GOEDECKE ENGINEERING CO.

TRANSMITTAL

TO: Vickie Huang, P.E.	FROM: Max Hubbell
COMPANY: City of Wichita	DATE: 6/6/02
FAX NUMBER: 321-4199	TOTAL NO. OF PAGES INCLUDING COVER: 2 sets
PHONE NUMBER: 321-3773	SENDER'S REFERENCE NUMBER:
RE: Enterprise Elementary School	YOUR REFERENCE NUMBER:

☐ URGENT ☒ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

Enclosed please find two (2) copies of the Drainage Report and two (2) sets of the construction plans for the Drainage Channel & Storm Sewer Improvements for the above referenced project.

If you have any questions, please feel free to call.

cc: Corey Schultz
PBA

205 S. MAIN
EL DORADO, KANSAS 67042

GOEDECKE ENGINEERING CO.

DRAINAGE REPORT FOR

ENTERPRISE ELEMENTARY SCHOOL

WICHITA, KANSAS

JUNE 6, 2002

205 SOUTH MAIN

EL DORADO, KANSAS

316-321-3773 FAX 321-4199

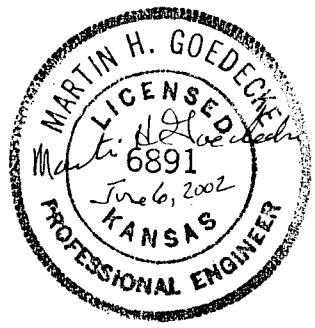


TABLE OF CONTENTS

DRAINAGE REPORT FOR
ENTERPRISE ELEMENTARY SCHOOL

3605 South Gold Street
Wichita, Kansas

LOCATION

The subject property bounded by Carpenter Stadium of South High School on the West side, Interstate Highway I-235 on the South side, and Gold Street on the East side.

The drainage area studied is approximately thirty acres. Approximately twenty and four tenths acres lie north up stream of the school site and the east three and seven tenths acres is currently residential. The School site is approximately nine and six tenths acres.

SOILS

According to the Soil Survey of Sedgwick County, Kansas by the U.S. Dept. of Agriculture the south half of the School site is Cc (Canadian fine sandy loam) and the northern part is Ca (Carwile fine sandy loam). The drainage area north is Ua (Urban land-Canadian complex). According to the contour interval of the USGS East Wichita Quadrangle 7.5 minute series (Exhibit A) the area is extremely flat, 5 feet of relief in 3500 feet is 0.14 per cent grade. Actual field survey indicates a 0.28 per cent to a 0.30 per cent grade on the site, which was use in the drainage study.

The Hydrological Soil Group for the soils Cc and Ua is the B group and Ca is in the D group.

PRE-DEVELOPED CONDITIONS

Presently the property is being used by South High School for ball fields. So the subject drainage area is well maintained and mowed. The area is fenced with a six foot high chain fence. Gold Street is located in an old railroad right-of-way.

The old railroad ditch from 33rd Street drains the area south along Gold Street to a curb inlet on the west side of Gold Street at the southeast corner of the school site. This curb inlet is in a sump. There is an eighteen inch reinforced concrete pipe (RCP) crossing Gold Street to a east sump curb inlet that has an 42" RCP leaving the east curb inlet and discharging into a sand pit east of the Gold Street inlets. The east curb inlet has a 42" RCP entering it form the south that has two curb inlets and an area inlet discharging into it. Two exhibits B-1 and B-2 illustrate the existing receiving storm sewer.

The north ditch of Interstate I-235 Highway drains to the west Gold St. curb inlet. The crest of the north ditch is approximately at the mid point of Carpenter Stadium. The grade is separated at Gold Street and I-235 with I-235 overhead. At Gold Street I-235 is in a super elevated curve. The south East bound lane slopes southerly into the south highway ditch and drains on westward. The north West bound lane slopes into the median ditch which drains west into a cross road structure into a storm sewer draining westerly. The I-235 highway right-of-way was not included in the study.

There is a small RCP under the I-235 embankment along the west side of Gold Street lying in a North/South direction. We believe this pipe carried the west railroad ditch southerly under I-235.

Presently it appears that it doesn't function. The flow is directed away from it to the sump inlets on Gold Street

FLOOD PLAIN

Approximately the south half of the school site lies within the floodway fringe as shown in Exhibit B-1.The water surface elevation is 1280. The school building finished floor elevation is 1282.4

CURRENT RUNOFF CHARACTERICS

It was determined that the thirty acres has a travel length of 2150 feet and an average basin slope of 0.3% at a time of concentration (Tc) of 65 minutes. We considered the 3.7 acres of residential to have a complex number (CN) of 75 for small residential lots less than ¼ acre with an average of 38% impervious. In the northwest corner of the drainage area is part of the South High School complex and parking lot adding up to 1.5 acres. This 1.5 acres was assigned a CN of 98. The south 4.8 acres was assign a CN of 80 and the remainder 20 acres was assign a CN of 61 for open spaces with grass cover of 75% or more for soils groups D and B respectively.

The peak runoff from the studied thirty acres in its current condition is

2 year storm (3.5 inches per hour) - 8.4 cubic feet per second (cfs)

5 year storm (4.5 inches per hour) - 17.5 cfs

100 year storm (7.9 inches per hour) - 56.5 cfs

Exhibit C shows the different runoffs.

Hydroflow software was used to model the studied area using the SCS method to calculate the runoff for this study.

POST DEVELOPMENT RUNOFF CHARACTERICS

The site is planned to be developed into an elementary school. The school building, driveways, parking, and sidewalks will cover approximately 3.8 acres leaving 6.9 acres in grass. The average basin slope for the developed area is 2 per cent.

The time of concentrations are very small for the various sub-basins. For this study we used the chart in Figure 3-1 entitled "Average velocities for estimating travel time of overland flow", from U.S. Dept of Agriculture Technical Release No. 55 to estimate the time of concentration.

Reference Exhibit D – Drainage Areas Enterprise School

DA #1 is north of the school does not change. It consists of 3.7 acres of existing residential and 16.7 acres of flat open space land.
Total Area = 20.4 Acres
  3.7 Acres @ CN of 75
  16.7 Acres @ CN of 61
Travel Length 1275 feet
Average Basin Slope 0.15 %
Hydrological Soil Group B
Tc = 45 minutes

DA #2 is mostly open grass playground area. There is 0.09 acres of the building that runs off into this basin.
Total Area = 2.79 Acres
0.09 Acres @ CN of 98
2.70 Acres @ CN of 61
Travel Length 675 feet
Average Basin Slope 0.75 %
Hydrological Soil Group B
Tc = 20 minutes

DA #3 has 0.44 acres of open area and 0.35 acres of impervious.
Total Area = 0.79 Acres
0.35 Acres @ CN of 98
0.44 Acres @ CN of 61
Travel Length 355 feet
Average Basin Slope 2 %
Hydrological Soil Group B
Tc = 5 minutes

DA #4 is all hard surface.
Total Area = 0.19 Acres
0.19 Acres @ CN of 98
Travel Length 65 feet
Average Basin Slope 2 %
Hydrological Soil Group B
Tc = 2 minutes

DA #5 is mostly hard surface.
Total Area = 0.59 Acres
0.59 Acres @ CN of 98
Travel Length 205 feet
Average Basin Slope 2 %
Hydrological Soil Group B
Tc = 2 minutes

DA #6 has 0.58 Acres of hard surface and 0.52 acres of grass channel.
Total Area = 1.1 Acres
0.52 Acres @ CN of 61
0.58 Acres @ CN of 98
Travel Length 440 feet
Average Basin Slope 2 %
Hydrological Soil Group B
Tc = 5 minutes

DA #7 has 0.58 Acres of hard surface and 0.23 acres of grass channel.
Total Area = 1.06 Acres
0.28 Acres @ CN of 80
0.78 Acres @ CN of 98
Travel Length 340 feet
Average Basin Slope 2 %
Hydrological Soil Group D
Tc = 5 minutes

DA #8 has 1.03 Acres of hard surface and 0.52 acres of grass area & channel.
Total Area = 1.55 Acres
0.52 Acres @ CN of 80
1.03 Acres @ CN of 98
Travel Length 610 feet
Average Basin Slope 2 %
Hydrological Soil Group D
Tc = 5 minutes

DA #9 is mostly open grass area with a small amount of building area runoff into it.
Total Area = 2.63 Acres
2.51 Acres @ CN of 80
0.12 Acres @ CN of 98
Travel Length 830 feet
Average Basin Slope 1 %
Hydrological Soil Group D
Tc = 26 minutes

Drainage Area #1 uses a minimal storage within the existing drainage channel north of the building site created by the north driveway. Mainly, the north bus driveway creates the hydraulic head at the 24" RCP under the drive. Drainage Area #2 also uses the storage within the proposed earthen channel created by north driveway. The maximum water surface elevation of a 5 year storm is 91.28 (Reference Exhibit E-1Hydrograph #2 & #4) at north driveway culvert. The surrounding area north and east of the drainage channel, the residential area is an average elevation of 94. The top of sidewalk on the north side of the north driveway is an elevation of 92.75. Water surface elevation of a 100 year frequency storm would be approximately 93 leaving an approximately 1 foot of freeboard. The area on the west side of the drainage channel north of the building site is school ball fields and has an average elevation of 94 also.

Drainage Areas #3 thru #5 and the parking of DA #6 flow through a storm sewer system into the Gold Street channel that acts as detention that is created by the south bus driveway. This driveway is the second driveway south. The elevation of top of curb on this drive is 92.0. The maximum water surface elevation of a 5 year storm is 90.22 (Reference Exhibit E-1Hydrograph #12) at south bus driveway culvert. The elevation of the top of curb on the Gold Street driveway curb return is 92.4 keeping the 100 year frequency storm out of Gold Street.

Drainage Area #7 flows along the internal driveways into the Gold Street channel. The next driveway south of the south bus driveway, the third one from the north, referenced as the middle driveway has a top of curb elevation of 91. The maximum water surface elevation of a 5 year storm is 88.12 (Reference Exhibit E-1Hydrograph #14) at the driveway culvert. The elevation of the top of curb on Gold Street driveway return is 90.10. The overflow from a 100 year storm will enter Gold Street at this driveway. The effects of this will be minimal since the backwater from the Big Slough of the 100 year storm inundates Gold Street (Exhibit B-2).

