CITY OF
Albuquerque

August 11, 1998

Ronald R. Bohannan, P.E.
Tierra West, LLC
4421 McLeod Road, Suite D
Albuquerque, New Mexico 87109

RE: Grading and Drainage Plan for Tract 3A of Renaissance Center (F16/D18) Submitted for Building Permit Approval, and SO #19 Permit Approval, Engineer's Stamp Dated 7/24/98.

Dear Ron:

Based on the information provided in the submittal of August 11, 1998, the above referenced plan is approved for Building Permit and for SO # 19 Permit release.

A separate permit is required for the construction within the City right-of-way. A copy of this approval letter must be in hand when applying for the excavation permit.

Prior to release of the Certificate of Occupancy, the Engineer's Certification is required.

If you have any questions, please call me at 924-3982.

Sincerely,

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: Andrew Garcia, City Hydrology
Arlene Portillo
D. Salas, Street Maint.
File

DRAINAGE REPORT
FOR

TRACT 3
OF
RENAISSANCE CENTER

OFFICE / WAREHOUSE

Prepared by:

Tierra West, LLC
4421 McLeod Rd., NE, Suite D
Albuquerque, New Mexico 87109

March, 1998
(Revised June 25, 1998)

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.

RECEIVED
JUL 1 1998
HYDROLOGY SECTION

RONALD RAY BOHANNAN
NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER

Ronald R. Bohannan
PE NO. 7868

Job No 980055

Location

Tract 3, of the Renaissance Center, is located at the northeast corner of Alexander Boulevard and Renaissance Boulevard. See attached Zone Atlas page number F-16 for exact location. The owners are proposing to develop several office and warehouse buildings.

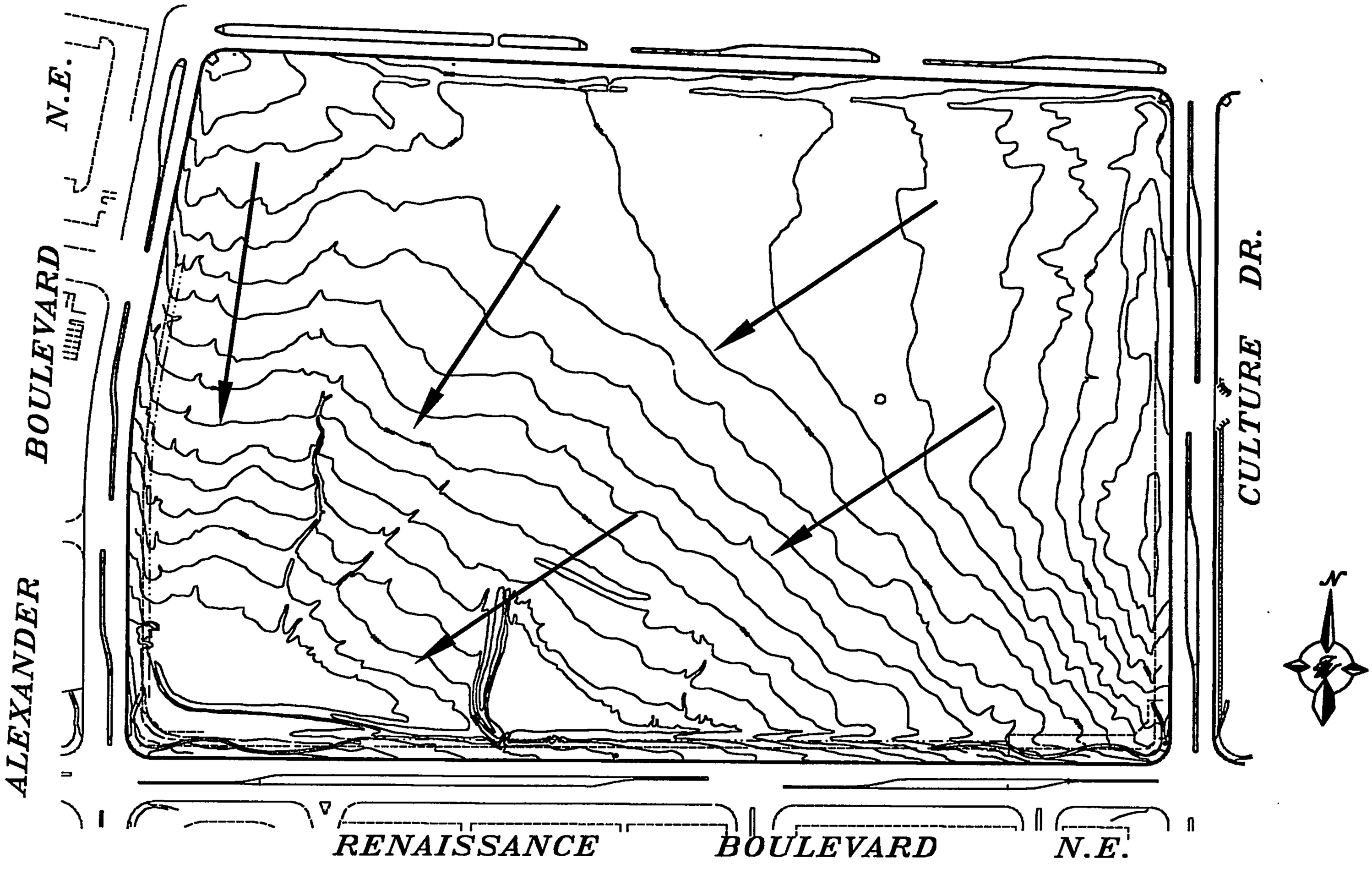
Purpose

The purpose of this drainage report is to present a grading and drainage solution for the proposed sites. We are requesting rough grading approval, site development plan for subdivision purposes, site development plan for building permit, final plat approval and building permit.

Existing Drainage Conditions

The site falls within the Renaissance Drainage Master Plan, and it is currently undeveloped. No offsite runoff enters this site. All offsite runoff to the north and south are intercepted by Mission Avenue and Renaissance Boulevard. The offsite runoff to the east and west are intercepted by Culture Drive and Alexander Boulevard. The entire runoff from Tract 3 drains to the southwest corner of the site, at a flow rate of 75.82 cfs, to an existing desilting pond and then overflows to the west and south to Alexander Boulevard and Renaissance Boulevard.

street names ?



EXISTING BASIN LAYOUT

Flood Plain and Soil Condition

The site is located on FEMA Map No. 35001C 0138-D, as shown on the attached excerpt. The map shows that the site does not lie within any 100 year flood plains.

The site contains two soil types Bluepoint-Kokan association (BKD) and Wink-Embudo complex (WeB) as indicated on the Soil Map (sheet # 21) from the Soil Conservation Service Survey of Bernalillo County. The Bluepoint-Kokan association is a Bluepoint loamy fine sand that has slow runoff, rapid permeability, and moderate to severe hazard of water erosion. Wink-Embudo complex consist of deep, well drained soils that formed in old unconsolidated alluvium modified by wind on piedmonts. This soil has a thin layer of loamy sand. It is used for range, watershed, wildlife habitat, and community development. See attached soil map for site location.

Proposed Conditions and On-Site Drainage Management Plan

This site was designed and submitted to City Hydrology under drainage number F16/D5. Since that submittal the site layout has been modified and the entire site will be graded under one phase. Future parking lot ponding areas will be used as desilting ponds, and all the disturbed areas will be re-seeded. The site is designed to pond the runoff in several parking lot ponding areas and then discharge at a flow rate of less than or equal to 0.1 cfs/acre.

NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 10 NORTH, RANGE 3 EAST AND TOWNSHIP 11 NORTH, RANGE 3 EAST.

CORPC

ALBUQUERQUE

PACIFIC

ROAD

BOULEVARD

DRIVE

SITE

CITY OF ALBUQUERQUE
350002

RENAISSANCE

BOULEVARD

ALEXANDER

CENTURY

ZONE X

COMMERCE

CHAPPELL

MONTANO

MERCANTILE

AVENUE

DRIVE

PAN

FREEWAY

ROAD

RM26

34

Channel

BOULEVARD

DE

ZC
(D

BERNAL
UNINCORF

LI
DETAI

Flood Insurance Rate Map

35001C 0138 D

BERNALILLO COUNTY, AND PARTS OF SANDOVAL AND VALENCIA COUNTIES, NEW MEXICO — SHEET NUMBER 21

385 000 FEET

R. 3 E. R. 4 E.

(Joins sheet 11)

21

N

2 Miles

10000 Feet

1 500 000 FEET

T. 11 N.

T. 10 N.

(Joins sheet 22)

Scale 1:24000

SITE

ELENA

GALLEGOS

GRANT

ALBUQUERQUE

(county seat)

TOWN OF ALBUQUERQUE GRANT

Academy for Boys

Montgomery School

McKinley Jr High School

Carlisle Plaza Church

Bel-Air School

Madison Jenkins School

Yucca School

Sandia High School

Zambia Hiel Monte School

Arroyo del Pino

Bear Canyon

Pino Canyon

Arroyo

MONTGOMERY BLVD

SAN MATEO BLVD

CANDELARIA RD.

MONTANO RD.

WATER

SOIL MAP

SHEET # 21

(3.33 cfs) per the Renaissance Master Drainage Plan. The site has been analyzed under two runoff routings, A and B. Route A consists of basins 1 through 9 and discharges to Route A and then from there to an existing inlet in Renaissance Boulevard at a flow rate of 3.29 cfs. Route B consists of basins 10 through 14 and along with Route A discharges to an existing inlet in Renaissance Boulevard at a flow rate of 3.29 cfs. The total discharge from routing A and B is 3.29 cfs is less than allowable discharge of 3.33 cfs. See Proposed Basin layout for runoff routing plan and discharge details.

Emergency Conditions

In the case of an emergency the runoff will overflow the parking lot pondings to the south to Renaissance Boulevard.

