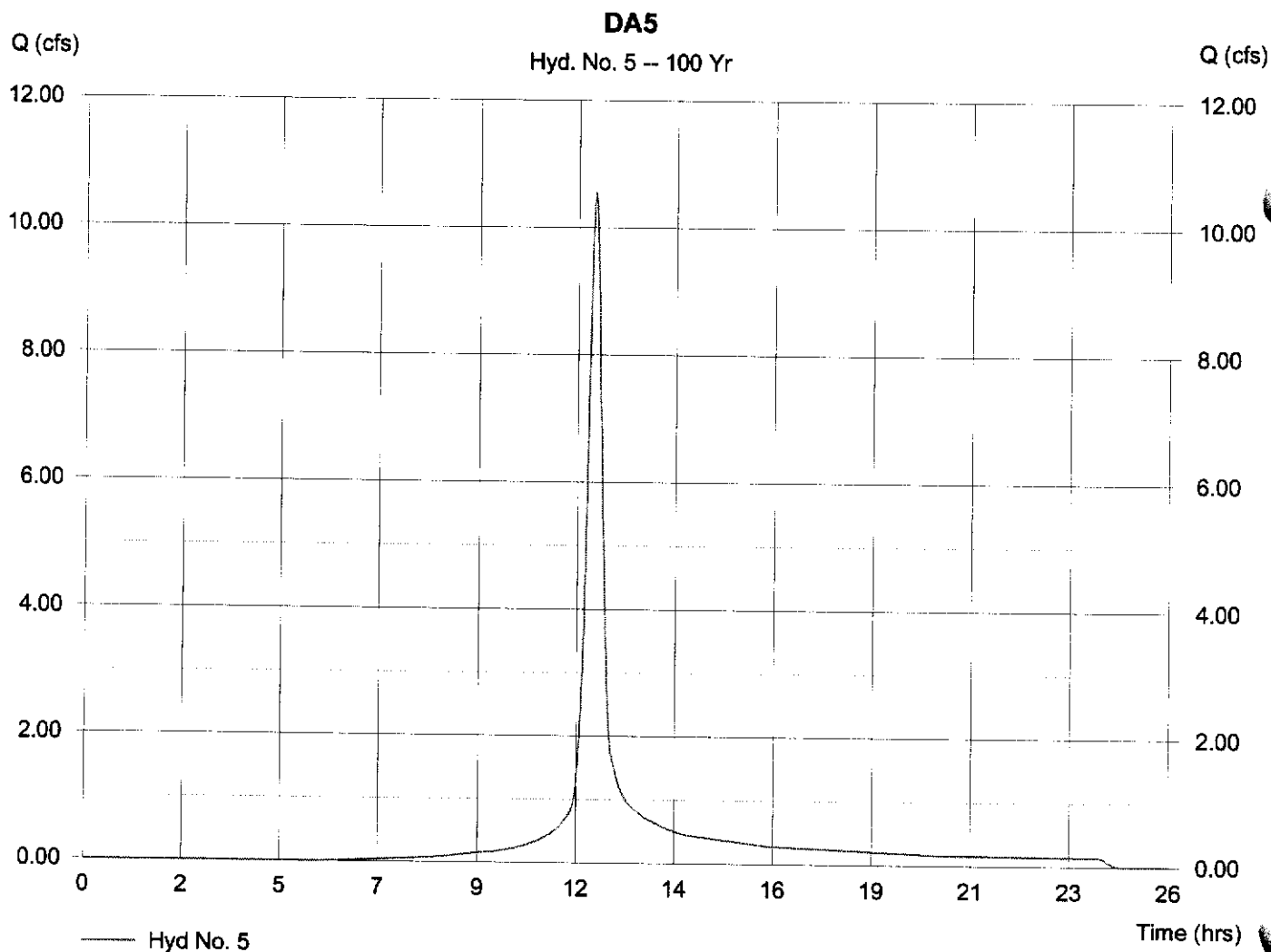
Hyd. No. 5

DA5

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Drainage area = 1.760 ac
Basin Slope = 1.0 %
Tc method = LAG
Total precip. = 7.68 in
Storm duration = 24 hrs

Peak discharge = 10.55 cfs
Time interval = 2 min
Curve number = 79
Hydraulic length = 435 ft
Time of conc. (Tc) = 16.80 min
Distribution = Type II
Shape factor = 484

Hydrograph Volume = 0.764 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:5 AM

Hyd. No. 6

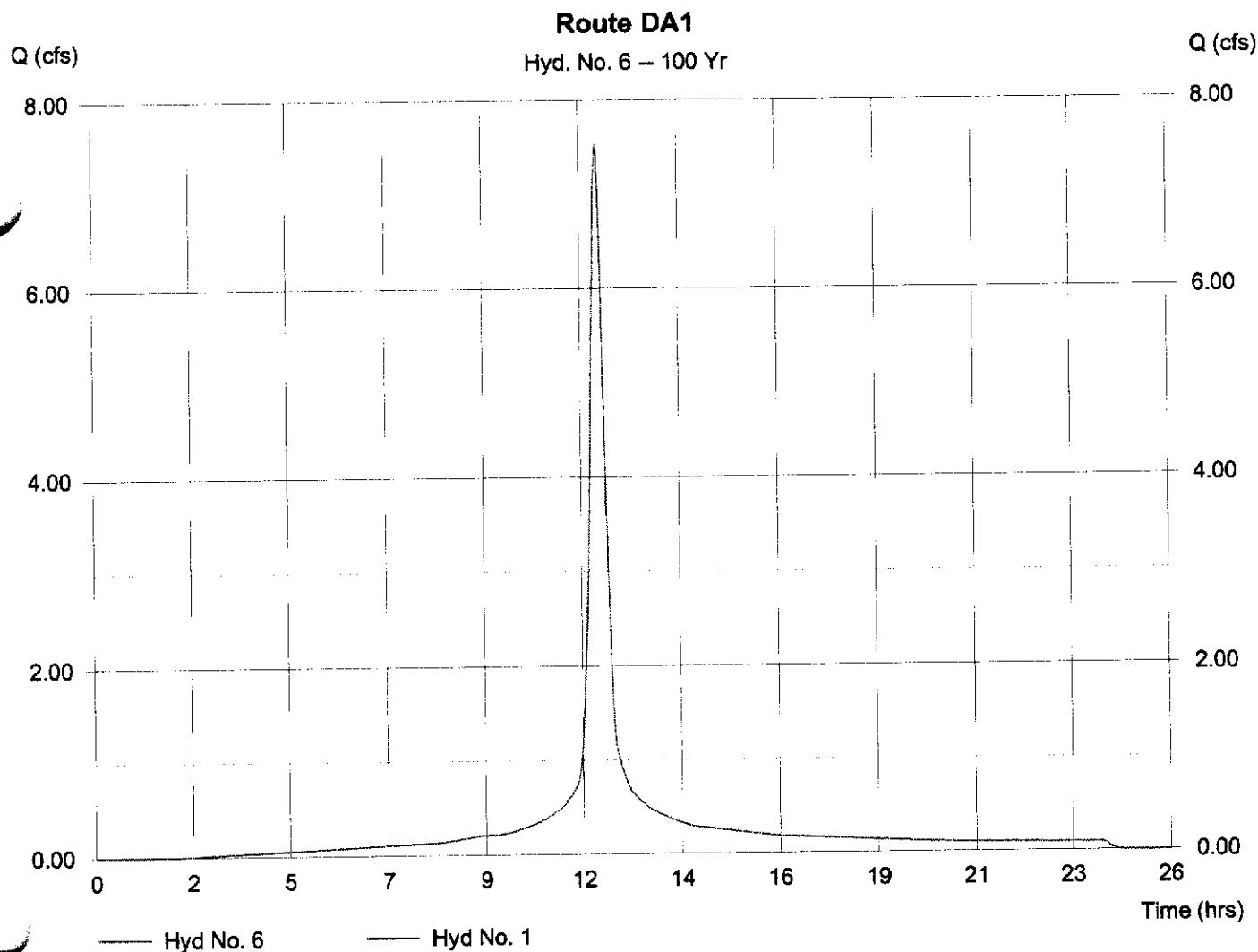
Route DA1

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 1
Reservoir name = To Drop Inlet 1

Peak discharge = 7.52 cfs
Time interval = 2 min
Max. Elevation = 1322.84 ft
Max. Storage = 0.001 acft

Storage Indication method used.

Hydrograph Volume = 0.588 acft



Pond Report

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Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:5 AM

Pond No. 1 - To Drop Inlet 1

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1320.20	09	0.000	0.000
1.00	1321.20	09	0.000	0.000
2.00	1322.20	09	0.000	0.000
3.00	1323.20	09	0.000	0.001
4.00	1324.20	09	0.000	0.001
4.80	1325.00	09	0.000	0.001
5.30	1325.50	09	0.000	0.001

Culvert / Orifice Structures

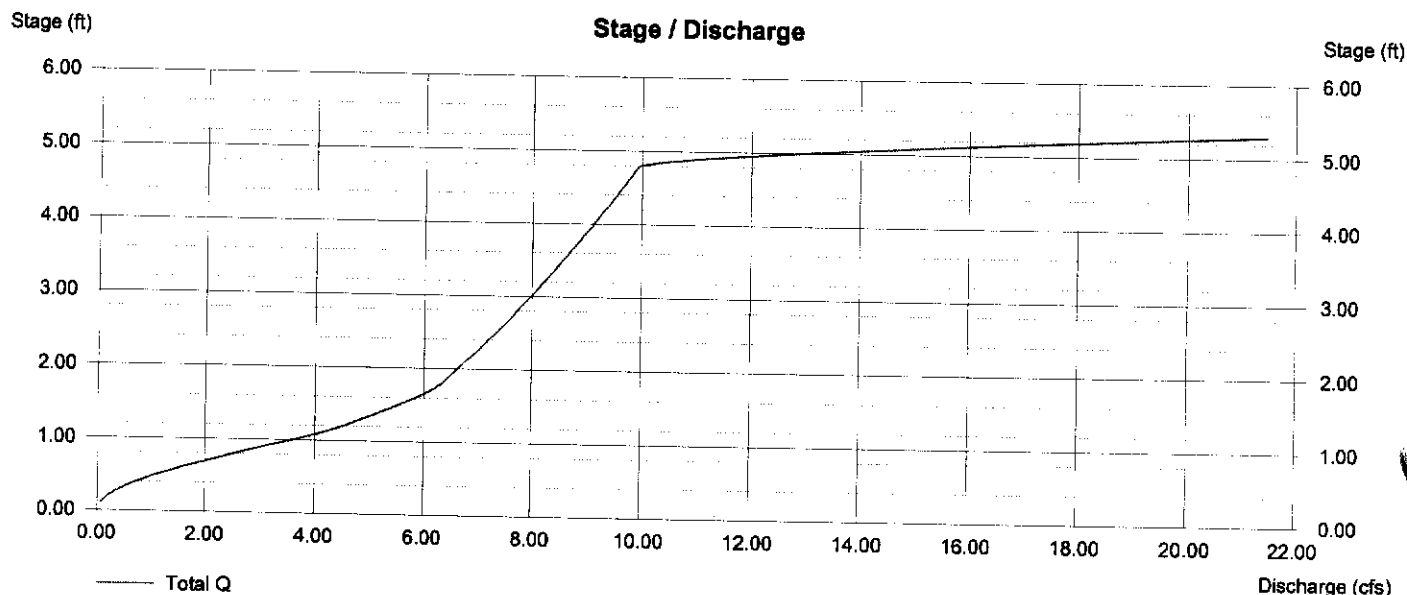
	[A]	[B]	[C]	[D]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1320.20	0.00	0.00	0.00
Length (ft)	= 150.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.00	10.00	0.00	0.00
Crest El. (ft)	= 1325.00	1325.50	0.00	0.00
Weir Coeff.	= 2.60	2.60	0.00	0.00
Weir Type	= Rect	Broad	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:6 AM

Hyd. No. 7

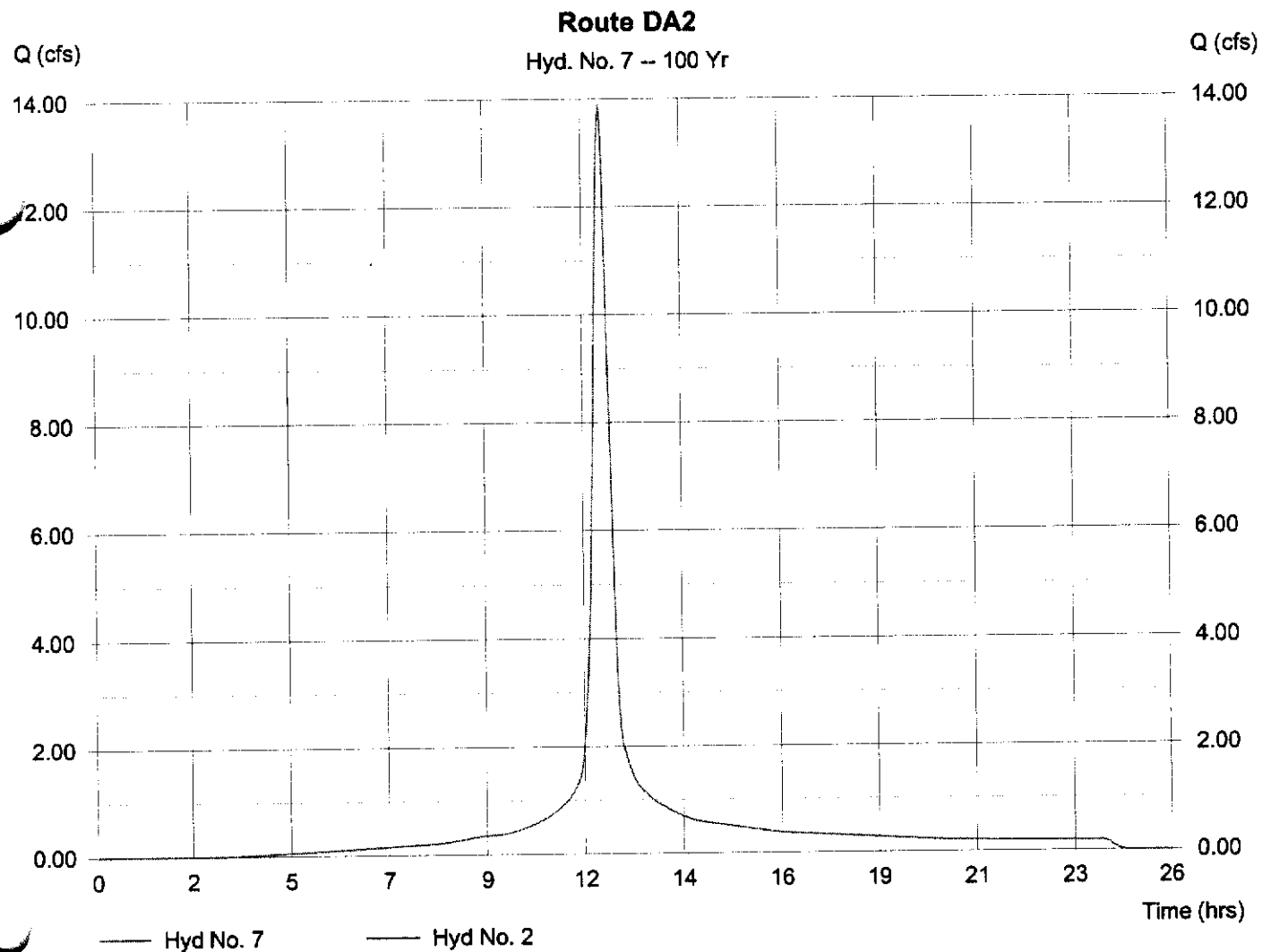
Route DA2

Hydrograph type = Reservoir
 Storm frequency = 100 yrs
 Inflow hyd. No. = 2
 Reservoir name = To Drop Inlet 2

Peak discharge = 13.90 cfs
 Time interval = 2 min
 Max. Elevation = 1324.28 ft
 Max. Storage = 0.001 acft

Storage Indication method used.

Hydrograph Volume = 1.151 acft



Pond Report

11

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:6 AM

Pond No. 2 - To Drop Inlet 2

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1321.25	08	0.000	0.000
1.00	1322.25	08	0.000	0.000
2.00	1323.25	08	0.000	0.000
2.90	1324.15	08	0.000	0.001
3.25	1324.50	08	0.000	0.001

Culvert / Orifice Structures

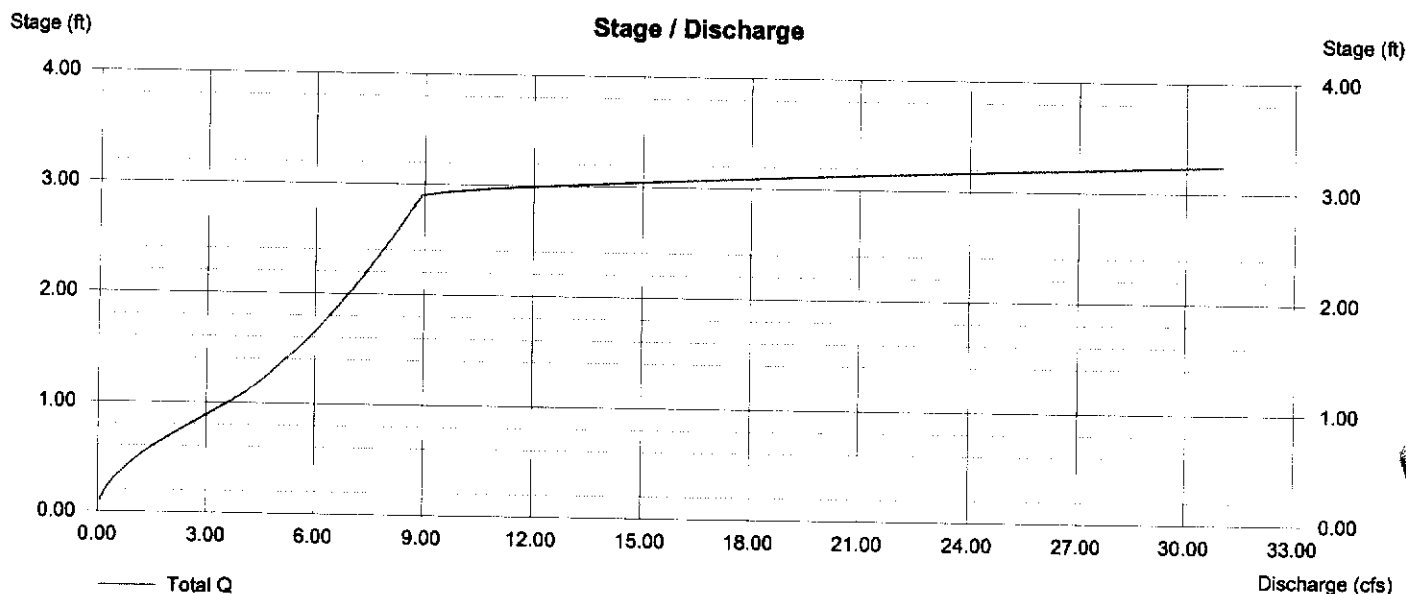
	[A]	[B]	[C]	[D]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1321.25	0.00	0.00	0.00
Length (ft)	= 100.00	0.00	0.00	0.00
Slope (%)	= 1.50	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.00	28.00	0.00	0.00
Crest El. (ft)	= 1324.15	1324.15	0.00	0.00
Weir Coeff.	= 2.60	2.60	0.00	0.00
Weir Type	= Rect	Broad	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:6 AM

Hyd. No. 8

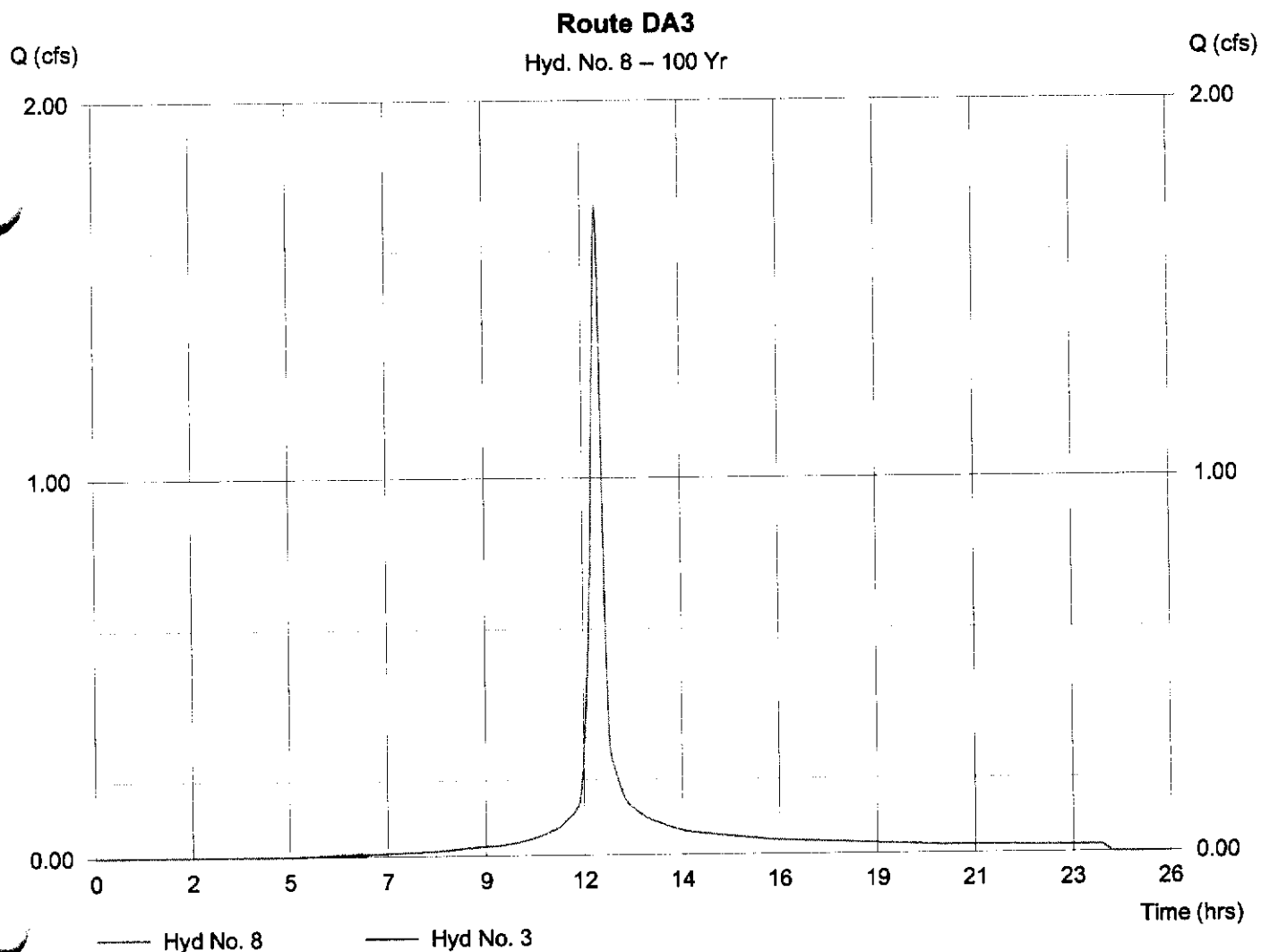
Route DA3

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 3
Reservoir name = To Drop Inlet 3

Peak discharge = 1.72 cfs
Time interval = 2 min
Max. Elevation = 1323.45 ft
Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 0.105 acft



Pond Report

13

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:6 AM

Pond No. 3 - To Drop Inlet 3

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1322.85	03	0.000	0.000
1.00	1323.85	03	0.000	0.000
2.00	1324.85	03	0.000	0.000
3.00	1325.85	03	0.000	0.000
3.05	1325.90	03	0.000	0.000
3.15	1326.00	03	0.000	0.000

Culvert / Orifice Structures

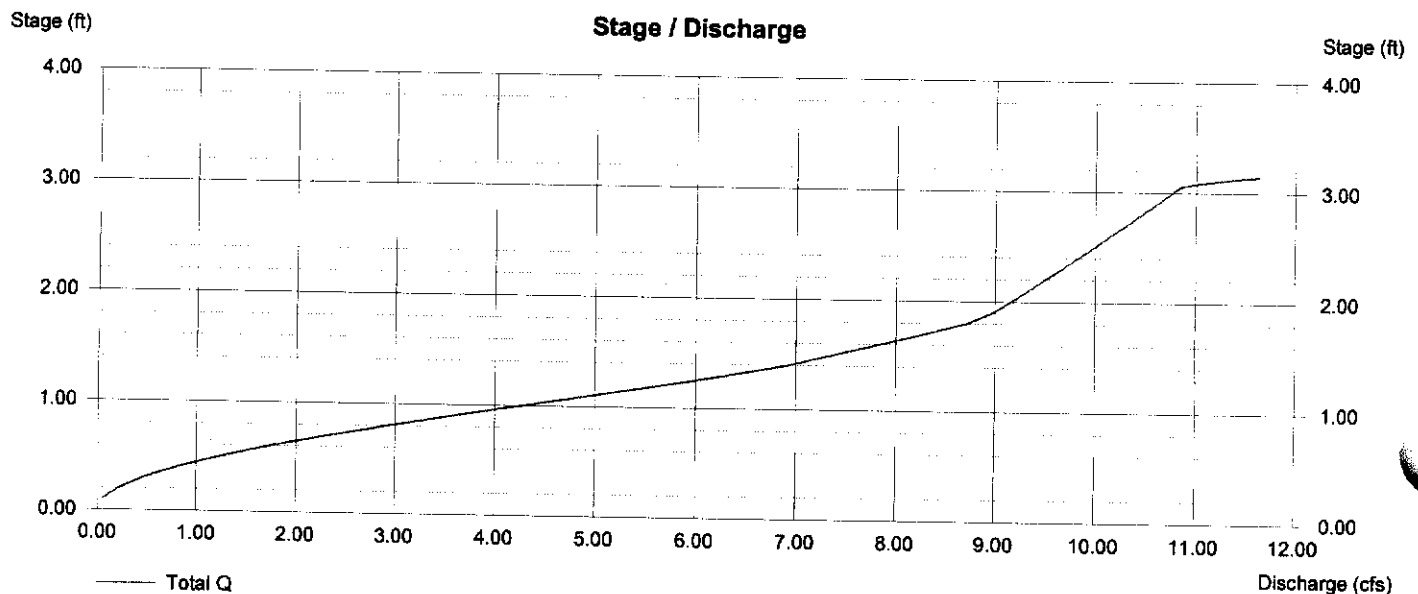
	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1322.85	0.00	0.00	0.00
Length (ft)	= 264.93	0.00	0.00	0.00
Slope (%)	= 0.80	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 6.28	0.00	0.00	0.00
Crest El. (ft)	= 1325.90	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:6 AM