Drainage Area #8 contains the south part of the building and flows along the service entrance driveway into the Gold Street Channel. This driveway's south curb has a top of curb elevation of 89.75. The maximum water surface elevation of a 5 year storm is 87.33 (Reference Exhibit E-1 Hydrograph #17) at the driveway culvert. The elevation of the top of curb on Gold Street driveway return is 89.90.

Drainage Area #9 contains the southerly area of the school site that does not flow into any retention area. It enters the Gold Street channel at the inlets on Gold Street. The west curb elevation of Gold Street at the sump inlets is 88.2. The maximum water surface elevation of a 5 year storm is 85.92 (Reference Exhibit E-1 Hydrograph #17) at sump inlets.

Exhibits F-1 thru F-4 is the report from the existing Gold Street storm sewer referenced in Exhibits C-1 & aC-2 modeled using Haestad's StormCad software. The runoff from the school site of 20.4 cfs from a five year storm is entered into Gold Street storm sewer. The computer model adds flow into each inlet to approximate a full capacity pipe discharging into the sand pit. The pipe entering the inlet on the west side of Gold Street had to be increased to 24" diameter to over come the entrance losses. Once the runoff from the school site is into the storm sewer system the hydraulic grade (HGL) line falls to full pipe capacity. The existing 18" RCP across Gold Street is surcharged. However, the HGL is well below the ground elevation. From Node Report table (F-3) the HGL at the west Gold Street inlet (I-11, of F-3) is elevation of 87.21 compared to the top of curb elevation of 88.20.

The five year frequency storm will be maintained in the drainage channel along Gold Street. The hundred year frequency storm will overflow the north driveways and will not enter Gold Street until it reaches the middle driveway which will be inundated from the backwater of the Big Slough.

In Appendix A are the Reservoir Reports used in Hydroflow model.


Project Site
WALKER AVE
SANTA FE
Armory
Lincoln Sch
Lincoln Park
ZIMMERLY
HARRY ST
Payne Sch
ATCHISON
TOPEKA
ESTHNER AVE
Stanley Sch
Aley Park
FUNSTON AVE
MAY AVE
Orville Wright Boys Sch
MT VERNON
WACO
BROADWAY
ST FRANCIS
LYDIA AVE
Longfellow Sch
KINKAID
Home for the Aged
PAWNEE AVE
Beulah Park
Woodman Sch
Truesdell Jr High Sch
Herman Hill Park
SENECA
WATSON PARK
27TH ST
Martin Sch
29TH
Sandpit
St Anne Sch
Knight Sch
KANSAS
OKLAHOMA
ARKANSAS
WASHINGTON
MERIDIAN
GLENN
ELIZABETH
31ST ST
Kelly Sch
Osage Park
South High Sch
35TH ST
Pit
Big Slough
Enterprise Sch
Trailer Park
WACO
T. 27 S.
T. 28 S.
360 000 FEET
2 330 000 FEET
R. 1 W.
R. 1 E.
37°37′30″
97°22′30″
MIDLAND 0.8 MI.
13 MI. TO INTERSTATE 135
3.9 MI. TO U.S. 54
VIOLA 21 MI.
SCHULTE 6.9 MI.

EXHIBIT A

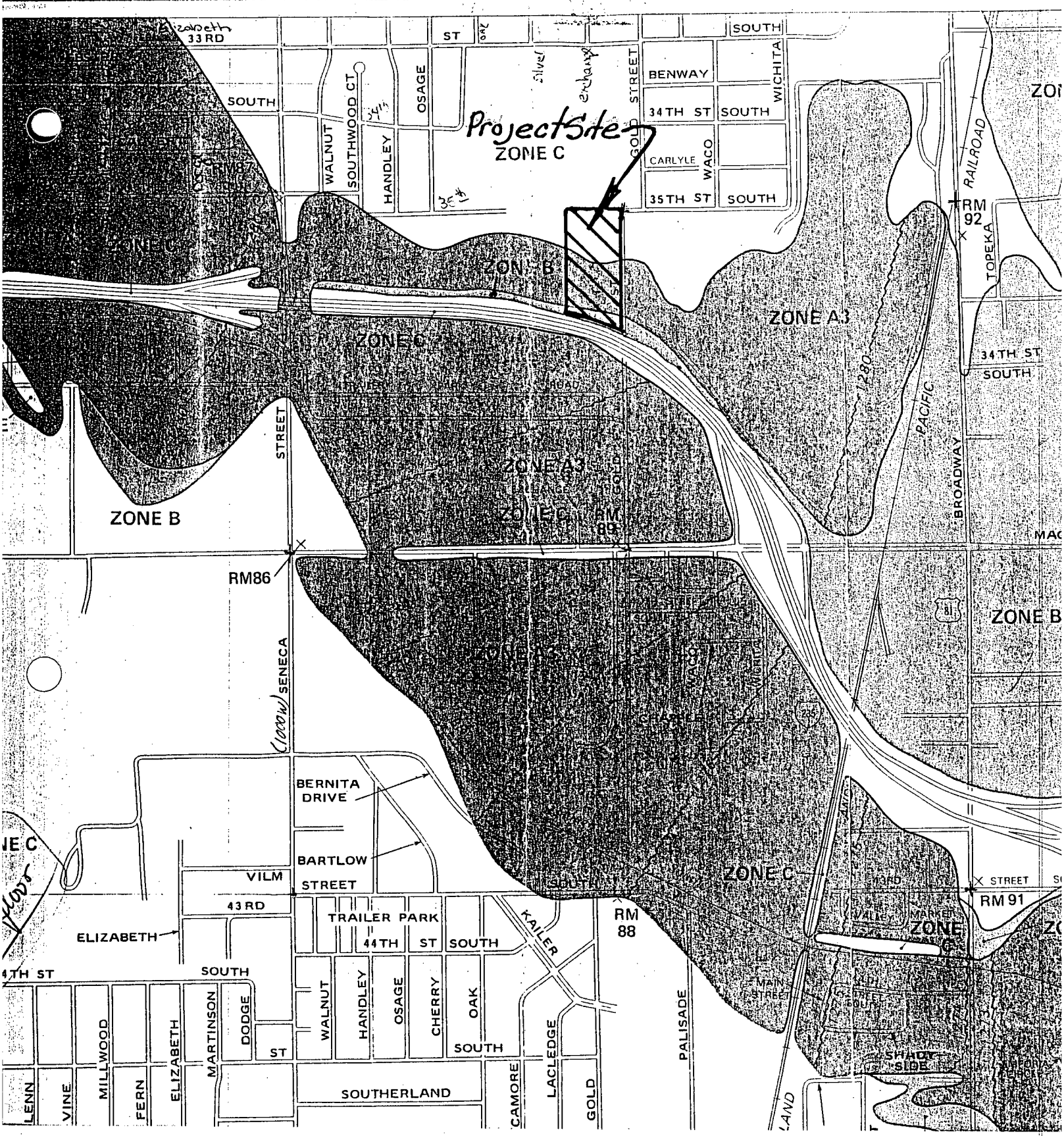
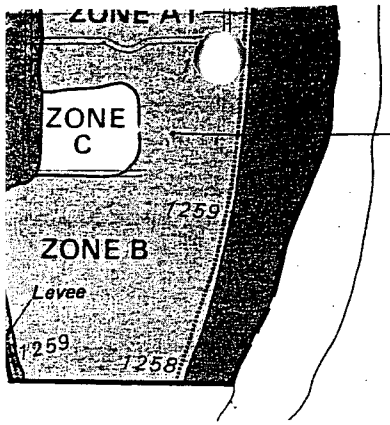

Project Site
ZONE C
ZONE B
ZONE A3
ZONE C
ZONE A3
ZONE C
ZONE B
ZONE A3
ZONE C
ZONE B
RM87
RM86
RM 89
RM 88
RM 92
RM 91
33RD
SOUTH
ST
OAK
SOUTHWOOD CT
WALNUT
HANDLEY
OSAGE
GOLD STREET
BENWAY
WICHITA
34TH ST SOUTH
CARLYLE
WACO
35TH ST SOUTH
RAILROAD
TOPEKA
PACIFIC
BROADWAY
1280
34TH ST SOUTH
STREET
SENECA
BERNITA DRIVE
BARTLOW STREET
VILM
43RD
ELIZABETH
TRAILER PARK
44TH ST SOUTH
KAILER
MILLWOOD
FERN
ELIZABETH
MARTINSON
DODGE
ST
WALNUT
HANDLEY
OSAGE
CHERRY
OAK
SOUTH
SOUTHERLAND
CAMORE
LACLEDGE
GOLD
PALISADE
MAIN STREET
SHADY SIDE

EXHIBIT B-1



THIS AREA PROTECTED FROM THE ONE PERCENT ANNUAL CHANCE (100-YEAR) FLOOD BY LEVEE, DIKE, OR OTHER STRUCTURES SUBJECT TO POSSIBLE FAILURE OR OVER-TOPPING DURING LARGER FLOODS.

EXHIBIT B-2

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
WICHITA,
KANSAS
SEDGWICK COUNTY

PANEL 35 OF 40
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
200328 0035 B

