CITY OF
Albuquerque

Martin J. Chávez, Mayor

October 1,1997

Ronald Bohannan
Tierra West Dev.Magt. Ser.
4421 Mcleod Rd. NE Suite D
Albuquerque, New Mexico 87109

RE: ENGINEER CERTIFICATION FOR FEDERAL EXPRESS (F16-D5) CERTIFICATION STATEMENT DATED 9/24/97

Dear Mr. Bohannan:

Based on the information provided on your September 24,1997 submittal, Engineer Certification for the above referenced site is acceptable.

If I can be of further assistance, please feel free to contact me at 924-3986.

C: Andrew Garcia
File

Sincerely

Bernie J. Montoya CE
Associate Engineer

CITY OF
Albuquerque
Public Works Department
June 12, 1997

Martin J. Chávez, Mayor

Robert E. Gurulé, Director

Shahab Biazar
Tierra West Management Services
4421 McLeod Road NE Suite D
Albuquerque, New Mexico 87109

RE: Drainage Report for FEDEX (F16-D5) Received May 28, 1997

Dear Mr Biazar:

The above referenced revised report dated May 22, 1997 is approved. Per your letter dated May 27, 1997 the only change would be the relocation of the washbay. Therefore, Lisa Ann Manwill's approval letter of March 7, 1997 is still appropriate. Prior to Certificate of Occupancy, an Engineer's Certification will be required. At that time please show the as-built differences.

If you have any questions please call me at 924-3984.

Sincerely,

Carlos A. Montoya
Project Manager

c: Andrew Garcia
File

CITY OF
Albuquerque

P.O. Box 1293 Albuquerque, NM 87103

May 6, 1996

Martin J. Chávez, Mayor

Ronald R. Bohannan, PE
Tierra West Dev Mgt Ser
4421 McLeod Rd NE Suite D
Albuquerque, NM 87109

RE: DRAINAGE REPORT FOR RENAISSANCE MARKETPLACE (F-16/D5)
RECEIVED APRIL 11, 1996 FOR SITE DEV PLAN, PRELIMINARY PLAT,
ROUGH GRADING & BUILDING PERMIT
ENGINEER'S STAMP DATED 4-10-96

Dear Mr. Bohannan:

Based on the information included in the submittal referenced above, City Hydrology accepts the Drainage Report for Rough Grading & Building Permit. Include a copy of the grading & drainage plan, dated 4-10-96, in the set of construction documents that will be submitted to Code Administration for the Building Permit. A separate permit is required for construction of private drainage facilities within the City right of way. A copy of this letter must be on hand when applying for the excavation permit. Engineer's Certification of grading & drainage per DPM checklist must be accepted by City Hydrology before any Certificate of Occupancy will be released.

The following comments must be addressed before the Drainage Report will be accepted for Site Development Plan & Preliminary Plat: Indicate what sort of platting action is proposed. City Hydrology can not coordinate approval of the Plat or the Site Plan without the DRB number.

If you have any questions about this project, You may contact me at 768-2727.

Sincerely,

John P. Curtin, P.E.
Civil Engineer, Hydrology

c: Andrew Garcia
Arlene Portillo
Larry Caudill, Environmental Health

DRAINAGE REPORT

FOR

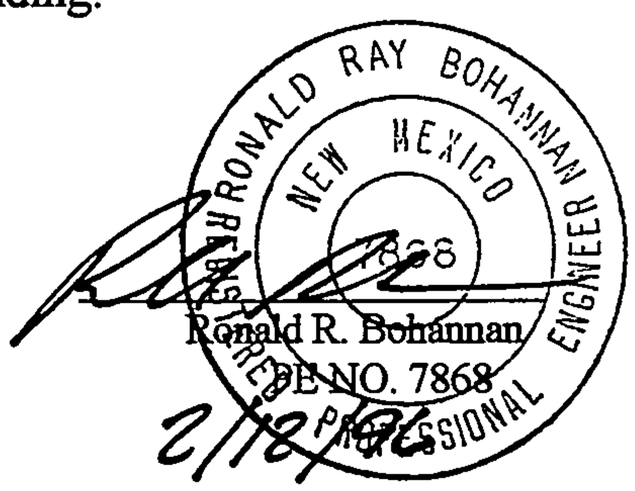
RENAISSANCE MARKETPLACE
TRACTS 3A and 3B

Prepared for:

Frank Piani
1st Western Development Co.
5655 Lindero Canyon Rd. Ste 321
Westlake Village, California 91362

FEBRUARY 1996

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
2/12/96
4/10/96

Prepared by:

Tierra West Development
Management Services
4421 McLeod Road NE, Suite D
Albuquerque, NM 87109
(505) 883-7592

* / cfs/ac.

PURPOSE

The purpose of this Grading and Drainage Plan is to present the drainage management plan for the Renaissance Marketplace for Site Development Plan and Grading/Drainage approval, situated on Tract 3, Renaissance. The site is located in the North Renaissance Center at the Northeast corner of Renaissance Boulevard and Alexander Boulevard as shown on zone atlas page F-16, see the attached Vicinity Map, (Zone Atlas Map F-16).

EXISTING CONDITIONS

The parcel is Tract 3 of Renaissance Center, Filed April 03, 1985 in Volume C26, Folio 174 containing 33.2868± acres. The site does not lie within a designated Flood Hazard Zone, see attached Fema Map (No. 350002-0016).

This site is part of the Renaissance Master Plan, and all of the existing and developed runoff discharge via surface flow and storm drainage systems to the "Renaissance Detention Pond" located on the west side of the North Renaissance Center. That pond is under City control and the runoff is released, at a confined rate, into Montano Boulevard.

The existing on-site runoff for a 100 year storm of 68.68 cfs, sheet flows from the Northeast corner of the site to the Southwest corner of the site. These flows are then detained in two desilting ponds located at the Southwest corner of the site.