Summary

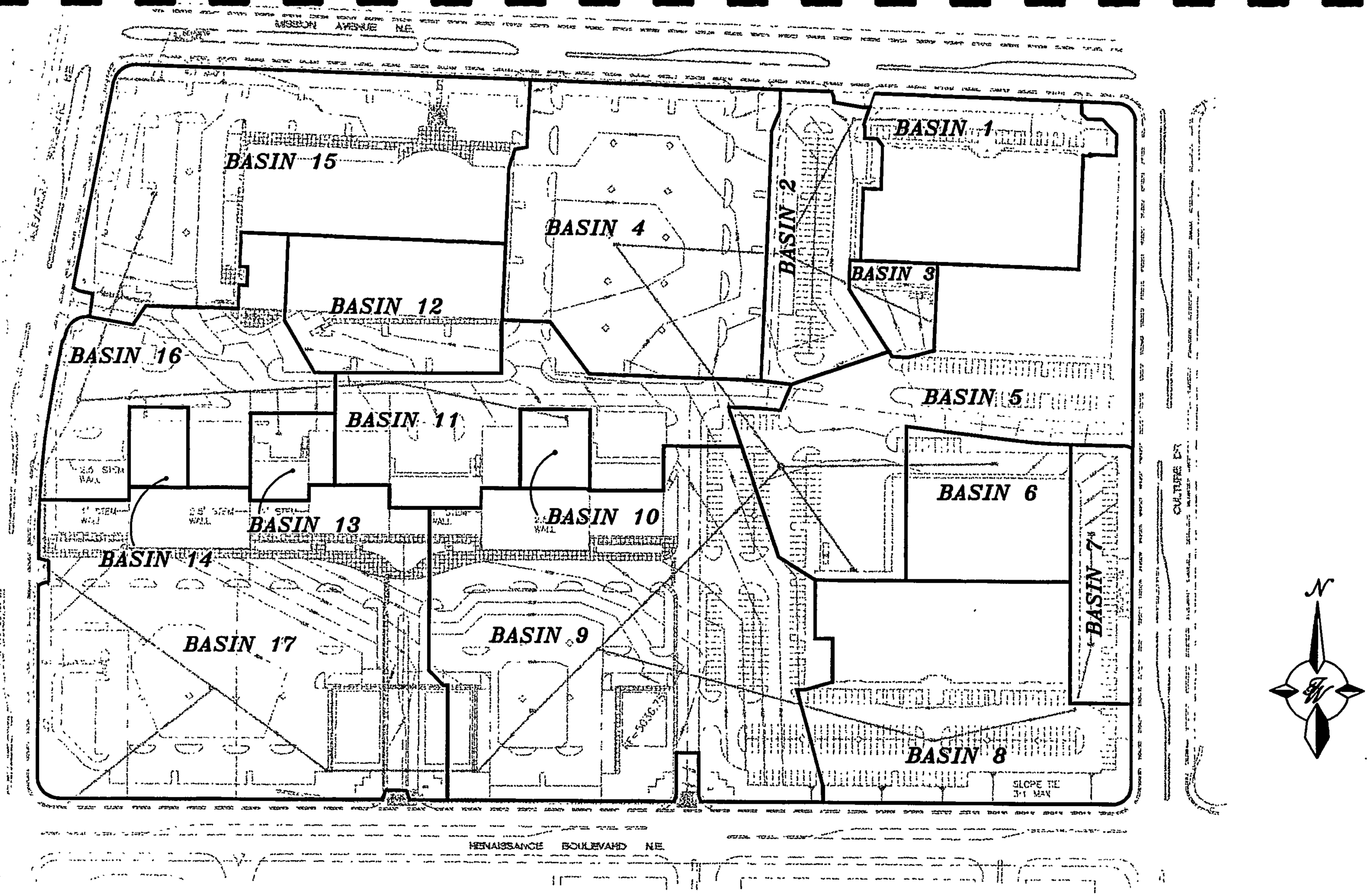
The project will be graded under one phase. The future parking lot ponding will be used as desilting ponds. The site drains at a total runoff rate of 3.29 cfs less than the allowable discharge of 3.33 cfs via drainage routings A and B.

Calculations

City of Albuquerque, Development Process Manuel, Section 22.2, Hydrology Section, revised January, 1993, was used for runoff calculations. See section II of this report for Summary Table for runoff results. See also Sections IV, V, and VI of this report for AHYMO input and output files for runoff and ponding calculations.

Infrastructure List

All work will be performed under building permit outside of any public right of way, and therefore there is no need for an infrastructure list.



BASIN LAYOUT

RUNOFF DRAINAGE DATA

The site is @ Zone 2

LAND TREATMENT

Proposed
D = 90.00 %
B = 10.00 %

Existing
B = 100 %

DEPTH (INCHES) @ 100-YEAR STORM

P_{60} = 2.01 inches

P_{360} = 2.35 inches

P_{1440} = 2.75 inches

DEPTH (INCHES) @ 10-YEAR STORM

P_{60} = 2.01 x 0.667
= 1.34 inches

P_{360} = 1.57

P_{1440} = 1.83

See the summary output from AHYMO calculations.

Also see the following summary tables.

RUNOFF SUMMARY TABLE

PROPOSED

DRAINAGE BASINS			
SUB-BASIN	AREA (SF)	AREA (AC)	AREA (MI^2)
1	68709.70	1.5774	0.002465
2	52090.39	1.1958	0.001868
3	12376.71	0.2841	0.000444
4	134963.07	3.0983	0.004841
5	139583.98	3.2044	0.005007
6	44077.77	1.0119	0.001581
7	29638.62	0.6804	0.001063
8	116757.45	2.6804	0.004188
9	219085.21	5.0295	0.007859
10	10450.00	0.2399	0.000375
11	82711.97	1.8988	0.002967
12	53114.37	1.2193	0.001905
13	13230.46	0.3037	0.000475
14	8888.78	0.2041	0.000319
15	154050.73	3.5365	0.005526
16	77467.85	1.7784	0.002779
17	227926.25	5.2325	0.008176

BASINS RUNOFF CALCULATION RESULTS UNDER PROPOSED CONDITIONS

BASIN	Q-100 CFS	Q-10 CFS
1	7.05	4.56
2	5.35	3.46
3	1.28	0.83
4	0.99	0.64
5	14.30	9.26
6	4.53	2.93
7	3.05	1.97
8	11.96	7.74
9	22.43	14.53
10	1.09	0.70
11	8.48	5.49
12	5.45	3.53
13	1.37	0.89
14	0.93	0.60
15	15.78	10.22
16	7.94	5.14
17	23.34	15.11

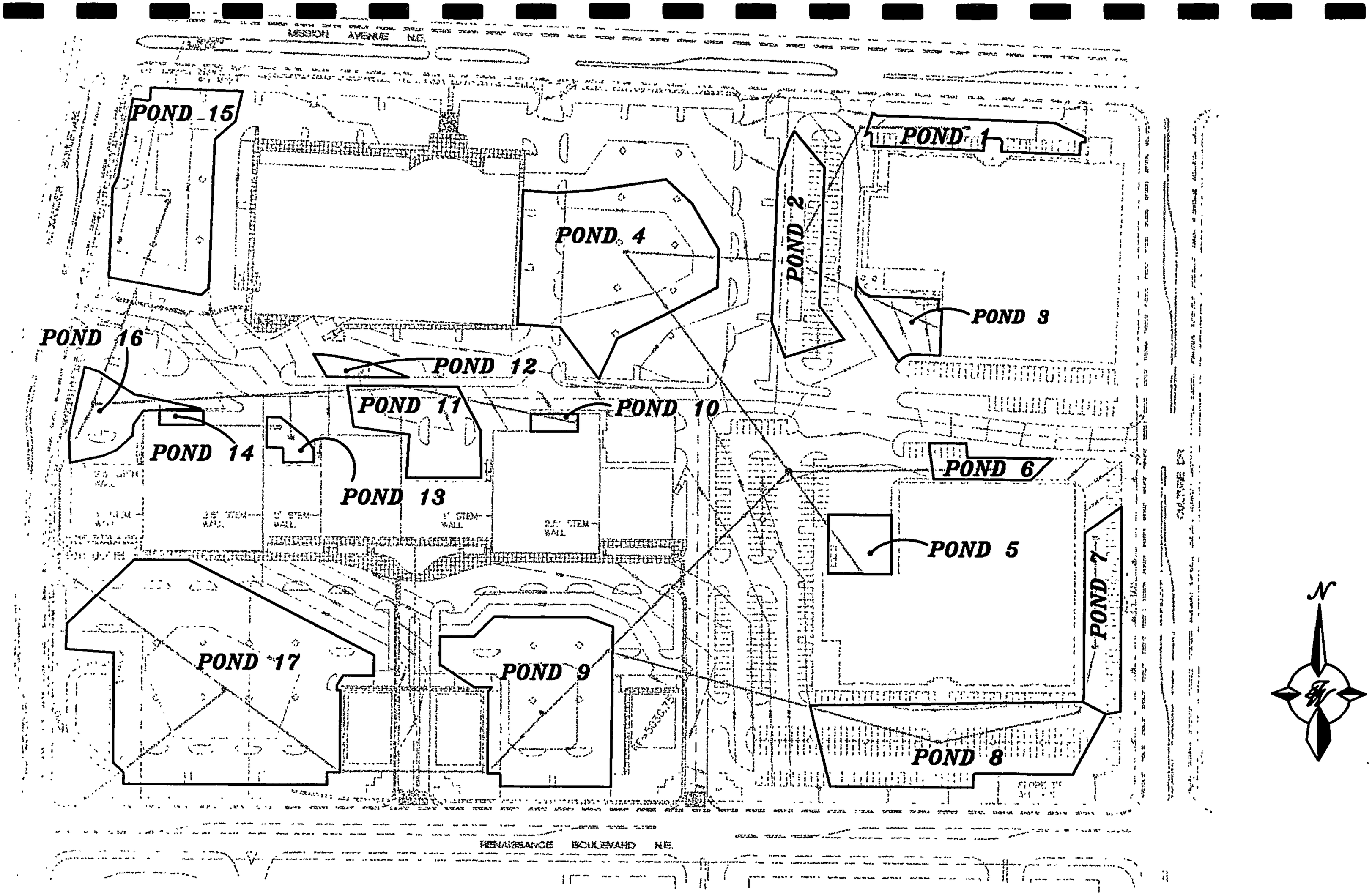
135.32

EXISTING

DRAINAGE BASINS			
BASIN	AREA (SF)	AREA (AC)	AREA (MI^2)
1	1449973.80	33.2868	0.052011

BASIN RUNOFF CALCULATION RESULTS UNDER PROPOSED CONDITIONS

BASIN	Q-100 CFS	Q-10 CFS
1	75.82	31.11



PONDING LOCATIONS

POND #1

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =2.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	11,691.40	SF	
Dt =	1.30	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	6	IN	
Radius =	3	IN	
C =	8988.05	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5043.00
1.25	1.25	0.00020	0.95	5044.25
2.50	2.50	0.00040	1.42	5045.50
2.80	0.30	0.00973	1.51	5045.80
3.10	0.60	0.03763	1.60	5046.10
3.40	0.90	0.08411	1.68	5046.40
3.80	1.30	0.17496	1.78	5046.80