EFFECTIVE DATE:
MAY 15, 1986

Federal Emergency Management Agency

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Return period (yrs)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	8.4	5	755	1.74	2	—	——	——	Existing 30 Ac
2	SCS Runoff	17.3	2	756	3.14	5	—	——	——	Existing 30 Ac
3	SCS Runoff	56.5	5	750	9.11	100	—	——	——	Existing 30 Ac
4	SCS Runoff	29.6	2	718	1.37	2	—	——	——	Improved
5	SCS Runoff	44.3	2	716	2.06	5	—	——	——	Improved
6	SCS Runoff	96.5	2	716	4.62	100	—	——	——	Improved
7	SCS Runoff	21.1	6	756	3.57	100	—	——	——	Existing Enter
8	SCS Runoff	8.6	6	744	1.33	2	—	——	——	DA North Ex
9	SCS Runoff	17.5	2	742	2.35	5	—	——	——	DA North Ex
10	SCS Runoff	50.2	6	744	6.51	100	—	——	——	DA North Ex
11	Combine	49.0	2	718	4.41	5	9 + 5	——	——	Imp + North Ex

oj. file: 6234_EX.GPW | IDF file: SAMPLE.IDF | Run date: 05-23-2002

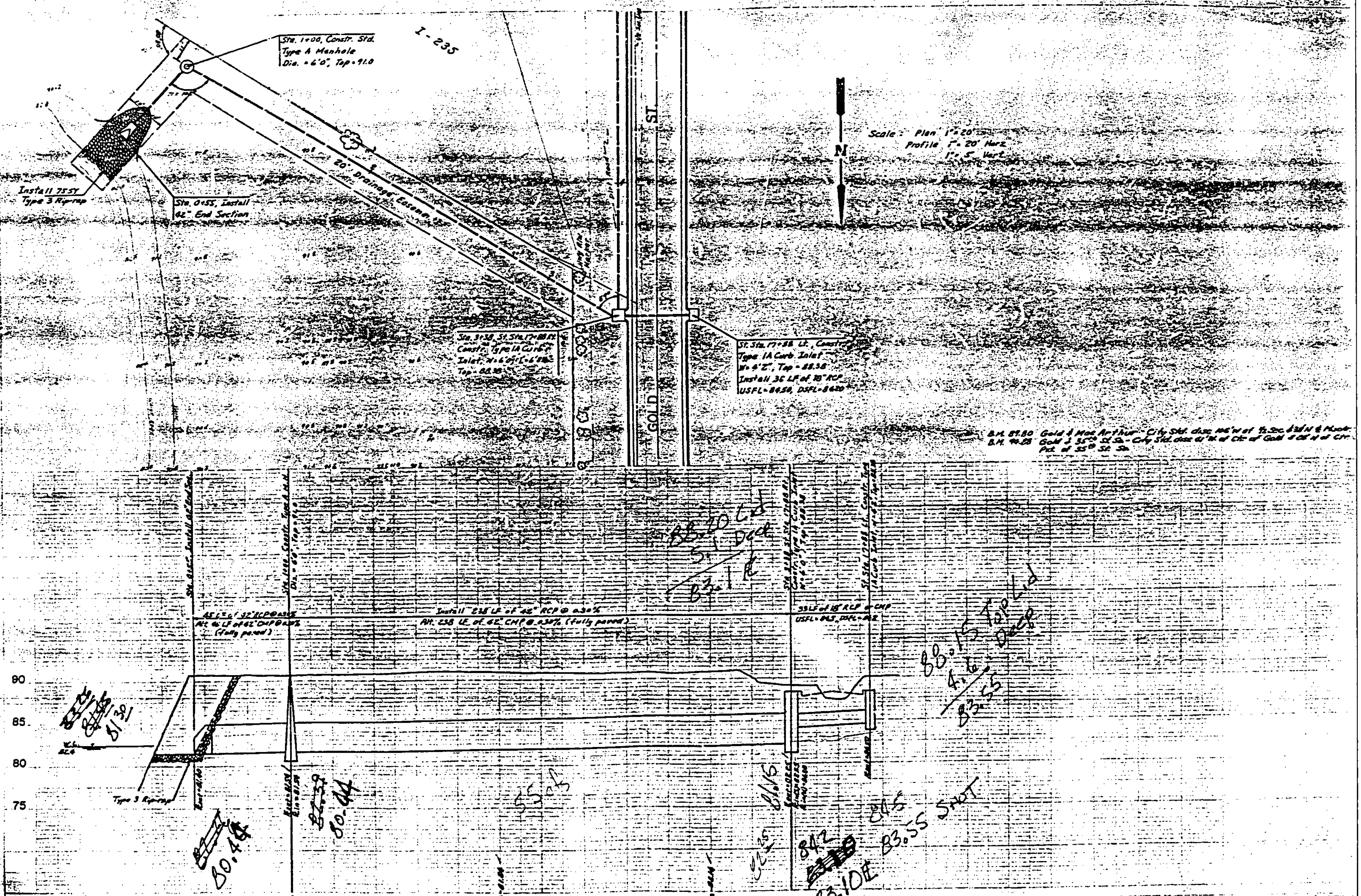
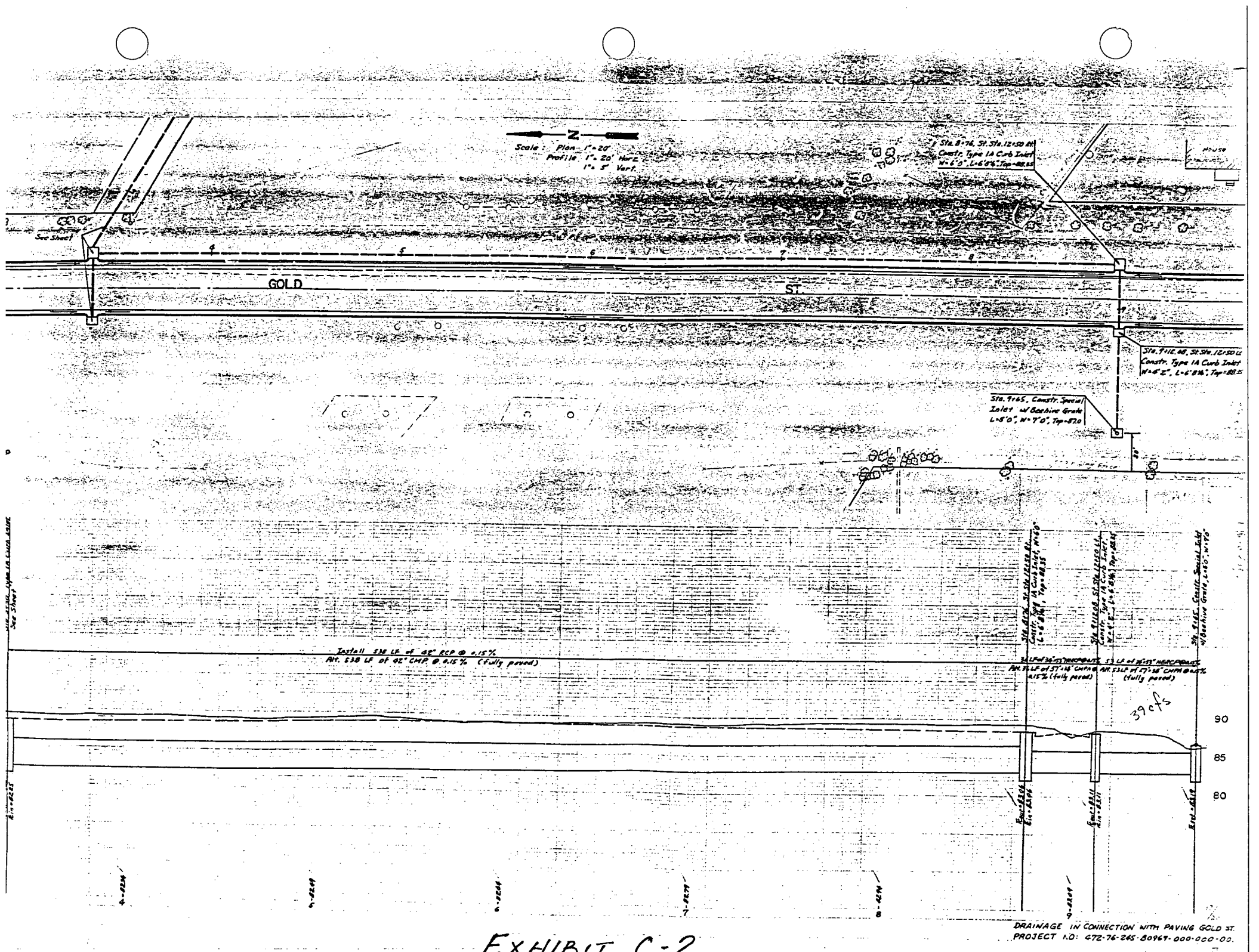


EXHIBIT C-1

DRAINAGE IN CONNECTION WITH
PROJECT NO: 472-76-265-8096



DRAINAGE IN CONNECTION WITH PAVING GOLD ST.
PROJECT I.D: G72-76-265-80969-000-000-00.