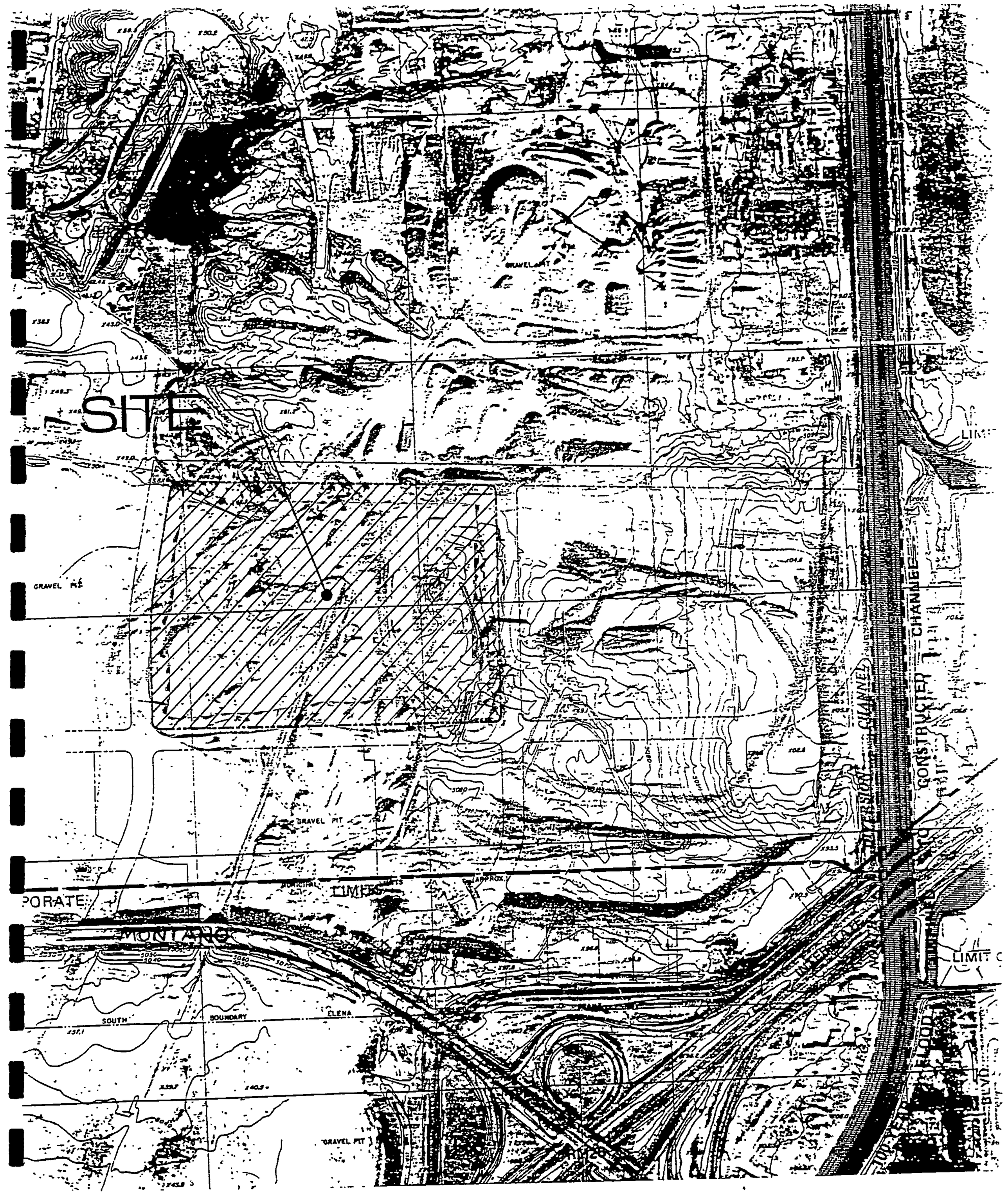
HYDROLOGY ANALYSIS

Hydrological aspects of this site were evaluated using AMAFCA's AHYMO program according to guidelines presented in the City of Albuquerque DPM, Section 22.2 (January 1993). All of the pertinent hydrologic parameters and calculations are located in the calculations of this report

PROPOSED MANAGEMENT PLAN

Improvements consist of new buildings and parking area. This site is part of the Renaissance Master Plan prepared by ANDREWS, ASBURY & ROBERT, INC., (F-16/D6). The flows are being collected on-site by a series of storm drain pipes and then routed to the existing drop inlet then to a 54" RCP storm drain pipe on the South side of the Tract. These flows then drain to the "Renaissance Detention Pond" (See Grading and Drainage Plan).

The proposed Grading and Drainage Plan shows on-site drainage patterns and future grades which are indicated by spot elevations. All grades range between a minimum of 1% and a maximum of 4%. A one foot water block has been designed at all driveway entrances.



FEMA MAP

(350002-0016)

The improvements on Renaissance Marketplace will generate a developed 24 hour storm runoff of 134.44 cfs, which are divided into eleven sub-basins. This runoff will be discharged at a maximum rate of 2.16 cfs, via a series of on-site catch basins and storm drain pipes directly into an existing drop inlet then into a 54" storm drain pipe, located south of the property on Renaissance Blvd. The runoff is detained in eleven parking lot ponds that are collected in an 8" storm drain pipe. This storm drain ties to an existing drop inlet located on North side of Renaissance boulevard, then drains to a 54" storm drain pipe as mentioned. An office plate will limit the flow to the approved 0.1 cfs/acre or 3.328 cfs, discharge rate allowed. orifice

The entire site drains from the north to the south using two different routes of drainage:

Route 1

Basin 2 to Basin 3, 8" pipe at a rate of 1.80 cfs, using a 6" office plate.
Basin 3 to Basin 4, 8" pipe at a rate of 2.30 cfs, using a 5.50" office plate.
Basin 6 to Basin 4, 8" pipe at a rate of 0.44 cfs, using a 3" office plate.
Basin 4 to Basin 5, 8" pipe at a rate of 1.99 cfs, using a 6" office plate.
Basin 7 to Basin 5, 8" pipe at a rate of 0.19 cfs, using a 2" office plate.
Basin 5 to the existing drop inlet, 12" pipe at a rate of 1.19 cfs, using a 4.50" office plate.

Route 2

Basin 1 to Basin 10, 8" pipe at a rate of 0.20 cfs, using a 2" office plate.
Basin 10 to Basin 8, 8" pipe at a rate of 0.55 cfs, using a 3" office plate.
Basin 8 to Basin 9, 8" pipe at a rate of 0.80 cfs, using a 4" office plate.
Basin 11 to Basin 9, 8" pipe at a rate of 0.47 cfs, using a 3" office plate.
Basin 9 to existing drop inlet 12" pipe at a rate of 0.97 cfs, using a 4" office plate.

The roof drainage of the northern buildings is split to the front back, half of the runoff flows to the front of the building and the other half flows to the back of the building.

As required by the Master Plan, the peak 100-year 24 hour storm, discharge of 134.44 cfs is to be detained on-site and released at a rate of 0.1 cfs per acre, totaling 3.33 cfs. Our design will be at 2.16 cfs, and will drain within 24 hours, which is less than the allowable discharge.