POND #2

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =2.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	18,964.80	SF	
Dt =	1.50	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	8	IN	
Radius =	4	IN	
C =	12638.57	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5040.00
1.25	1.25	0.00020	1.61	5041.25
2.50	2.50	0.00040	2.47	5042.50
2.90	0.40	0.02367	2.69	5042.90
3.30	0.80	0.09337	2.89	5043.30
3.70	1.20	0.20949	3.08	5043.70
4.00	1.50	0.32705	3.22	5044.00

POND #3

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =2.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	7,349.30	SF	
Dt =	2.60	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	10	IN	
Radius =	5	IN	
C =	2823.98	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5040.90
1.25	1.25	0.00020	2.40	5042.15
2.50	2.50	0.00040	3.79	5043.40
2.90	0.40	0.00565	4.14	5043.80
3.30	0.80	0.02127	4.46	5044.20
3.70	1.20	0.04727	4.76	5044.60
4.10	1.60	0.08364	5.04	5045.00
4.50	2.00	0.13038	5.31	5045.40
5.10	2.60	0.21994	5.68	5046.00

POND #4

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =2.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	51,171.40	SF	
Dt =	1.50	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	2	IN	
Radius =	1	IN	
C =	34109.64	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5038.50
1.25	1.25	0.00020	0.11	5039.75
2.50	2.50	0.00040	0.16	5041.00
2.90	0.40	0.06311	0.18	5041.40
3.30	0.80	0.25110	0.19	5041.80
3.70	1.20	0.56439	0.20	5042.20
4.00	1.50	0.88157	0.21	5042.50

POND #5

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =2.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	7,274.82	SF	
Dt =	1.50	FT	(Ponding depth from top of the inlet to maximum
Dia =	12	IN	
Radius =	6	IN	
C =	4845.25	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5038.50
1.25	1.25	0.00020	3.28	5039.75
2.50	2.50	0.00040	5.35	5041.00
2.90	0.40	0.00936	5.86	5041.40
3.30	0.80	0.03612	6.33	5041.80
3.50	1.00	0.05617	6.55	5042.00
4.00	1.50	0.12577	7.07	5042.50

POND #6

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =2.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	5,478.83	SF	
Dt =	1.50	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	8	IN	
Radius =	4	IN	
C =	3647.93	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5040.00
1.25	1.25	0.00020	1.61	5041.25
2.50	2.50	0.00040	2.47	5042.50
2.90	0.40	0.00716	2.69	5042.90
3.30	0.80	0.02732	2.89	5043.30
3.70	1.20	0.06089	3.08	5043.70
4.00	1.50	0.09485	3.22	5044.00

POND #7

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =3.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	13,292.87	SF	
Dt =	0.60	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	6	IN	
Radius =	3	IN	
C =	22143.22	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5039.90
1.25	1.25	0.00020	0.95	5041.15
3.50	3.50	0.00056	1.70	5043.40
3.70	0.20	0.01076	1.76	5043.60
3.90	0.40	0.04129	1.81	5043.80
4.10	0.60	0.09215	1.86	5044.00

POND #8

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =4.92'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	40,390.46	SF	
Dt =	1.00	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	4	IN	
Radius =	2	IN	
C =	40383.52	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5038.08
1.25	1.25	0.00020	0.44	5039.33
4.92	4.92	0.00078	0.92	5043.00
5.32	0.40	0.07501	0.95	5043.40
5.72	0.80	0.29758	0.99	5043.80
5.92	1.00	0.46448	1.01	5044.00

POND #9

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =2.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	43,998.22	SF	
Dt =	2.00	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	7.375	IN	
Radius =	3.6875	IN	
C =	21995.64	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5031.50
1.25	1.25	0.00020	1.39	5032.75
2.50	2.50	0.00040	2.12	5034.00
2.90	0.40	0.04086	2.30	5034.40
3.30	0.80	0.16211	2.47	5034.80
3.70	1.20	0.36415	2.63	5035.20
4.10	1.60	0.64699	2.78	5035.60
4.50	2.00	1.01062	2.92	5036.00

POND #10

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =2.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	1,625.00	SF	
Dt =	4.00	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	10	IN	
Radius =	5	IN	
C =	404.52	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5033.50
1.25	1.25	0.00020	2.40	5034.75
2.50	2.50	0.00040	3.79	5036.00
2.90	0.40	0.00120	4.14	5036.40
3.30	0.80	0.00350	4.46	5036.80
3.70	1.20	0.00728	4.76	5037.20
4.10	1.60	0.01254	5.04	5037.60
4.50	2.00	0.01929	5.31	5038.00

POND #11

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =8.48'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	16,631.20	SF	
Dt =	1.00	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	10	IN	
Radius =	5	IN	
C =	16624.26	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5029.02
4.24	4.24	0.00068	5.14	5033.26
8.48	8.48	0.00135	7.46	5037.50
8.88	0.40	0.03195	7.64	5037.90
9.28	0.80	0.12360	7.82	5038.30
9.48	1.00	0.19233	7.91	5038.50

POND #12

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =2.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	2,344.96	SF	
Dt =	0.70	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	10	IN	
Radius =	5	IN	
C =	3340.03	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5036.80
1.25	1.25	0.00020	2.40	5038.05
2.50	2.50	0.00040	3.79	5039.30
2.70	0.20	0.00196	3.97	5039.50
2.90	0.40	0.00660	4.14	5039.70
3.20	0.70	0.01930	4.38	5040.00

POND #13

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =2.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	2,672.51	SF	
Dt =	2.00	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	8	IN	
Radius =	4	IN	
C =	1332.79	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5033.50
1.25	1.25	0.00020	1.61	5034.75
2.50	2.50	0.00040	2.47	5036.00
2.90	0.40	0.00291	2.69	5036.40
3.30	0.80	0.01032	2.89	5036.80
3.70	1.20	0.02262	3.08	5037.20
4.10	1.60	0.03982	3.26	5037.60
4.50	2.00	0.06191	3.43	5038.00

POND #14

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =2.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	1,200.00	SF	
Dt =	2.00	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	4	IN	
Radius =	2	IN	
C =	596.53	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5028.00
1.25	1.25	0.00020	0.44	5029.25
2.50	2.50	0.00040	0.64	5030.50
2.90	0.40	0.00156	0.69	5030.90
3.30	0.80	0.00491	0.74	5031.30
3.70	1.20	0.01045	0.79	5031.70
4.10	1.60	0.01818	0.83	5032.10
4.50	2.00	0.02811	0.87	5032.50

POND #15

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =2.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	37,496.58	SF	
Dt =	1.50	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	4	IN	
Radius =	2	IN	
C =	24993.09	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5037.00
1.25	1.25	0.00020	0.44	5038.25
2.50	2.50	0.00040	0.64	5039.50
2.90	0.40	0.04636	0.69	5039.90
3.30	0.80	0.18413	0.74	5040.30
3.70	1.20	0.41370	0.79	5040.70
4.00	1.50	0.64612	0.82	5041.00

POND #16

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =6.63'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	11,421.52	SF	
Dt =	1.00	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	12	IN	
Radius =	6	IN	
C =	11414.58	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5026.37
3.32	3.32	0.00053	6.34	5029.69
6.63	6.63	0.00106	9.36	5033.00
7.03	0.40	0.02208	9.66	5033.40
7.43	0.80	0.08504	9.96	5033.80
7.63	1.00	0.13224	10.10	5034.00

POND #17

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =7.85'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	92,091.47	SF	
Dt =	2.00	FT	(Ponding depth from top of the inlet to maximum ponding depth)
Dia =	6.375	IN	
Radius =	3.1875	IN	
C =	46042.27	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5023.15
3.93	3.93	0.00063	2.04	5027.08
7.85	7.85	0.00125	2.94	5031.00
8.25	0.40	0.08587	3.02	5031.40
8.65	0.80	0.33961	3.09	5031.80
9.05	1.20	0.76247	3.16	5032.20
9.45	1.60	1.35445	3.23	5032.60
9.85	2.00	2.11554	3.30	5033.00

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - Januar RUN DATE (MON/DAY/YR) =03/24/1998

INPUT FILE = 9421EX USER NO.= R_BOHANN.I01

HYDROGRAPH COMMAND	FROM ID IFICATION	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=	0
RAINFALL	TYPE= 1								RAIN6=	2.35
COMPUTE NM HYD	101	-	0.05201	75.82	2.159	0.77821	1.533	2.278	PER IMP=	0
START									TIME=	0
RAINFALL	TYPE= 1								RAIN6=	1.57
COMPUTE NM HYD	111	-	0.05201	31.11	0.772	0.27828	1.533	0.935	PER IMP=	0
FINISH										