EXHIBIT C-2

DRAINAGE AREAS
ENTERPRISE ELEMENTARY SCHOOL

3605 South Gold
Wichita, Kansas

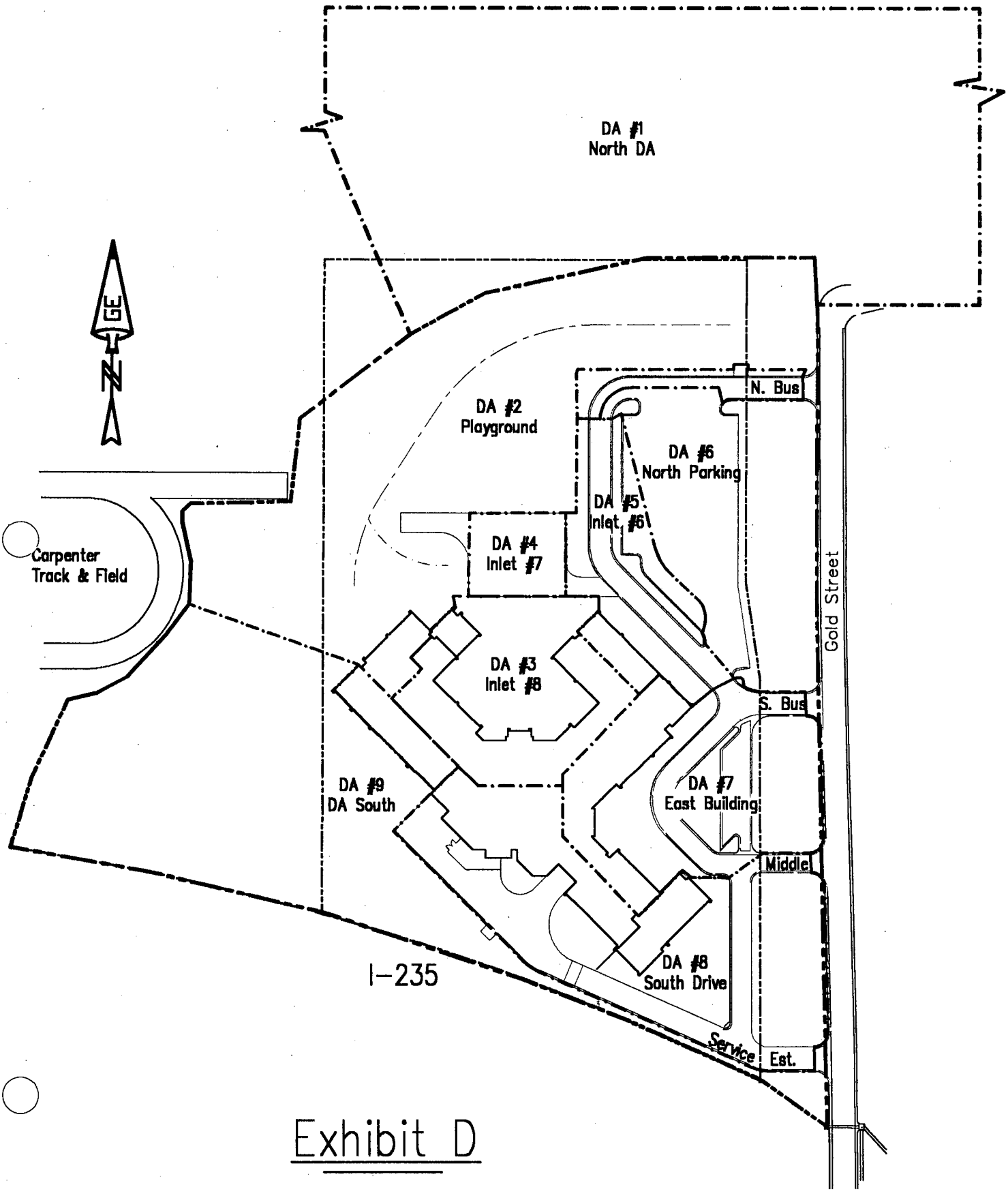


Exhibit D

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Return period (yrs)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	14.3	2	742	2.03	5	—	———	———	DA North
2	Reservoir	14.3	2	744	2.03	5	1	91.28	165	North DA
3	SCS Runoff	1.5	2	744	0.22	5	—	———	———	Playground(Nor
4	Reservoir	1.4	2	752	0.22	5	3	90.81	93	Playground Nor
5	Combine	15.7	2	744	2.25	5	2 + 4	———	———	North DA & Pal
6	SCS Runoff	4.1	2	720	0.24	5	—	———	———	DA Inlets #8&7
7	Reservoir	1.7	2	732	0.24	5	6	93.04	3100	Inlets 8&7
8	SCS Runoff	7.1	2	716	0.39	5	—	———	———	Inlets #6 & 5
9	Reservoir	0.1	2	1054	0.05	5	8	93.01	15068	North Parking
10	Combine	1.7	2	732	0.29	5	7 + 9	———	———	North Building
11	Combine	16.5	2	744	2.54	5	5 + 10	———	———	North Areas
12	Reservoir	14.7	2	756	2.54	5	11	90.22	7992	North Retentio
13	SCS Runoff	5.9	2	718	0.34	5	—	———	———	East Building
14	Reservoir	5.0	2	722	0.34	5	13	88.12	1001	Middle Retenti
15	Combine	18.0	2	750	2.88	5	12 + 14	———	———	DA #7 + North
16	SCS Runoff	7.5	2	720	0.47	5	—	———	———	South Drive
17	Reservoir	5.9	2	726	0.47	5	16	87.33	1987	South Retentio
18	Combine	18.9	2	750	3.34	5	15 + 17	———	———	DA #8 + North
19	SCS Runoff	5.0	2	730	0.46	5	—	———	———	DA South
20	Reservoir	5.0	2	730	0.46	5	19	85.92	104	Gold Street In
21	Combine	21.4	2	750	3.80	5	18 + 20	———	———	Total