EMERGENCY SPILLWAY

In case of emergency or a storm larger than a 100-year flow, the entrances, nearest to the pond, will overflow into the streets. See Master Storm Sewer Plan

BASIN LAYOUT

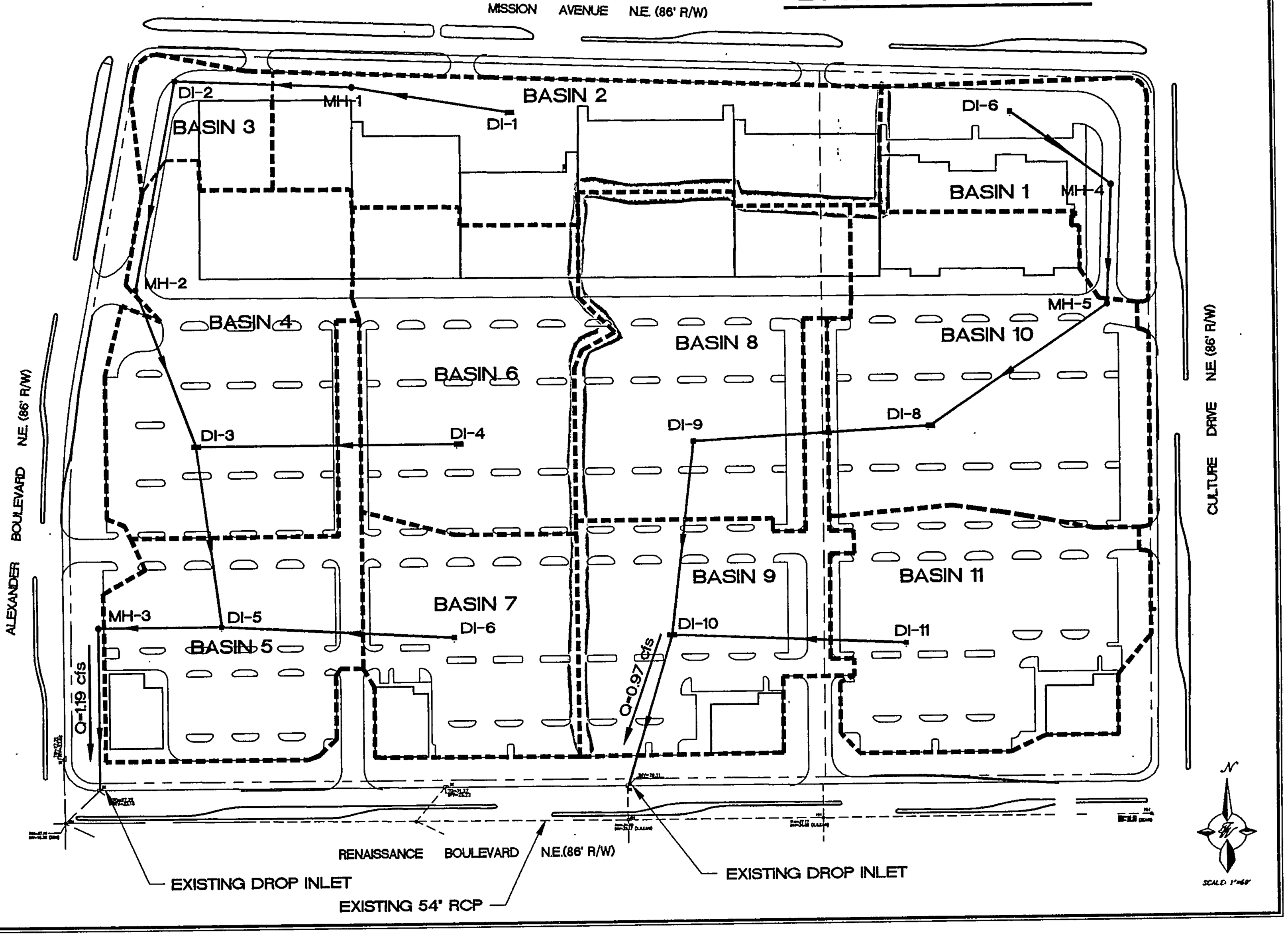


TABLE 1.

ORFICE PLATE SIZES

DROP INLET	DROP INLET TYPE	SIZE (IN)
DI-1	SINGLE "D"	6.00
DI-2	DOUBLE "D"	5.50
DI-3	SINGLE "D"	6.00
DI-4	DOUBLE "D"	3.00
DI-5	SINGLE "D"	4.50
DI-6	DOUBLE "D"	2.00
DI-7	SINGLE "D"	2.00
DI-8	SINGLE "D"	3.00
DI-9	DOUBLE "D"	4.00
DI-10	DOUBLE "D"	4.00
DI-11	SINGLE "D"	3.00

TABLE 2.

DRAINAGE BASINS

SUB-BASIN	AREA (SF)	AREA (AC)	AREA (MI^2)
1	76231	1.7500	0.002734
2	145588	3.3422	0.005222
3	31605	0.7255	0.001134
4	153893	3.5329	0.005520
5	113501	2.6056	0.004071
6	133139	3.0564	0.004776
7	92647	2.1269	0.003323
8	148264	3.4037	0.005318
9	117088	2.6880	0.004200
10	169043	3.8807	0.006064
11	131106	3.0098	0.004703

TABLE 3.

BASIN RUNOFF CACULATION RESULTS (under proposed conditions 24 hour storm)

SUB-BASIN	Q -100(CFS)	Q -10(CFS)
1	7.82	5.06
2	14.91	9.66
3	3.25	2.10
4	15.76	10.21
5	11.63	7.53
6	13.64	8.83
7	9.50	6.15
8	15.19	9.83
9	12.00	7.77
10	17.31	11.21
11	13.43	8.70
TOTAL	134.44	87.05

TABLE 4.

BASIN RUNOFF CACULATION RESULTS (under existing conditions)

SUB-BASIN	Q -100(CFS)	Q -10(CFS)
1	3.99	1.64
2	7.62	3.13
3	1.66	0.68
4	8.05	3.31
5	5.94	2.44
6	6.97	2.86
7	4.85	1.99
8	7.76	3.18
9	6.13	2.52
10	8.85	3.63
11	6.86	2.82
TOTAL	68.68	28.20

SEE FOLLOWING SHEET FOR SAMPLE CALCULATION ON THE BASIN RUN-OFF

SAMPLE DRAINAGE CALCULATIONS FOR BASIN 1

The site is @ Zone 2, Area 1.75 acres.

$P_{100\text{-}yr}$ 1 hr storm = 2.01 inches
$P_{100\text{-}yr}$ 6 hr storm = 2.35 inches
$P_{100\text{-}yr}$ 24 hr storm = 2.75 inches

$P_{10\text{-}yr}$ 1 hr storm = 1.34 inches
$P_{10\text{-}yr}$ 6 hr storm = 1.57 inches
$P_{10\text{-}yr}$ 24 hr storm = 1.83 inches

Treatment, B = 10%, and D = 90% for commercial site.