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =06/24/1998

INPUT FILE = 9855a USER NO.= R_BOHANN.101

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	101.00	-	1	.00247	7.05	.300	2.27930	1.500	4.468	PER IMP=	90.00
COMPUTE NM HYD	102.00	-	2	.00187	5.35	.227	2.27930	1.500	4.472	PER IMP=	90.00
COMPUTE NM HYD	103.00	-	1	.00044	1.28	.054	2.27938	1.500	4.521	PER IMP=	90.00
COMPUTE NM HYD	104.00	-	2	.00034	.99	.041	2.27941	1.500	4.532	PER IMP=	90.00
COMPUTE NM HYD	105.00	-	1	.00501	14.30	.609	2.27928	1.500	4.462	PER IMP=	90.00
COMPUTE NM HYD	106.00	-	2	.00158	4.53	.192	2.27931	1.500	4.475	PER IMP=	90.00
COMPUTE NM HYD	107.00	-	1	.00106	3.05	.129	2.27932	1.500	4.481	PER IMP=	90.00
COMPUTE NM HYD	108.00	-	1	.00419	11.96	.509	2.27928	1.500	4.463	PER IMP=	90.00
COMPUTE NM HYD	109.00	-	2	.00786	22.43	.955	2.27928	1.500	4.460	PER IMP=	90.00
COMPUTE NM HYD	110.00	-	1	.00038	1.09	.046	2.27939	1.500	4.526	PER IMP=	90.00
COMPUTE NM HYD	111.00	-	2	.00297	8.48	.361	2.27929	1.500	4.466	PER IMP=	90.00
COMPUTE NM HYD	112.00	-	1	.00191	5.45	.232	2.27930	1.500	4.471	PER IMP=	90.00
COMPUTE NM HYD	113.00	-	2	.00048	1.37	.058	2.27938	1.500	4.518	PER IMP=	90.00
COMPUTE NM HYD	114.00	-	1	.00032	.93	.039	2.27941	1.500	4.532	PER IMP=	90.00
COMPUTE NM HYD	115.00	-	1	.00553	15.78	.672	2.27928	1.500	4.462	PER IMP=	90.00
COMPUTE NM HYD	116.00	-	1	.00278	7.94	.338	2.27929	1.500	4.467	PER IMP=	90.00
COMPUTE NM HYD	117.00	-	2	.00818	23.34	.994	2.27928	1.500	4.460	PER IMP=	90.00
START										TIME=	.00
RAINFALL TYPE= 2										RAIN24=	1.830
COMPUTE NM HYD	101.10	-	1	.00247	4.56	.187	1.42510	1.500	2.892	PER IMP=	90.00
COMPUTE NM HYD	102.10	-	2	.00187	3.46	.142	1.42511	1.500	2.894	PER IMP=	90.00
COMPUTE NM HYD	103.10	-	1	.00044	.83	.034	1.42515	1.500	2.920	PER IMP=	90.00
COMPUTE NM HYD	104.10	-	2	.00034	.64	.026	1.42517	1.500	2.927	PER IMP=	90.00
COMPUTE NM HYD	105.10	-	1	.00501	9.26	.381	1.42509	1.500	2.889	PER IMP=	90.00
COMPUTE NM HYD	106.10	-	2	.00158	2.93	.120	1.42511	1.500	2.896	PER IMP=	90.00
COMPUTE NM HYD	107.10	-	1	.00106	1.97	.081	1.42512	1.500	2.900	PER IMP=	90.00
COMPUTE NM HYD	108.10	-	1	.00419	7.74	.318	1.42509	1.500	2.889	PER IMP=	90.00
COMPUTE NM HYD	109.10	-	2	.00786	14.53	.597	1.42509	1.500	2.888	PER IMP=	90.00
COMPUTE NM HYD	110.10	-	1	.00038	.70	.029	1.42516	1.500	2.923	PER IMP=	90.00
COMPUTE NM HYD	111.10	-	2	.00297	5.49	.226	1.42510	1.500	2.891	PER IMP=	90.00
COMPUTE NM HYD	112.10	-	1	.00191	3.53	.145	1.42510	1.500	2.894	PER IMP=	90.00
COMPUTE NM HYD	113.10	-	2	.00048	.89	.036	1.42515	1.500	2.920	PER IMP=	90.00
COMPUTE NM HYD	114.10	-	1	.00032	.60	.024	1.42517	1.500	2.927	PER IMP=	90.00
COMPUTE NM HYD	115.10	-	1	.00553	10.22	.420	1.42509	1.500	2.889	PER IMP=	90.00
COMPUTE NM HYD	116.10	-	1	.00278	5.14	.211	1.42510	1.500	2.891	PER IMP=	90.00
COMPUTE NM HYD	117.10	-	2	.00818	15.11	.621	1.42509	1.500	2.888	PER IMP=	90.00

FINISH

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =06/24/1998

INPUT FILE = 9855 USER NO.= R_BOHANN.101

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	101.00	-	1	.00247	7.05	.300	2.27930	1.500	4.468	PER IMP=	90.00
ROUTE RESERVOIR	501.00	1	2	.00247	1.71	.300	2.28371	2.000	1.086	AC-FT=	.115
COMPUTE NM HYD	103.00	-	1	.00044	1.28	.054	2.27938	1.500	4.521	PER IMP=	90.00
ROUTE RESERVOIR	503.00	1	3	.00044	1.28	.054	2.27936	1.500	4.518	AC-FT=	.000
ADD HYD	103.10	2& 3	1	.00291	2.90	.354	2.28304	1.500	1.555		
COMPUTE NM HYD	102.00	-	2	.00187	5.35	.227	2.27930	1.500	4.472	PER IMP=	90.00
ADD HYD	102.10	1& 2	3	.00478	8.24	.581	2.28158	1.500	2.696		
ROUTE RESERVOIR	502.00	3	1	.00478	2.95	.584	2.29182	2.100	.965	AC-FT=	.130
COMPUTE NM HYD	104.00	-	2	.00034	.99	.041	2.27941	1.500	4.532	PER IMP=	90.00
ADD HYD	104.10	1& 2	3	.00512	3.75	.625	2.29100	1.500	1.143		
ROUTE RESERVOIR	504.00	3	5	.00512	.20	.302	1.10493	3.366	.060	AC-FT=	.490
COMPUTE NM HYD	105.00	-	1	.00501	14.30	.609	2.27928	1.500	4.462	PER IMP=	90.00
ROUTE RESERVOIR	505.00	1	2	.00501	6.94	.609	2.27927	1.667	2.164	AC-FT=	.108
ADD HYD	105.10	2& 5	1	.01013	7.12	.910	1.68566	1.667	1.098		
COMPUTE NM HYD	106.00	-	2	.00158	4.53	.192	2.27931	1.500	4.475	PER IMP=	90.00
ROUTE RESERVOIR	506.00	2	3	.00158	2.81	.192	2.27928	1.633	2.781	AC-FT=	.020
ADD HYD	106.10	1& 3	6	.01171	9.92	1.102	1.76583	1.667	1.325		
COMPUTE NM HYD	107.00	-	1	.00106	3.05	.129	2.27932	1.500	4.481	PER IMP=	90.00
ROUTE RESERVOIR	507.00	1	2	.00106	1.77	.129	2.27928	1.633	2.597	AC-FT=	.015
COMPUTE NM HYD	108.00	-	1	.00419	11.96	.509	2.27928	1.500	4.463	PER IMP=	90.00
ADD HYD	108.10	1& 2	3	.00525	13.70	.638	2.27928	1.500	4.077		
ROUTE RESERVOIR	508.00	3	1	.00525	1.00	.638	2.27986	2.266	.299	AC-FT=	.421
ADD HYD	108.20	1& 6	1	.01696	10.91	1.741	1.92501	1.667	1.005		
COMPUTE NM HYD	109.00	-	2	.00786	22.43	.955	2.27928	1.500	4.460	PER IMP=	90.00
ADD HYD	109.10	1& 3	3	.02221	24.05	2.379	2.00878	1.500	1.692		
ROUTE RESERVOIR	509.00	3	9	.02221	2.92	2.380	2.00933	2.333	.205	AC-FT=	1.008
COMPUTE NM HYD	110.00	-	1	.00038	1.09	.046	2.27939	1.500	4.526	PER IMP=	90.00
ROUTE RESERVOIR	510.00	1	2	.00038	1.09	.046	2.27937	1.500	4.523	AC-FT=	.000
COMPUTE NM HYD	112.00	-	1	.00191	5.45	.232	2.27930	1.500	4.471	PER IMP=	90.00
ROUTE RESERVOIR	512.00	1	3	.00191	4.22	.232	2.27929	1.567	3.459	AC-FT=	.011
ADD HYD	112.10	2& 3	1	.00228	5.22	.277	2.27930	1.533	3.579		
COMPUTE NM HYD	111.00	-	2	.00297	8.48	.361	2.27929	1.500	4.466	PER IMP=	90.00
ADD HYD	111.10	1& 2	3	.00525	13.67	.638	2.27929	1.500	4.071		
ROUTE RESERVOIR	511.00	3	1	.00525	7.75	.638	2.28020	1.700	2.309	AC-FT=	.090
COMPUTE NM HYD	113.00	-	2	.00048	1.37	.058	2.27938	1.500	4.518	PER IMP=	90.00
ROUTE RESERVOIR	513.00	2	3	.00048	1.37	.058	2.27935	1.500	4.513	AC-FT=	.000
ADD HYD	113.10	1& 3	2	.00572	9.02	.696	2.28013	1.500	2.463		
COMPUTE NM HYD	114.00	-	1	.00032	.93	.039	2.27941	1.500	4.532	PER IMP=	90.00
ROUTE RESERVOIR	514.00	1	3	.00032	.70	.039	2.27932	1.600	3.432	AC-FT=	.002
ADD HYD	114.10	2& 3	1	.00604	9.70	.735	2.28009	1.500	2.509		
COMPUTE NM HYD	115.00	-	2	.00553	15.78	.672	2.27928	1.500	4.462	PER IMP=	90.00
ROUTE RESERVOIR	515.00	2	3	.00553	.80	.672	2.27919	2.333	.225	AC-FT=	.467
ADD HYD	115.10	1& 3	2	.01157	10.43	1.406	2.27966	1.533	1.409		
COMPUTE NM HYD	116.00	-	1	.00278	7.94	.338	2.27929	1.500	4.467	PER IMP=	90.00
ADD HYD	116.10	1& 2	3	.01435	18.37	1.744	2.27959	1.500	2.001		
ROUTE RESERVOIR	516.00	3	1	.01435	12.21	1.748	2.28516	1.800	1.330	AC-FT=	.843
COMPUTE NM HYD	117.00	-	2	.00818	23.34	.994	2.27928	1.500	4.460	PER IMP=	90.00

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
ADD HYD	117.10	1& 2	3	.02252	33.21	2.742	2.28302	1.500	2.304	
ADD HYD	117.20	3& 9	1	.04473	35.76	5.122	2.14714	1.500	1.249	
ROUTE RESERVOIR	517.00	1	2	.04473	3.29	5.011	2.10033	10.032	.115	AC-FT= 2.043
FINISH										