Hyd. No. 9

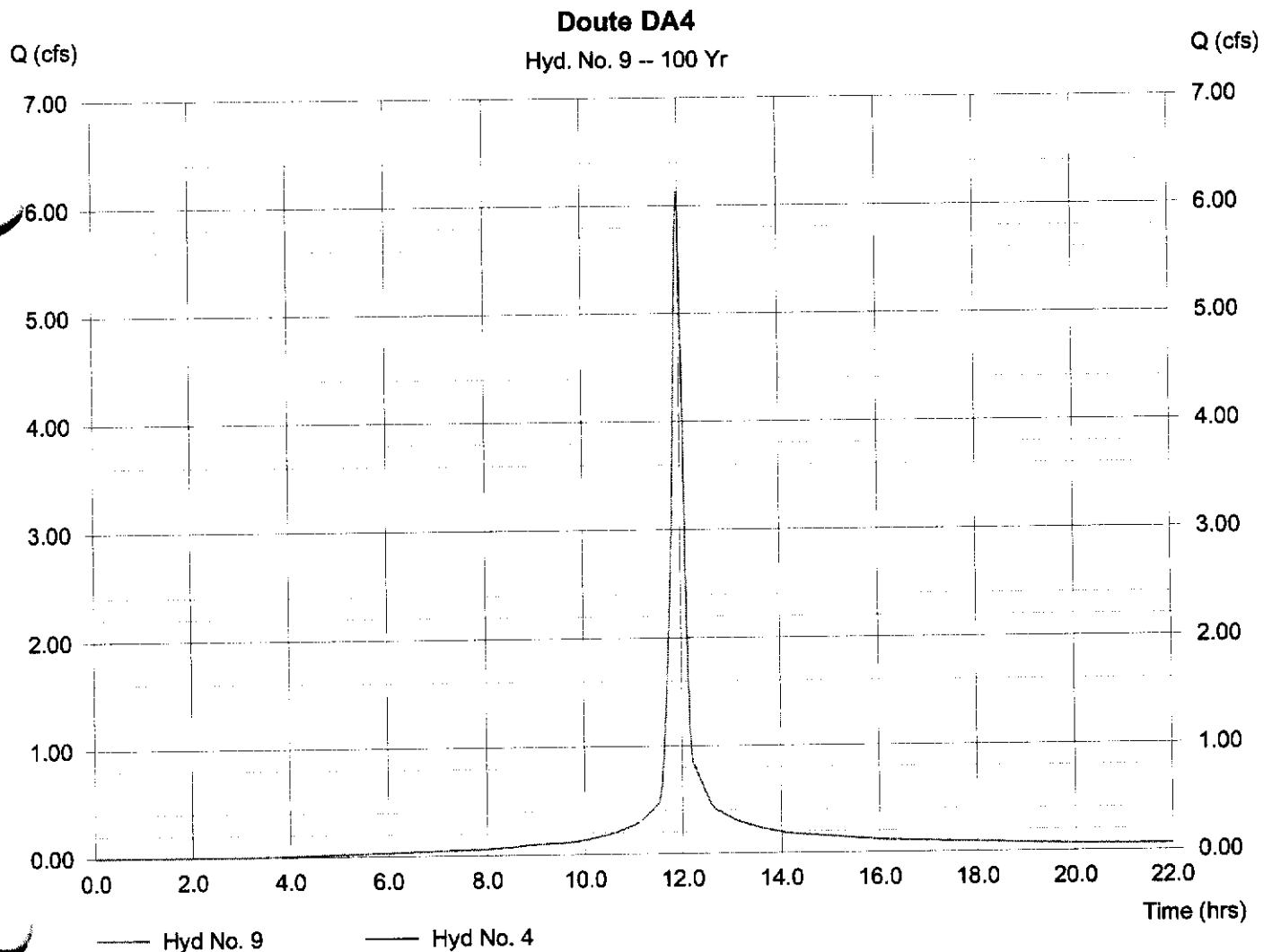
Doute DA4

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 4
Reservoir name = To Drop Inlet 4

Peak discharge = 6.12 cfs
Time interval = 2 min
Max. Elevation = 1325.89 ft
Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 0.344 acft



Pond Report

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Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:6 AM

Pond No. 4 - To Drop Inlet 4

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1323.80	04	0.000	0.000
1.00	1324.80	04	0.000	0.000
2.00	1325.80	04	0.000	0.000
2.50	1326.30	04	0.000	0.000
3.00	1326.80	04	0.000	0.000

Culvert / Orifice Structures

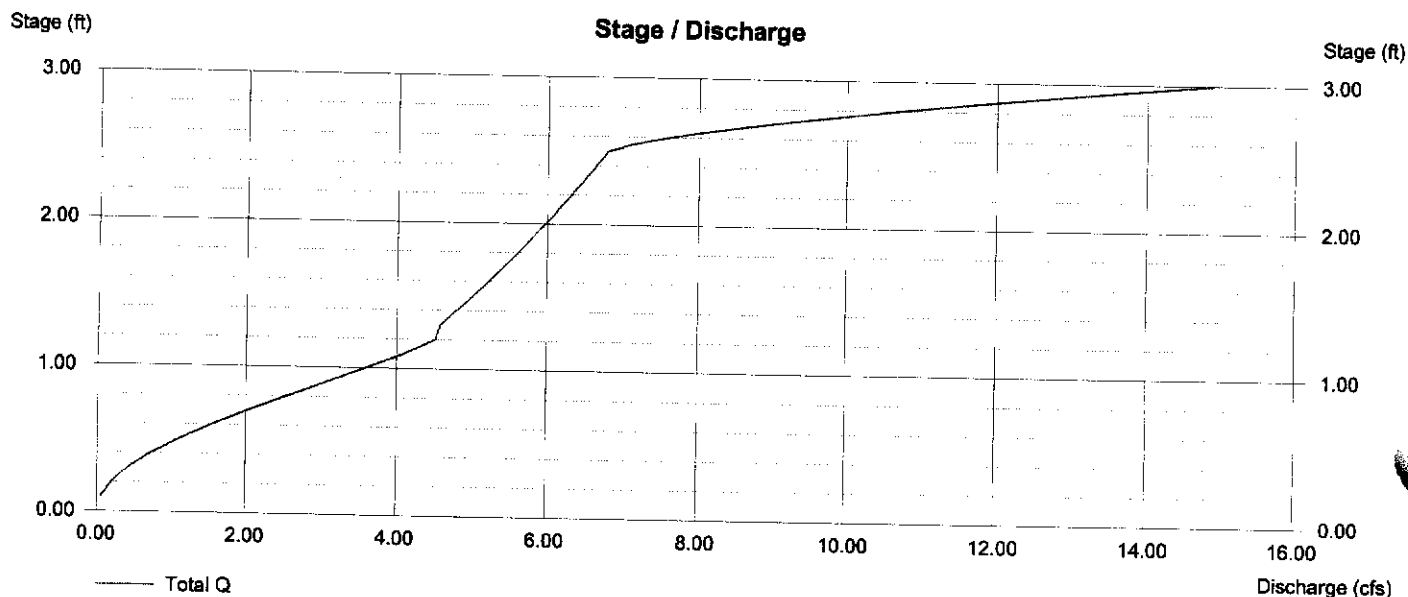
	[A]	[B]	[C]	[D]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1323.80	0.00	0.00	0.00
Length (ft)	= 135.00	0.00	0.00	0.00
Slope (%)	= 0.70	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 8.00	0.00	0.00	0.00
Crest El. (ft)	= 1326.30	0.00	0.00	0.00
Weir Coeff.	= 2.60	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:6 AM

Hyd. No. 10

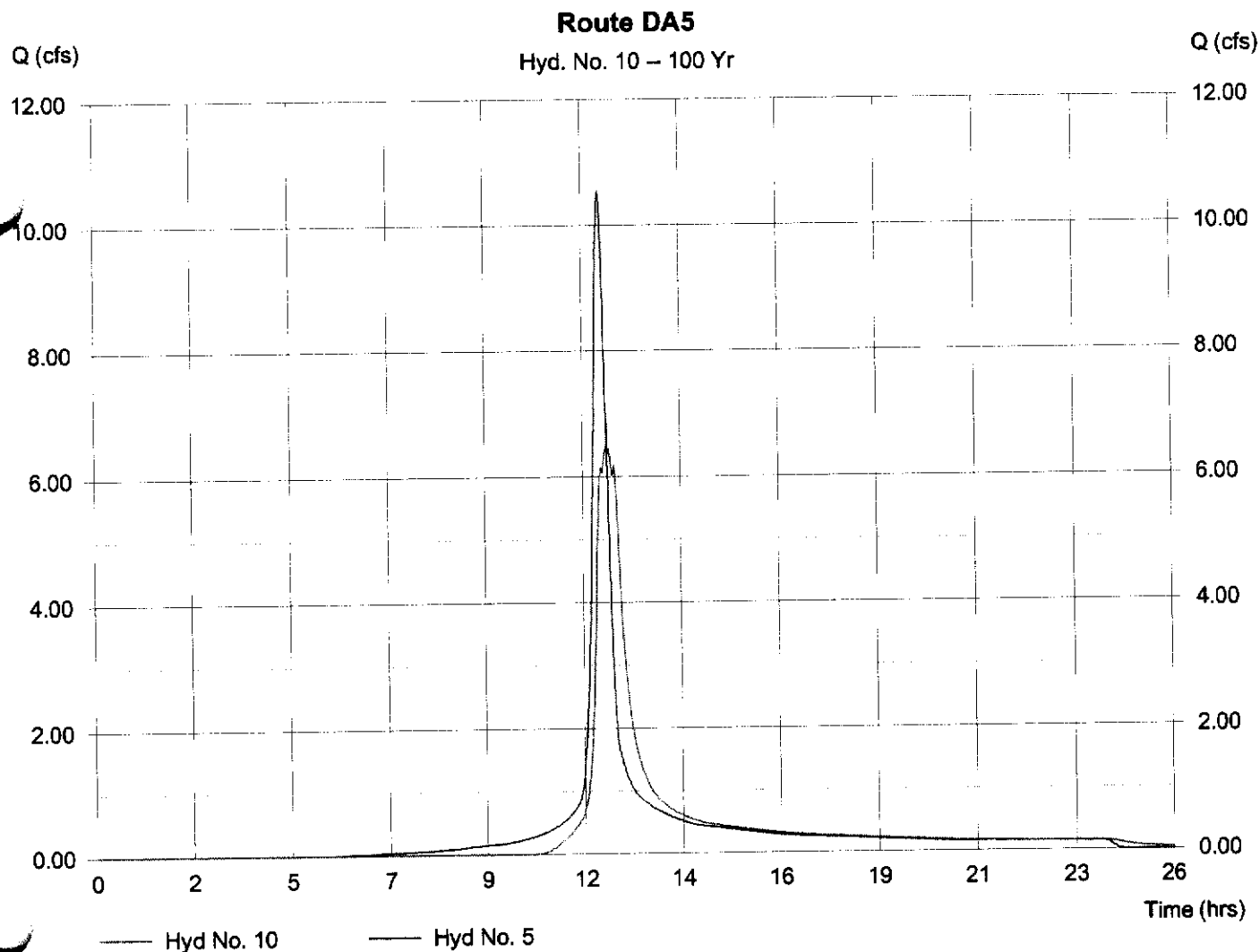
Route DA5

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 5
Reservoir name = To Detention Pond

Peak discharge = 6.49 cfs
Time interval = 2 min
Max. Elevation = 1322.13 ft
Max. Storage = 0.201 acft

Storage Indication method used.

Hydrograph Volume = 0.727 acft



Pond Report

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Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:6 AM

Pond No. 5 - To Detention Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total Storage (acft)
0.00	1320.00	2,925	0.000	0.000
0.50	1320.50	3,449	0.037	0.037
1.00	1321.00	3,988	0.043	0.079
2.00	1322.00	5,107	0.104	0.184
3.00	1323.00	6,282	0.131	0.314
4.00	1324.00	8,458	0.169	0.484
5.00	1325.00	11,185	0.225	0.709

Culvert / Orifice Structures

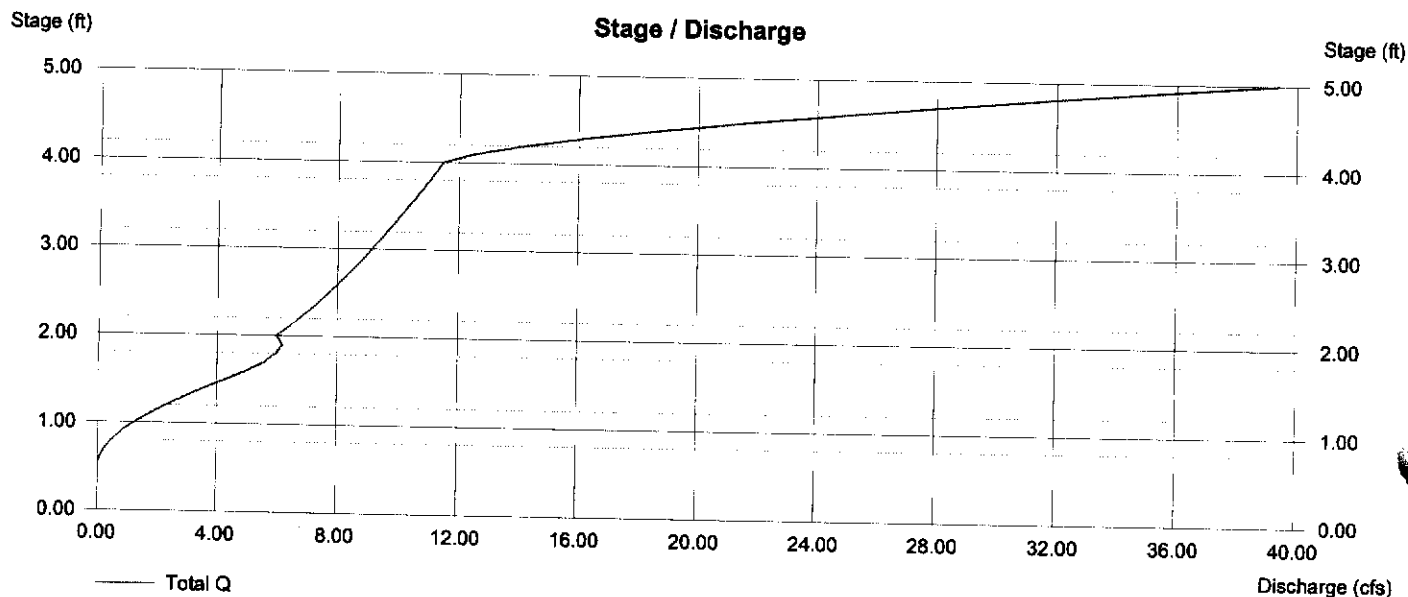
	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1320.50	0.00	0.00	0.00
Length (ft)	= 150.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	10.00	0.00	0.00
Crest El. (ft)	= 0.00	1324.00	0.00	0.00
Weir Coeff.	= 3.33	2.60	0.00	0.00
Weir Type	= ---	Broad	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:6 AM

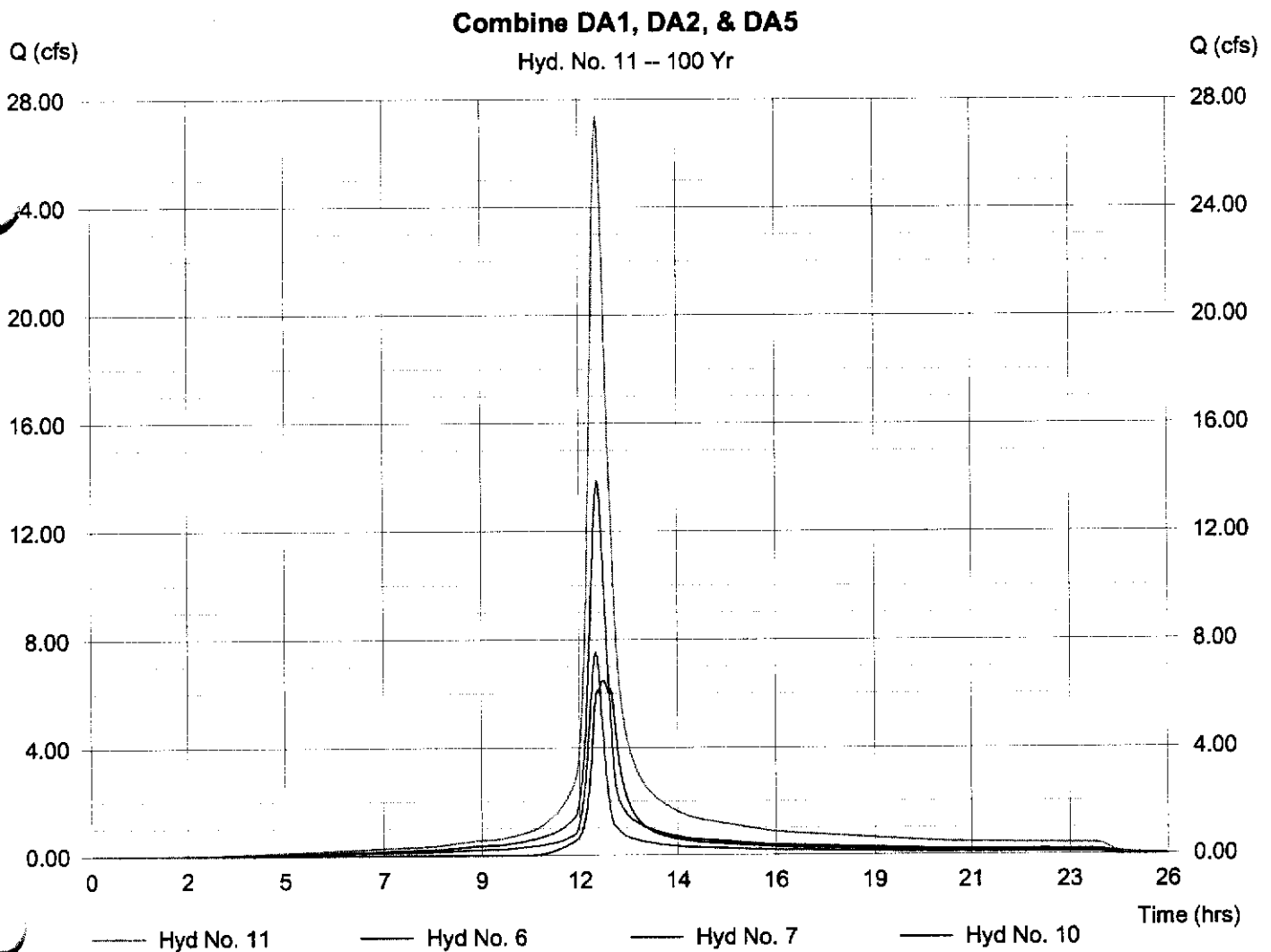
Hyd. No. 11

Combine DA1, DA2, & DA5

Hydrograph type = Combine
Storm frequency = 100 yrs
Inflow hyds. = 6, 7, 10

Peak discharge = 27.39 cfs
Time interval = 2 min

Hydrograph Volume = 2.466 acft



Hydrograph Plot

19

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:6 AM

Hyd. No. 12

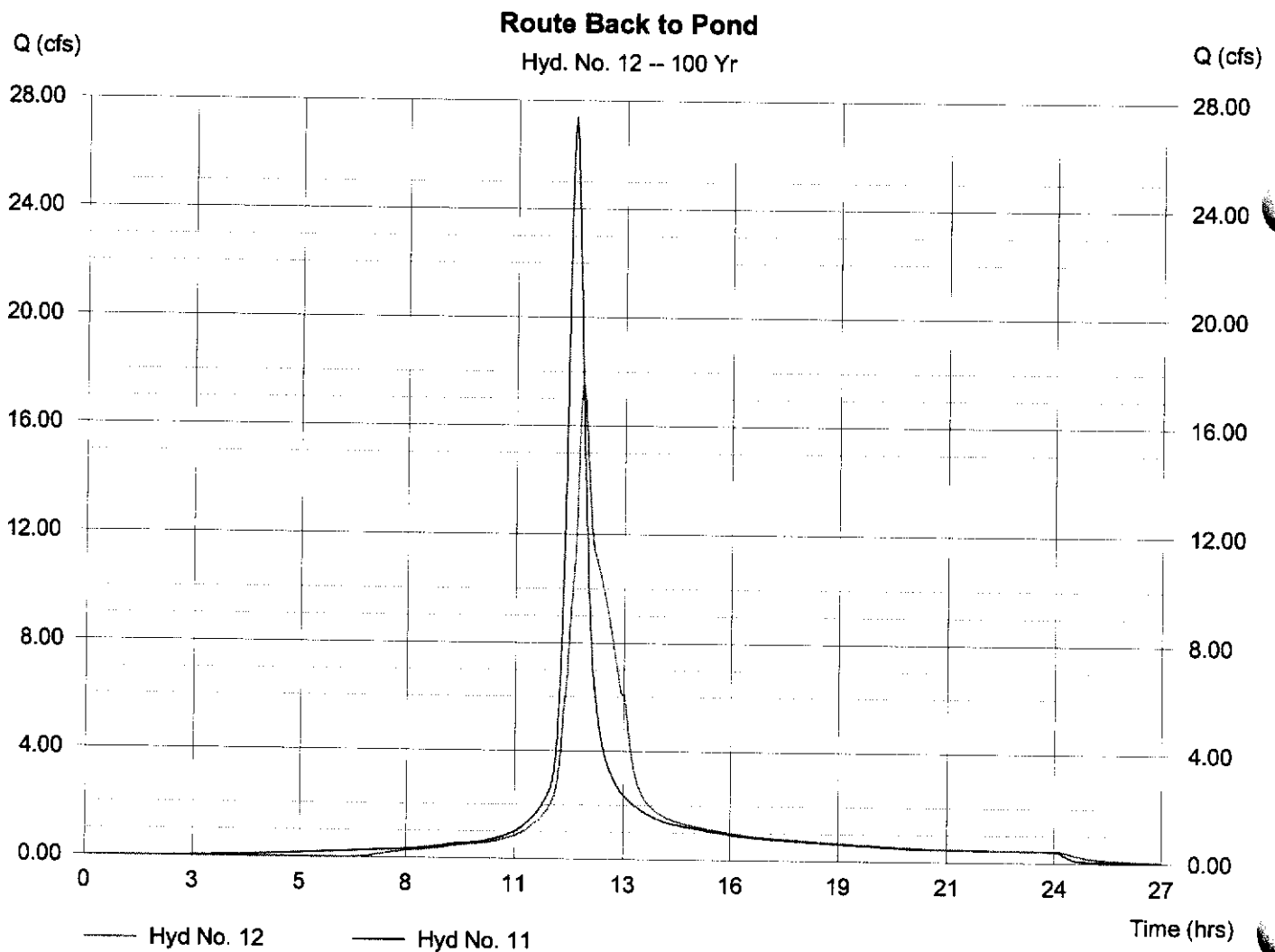
Route Back to Pond

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 11
Reservoir name = To Detention Pond

Peak discharge = 17.56 cfs
Time interval = 2 min
Max. Elevation = 1324.35 ft
Max. Storage = 0.562 acft

Storage Indication method used.

Hydrograph Volume = 2.429 acft



Pond Report

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:6 AM

Pond No. 5 - To Detention Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1320.00	2,925	0.000	0.000
0.50	1320.50	3,449	0.037	0.037
1.00	1321.00	3,988	0.043	0.079
2.00	1322.00	5,107	0.104	0.184
3.00	1323.00	6,282	0.131	0.314
4.00	1324.00	8,458	0.169	0.484
5.00	1325.00	11,185	0.225	0.709

Culvert / Orifice Structures

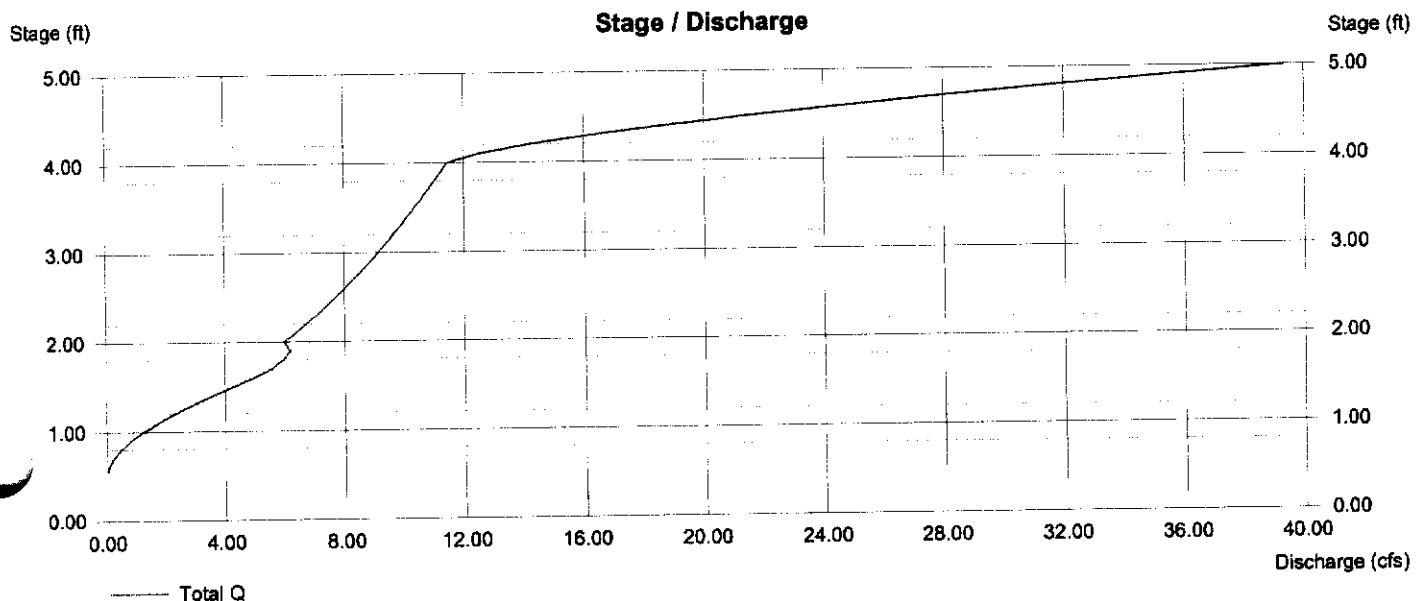
	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1320.50	0.00	0.00	0.00
Length (ft)	= 150.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	10.00	0.00	0.00
Crest El. (ft)	= 0.00	1324.00	0.00	0.00
Weir Coeff.	= 3.33	2.60	0.00	0.00
Weir Type	= —	Broad	—	—
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

