CITY OF ALBUQUERQUE

September 7, 2006

Ronald R. Bohannan, P.E.
Tierra West, LLC
8509 Jefferson St. NE
Albuquerque, NM 87113

Re: Tract 4A Renaissance Center, Renaissance III
Grading and Drainage Plan
Engineer's Stamp dated 4-18-07 (F16-D24)

Dear Mr. Bohannan

Based upon the information provided in your submittal received 4-19-07, the above referenced plan is approved for Site Development plan for Building Permit and grading permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology. **Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.**

If you have any questions, you can contact me at 924-3977.

Sincerely,

Rudy E. Rael, Associate Engineer
Planning Department.
Development and Building Services

C: File

P.O.Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Sterling Development Renaissance Center
ZONE MAP/DRG. FILE #: F-16-Z /24
DRB #: _____ EPC #: _____
WORK ORDER #: _____

LEGAL DESCRIPTION: Tract 4A2, Renaissance Center III
CITY ADDRESS: _____

ENGINEERING FIRM:	Tierra West, LLC	CONTACT:	Jonathan D. Niski
ADDRESS:	5571 Midway Park Place NW	PHONE:	(505) 858-3100
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87109
OWNER:	Sterling Development, Inc.	CONTACT:	Philip J. Sterling
ADDRESS:	8101 San Pedro NE, Suite 1	PHONE:	(505) 217-1396
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87113
ARCHITECT:	Tate Fishburn Architects	CONTACT:	Tate Fishburn
ADDRESS:	P.O. Box 2941	PHONE:	(505) 899--9338
CITY, STATE:	Corrales, NM	ZIP CODE:	87048
SURVEYOR:	Unknown	CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
CONTRACTOR:	Unknown	CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	

CHECK TYPE OF SUBMITTAL:

- X DRAINAGE REPORT
- X DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ___ DRAINAGE PLAN RESUBMITTAL
- ___ CONCEPTUAL GRADING & DRAINAGE PLAN
- ___ GRADING PLAN
- ___ EROSION CONTROL PLAN
- ___ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ___ CLOMR/LOMR
- ___ TRAFFIC CIRCULATION LAYOUT (TCL)
- ___ ENGINEERS CERTIFICATION (TCL)
- ___ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ___ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ___ SIA / FINANACIAL GUARANTEE RELEASE
- ___ PRELIMINARY PLAT APPROVAL
- ___ S. DEV. PLAN FOR SUB'D. APPROVAL
- X S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ___ SECTOR PLAN APPROVAL
- ___ FINAL PLAT APPROVAL
- ___ FOUNDATION PERMIT APPROVAL
- ___ BUILDING PERMIT APPROVAL
- ___ CERTIFICATE OF OCCUPANCY (PERM.)
- ___ CERTIFICATE OF OCCUPANCY (TEMP.)
- X GRADING PERMIT APPROVAL
- ___ PAVING PERMIT APPROVAL
- ___ WORK ORDER APPROVAL
- ___ SO-19

RECEIVED
APR 19 2007
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ___ YES
- X NO
- ___ COPY PROVIDED

DATE SUBMITTED: April 19, 2007 BY: Jonathan D. Niski, E.I.

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of sumbittal may be required based on the following:

1. **Conceptual Grading and Drainage Plans**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

ONE STOP SHOP
CITY OF ALBUQUERQUE PLANNING DEPARTMENT
Development & Building Services

PAID RECEIPT

APPLICANT NAME Sterling Development

AGENT Tierra West, LLC

ADDRESS 5571 Midway Park Place NE

PROJECT & APP #

PROJECT NAME Tract 4A2 Renaissance Center

$ _____ 441032/3424000 Conflict Management Fee

$ _____ 441006/4983000 DRB Actions

$ _____ 441006/4971000 EPC/AA/LUCC Actions & All Appeals

$ _____ 441018/4971000 Public Notification

$ 50.00 441006/4983000 DRAINAGE PLAN REVIEW OR TRAFFIC IMPACT STUDY***
( )Major/Minor Subdivision ( )Site Development Plan (X)Bldg Permit
( ) Letter of Map Revision ( )Conditional Letter of Map Revision
( ) Traffic Impact Study

$ 50.00 TOTAL AMOUNT DUE

****NOTE: If a subsequent submittal is required, bring a copy of this paid receipt with you to avoid an additional charge.**

TIERRA WEST, LLC
8509 JEFFERSON NE
ALBUQUERQUE, NM 87113
PH (505) 858-3100

2624
95-677/1070

DATE 4/19/07

PAY TO THE ORDER OF City of Albuquerque

Fifty and $ 50.00

City Of Albuquerque
Treasury Division

4/19/2007 10:57AM LOC: ANNX
RECEIPT# 00074582 WS# 008 DOLLARS 010

Account 441006 Fund 0110
Activity 4983000 TRSL JS
Trans Amt $50.00
J14 Misc $50.00
CK $50.00

Security Features Details on Back.

HIGH DESERT STATE BANK
Member FDIC
8110 Ventura NE
Albuquerque, NM 87122

FOR 27013 Drainage Report

#99
505

⑈002624⑈ ⑆107006677⑆ 201813⑈

Thank You

©HARLAND STYLE XPP

DRAINAGE REPORT
FOR

Tract 4A2, Renaissance Center
Albuquerque, NM

Prepared by:

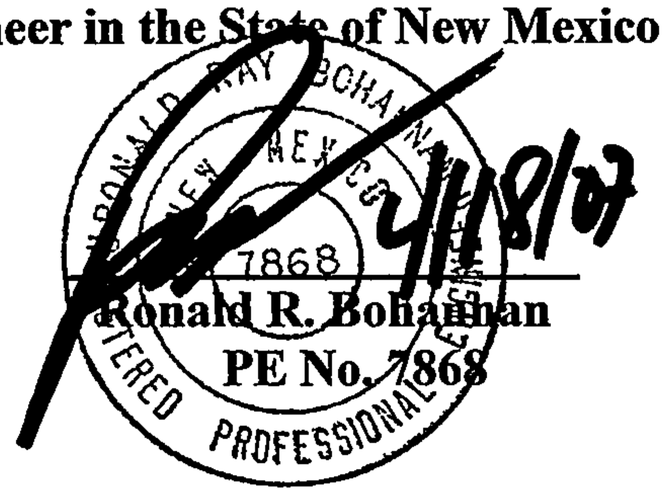
Tierra West, LLC
5571 Midway Park Place
Albuquerque, New Mexico 87109

Prepared for:

Sterling Development
8101 San Pedro NE, Suite 1
Albuquerque, NM 87113

April 2007

I certify that this report was prepared under my supervision, and I am a registered professional engineer in the State of New Mexico in good standing.



Ronald R. Bohannan
PE No. 7868

Job No 27013

TABLE OF CONTENTS

Section I

Report

Prelude

This report is being prepared at the request of the current owner, Sterling Development, who proposes to develop a single retail building on the subject property.

Location

The subject site is located on the southwest corner of Renaissance Boulevard and Culture Boulevard and consists of Tract 4A2, North Renaissance III. The exact location of the site is shown highlighted on the enclosed Zone Atlas page number F-16. The site will be built in one phase and contains 1.45 acres, more or less.

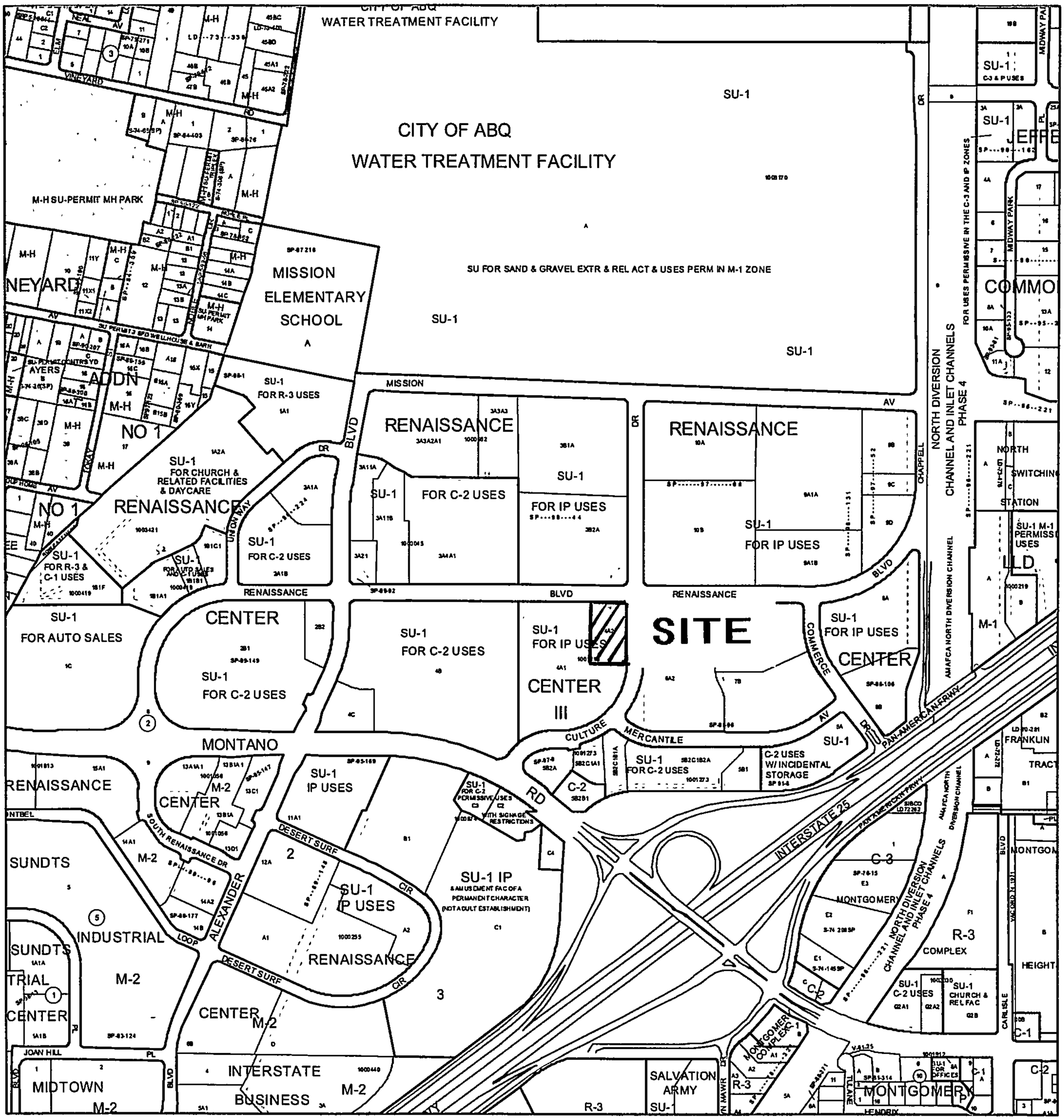
Existing Drainage Conditions

The site is currently undeveloped and is bordered by Renaissance Boulevard on the north, Culture Boulevard on the east, and Sportsman's Warehouse on the south and west.

The flows from the site sheet flow to the northwest corner of the site where they pond before entering a storm drain on the Sportsman's Warehouse property. There are no flows currently entering the site from the north, south, east or west.