Time of concentration, T_c = 12 min

$T_p = \frac{2}{3}T_c$
$= \frac{2}{3}*12$
= 8 min, = 0.1333 hr

From attached AHYMO calculation

$Q_{\text{-}100yr}$ = 134.44 cfs

$Q_{\text{-}10yr}$ = 87.05 cfs

Volume = 0.137 AC-FT

HEAD CAPACITY CALCULATIONS FOR SINGLE "D" INLET

$Q = Ca\sqrt{2gh}$

C= 0.6

a = effective area = 2.28 sf

g = 32.2

h = 1.50

Q= 13.45 cfs

Effective Area Calculation
Grate Size

L=40" - 2(.5")ends - 7(.5") = 35.50"

W=25" -13(.5)cross bars = 18.50"

Area = (35.50*18.50)/144 = 4.56 sf

clogging factor = 50%

Effective area = 4.56-.5(4.56) = 2.28 sf

HEAD CAPACITY CALCULATIONS FOR DOUBLE "D" INLET

$Q = Ca\sqrt{2gh}$

C= 0.6

a = effective area = 3.71 sf

g = 32.2

h = 1.50

Q= 21.88 cfs

Effective Area Calculation
Grate Size

L=92.75" - 2(8")ends - (6") - 14(.50")
= 63.75" or 5.3125'

W=25.50" -13(.5)cross bars = 19"

Area = 4.8125(1.5417) = 7.42 sf

clogging factor = 50%

Effective area = 7.42-.5(7.42) = 3.71 sf

ORFICE PLATE CALCULATIONS

$Q = Ca\sqrt{2gh}$

C= 0.6

a= ¶ r^2

g= 32.2

h= water depth

TYPICAL POND CALCULATIONS

SAMPLE CALCULATIONS FOR POND 1

At elevation 5043.08 (center of orfice opening) to elevation 5045.50 (top of grate)

Inlet Size Single "D" = (38.375"*25.50")/144 = 6.80 sf

Inlet Size Double "D" = (76.50"*25.50")/144 = 13.59 sf

V= 6.80 or 13.59*h

h= Difference in elevation

At elevation 5045.50 (top of grate) to elevation 5047.00 (maximum water depth)

$V=(A1+A2)* h/2$

A1= 0 sf

A2= 17589.09 sf

h= Difference in elevation

SEE THE FOLLOWING SHEET FOR ALL POND CALCULATIONS

PARKING POND 1 TABLE

ELEV.	WT. ELEV.	V (CF)	V (AC-FT)	2.00" OUT-FLOW (CFS)
5043.08	0.00	0.00	0.00	0.00
5043.18	0.10	0.68	0.00002	0.03
5043.28	0.20	1.36	0.00003	0.05
5043.38	0.30	2.04	0.00005	0.06
5043.48	0.40	2.72	0.00006	0.07
5043.58	0.50	3.40	0.00008	0.07
5043.68	0.60	4.08	0.00009	0.08
5043.78	0.70	4.76	0.00011	0.09
5043.88	0.80	5.44	0.00012	0.09
5043.98	0.90	6.12	0.00014	0.10
5044.08	1.00	6.80	0.00016	0.11
5045.50	2.42	16.46	0.00038	0.16
5045.60	2.52	895.91	0.02057	0.17
5045.70	2.62	1775.36	0.04076	0.17
5045.80	2.72	2654.82	0.06095	0.17
5045.90	2.82	3534.27	0.08114	0.18
5046.00	2.92	4413.73	0.10133	0.18
5046.10	3.02	5293.18	0.12151	0.18
5046.20	3.12	6172.64	0.14170	0.19
5046.30	3.22	7052.09	0.16189	0.19
5046.40	3.32	7931.55	0.18208	0.19
5046.50	3.42	8811.00	0.20227	0.19
5046.60	3.52	9690.46	0.22246	0.20
5046.70	3.62	10569.91	0.24265	0.20
5046.80	3.72	11449.36	0.26284	0.20
5046.90	3.82	12328.82	0.28303	0.21
5047.00	3.92	13208.27	0.30322	0.21

PARKING POND 2 TABLE

ELEV.	WT. ELEV.	V (CF)	V (AC-FT)	6.00" OUT-FLOW (CFS)
5039.75	0.00	0.00	0.00000	0.00
5039.85	0.10	1.36	0.00003	0.30
5039.95	0.20	2.72	0.00006	0.42
5040.05	0.30	4.08	0.00009	0.52
5040.15	0.40	5.44	0.00012	0.60
5040.25	0.50	6.80	0.00016	0.67
5040.35	0.60	8.15	0.00019	0.73
5040.45	0.70	9.51	0.00022	0.79
5040.55	0.80	10.87	0.00025	0.85
5040.65	0.90	12.23	0.00028	0.90
5040.75	1.00	13.59	0.00031	0.95
5042.00	2.25	30.58	0.00070	1.42
5042.10	2.35	1189.96	0.02732	1.45
5042.20	2.45	2349.34	0.05393	1.48
5042.30	2.55	3508.72	0.08055	1.51
5042.40	2.65	4668.10	0.10716	1.54
5042.50	2.75	5827.48	0.13378	1.57
5042.60	2.85	6986.86	0.16040	1.60
5042.70	2.95	8146.24	0.18701	1.62
5042.80	3.05	9305.62	0.21363	1.65
5042.90	3.15	10465.00	0.24024	1.68
5043.00	3.25	11624.38	0.26686	1.70
5043.10	3.35	12783.76	0.29347	1.73
5043.20	3.45	13943.14	0.32009	1.76
5043.30	3.55	15102.52	0.34671	1.78
5043.40	3.65	16261.90	0.37332	1.81
5043.50	3.75	17421.28	0.39994	1.83

PARKING POND 3 TABLE

ELEV.	WT. ELEV.	V (CF)	V (AC-FT)	5.50" OUT-FLOW (CFS)
5036.73	0.00	0.00	0.00	0.00
5036.83	0.10	0.68	0.00002	0.25
5036.93	0.20	1.36	0.00003	0.36
5037.03	0.30	2.04	0.00005	0.44
5037.13	0.40	2.72	0.00006	0.50
5037.23	0.50	3.40	0.00008	0.56
5037.33	0.60	4.08	0.00009	0.62
5037.43	0.70	4.76	0.00011	0.66
5037.53	0.80	5.44	0.00012	0.71
5037.63	0.90	6.12	0.00014	0.75
5037.73	1.00	6.80	0.00016	0.79
5038.73	2.00	13.60	0.00031	1.12
5039.73	3.00	20.40	0.00047	1.38
5040.73	4.00	27.20	0.00062	1.59
5041.73	5.00	34.00	0.00078	1.78
5042.73	6.00	40.80	0.00094	1.95
5043.73	7.00	47.60	0.00109	2.10
5044.23	7.50	51.00	0.00117	2.18
5044.43	7.70	52.36	0.00120	2.20
5044.53	7.80	457.13	0.01049	2.22
5044.63	7.90	863.26	0.01982	2.23
5044.73	8.00	1269.40	0.02914	2.25
5044.83	8.10	1675.53	0.03846	2.26
5044.93	8.20	2081.66	0.04779	2.27
5045.03	8.30	2487.79	0.05711	2.29
5045.13	8.40	2893.92	0.06644	2.30
5045.23	8.50	3300.06	0.07576	2.32
5045.33	8.60	3706.19	0.08508	2.33
5045.43	8.70	4112.32	0.09441	2.34
5045.53	8.80	4518.45	0.10373	2.36
5045.63	8.90	4924.58	0.11305	2.37
5045.73	9.00	5330.72	0.12238	2.38
5045.83	9.10	5736.85	0.13170	2.40
5045.93	9.20	6142.98	0.14102	2.41