ELENA

GALLEGOS

SU-1

SU FOR SAND & GRAVEL EXTR & REL ACT & USES PERM IN M-1 ZONE

BOARD OF EDUCATION

MISSION AVENUE ELEMENTARY SCHOOL

GRANT

VINEVARD

AYERS

ODDN

NO

PACIFIC AV

BLVD

RENAISSANCE

SU FOR R-3 USES

SU FOR C-2 USES

SU FOR C-3 USES

SITE

SU FOR IP USES

CHAPPELL DR

CENTER

SU FOR C-2 USES

CENTURY

COMMERCE

MONTANO

MERCANTILE

C-2 USES W/ INCIDENTAL STORAGE

ABQ GRAVEL PRODUCTS

INTERSTATE 25

Boundary

SUNDTS

M-2 INDUSTRIAL

ILL

MIDTOWN

JOAN HILL PL

SALVATION ARMY

MONTGOMERY

FRANKLIN TRACT

MONTGOMERY HEIGHTS

COMMONS

ERRERS

SU- C-3 & IP USES

FOR USES PERMISSIVE IN THE C-3 AND IP ZONES

NORTH

M-1 LARDNER TRACT

R-3 COMPLEX

CHURCH & REL FAC

C-1

C-2

C-3

R-3

M-1

M-2

IP USES

SU-1

GRAPHIC SCALE IN FEET

250 0 500 1000

CITY OF Albuquerque

AGIS Albuquerque Geographic Information System

PLANNING DEPARTMENT

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Map Amended through November 06, 1995

LEGAL DESCRIPTION

T11N

R3E

SEC 34

UNIFORM PROPERTY CODE

1-016-061

F-16-Z

City of Albuquerque

February 23, 2000

Ronald R. Bohanan, P.E.
Tierra West, LLC
4421 McLeod NE
Suite D
Albuquerque, NM 87109

RE: GENERAL TECHNOLOGY, TRACT 3B1 OF RENAISSANCE CENTER (F16-D18). ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY APPROVAL. ENGINEER'S STAMP DATED JANUARY 5, 2000 superseding that of NOVEMBER 9, 1999.

Dear Mr. Bohanan:

Based on the information provided in your January 5, 2000 submittal, the above referenced project is approved for Certificate of Occupancy. Thank you for eliminatng what could be considered a "disclaimer" clause.

If I can be of further assistance, please feel free to call me at 924-3984.

Sincerely,

John P. Murray, P.E.
Hydrology

c: ~~WR~~
✓File

Tierra West, LLC

January 5, 2000

Ms. Susan M. Calongne, P.E.
City/County Floodplain Administrator
Albuquerque Public Works Dept.
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: Final Certification of Drainage for Certification of Occupancy
General Technology Corporation, Tract 3B1, North Renaissance (F16-D18)
1450 Mission Avenue, NE, Albuquerque, NM

Dear Susan:

Enclosed please find one copy of the as-built Grading and Drainage Plan and information sheet for the General Technology Site, located in North Renaissance. Jaynes Corporation has completed the installation of the storm sewer infrastructure. Paving, sidewalks, curb and landscaping are complete. The sanitary sewer and water service improvements located on the site are complete. Construction of the temporary outfall for the site is complete. Construction of the off-site pond and spillway is complete.

All work is in substantial compliance with the approved plans. As-built grading information was supplied by J. Robert Martinez, P.S. No. 4076. We are therefore requesting Final Certification of Drainage for Certification of Occupancy.

Should you have any questions, please do not hesitate to contact our office.

Sincerely,

Ronald R. Bohannan, P. E.

Enclosure

cc: James K. Trump, Jr.
Michael Scott

JN: 980068
RRB/rw

RECEIVED
JAN 05 2000
HYDROLOGY SECTION

980068H2oFinal

4421 McLeod Rd. NE, Suite D • Albuquerque, NM 87109 • (505) 883-7592
fax (505) 883-7034 • e-mail: twdms@aol

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 27, 1999

Ronald R. Bohannan, P.E.
Tierra West, LLC
4421 McLeod Road, Suite D
Albuquerque, New Mexico 87109

RE: Drainage Report and Grading and Drainage Plan for General Technology, Tract 3B1 of Renaissance Center (F16/D18) Submitted for Site Development Plan for Building Permit Approval, Building Permit Release, and Preliminary and Final Plat Approval, Engineer's Stamp Dated 12/29/98.

Dear Mr. Bohannan:

Based on the information provided in the submittal of December 29, 1998, the above referenced plan is approved for Site Development Plan for Building Permit approval and for Preliminary and Final Plat action by the DRB. This plan is also approved for Building Permit release.

Prior to release of the Certificate of Occupancy, the Engineer's Certification is required for this site.

If you have any questions, or if I may be of further assistance to you, please call me at 924-3982.

Sincerely,

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: Andrew Garcia, City Hydrology
Jim Trump, Union Pension Transaction Trust 93-2
File

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

DRAINAGE REPORT
FOR

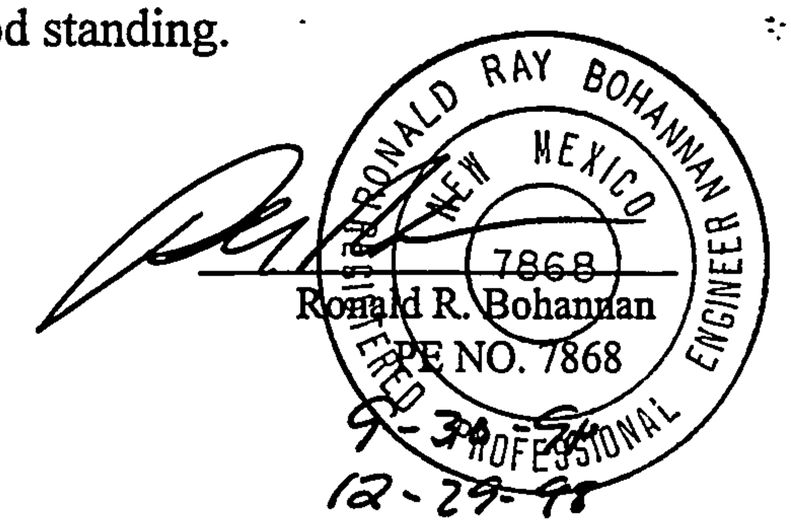
General Technology
Tract 3B-1
Renaissance Center

Prepared by:

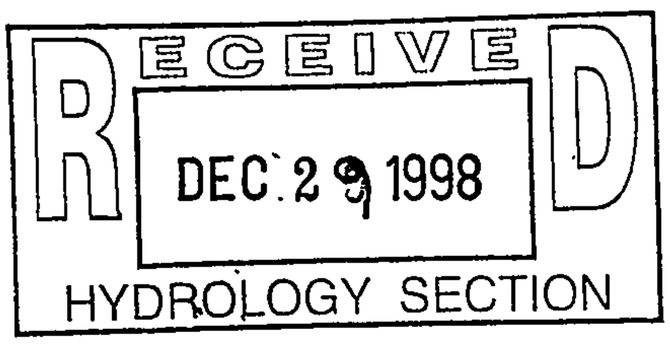
Tierra West, LLC
4421 McLeod Rd., NE, Suite D
Albuquerque, New Mexico 87109

December, 1998

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 980068

Location

The proposed site is Tract 3-B-1, of the Renaissance Center. The site is located at the southwest corner of Mission Avenue and Culture Drive, NE and consists 6.749± acres. General Technology proposes to build a new building with plans for a future expansion. See attached Zone Atlas page number F-16 for exact location.

Legal Description

Tract 3-B-1, North Renaissance Center, Bernalillo County, City of Albuquerque.

Zoning and Surrounding Development

The site, currently zoned SU-1-IP, is bounded on the north by Mission Avenue and on the east by Culture Drive. The tracts to the south and west are undeveloped and no construction is proposed at this time. North of Mission Avenue is the Cal-Mat plant and east of Culture is the Ryder Truck Facility, currently under construction.

Purpose

The purpose of this drainage report is to provide the drainage analysis and management plan for the proposed site. We are requesting rough grading approval, Site Development Plan for Building Permit, Preliminary and Final Plat Approval, and Building Permit Approval.

Existing Drainage Conditions

The site falls within the Renaissance Drainage Master Plan. The site is undeveloped and slopes 1% from east to west. No offsite runoff enters this site. All offsite runoff to the north and east are intercepted by Mission Avenue and Culture Drive. Presently the runoff from Tract 3-B1 drains to the south west corner of the site to an existing desilting pond and then overflows to Alexander Boulevard. Tierra West, LLC submitted the Master Drainage Plan for Tract 3 and it was approved by the City of Albuquerque on October 22, 1998 (F16/D18). According to the

Master Drainage Plan for Tract 3, the developed storm water is to be contained in severalPage 3 parking lot ponds on site and discharged from the site at a rate of 0.10 cfs/ac. The Master Drainage Plan for Tract 3 proposed for this storm water runoff after leaving the site to drain west to two desilting ponds near Office Depot. The runoff is then discharged into Renaissance Boulevard and Alexander Boulevard to existing drop inlets which are connected to the existing storm sewer system. This system eventually discharges into the existing North Renaissance Retention Pond.

Flood Plain and Soil Condition

The site is located on FEMA Map No. 35001C 0138-D, as shown on the attached excerpt. The map shows that the site does not lie within any 100-year flood plains.

The site contains two soil types, the Bluepoint-Kokan association (BKD) and the Wink-Embudo complex (WeB), as indicated on the Soil Map (sheet # 21) from the Soil Conservation Service Survey of Bernalillo County. The Bluepoint-Kokan association is a Bluepoint loamy fine sand that has slow runoff, rapid permeability, and moderate to severe hazard of water erosion. Wink-Embudo complex consists of deep, well-drained soils that formed in old unconsolidated alluvium modified by wind on piedmonts. This soil has a thin layer of loamy sand. See attached soil map for site location.