Flood Plain

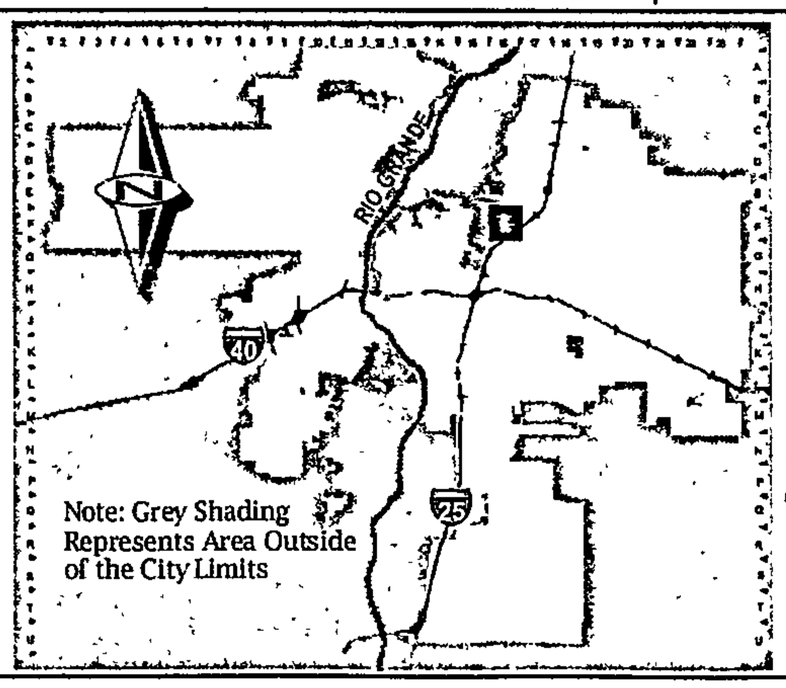
The site is located on FIRM Map 35001C0138D as shown on the attached excerpt. The map shows that the site does not lie within a flood plain.



For more current information and more details visit: http://www.cabq.gov/gis

Albuquerque Geographic Information System

Map amended through: 5/1/2006



Zone Atlas Page:

F-16-Z

Selected Symbols

- SECTOR PLANS
- Design Overlay Zones
- City Historic Zones
- H-1 Buffer Zone
- Petroglyph Mon.
- Escarpment
- 2 Mile Airport Zone
- Airport Noise Contours
- Wall Overlay Zone

0 750 1,500 Feet

ZONE X

PACIFIC RD NE

UNION WAY

City of Albuquerque
350002

CENTURY DR NE

Bernalillo County
Unincorporated Areas
350001

RENAISSANCE BLVD NE

ALEXANDER
BLVD NE

SITE

COMMERCE DR NE

MERCANTILE AVE NE

IONTANO
D NE

25

34

DESERT SURF CIR NE

of Albuquerque
350002

PAN AMERICAN FRWY NE

PAN AMERICAN FRWY NE

BRYN MAWR DR NE

WELLESLEY
DR NE

TULANE DR NE

HENDRIX RD NE

AMHERST DR NE

ARS RD NE

AMHERST
PL NE

FIRM MAP 35001C0138D

3

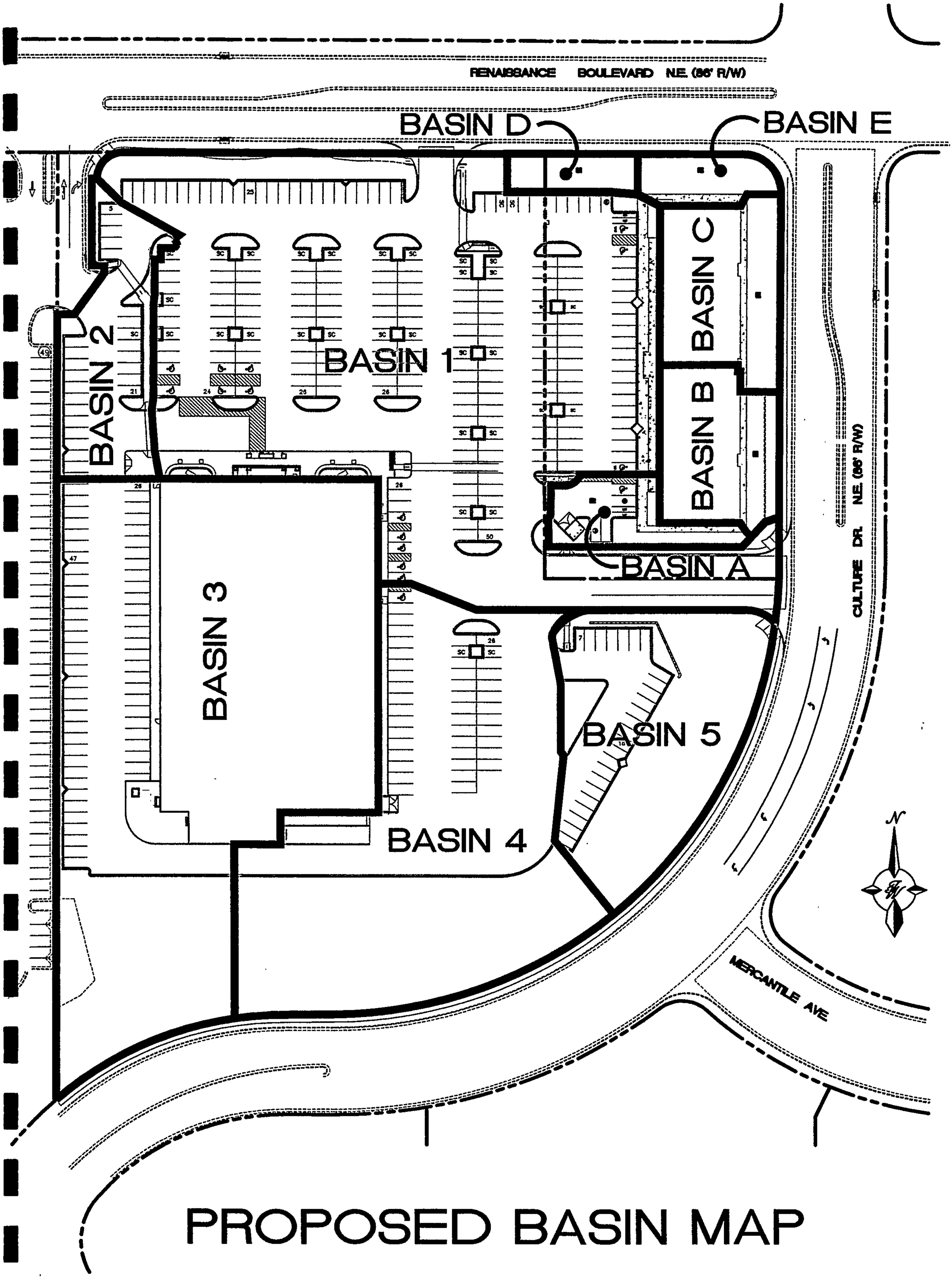
ZONE A

Proposed Drainage Management Plan

As shown on the attached exhibit, the proposed site is divided into 5 onsite basins and 5 off-site basins. This tract was part of the approved Tract 4A, Renaissance Center Drainage Report (F16/D5K). That report was based on The Master Storm Drain Management Plan for the Renaissance Center, which allows for .1 cfs discharge per developed acre. Based on the approved report this site combined with the Sportsman's Warehouse is allowed to drain .848 cfs in developed conditions. Since the proposed storm sewer for this tract is connected to the Sportsman's Warehouse tract the AHYMO analysis for both tracts was revised to reflect the proposed conditions for Tract 4A2.

Basin 1 was modified from the original report to show the new conditions associated with Tract 4A2. Basins 2, 3, 4 and 5 were not changed. Basin A consists primarily of parking area and some landscape area. There is a parking lot pond with a drop inlet connected to the existing storm sewer that was built with the Sportsman's Warehouse. Basins B and C consists primarily of building. The roof will drain to downspouts on the back of the building and pond in the landscape area between the building and Culture Boulevard. The ponds will drain through drop inlets to the existing storm sewer system. Basins D and E consists primarily of landscaping which will pond and drain to drop inlets.

All of the discharge from the ponds will be controlled using orifice plates and the total discharge form this site will be 0.844 cfs, which is slightly lower than ~~was~~ what is allowed per the Master Drainage Plan.



PROPOSED BASIN MAP

Calculations

The weighted E method from the "City of Albuquerque Development Process Manual Volume 11 – Design Criteria, 1997 Revision" was used to calculate the runoff and volume for the site.

Summary

This site will discharge a total of 0.844 cfs which will flow to the existing storm sewer system in Renaissance Boulevard. This discharge is less than the 0.848 cfs allowed by the Master Storm Drain Management Plan for the Renaissance Center.

The development of this site is consistent with the DPM, Chapter 22, Hydrology section. Since this site encompasses more than 1 acre an NPDES permit will be required in addition to a Top Soil Disturbance Permit prior to any construction activity.

Section II

Runoff Calculations

Map Pocket

Grading and Drainage Plan

Weighted E Method

On-Site Basins

Basin	Area (sf)	Area (acres)	Treatment A %	Treatment A (acres)	Treatment B %	Treatment B (acres)	Treatment C %	Treatment C (acres)	Treatment D %	Treatment D (acres)	100-Year Weighted E (ac-ft)	100-Year Volume (ac-ft)	100-Year Flow cfs	10-Year Weighted E (ac-ft)	10-Year Volume (ac-ft)	10-Year Flow cfs
1	124,621	2.86	0%	0	9%	0.26	0%	0.00	91%	2.60	1.999	0.477	12.82	1.245	0.297	8.42
2	15,043	0.35	0%	0	12%	0.04	0%	0.00	88%	0.30	1.959	0.056	1.52	1.213	0.035	0.99
3	92,390	2.12	0%	0	0%	0.00	18%	0.38	82%	1.74	1.942	0.343	9.37	1.192	0.211	6.11
4	64,661	1.48	0%	0	0%	0.00	32%	0.48	68%	1.01	1.803	0.223	6.24	1.078	0.133	3.98
5	30,300	0.70	0%	0	17%	0.12	40%	0.28	43%	0.30	1.496	0.087	2.55	0.832	0.048	1.53
A	6,154	0.14	0%	0	31%	0.04	0%	0.00	69%	0.10	1.705	0.020	0.56	1.011	0.012	0.35
B	11,472	0.26	0%	0	25%	0.07	0%	0.00	75%	0.20	1.785	0.039	1.08	1.075	0.024	0.68
C	13,086	0.30	0%	0	32%	0.10	0%	0.00	68%	0.20	1.691	0.042	1.18	1.001	0.025	0.73
D	3,141	0.07	0%	0	96%	0.07	0%	0.00	4%	0.00	0.834	0.005	0.17	0.322	0.002	0.07
E	4,133	0.09	0%	0	78%	0.07	0%	0.00	22%	0.02	1.075	0.008	0.27	0.513	0.004	0.14
Totals	365,001	8.38										1.301	35.76		0.790	23.01

Equations:

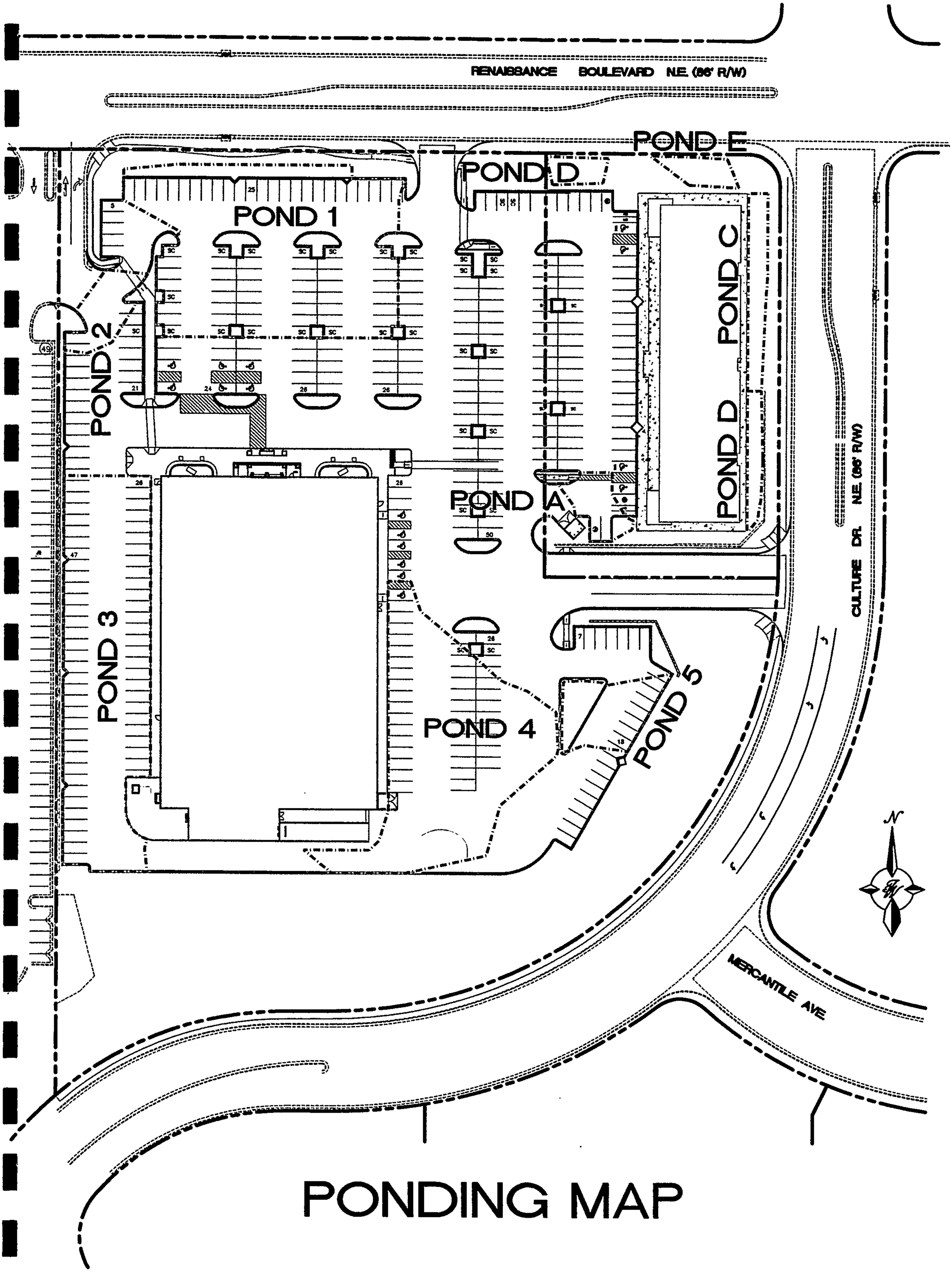
Weighted E = Ea*Aa + Eb*Ab + Ec*Ac + Ed*Ad / (Total Area)

Volume = Weighted D * Total Area

Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad

Excess Precipitation, E (inches)		
Zone 2	100-Year	10 - Year
E_a	0.53	0.13
E_b	0.78	0.28
E_c	1.13	0.52
E_d	2.12	1.34

Peak Discharge (cfs/acre)		
Zone 2	100-Year	10 - Year
Q_a	1.56	0.38
Q_b	2.28	0.95
Q_c	3.14	1.71
Q_d	4.7	3.14


RENAISSANCE BOULEVARD N.E. (86' R/W)
POND E
POND D
POND 1
POND 2
POND 3
POND A
POND 4
POND 5
POND C
POND D
CULTURE DR. N.E. (66' R/W)
MERCANTILE AVE

PONDING MAP

VOLUME CALCULATIONS
POND 1

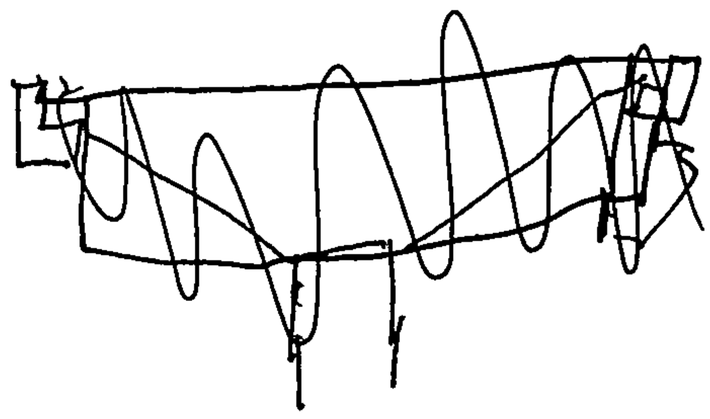
Ab - Bottom Of The Pond Surface Area
At - Top Of The Pond Surface Area
D - Water Depth
Dt - Total Pond Depth
C - Change In Surface Area / Water Depth

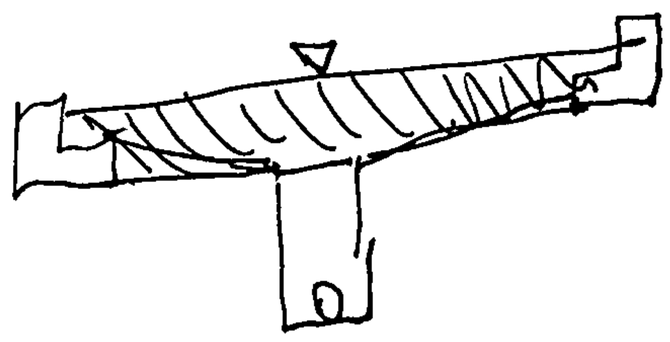
Volume = Ab * D + 0.5 * C * D^2

C = (At - Ab) / Dt

Ab =	6.80
At =	26,322.00
Dt =	1.70
C =	15479.53

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
5035.50	0	0	0.0000
5039.50	4.00	0.0006	0.0131
5039.93	4.425	0.0328	0.0138
5040.35	4.850	0.1291	0.0144
5040.78	5.275	0.2897	0.0150
5041.20	5.700	0.5144	0.0156





Orifice Equation
Q = CA SQRT(2gH)

C =	0.6
Diameter (in)	0.5
Area (ft^2)=	0.001
g =	32.2
H (Ft) =	Depth of water above center of orifice
Q (CFS)=	Flow

VOLUME CALCULATIONS
POND 2

Ab - Bottom Of The Pond Surface Area
At - Top Of The Pond Surface Area
D - Water Depth
Dt - Total Pond Depth
C - Change In Surface Area / Water Depth

Volume = $Ab * D + 0.5 * C * D^2$

C = (At - Ab) / Dt

Ab =	6.80
At =	2,258.00
Dt =	0.75
C =	3001.60

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
5035	0	0	0.0000
5039.00	4.00	0.0006	0.4653
5039.19	4.188	0.0019	0.4764
5039.38	4.375	0.0055	0.4873
5039.56	4.563	0.0116	0.4979
5039.75	4.750	0.0201	0.5083

<u>Orifice Equation</u>
Q = CA SQRT(2gH)

C =	0.6
Diameter (in)	3
Area (ft^2)=	0.049
g =	32.2
H (Ft) =	Depth of water above center of orifice
Q (CFS)=	Flow

VOLUME CALCULATIONS
POND 3

Ab - Bottom Of The Pond Surface Area
At - Top Of The Pond Surface Area
D - Water Depth
Dt - Total Pond Depth
C - Change In Surface Area / Water Depth

Volume = Ab * D + 0.5 * C * D^2

C = (At - Ab) / Dt

Ab =	6.80
At =	21,165.00
Dt =	1.42
C =	14900.14

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
5038.00	0	0	0.0000
5042.00	4.00	0.0006	0.0131
5042.36	4.36	0.0222	0.0137
5042.71	4.71	0.0870	0.0142
5043.07	5.07	0.1948	0.0147
5043.42	5.42	0.3457	0.0153

Orifice Equation
Q = CA SQRT(2gH)

C =	0.6
Diameter (in)	0.5
Area (ft^2)=	0.001
g =	32.2
H (Ft) =	Depth of water above center of orifice
Q (CFS)=	Flow

VOLUME CALCULATIONS
POND 4

Ab - Bottom Of The Pond Surface Area
At - Top Of The Pond Surface Area
D - Water Depth
Dt - Total Pond Depth
C - Change In Surface Area / Water Depth

Volume = Ab * D + 0.5 * C * D^2

C = (At - Ab) / Dt

Ab =	6.80
At =	21,221.00
Dt =	1.42
C =	14939.58

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
5038.00	0	0	0.0000
5042.00	4.00	0.0006	0.0131
5042.36	4.355	0.0223	0.0137
5042.71	4.710	0.0872	0.0142
5043.07	5.065	0.1953	0.0147
5043.42	5.420	0.3466	0.0153

Orifice Equation
Q = CA SQRT(2gH)

C =	0.6
Diameter (in)	0.5
Area (ft^2)=	0.001
g =	32.2
H (Ft) =	Depth of water above center of orifice
Q (CFS)=	Flow

VOLUME CALCULATIONS
POND 5

Ab - Bottom Of The Pond Surface Area
At - Top Of The Pond Surface Area
D - Water Depth
Dt - Total Pond Depth
C - Change In Surface Area / Water Depth

Volume = Ab * D + 0.5 * C * D^2

C = (At - Ab) / Dt

Ab =	6.80
At =	4,335.00
Dt =	1.50
C =	2885.47

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
5038.00	0	0	0.0000
5042.00	4.00	0.0006	0.0815
5042.38	4.375	0.0053	0.0853
5042.75	4.750	0.0194	0.0889
5043.13	5.125	0.0427	0.0924
5043.50	5.500	0.0754	0.0958

Orifice Equation
Q = CA SQRT(2gH)

C =	0.6
Diameter (in)	1.25
Area (ft^2)=	0.009
g =	32.2
H (Ft) =	Depth of water above center of orifice
Q (CFS)=	Flow

VOLUME CALCULATIONS
POND A

Ab - Bottom Of The Pond Surface Area
At - Top Of The Pond Surface Area
D - Water Depth
Dt - Total Pond Depth
C - Change In Surface Area / Water Depth