PARKING POND 5 TABLE

ELEV.	WT. ELEV.	V (CF)	V (AC-FT)	4.50" OUT-FLOW (CFS)
5031.78	0.00	0.00	0.00000	0.00
5031.88	0.10	0.68	0.00002	0.17
5031.98	0.20	1.36	0.00003	0.24
5032.08	0.30	2.04	0.00005	0.29
5032.18	0.40	2.72	0.00006	0.34
5032.28	0.50	3.40	0.00008	0.38
5032.38	0.60	4.08	0.00009	0.41
5032.48	0.70	4.76	0.00011	0.44
5032.58	0.80	5.44	0.00012	0.48
5032.68	0.90	6.12	0.00014	0.50
5032.78	1.00	6.80	0.00016	0.53
5033.78	2.00	13.60	0.00031	0.75
5034.78	3.00	20.40	0.00047	0.92
5035.40	3.62	24.62	0.00057	1.01
5035.50	3.72	3855.82	0.08852	1.03
5035.60	3.82	7687.03	0.17647	1.04
5035.70	3.92	11518.24	0.26442	1.05
5035.80	4.02	15349.45	0.35237	1.07
5035.90	4.12	19180.66	0.44033	1.08
5036.00	4.22	23011.86	0.52828	1.09
5036.10	4.32	26843.07	0.61623	1.11
5036.20	4.42	30674.28	0.70418	1.12
5036.30	4.52	34505.49	0.79214	1.13
5036.40	4.62	38336.70	0.88009	1.14
5036.50	4.72	42167.90	0.96804	1.16
5036.60	4.82	45999.11	1.05599	1.17
5036.70	4.92	49830.32	1.14395	1.18
5036.80	5.02	53661.53	1.23190	1.19
5036.90	5.12	57492.74	1.31985	1.20

PARKING POND 6 TABLE

ELEV.	WT. ELEV.	V (CF)	V (AC-FT)	3.00" OUT-FLOW (CFS)
5035.78	0.00	0.00	0.00000	0.00
5035.88	0.10	1.36	0.00003	0.07
5035.98	0.20	2.72	0.00006	0.11
5036.08	0.30	4.08	0.00009	0.13
5036.18	0.40	5.44	0.00012	0.15
5036.28	0.50	6.80	0.00016	0.17
5036.38	0.60	8.15	0.00019	0.18
5036.48	0.70	9.51	0.00022	0.20
5036.58	0.80	10.87	0.00025	0.21
5036.68	0.90	12.23	0.00028	0.22
5036.78	1.00	13.59	0.00031	0.24
5037.28	1.50	20.39	0.00047	0.29
5038.28	2.50	33.98	0.00078	0.37
5038.40	2.62	35.61	0.00082	0.38
5038.50	2.72	2154.77	0.04947	0.39
5038.60	2.82	4273.93	0.09812	0.40
5038.70	2.92	6393.09	0.14677	0.40
5038.80	3.02	8512.25	0.19541	0.41
5038.90	3.12	10631.41	0.24406	0.42
5039.00	3.22	12750.57	0.29271	0.42
5039.10	3.32	14869.73	0.34136	0.43
5039.20	3.42	16988.89	0.39001	0.44
5039.30	3.52	19108.05	0.43866	0.44
5039.40	3.62	21227.22	0.48731	0.45
5039.50	3.72	23346.38	0.53596	0.46
5039.60	3.82	25465.54	0.58461	0.46
5039.70	3.92	27584.70	0.63326	0.47
5039.80	4.02	29703.86	0.68191	0.47
5039.90	4.12	31823.02	0.73056	0.48

PARKING POND 7 TABLE

ELEV.	WT. ELEV.	V (CF)	V (AC-FT)	2.00" OUT-FLOW (CFS)
5033.98	0.00	0.00	0.00000	0.00
5034.08	0.10	0.68	0.00002	0.03
5034.18	0.20	1.36	0.00003	0.05
5034.28	0.30	2.04	0.00005	0.06
5034.38	0.40	2.72	0.00006	0.07
5034.48	0.50	3.40	0.00008	0.07
5034.58	0.60	4.08	0.00009	0.08
5034.68	0.70	4.76	0.00011	0.09
5034.78	0.80	5.44	0.00012	0.09
5034.88	0.90	6.12	0.00014	0.10
5034.98	1.00	6.80	0.00016	0.11
5035.18	1.20	8.16	0.00019	0.12
5035.38	1.40	9.52	0.00022	0.12
5035.58	1.60	10.88	0.00025	0.13
5035.78	1.80	12.24	0.00028	0.14
5035.98	2.00	13.60	0.00031	0.15
5036.18	2.20	14.96	0.00034	0.16
5036.40	2.42	16.46	0.00038	0.16
5036.50	2.52	1963.83	0.04508	0.17
5036.60	2.62	3911.20	0.08979	0.17
5036.70	2.72	5858.57	0.13449	0.17
5036.80	2.82	7805.94	0.17920	0.18
5036.90	2.92	9753.31	0.22391	0.18
5037.00	3.02	11700.68	0.26861	0.18
5037.10	3.12	13648.05	0.31332	0.19
5037.20	3.22	15595.42	0.35802	0.19
5037.30	3.32	17542.79	0.40273	0.19
5037.40	3.42	19490.16	0.44743	0.19
5037.50	3.52	21437.53	0.49214	0.20
5037.60	3.62	23384.90	0.53684	0.20
5037.70	3.72	25332.27	0.58155	0.20
5037.80	3.82	27279.64	0.62625	0.21
5037.90	3.92	29227.01	0.67096	0.21