Proj. file: 6234DTCH.GPW | IDF file: SEDGWICK.IDF | Run date: 06-05-2002

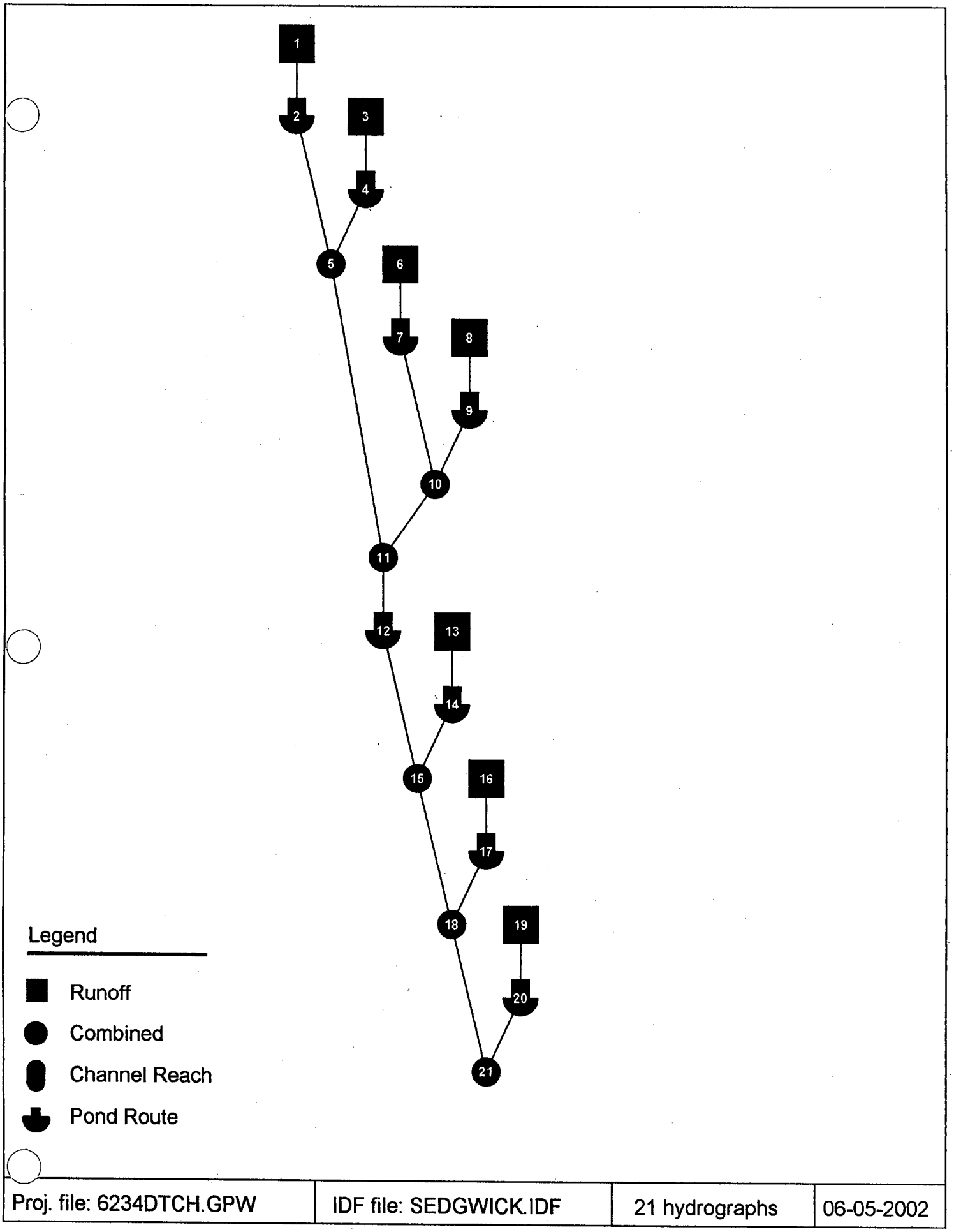


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Exhibit E-2

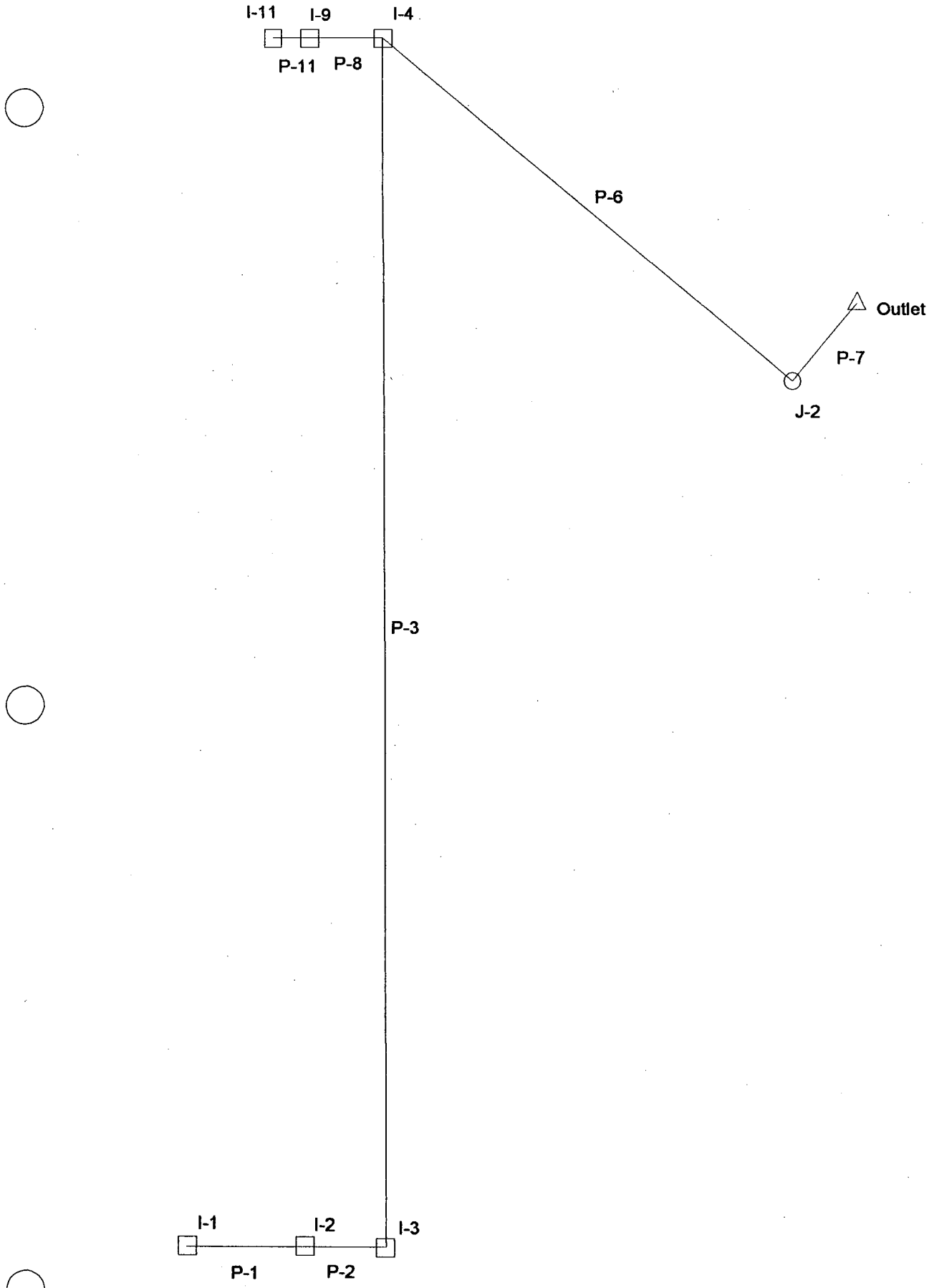

Exhibit F-1

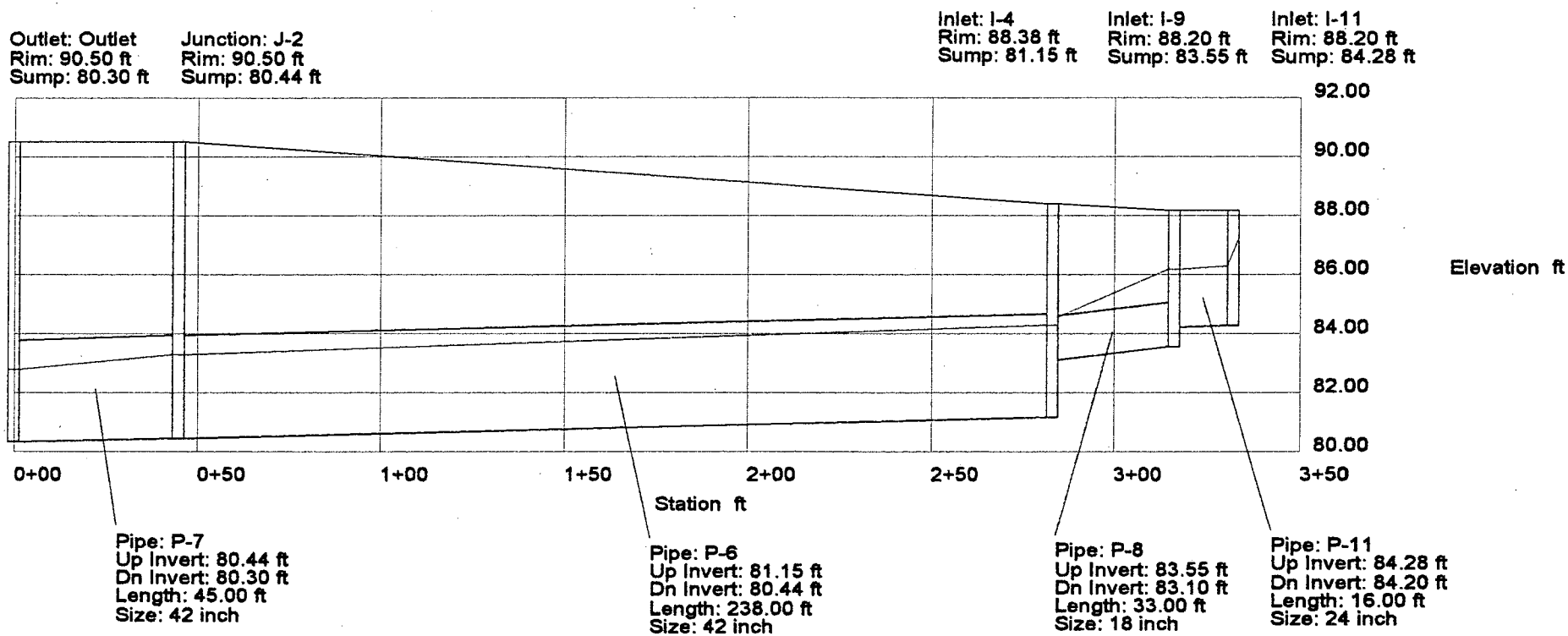
Outlet: Outlet
Rim: 90.50 ft
Sump: 80.30 ft
Junction: J-2
Rim: 90.50 ft
Sump: 80.44 ft
Inlet: I-4
Rim: 88.38 ft
Sump: 81.15 ft
Inlet: I-9
Rim: 88.20 ft
Sump: 83.55 ft
Inlet: I-11
Rim: 88.20 ft
Sump: 84.28 ft
92.00
90.00
88.00
86.00
84.00
82.00
80.00
Elevation ft
0+00
0+50
1+00
1+50
2+00
2+50
3+00
3+50
Station ft
Pipe: P-7
Up Invert: 80.44 ft
Dn Invert: 80.30 ft
Length: 45.00 ft
Size: 42 inch
Pipe: P-6
Up Invert: 81.15 ft
Dn Invert: 80.44 ft
Length: 238.00 ft
Size: 42 inch
Pipe: P-8
Up Invert: 83.55 ft
Dn Invert: 83.10 ft
Length: 33.00 ft
Size: 18 inch
Pipe: P-11
Up Invert: 84.28 ft
Dn Invert: 84.20 ft
Length: 16.00 ft
Size: 24 inch

Exhibit F-2

Node Report

Node	Inlet Area (acres)	Weighted Roughness Coefficient	Inlet CA (acres)	External CA (acres)	Total CA (acres)	Inlet TC (min)	External TC (min)	Upstream Flow Time (min)	System Flow Time (min)	System Intensity (in/hr)	Total Watershed (CIA) (cfs)	Additional Flow (cfs)	Carryover (cfs)	Known Flow (cfs)	Total Upstream Added (cfs)	Discharge (cfs)	Ground Elevation (ft)	Rim Elevation (ft)	HGL In (ft)	HGL Out (ft)	Inlet Intensity (in/hr)
I-11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.40	0.00	0.00	0.00	21.40	88.20	88.20	87.21	86.31	0.00
I-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.00	0.00	1.50	0.00	0.00	21.40	22.90	88.20	88.20	86.16	86.16	0.00
I-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.00	0.00	0.00	0.00	13.00	87.00	87.00	85.03	85.03	0.00
I-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.57	0.00	0.00	13.00	0.00	0.00	13.00	26.00	88.35	88.35	85.03	85.03	0.00
I-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.76	0.00	0.00	13.00	0.00	0.00	26.00	39.00	88.35	88.35	85.00	85.00	0.00
I-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.78	2.78	0.00	0.00	1.60	0.00	0.00	61.90	63.50	88.38	88.38	84.29	84.29	0.00
J-2	N/A	N/A	N/A	N/A	0.00	N/A	0.00	3.33	3.33	0.00	0.00	N/A	N/A	N/A	63.50	63.50	90.50	90.50	83.25	83.25	N/A
Outlet	N/A	N/A	N/A	N/A	0.00	N/A	0.00	3.42	3.42	0.00	0.00	N/A	N/A	N/A	63.50	N/A	90.50	90.50	82.80	82.80	N/A

Exhibit F-3

Pipe Report

Pipe	Upstream Node	Downstream Node	Inlet Area (acres)	Weighted Roughness Coefficient	Inlet CA (acres)	Total CA (acres)	System Intensity (in/hr)	Discharge (cfs)	Length (ft)	Constructed Slope (ft/ft)	Section Size	Roughness	Capacity (cfs)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Upstream Ground Elevation (ft)	Downstream Ground Elevation (ft)	Upstream Cover (ft)	Downstream Cover (ft)	Ups H
P-11	I-11	I-9	0.00	0.00	0.00	0.00	0.00	21.40	16.00	0.005000	24 inch	0.013	16.00	84.28	84.20	88.20	88.20	1.92	2.00	8
P-8	I-9	I-4	0.00	0.00	0.00	0.00	0.00	22.90	33.00	0.013636	18 inch	0.013	12.27	83.55	83.10	88.20	88.38	3.15	3.78	8
P-1	I-1	I-2	0.00	0.00	0.00	0.00	0.00	13.00	53.00	0.001509	42 inch	0.013	39.09	82.24	82.16	87.00	88.35	1.26	2.69	8
P-2	I-2	I-3	0.00	0.00	0.00	0.00	0.00	26.00	36.00	0.001389	42 inch	0.013	37.49	82.16	82.11	88.35	88.35	2.69	2.74	8
P-3	I-3	I-4	0.00	0.00	0.00	0.00	0.00	39.00	538.00	0.001784	42 inch	0.013	42.50	82.11	81.15	88.35	88.38	2.74	3.73	8
P-6	I-4	J-2	0.00	0.00	0.00	0.00	0.00	63.50	238.00	0.002983	42 inch	0.013	54.95	81.15	80.44	88.38	90.50	3.73	6.56	8
P-7	J-2	Outlet	N/A	N/A	N/A	0.00	0.00	63.50	45.00	0.003111	42 inch	0.013	56.11	80.44	80.30	90.50	90.50	6.56	6.70	8

APPENDIX A

Reservoir Report

Reservoir No. 1

North Channel

Culvert / Orifice Structures

		[A]	[B]	[C]
Rise (in)	=	24.0	0.0	0.0
Span (in)	=	24.0	0.0	0.0
No. Barrels	=	1	0	0
Invert El. (ft)	=	89.40	0.00	0.00
Length (ft)	=	180.0	0.0	0.0
Slope (%)	=	0.15	0.00	0.00
N-Value	=	.013	.013	.013
Orif. Coeff.	=	0.60	0.60	0.60
Multi-Stage	=	——	No	No

Weir Structures

		[A]	[B]	[C]
Crest Len (ft)	=	0.0	0.0	0.0
Crest El. (ft)	=	0.00	0.00	0.00
Weir Coeff.	=	3.00	3.00	3.00
Eqn. Exp.	=	1.50	1.50	1.50
Multi-Stage	=	No	No	No

Tailwater Elevation = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
0.0	00	89.40	0.00	—	—	—	—	—	0.00
0.1	02	89.50	0.05	—	—	—	—	—	0.05
0.2	03	89.60	0.20	—	—	—	—	—	0.20
0.3	05	89.70	0.45	—	—	—	—	—	0.45
0.4	06	89.80	0.73	—	—	—	—	—	0.73
0.5	08	89.90	1.09	—	—	—	—	—	1.09
0.6	09	90.00	1.53	—	—	—	—	—	1.53
0.7	11	90.10	2.04	—	—	—	—	—	2.04
0.8	12	90.20	2.41	—	—	—	—	—	2.41
0.9	14	90.30	2.99	—	—	—	—	—	2.99
1.0	15	90.00	2.17	—	—	—	—	—	2.17
1.1	22	90.10	2.95	—	—	—	—	—	2.95
1.2	28	90.20	3.60	—	—	—	—	—	3.60
1.3	35	90.30	4.57	—	—	—	—	—	4.57
1.4	41	90.40	5.35	—	—	—	—	—	5.35
1.5	48	90.50	6.45	—	—	—	—	—	6.45
1.6	54	90.60	7.58	—	—	—	—	—	7.58
1.7	61	90.70	8.46	—	—	—	—	—	8.46
1.8	67	90.80	9.60	—	—	—	—	—	9.60
1.9	74	90.90	10.70	—	—	—	—	—	10.70
2.0	80	91.00	11.73	—	—	—	—	—	11.73
2.1	110	91.10	12.68	—	—	—	—	—	12.68
2.2	140	91.20	13.65	—	—	—	—	—	13.65
2.3	170	91.30	14.50	—	—	—	—	—	14.50

Continues on next page...

Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
2.4	200	91.40	15.13	—	—	—	—	—	15.13
2.5	230	91.50	15.86	—	—	—	—	—	15.86
2.6	260	91.60	16.57	—	—	—	—	—	16.57
2.7	290	91.70	17.24	—	—	—	—	—	17.24
2.8	320	91.80	17.90	—	—	—	—	—	17.90
2.9	350	91.90	18.52	—	—	—	—	—	18.52
3.0	380	92.00	19.13	—	—	—	—	—	19.13
3.1	475	92.10	19.72	—	—	—	—	—	19.72
3.2	570	92.20	20.29	—	—	—	—	—	20.29
3.3	665	92.30	20.85	—	—	—	—	—	20.85
3.4	760	92.40	21.39	—	—	—	—	—	21.39
3.5	855	92.50	21.92	—	—	—	—	—	21.92
3.6	950	92.60	22.43	—	—	—	—	—	22.43
3.7	1,045	92.70	22.94	—	—	—	—	—	22.94
3.8	1,140	92.80	23.43	—	—	—	—	—	23.43
3.9	1,235	92.90	23.91	—	—	—	—	—	23.91
4.0	1,330	93.00	24.39	—	—	—	—	—	24.39
4.1	1,635	93.10	24.85	—	—	—	—	—	24.85
4.2	1,939	93.20	25.31	—	—	—	—	—	25.31
4.3	2,244	93.30	25.76	—	—	—	—	—	25.76
4.4	2,548	93.40	26.20	—	—	—	—	—	26.20
4.5	2,853	93.50	26.63	—	—	—	—	—	26.63
4.6	3,157	93.60	27.06	—	—	—	—	—	27.06
4.7	3,462	93.70	27.48	—	—	—	—	—	27.48
4.8	3,766	93.80	27.89	—	—	—	—	—	27.89
4.9	4,071	93.90	28.30	—	—	—	—	—	28.30
5.0	4,375	94.00	28.70	—	—	—	—	—	28.70

Reservoir Report

Reservoir No. 2

Playground (North)

Culvert / Orifice Structures

		[A]	[B]	[C]
Rise (in)	=	8.0	10.0	0.0
Span (in)	=	8.0	10.0	0.0
No. Barrels	=	1	1	0
Invert El. (ft)	=	89.80	89.97	0.00
Length (ft)	=	60.0	60.0	0.0
Slope (%)	=	0.10	0.10	0.00
N-Value	=	.013	.013	.013
Orif. Coeff.	=	0.60	0.60	0.60
Multi-Stage	=	----	No	No

Weir Structures

		[A]	[B]	[C]
Crest Len (ft)	=	0.0	0.0	0.0
Crest El. (ft)	=	0.00	0.00	0.00
Weir Coeff.	=	3.00	3.00	3.00
Eqn. Exp.	=	1.50	1.50	1.50
Multi-Stage	=	No	No	No

Tailwater Elevation = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
0.0	00	89.80	0.00	0.00	—	—	—	—	0.00
0.1	01	89.90	0.02	0.00	—	—	—	—	0.02
0.2	01	90.00	0.07	0.00	—	—	—	—	0.07
0.3	02	90.10	0.14	0.04	—	—	—	—	0.18
0.4	02	90.20	0.22	0.11	—	—	—	—	0.33
0.5	03	90.30	0.28	0.19	—	—	—	—	0.47
0.6	03	90.40	0.33	0.29	—	—	—	—	0.61
0.7	04	90.50	0.40	0.40	—	—	—	—	0.80
0.8	04	90.60	0.57	0.48	—	—	—	—	1.05
0.9	05	90.70	0.70	0.55	—	—	—	—	1.25
1.0	05	90.80	0.81	0.55	—	—	—	—	1.36
1.1	991	90.90	0.91	0.88	—	—	—	—	1.79
1.2	1,976	91.00	1.00	1.13	—	—	—	—	2.12
1.3	2,962	91.10	1.08	1.33	—	—	—	—	2.41
1.4	3,947	91.20	1.15	1.50	—	—	—	—	2.66
1.5	4,933	91.30	1.22	1.66	—	—	—	—	2.88
1.6	5,918	91.40	1.29	1.80	—	—	—	—	3.09
1.7	6,904	91.50	1.35	1.94	—	—	—	—	3.29
1.8	7,889	91.60	1.41	2.06	—	—	—	—	3.47
1.9	8,875	91.70	1.47	2.18	—	—	—	—	3.65
2.0	9,860	92.00	1.63	2.49	—	—	—	—	4.13
2.1	13,340	92.10	1.68	2.59	—	—	—	—	4.28
2.2	16,820	92.20	1.73	2.69	—	—	—	—	4.42
2.3	20,300	92.30	1.78	2.78	—	—	—	—	4.56

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Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
2.4	23,780	92.40	1.83	2.86	—	—	—	—	4.69
2.5	27,260	92.50	1.87	2.95	—	—	—	—	4.82
2.6	30,740	92.60	1.92	3.03	—	—	—	—	4.95
2.7	34,220	92.70	1.96	3.11	—	—	—	—	5.07
2.8	37,700	92.80	2.00	3.19	—	—	—	—	5.19
2.9	41,180	92.90	2.04	3.27	—	—	—	—	5.31
3.0	44,660	93.00	2.08	3.34	—	—	—	—	5.43

Reservoir Report

Reservoir No. 3

Retention Inlets 8&7

Culvert / Orifice Structures

		[A]	[B]	[C]
Rise (in)	=	12.0	0.0	0.0
Span (in)	=	124.0	0.0	0.0
No. Barrels	=	1	0	0
Invert El. (ft)	=	90.30	0.00	0.00
Length (ft)	=	1071.0	0.0	0.0
Slope (%)	=	0.39	0.00	0.00
N-Value	=	.013	.013	.013
Orif. Coeff.	=	0.60	0.60	0.60
Multi-Stage	=	——	No	No

Weir Structures

		[A]	[B]	[C]
Crest Len (ft)	=	30.0	0.0	0.0
Crest El. (ft)	=	93.00	0.00	0.00
Weir Coeff.	=	3.00	3.00	3.00
Eqn. Exp.	=	1.50	1.50	1.50
Multi-Stage	=	No	No	No

Tailwater Elevation = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
0.0	00	90.30	0.00	—	—	0.00	—	—	0.00
0.1	01	90.40	1.11	—	—	0.00	—	—	1.11
0.2	02	90.50	3.15	—	—	0.00	—	—	3.15
0.3	02	90.60	5.78	—	—	0.00	—	—	5.78
0.4	03	90.70	8.90	—	—	0.00	—	—	8.90
0.5	04	90.80	12.44	—	—	0.00	—	—	12.44
0.6	05	90.90	16.35	—	—	0.00	—	—	16.35
0.7	06	91.00	20.60	—	—	0.00	—	—	20.60
0.8	06	91.10	25.17	—	—	0.00	—	—	25.17
0.9	07	91.20	30.04	—	—	0.00	—	—	30.04
1.0	08	91.00	20.60	—	—	0.00	—	—	20.60
1.1	10	91.10	25.17	—	—	0.00	—	—	25.17
1.2	11	91.20	30.04	—	—	0.00	—	—	30.04
1.3	13	91.30	35.18	—	—	0.00	—	—	35.18
1.4	15	91.40	38.54	—	—	0.00	—	—	38.54
1.5	17	91.50	41.63	—	—	0.00	—	—	41.63
1.6	18	91.60	43.30	—	—	0.00	—	—	43.30
1.7	20	91.70	43.78	—	—	0.00	—	—	43.78
1.8	22	91.80	44.25	—	—	0.00	—	—	44.25
1.9	23	91.90	44.73	—	—	0.00	—	—	44.73
2.0	25	92.00	45.19	—	—	0.00	—	—	45.19
2.1	311	92.10	45.65	—	—	0.00	—	—	45.65
2.2	597	92.20	46.11	—	—	0.00	—	—	46.11
2.3	882	92.30	46.56	—	—	0.00	—	—	46.56

Continues on next page...

Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
2.4	1,168	92.40	47.01	—	—	0.00	—	—	47.01
2.5	1,454	92.50	47.45	—	—	0.00	—	—	47.45
2.6	1,740	92.60	47.89	—	—	0.00	—	—	47.89
2.7	2,026	92.70	48.33	—	—	0.00	—	—	48.33
2.8	2,311	92.80	48.76	—	—	0.00	—	—	48.76
2.9	2,597	92.90	49.18	—	—	0.00	—	—	49.18
3.0	2,883	93.00	49.61	—	—	0.00	—	—	49.61
3.1	3,478	93.10	50.03	—	—	2.85	—	—	52.87
3.2	4,073	93.20	50.45	—	—	8.05	—	—	58.50
3.3	4,668	93.30	50.86	—	—	14.79	—	—	65.65
3.4	5,263	93.40	51.27	—	—	22.77	—	—	74.04
3.5	5,858	93.50	51.68	—	—	31.82	—	—	83.49
3.6	6,453	93.60	52.08	—	—	41.83	—	—	93.91
3.7	7,048	93.70	52.48	—	—	52.71	—	—	105.19
3.8	7,643	93.80	52.88	—	—	64.40	—	—	117.27
3.9	8,238	93.90	53.27	—	—	76.84	—	—	130.11
4.0	8,833	93.20	77.08	—	—	8.05	—	—	85.13

Reservoir Report

Reservoir No. 4

ParkingLot North

Culvert / Orifice Structures

		[A]	[B]	[C]
Rise (in)	=	18.0	0.0	0.0
Span (in)	=	18.0	0.0	0.0
No. Barrels	=	1	0	0
Invert El. (ft)	=	89.11	0.00	0.00
Length (ft)	=	60.0	0.0	0.0
Slope (%)	=	0.44	0.00	0.00
N-Value	=	.013	.013	.013
Orif. Coeff.	=	89.11	0.60	0.60
Multi-Stage	=	——	No	No