Volume = $Ab * D + 0.5 * C * D^2$

C = (At - Ab) / Dt

Ab =	6.80
At =	1,872.00
Dt =	0.60
C =	3108.67

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
5039.5	0	0	0.0000
5043.50	4.00	0.0006	0.0661
5043.65	4.150	0.0015	0.0673
5043.80	4.300	0.0039	0.0685
5043.95	4.450	0.0079	0.0697
5044.10	4.600	0.0136	0.0709

<u>Orifice Equation</u>
Q = CA SQRT(2gH)

C =	0.6
Diameter (in)	1.125
Area (ft^2)=	0.007
g =	32.2
H (Ft) =	Depth of water above center of orifice
Q (CFS)=	Flow

VOLUME CALCULATIONS
POND B

Ab - Bottom Of The Pond Surface Area
At - Top Of The Pond Surface Area
D - Water Depth
Dt - Total Pond Depth
C - Change In Surface Area / Water Depth

Volume = Ab * D + 0.5 * C * D^2

C = (At - Ab) / Dt

Ab =	6.80
At =	1,222.00
Dt =	2.00
C =	607.60

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
5039.00	0	0	0.0000
5043.00	4.00	0.0006	0.0815
5043.50	4.50	0.0024	0.0865
5044.00	5.00	0.0078	0.0913
5044.50	5.50	0.0166	0.0958
5045.00	6.00	0.0288	0.1001

Orifice Equation
Q = CA SQRT(2gH)

C =	0.6
Diameter (in)	1.25
Area (ft^2)=	0.009
g =	32.2
H (Ft) =	Depth of water above center of orifice
Q (CFS)=	Flow

VOLUME CALCULATIONS
POND C

Ab - Bottom Of The Pond Surface Area
At - Top Of The Pond Surface Area
D - Water Depth
Dt - Total Pond Depth
C - Change In Surface Area / Water Depth

Volume = $Ab * D + 0.5 * C * D^2$

C = (At - Ab) / Dt

Ab =	6.80
At =	2,234.00
Dt =	2.00
C =	1113.60

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
5039.00	0	0	0.0000
5043.00	4.00	0.0006	0.0074
5043.50	4.50	0.0039	0.0078
5044.00	5.00	0.0136	0.0082
5044.50	5.50	0.0296	0.0086
5045.00	6.00	0.0521	0.0090

Orifice Equation
Q = CA SQRT(2gH)

C =	0.6
Diameter (in)	0.375
Area (ft^2)=	0.001
g =	32.2
H (Ft) =	Depth of water above center of orifice
Q (CFS)=	Flow

VOLUME CALCULATIONS
POND D

Ab - Bottom Of The Pond Surface Area
At - Top Of The Pond Surface Area
D - Water Depth
Dt - Total Pond Depth
C - Change In Surface Area / Water Depth

Volume = $Ab * D + 0.5 * C * D^2$
C = (At - Ab) / Dt

Ab =	6.80
At =	952.00
Dt =	1.00
C =	945.20

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
5037.00	0	0	0.0000
5041.00	4.00	0.0006	0.0074
5041.25	4.25	0.0013	0.0076
5041.50	4.50	0.0034	0.0078
5041.75	4.75	0.0068	0.0080
5042.00	5.00	0.0116	0.0082

<u>Orifice Equation</u>
Q = CA SQRT(2gH)

C =	0.6
Diameter (in)	0.375
Area (ft^2)=	0.001
g =	32.2
H (Ft) =	Depth of water above center of orifice
Q (CFS)=	Flow

VOLUME CALCULATIONS
POND E

Ab - Bottom Of The Pond Surface Area
At - Top Of The Pond Surface Area
D - Water Depth
Dt - Total Pond Depth
C - Change In Surface Area / Water Depth

Volume = Ab * D + 0.5 * C * D^2
C = (At - Ab) / Dt

Ab	=	6.80
At	=	1,135.00
Dt	=	1.00
C	=	1128.20

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
5039.00	0	0	0.0000
5043.00	4.00	0.0006	0.0074
5043.25	4.25	0.0015	0.0076
5043.50	4.50	0.0039	0.0078
5043.75	4.75	0.0080	0.0080
5044.00	5.00	0.0137	0.0082

<u>Orifice Equation</u>
Q = CA SQRT(2gH)

C =	0.6	
Diameter (in)	0.375	
Area (ft^2)=	0.001	
g =	32.2	
H (Ft) =	Depth of water above center of orifice	
Q (CFS)=	Flow	

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02d RUN DATE (MON/DAY/YR) =04/13/2007
INPUT FILE = C:\AHYMOW~1\27013D~1.TXT USER NO.= AHYMO-S-9702d1TierraW-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	NOTATION	
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	2.350
COMPUTE NM HYD	100.10	-	1	.00447	12.84	.476	1.99502	1.500	4.487	PER IMP=	91.00
COMPUTE NM HYD	100.20	-	2	.00054	1.54	.056	1.95491	1.500	4.459	PER IMP=	88.00
COMPUTE NM HYD	100.30	-	3	.00331	9.38	.342	1.93762	1.500	4.428	PER IMP=	82.00
COMPUTE NM HYD	100.40	-	4	.00232	6.26	.223	1.79938	1.500	4.213	PER IMP=	68.00
COMPUTE NM HYD	100.50	-	5	.00109	2.57	.086	1.48481	1.500	3.680	PER IMP=	43.00
COMPUTE NM HYD	100.60	-	6	.00022	.57	.020	1.70085	1.500	4.072	PER IMP=	69.00
COMPUTE NM HYD	100.70	-	7	.00041	1.09	.039	1.78108	1.500	4.161	PER IMP=	75.00
COMPUTE NM HYD	100.80	-	8	.00047	1.20	.042	1.68747	1.500	3.982	PER IMP=	68.00
COMPUTE NM HYD	100.90	-	9	.00011	.18	.005	.83169	1.500	2.512	PER IMP=	4.00
COMPUTE NM HYD	100.10	-	10	.00015	.29	.009	1.07238	1.500	2.988	PER IMP=	22.00
ROUTE RESERVOIR	201.00	1	11	.00447	.02	.024	.10039	6.266	.005	AC-FT=	.469
ROUTE RESERVOIR	202.00	2	12	.00054	.51	.056	1.95440	1.833	1.466	AC-FT=	.019
ROUTE RESERVOIR	203.00	3	13	.00331	.02	.024	.13355	6.199	.007	AC-FT=	.336
ROUTE RESERVOIR	204.00	4	14	.00232	.01	.023	.18468	6.166	.010	AC-FT=	.216
ROUTE RESERVOIR	205.00	5	15	.00109	.10	.086	1.48456	2.366	.137	AC-FT=	.073
ROUTE RESERVOIR	206.00	6	16	.00022	.07	.020	1.69995	2.133	.503	AC-FT=	.013
ROUTE RESERVOIR	207.00	7	17	.00041	.10	.039	1.78038	2.166	.381	AC-FT=	.028
ROUTE RESERVOIR	208.00	8	18	.00047	.01	.013	.53583	3.100	.029	AC-FT=	.039
ROUTE RESERVOIR	209.00	9	19	.00011	.01	.005	.82548	2.200	.112	AC-FT=	.004
ROUTE RESERVOIR	210.00	10	20	.00015	.01	.008	1.05134	2.300	.083	AC-FT=	.008
ADD HYD	301.00	11&12	21	.00501	.52	.080	.30022	1.833	.163		
ADD HYD	302.00	13&14	22	.00563	.03	.046	.15462	6.199	.008		
ADD HYD	303.00	15&16	23	.00131	.17	.106	1.52050	2.233	.198		
ADD HYD	304.00	17&18	24	.00088	.11	.052	1.11552	2.200	.193		
ADD HYD	305.00	19&20	25	.00026	.02	.013	.94416	2.266	.095		
ADD HYD	306.00	21&22	26	.01064	.55	.127	.22317	1.866	.081		
ADD HYD	307.00	26&23	27	.01195	.72	.233	.36539	1.933	.094		
ADD HYD	308.00	27&24	28	.01283	.82	.285	.41684	1.966	.100		
ADD HYD	309.00	28&25	29	.01309	.84	.298	.42732	1.966	.100		
FINISH											

```
**********************************************************************
*                                                                    *
*                    STERLING DRAINAGE ANALYSIS                      *
*                  NORTH RENAISSANCE CENTER (27013)                  *
*             PROPOSED CONDITIONS (100-YEAR, 6-HR STORM)             *
*                                                                    *
**********************************************************************
*
START                   TIME=0.0 HR
RAINFALL                TYPE=1 RAIN QUARTER=0.0 IN
                        RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                        RAIN DAY=2.75 IN DT=0.03333 HR
*
* BASIN 1
*
COMPUTE NM HYD          ID=1 HYD NO=100.1 AREA=0.00447 SQ MI
                        PER A=0 PER B=9.00 PER C=0.00 PER D=91.00
                        TP=0 HR MASS RAINFALL=-1
PRINT HYD               ID=1 CODE=1

*
* BASIN 2
*
COMPUTE NM HYD          ID=2 HYD NO=100.2 AREA=0.00054 SQ MI
                        PER A=0 PER B=12.00 PER C=0.00 PER D=88.00
                        TP=0 HR MASS RAINFALL=-1
PRINT HYD               ID=2 CODE=1

*
*BASIN 3
*
COMPUTE NM HYD          ID=3 HYD NO=100.3 AREA=0.00331 SQ MI
                        PER A=0 PER B=0.00 PER C=18.00 PER D=82.00
                        TP=0 HR MASS RAINFALL=-1
PRINT HYD               ID=3 CODE=1

*
*BASIN 4
*
COMPUTE NM HYD          ID=4 HYD NO=100.4 AREA=0.00232 SQ MI
                        PER A=0 PER B=0.00 PER C=32.00 PER D=68.00
                        TP=0 HR MASS RAINFALL=-1
PRINT HYD               ID=4 CODE=1

*
*BASIN 5
*
COMPUTE NM HYD          ID=5 HYD NO=100.5 AREA=0.00109 SQ MI
                        PER A=0 PER B=17.00 PER C=40.00 PER D=43.00
                        TP=0 HR MASS RAINFALL=-1
PRINT HYD               ID=5 CODE=1

*
*BASIN A
*
COMPUTE NM HYD          ID=6 HYD NO=100.6 AREA=0.00022 SQ MI
                        PER A=0 PER B=31.00 PER C=0.00 PER D=69.00
                        TP=0 HR MASS RAINFALL=-1
PRINT HYD               ID=6 CODE=1

*
*BASIN B
```

```
*
COMPUTE NM HYD      ID=7 HYD NO=100.7 AREA=0.00041 SQ MI
                    PER A=0 PER B=25.00 PER C=0.00 PER D=75.00
                    TP=0 HR MASS RAINFALL=-1
PRINT HYD           ID=7 CODE=1

*
*BASIN C
*
COMPUTE NM HYD      ID=8 HYD NO=100.8 AREA=0.00047 SQ MI
                    PER A=0 PER B=32.00 PER C=0.00 PER D=68.00
                    TP=0 HR MASS RAINFALL=-1
PRINT HYD           ID=8 CODE=1

*
*BASIN D
*
COMPUTE NM HYD      ID=9 HYD NO=100.9 AREA=0.00011 SQ MI
                    PER A=0 PER B=96.00 PER C=0.00 PER D=4.00
                    TP=0 HR MASS RAINFALL=-1
PRINT HYD           ID=9 CODE=1


*
*BASIN E
*
COMPUTE NM HYD      ID=10 HYD NO=100.10 AREA=0.00015 SQ MI
                    PER A=0 PER B=78.00 PER C=0.00 PER D=22.00
                    TP=0 HR MASS RAINFALL=-1
PRINT HYD           ID=10 CODE=1
*

* POND 1
*
ROUTE RESERVOIR     ID=11 HYD NO=201.00 INFLOW ID=1 CODE=24
                    OUTFLOW(CFS)      STORAGE(AC-FT)  ELEVATION(FT)
                         0.0000             0.0000          5035.50
                         0.0131             0.0006          5039.50
                         0.0138             0.0328          5039.93
                         0.0144             0.1291          5040.35
                         0.0150             0.2897          5040.78
                         0.0156             0.5144          5041.20

PRINT HYD           ID=11 CODE=1
*

* POND 2
*
ROUTE RESERVOIR     ID=12 HYD NO=202.00 INFLOW ID=2 CODE=24
                    OUTFLOW(CFS)      STORAGE(AC-FT)  ELEVATION(FT)
                         0.0000             0.0000          5035.00
                         0.4653             0.0006          5039.00
                         0.4764             0.0019          5039.19
                         0.4873             0.0055          5039.38
                         0.4979             0.0116          5039.56
                         0.5083             0.0201          5039.75

PRINT HYD           ID=12 CODE=1
*

* POND 3
*
```

```
                                        27013DRAIN
ROUTE RESERVOIR      ID=13 HYD NO=203.00 INFLOW ID=3 CODE=24
                     OUTFLOW(CFS)      STORAGE(AC-FT)  ELEVATION(FT)
                          0.0000            0.0000         5038.00
                          0.0131            0.0006         5042.00
                          0.0137            0.0222         5042.36
                          0.0142            0.0870         5042.71
                          0.0147            0.1948         5043.07
                          0.0153            0.3457         5043.42

PRINT HYD            ID=13 CODE=1
*

* POND 4
*
ROUTE RESERVOIR      ID=14 HYD NO=204.00 INFLOW ID=4 CODE=24
                     OUTFLOW(CFS)      STORAGE(AC-FT)  ELEVATION(FT)
                          0.0000            0.0000         5038.00
                          0.0131            0.0006         5042.00
                          0.0137            0.0223         5042.36
                          0.0142            0.0872         5042.71
                          0.0147            0.1953         5043.07
                          0.0153            0.3466         5043.42

PRINT HYD            ID=14 CODE=1
*

* POND 5
*
ROUTE RESERVOIR      ID=15 HYD NO=205.00 INFLOW ID=5 CODE=24
                     OUTFLOW(CFS)      STORAGE(AC-FT)  ELEVATION(FT)
                          0.0000            0.0000         5038.00
                          0.0815            0.0006         5042.00
                          0.0853            0.0053         5042.38
                          0.0889            0.0194         5042.75
                          0.0924            0.0429         5043.13
                          0.0958            0.0754         5043.50

PRINT HYD            ID=15 CODE=1
*

* POND A
*
ROUTE RESERVOIR      ID=16 HYD NO=206.00 INFLOW ID=6 CODE=24
                     OUTFLOW(CFS)      STORAGE(AC-FT)  ELEVATION(FT)
                          0.0000            0.0000         5039.50
                          0.0661            0.0006         5043.50
                          0.0673            0.0015         5043.65
                          0.0685            0.0039         5043.80
                          0.0697            0.0079         5043.95
                          0.0709            0.0136         5044.10

PRINT HYD            ID=16 CODE=1
*

* POND B
*
ROUTE RESERVOIR      ID=17 HYD NO=207.00 INFLOW ID=7 CODE=24
                     OUTFLOW(CFS)      STORAGE(AC-FT)  ELEVATION(FT)
                          0.0000            0.0000         5039.00
                          0.0815            0.0006         5043.00
                          0.0865            0.0024         5043.50
                          0.0913            0.0078         5044.00
                          0.0958            0.0166         5044.50
```

```
                                                27013DRAIN
                                0.1001              0.0288              5045.00

PRINT HYD                  ID=17 CODE=1
*

* POND C
*
ROUTE RESERVOIR            ID=18 HYD NO=208.00 INFLOW ID=8 CODE=24
                           OUTFLOW(CFS)        STORAGE(AC-FT)   ELEVATION(FT)
                                0.0000              0.0000           5039.00
                                0.0074              0.0006           5043.00
                                0.0078              0.0039           5043.50
                                0.0082              0.0136           5044.00
                                0.0086              0.0296           5044.50
                                0.0090              0.0521           5045.00

PRINT HYD                  ID=18 CODE=1
*

* POND D
*
ROUTE RESERVOIR            ID=19 HYD NO=209.00 INFLOW ID=9 CODE=24
                           OUTFLOW(CFS)        STORAGE(AC-FT)   ELEVATION(FT)
                                0.0000              0.0000           5037.00
                                0.0074              0.0006           5041.00
                                0.0076              0.0013           5041.25
                                0.0078              0.0034           5041.50
                                0.0080              0.0068           5041.75
                                0.0082              0.0116           5042.00

PRINT HYD                  ID=19 CODE=1
*

* POND E
*
ROUTE RESERVOIR            ID=20 HYD NO=210.00 INFLOW ID=10 CODE=24
                           OUTFLOW(CFS)        STORAGE(AC-FT)   ELEVATION(FT)
                                0.0000              0.0000           5039.00
                                0.0074              0.0006           5043.00
                                0.0076              0.0015           5043.25
                                0.0078              0.0039           5043.50
                                0.0080              0.0080           5043.75
                                0.0082              0.0137           5044.00

PRINT HYD                  ID=20 CODE=1
*

*
*ADD PONDS 1 THRU 5 AND A THRU F
*
ADD HYD                    ID=21 HYD NO=301.00 ID=11 ID=12
ADD HYD                    ID=22 HYD NO=302.00 ID=13 ID=14
ADD HYD                    ID=23 HYD NO=303.00 ID=15 ID=16
ADD HYD                    ID=24 HYD NO=304.00 ID=17 ID=18
ADD HYD                    ID=25 HYD NO=305.00 ID=19 ID=20
ADD HYD                    ID=26 HYD NO=306.00 ID=21 ID=22
ADD HYD                    ID=27 HYD NO=307.00 ID=26 ID=23
ADD HYD                    ID=28 HYD NO=308.00 ID=27 ID=24
ADD HYD                    ID=29 HYD NO=309.00 ID=28 ID=25

PRINT HYD                       ID=29 CODE=1