PARKING POND 9 TABLE

ELEV.	WT. ELEV.	V (CF)	V (AC-FT)	4.00" OUT-FLOW (CFS)
5035.40	0.00	0.00	0.00000	0.00
5035.50	0.10	0.68	0.00002	0.13
5035.60	0.20	1.36	0.00003	0.19
5035.70	0.30	2.04	0.00005	0.23
5035.80	0.40	2.72	0.00006	0.27
5035.90	0.50	3.40	0.00008	0.30
5036.00	0.60	4.08	0.00009	0.33
5036.10	0.70	4.76	0.00011	0.35
5036.20	0.80	5.44	0.00012	0.38
5036.30	0.90	6.12	0.00014	0.40
5036.40	1.00	6.80	0.00016	0.42
5036.90	1.50	10.20	0.00023	0.51
5037.40	2.00	13.60	0.00031	0.59
5037.90	2.50	17.00	0.00039	0.66
5038.40	3.00	20.40	0.00047	0.73
5038.90	3.50	23.80	0.00055	0.79
5039.40	4.00	27.20	0.00062	0.84
5039.50	4.10	3130.06	0.07186	0.85
5039.60	4.20	6232.91	0.14309	0.86
5039.70	4.30	9335.77	0.21432	0.87
5039.80	4.40	12438.63	0.28555	0.88
5039.90	4.50	15541.49	0.35678	0.89
5040.00	4.60	18644.34	0.42802	0.90
5040.10	4.70	21747.20	0.49925	0.91
5040.20	4.80	24850.06	0.57048	0.92
5040.30	4.90	27952.91	0.64171	0.93
5040.40	5.00	31055.77	0.71294	0.94
5040.50	5.10	34158.63	0.78417	0.95
5040.60	5.20	37261.48	0.85541	0.96
5040.70	5.30	40364.34	0.92664	0.97
5040.80	5.40	43467.20	0.99787	0.98
5040.90	5.50	46570.06	1.06910	0.99

PARKING POND 8 TABLE

ELEV.	WT. ELEV.	V (CF)	V (AC-FT)	4.00" OUT-FLOW (CFS)
5037.07	0.00	0.00	0.00000	0.00
5037.17	0.10	1.36	0.00003	0.13
5037.27	0.20	2.72	0.00006	0.19
5037.37	0.30	4.08	0.00009	0.23
5037.47	0.40	5.44	0.00012	0.27
5037.57	0.50	6.80	0.00016	0.30
5037.67	0.60	8.15	0.00019	0.33
5037.77	0.70	9.51	0.00022	0.35
5037.87	0.80	10.87	0.00025	0.38
5037.97	0.90	12.23	0.00028	0.40
5038.07	1.00	13.59	0.00031	0.42
5038.27	1.20	16.31	0.00037	0.46
5038.47	1.40	19.03	0.00044	0.50
5038.67	1.60	21.74	0.00050	0.53
5038.87	1.80	24.46	0.00056	0.56
5039.07	2.00	27.18	0.00062	0.59
5039.27	2.20	29.90	0.00069	0.62
5039.47	2.40	32.62	0.00075	0.65
5039.67	2.60	35.33	0.00081	0.68
5040.40	3.33	45.25	0.00104	0.77
5040.50	3.43	2650.99	0.06086	0.78
5040.60	3.53	5256.72	0.12068	0.79
5040.70	3.63	7862.45	0.18050	0.80
5040.80	3.73	10468.19	0.24032	0.81
5040.90	3.83	13073.92	0.30014	0.82
5041.00	3.93	15679.65	0.35996	0.83
5041.10	4.03	18285.39	0.41977	0.84
5041.20	4.13	20891.12	0.47959	0.85
5041.30	4.23	23496.85	0.53941	0.86
5041.40	4.33	26102.58	0.59923	0.87
5041.50	4.43	28708.32	0.65905	0.88
5041.60	4.53	31314.05	0.71887	0.89
5041.70	4.63	33919.78	0.77869	0.90
5041.80	4.73	36525.52	0.83851	0.91
5041.90	4.83	39131.25	0.89833	0.92

PARKING POND 10 TABLE

ELEV.	WT. ELEV.	V (CF)	V (AC-FT)	3.00" OUT-FLOW (CFS)
5039.04	0.00	0.00	0.00	0.00
5039.14	0.10	1.36	0.00003	0.07
5039.24	0.20	2.72	0.00006	0.11
5039.34	0.30	4.08	0.00009	0.13
5039.44	0.40	5.44	0.00012	0.15
5039.54	0.50	6.80	0.00016	0.17
5039.64	0.60	8.15	0.00019	0.18
5039.74	0.70	9.51	0.00022	0.20
5039.84	0.80	10.87	0.00025	0.21
5039.94	0.90	12.23	0.00028	0.22
5040.04	1.00	13.59	0.00031	0.24
5040.54	1.50	20.39	0.00047	0.29
5041.54	2.50	33.98	0.00078	0.37
5042.54	3.50	47.57	0.00109	0.44
5043.40	4.36	59.25	0.00136	0.49
5043.50	4.46	2477.38	0.05687	0.50
5043.60	4.56	4895.51	0.11239	0.50
5043.70	4.66	7313.65	0.16790	0.51
5043.80	4.76	9731.78	0.22341	0.52
5043.90	4.86	12149.91	0.27892	0.52
5044.00	4.96	14568.04	0.33444	0.53
5044.10	5.06	16986.17	0.38995	0.53
5044.20	5.16	19404.30	0.44546	0.54
5044.30	5.26	21822.43	0.50097	0.54
5044.40	5.36	24240.56	0.55649	0.55
5044.50	5.46	26658.69	0.61200	0.55
5044.60	5.56	29076.82	0.66751	0.56
5044.70	5.66	31494.96	0.72302	0.56
5044.80	5.76	33913.09	0.77854	0.57
5044.90	5.86	36331.22	0.83405	0.57

PARKING POND 11 TABLE

ELEV.	WT. ELEV.	V (CF)	V (AC-FT)	3.00" OUT-FLOW (CFS)
5039.28	0.00	0.00	0.00000	0.00
5039.38	0.10	0.68	0.00002	0.07
5039.48	0.20	1.36	0.00003	0.11
5039.58	0.30	2.04	0.00005	0.13
5039.68	0.40	2.72	0.00006	0.15
5039.78	0.50	3.40	0.00008	0.17
5039.88	0.60	4.08	0.00009	0.18
5039.98	0.70	4.76	0.00011	0.20
5040.08	0.80	5.44	0.00012	0.21
5040.18	0.90	6.12	0.00014	0.22
5040.28	1.00	6.80	0.00016	0.24
5040.48	1.20	8.16	0.00019	0.26
5040.68	1.40	9.52	0.00022	0.28
5040.88	1.60	10.88	0.00025	0.30
5041.08	1.80	12.24	0.00028	0.32
5041.28	2.00	13.60	0.00031	0.33
5041.48	2.20	14.96	0.00034	0.35
5041.68	2.40	16.32	0.00037	0.37
5041.88	2.60	17.68	0.00041	0.38
5042.40	3.12	21.22	0.00049	0.42
5042.50	3.22	2544.65	0.05842	0.42
5042.60	3.32	5068.09	0.11635	0.43
5042.70	3.42	7591.53	0.17428	0.44
5042.80	3.52	10114.97	0.23221	0.44
5042.90	3.62	12638.40	0.29014	0.45
5043.00	3.72	15161.84	0.34807	0.46
5043.10	3.82	17685.28	0.40600	0.46
5043.20	3.92	20208.72	0.46393	0.47
5043.30	4.02	22732.15	0.52186	0.47
5043.40	4.12	25255.59	0.57979	0.48
5043.50	4.22	27779.03	0.63772	0.49
5043.60	4.32	30302.47	0.69565	0.49
5043.70	4.42	32825.90	0.75358	0.50
5043.80	4.52	35349.34	0.81151	0.50
5043.90	4.62	37872.78	0.86944	0.51