21

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:6 AM

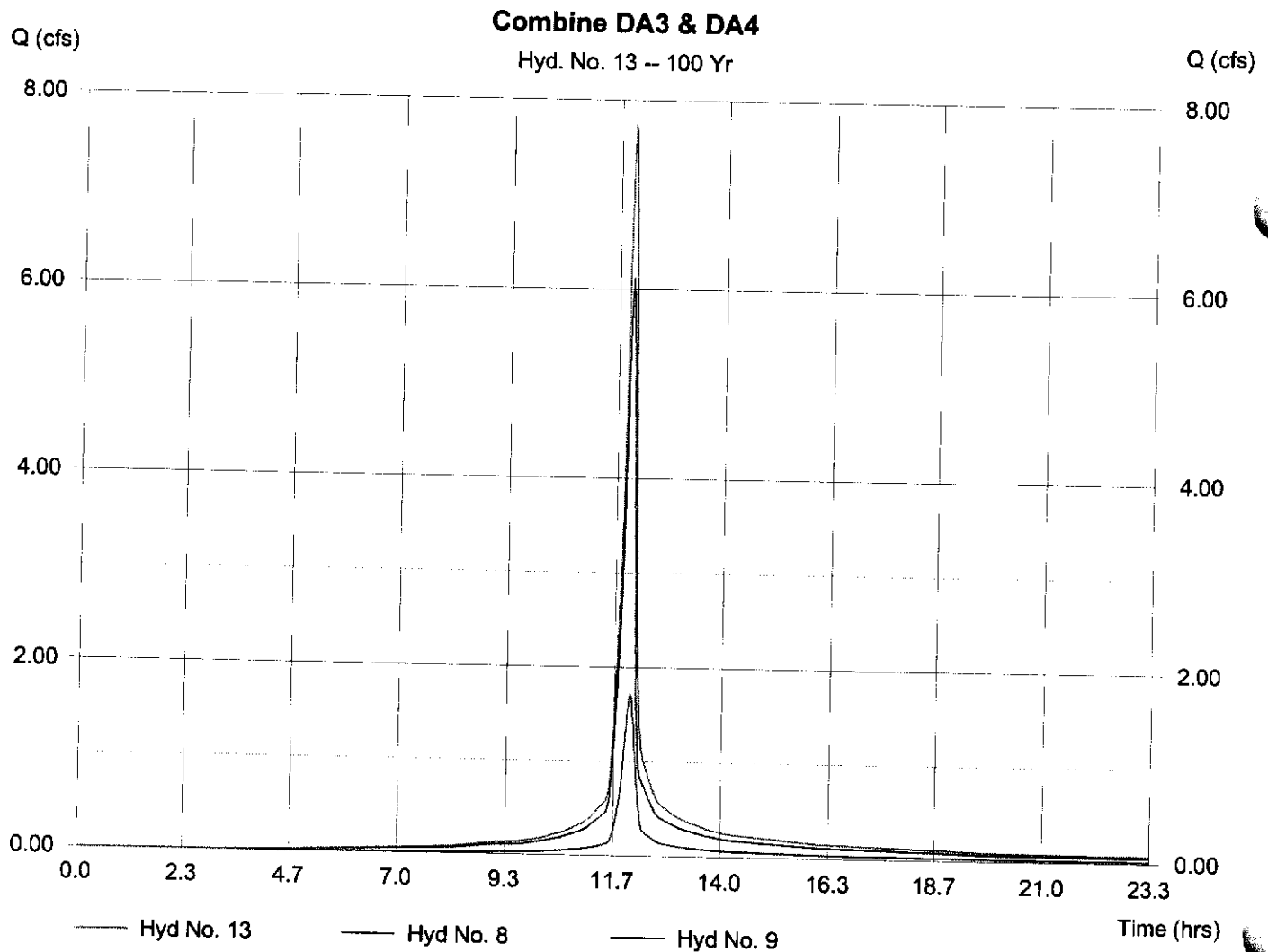
Hyd. No. 13

Combine DA3 & DA4

Hydrograph type = Combine
Storm frequency = 100 yrs
Inflow hyds. = 8, 9

Peak discharge = 7.74 cfs
Time interval = 2 min

Hydrograph Volume = 0.449 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 22 2006, 10:6 AM

Hyd. No. 14

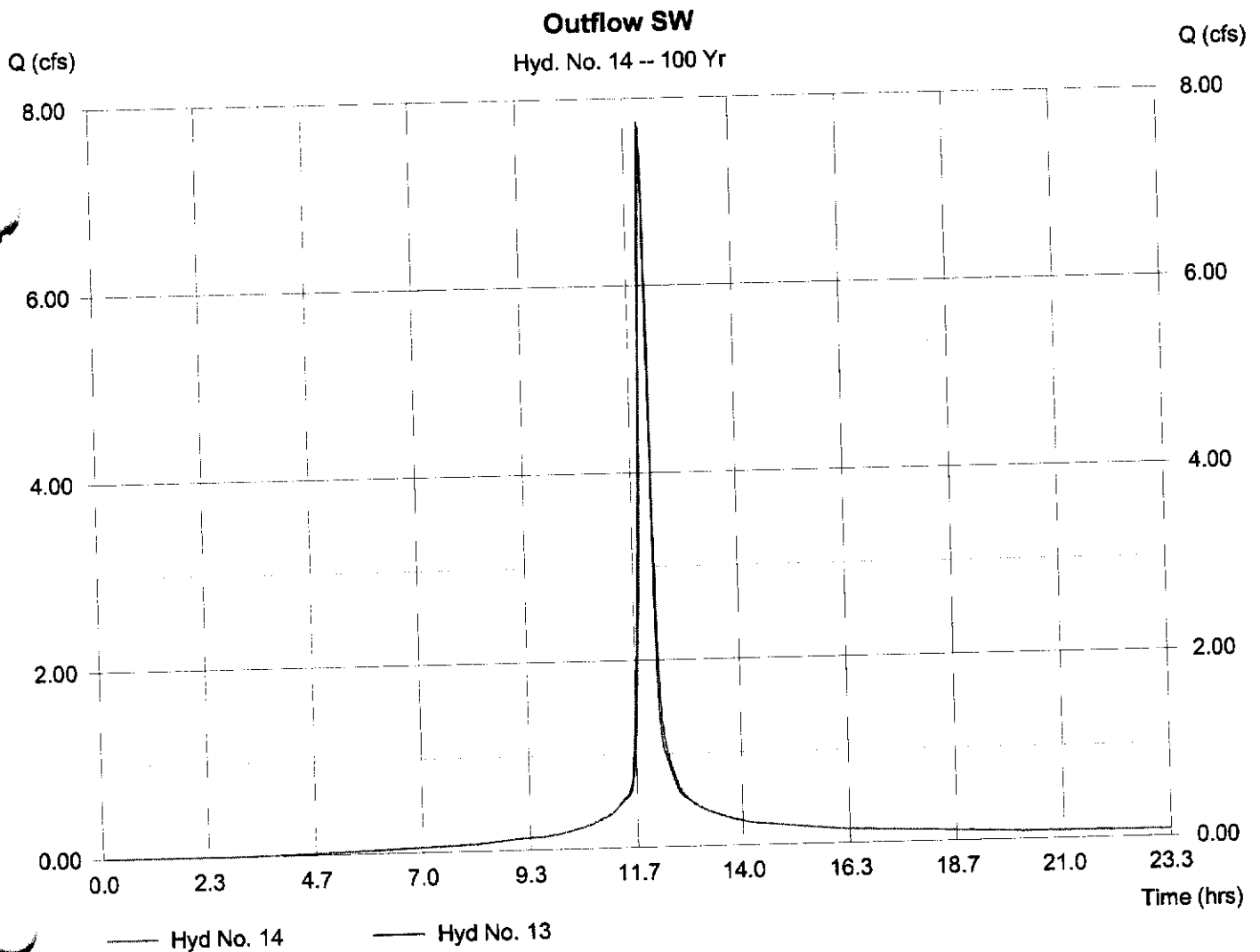
Outflow SW

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 13
Reservoir name = SW Outflow

Peak discharge = 7.63 cfs
Time interval = 2 min
Max. Elevation = 1326.50 ft
Max. Storage = 0.018 acft

Storage Indication method used.

Hydrograph Volume = 0.449 acft



Pond Report

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Hydraflow Hydrographs by Intellisolve

Thursday, Jun 22 2006, 10:6 AM

Pond No. 6 - SW Outflow

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1325.90	03	0.000	0.000
0.10	1326.00	692	0.001	0.001
1.10	1327.00	2,308	0.034	0.035

Culvert / Orifice Structures

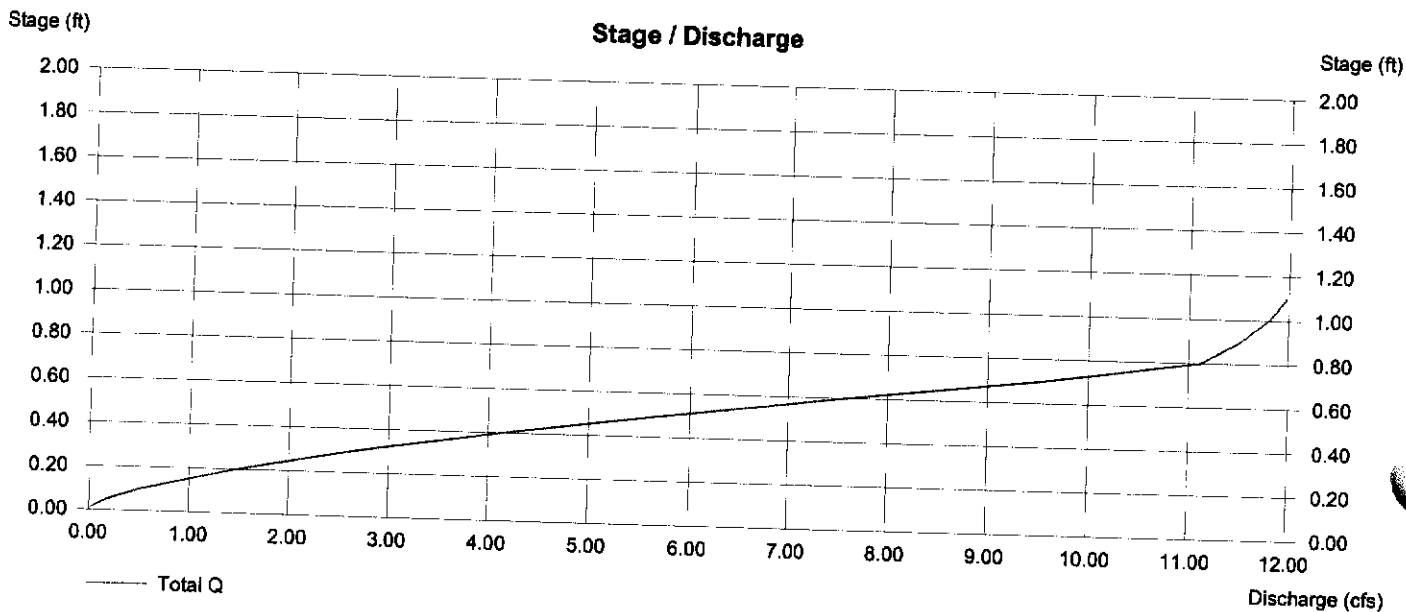
	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1322.85	0.00	0.00	0.00
Length (ft)	= 264.93	0.00	0.00	0.00
Slope (%)	= 0.80	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 6.28	0.00	0.00	0.00
Crest El. (ft)	= 1325.90	0.00	0.00	0.00
Weir Coeff.	= 2.60	0.00	0.00	0.00
Weir Type	= Riser	---	---	---
Multi-Stage	= Yes	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:5 PM

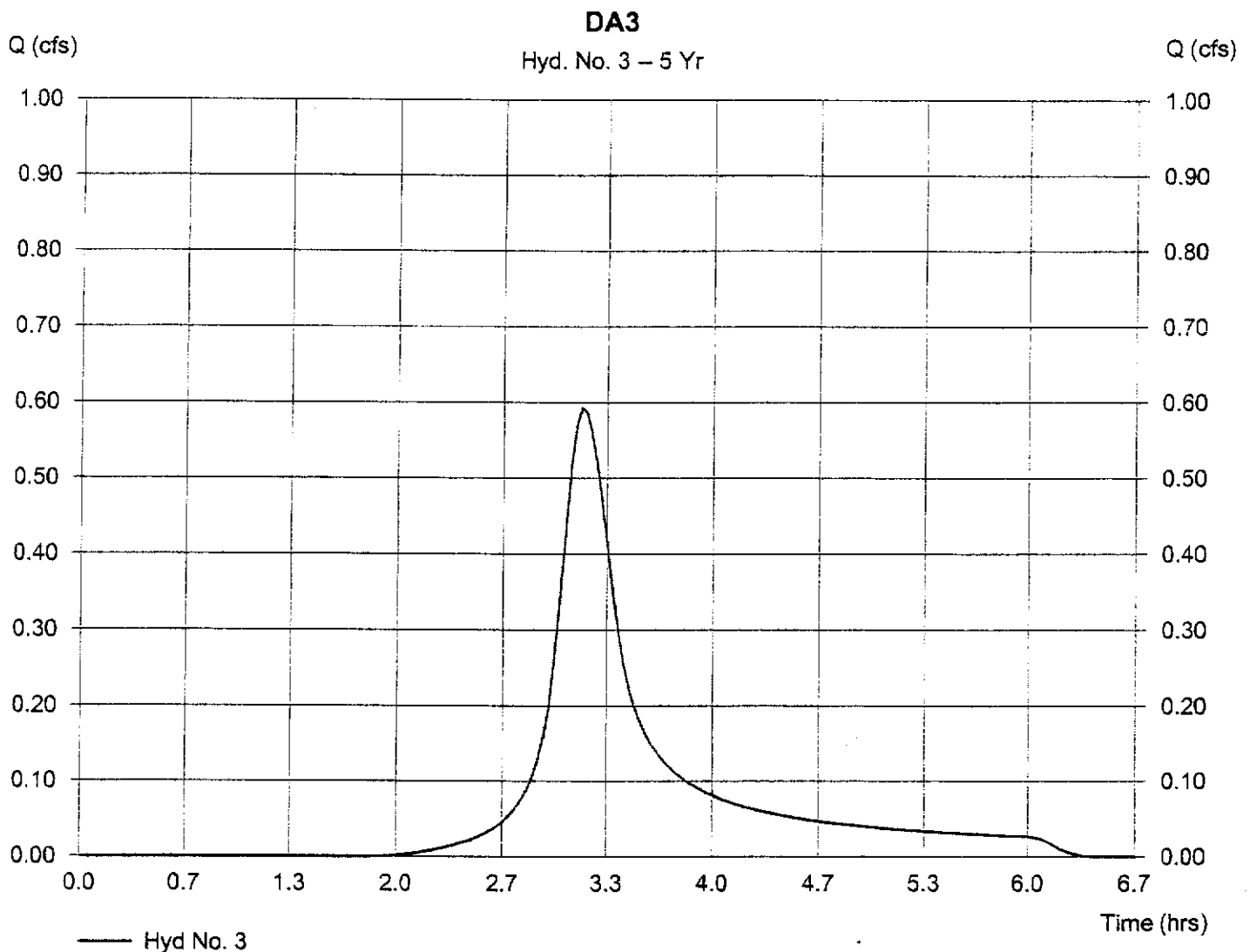
Hyd. No. 3

DA3

Hydrograph type = SCS Runoff
 Storm frequency = 5 yrs
 Drainage area = 0.200 ac
 Basin Slope = 1.0 %
 Tc method = USER
 Total precip. = 3.69 in
 Storm duration = 6 hrs

Peak discharge = 0.59 cfs
 Time interval = 2 min
 Curve number = 84
 Hydraulic length = 315 ft
 Time of conc. (Tc) = 15.00 min
 Distribution = Synthetic
 Shape factor = 484

Hydrograph Volume = 0.034 acft



Hydrograph Plot

5

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 29 2006, 12:5 PM

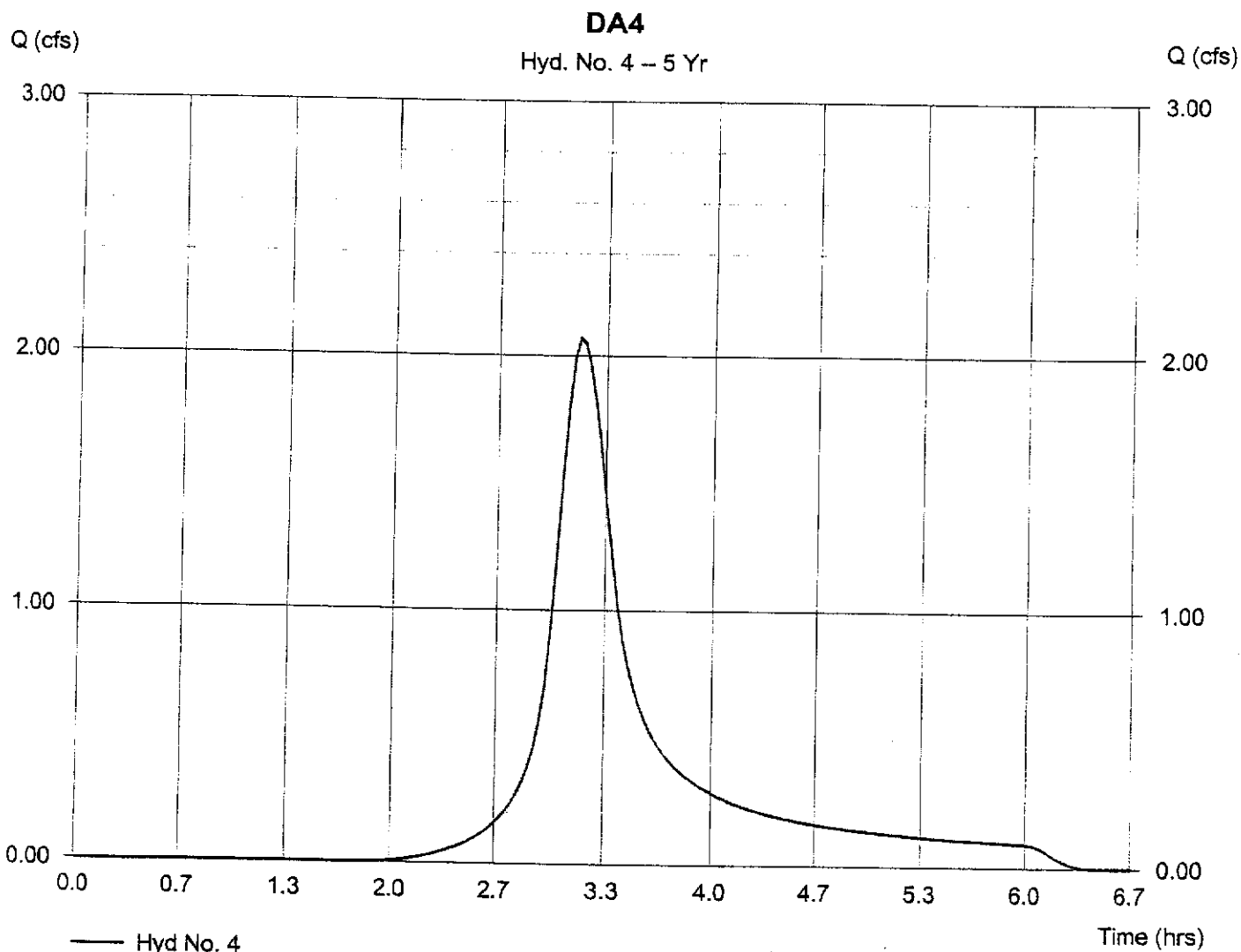
Hyd. No. 4

DA4

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Drainage area = 0.700 ac
Basin Slope = 0.5 %
Tc method = USER
Total precip. = 3.69 in
Storm duration = 6 hrs

Peak discharge = 2.07 cfs
Time interval = 2 min
Curve number = 84
Hydraulic length = 165 ft
Time of conc. (Tc) = 15.00 min
Distribution = Synthetic
Shape factor = 483

Hydrograph Volume = 0.119 acft



Hydrograph Plot

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 29 2006, 12:5 PM

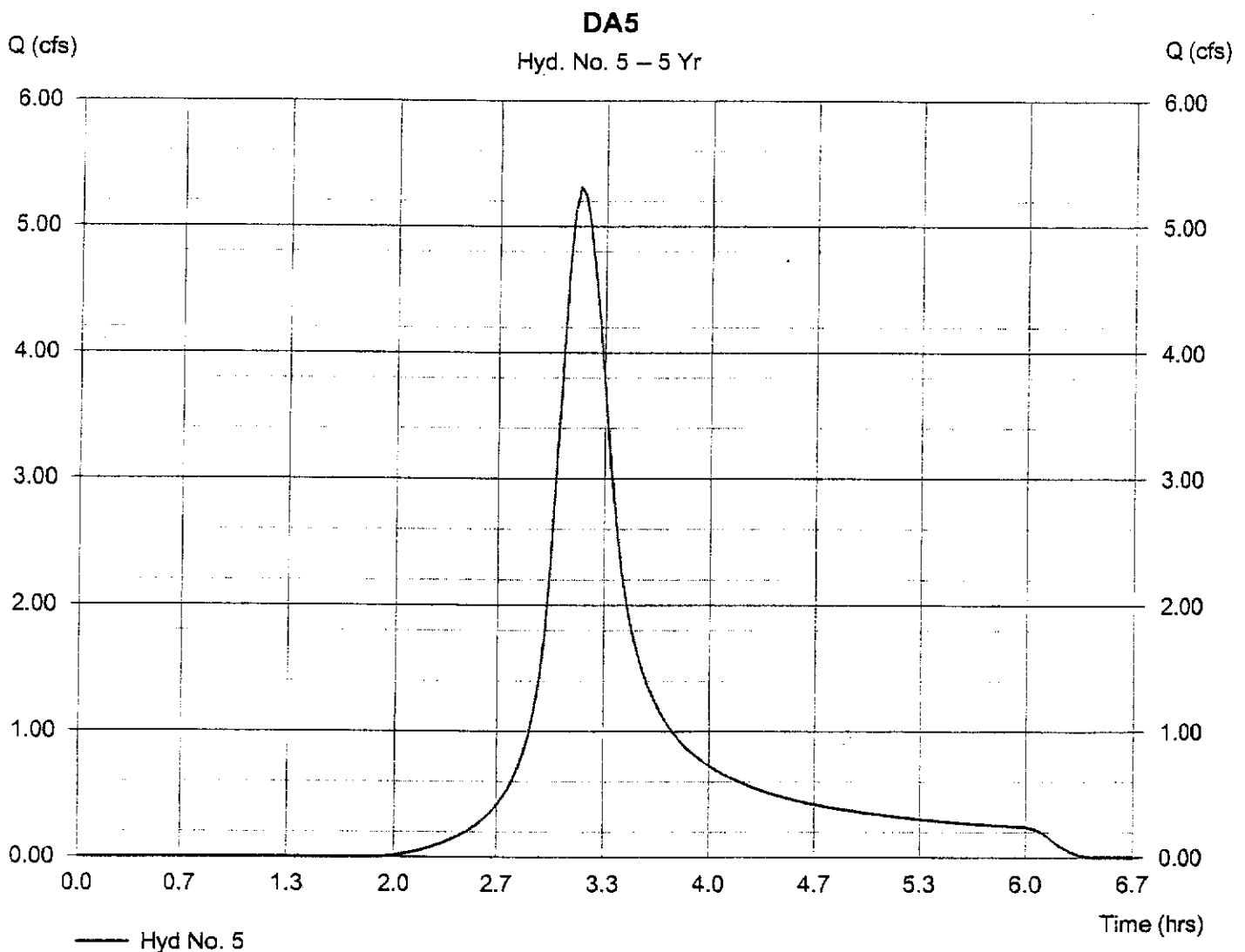
Hyd. No. 5

DA5

Hydrograph type = SCS Runoff
 Storm frequency = 5 yrs
 Drainage area = 1.800 ac
 Basin Slope = 1.0 %
 Tc method = USER
 Total precip. = 3.69 in
 Storm duration = 6 hrs

Peak discharge = 5.32 cfs
 Time interval = 2 min
 Curve number = 84
 Hydraulic length = 435 ft
 Time of conc. (Tc) = 15.00 min
 Distribution = Synthetic
 Shape factor = 482

Hydrograph Volume = 0.306 acft



Hydrograph Plot

7

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:5 PM

Hyd. No. 6

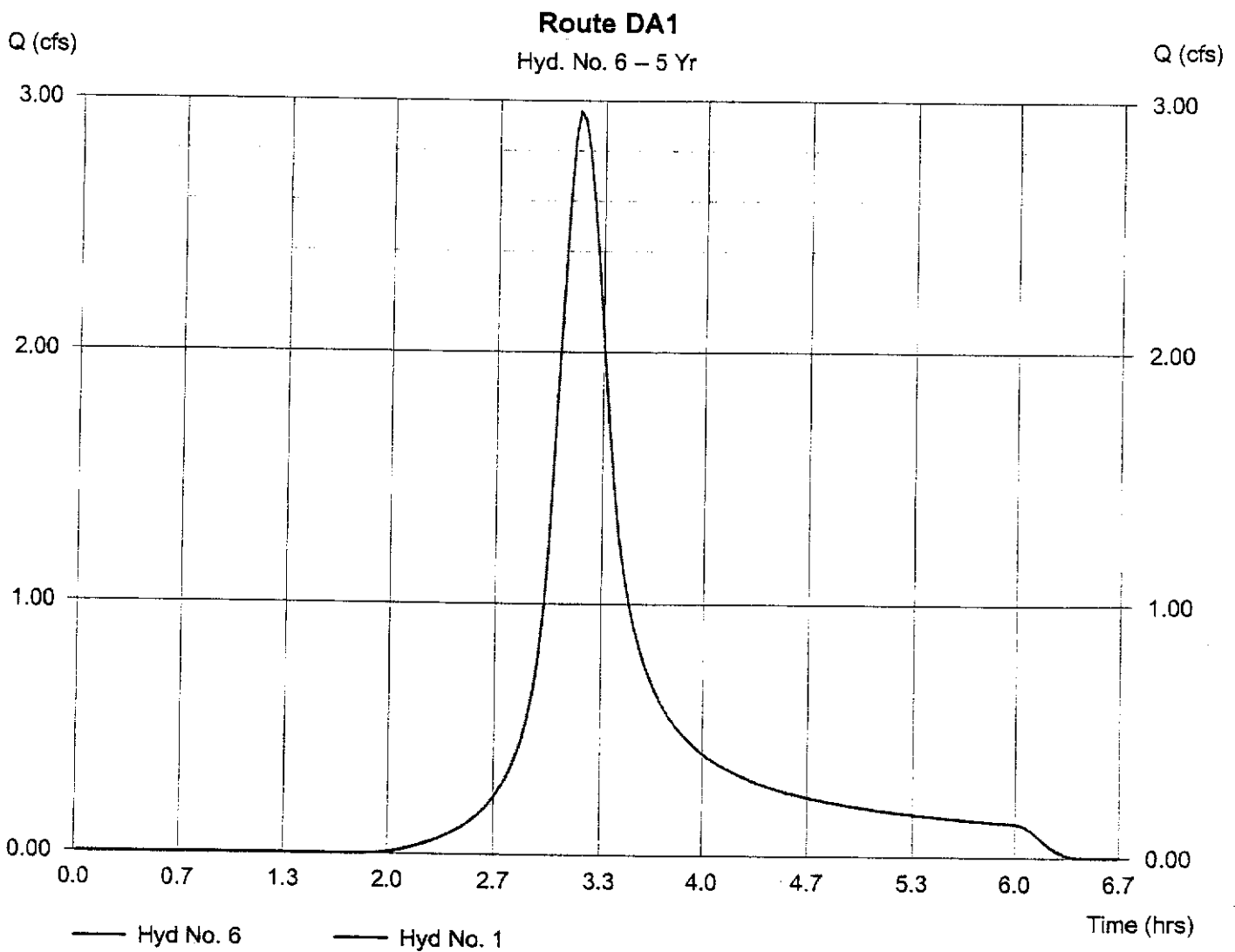
Route DA1

Hydrograph type = Reservoir
Storm frequency = 5 yrs
Inflow hyd. No. = 1
Reservoir name = To Drop Inlet 1

Peak discharge = 2.96 cfs
Time interval = 2 min
Max. Elevation = 1321.08 ft
Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 0.170 acft



Pond Report

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:5 PM

Pond No. 1 - To Drop Inlet 1

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1320.20	08	0.000	0.000
1.00	1321.20	08	0.000	0.000
2.00	1322.20	08	0.000	0.000
3.00	1323.20	08	0.000	0.001
4.00	1324.20	08	0.000	0.001
4.80	1325.00	08	0.000	0.001
5.30	1325.50	20	0.000	0.001