*
```

```
          AHYMO PROGRAM (AHYMO_97) -                              - Version:  1997.02d
               RUN DATE (MON/DAY/YR) = 04/13/2007
               START TIME (HR:MIN:SEC) = 10:09:24     USER NO.= AHYMO-S-
9702d1TierraW-AH
               INPUT FILE = C:\AHYMOW~1\27013D~1.TXT

     **********************************************************************
     *                                                                    *
     *                     STERLING DRAINAGE ANALYSIS                     *
     *                  NORTH RENAISSANCE CENTER (27013)                  *
     *              PROPOSED CONDITIONS (100-YEAR, 6-HR STORM)            *
     *                                                                    *
     **********************************************************************
     *
     START                    TIME=0.0 HR
     RAINFALL                 TYPE=1 RAIN QUARTER=0.0 IN
                              RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                              RAIN DAY=2.75 IN DT=0.03333 HR

                         COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2
  - PEAK AT 1.40 HR.
                         DT =     .033330 HOURS        END TIME =     5.999400 HOURS
                            .0000   .0016   .0033   .0049   .0066   .0084   .0102
                            .0120   .0139   .0158   .0178   .0199   .0219   .0241
                            .0263   .0286   .0309   .0333   .0358   .0384   .0411
                            .0439   .0467   .0497   .0529   .0561   .0596   .0631
                            .0669   .0709   .0751   .0807   .0866   .0930   .1066
                            .1371   .1840   .2514   .3434   .4644   .6186   .8106
                           1.0449  1.2624  1.3533  1.4300  1.4982  1.5602  1.6174
                           1.6704  1.7200  1.7664  1.8102  1.8514  1.8904  1.9273
                           1.9622  1.9953  2.0268  2.0566  2.0850  2.0915  2.0976
                           2.1033  2.1088  2.1140  2.1191  2.1239  2.1285  2.1329
                           2.1373  2.1414  2.1454  2.1494  2.1531  2.1568  2.1604
                           2.1639  2.1673  2.1706  2.1739  2.1771  2.1802  2.1832
                           2.1862  2.1891  2.1919  2.1947  2.1975  2.2002  2.2028
                           2.2054  2.2080  2.2105  2.2130  2.2154  2.2178  2.2202
                           2.2225  2.2248  2.2270  2.2293  2.2315  2.2336  2.2358
                           2.2379  2.2399  2.2420  2.2440  2.2460  2.2480  2.2500
                           2.2519  2.2538  2.2557  2.2576  2.2594  2.2612  2.2631
                           2.2648  2.2666  2.2684  2.2701  2.2718  2.2735  2.2752
                           2.2769  2.2785  2.2802  2.2818  2.2834  2.2850  2.2866
                           2.2881  2.2897  2.2912  2.2928  2.2943  2.2958  2.2973
                           2.2987  2.3002  2.3017  2.3031  2.3045  2.3060  2.3074
                           2.3088  2.3102  2.3115  2.3129  2.3143  2.3156  2.3169
                           2.3183  2.3196  2.3209  2.3222  2.3235  2.3248  2.3261
                           2.3273  2.3286  2.3298  2.3311  2.3323  2.3335  2.3348
                           2.3360  2.3372  2.3384  2.3396  2.3408  2.3419  2.3431
                           2.3443  2.3454  2.3466  2.3477  2.3488  2.3500
     *
     * BASIN 1
     *
     COMPUTE NM HYD           ID=1 HYD NO=100.1 AREA=0.00447 SQ MI
                              PER A=0 PER B=9.00 PER C=0.00 PER D=91.00
                              TP=0 HR MASS RAINFALL=-1
```

```
          *****Warning*****A value for the Time to Peak was not previously
computed; use Tp=0.133333 hrs.

          TIME TO PEAK (hrs)=    .1333

          K =    .072666HR     TP =    .133333HR     K/TP RATIO =    .545000
SHAPE CONSTANT, N =  7.106420
          UNIT PEAK =    16.056     CFS    UNIT VOLUME =     .9986        B =
526.28       P60 = 2.0100
          AREA =       .004068 SQ MI     IA =     .10000 INCHES     INF =     .04000
INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=    .033330


          K =    .132120HR     TP =    .133333HR     K/TP RATIO =    .990905
SHAPE CONSTANT, N =  3.563129
          UNIT PEAK =    .98033     CFS    UNIT VOLUME =     .9858        B =
324.91       P60 = 2.0100
          AREA =       .000402 SQ MI     IA =     .50000 INCHES     INF =    1.25000
INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=    .033330

     PRINT HYD            ID=1 CODE=1

                                                PARTIAL HYDROGRAPH    100.10

          RUNOFF VOLUME =      1.99502 INCHES      =          .4756 ACRE-FEET
          PEAK DISCHARGE RATE =       12.84 CFS  AT    1.500 HOURS    BASIN AREA =
.0045 SQ. MI.



     *
     * BASIN 2
     *
     COMPUTE NM HYD       ID=2 HYD NO=100.2 AREA=0.00054 SQ MI
                          PER A=0 PER B=12.00 PER C=0.00 PER D=88.00
                          TP=0 HR MASS RAINFALL=-1
          TIME TO PEAK (hrs)=    .1333
          *****Warning*****This Tp value was used for a previously computed
hydrograph.
                               A new Tp value should be computed.


          K =    .072666HR     TP =    .133333HR     K/TP RATIO =    .545000
SHAPE CONSTANT, N =  7.106420
          UNIT PEAK =    1.8757     CFS    UNIT VOLUME =     .9932        B =
526.28       P60 = 2.0100
          AREA =       .000475 SQ MI     IA =     .10000 INCHES     INF =     .04000
INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=    .033330
```

```
          K =    .132120HR     TP =    .133333HR     K/TP RATIO =    .990905
SHAPE CONSTANT, N =  3.563129
          UNIT PEAK =    .15791    CFS   UNIT VOLUME =     .9153        B =
324.91       P60 = 2.0100
          AREA =       .000065 SQ MI     IA =     .50000 INCHES     INF =   1.25000
INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=    .033330

     PRINT HYD            ID=2 CODE=1

                                          PARTIAL HYDROGRAPH   100.20


          RUNOFF VOLUME =      1.95491 INCHES      =          .0563 ACRE-FEET
          PEAK DISCHARGE RATE =        1.54 CFS  AT    1.500 HOURS   BASIN AREA =
.0005 SQ. MI.



     *
     *BASIN 3
     *
     COMPUTE NM HYD       ID=3 HYD NO=100.3 AREA=0.00331 SQ MI
                          PER A=0 PER B=0.00 PER C=18.00 PER D=82.00
                          TP=0 HR MASS RAINFALL=-1
          TIME TO PEAK (hrs)=    .1333
          *****Warning*****This Tp value was used for a previously computed
hydrograph.
                             A new Tp value should be computed.


          K =    .072666HR     TP =    .133333HR     K/TP RATIO =    .545000
SHAPE CONSTANT, N =  7.106420
          UNIT PEAK =    10.713    CFS   UNIT VOLUME =     .9982        B =
526.28       P60 = 2.0100
          AREA =       .002714 SQ MI     IA =     .10000 INCHES     INF =     .04000
INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=    .033330


          K =    .107473HR     TP =    .133333HR     K/TP RATIO =    .806046
SHAPE CONSTANT, N =  4.440701
          UNIT PEAK =    1.7139    CFS   UNIT VOLUME =     .9929        B =
383.55       P60 = 2.0100
          AREA =       .000596 SQ MI     IA =     .35000 INCHES     INF =     .83000
INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=    .033330

     PRINT HYD            ID=3 CODE=1

                                          PARTIAL HYDROGRAPH   100.30
```

```
          RUNOFF VOLUME =      1.93762 INCHES      =          .3421 ACRE-FEET
          PEAK DISCHARGE RATE =        9.38 CFS  AT    1.500 HOURS   BASIN AREA =
.0033 SQ. MI.



     *
     *BASIN 4
     *
     COMPUTE NM HYD       ID=4 HYD NO=100.4 AREA=0.00232 SQ MI
                          PER A=0 PER B=0.00 PER C=32.00 PER D=68.00
                          TP=0 HR MASS RAINFALL=-1
          TIME TO PEAK (hrs)=    .1333
          *****Warning*****This Tp value was used for a previously computed
hydrograph.
                               A new Tp value should be computed.


          K =    .072666HR     TP =    .133333HR     K/TP RATIO =    .545000
SHAPE CONSTANT, N =  7.106420
          UNIT PEAK =    6.2269     CFS    UNIT VOLUME =     .9976        B =
526.28       P60 = 2.0100
          AREA =       .001578 SQ MI     IA =     .10000 INCHES     INF =     .04000
INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=    .033330


          K =    .107473HR     TP =    .133333HR     K/TP RATIO =    .806046
SHAPE CONSTANT, N =  4.440701
          UNIT PEAK =    2.1356     CFS    UNIT VOLUME =     .9943        B =
383.55       P60 = 2.0100
          AREA =       .000742 SQ MI     IA =     .35000 INCHES     INF =     .83000
INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=    .033330

     PRINT HYD            ID=4 CODE=1

                                          PARTIAL HYDROGRAPH   100.40


          RUNOFF VOLUME =      1.79938 INCHES      =          .2226 ACRE-FEET
          PEAK DISCHARGE RATE =        6.26 CFS  AT    1.500 HOURS   BASIN AREA =
.0023 SQ. MI.



     *
     *BASIN 5
     *
     COMPUTE NM HYD       ID=5 HYD NO=100.5 AREA=0.00109 SQ MI
                          PER A=0 PER B=17.00 PER C=40.00 PER D=43.00
                          TP=0 HR MASS RAINFALL=-1
```