Weir Structures

		[A]	[B]	[C]
Crest Len (ft)	=	20.0	0.0	0.0
Crest El. (ft)	=	93.00	0.00	0.00
Weir Coeff.	=	2.70	3.00	3.00
Eqn. Exp.	=	1.50	1.50	1.50
Multi-Stage	=	Yes	No	No

Tailwater Elevation = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
0.0	00	89.11	0.00	—	—	0.00	—	—	0.00
0.1	01	89.21	0.07	—	—	0.00	—	—	0.00
0.2	02	89.31	0.28	—	—	0.00	—	—	0.00
0.3	02	89.41	0.52	—	—	0.00	—	—	0.00
0.4	03	89.51	0.86	—	—	0.00	—	—	0.00
0.5	04	89.61	1.28	—	—	0.00	—	—	0.00
0.6	05	89.71	1.63	—	—	0.00	—	—	0.00
0.7	06	89.81	2.14	—	—	0.00	—	—	0.00
0.8	06	89.91	2.52	—	—	0.00	—	—	0.00
0.9	07	90.01	3.03	—	—	0.00	—	—	0.00
1.0	08	90.00	525.52	—	—	0.00	—	—	0.00
1.1	10	90.10	636.46	—	—	0.00	—	—	0.00
1.2	11	90.20	726.51	—	—	0.00	—	—	0.00
1.3	13	90.30	829.88	—	—	0.00	—	—	0.00
1.4	15	90.40	934.88	—	—	0.00	—	—	0.00
1.5	17	90.50	1025.26	—	—	0.00	—	—	0.00
1.6	18	90.60	1089.84	—	—	0.00	—	—	0.00
1.7	20	90.70	1158.04	—	—	0.00	—	—	0.00
1.8	22	90.80	1225.03	—	—	0.00	—	—	0.00
1.9	23	90.90	1288.55	—	—	0.00	—	—	0.00
2.0	25	91.00	1349.09	—	—	0.00	—	—	0.00
2.1	131	91.10	1407.01	—	—	0.00	—	—	0.00
2.2	237	91.20	1462.65	—	—	0.00	—	—	0.00
2.3	342	91.30	1516.24	—	—	0.00	—	—	0.00

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Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
2.4	448	91.40	1568.00	—	—	0.00	—	—	0.00
2.5	554	91.50	1618.11	—	—	0.00	—	—	0.00
2.6	660	91.60	1666.71	—	—	0.00	—	—	0.00
2.7	766	91.70	1713.94	—	—	0.00	—	—	0.00
2.8	871	91.80	1759.90	—	—	0.00	—	—	0.00
2.9	977	91.90	1804.68	—	—	0.00	—	—	0.00
3.0	1,083	92.00	1848.39	—	—	0.00	—	—	0.00
3.1	2,468	92.10	1891.09	—	—	0.00	—	—	0.00
3.2	3,853	92.20	1932.84	—	—	0.00	—	—	0.00
3.3	5,238	92.30	1973.70	—	—	0.00	—	—	0.00
3.4	6,623	92.40	2013.74	—	—	0.00	—	—	0.00
3.5	8,008	92.50	2053.00	—	—	0.00	—	—	0.00
3.6	9,393	92.60	2091.52	—	—	0.00	—	—	0.00
3.7	10,778	92.70	2129.34	—	—	0.00	—	—	0.00
3.8	12,163	92.80	2166.51	—	—	0.00	—	—	0.00
3.9	13,548	92.90	2203.04	—	—	0.00	—	—	0.00
4.0	14,933	93.00	2238.99	—	—	0.00	—	—	0.00
4.1	17,613	93.10	2274.36	—	—	1.71	—	—	1.71
4.2	20,293	93.20	2309.19	—	—	4.83	—	—	4.83
4.3	22,973	93.30	2343.51	—	—	8.87	—	—	8.87
4.4	25,653	93.40	2377.33	—	—	13.66	—	—	13.66
4.5	28,333	93.50	2410.67	—	—	19.09	—	—	19.09
4.6	31,013	93.60	2443.56	—	—	25.10	—	—	25.10
4.7	33,693	93.70	2476.01	—	—	31.63	—	—	31.63
4.8	36,373	93.80	2508.04	—	—	38.64	—	—	38.64
4.9	39,053	93.90	2539.67	—	—	46.10	—	—	46.10
5.0	41,733	93.35	2360.48	—	—	11.18	—	—	11.18

Reservoir Report

Reservoir No. 5

North Retention

Culvert / Orifice Structures

		[A]	[B]	[C]
Rise (in)	=	24.0	0.0	0.0
Span (in)	=	24.0	0.0	0.0
No. Barrels	=	1	0	0
Invert El. (ft)	=	87.74	0.00	0.00
Length (ft)	=	40.0	0.0	0.0
Slope (%)	=	0.50	0.00	0.00
N-Value	=	.013	.013	.013
Orif. Coeff.	=	0.60	0.60	0.60
Multi-Stage	=	----	No	No

Weir Structures

		[A]	[B]	[C]
Crest Len (ft)	=	0.0	0.0	0.0
Crest El. (ft)	=	0.00	0.00	0.00
Weir Coeff.	=	3.00	3.00	3.00
Eqn. Exp.	=	1.50	1.50	1.50
Multi-Stage	=	No	No	No

Tailwater Elevation = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
0.0	00	87.74	0.00	—	—	—	—	—	0.00
0.1	03	87.84	0.07	—	—	—	—	—	0.07
0.2	05	87.94	0.28	—	—	—	—	—	0.28
0.3	08	88.04	0.61	—	—	—	—	—	0.61
0.4	10	88.14	1.01	—	—	—	—	—	1.01
0.5	13	88.24	1.45	—	—	—	—	—	1.45
0.6	15	88.34	1.95	—	—	—	—	—	1.95
0.7	18	88.44	2.52	—	—	—	—	—	2.52
0.8	20	88.54	2.93	—	—	—	—	—	2.93
0.9	23	88.64	3.56	—	—	—	—	—	3.56
1.0	25	88.00	0.43	—	—	—	—	—	0.43
1.1	163	88.10	0.85	—	—	—	—	—	0.85
1.2	300	88.20	1.29	—	—	—	—	—	1.29
1.3	438	88.30	1.78	—	—	—	—	—	1.78
1.4	575	88.40	2.33	—	—	—	—	—	2.33
1.5	713	88.50	2.72	—	—	—	—	—	2.72
1.6	850	88.60	3.35	—	—	—	—	—	3.35
1.7	988	88.70	3.78	—	—	—	—	—	3.78
1.8	1,125	88.80	4.42	—	—	—	—	—	4.42
1.9	1,263	88.90	5.06	—	—	—	—	—	5.06
2.0	1,400	89.00	5.47	—	—	—	—	—	5.47
2.1	1,869	89.10	6.04	—	—	—	—	—	6.04
2.2	2,338	89.20	6.56	—	—	—	—	—	6.56
2.3	2,807	89.30	7.00	—	—	—	—	—	7.00

Continues on next page...

Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
2.4	3,276	89.40	7.37	—	—	—	—	—	7.37
2.5	3,745	89.50	7.65	—	—	—	—	—	7.65
2.6	4,214	89.60	7.95	—	—	—	—	—	7.95
2.7	4,683	89.70	8.06	—	—	—	—	—	8.06
2.8	5,152	89.80	9.11	—	—	—	—	—	9.11
2.9	5,621	89.90	10.71	—	—	—	—	—	10.71
3.0	6,090	90.00	12.11	—	—	—	—	—	12.11
3.1	6,964	90.10	13.36	—	—	—	—	—	13.36
3.2	7,838	90.20	14.51	—	—	—	—	—	14.51
3.3	8,712	90.30	15.57	—	—	—	—	—	15.57
3.4	9,586	90.40	16.56	—	—	—	—	—	16.56
3.5	10,460	90.50	17.50	—	—	—	—	—	17.50
3.6	11,334	90.60	18.39	—	—	—	—	—	18.39
3.7	12,208	90.70	19.23	—	—	—	—	—	19.23
3.8	13,082	90.80	20.05	—	—	—	—	—	20.05
3.9	13,956	90.90	20.83	—	—	—	—	—	20.83
4.0	14,830	91.00	21.58	—	—	—	—	—	21.58
4.1	15,371	91.10	22.30	—	—	—	—	—	22.30
4.2	15,911	91.20	23.01	—	—	—	—	—	23.01
4.3	16,452	91.30	23.69	—	—	—	—	—	23.69
4.4	16,993	91.40	24.35	—	—	—	—	—	24.35
4.5	17,534	91.50	25.00	—	—	—	—	—	25.00
4.6	18,074	91.60	25.58	—	—	—	—	—	25.58
4.7	18,615	91.70	26.02	—	—	—	—	—	26.02
4.8	19,156	91.80	26.46	—	—	—	—	—	26.46
4.9	19,696	91.90	26.89	—	—	—	—	—	26.89
5.0	20,237	92.00	27.31	—	—	—	—	—	27.31

Reservoir Report

Reservoir No. 6

Middle Retention

Culvert / Orifice Structures

		[A]	[B]	[C]
Rise (in)	=	24.0	0.0	0.0
Span (in)	=	24.0	0.0	0.0
No. Barrels	=	1	0	0
Invert El. (ft)	=	86.95	0.00	0.00
Length (ft)	=	40.0	0.0	0.0
Slope (%)	=	0.50	0.00	0.00
N-Value	=	.013	.013	.013
Orif. Coeff.	=	0.60	0.60	0.60
Multi-Stage	=	——	No	No

Weir Structures

		[A]	[B]	[C]
Crest Len (ft)	=	0.0	0.0	0.0
Crest El. (ft)	=	0.00	0.00	0.00
Weir Coeff.	=	3.00	3.00	3.00
Eqn. Exp.	=	1.50	1.50	1.50
Multi-Stage	=	No	No	No