Culvert / Orifice Structures

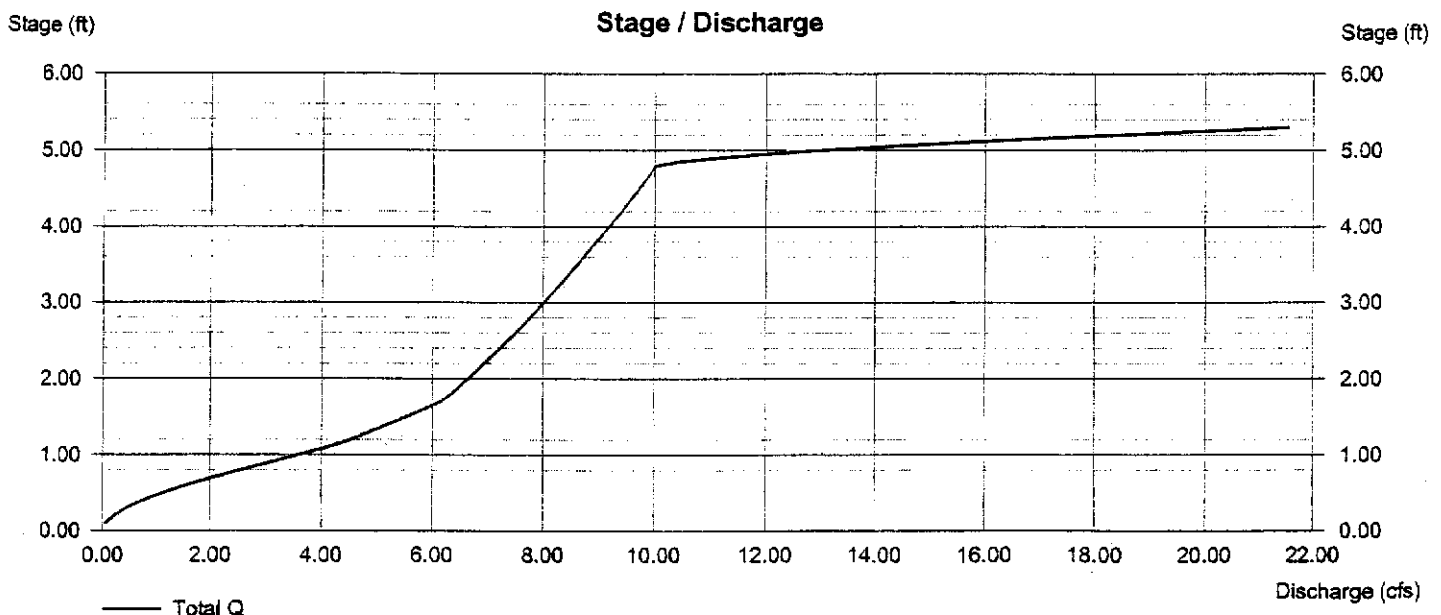
	[A]	[B]	[C]	[D]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1320.20	0.00	0.00	0.00
Length (ft)	= 145.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.00	40.00	0.00	0.00
Crest El. (ft)	= 1325.00	1325.50	0.00	0.00
Weir Coeff.	= 2.60	2.60	0.00	0.00
Weir Type	= Rect	Broad	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

9

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 29 2006, 12:5 PM

Hyd. No. 7

Route DA2

Hydrograph type = Reservoir

Storm frequency = 5 yrs

Inflow hyd. No. = 2

Reservoir name = To Drop Inlet 2

Peak discharge = 6.21 cfs

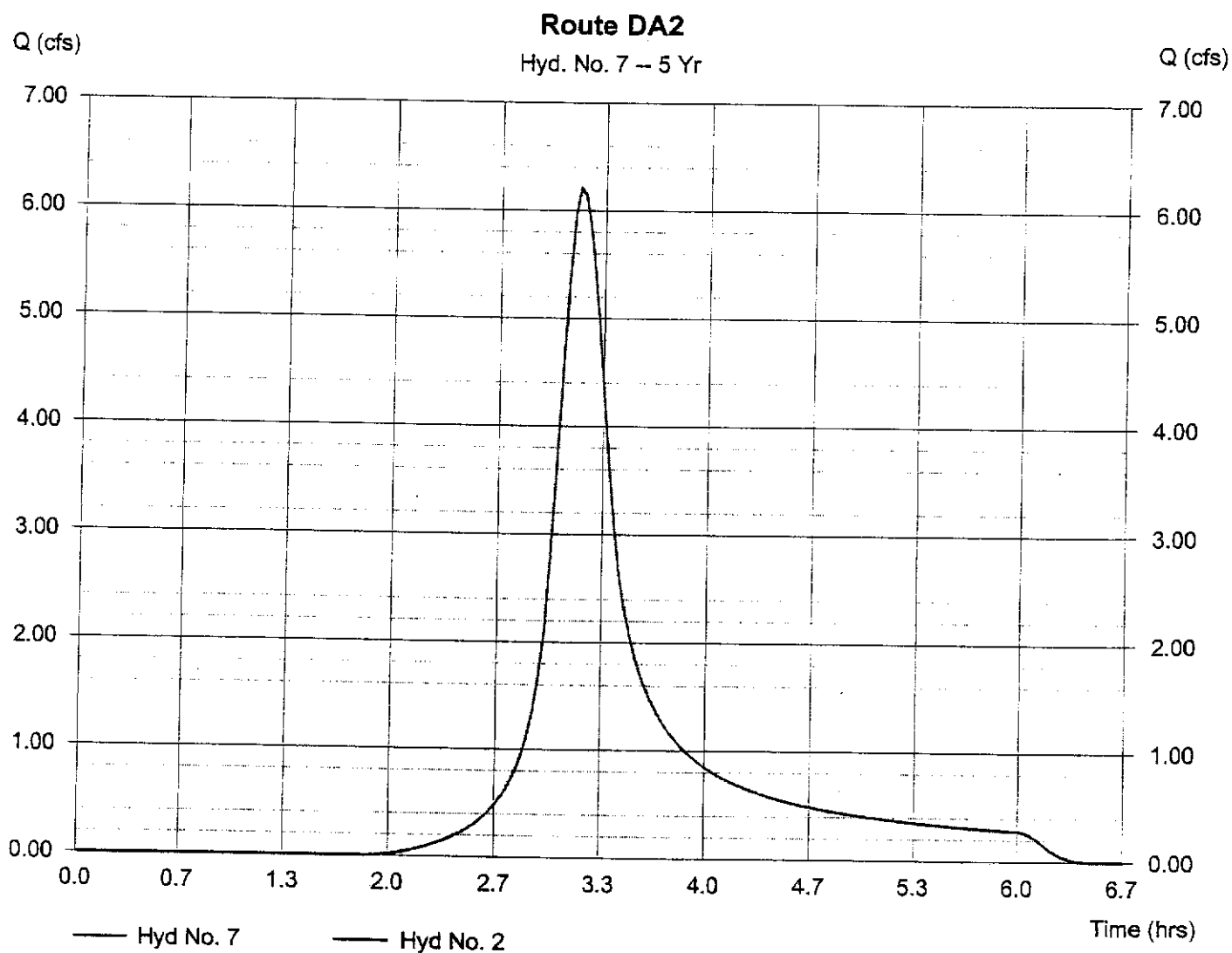
Time interval = 2 min

Max. Elevation = 1322.98 ft

Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 0.358 acft



Pond Report

10

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 29 2006, 12:5 PM

Pond No. 2 - To Drop Inlet 2

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1321.25	08	0.000	0.000
1.00	1322.25	08	0.000	0.000
2.00	1323.25	08	0.000	0.000
2.90	1324.15	08	0.000	0.001
3.25	1324.50	20	0.000	0.001

Culvert / Orifice Structures

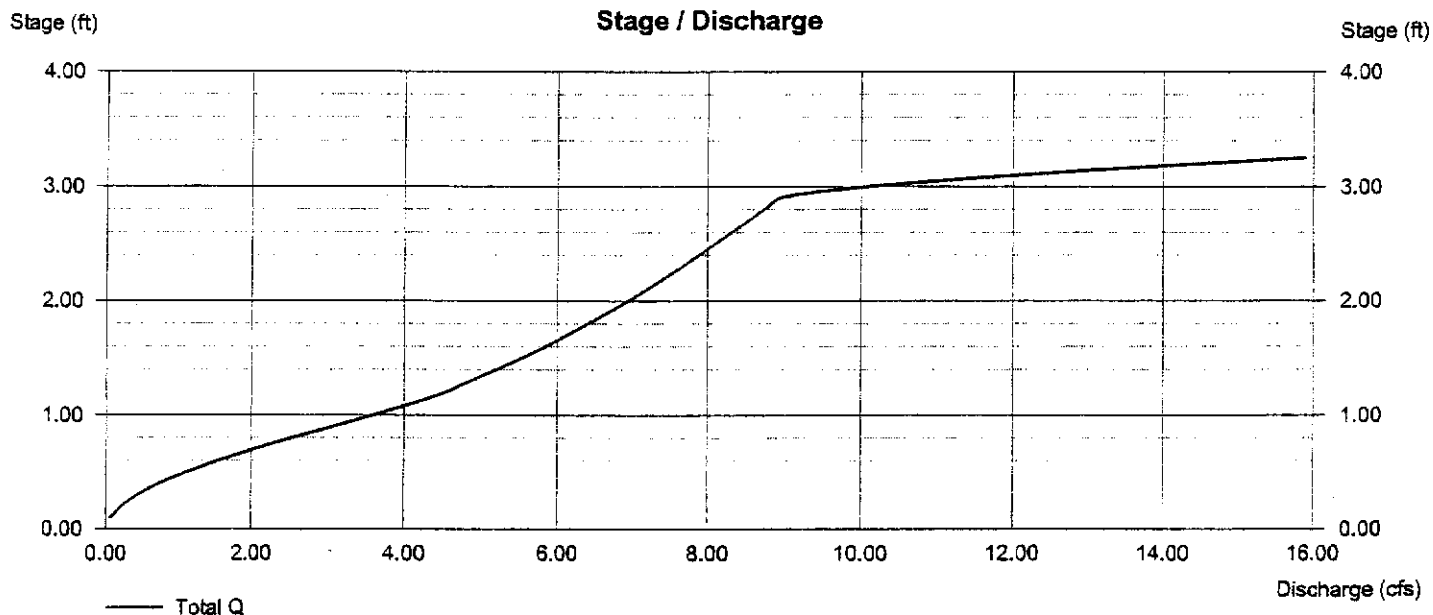
	[A]	[B]	[C]	[D]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1321.25	0.00	0.00	0.00
Length (ft)	= 103.60	0.00	0.00	0.00
Slope (%)	= 1.50	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.00	0.00	0.00	0.00
Crest El. (ft)	= 1324.15	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Hydrograph Plot

11

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:5 PM

Hyd. No. 8

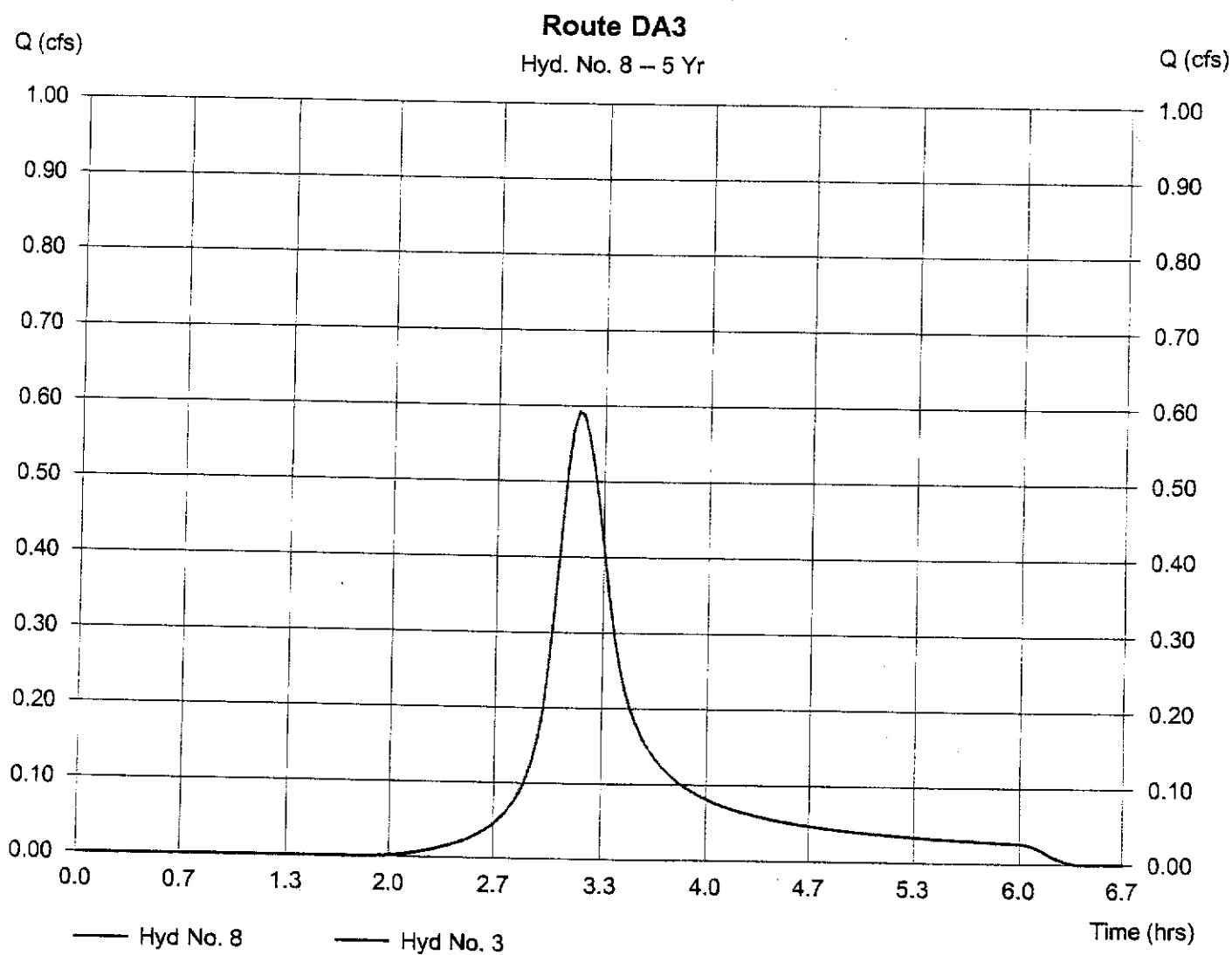
Route DA3

Hydrograph type = Reservoir
Storm frequency = 5 yrs
Inflow hyd. No. = 3
Reservoir name = To Drop Inlet 3

Peak discharge = 0.59 cfs
Time interval = 2 min
Max. Elevation = 1323.19 ft
Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 0.034 acft



Pond Report

12

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 29 2006, 12:5 PM

Pond No. 3 - To Drop Inlet 3

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1322.85	03	0.000	0.000
1.00	1323.85	03	0.000	0.000
2.00	1324.85	03	0.000	0.000
3.00	1325.85	03	0.000	0.000
3.05	1325.90	03	0.000	0.000
3.15	1326.00	03	0.000	0.000

Culvert / Orifice Structures

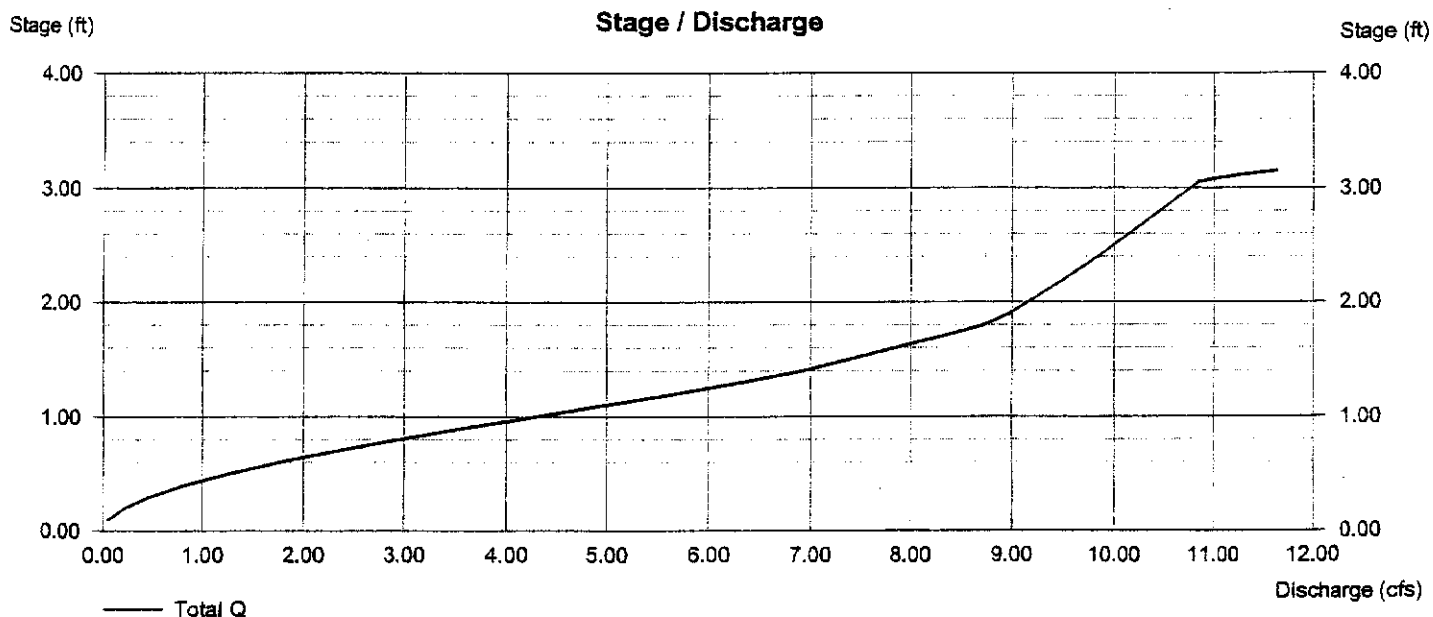
	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1322.85	0.00	0.00	0.00
Length (ft)	= 264.93	0.00	0.00	0.00
Slope (%)	= 0.80	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 6.28	0.00	0.00	0.00
Crest El. (ft)	= 1325.90	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	—	—	—
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

13

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:5 PM

Hyd. No. 9

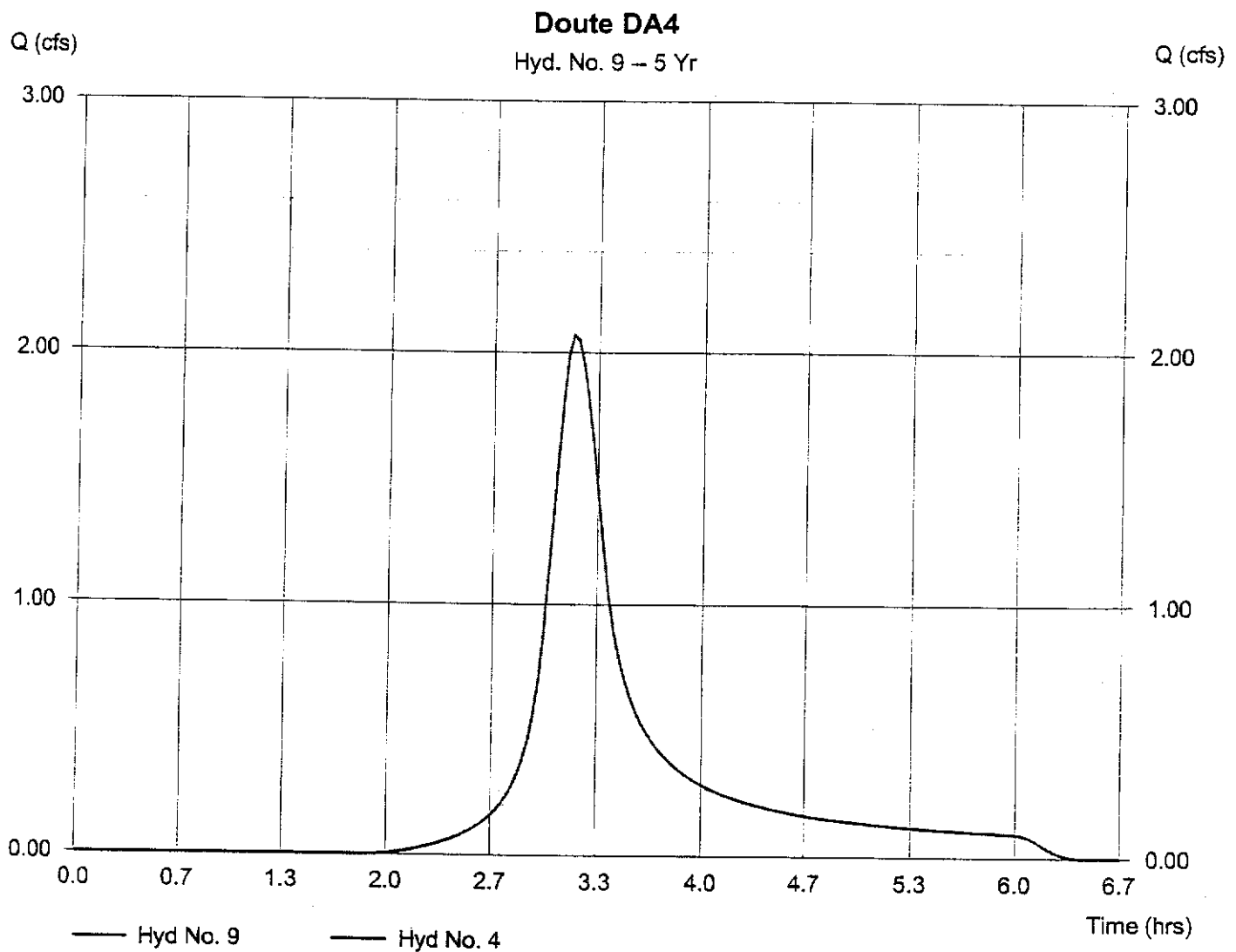
Doute DA4

Hydrograph type = Reservoir
Storm frequency = 5 yrs
Inflow hyd. No. = 4
Reservoir name = To Drop Inlet 4

Peak discharge = 2.07 cfs
Time interval = 2 min
Max. Elevation = 1324.51 ft
Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 0.119 acft



Pond Report

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:5 PM

Pond No. 4 - To Drop Inlet 4

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1323.80	04	0.000	0.000
1.00	1324.80	04	0.000	0.000
2.00	1325.80	04	0.000	0.000
2.50	1326.30	04	0.000	0.000
3.00	1326.80	04	0.000	0.000

Culvert / Orifice Structures

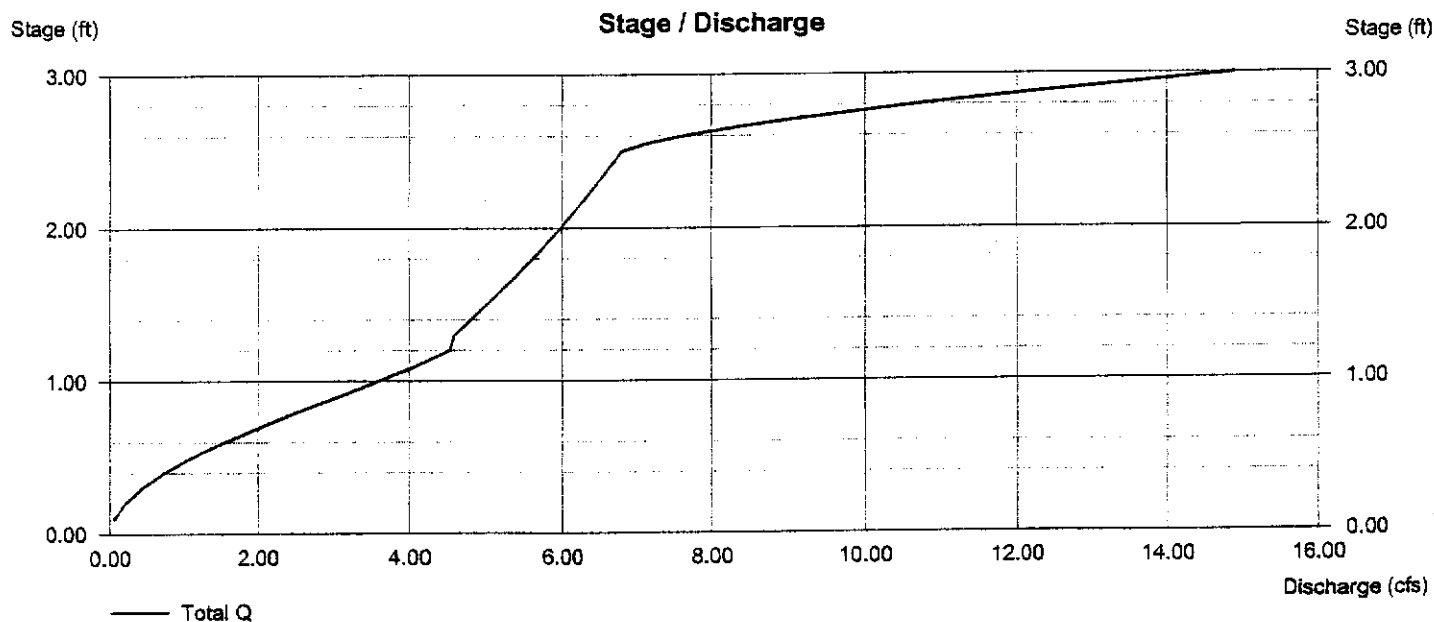
	[A]	[B]	[C]	[D]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1323.80	0.00	0.00	0.00
Length (ft)	= 135.00	0.00	0.00	0.00
Slope (%)	= 0.70	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 8.00	0.00	0.00	0.00
Crest El. (ft)	= 1326.30	0.00	0.00	0.00
Weir Coeff.	= 2.60	0.00	0.00	0.00
Weir Type	= Rect	—	—	—
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

15

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:5 PM

Hyd. No. 10

Route DA5

Hydrograph type = Reservoir

Storm frequency = 5 yrs

Inflow hyd. No. = 5

Reservoir name = To Detention Pond

Peak discharge = 4.00 cfs

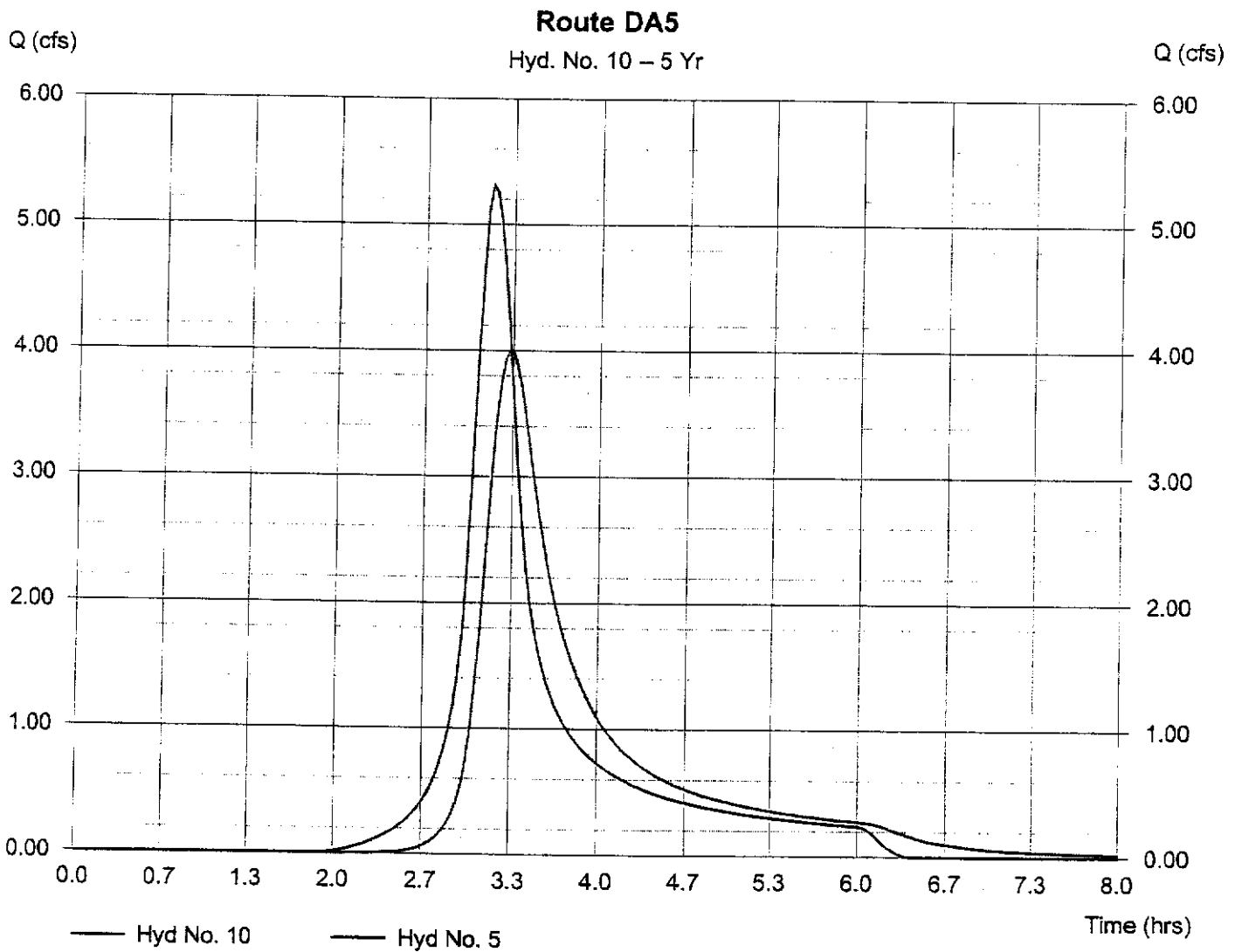
Time interval = 2 min

Max. Elevation = 1320.96 ft

Max. Storage = 0.076 acft

Storage Indication method used.