TIME TO PEAK (hrs)= .1333
*****Warning*****This Tp value was used for a previously computed hydrograph.
A new Tp value should be computed.

K = .072666HR TP = .133333HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.8500 CFS UNIT VOLUME = .9932 B = 526.28 P60 = 2.0100
AREA = .000469 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .114824HR TP = .133333HR K/TP RATIO = .861180
SHAPE CONSTANT, N = 4.128735
UNIT PEAK = 1.6946 CFS UNIT VOLUME = .9923 B = 363.66 P60 = 2.0100
AREA = .000621 SQ MI IA = .39474 INCHES INF = .95526 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 100.50

RUNOFF VOLUME = 1.48481 INCHES = .0863 ACRE-FEET
PEAK DISCHARGE RATE = 2.57 CFS AT 1.500 HOURS BASIN AREA = .0011 SQ. MI.

*
*BASIN A
*
COMPUTE NM HYD ID=6 HYD NO=100.6 AREA=0.00022 SQ MI
PER A=0 PER B=31.00 PER C=0.00 PER D=69.00
TP=0 HR MASS RAINFALL=-1

TIME TO PEAK (hrs)= .1333
*****Warning*****This Tp value was used for a previously computed hydrograph.
A new Tp value should be computed.

K = .072666HR TP = .133333HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = .59917 CFS UNIT VOLUME = .9815 B = 526.28 P60 = 2.0100
AREA = .000152 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR

```
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=    .033330


          K =    .132120HR     TP =    .133333HR     K/TP RATIO =    .990905
SHAPE CONSTANT, N =  3.563129
          UNIT PEAK =    .16619     CFS    UNIT VOLUME =     .9153        B =
324.91       P60 = 2.0100
          AREA =       .000068 SQ MI     IA =     .50000 INCHES     INF =   1.25000
INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=    .033330

     PRINT HYD            ID=6 CODE=1

                                          PARTIAL HYDROGRAPH    100.60


          RUNOFF VOLUME =      1.70085 INCHES      =          .0200 ACRE-FEET
          PEAK DISCHARGE RATE =         .57 CFS   AT    1.500 HOURS    BASIN AREA =
.0002 SQ. MI.



     *
     *BASIN B
     *
     COMPUTE NM HYD       ID=7 HYD NO=100.7 AREA=0.00041 SQ MI
                          PER A=0 PER B=25.00 PER C=0.00 PER D=75.00
                          TP=0 HR MASS RAINFALL=-1
          TIME TO PEAK (hrs)=    .1333
          *****Warning*****This Tp value was used for a previously computed
hydrograph.
                              A new Tp value should be computed.


          K =    .072666HR     TP =    .133333HR     K/TP RATIO =    .545000
SHAPE CONSTANT, N =  7.106420
          UNIT PEAK =    1.2137     CFS    UNIT VOLUME =     .9897        B =
526.28       P60 = 2.0100
          AREA =       .000308 SQ MI     IA =     .10000 INCHES     INF =     .04000
INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=    .033330


          K =    .132120HR     TP =    .133333HR     K/TP RATIO =    .990905
SHAPE CONSTANT, N =  3.563129
          UNIT PEAK =    .24977     CFS    UNIT VOLUME =     .9445        B =
324.91       P60 = 2.0100
          AREA =       .000103 SQ MI     IA =     .50000 INCHES     INF =   1.25000
INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=    .033330

     PRINT HYD            ID=7 CODE=1
```

PARTIAL HYDROGRAPH 100.70

RUNOFF VOLUME = 1.78108 INCHES = .0389 ACRE-FEET
PEAK DISCHARGE RATE = 1.09 CFS AT 1.500 HOURS BASIN AREA = .0004 SQ. MI.

*
*BASIN C
*
COMPUTE NM HYD ID=8 HYD NO=100.8 AREA=0.00047 SQ MI
PER A=0 PER B=32.00 PER C=0.00 PER D=68.00
TP=0 HR MASS RAINFALL=-1
TIME TO PEAK (hrs)= .1333
*****Warning*****This Tp value was used for a previously computed hydrograph.
A new Tp value should be computed.

K = .072666HR TP = .133333HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.2615 CFS UNIT VOLUME = .9897 B = 526.28 P60 = 2.0100
AREA = .000320 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .132120HR TP = .133333HR K/TP RATIO = .990905
SHAPE CONSTANT, N = 3.563129
UNIT PEAK = .36650 CFS UNIT VOLUME = .9637 B = 324.91 P60 = 2.0100
AREA = .000150 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=8 CODE=1

PARTIAL HYDROGRAPH 100.80

RUNOFF VOLUME = 1.68747 INCHES = .0423 ACRE-FEET
PEAK DISCHARGE RATE = 1.20 CFS AT 1.500 HOURS . BASIN AREA = .0005 SQ. MI.