AHYMO CALCULATIONS

PAGE 1-9 INPUT FILE FOR PONDING, DISCHARGE RATE, WATER HEIGHT, AND RUNOFF CALCULATIONS FOR PONDING AREAS 1 THROUGH 11, 24 HOUR STORM

PAGE 10 SUMMARY OUTPUT FOR PONDING, DISCHARGE RATE, WATER HEIGHT, AND RUNOFF CALCULATIONS FOR PONDING AREAS 1 THROUGH 11, 24 HOUR STORM

PAGE 11-29 OUTPUT FILE FOR PONDING, DISCHARGE RATE, WATER HEIGHT, AND RUNOFF CALCULATIONS FOR PONDING AREAS 1 THROUGH 11, 24 HOUR STORM

PAGE 30-31 INPUT FILE (100-YEAR STORM UNDER PROPOSED CONDITIONS)

PAGE 32 SUMMARY OUTPUT (100-YEAR STORM UNDER PROPOSED CONDITIONS)

PAGE 33-34 INPUT FILE (10-YEAR STORM UNDER PROPOSED CONDITIONS)

PAGE 35 SUMMARY OUTPUT (10-YEAR STORM)

PAGE 36-37 INPUT FILE (100-YEAR STORM UNDER EXISTING CONDITIONS)

PAGE 38 SUMMARY OUTPUT (100-YEAR STORM UNDER EXISTING CONDITIONS)

PAGE 39-40 INPUT FILE (10-YEAR STORM UNDER EXISTING CONDITIONS)

PAGE 41 SUMMARY OUTPUT (10-YEAR STORM UNDER EXISTING CONDITIONS)

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =03/19/1996

INPUT FILE = C:\DWG\9505\RPT\POND-24.DAT USER NO.= R_BOHANN.I01

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= 2										RAIN24=	2.750
COMPUTE NM HYD	101.20	-	1	.00522	14.91	.635	2.27928	1.500	4.462	PER IMP=	90.00
ROUTE RESERVOIR	505.20	1	2	.00522	1.80	.635	2.28088	2.166	.538	AC-FT=	.364
COMPUTE NM HYD	101.30	-	1	.00113	3.25	.138	2.27932	1.500	4.481	PER IMP=	90.00
ADD HYD	103.20	1& 2	3	.00636	4.81	.773	2.28060	1.500	1.183		
ROUTE RESERVOIR	504.30	3	1	.00636	2.30	.773	2.28118	2.133	.565	AC-FT=	.064
COMPUTE NM HYD	101.60	-	2	.00478	13.64	.581	2.27928	1.500	4.463	PER IMP=	90.00
ROUTE RESERVOIR	503.60	2	4	.00478	.44	.581	2.27919	2.033	.144	AC-FT=	.439
ADD HYD	103.20	1& 4	2	.01113	2.74	1.354	2.28033	2.133	.384		
COMPUTE NM HYD	101.40	-	1	.00552	15.76	.671	2.27928	1.500	4.462	PER IMP=	90.00
ADD HYD	101.30	1& 2	3	.01665	18.40	2.025	2.27998	1.500	1.726		
ROUTE RESERVOIR	504.40	3	1	.01665	1.99	2.025	2.27996	5.033	.187	AC-FT=	.734
COMPUTE NM HYD	101.70	-	2	.00332	9.50	.404	2.27929	1.500	4.465	PER IMP=	90.00
ROUTE RESERVOIR	502.70	2	4	.00332	.19	.279	1.57324	2.700	.089	AC-FT=	.310
ADD HYD	101.30	4& 1	2	.01998	2.17	2.304	2.16239	4.466	.170		
COMPUTE NM HYD	101.50	-	1	.00407	11.63	.495	2.27928	1.500	4.464	PER IMP=	90.00
ADD HYD	101.30	1& 2	3	.02405	13.53	2.799	2.18218	1.500	.879		
ROUTE RESERVOIR	502.50	3	1	.02405	1.20	1.799	1.40299	12.699	.078	AC-FT=	1.314
COMPUTE NM HYD	101.10	-	1	.00273	7.82	.332	2.27929	1.500	4.467	PER IMP=	90.00
ROUTE RESERVOIR	501.10	1	2	.00273	.20	.289	1.98505	2.000	.114	AC-FT=	.263
COMPUTE NM HYD	101.10	-	1	.00606	17.31	.737	2.27928	1.500	4.461	PER IMP=	90.00
ADD HYD	101.30	1& 2	3	.00880	17.49	1.027	2.18785	1.500	3.107		
ROUTE RESERVOIR	501.10	1	2	.00606	.55	.737	2.27920	2.500	.141	AC-FT=	.542
COMPUTE NM HYD	101.80	-	1	.00532	15.19	.646	2.27928	1.500	4.462	PER IMP=	90.00
ADD HYD	101.30	1& 2	3	.01138	15.70	1.384	2.27924	1.500	2.155		
ROUTE RESERVOIR	501.80	3	1	.01138	.80	1.213	1.99858	2.766	.110	AC-FT=	.501
COMPUTE NM HYD	101.11	-	2	.00470	13.43	.572	2.27928	1.500	4.463	PER IMP=	90.00
ROUTE RESERVOIR	501.11	1	4	.01138	.47	.695	1.14427	17.665	.065	AC-FT=	.522
ADD HYD	101.70	4& 1	2	.02276	1.24	1.908	1.57142	13.132	.085		
COMPUTE NM HYD	101.90	-	1	.00420	12.00	.511	2.27928	1.500	4.463	PER IMP=	90.00
ADD HYD	101.30	1& 2	3	.02696	13.15	2.418	1.68168	1.500	.762		
ROUTE RESERVOIR	501.90	3	1	.02696	.98	1.455	1.01202	19.965	.057	AC-FT=	.963
FINISH											