Hydrograph Volume = 0.306 acft



Pond Report

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:5 PM

Pond No. 5 - To Detention Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1320.00	2,925	0.000	0.000
0.50	1320.50	3,449	0.037	0.037
1.00	1321.00	3,988	0.043	0.079
2.00	1322.00	5,107	0.104	0.184
3.00	1323.00	6,282	0.131	0.314
4.00	1324.00	8,458	0.169	0.484
5.00	1325.00	11,185	0.225	0.709

Culvert / Orifice Structures

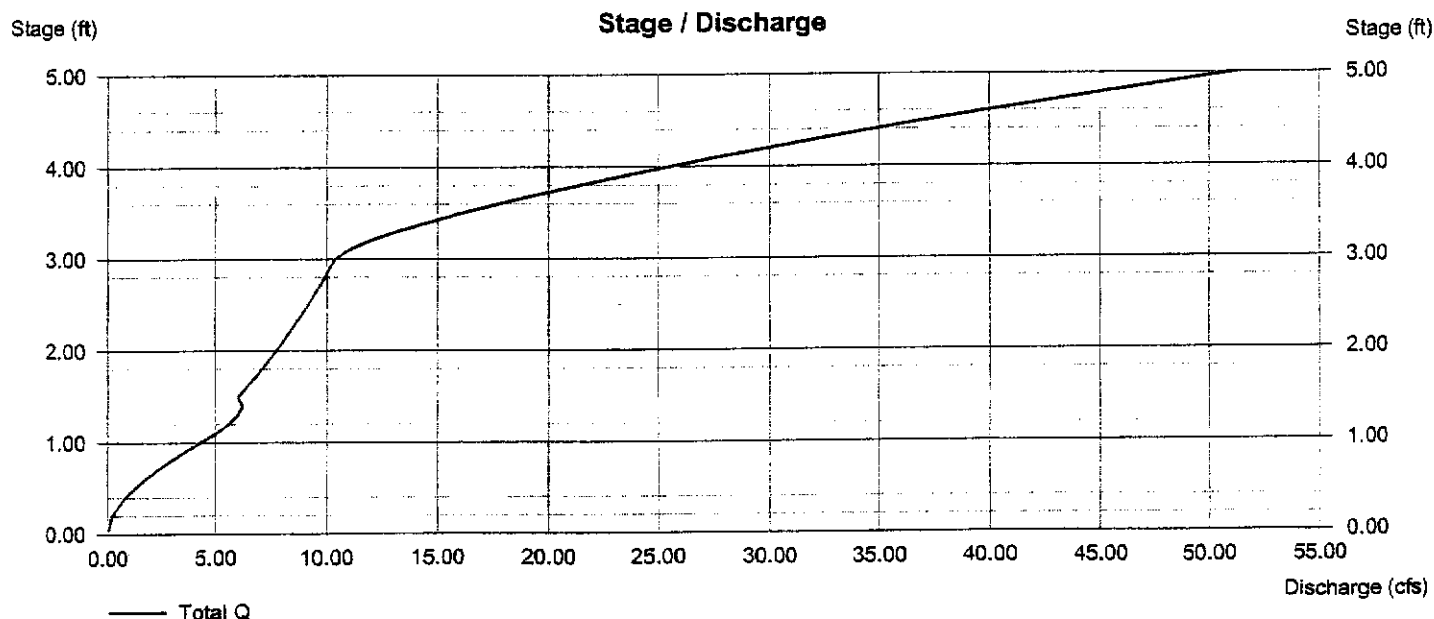
	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1320.00	0.00	0.00	0.00
Length (ft)	= 150.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 1323.00	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	0.00	0.00
Weir Type	= Cipiti	—	—	—
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

17

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:5 PM

Hyd. No. 11

Combine DA1, DA2, & DA5

Hydrograph type = Combine

Storm frequency = 5 yrs

Inflow hyds. = 6, 7, 10

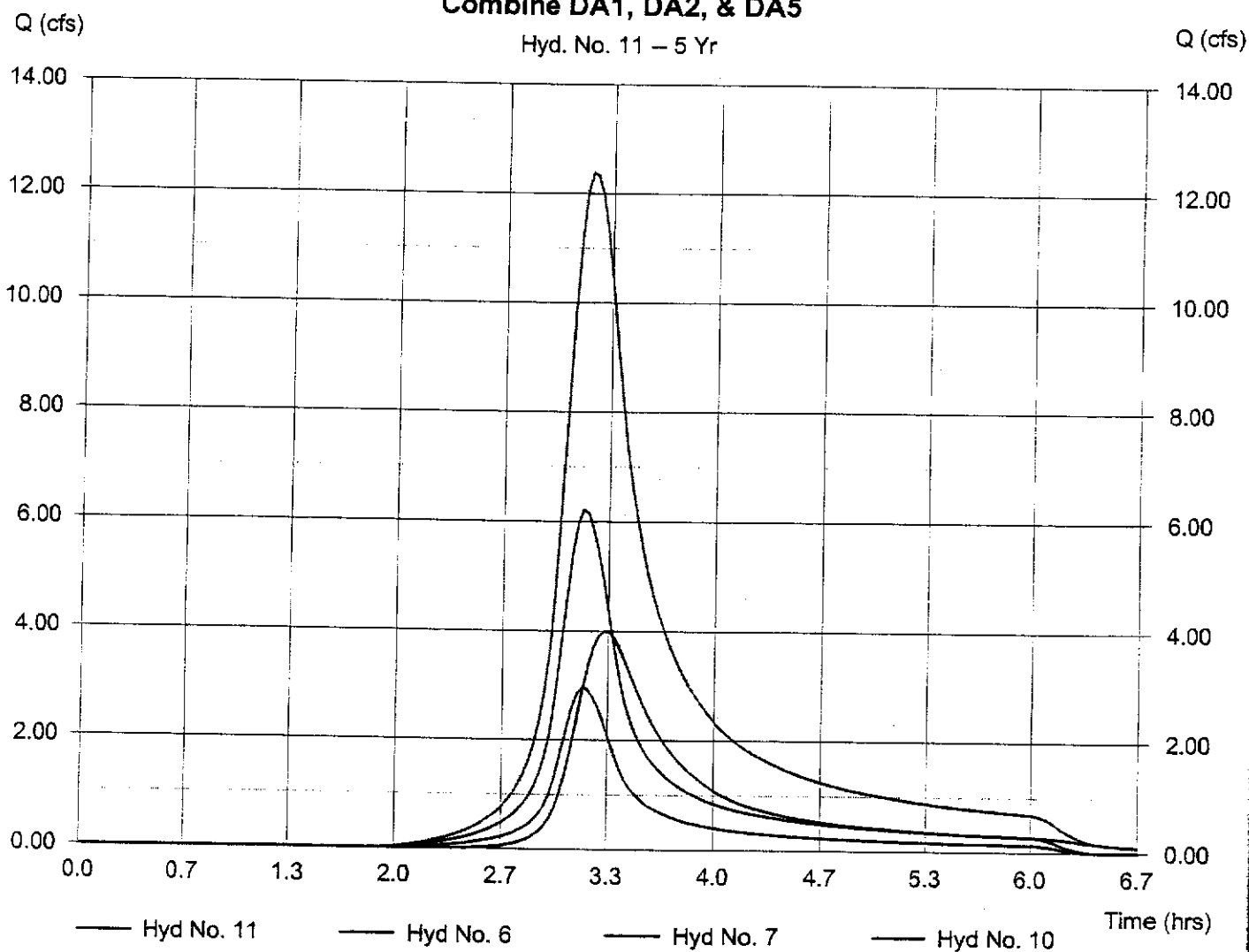
Peak discharge = 12.39 cfs

Time interval = 2 min

Hydrograph Volume = 0.834 acft

Combine DA1, DA2, & DA5

Hyd. No. 11 - 5 Yr



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:5 PM

Hyd. No. 12

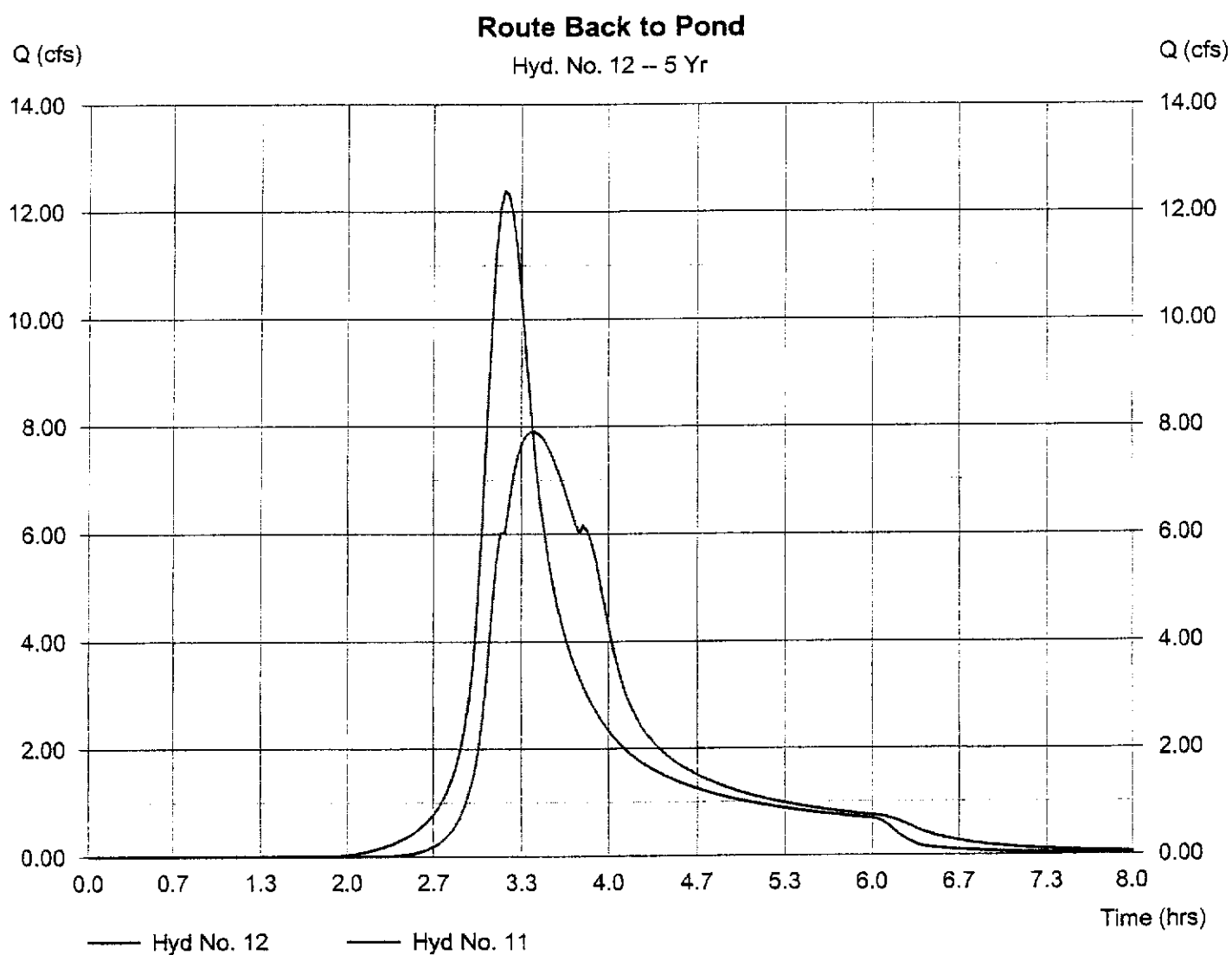
Route Back to Pond

Hydrograph type = Reservoir
 Storm frequency = 5 yrs
 Inflow hyd. No. = 11
 Reservoir name = To Detention Pond

Peak discharge = 7.90 cfs
 Time interval = 2 min
 Max. Elevation = 1322.06 ft
 Max. Storage = 0.191 acft

Storage Indication method used.

Hydrograph Volume = 0.834 acft



Pond Report

19

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:5 PM

Pond No. 5 - To Detention Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1320.00	2,925	0.000	0.000
0.50	1320.50	3,449	0.037	0.037
1.00	1321.00	3,988	0.043	0.079
2.00	1322.00	5,107	0.104	0.184
3.00	1323.00	6,282	0.131	0.314
4.00	1324.00	8,458	0.169	0.484
5.00	1325.00	11,185	0.225	0.709

Culvert / Orifice Structures

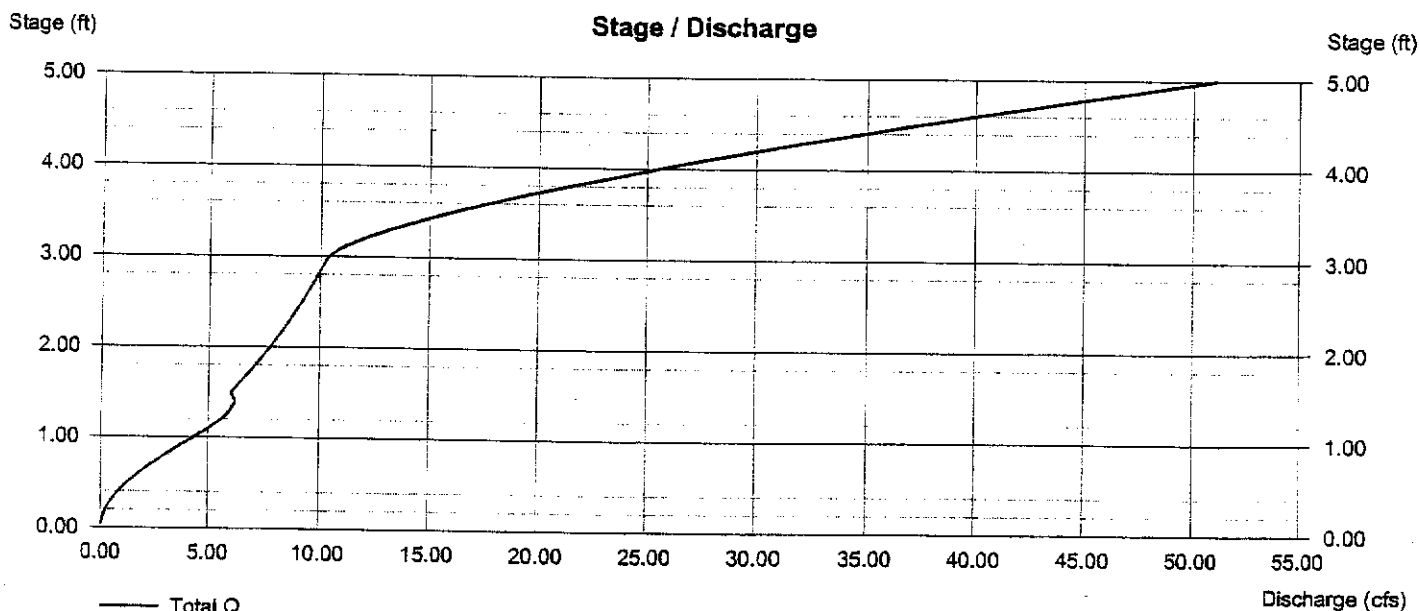
Weir Structures

	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1320.00	0.00	0.00	0.00
Length (ft)	= 150.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 1323.00	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	0.00	0.00
Weir Type	= Cipol	—	—	—
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir user checked for orifice conditions.



Hydrograph Plot

Hydraflow Hydrographs by Intellsolve

Thursday, Jun 29 2006, 12:5 PM

Hyd. No. 13

Combine DA3 & DA4

Hydrograph type = Combine

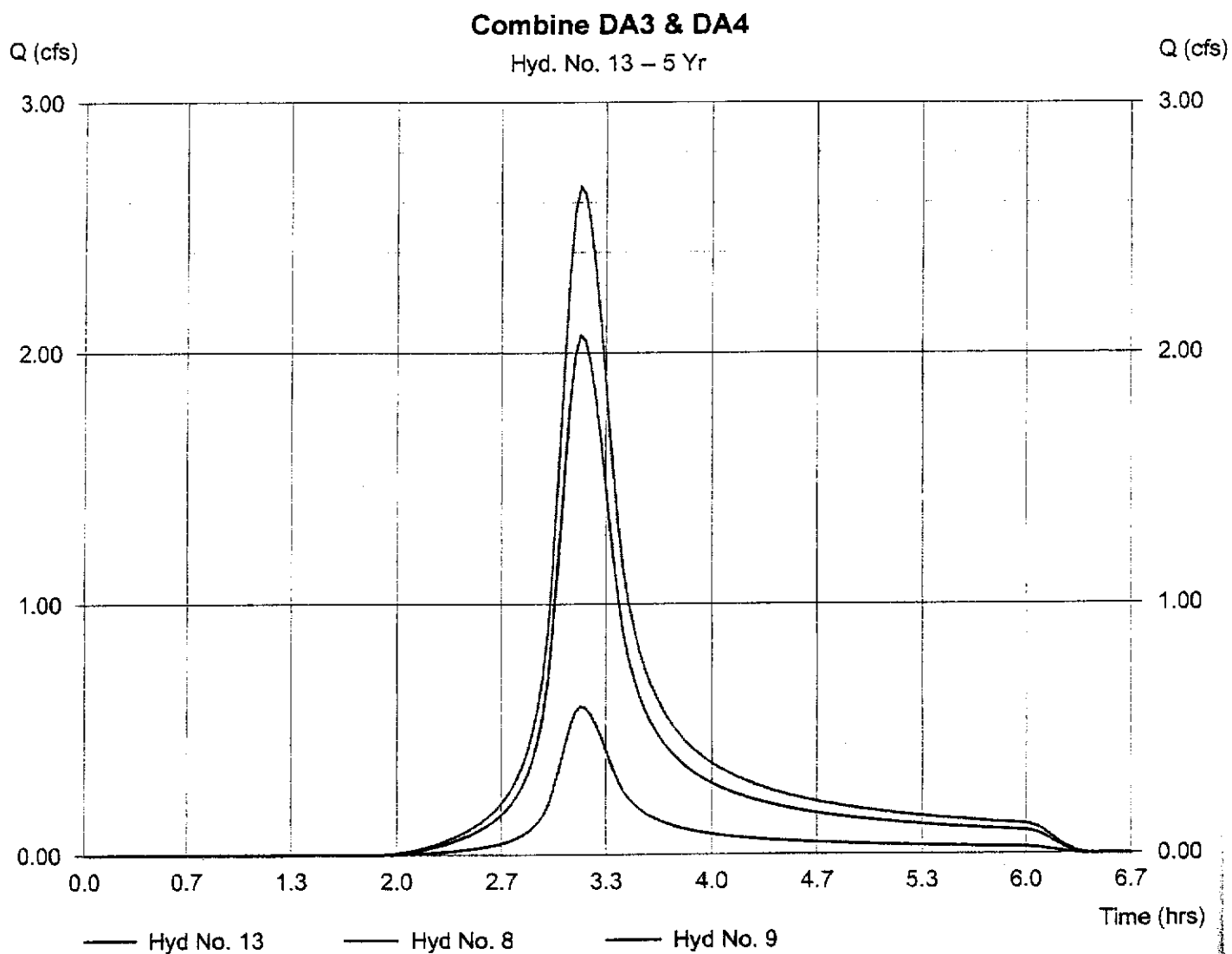
Storm frequency = 5 yrs

Inflow hyds. = 8, 9

Peak discharge = 2.67 cfs

Time interval = 2 min

Hydrograph Volume = 0.153 acft



Hydrograph Plot

21

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:6 PM

Hyd. No. 14

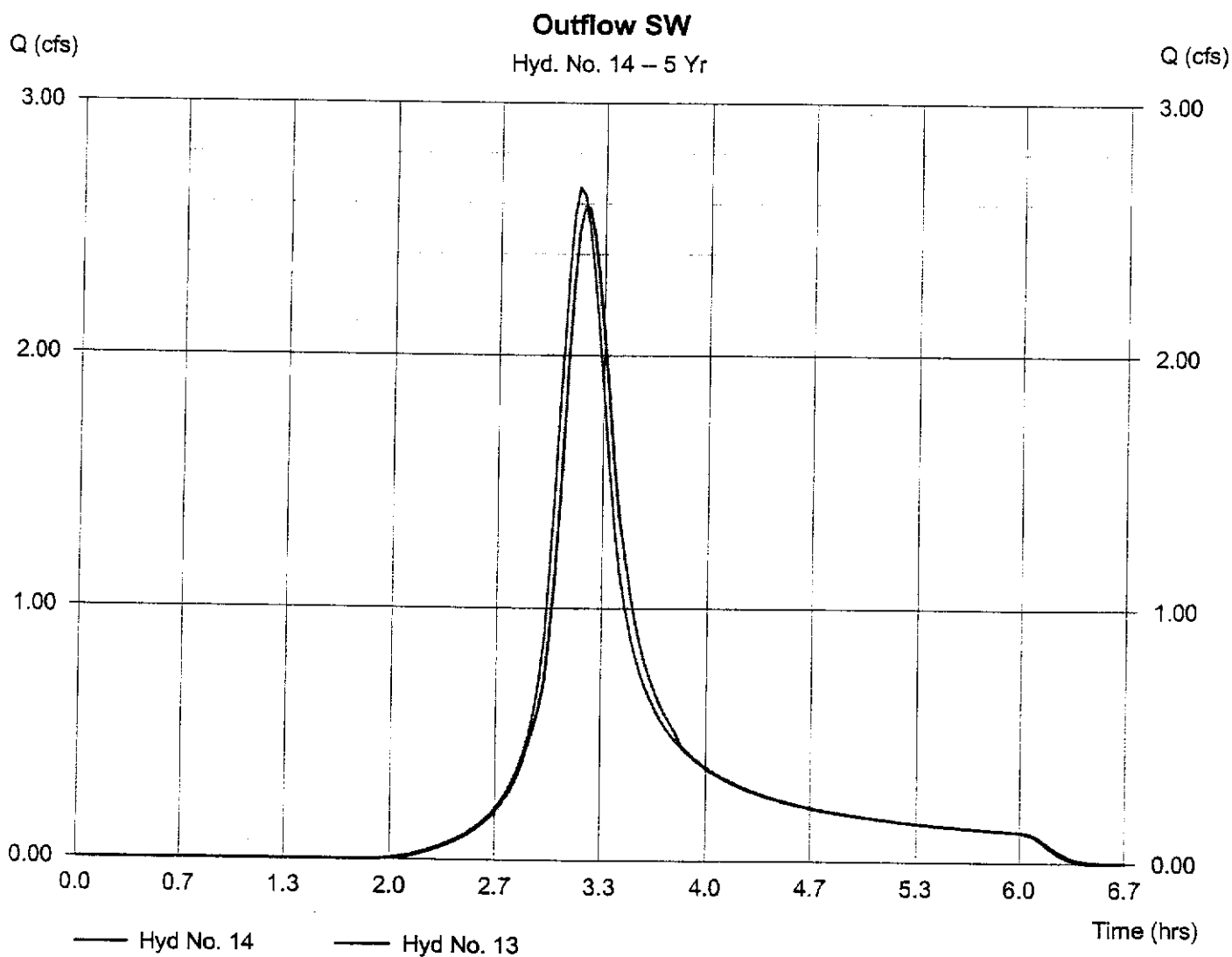
Outflow SW

Hydrograph type = Reservoir
Storm frequency = 5 yrs
Inflow hyd. No. = 13
Reservoir name = SW Outflow

Peak discharge = 2.59 cfs
Time interval = 2 min
Max. Elevation = 1326.19 ft
Max. Storage = 0.007 acft

Storage Indication method used.

Hydrograph Volume = 0.153 acft



Pond Report

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:6 PM

Pond No. 6 - SW Outflow

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1325.90	03	0.000	0.000
0.10	1326.00	692	0.001	0.001
1.10	1327.00	2,308	0.034	0.035

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1322.85	0.00	0.00	0.00
Length (ft)	= 264.93	0.00	0.00	0.00
Slope (%)	= 0.80	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 6.28	0.00	0.00	0.00
Crest El. (ft)	= 1325.90	0.00	0.00	0.00
Weir Coeff.	= 2.60	0.00	0.00	0.00
Weir Type	= Riser	—	—	—
Multi-Stage	= Yes	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.