Proposed Conditions and On-Site Drainage Management Plan

This site is part of Master Drainage Plan for Tract 3, submitted by Tierra West, LLC, and approved by the City of Albuquerque on October 22, 1998 (F16/D18). Since that approval we have modified the proposed site layout. We propose a new 73,029 square foot building and a 29,812 future building on Tract 3B1. The runoff will be ponded on site and discharged, based on the Renaissance Master Plan, at a confined flow rate of 0.10 cfs/acre (a maximum allowable

BERNALILLO COUNTY, AND PARTS OF SANDOVAL AND VALENCIA COUNTIES, NEW MEXICO — SHEET NUMBER 21

R. 3 E. | R. 4 E.

385 000 FEET

1 515 000 FEET

(Joins sheet 11)

(Joins sheet 20)

(Joins sheet 21)

(Joins sheet 22)

SITE LOCATION

ALBUQUERQUE

1 500 000 FEET

10 N.

T. 11 N.

2 Miles

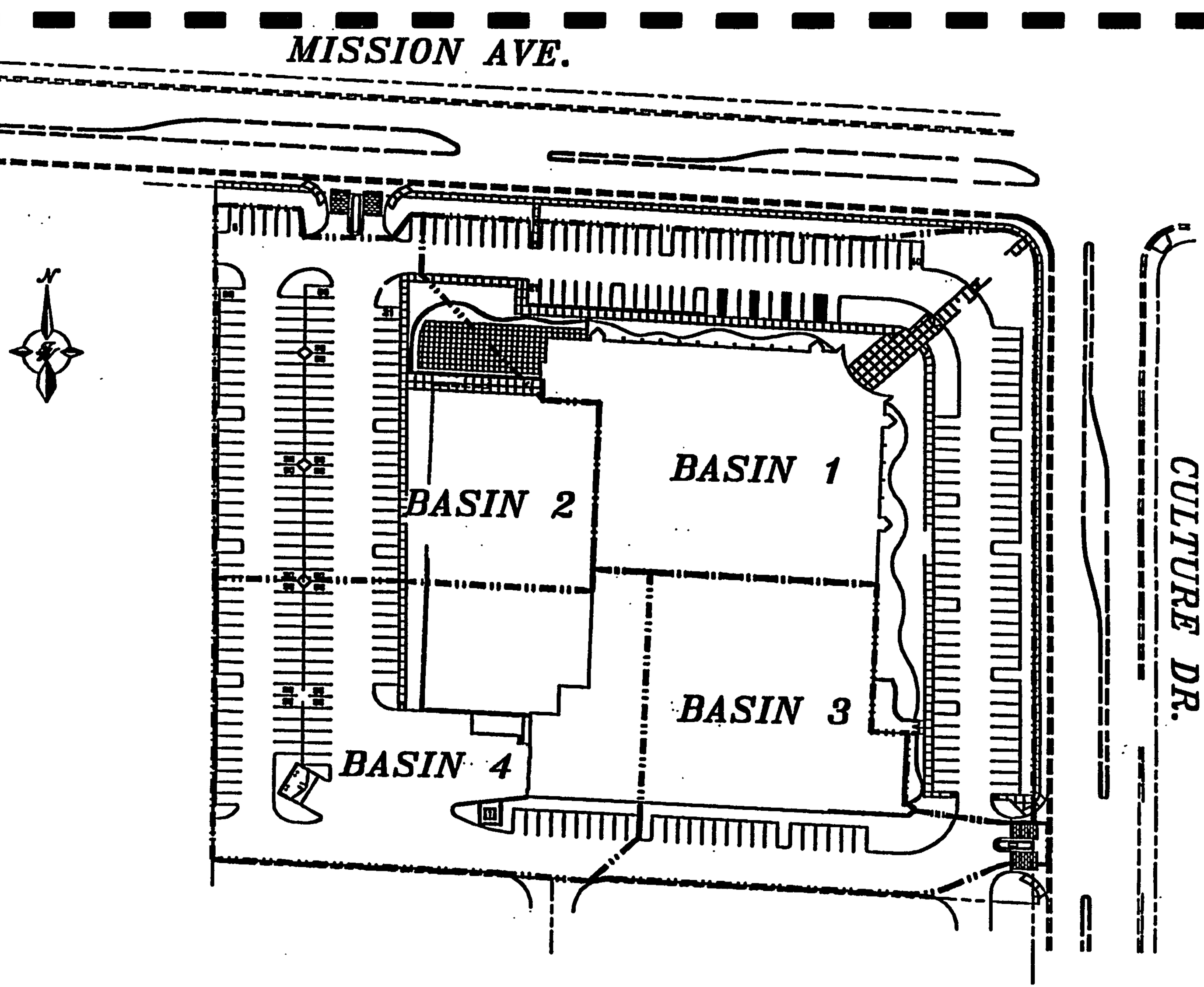
0 1000 2000 3000 4000 5000

discharge rate of 0.675 cfs). The site is designed to pond the runoff within a series of parking areas and then discharged at a flow rate of 0.675 cfs or less.

The site was divided into four sub-basins 1 through 4. Basin 1, with a runoff 11.26 cfs, ponds the runoff and discharges it at a flow rate of 0.27 cfs to Basin 2, via a 4" storm sewer pipe. The discharge of this basin is controlled by a 2" orifice plate at the outlet. Basin 2, with a runoff of 6.12 cfs along with the runoff Basin 1, ponds the runoff within the parking lot and then discharges at a flow rate of 0.31 cfs to Basin 4 via a 4" storm sewer pipe. The discharge of this basin is controlled by a 2" orifice plate at the outlet. Basin 3, with a runoff 4.56 cfs, ponds the runoff and discharges it at a flow rate of 0.46 cfs to Basin 4, via a 4" storm sewer pipe. The discharge of this basin is controlled by a 3" orifice plate at the outlet. Basin 4, with a runoff of 6.58 cfs, along with the runoff from Basins 1, 2, and 3, ponds the runoff within the parking lot and then discharges at a flow rate of 0.57 cfs to a temporary swale via a 4" storm sewer pipe. The discharge of this basin is controlled by a 2 ¾" orifice plate at the inlet. There are two pipes entering this drop inlet and two pipes leaving this inlet. Both outlet pipes will have the 2 ¾" orifice plate. The lower pipe with an invert elevation of 36.19 feet will be capped. This pipe is to be connected to the future storm sewer system when the development between General Technology and Office Depot is completed. The second outlet pipe is temporary and will carry the developed runoff to a temporary swale. When the development between General Technology and Office Depot is completed and the storm sewer system in place this pipe will be capped. See the Grading and Drainage Plan for a plan view and detail.

The future parking lot ponding will be gravel and used as desilting pond until the future improvements are constructed.

Emergency Conditions



SUB–BASIN LAYOUT

In the case of an emergency the runoff will overflow the parking lot ponds and discharge to the temporary swale and flow west to the proposed desilting pond at the phase line of Office Depot and then to the storm sewer in Alexander Boulevard.

Summary

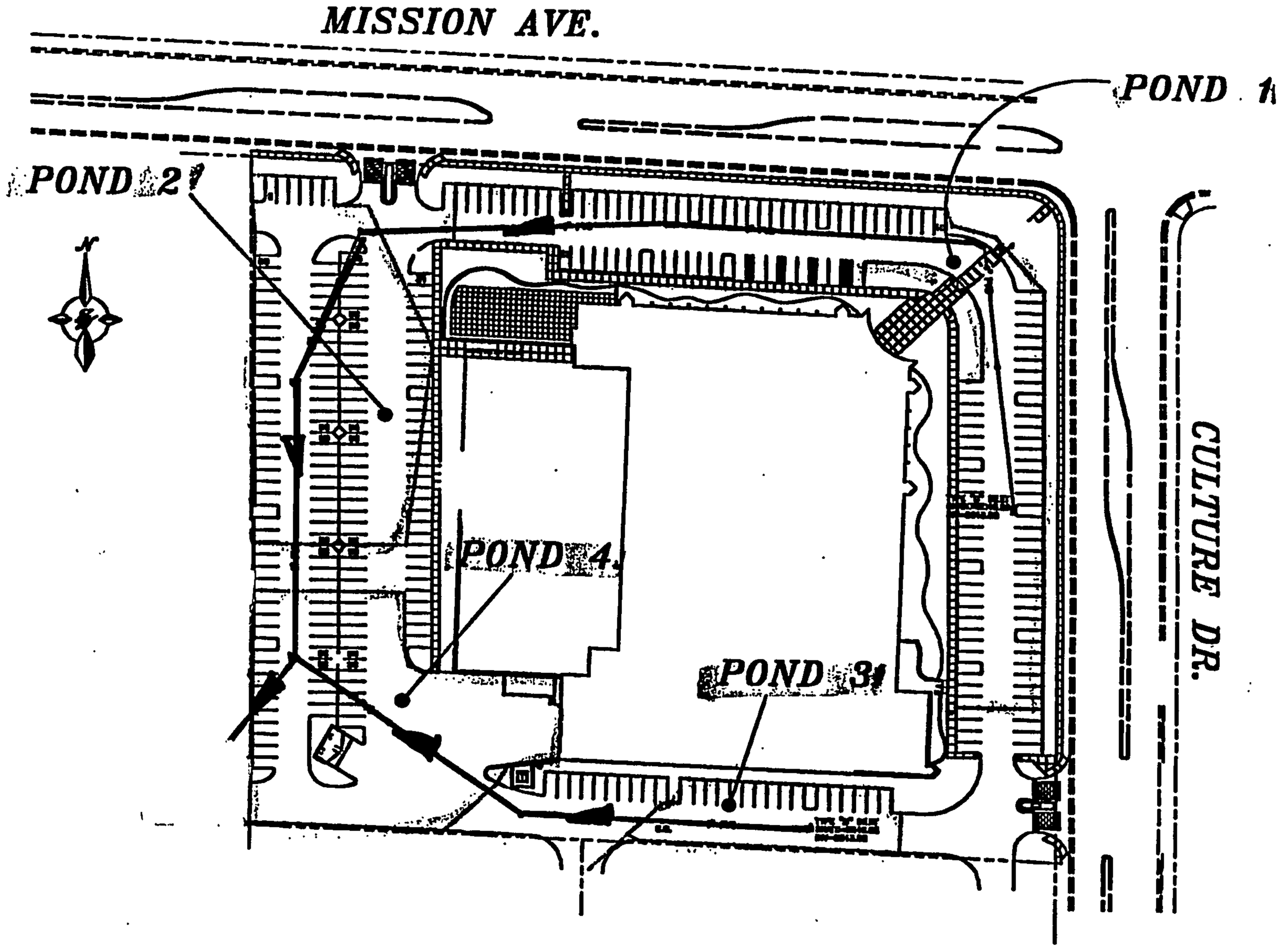
The project will be graded under one phase. The future parking lot ponding will be gravel and used as desilting pond. The site drains at a total runoff rate of 0.57 cfs, which is less than the allowable discharge of 0.675 cfs via of parking drainage routing to a temporary swale. This swale is connect to a desilting pond near Office Depot. Once everything develops within this tract the storm sewer pipe will extend into the Office Depot site storm sewer system and then to Alexander Boulevard storm sewer system. From there the runoff drains to North Renaissance Detention Pond.