*
*BASIN D

```
      *
      COMPUTE NM HYD       ID=9 HYD NO=100.9 AREA=0.00011 SQ MI
                           PER A=0 PER B=96.00 PER C=0.00 PER D=4.00
                           TP=0 HR MASS RAINFALL=-1
           TIME TO PEAK (hrs)=    .1333
           *****Warning*****This Tp value was used for a previously computed
hydrograph.
                              A new Tp value should be computed.


           K =    .072666HR     TP =    .133333HR     K/TP RATIO =    .545000
SHAPE CONSTANT, N =  7.106420
           UNIT PEAK =    .17367E-01CFS   UNIT VOLUME =     .8873        B =
526.28       P60 = 2.0100
           AREA =       .000004 SQ MI     IA =     .10000 INCHES     INF =     .04000
INCHES PER HOUR
           RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=    .033330


           K =    .132120HR     TP =    .133333HR     K/TP RATIO =    .990905
SHAPE CONSTANT, N =  3.563129
           UNIT PEAK =    .25733    CFS   UNIT VOLUME =     .9490        B =
324.91       P60 = 2.0100
           AREA =       .000106 SQ MI     IA =     .50000 INCHES     INF =    1.25000
INCHES PER HOUR
           RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
=    .033330

      PRINT HYD            ID=9 CODE=1

                                              PARTIAL HYDROGRAPH   100.90


           RUNOFF VOLUME =       .83169 INCHES      =          .0049 ACRE-FEET
           PEAK DISCHARGE RATE =         .18 CFS  AT    1.500 HOURS   BASIN AREA =
.0001 SQ. MI.



      *
      *BASIN E
      *
      COMPUTE NM HYD       ID=10 HYD NO=100.10 AREA=0.00015 SQ MI
                           PER A=0 PER B=78.00 PER C=0.00 PER D=22.00
                           TP=0 HR MASS RAINFALL=-1
           TIME TO PEAK (hrs)=    .1333
           *****Warning*****This Tp value was used for a previously computed
hydrograph.
                              A new Tp value should be computed.


           K =    .072666HR     TP =    .133333HR     K/TP RATIO =    .545000
SHAPE CONSTANT, N =  7.106420
```

UNIT PEAK = .13025 CFS UNIT VOLUME = .9169 B = 526.28 P60 = 2.0100
AREA = .000033 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .132120HR TP = .133333HR K/TP RATIO = .990905
SHAPE CONSTANT, N = 3.563129
UNIT PEAK = .28511 CFS UNIT VOLUME = .9531 B = 324.91 P60 = 2.0100
AREA = .000117 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=10 CODE=1

PARTIAL HYDROGRAPH 100.10

RUNOFF VOLUME = 1.07238 INCHES = .0086 ACRE-FEET
PEAK DISCHARGE RATE = .29 CFS AT 1.500 HOURS BASIN AREA = .0002 SQ. MI.

*

* POND 1
*

ROUTE RESERVOIR ID=11 HYD NO=201.00 INFLOW ID=1 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0000	0.0000	5035.50
0.0131	0.0006	5039.50
0.0138	0.0328	5039.93
0.0144	0.1291	5040.35
0.0150	0.2897	5040.78
0.0156	0.5144	5041.20

* * * * * * * * * * * * * * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5035.50	.000	.00
.80	.00	5035.50	.000	.00
1.60	8.86	5040.61	.228	.01
2.40	.54	5041.06	.439	.02
3.20	.11	5041.09	.454	.02
4.00	.07	5041.10	.459	.02
4.80	.07	5041.10	.462	.02
5.60	.08	5041.11	.466	.02
6.40	.01	5041.12	.469	.02
7.20	.00	5041.11	.468	.02

8.00	.00	5041.11	.467	.02
8.80	.00	5041.11	.466	.02
9.60	.00	5041.11	.465	.02
10.40	.00	5041.11	.464	.02
11.20	.00	5041.10	.463	.02
12.00	.00	5041.10	.462	.02
12.80	.00	5041.10	.461	.02
13.60	.00	5041.10	.460	.02
14.40	.00	5041.10	.459	.02
15.20	.00	5041.09	.458	.02
16.00	.00	5041.09	.457	.02
16.80	.00	5041.09	.456	.02
17.60	.00	5041.09	.455	.02
18.40	.00	5041.09	.454	.02
19.20	.00	5041.08	.453	.02

PEAK DISCHARGE = .015 CFS - PEAK OCCURS AT HOUR 6.27
MAXIMUM WATER SURFACE ELEVATION = 5041.115
MAXIMUM STORAGE = .4690 AC-FT INCREMENTAL TIME= .033330HRS

PRINT HYD ID=11 CODE=1

PARTIAL HYDROGRAPH 201.00

RUNOFF VOLUME = .10039 INCHES = .0239 ACRE-FEET
PEAK DISCHARGE RATE = .02 CFS AT 6.266 HOURS BASIN AREA = .0045 SQ. MI.

*

* POND 2
*

ROUTE RESERVOIR ID=12 HYD NO=202.00 INFLOW ID=2 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0000	0.0000	5035.00
0.4653	0.0006	5039.00
0.4764	0.0019	5039.19
0.4873	0.0055	5039.38
0.4979	0.0116	5039.56
0.5083	0.0201	5039.75

* * * * * * * * * * * * * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5035.00	.000	.00
.80	.00	5035.00	.000	.00
1.60	1.07	5039.64	.015	.50
2.40	.05	5039.42	.007	.49
3.20	.01	5035.11	.000	.01
4.00	.01	5035.07	.000	.01
4.80	.01	5035.07	.000	.01

```
      5.60        .01   5035.08       .000       .01
 PEAK DISCHARGE =          .507 CFS - PEAK OCCURS AT HOUR    1.83
 MAXIMUM WATER SURFACE ELEVATION =     5039.722
 MAXIMUM STORAGE =          .0189 AC-FT      INCREMENTAL TIME=
.033330HRS

  PRINT HYD            ID=12 CODE=1

                                        PARTIAL HYDROGRAPH   202.00

     RUNOFF VOLUME =     1.95440 INCHES     =        .0563 ACRE-FEET
     PEAK DISCHARGE RATE =        .51 CFS  AT   1.833 HOURS   BASIN AREA =
.0005 SQ. MI.


  *

  * POND 3
  *
  ROUTE RESERVOIR      ID=13 HYD NO=203.00 INFLOW ID=3 CODE=24
                       OUTFLOW(CFS)       STORAGE(AC-FT)   ELEVATION(FT)
                           0.0000             0.0000          5038.00
                           0.0131             0.0006          5042.00
                           0.0137             0.0222          5042.36
                           0.0142             0.0870          5042.71
                           0.0147             0.1948          5043.07
                           0.0153             0.3457          5043.42

* * * * * * * * * * * * * * * * * *

   TIME        INFLOW      ELEV       VOLUME     OUTFLOW
   (HRS)       (CFS)       (FEET)     (AC-FT)    (CFS)

    .00          .00    5038.00         .000        .00
    .80          .00    5038.00         .000        .00
   1.60         6.51    5042.97         .165        .01
   2.40          .38    5043.35         .317        .02
   3.20          .07    5043.38         .327        .02
   4.00          .05    5043.38         .330        .02
   4.80          .05    5043.39         .332        .02
   5.60          .05    5043.39         .334        .02
   6.40          .00    5043.40         .335        .02
   7.20          .00    5043.39         .335        .02
   8.00          .00    5043.39         .334        .02
   8.80          .00    5043.39         .333        .02
   9.60          .00    5043.39         .332        .02
  10.40          .00    5043.38         .331        .02
  11.20          .00    5043.38         .330        .02
  12.00          .00    5043.38         .328        .02
  12.80          .00    5043.38         .327        .02
  13.60          .00    5043.38         .326        .02
  14.40          .00    5043.37         .325        .02
  15.20          .00    5043.37         .324        .02
  16.00          .00    5043.37         .323        .02
```

16.80	.00	5043.37	.322	.02
17.60	.00	5043.36	.321	.02
18.40	.00	5043.36	.320	.02
19.20	.00	5043.36	.319	.02

PEAK DISCHARGE = .015 CFS - PEAK OCCURS AT HOUR 6.20
MAXIMUM WATER SURFACE ELEVATION = 5043.396
MAXIMUM STORAGE = .3356 AC-FT INCREMENTAL TIME= .033330HRS

PRINT HYD ID=13 CODE=1

PARTIAL HYDROGRAPH 203.00

RUNOFF VOLUME = .13355 INCHES = .0236 ACRE-FEET
PEAK DISCHARGE RATE = .02 CFS AT 6.199 HOURS BASIN AREA = .0033 SQ. MI.

*

* POND 4
*

ROUTE RESERVOIR ID=14 HYD NO=204.00 INFLOW ID=4 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0000	0.0000	5038.00
0.0131	0.0006	5042.00
0.0137	0.0223	5042.36
0.0142	0.0872	5042.71
0.0147	0.1953	5043.07
0.0153	0.3466	5043.42

* * * * * * * * * * * * * * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5038.00	.000	.00
.80	.00	5038.00	.000	.00
1.60	4.39	5042.78	.108	.01
2.40	.25	5043.10	.207	.01
3.20	.04	5043.11	.213	.01
4.00	.03	5043.11	.214	.01
4.80	.03	5043.12	.215	.01
5.60	.03	5043.12	.216	.01
6.40	.00	5043.12	.216	.01
7.20	.00	5043.12	.215	.01
8.00	.00	5043.11	.214	.01
8.80	.00	5043.11	.213	.01
9.60	.00	5043.11	.212	.01
10.40	.00	5043.11	.211	.01
11.20	.00	5043.10	.210	.01
12.00	.00	5043.10	.210	.01
12.80	.00	5043.10	.209	.01
13.60	.00	5043.10	.208	.01

14.40	.00	5043.10	.207	.01
15.20	.00	5043.09	.206	.01
16.00	.00	5043.09	.205	.01
16.80	.00	5043.09	.204	.01
17.60	.00	5043.09	.203	.01
18.40	.00	5043.08	.202	.01
19.20	.00	5043.08	.201	.01

PEAK DISCHARGE = .015 CFS - PEAK OCCURS AT HOUR 6.17
MAXIMUM WATER SURFACE ELEVATION = 5043.119
MAXIMUM STORAGE = .2165 AC-FT INCREMENTAL TIME= .033330HRS

PRINT HYD ID=14 CODE=1

PARTIAL HYDROGRAPH 204.00

RUNOFF VOLUME = .18468 INCHES = .0229 ACRE-FEET
PEAK DISCHARGE RATE = .01 CFS AT 6.166 HOURS BASIN AREA = .0023 SQ. MI.

*

* POND 5
*

ROUTE RESERVOIR ID=15 HYD NO=205.00 INFLOW ID=5 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0000	0.0000	5038.00
0.0815	0.0006	5042.00
0.0853	0.0053	5042.38
0.0889	0.0194	5042.75
0.0924	0.0429	5043.13
0.0958	0.0754	5043.50

* * * * * * * * * * * * * * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5038.00	.000	.00
.80	.00	5038.00	.000	.00
1.60	1.86	5043.09	.040	.09
2.40	.09	5043.47	.073	.10
3.20	.01	5043.43	.069	.10
4.00	.01	5043.36	.063	.09
4.80	.01	5043.30	.058	.09
5.60	.01	5043.23	.052	.09
6.40	.00	5043.17	.046	.09
7.20	.00	5043.09	.040	.09
8.00	.00	5042.99	.034	.09
8.80	.00	5042.89	.028	.09
9.60	.00	5042.80	.022	.09
10.40	.00	5042.67	.016	.09
11.20	.00	5042.52	.011	.09

```
        12.00          .00    5042.35          .005          .09
        12.80          .00    5038.62          .000          .01
      PEAK DISCHARGE =           .096 CFS - PEAK OCCURS AT HOUR     2.37
      MAXIMUM WATER SURFACE ELEVATION =      5043.474
      MAXIMUM STORAGE =           .0731 AC-FT       INCREMENTAL TIME=
.033330HRS

     PRINT HYD             ID=15 CODE=1

                                                PARTIAL HYDROGRAPH    205.00


         RUNOFF VOLUME =      1.48456 INCHES      =          .0863 ACRE-FEET
         PEAK DISCHARGE RATE =          .10 CFS  AT    2.366 HOURS    BASIN AREA =
.0011 SQ. MI.



      *

      * POND A
      *
      ROUTE RESERVOIR      ID=16 HYD NO=206.00 INFLOW ID=6 CODE=24
                           OUTFLOW(CFS)       STORAGE(AC-FT)   ELEVATION(FT)
                               0.0000             0.0000          5039.50
                               0.0661             0.0006          5043.50
                               0.0673             0.0015          5043.65
                               0.0685             0.0039          5043.80
                               0.0697             0.0079          5043.95
                               0.0709             0.0136          5044.10

   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *

     TIME          INFLOW      ELEV        VOLUME      OUTFLOW
     (HRS)         (CFS)       (FEET)      (AC-FT)     (CFS)

       .00           .00    5039.50          .000          .00
       .80           .00    5039.50          .000          .00
      1.60           .41    5043.96          .008          .07
      2.40           .02    5044.07          .012          .07
      3.20           .00    5043.96          .008          .07
      4.00           .00    5043.80          .004          .07
      4.80           .00    5040.32          .000          .01
      5.60           .00    5039.67          .000          .00
      PEAK DISCHARGE =           .071 CFS - PEAK OCCURS AT HOUR     2.13
      MAXIMUM WATER SURFACE ELEVATION =      5044.092
      MAXIMUM STORAGE =           .0133 AC-FT       INCREMENTAL TIME=
.033330HRS

     PRINT HYD             ID=16 CODE=1

                                                PARTIAL HYDROGRAPH    206.00


         RUNOFF VOLUME =      1.69995 INCHES      =          .0199 ACRE-FEET
```

PEAK DISCHARGE RATE = .07 CFS AT 2.133 HOURS BASIN AREA = .0002 SQ. MI.