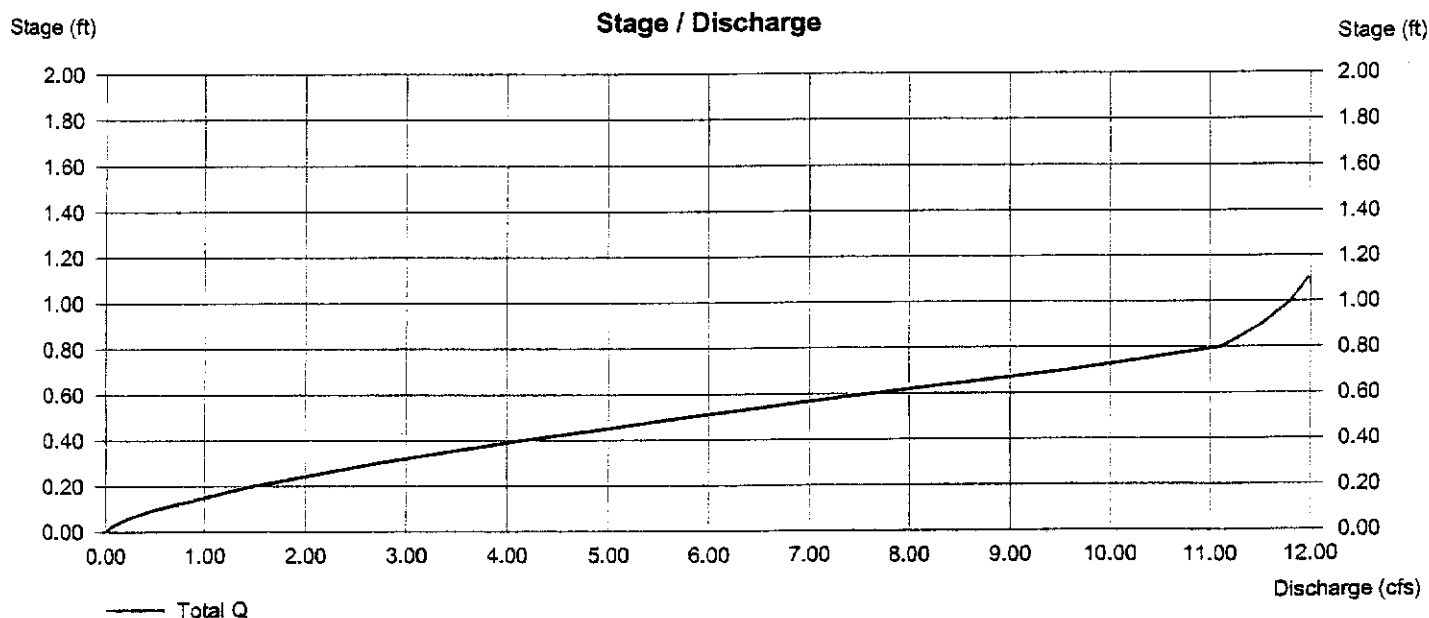


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Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	5.55	2	190	0.329	—	—	—	DA1
2	SCS Runoff	11.65	2	190	0.691	—	—	—	DA2
3	SCS Runoff	1.11	2	190	0.066	—	—	—	DA3
4	SCS Runoff	3.88	2	190	0.230	—	—	—	DA4
5	SCS Runoff	9.99	2	190	0.592	—	—	—	DA5
6	Reservoir	5.55	2	190	0.329	1	1321.71	0.000	Route DA1
7	Reservoir	11.68	2	190	0.691	2	1324.33	0.001	Route DA2
8	Reservoir	1.11	2	190	0.066	3	1323.32	0.000	Route DA3
9	Reservoir	3.88	2	190	0.230	4	1324.86	0.000	Route DA4
10	Reservoir	6.44	2	200	0.592	5	1321.62	0.144	Route DA5
11	Combine	23.06	2	192	1.611	6, 7, 10	—	—	Combine DA1, DA2, & DA5
12	Reservoir	15.42	2	204	1.611	11	1323.46	0.392	Route Back to Pond
13	Combine	4.99	2	190	0.296	8, 9,	—	—	Combine DA3 & DA4
14	Reservoir	4.93	2	192	0.296	13	1326.35	0.013	Outflow SW
Final Drainage 100YEAR.gpw					Return Period: 100 Year		Thursday, Jun 29 2006, 12:09 PM		

Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:9 PM

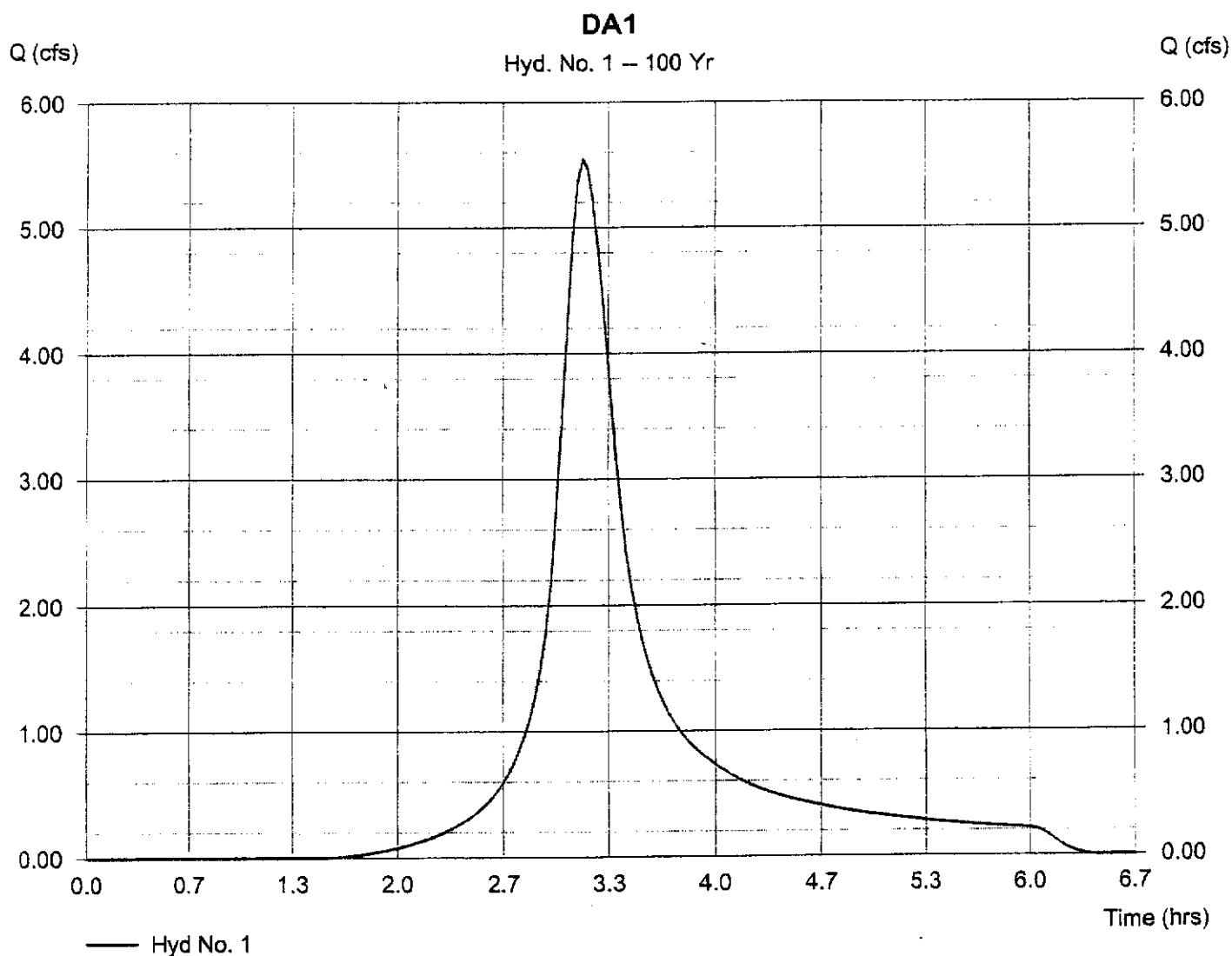
Hyd. No. 1

DA1

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Drainage area = 1.000 ac
 Basin Slope = 0.5 %
 Tc method = USER
 Total precip. = 6.11 in
 Storm duration = 6 hrs

Peak discharge = 5.55 cfs
 Time interval = 2 min
 Curve number = 81.6
 Hydraulic length = 640 ft
 Time of conc. (Tc) = 15.00 min
 Distribution = Synthetic
 Shape factor = 484

Hydrograph Volume = 0.329 acft



Hydrograph Plot

3

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:9 PM

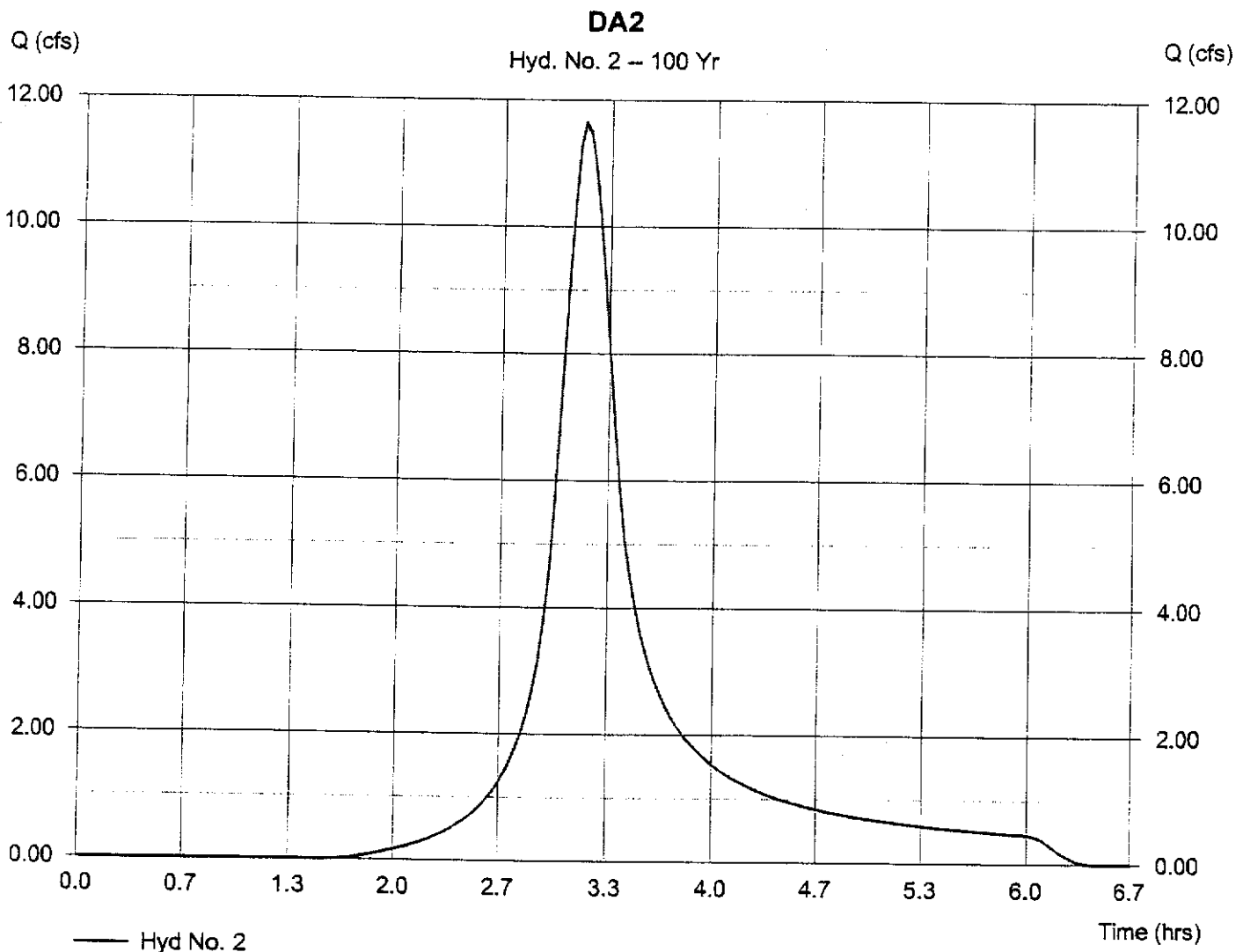
Hyd. No. 2

DA2

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Drainage area = 2.100 ac
Basin Slope = 0.5 %
Tc method = USER
Total precip. = 6.11 in
Storm duration = 6 hrs

Peak discharge = 11.65 cfs
Time interval = 2 min
Curve number = 81.6
Hydraulic length = 615 ft
Time of conc. (Tc) = 15.00 min
Distribution = Synthetic
Shape factor = 484

Hydrograph Volume = 0.691 acft



Hydrograph Plot

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 29 2006, 12:9 PM

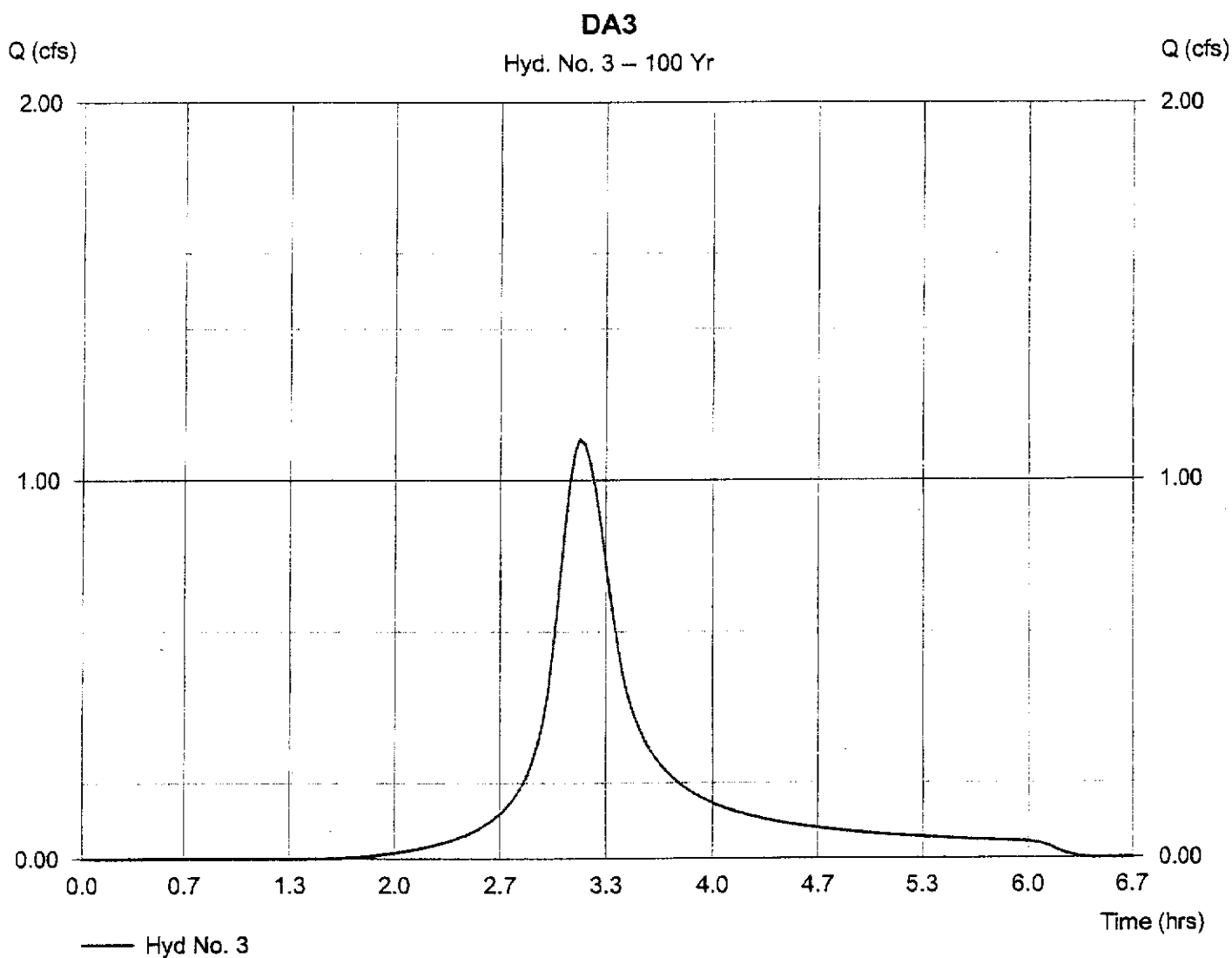
Hyd. No. 3

DA3

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Drainage area = 0.200 ac
 Basin Slope = 1.0 %
 Tc method = USER
 Total precip. = 6.11 in
 Storm duration = 6 hrs

Peak discharge = 1.11 cfs
 Time interval = 2 min
 Curve number = 81.6
 Hydraulic length = 315 ft
 Time of conc. (Tc) = 15.00 min
 Distribution = Synthetic
 Shape factor = 484

Hydrograph Volume = 0.066 acft



Hydrograph Plot

5

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:9 PM

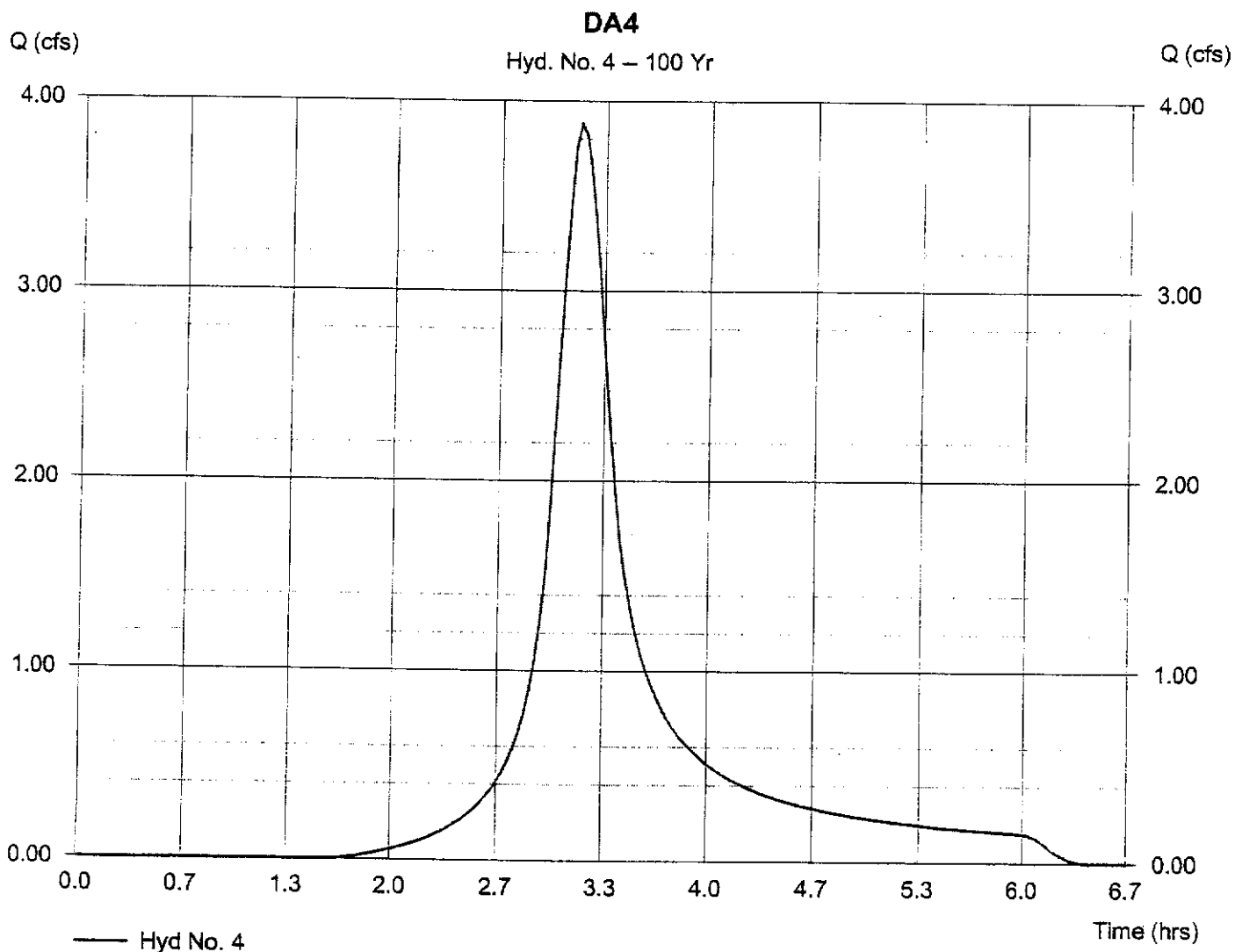
Hyd. No. 4

DA4

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Drainage area = 0.700 ac
Basin Slope = 0.5 %
Tc method = USER
Total precip. = 6.11 in
Storm duration = 6 hrs

Peak discharge = 3.88 cfs
Time interval = 2 min
Curve number = 81.6
Hydraulic length = 165 ft
Time of conc. (Tc) = 15.00 min
Distribution = Synthetic
Shape factor = 484

Hydrograph Volume = 0.230 acft



Hydrograph Plot

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 29 2006, 12:9 PM

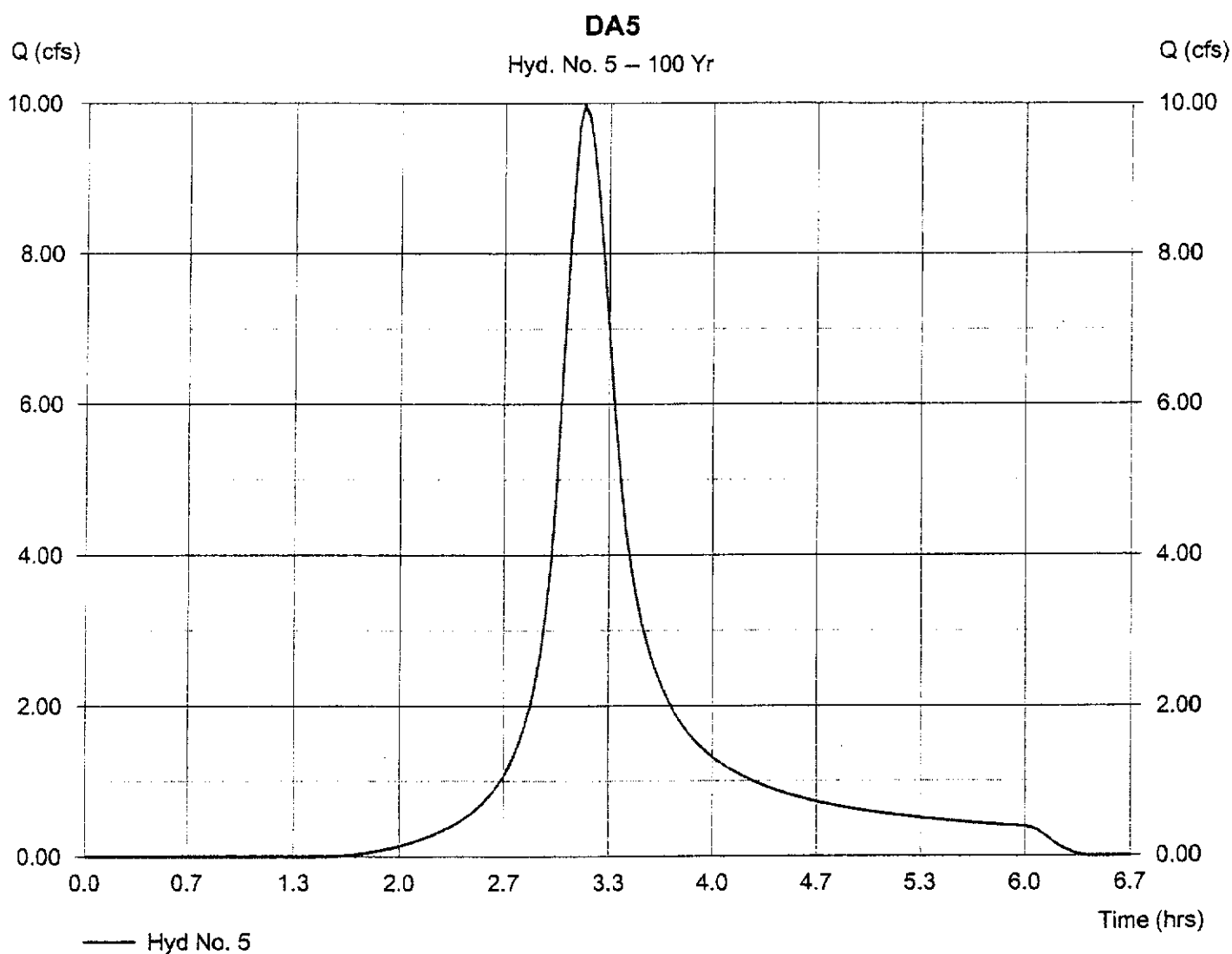
Hyd. No. 5

DA5

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Drainage area = 1.800 ac
 Basin Slope = 1.0 %
 Tc method = USER
 Total precip. = 6.11 in
 Storm duration = 6 hrs

Peak discharge = 9.99 cfs
 Time interval = 2 min
 Curve number = 81.6
 Hydraulic length = 435 ft
 Time of conc. (Tc) = 15.00 min
 Distribution = Synthetic
 Shape factor = 484

Hydrograph Volume = 0.592 acft



Hydrograph Plot

7

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 29 2006, 12:9 PM

Hyd. No. 6

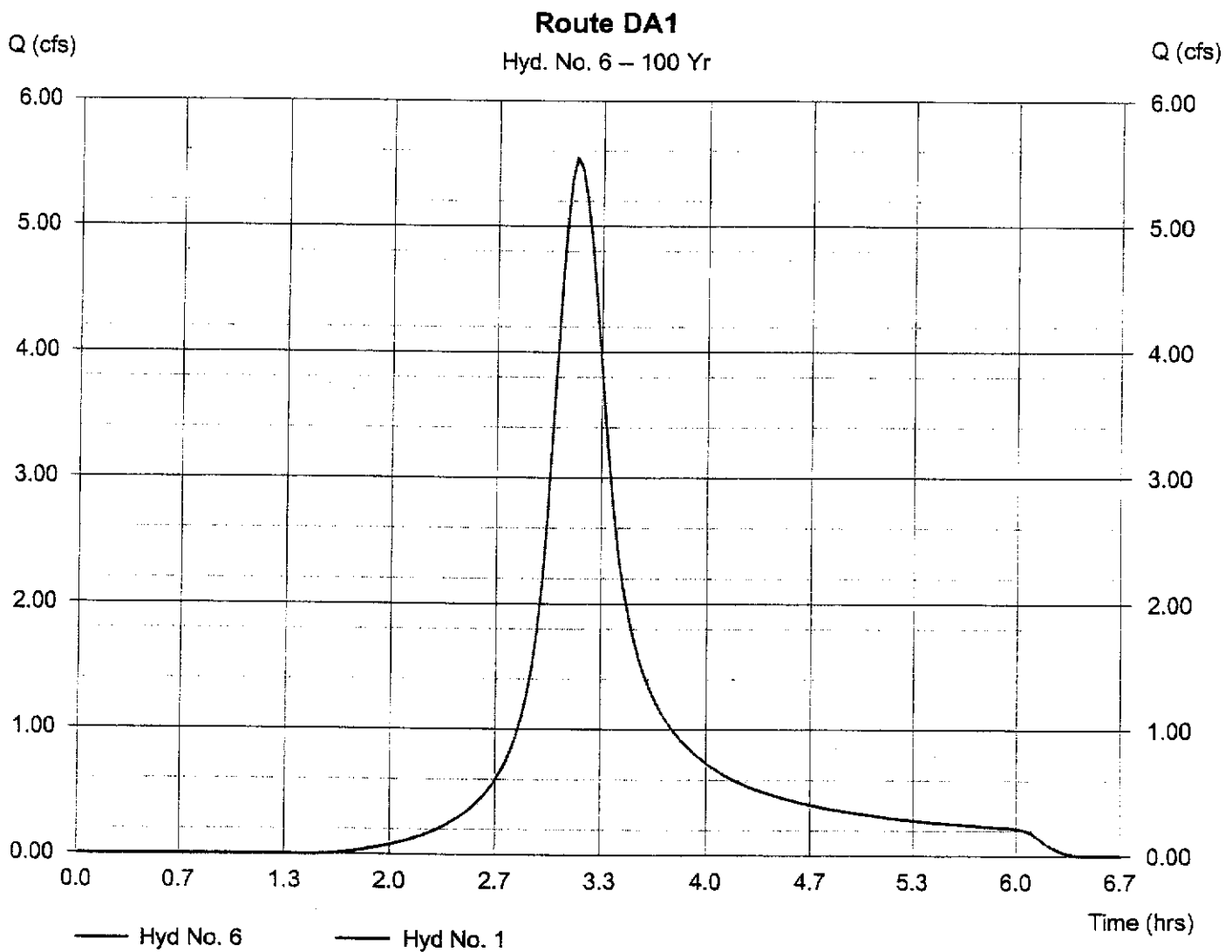
Route DA1

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 1
Reservoir name = To Drop Inlet 1