Calculations

City of Albuquerque, Development Process Manuel, Section 22.2, Hydrology Section, revised January, 1993, was used for runoff calculations. See Section II of this report for Summary Table for runoff results. See also Sections IV, V of this report for AHYMO files for runoff and ponding calculations.

Infrastructure List

The proposed drainage solution does not require any public drainage improvements. Therefore there is no need for an infrastructure list for drainage improvements.



PONDING LOCATIONS

RUNOFF DRAINAGE DATA

The site is @ Zone 2

LAND TREATMENT

Proposed
B = 14.00 %
D = 86.00 %

Existing
A = 100 %

DEPTH (INCHES) @ 100-YEAR STORM

P_{60} = 2.01 inches

P_{360} = 2.35 inches

P_{1440} = 2.75 inches

DEPTH (INCHES) @ 10-YEAR STORM

P_{60} = 2.01 x 0.667
= 1.34 inches

P_{360} = 1.57

P_{1440} = 1.83

See the summary output from AHYMO calculations.

Also see the following summary tables.

RUNOFF SUMMARY TABLE

DRAINAGE BASIN			
SUB-BASIN	AREA (SF)	AREA (AC)	AREA (MI^2)
1	112319.86	2.5785	0.004029
2	60952.45	1.3993	0.002186
3	45349.59	1.0411	0.001627
4	65603.47	1.5060	0.002353

BASINS RUNOFF CALCULATION RESULTS UNDER PROPOSED CONDITIONS

SUB-BASIN	Q-100 CFS	Q-10 CFS
1	11.26	7.22
2	6.12	3.92
3	4.56	2.92
4	6.58	4.22

POND VOLUME CALCULATIONS

Basin 1

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =5.80'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

$C = (At - Ab) / Dt$

Ab =	3,646.00	SF
At =	25,213.32	SF (@ 5047.00')
At =	40,577.28	SF (@ 5047.50')
Dt =	1.00	LF (@ 5047.00' (Ponding depth from top of the inlet to maximum ponding dept
Dt =	1.50	LF (@ 5047.50')
Dia =	2	IN
Radius =	1	IN
C =	21567.32	FT / LF-DEPTH

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5040.20
2.90	2.90	0.00046	0.18	5043.10
5.80	5.80	0.00092	0.25	5046.00
6.05	0.25	0.03732	0.26	5046.25
6.30	0.50	0.10466	0.26	5046.50
6.55	0.75	0.20295	0.27	5046.75
6.80	1.00	0.33218	0.27	5047.00
7.05	1.25	0.52098	0.28	5047.25
7.30	1.50	0.70977	0.28	5047.50

$Q = CA\sqrt{2gH}$
C = 0.60
$A = \P r^2$
g = 32.2
H = water depht, measured from the center of the orifice plate

POND VOLUME CALCULATIONS

Basin 2

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =8.10'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	30,862.96	SF (@ 5046.85')	
Dt =	1.00	LF	(Ponding depth from top of the inlet to maximum ponding dept
Dia =	2	IN	
Radius =	1	IN	
C =	30856.02	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5037.75
4.05	4.05	0.00065	0.21	5041.80
8.10	8.10	0.00129	0.30	5045.85
8.35	0.25	0.02347	0.30	5046.10
8.60	0.50	0.08991	0.31	5046.35
8.85	0.75	0.20064	0.31	5046.60
9.10	1.00	0.35563	0.32	5046.85

$Q = CA\sqrt{2gH}$
C = 0.60
$A = \P r^2$
g = 32.2
H = water depht, measured from the center of the orifice plate

POND VOLUME CALCULATIONS

Basin 3

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Inlet Depth =2.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water detph)
C - Change In Surface Area / Water Depth

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

C = (At - Ab) / Dt

Ab =	6.94	SF	
At =	8,296.51	SF (@ 5047.50')	
Dt =	1.50	LF	(Ponding depth from top of the inlet to maximum ponding dept
Dia =	3	IN	
Radius =	1.5	IN	
C =	5526.38	FT / LF-DEPTH	

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5043.50
1.25	1.25	0.00020	0.25	5044.75
2.50	2.50	0.00040	0.36	5046.00
2.75	0.25	0.00440	0.38	5046.25
3.00	0.50	0.01634	0.40	5046.50
3.25	0.75	0.03620	0.42	5046.75
3.50	1.00	0.06399	0.43	5047.00
3.75	1.25	0.09971	0.45	5047.25
4.00	1.50	0.14336	0.47	5047.50

$Q = CA\sqrt{2gH}$
C = 0.60
$A = \P r^2$
g = 32.2
H = water depht, measured from the center of the orifice plate

POND VOLUME CALCULATIONS

Basin 4

Volume = 6.94 * D (from bottom of the inlet to the top of inlet)

Ab - Bottom Of The Pond Surface Area (Top of the inlet)
At - Top Of The Pond Surface Area
D - Water Depth (From top of inlet)
Dt - Total Pond Depth (From top of inlet to maximum water depth)
C - Change In Surface Area / Water Depth

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

$C = (At - Ab) / Dt$

Ab =	6.94	SF
At =	29,205.07	SF (@ 5044.66')
Dt =	1.50	LF (Ponding depth from top of the inlet to maximum ponding de
Dia =	3.5	IN
Radius =	1.75	IN
C =	19465.42	FT / LF-DEPTH

H (FT)	D (FT)	VOLUME (AC-FT)	Q (CFS)	FULL ELEV.
0.00	0.00	0.00000	0.00	5041.00
1.08	1.08	0.00017	0.31	5042.08
2.16	2.16	0.00034	0.46	5043.16
2.41	0.25	0.01435	0.48	5043.41
2.66	0.50	0.05628	0.51	5043.66
2.91	0.75	0.12614	0.53	5043.91
3.16	1.00	0.22394	0.56	5044.16
3.41	1.25	0.34966	0.58	5044.41
3.66	1.50	0.50331	0.60	5044.66

$Q = CA\sqrt{2gH}$
C = 0.60
$A = \P r^2$
g = 32.2
H = water depth, measured from the center of the orifice plate

CITY OF Albuquerque

A lbuquerque G eographic I nformation S ystem

PLANNING DEPARTMENT

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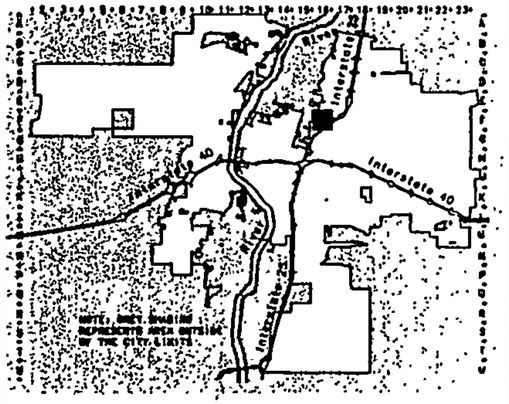
N

W E

S

GRAPHIC SCALE IN FEET

250 0 500 1000



Zone Atlas Page

F-16-Z

Map Amended through
July 08, 1998

ZONE X

NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 10 NORTH, RANGE 3 EAST AND TOWNSHIP 11 NORTH, RANGE 3 EAST.

CORPORATE L

LILLO COUNTY
RPORATED AREAS
350001

BERNALILLO COUNTY
CITY OF ALBUQUERQUE

Flood Insurance Rate Map
35001C0138D

PACIFIC

ROAD

BOULEVARD

DRIVE

CITY OF ALBUQUERQUE
350002

SITE LOCATION

RENAISSANCE

BOULEVARD

COMMERCE

ZONE X

CENTURY

ALEXANDER

ROAD

MONTANO

MERCANTILE

AVENUE

DRIVE

598283 (1)
Scanned to DMD

Recording of original
F16/D018

PRIVATE FACILITY DRAINAGE COVENANT

This Drainage Covenant ("Covenant"), between Sam's East, Inc., an Arkansas corporation, ("the Owner") whose address is 2001 S.E. 10th Street, Bentonville, Arkansas 72712-6489, and the City of Albuquerque, a New Mexico municipal corporation ("City") whose address is P.O. Box 1293, Albuquerque, New Mexico 87103, is made in Albuquerque, Bernalillo County, New Mexico and is entered into as of the date Owner signs this Covenant.

1. Recital. The Owner is the current owner of the real property

Tract 3A4-A-1, Renaissance Center, Recorded on March 2, 2005, in the records of the Bernalillo County Clerk at Book 2005C, Folio 85, in bernalillo County, New Mexico (the "Property").

Pursuant to City ordinances, regulations and other applicable laws, the Owner is required to construct and maintain certain drainage facilities on the Property, and the parties wish to enter into this Covenant to establish the obligations and responsibilities of the parties.

2. Description and Construction of Drainage Facility. The Owner shall construct the following "Drainage Facility" within the Property at the Owner's sole expense in accordance with the standards, plans and specifications approved by the City:

a private drainage pond described as City of Albuquerque Project # 598283

The Drainage Facility is more particularly described in Exhibit A, pages 1 & 2 attached hereto and made a part hereof.

3. Maintenance of Drainage Facility. The Owner shall maintain the Drainage Facility at Owner's sole cost in accordance with the approved Drainage Report and plans.

4. Benefit to Property. The Owner acknowledges and understands that the Drainage Facility required herein to be constructed on the Owner's property is for the private benefit and protection of the Owner's property and that failure to maintain such facility could result in damage or loss to the Property.

5. Inspection of Drainage Facility. The City shall have no duty or obligation whatsoever to perform any inspection, maintenance or repair of the Drainage Facility, it being the duty of the Owner, its heirs, successors and assigns to construct and maintain the facility in accordance with approved plans and specifications.

6. Liability of City. The Owner understands and agrees that the City shall not be liable to the Owner, its heirs, successors or assigns, or to any third parties for any damages resulting from the Owner's failure to construct, maintain or repair the Drainage Facility.