*

* POND B
*

ROUTE RESERVOIR ID=17 HYD NO=207.00 INFLOW ID=7 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0000	0.0000	5039.00
0.0815	0.0006	5043.00
0.0865	0.0024	5043.50
0.0913	0.0078	5044.00
0.0958	0.0166	5044.50
0.1001	0.0288	5045.00

* * * * * * * * * * * * * * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5039.00	.000	.00
.80	.00	5039.00	.000	.00
1.60	.77	5044.50	.017	.10
2.40	.03	5044.95	.028	.10
3.20	.01	5044.72	.022	.10
4.00	.01	5044.47	.016	.10
4.80	.01	5044.13	.010	.09
5.60	.01	5043.70	.005	.09
6.40	.00	5039.39	.000	.01

PEAK DISCHARGE = .100 CFS - PEAK OCCURS AT HOUR 2.17
MAXIMUM WATER SURFACE ELEVATION = 5044.979
MAXIMUM STORAGE = .0283 AC-FT INCREMENTAL TIME= .033330HRS

PRINT HYD ID=17 CODE=1

PARTIAL HYDROGRAPH 207.00

RUNOFF VOLUME = 1.78038 INCHES = .0389 ACRE-FEET
PEAK DISCHARGE RATE = .10 CFS AT 2.166 HOURS BASIN AREA = .0004 SQ. MI.

*

* POND C
*

ROUTE RESERVOIR ID=18 HYD NO=208.00 INFLOW ID=8 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0000	0.0000	5039.00
0.0074	0.0006	5043.00

0.0078	0.0039	5043.50
0.0082	0.0136	5044.00
0.0086	0.0296	5044.50
0.0090	0.0521	5045.00

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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5039.00	.000	.00
.80	.00	5039.00	.000	.00
1.60	.85	5044.22	.021	.01
2.40	.04	5044.71	.039	.01
3.20	.01	5044.72	.039	.01
4.00	.01	5044.72	.039	.01
4.80	.01	5044.71	.039	.01
5.60	.01	5044.71	.039	.01
6.40	.00	5044.70	.039	.01
7.20	.00	5044.69	.038	.01
8.00	.00	5044.67	.037	.01
8.80	.00	5044.66	.037	.01
9.60	.00	5044.65	.036	.01
10.40	.00	5044.64	.036	.01
11.20	.00	5044.62	.035	.01
12.00	.00	5044.61	.035	.01
12.80	.00	5044.60	.034	.01
13.60	.00	5044.58	.033	.01
14.40	.00	5044.57	.033	.01
15.20	.00	5044.56	.032	.01
16.00	.00	5044.55	.032	.01
16.80	.00	5044.53	.031	.01
17.60	.00	5044.52	.031	.01
18.40	.00	5044.51	.030	.01
19.20	.00	5044.49	.029	.01

PEAK DISCHARGE = .009 CFS - PEAK OCCURS AT HOUR 3.10
MAXIMUM WATER SURFACE ELEVATION = 5044.718
MAXIMUM STORAGE = .0394 AC-FT INCREMENTAL TIME= .033330HRS

PRINT HYD ID=18 CODE=1

PARTIAL HYDROGRAPH 208.00

RUNOFF VOLUME = .53583 INCHES = .0134 ACRE-FEET
PEAK DISCHARGE RATE = .01 CFS AT 3.100 HOURS BASIN AREA = .0005 SQ. MI.

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* POND D
*
ROUTE RESERVOIR ID=19 HYD NO=209.00 INFLOW ID=9 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0000	0.0000	5037.00
0.0074	0.0006	5041.00
0.0076	0.0013	5041.25
0.0078	0.0034	5041.50
0.0080	0.0068	5041.75
0.0082	0.0116	5042.00

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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5037.00	.000	.00
.80	.00	5037.00	.000	.00
1.60	.14	5041.40	.003	.01
2.40	.00	5041.56	.004	.01
3.20	.00	5041.52	.004	.01
4.00	.00	5041.47	.003	.01
4.80	.00	5041.41	.003	.01
5.60	.00	5041.35	.002	.01
6.40	.00	5041.29	.002	.01
7.20	.00	5041.19	.001	.01
8.00	.00	5041.02	.001	.01
8.80	.00	5038.91	.000	.00

PEAK DISCHARGE = .008 CFS - PEAK OCCURS AT HOUR 2.20
MAXIMUM WATER SURFACE ELEVATION = 5041.564
MAXIMUM STORAGE = .0043 AC-FT INCREMENTAL TIME= .033330HRS

PRINT HYD ID=19 CODE=1

PARTIAL HYDROGRAPH 209.00

RUNOFF VOLUME = .82548 INCHES = .0048 ACRE-FEET
PEAK DISCHARGE RATE = .01 CFS AT 2.200 HOURS BASIN AREA = .0001 SQ. MI.

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* POND E
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ROUTE RESERVOIR ID=20 HYD NO=210.00 INFLOW ID=10 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0000	0.0000	5039.00
0.0074	0.0006	5043.00
0.0076	0.0015	5043.25
0.0078	0.0039	5043.50
0.0080	0.0080	5043.75
0.0082	0.0137	5044.00

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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5039.00	.000	.00
.80	.00	5039.00	.000	.00
1.60	.22	5043.53	.004	.01
2.40	.00	5043.73	.008	.01
3.20	.00	5043.70	.007	.01
4.00	.00	5043.67	.007	.01
4.80	.00	5043.64	.006	.01
5.60	.00	5043.61	.006	.01
6.40	.00	5043.57	.005	.01
7.20	.00	5043.54	.005	.01
8.00	.00	5043.51	.004	.01
8.80	.00	5043.46	.004	.01
9.60	.00	5043.41	.003	.01
10.40	.00	5043.36	.003	.01
11.20	.00	5043.31	.002	.01
12.00	.00	5043.25	.002	.01
12.80	.00	5043.12	.001	.01
13.60	.00	5042.60	.001	.01
14.40	.00	5040.59	.000	.00

PEAK DISCHARGE = .008 CFS - PEAK OCCURS AT HOUR 2.30
MAXIMUM WATER SURFACE ELEVATION = 5043.730
MAXIMUM STORAGE = .0077 AC-FT INCREMENTAL TIME= .033330HRS

PRINT HYD ID=20 CODE=1

PARTIAL HYDROGRAPH 210.00

RUNOFF VOLUME = 1.05134 INCHES = .0084 ACRE-FEET
PEAK DISCHARGE RATE = .01 CFS AT 2.300 HOURS BASIN AREA = .0002 SQ. MI.

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*ADD PONDS 1 THRU 5 AND A THRU F
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ADD HYD     ID=21 HYD NO=301.00 ID=11 ID=12
ADD HYD     ID=22 HYD NO=302.00 ID=13 ID=14
ADD HYD     ID=23 HYD NO=303.00 ID=15 ID=16
ADD HYD     ID=24 HYD NO=304.00 ID=17 ID=18
ADD HYD     ID=25 HYD NO=305.00 ID=19 ID=20
ADD HYD     ID=26 HYD NO=306.00 ID=21 ID=22
ADD HYD     ID=27 HYD NO=307.00 ID=26 ID=23
ADD HYD     ID=28 HYD NO=308.00 ID=27 ID=24
ADD HYD     ID=29 HYD NO=309.00 ID=28 ID=25

PRINT HYD   ID=29 CODE=1
```

HYDROGRAPH FROM AREA 309.00

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          RUNOFF VOLUME =       .42732 INCHES     =         .2983 ACRE-FEET
          PEAK DISCHARGE RATE =         .84 CFS  AT    1.966 HOURS   BASIN AREA =
.0131 SQ. MI.


     *
     FINISH

          NORMAL PROGRAM FINISH              END TIME (HR:MIN:SEC) = 10:09:25
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CITY OF ALBUQUERQUE

August 9, 2005

Lawrence Read, P.E.
Larry Read & Associates Inc.
2430 Midtown Place NE, Suite C
Albuquerque, New Mexico 87111

Re: The Rain Factory, 4821 Culture Drive NE, Site Development Plan Engineer's Stamp dated 7-27-05 (F16-D24)

Dear Mr. Read,

Based upon the information provided in your submittal received 7-27-05, the above referenced plan is approved for Site Development Plan for Building Permit action by the DRB. However, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. A maintenance agreement must be provided.
2. Provide a valved storm drain from the cistern that outfalls to Culture Drive.
3. Show the emergency spillway.

If you have any questions, you can contact me at 924-3981.

Sincerely,

Kristal D. Metro, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

C: File

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: The Rain Factory Car Wash
DRB #: Pending EPC#: _____

ZONE MAP/DRG. FILE #: F-16 / D24
WORK ORDER#: _____

LEGAL DESCRIPTION: Lot 4A2, Renaissance Center III
CITY ADDRESS: 4821 Culture Drive NE

ENGINEERING FIRM: LARRY READ & ASSOCIATES, INC
ADDRESS: 243- Midtown NE Suite C
CITY, STATE: ALBUQUERQUE, NEW MEXICO

CONTACT: LARRY READ
PHONE: 237-8421
ZIP CODE: 87107

OWNER: _____
ADDRESS: _____
CITY, STATE: ALBUQUERQUE, NEW MEXICO

CONTACT: _____
PHONE: _____
ZIP CODE: _____

ARCHITECT: _____
ADDRESS: _____
CITY, STATE: ALBUQUERQUE, NEW MEXICO

CONTACT: _____
PHONE:
ZIP CODE: 7106

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☒ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

Fee paid 7/27/2005

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☒ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

RECEIVED
JUL 27 2005
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

DATE SUBMITTED: July 27, 2005 BY: LARRY D. READ, PE

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.