Peak discharge = 5.55 cfs
Time interval = 2 min
Max. Elevation = 1321.71 ft
Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 0.329 acft



Pond Report

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:9 PM

Pond No. 1 - To Drop Inlet 1

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1320.20	08	0.000	0.000
1.00	1321.20	08	0.000	0.000
2.00	1322.20	08	0.000	0.000
3.00	1323.20	08	0.000	0.001
4.00	1324.20	08	0.000	0.001
4.80	1325.00	08	0.000	0.001
5.30	1325.50	20	0.000	0.001

Culvert / Orifice Structures

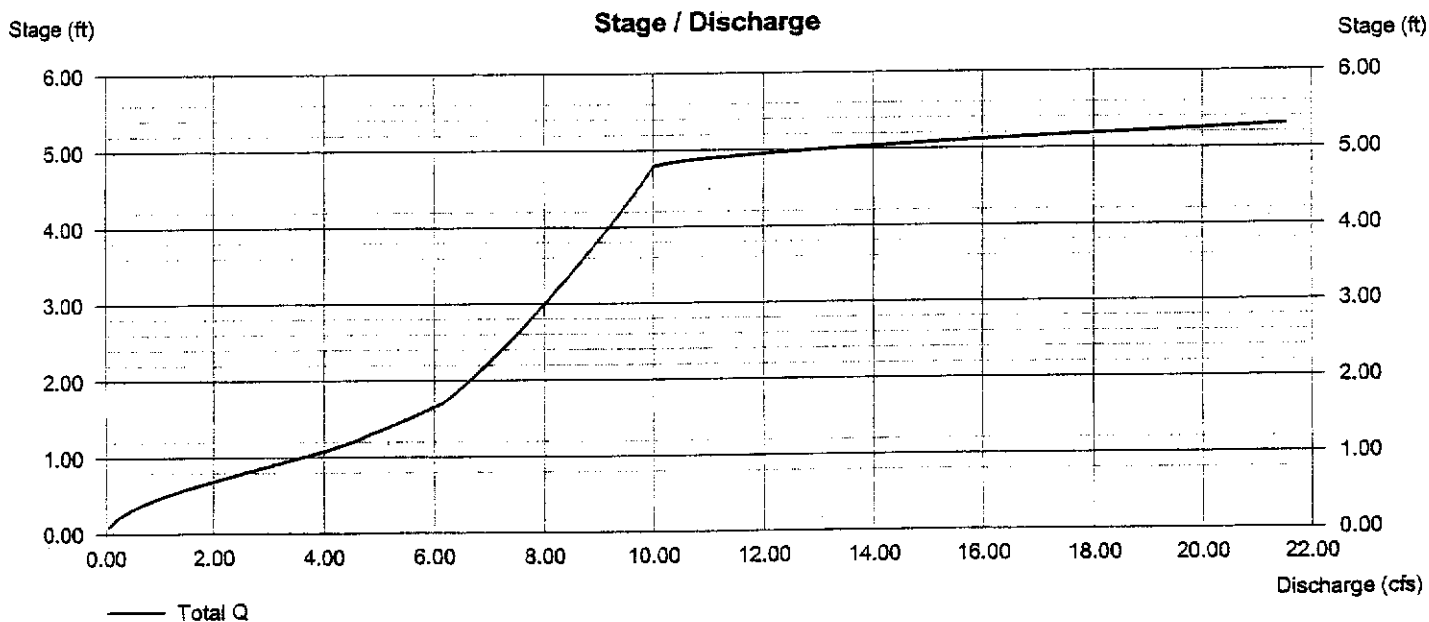
	[A]	[B]	[C]	[D]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1320.20	0.00	0.00	0.00
Length (ft)	= 145.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.00	40.00	0.00	0.00
Crest El. (ft)	= 1325.00	1325.50	0.00	0.00
Weir Coeff.	= 2.60	2.60	0.00	0.00
Weir Type	= Rect	Broad	—	—
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

9

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:9 PM

Hyd. No. 7

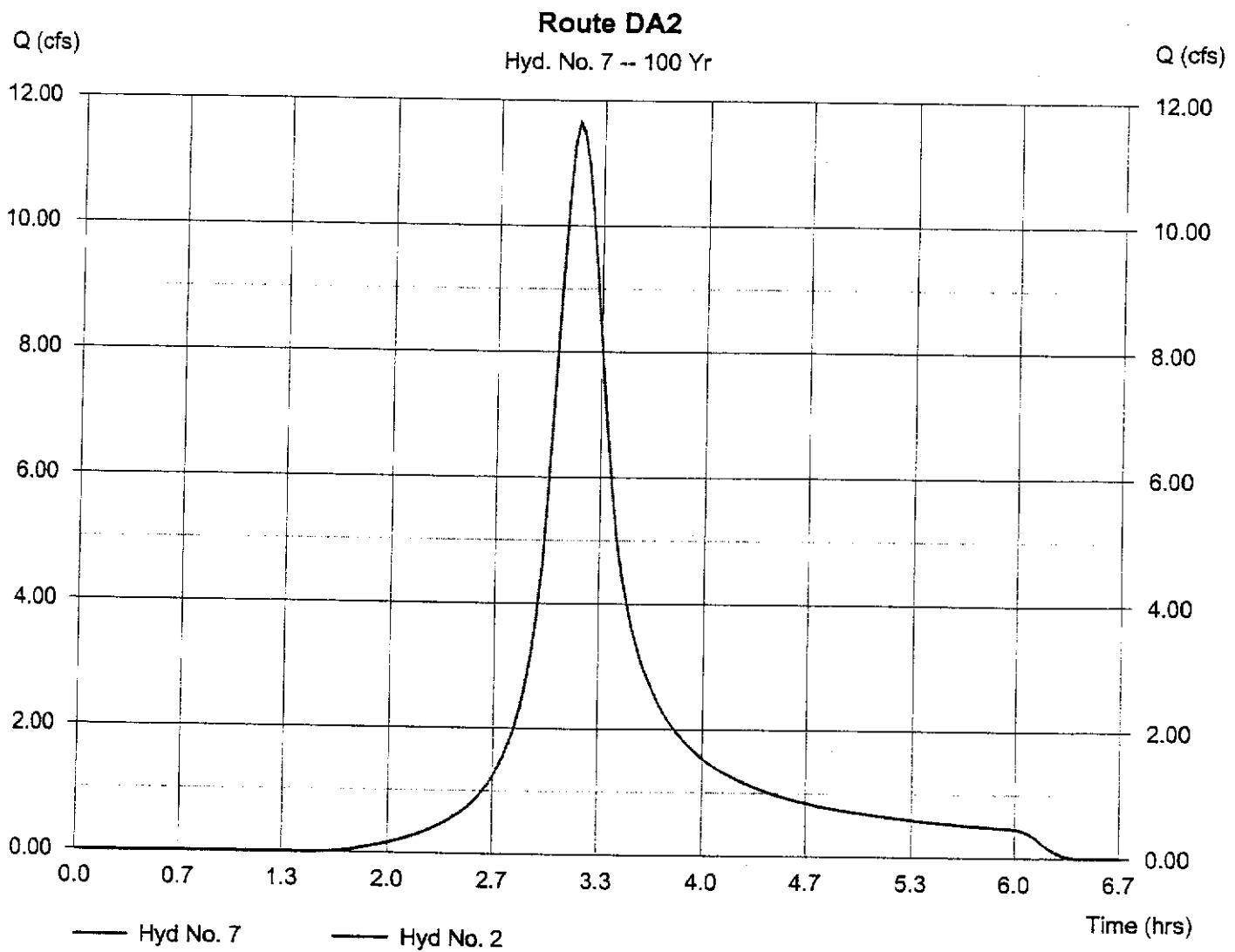
Route DA2

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 2
Reservoir name = To Drop Inlet 2

Peak discharge = 11.68 cfs
Time interval = 2 min
Max. Elevation = 1324.33 ft
Max. Storage = 0.001 acft

Storage Indication method used.

Hydrograph Volume = 0.691 acft



Pond Report

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:9 PM

Pond No. 2 - To Drop Inlet 2

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1321.25	08	0.000	0.000
1.00	1322.25	08	0.000	0.000
2.00	1323.25	08	0.000	0.000
2.90	1324.15	08	0.000	0.001
3.25	1324.50	20	0.000	0.001

Culvert / Orifice Structures

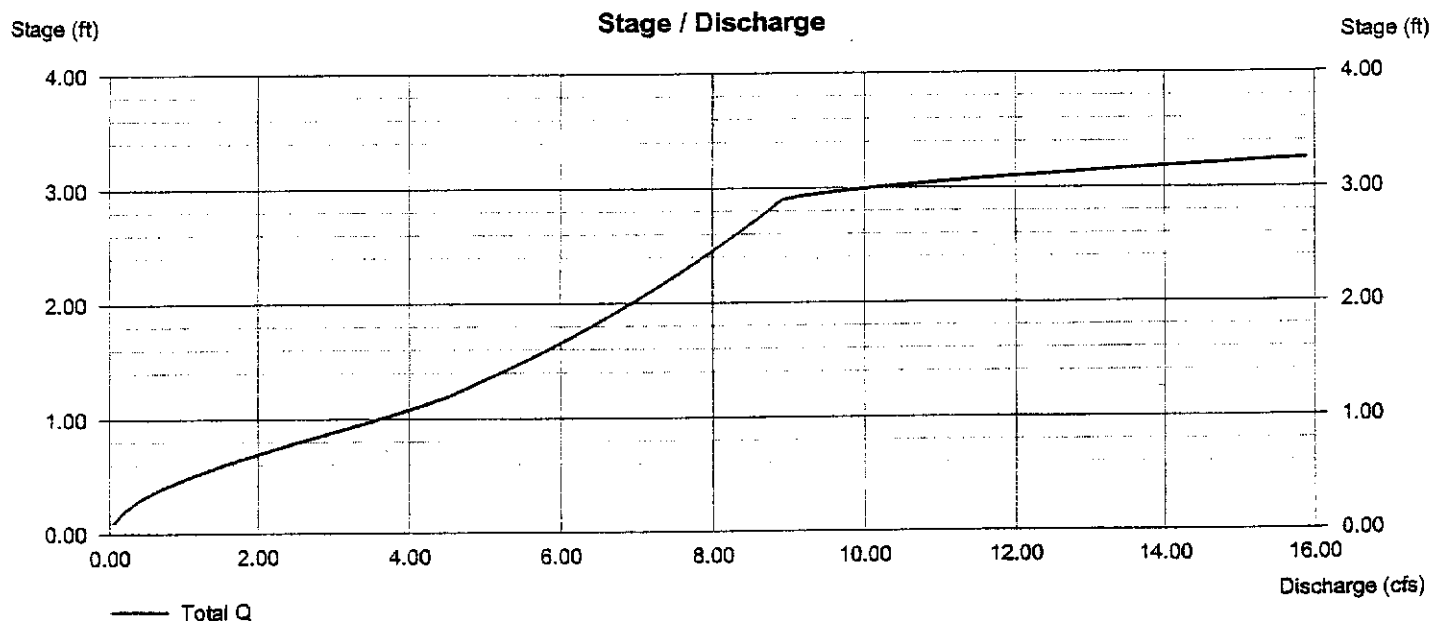
	[A]	[B]	[C]	[D]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1321.25	0.00	0.00	0.00
Length (ft)	= 103.60	0.00	0.00	0.00
Slope (%)	= 1.50	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.00	0.00	0.00	0.00
Crest El. (ft)	= 1324.15	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	0.00	0.00
Weir Type	= Rect	—	—	—
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Hydrograph Plot

11

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:9 PM

Hyd. No. 8

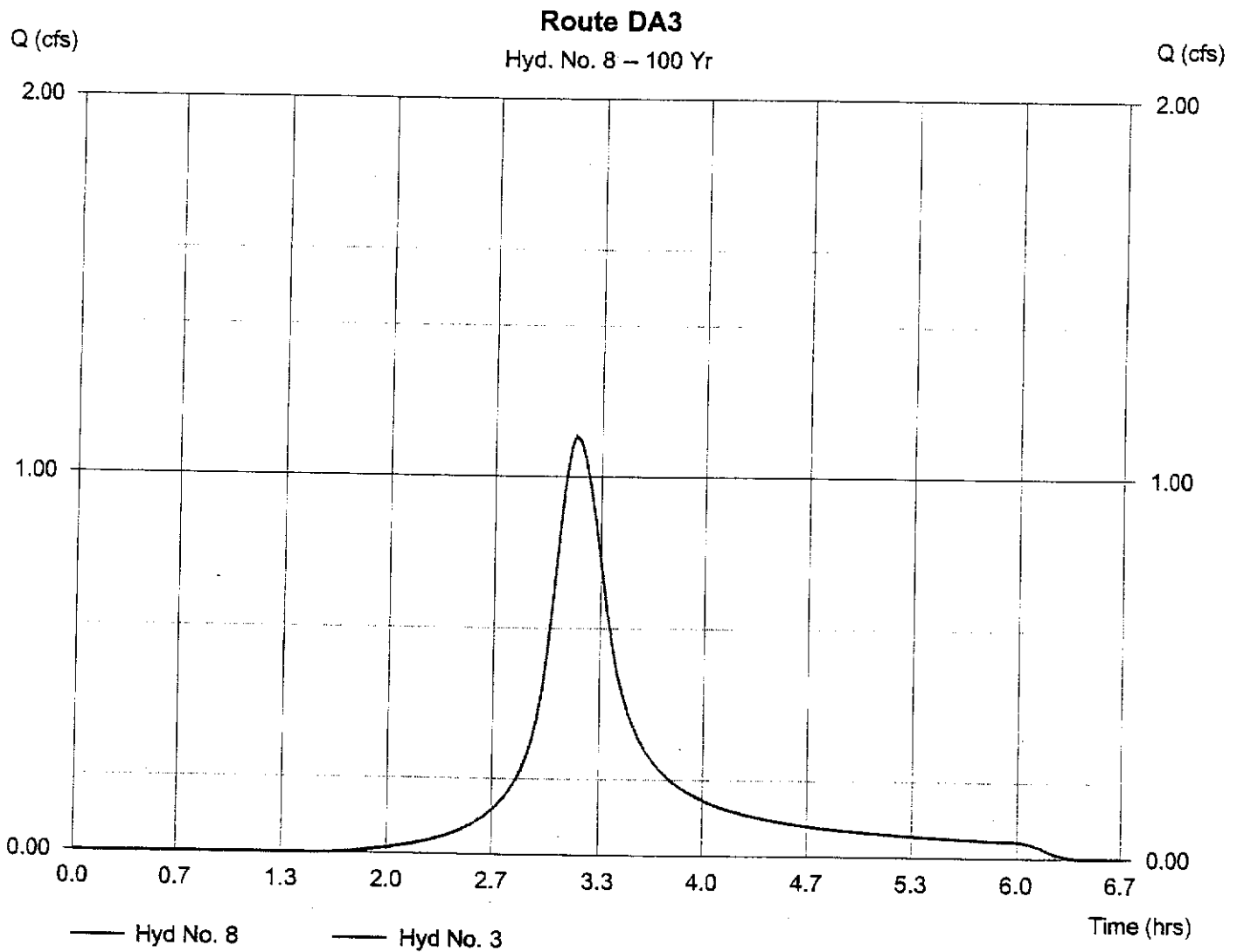
Route DA3

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 3
Reservoir name = To Drop Inlet 3

Peak discharge = 1.11 cfs
Time interval = 2 min
Max. Elevation = 1323.32 ft
Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 0.066 acft



Pond Report

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 29 2006, 12:9 PM

Pond No. 3 - To Drop Inlet 3

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1322.85	03	0.000	0.000
1.00	1323.85	03	0.000	0.000
2.00	1324.85	03	0.000	0.000
3.00	1325.85	03	0.000	0.000
3.05	1325.90	03	0.000	0.000
3.15	1326.00	03	0.000	0.000

Culvert / Orifice Structures

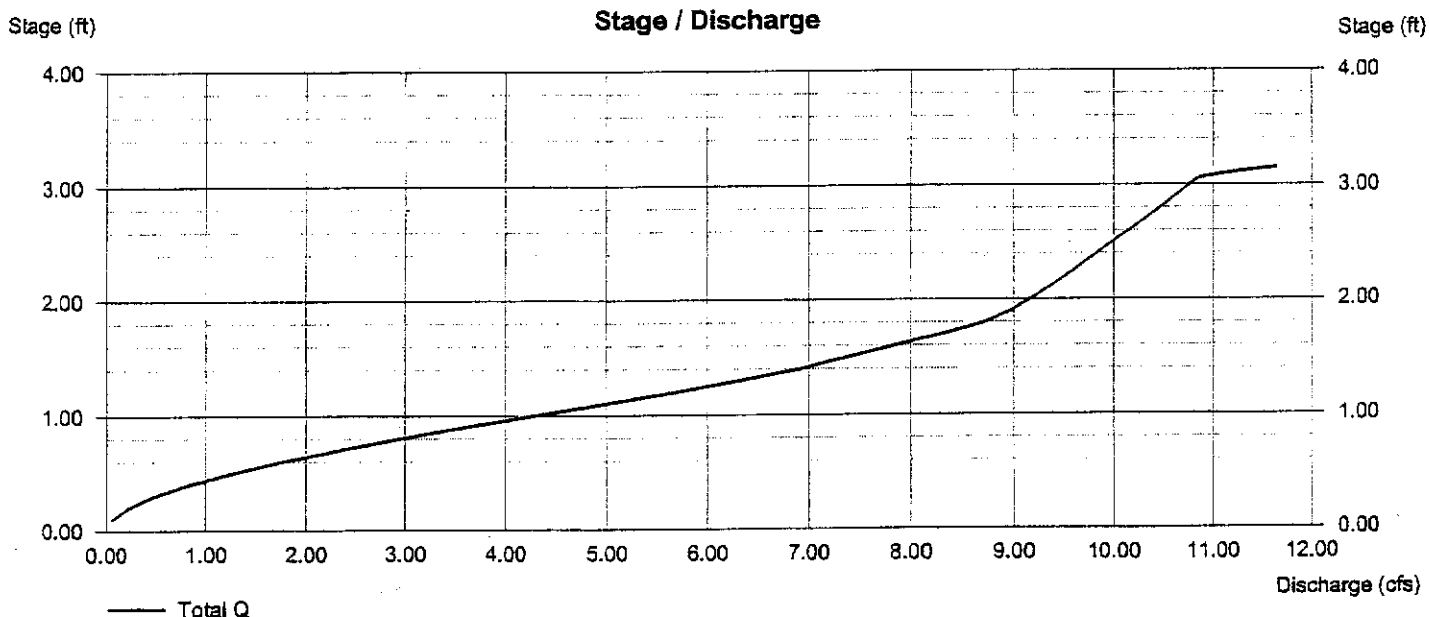
	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1322.85	0.00	0.00	0.00
Length (ft)	= 264.93	0.00	0.00	0.00
Slope (%)	= 0.80	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 6.28	0.00	0.00	0.00
Crest El. (ft)	= 1325.90	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	—	—	—
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

13

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:9 PM

Hyd. No. 9

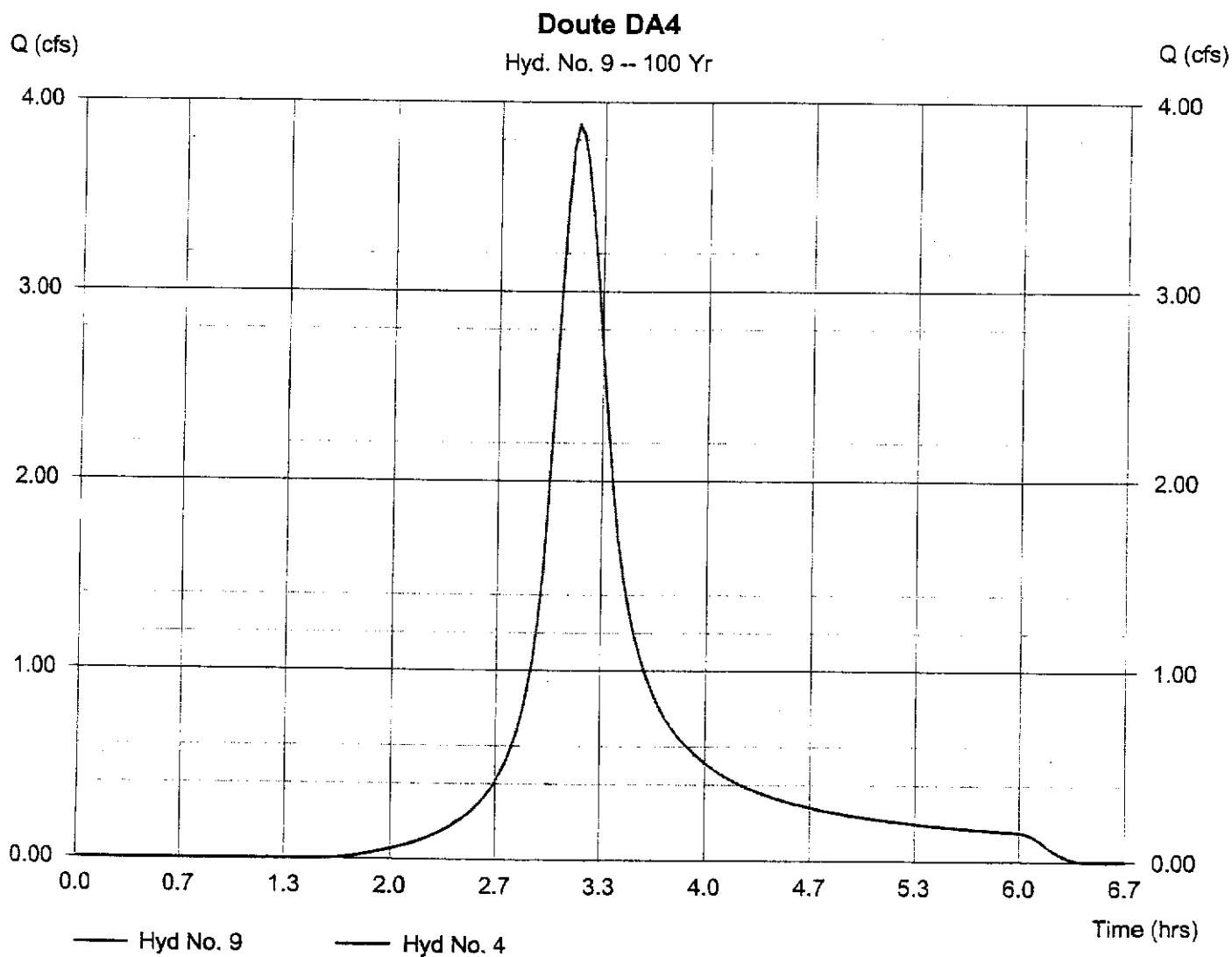
Doute DA4

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 4
Reservoir name = To Drop Inlet 4

Peak discharge = 3.88 cfs
Time interval = 2 min
Max. Elevation = 1324.86 ft
Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 0.230 acft



Pond Report

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 29 2006, 12:9 PM

Pond No. 4 - To Drop Inlet 4

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1323.80	04	0.000	0.000
1.00	1324.80	04	0.000	0.000
2.00	1325.80	04	0.000	0.000
2.50	1326.30	04	0.000	0.000
3.00	1326.80	04	0.000	0.000

Culvert / Orifice Structures

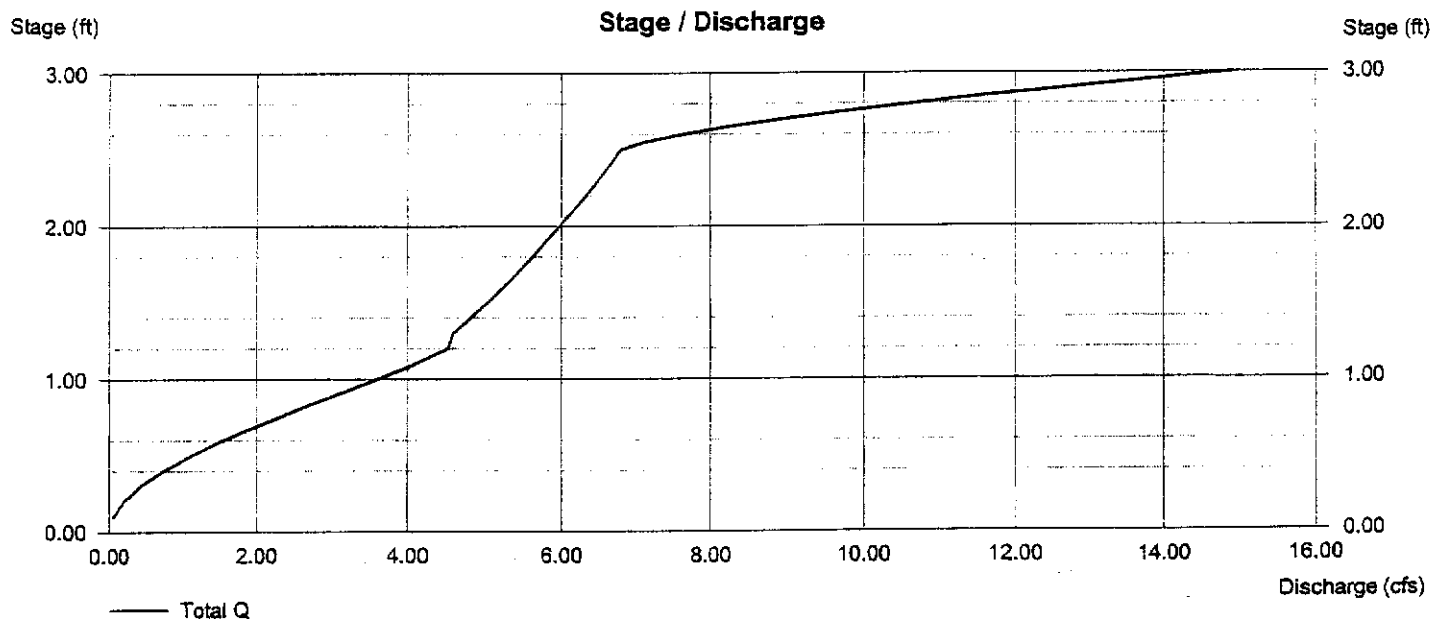
	[A]	[B]	[C]	[D]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1323.80	0.00	0.00	0.00
Length (ft)	= 135.00	0.00	0.00	0.00
Slope (%)	= 0.70	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 8.00	0.00	0.00	0.00
Crest El. (ft)	= 1326.30	0.00	0.00	0.00
Weir Coeff.	= 2.60	0.00	0.00	0.00
Weir Type	= Rect	—	—	—
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

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Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:9 PM

Hyd. No. 10

Route DA5

Hydrograph type = Reservoir

Storm frequency = 100 yrs

Inflow hyd. No. = 5

Reservoir name = To Detention Pond

Peak discharge = 6.44 cfs

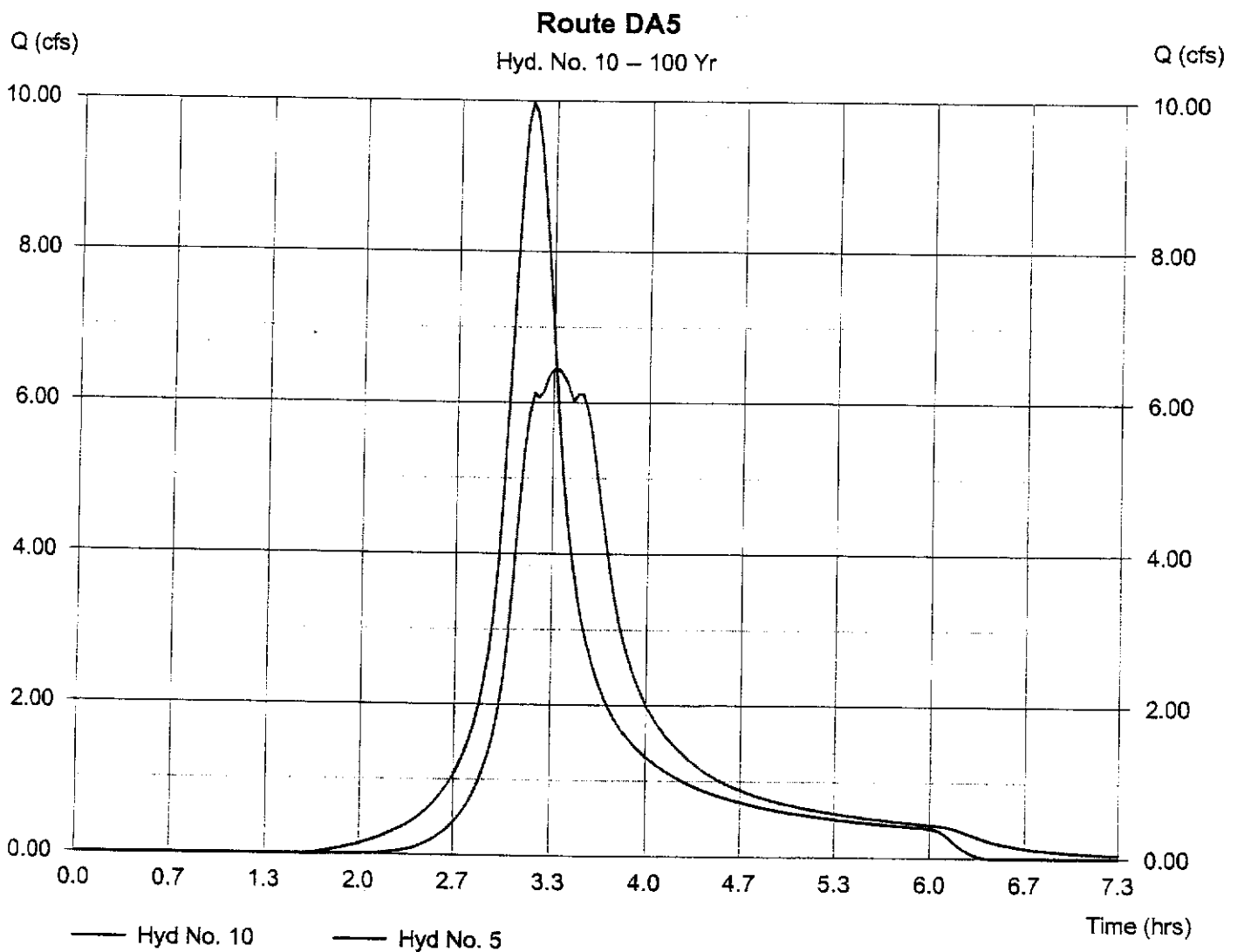
Time interval = 2 min

Max. Elevation = 1321.62 ft

Max. Storage = 0.144 acft

Storage Indication method used.