Tailwater Elevation = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
0.0	00	86.95	0.00	—	—	—	—	—	0.00
0.1	00	87.05	0.07	—	—	—	—	—	0.07
0.2	01	87.15	0.28	—	—	—	—	—	0.28
0.3	01	87.25	0.61	—	—	—	—	—	0.61
0.4	02	87.35	1.01	—	—	—	—	—	1.01
0.5	02	87.45	1.45	—	—	—	—	—	1.45
0.6	02	87.55	1.95	—	—	—	—	—	1.95
0.7	03	87.65	2.52	—	—	—	—	—	2.52
0.8	03	87.75	2.93	—	—	—	—	—	2.93
0.9	04	87.85	3.56	—	—	—	—	—	3.56
1.0	04	87.00	0.02	—	—	—	—	—	0.02
1.1	74	87.10	0.17	—	—	—	—	—	0.17
1.2	145	87.20	0.42	—	—	—	—	—	0.42
1.3	215	87.30	0.75	—	—	—	—	—	0.75
1.4	286	87.40	1.29	—	—	—	—	—	1.29
1.5	356	87.50	1.78	—	—	—	—	—	1.78
1.6	426	87.60	2.14	—	—	—	—	—	2.14
1.7	497	87.70	2.72	—	—	—	—	—	2.72
1.8	567	87.80	3.35	—	—	—	—	—	3.35
1.9	638	87.90	3.78	—	—	—	—	—	3.78
2.0	708	88.00	4.42	—	—	—	—	—	4.42
2.1	948	88.10	4.85	—	—	—	—	—	4.85
2.2	1,188	88.20	5.47	—	—	—	—	—	5.47
2.3	1,428	88.30	6.04	—	—	—	—	—	6.04

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Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
2.4	1,668	88.40	6.39	—	—	—	—	—	6.39
2.5	1,908	88.50	6.86	—	—	—	—	—	6.86
2.6	2,148	88.60	7.37	—	—	—	—	—	7.37
2.7	2,388	88.70	7.65	—	—	—	—	—	7.65
2.8	2,628	88.80	7.91	—	—	—	—	—	7.91
2.9	2,868	88.90	8.06	—	—	—	—	—	8.06
3.0	3,108	89.00	8.93	—	—	—	—	—	8.93
3.1	3,561	89.10	10.56	—	—	—	—	—	10.56
3.2	4,013	89.20	11.98	—	—	—	—	—	11.98
3.3	4,466	89.30	13.24	—	—	—	—	—	13.24
3.4	4,918	89.40	14.40	—	—	—	—	—	14.40
3.5	5,371	89.50	15.47	—	—	—	—	—	15.47
3.6	5,823	89.60	16.46	—	—	—	—	—	16.46
3.7	6,276	89.70	17.41	—	—	—	—	—	17.41
3.8	6,728	89.80	18.30	—	—	—	—	—	18.30
3.9	7,181	89.90	19.15	—	—	—	—	—	19.15
4.0	7,633	90.00	19.97	—	—	—	—	—	19.97
4.1	8,271	90.10	20.75	—	—	—	—	—	20.75
4.2	8,908	90.20	21.50	—	—	—	—	—	21.50
4.3	9,546	90.30	22.23	—	—	—	—	—	22.23
4.4	10,183	90.40	22.94	—	—	—	—	—	22.94
4.5	10,821	90.50	23.62	—	—	—	—	—	23.62
4.6	11,458	90.60	24.29	—	—	—	—	—	24.29
4.7	12,096	90.70	24.94	—	—	—	—	—	24.94
4.8	12,733	90.80	25.53	—	—	—	—	—	25.53
4.9	13,371	90.90	25.98	—	—	—	—	—	25.98
5.0	14,008	91.00	26.41	—	—	—	—	—	26.41

Reservoir Report

Reservoir No. 7

South Retention

Culvert / Orifice Structures

		[A]	[B]	[C]
Rise (in)	=	24.0	0.0	0.0
Span (in)	=	24.0	0.0	0.0
No. Barrels	=	1	0	0
Invert El. (ft)	=	86.00	0.00	0.00
Length (ft)	=	40.0	0.0	0.0
Slope (%)	=	0.50	0.00	0.00
N-Value	=	.013	.013	.013
Orif. Coeff.	=	0.60	0.60	0.60
Multi-Stage	=	——	No	No

Weir Structures

		[A]	[B]	[C]
Crest Len (ft)	=	0.0	0.0	0.0
Crest El. (ft)	=	0.00	0.00	0.00
Weir Coeff.	=	3.00	3.00	3.00
Eqn. Exp.	=	1.50	1.50	1.50
Multi-Stage	=	No	No	No

Tailwater Elevation = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
0.0	00	86.00	0.00	—	—	—	—	—	0.00
0.1	90	86.10	0.07	—	—	—	—	—	0.07
0.2	180	86.20	0.28	—	—	—	—	—	0.28
0.3	270	86.30	0.61	—	—	—	—	—	0.61
0.4	360	86.40	1.01	—	—	—	—	—	1.01
0.5	450	86.50	1.45	—	—	—	—	—	1.45
0.6	540	86.60	1.95	—	—	—	—	—	1.95
0.7	630	86.70	2.52	—	—	—	—	—	2.52
0.8	720	86.80	2.93	—	—	—	—	—	2.93
0.9	810	86.90	3.56	—	—	—	—	—	3.56
1.0	900	87.00	4.21	—	—	—	—	—	4.21
1.1	1,225	87.10	4.64	—	—	—	—	—	4.64
1.2	1,550	87.20	5.27	—	—	—	—	—	5.27
1.3	1,875	87.30	5.66	—	—	—	—	—	5.66
1.4	2,200	87.40	6.22	—	—	—	—	—	6.22
1.5	2,525	87.50	6.71	—	—	—	—	—	6.71
1.6	2,850	87.60	7.13	—	—	—	—	—	7.13
1.7	3,175	87.70	7.47	—	—	—	—	—	7.47
1.8	3,500	87.80	7.80	—	—	—	—	—	7.80
1.9	3,825	87.90	8.02	—	—	—	—	—	8.02
2.0	4,150	88.00	15.12	—	—	—	—	—	15.12
2.1	4,785	88.10	15.86	—	—	—	—	—	15.86
2.2	5,420	88.20	16.57	—	—	—	—	—	16.57
2.3	6,055	88.30	17.24	—	—	—	—	—	17.24

Continues on next page...

Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
2.4	6,690	88.40	17.90	—	—	—	—	—	17.90
2.5	7,325	88.50	18.52	—	—	—	—	—	18.52
2.6	7,960	88.60	19.13	—	—	—	—	—	19.13
2.7	8,595	88.70	19.72	—	—	—	—	—	19.72
2.8	9,230	88.80	20.29	—	—	—	—	—	20.29
2.9	9,865	88.90	20.85	—	—	—	—	—	20.85
3.0	10,500	89.00	21.39	—	—	—	—	—	21.39
3.1	11,450	89.10	21.92	—	—	—	—	—	21.92
3.2	12,400	89.20	22.43	—	—	—	—	—	22.43
3.3	13,350	89.30	22.94	—	—	—	—	—	22.94
3.4	14,300	89.40	23.43	—	—	—	—	—	23.43
3.5	15,250	89.50	23.91	—	—	—	—	—	23.91
3.6	16,200	89.60	23.96	—	—	—	—	—	23.96
3.7	17,150	89.70	24.62	—	—	—	—	—	24.62
3.8	18,100	89.80	25.25	—	—	—	—	—	25.25
3.9	19,050	89.90	25.76	—	—	—	—	—	25.76
4.0	20,000	90.00	26.20	—	—	—	—	—	26.20

Reservoir Report

Reservoir No. 8

Gold Inlet

Culvert / Orifice Structures

		[A]	[B]	[C]
Rise (in)	=	0.0	0.0	0.0
Span (in)	=	0.0	0.0	0.0
No. Barrels	=	0	0	0
Invert El. (ft)	=	0.00	0.00	0.00
Length (ft)	=	0.0	0.0	0.0
Slope (%)	=	0.00	0.00	0.00
N-Value	=	.013	.013	.013
Orif. Coeff.	=	0.60	0.60	0.60
Multi-Stage	=	---	No	No

Weir Structures

		[A]	[B]	[C]
Crest Len (ft)	=	3.0	0.0	0.0
Crest El. (ft)	=	85.40	0.00	0.00
Weir Coeff.	=	2.65	3.00	3.00
Eqn. Exp.	=	1.50	1.50	1.50
Multi-Stage	=	No	No	No

Tailwater Elevation = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
0.0	00	85.40	---	---	---	0.00	---	---	0.00
0.1	20	85.50	---	---	---	0.25	---	---	0.25
0.2	40	85.60	---	---	---	0.71	---	---	0.71
0.3	60	85.70	---	---	---	1.31	---	---	1.31
0.4	80	85.80	---	---	---	2.01	---	---	2.01
0.5	100	85.90	---	---	---	2.81	---	---	2.81
0.6	120	86.00	---	---	---	3.69	---	---	3.69
0.7	140	86.10	---	---	---	4.66	---	---	4.66
0.8	160	86.20	---	---	---	5.69	---	---	5.69
0.9	180	86.30	---	---	---	6.79	---	---	6.79
1.0	200	86.00	---	---	---	3.69	---	---	3.69
1.1	285	86.10	---	---	---	4.66	---	---	4.66
1.2	370	86.20	---	---	---	5.69	---	---	5.69
1.3	455	86.30	---	---	---	6.79	---	---	6.79
1.4	540	86.40	---	---	---	7.95	---	---	7.95
1.5	625	86.50	---	---	---	9.17	---	---	9.17
1.6	710	86.60	---	---	---	10.45	---	---	10.45
1.7	795	86.70	---	---	---	11.78	---	---	11.78
1.8	880	86.80	---	---	---	13.17	---	---	13.17
1.9	965	86.90	---	---	---	14.60	---	---	14.60
2.0	1,050	87.00	---	---	---	16.09	---	---	16.09
2.1	1,225	87.10	---	---	---	17.62	---	---	17.62
2.2	1,400	87.20	---	---	---	19.20	---	---	19.20
2.3	1,575	87.30	---	---	---	20.82	---	---	20.82

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Stage / Storage / Discharge Table

Stage (ft)	Storage (cuft)	Elevation (ft)	Culv. A (cfs)	Culv. B (cfs)	Culv. C (cfs)	Weir A (cfs)	Weir B (cfs)	Weir C (cfs)	Discharge (cfs)
2.4	1,750	87.40	—	—	—	22.49	—	—	22.49
2.5	1,925	87.50	—	—	—	24.19	—	—	24.19
2.6	2,100	87.60	—	—	—	25.94	—	—	25.94
2.7	2,275	87.70	—	—	—	27.73	—	—	27.73
2.8	2,450	87.80	—	—	—	29.56	—	—	29.56
2.9	2,625	87.90	—	—	—	31.42	—	—	31.42
3.0	2,800	88.00	—	—	—	33.33	—	—	33.33