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =04/10/1996

INPUT FILE = C:\AHYMO\D100.DAT USER NO.= R_BOHANN.I01

PAGE = 1

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= 2										RAIN24=	2.750
COMPUTE NM HYD	101.20	-	1	.00522	14.91	.635	2.27928	1.500	4.462	PER IMP=	90.00
COMPUTE NM HYD	101.30	-	1	.00113	3.25	.138	2.27932	1.500	4.481	PER IMP=	90.00
COMPUTE NM HYD	101.60	-	2	.00478	13.64	.581	2.27928	1.500	4.463	PER IMP=	90.00
COMPUTE NM HYD	101.40	-	1	.00552	15.76	.671	2.27928	1.500	4.462	PER IMP=	90.00
COMPUTE NM HYD	101.70	-	2	.00332	9.50	.404	2.27929	1.500	4.465	PER IMP=	90.00
COMPUTE NM HYD	101.50	-	1	.00407	11.63	.495	2.27928	1.500	4.464	PER IMP=	90.00
COMPUTE NM HYD	101.10	-	1	.00273	7.82	.332	2.27929	1.500	4.467	PER IMP=	90.00
COMPUTE NM HYD	101.10	-	1	.00606	17.31	.737	2.27928	1.500	4.461	PER IMP=	90.00
COMPUTE NM HYD	101.80	-	1	.00532	15.19	.646	2.27928	1.500	4.462	PER IMP=	90.00
COMPUTE NM HYD	101.11	-	2	.00470	13.43	.572	2.27928	1.500	4.463	PER IMP=	90.00
COMPUTE NM HYD	101.90	-	1	.00420	12.00	.511	2.27928	1.500	4.463	PER IMP=	90.00
FINISH											

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =04/10/1996

INPUT FILE = C:\AHYMO\D10.DAT USER NO.= R_BOHANN.I01

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	PAGE = 1 NOTATION
START										TIME= .00
RAINFALL TYPE= 2										RAIN24= 1.830
COMPUTE NM HYD	110.20	-	1	.00522	9.66	.397	1.42509	1.500	2.889	PER IMP= 90.00
COMPUTE NM HYD	110.30	-	1	.00113	2.10	.086	1.42511	1.500	2.899	PER IMP= 90.00
COMPUTE NM HYD	110.60	-	2	.00478	8.83	.363	1.42509	1.500	2.889	PER IMP= 90.00
COMPUTE NM HYD	110.40	-	1	.00552	10.21	.420	1.42509	1.500	2.889	PER IMP= 90.00
COMPUTE NM HYD	110.70	-	2	.00332	6.15	.253	1.42510	1.500	2.891	PER IMP= 90.00
COMPUTE NM HYD	110.50	-	1	.00407	7.53	.309	1.42509	1.500	2.890	PER IMP= 90.00
COMPUTE NM HYD	110.10	-	1	.00273	5.06	.208	1.42510	1.500	2.891	PER IMP= 90.00
COMPUTE NM HYD	110.10	-	1	.00606	11.21	.461	1.42509	1.500	2.889	PER IMP= 90.00
COMPUTE NM HYD	110.80	-	1	.00532	9.83	.404	1.42509	1.500	2.889	PER IMP= 90.00
COMPUTE NM HYD	110.11	-	2	.00470	8.70	.357	1.42509	1.500	2.889	PER IMP= 90.00
COMPUTE NM HYD	110.90	-	1	.00420	7.77	.319	1.42509	1.500	2.889	PER IMP= 90.00
FINISH										

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =04/10/1996

INPUT FILE = C:\AHYMO\EXD100.DAT USER NO.= R_BOHANN.I01

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= 2										RAIN24=	2.750
COMPUTE NM HYD	101.20	-	1	.00522	7.62	.217	.77821	1.533	2.280	PER IMP=	.00
COMPUTE NM HYD	101.30	-	1	.00113	1.66	.047	.77821	1.533	2.289	PER IMP=	.00
COMPUTE NM HYD	101.60	-	2	.00478	6.97	.198	.77821	1.533	2.280	PER IMP=	.00
COMPUTE NM HYD	101.40	-	1	.00552	8.05	.229	.77821	1.533	2.280	PER IMP=	.00
COMPUTE NM HYD	101.70	-	2	.00332	4.85	.138	.77821	1.533	2.281	PER IMP=	.00
COMPUTE NM HYD	101.50	-	1	.00407	5.94	.169	.77821	1.533	2.281	PER IMP=	.00
COMPUTE NM HYD	101.10	-	1	.00273	3.99	.113	.77821	1.533	2.282	PER IMP=	.00
COMPUTE NM HYD	101.10	-	1	.00606	8.85	.252	.77821	1.533	2.280	PER IMP=	.00
COMPUTE NM HYD	101.80	-	1	.00532	7.76	.221	.77821	1.533	2.280	PER IMP=	.00
COMPUTE NM HYD	101.11	-	2	.00470	6.86	.195	.77821	1.533	2.280	PER IMP=	.00
COMPUTE NM HYD	101.90	-	1	.00420	6.13	.174	.77821	1.533	2.281	PER IMP=	.00
FINISH											

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =04/10/1996

INPUT FILE = C:\AHYMO\EXD10.DAT USER NO.= R_BOHANN.I01

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= 2										RAIN24=	1.830
COMPUTE NM HYD	110.20	-	1	.00522	3.13	.078	.27828	1.533	.936	PER IMP=	.00
COMPUTE NM HYD	110.30	-	1	.00113	.68	.017	.27828	1.533	.940	PER IMP=	.00
COMPUTE NM HYD	110.60	-	2	.00478	2.86	.071	.27828	1.533	.936	PER IMP=	.00
COMPUTE NM HYD	110.40	-	1	.00552	3.31	.082	.27828	1.533	.936	PER IMP=	.00
COMPUTE NM HYD	110.70	-	2	.00332	1.99	.049	.27828	1.533	.936	PER IMP=	.00
COMPUTE NM HYD	110.50	-	1	.00407	2.44	.060	.27828	1.533	.936	PER IMP=	.00
COMPUTE NM HYD	110.10	-	1	.00273	1.64	.041	.27828	1.533	.937	PER IMP=	.00
COMPUTE NM HYD	110.10	-	1	.00606	3.63	.090	.27828	1.533	.936	PER IMP=	.00
COMPUTE NM HYD	110.80	-	1	.00532	3.18	.079	.27828	1.533	.936	PER IMP=	.00
COMPUTE NM HYD	110.11	-	2	.00470	2.82	.070	.27828	1.533	.936	PER IMP=	.00
COMPUTE NM HYD	110.90	-	1	.00420	2.52	.062	.27828	1.533	.936	PER IMP=	.00
FINISH											

SCALE IN FEET

250 0 500 1000

PHOTOCOPY--NOT TO SCALE

North

AGIS

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Map Amended through July 11, 1996

LEGAL DESCRIPTION

T11N
R3E
SEC 34

UNIFORM PROPERTY CODE

F-16-Z