Hydrograph Volume = 0.592 acft



Pond Report

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:9 PM

Pond No. 5 - To Detention Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1320.00	2,925	0.000	0.000
0.50	1320.50	3,449	0.037	0.037
1.00	1321.00	3,988	0.043	0.079
2.00	1322.00	5,107	0.104	0.184
3.00	1323.00	6,282	0.131	0.314
4.00	1324.00	8,458	0.169	0.484
5.00	1325.00	11,185	0.225	0.709

Culvert / Orifice Structures

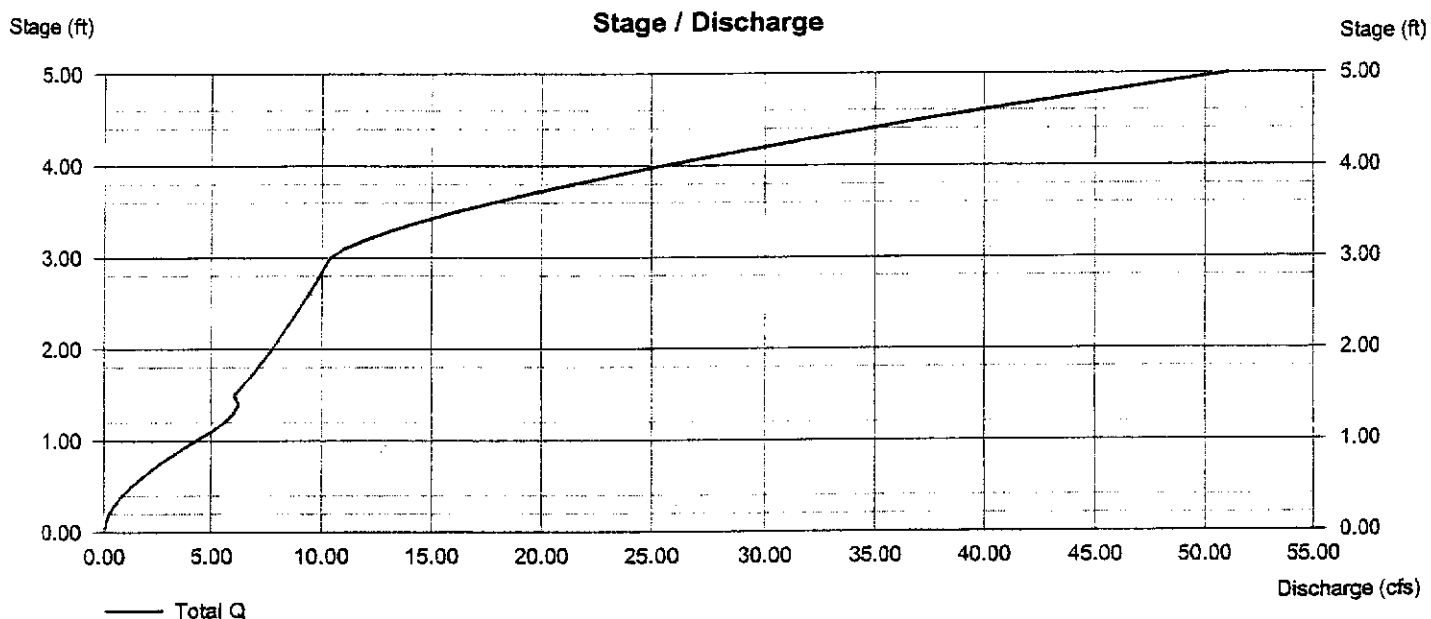
	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1320.00	0.00	0.00	0.00
Length (ft)	= 150.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 1323.00	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	0.00	0.00
Weir Type	= Cipiti	—	—	—
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

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Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:9 PM

Hyd. No. 11

Combine DA1, DA2, & DA5

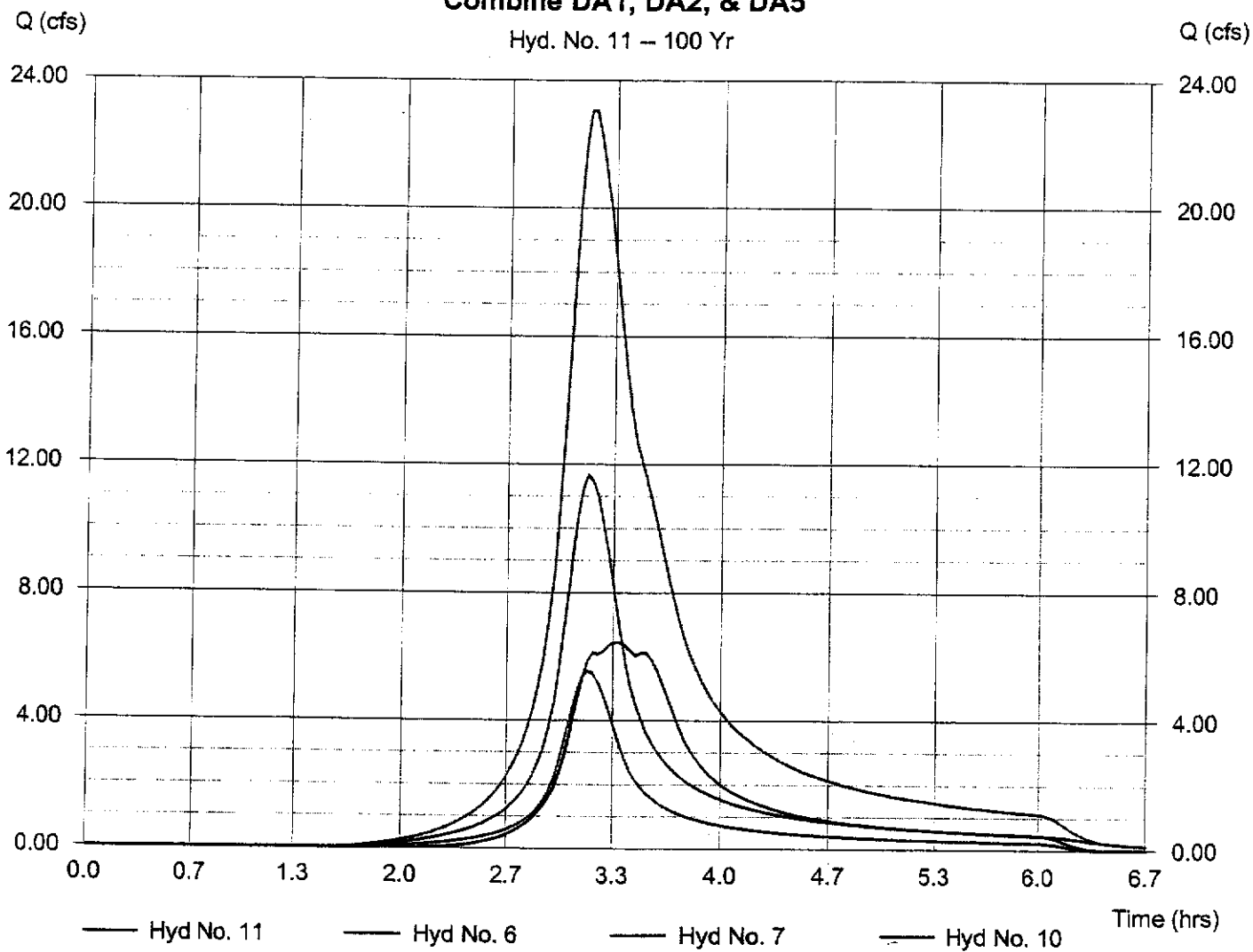
Hydrograph type = Combine
Storm frequency = 100 yrs
Inflow hyds. = 6, 7, 10

Peak discharge = 23.06 cfs
Time interval = 2 min

Hydrograph Volume = 1.611 acft

Combine DA1, DA2, & DA5

Hyd. No. 11 - 100 Yr



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:9 PM

Hyd. No. 12

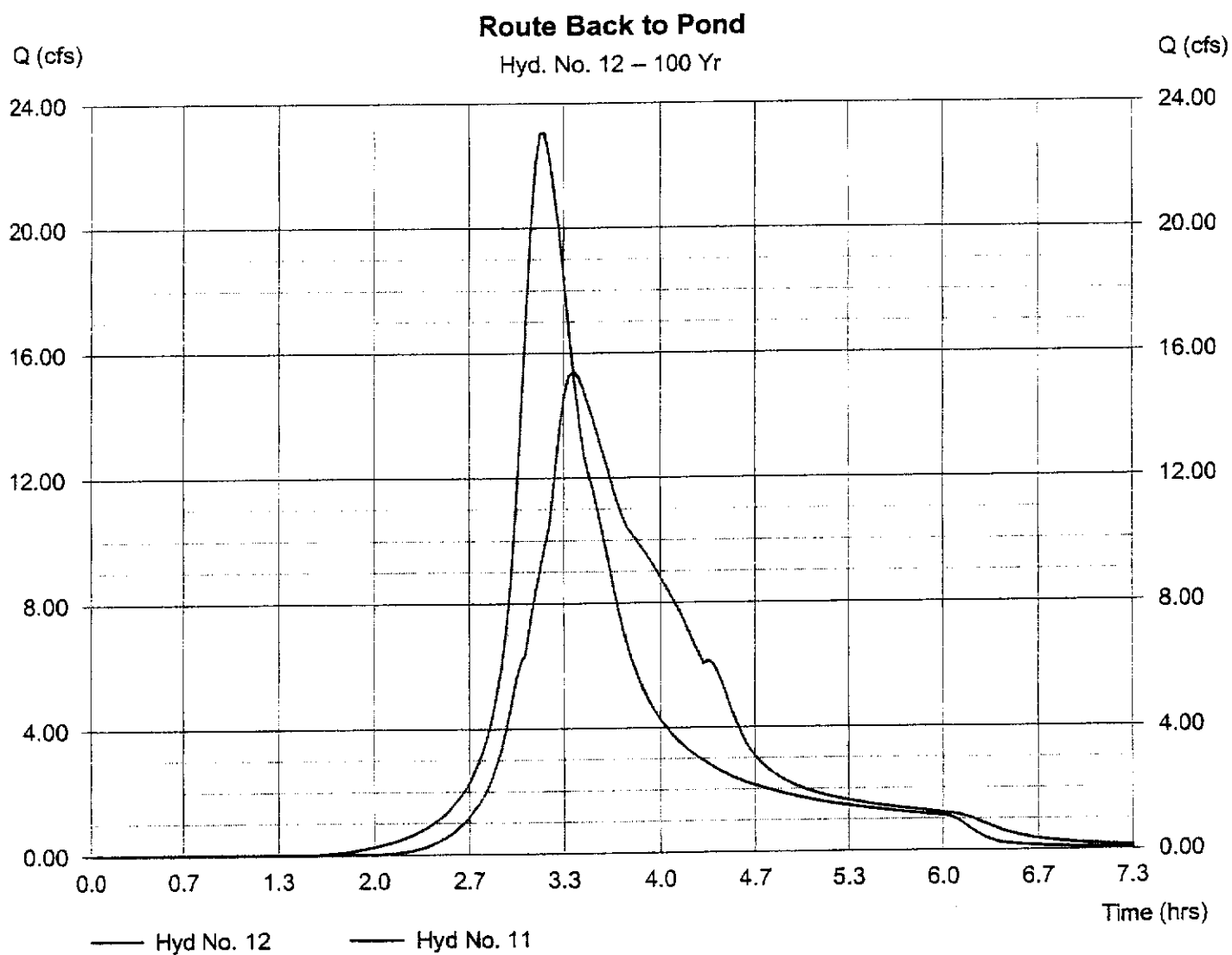
Route Back to Pond

Hydrograph type = Reservoir
 Storm frequency = 100 yrs
 Inflow hyd. No. = 11
 Reservoir name = To Detention Pond

Peak discharge = 15.42 cfs
 Time interval = 2 min
 Max. Elevation = 1323.46 ft
 Max. Storage = 0.392 acft

Storage Indication method used.

Hydrograph Volume = 1.611 acft



Pond Report

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Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:9 PM

Pond No. 5 - To Detention Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1320.00	2,925	0.000	0.000
0.50	1320.50	3,449	0.037	0.037
1.00	1321.00	3,988	0.043	0.079
2.00	1322.00	5,107	0.104	0.184
3.00	1323.00	6,282	0.131	0.314
4.00	1324.00	8,458	0.169	0.484
5.00	1325.00	11,185	0.225	0.709

Culvert / Orifice Structures

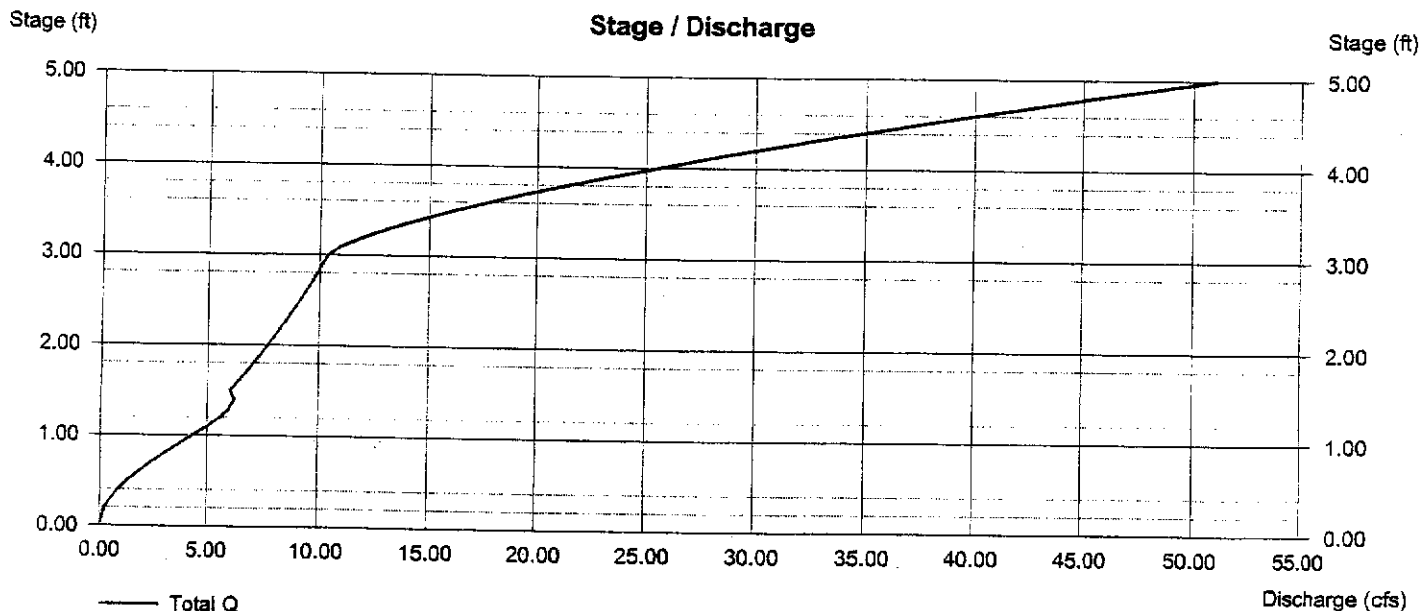
	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1320.00	0.00	0.00	0.00
Length (ft)	= 150.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 1323.00	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	0.00	0.00
Weir Type	= Cipiti	—	—	—
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Hydrograph Plot

Hydraflow Hydrographs by Intellisolve

Thursday, Jun 29 2006, 12:9 PM

Hyd. No. 13

Combine DA3 & DA4

Hydrograph type = Combine

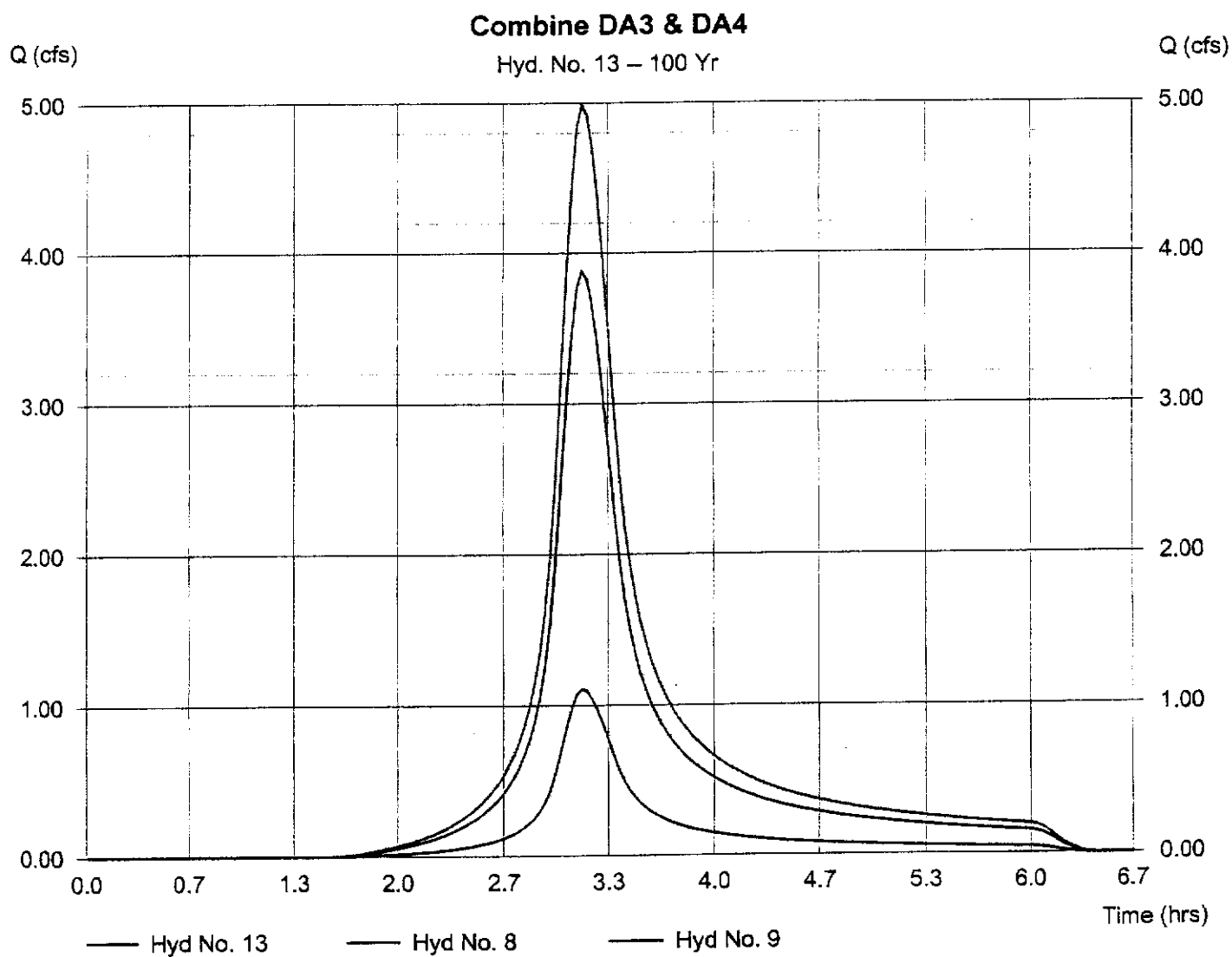
Storm frequency = 100 yrs

Inflow hyds. = 8, 9

Peak discharge = 4.99 cfs

Time interval = 2 min

Hydrograph Volume = 0.296 acft



Hydrograph Plot

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Hydraflow Hydrographs by Intellsolve

Thursday, Jun 29 2006, 12:9 PM

Hyd. No. 14

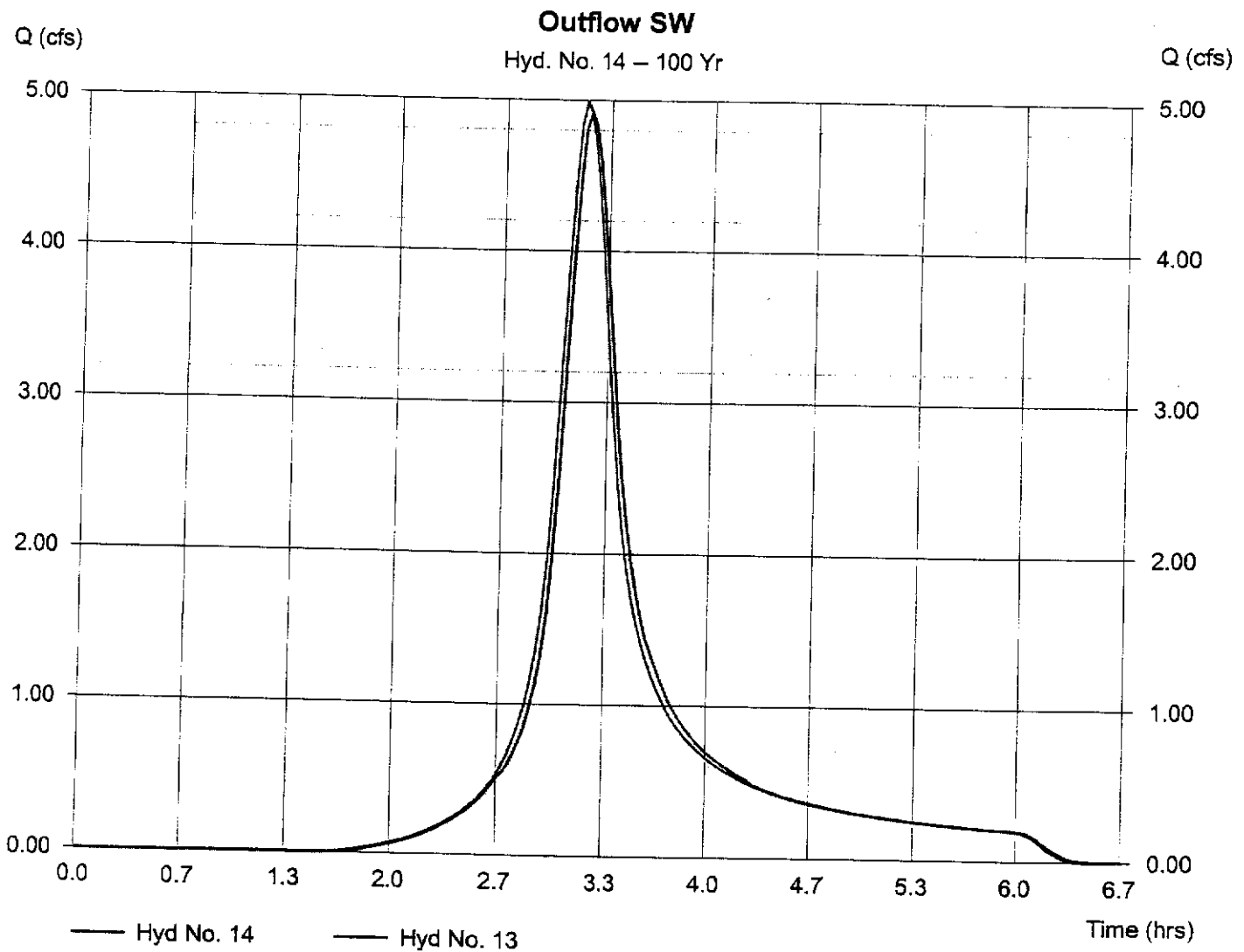
Outflow SW

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 13
Reservoir name = SW Outflow

Peak discharge = 4.93 cfs
Time interval = 2 min
Max. Elevation = 1326.35 ft
Max. Storage = 0.013 acft

Storage Indication method used.

Hydrograph Volume = 0.296 acft



Pond Report

Hydraflow Hydrographs by Intelisolve

Thursday, Jun 29 2006, 12:9 PM

Pond No. 6 - SW Outflow

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1325.90	03	0.000	0.000
0.10	1326.00	692	0.001	0.001
1.10	1327.00	2,308	0.034	0.035

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1322.85	0.00	0.00	0.00
Length (ft)	= 264.93	0.00	0.00	0.00
Slope (%)	= 0.80	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 6.28	0.00	0.00	0.00
Crest El. (ft)	= 1325.90	0.00	0.00	0.00
Weir Coeff.	= 2.60	0.00	0.00	0.00
Weir Type	= Riser	—	—	—
Multi-Stage	= Yes	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.