7. Indemnification. The Owner owns and controls the Drainage Facility and shall not permit the Drainage Facility to constitute a hazard to the health or safety of the general public. The

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Page: 1 of 5
08/22/2005 09:46A
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Mary Herrera Bern. Co. COV R 17.00

Owner agrees to indemnify, defend and hold harmless the City, its officials, agents and employees, from any claims, actions, suits or other proceedings arising from or out of the negligent acts or omissions of the Owner, its agents, representatives, contractors or subcontractors or arising from the failure of the Owner, its agents, representatives, contractors or subcontractors to perform any act or duty required of the Developer or Owner herein; provided, however, to the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to this Agreement, this Agreement to indemnify will not extend to liability, claims, damages, losses or expenses, including attorneys' fees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the respective indemnitee, or the agents or employees of the respective indemnitee; or (2) the giving of or the failure to give direction or instructions by the respective indemnitee, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

8. Assessment. Nothing in this Covenant shall be construed to relieve the Owner, its heirs, assigns and successors from an assessment against the Owner's property for improvements to the property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Drainage Facility will not reduce the amount assessed by the City.

9. Binding on Owner's Property. The covenants and obligations of the Owner set forth herein shall be binding on the Owner, its heirs, assigns and successors and on the Owner's property and constitute covenants running with the Owner's property until released by the City. This Covenant can only be released by the City's Chief Administrative Officer with concurrence of the City Engineer.

10. Entire Covenant. This Covenant contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

11. Changes to Covenant. Changes to this Covenant are not binding unless made in writing, signed by both parties.

12. Effective Date of Covenant. This Covenant shall be effective as of the date of signature of the Owner.

Mary Herrera Bern. Co. COV R 17.00
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Page: 2 of 5
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CITY OF ALBUQUERQUE:
Accepted by:

By: _____
James B. Lewis
Chief Administrative Officer
Dated: 8-15-05

OWNER: Sam's East Inc.

By: _____
Title: Barry Shannahan Asst Vice President

Dated: AUG 03 2005

Approved by:

By: _____
Director, Public Works Dept.

Reviewed by:

By: _____
City Engineer
8/15/05

Approved as to legal terms only
by _____
WAL-MART LEGAL DEPT
Date: 7/26/05

CITY'S ACKNOWLEDGMENT

STATE OF NEW MEXICO)
)ss
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on this 18th day of August 2005 by Richard Dourte City Engineer, ~~on behalf of~~ Planning department of the City of Albuquerque, a municipal corporation on behalf of said corporation.

My Commission Expires:
11-25-2007

Gloria V. Saavedra
Notary Public

OWNER'S ACKNOWLEDGMENT

STATE OF ARKANSAS)
)ss
COUNTY OF BENTON)

This instrument was acknowledged before me on this 3rd day of August 2005, by Barry Shannahan Asst V.P., on behalf of SAM'S EAST, INC.

My Commission Expires:
4/1/2011

Carrie Aguirre
Notary Public

" NOTARY SEAL "
Carrie A. Aguirre, Notary Public
Benton County, State of Arkansas
My Commission Expires 4/1/2011

[EXHIBIT A ATTACHED]

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Page: 3 of 5
08/22/2005 09:46A
Bk-A102 Pg-1948
Mary Herrera Bern. Co. COV R 17.00

Legal Description-Private Pond

A PRIVATE POND LYING AND SITUATE WITHIN THE ELENA GALLEGOS GRANT, PROJECTED SECTION 34, TOWNSHIP 11 NORTH, RANGE 3 EAST, NEW MEXICO PRINCIPAL MERIDIAN, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO COMPRISING A PORTION OF TRACT 3A4-A-1, RENAISSANCE CENTER, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT THEREOF, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON MARCH 2, 2005 IN BOOK 2005C, PAGE 85, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF DESCRIBED PARCEL FROM WHENCE A TIE TO ALBUQUERQUE CONTROL SURVEY MONUMENT "2-F16" BEARS S 14° 21' 41" W, A DISTANCE OF 890.50 FEET;

THENCE FROM SAID POINT OF BEGINNING, N 44° 48' 29" W A DISTANCE OF 18.79 FEET;
THENCE N 00° 12' 57" E, A DISTANCE OF 303.86 FEET;
THENCE N 45° 07' 32" W, A DISTANCE OF 9.93 FEET;
THENCE S 90° 00' 00" W, A DISTANCE OF 7.41 FEET;
THENCE N 44° 01' 45" W, A DISTANCE OF 15.84 FEET;
THENCE N 00° 00' 00" W, A DISTANCE OF 180.49 FEET;
THECE N 58° 51' 14" E, A DISTANCE OF 21.56 FEET;
THENCE S 56° 18' 07" E, A DISTANCE OF 47.92 FEET;
THENCE S 30° 03' 41" E, A DISTANCE OF 10.38 FEET;
THENCE S 00° 10' 53" W, A DISTANCE OF 43.42 FEET;
THENCE S 46° 30' 52" W, A DISTANCE OF 29.30 FEET;
THENCE S 00° 00' 00" W, A DISTANCE OF 48.54 FEET;
THENCE S 44° 33' 19" E, A DISTANCE OF 32.70 FEET;
THENCE S 00° 07' 08" W, A DISTANCE OF 343.59 FEET;
THENCE S 43° 41' 56" W, A DISTANCE OF 17.92 FEET;
THENCE N 88° 43' 14" W, A DISTANCE OF 14.41 FEET;

TO THE POINT OF BEGINNING, HAVING AN AREA OF 0.5362 ACRES (23,356 SQUARE FEET), MORE OR LESS.

Mary Herrera Bern. Co. COV R 17.00
2005122310
6318359
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08/22/2005 09:46A
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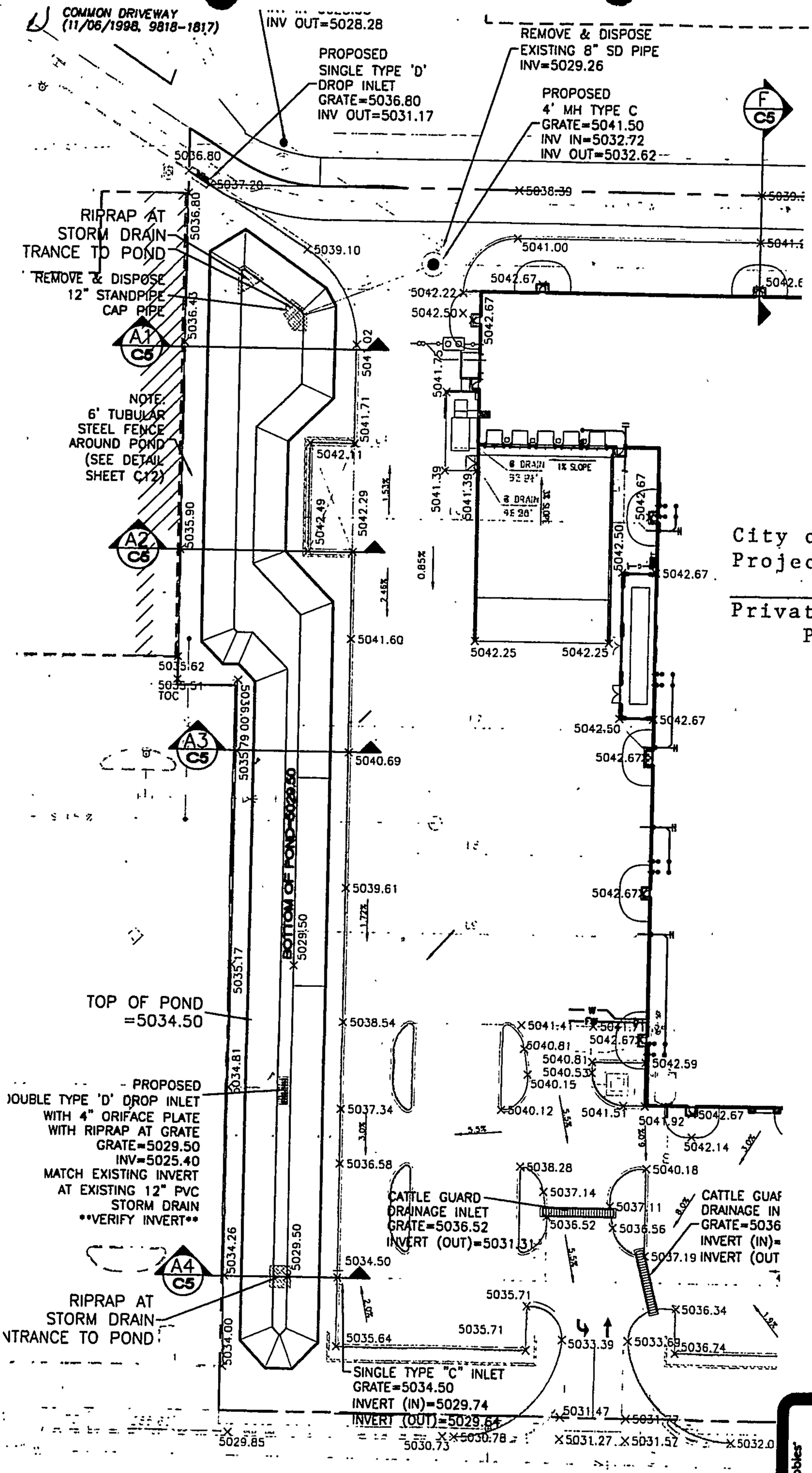
EXHIBIT
A
PAGE 1

EXHIBIT A



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Page: 5 of 5
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Mary Herrera Bern. Co: COU

City of Albuquerque
Project #598283

Private Drainage
Pond

EXHIBIT
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EXCERPT FROM APPROVED PLAN DATED 1-25-05

✓ DCN 2005008814

Scanned to DMD with original

548483

Appears that a copy of the original was also mistakenly recorded. Document 2005122310 is original recorded.

PRIVATE FACILITY
DRAINAGE COVENANT

This Drainage Covenant ("Covenant"), between Sam's East, Inc., an Arkansas corporation, ("the Owner") whose address is 2001 S.E. 10th Street, Bentonville, Arkansas 72712-6489, and the City of Albuquerque, a New Mexico municipal corporation ("City") whose address is P.O. Box 1293, Albuquerque, New Mexico 87103, is made in Albuquerque, Bernalillo County, New Mexico and is entered into as of the date Owner signs this Covenant.

1. Recital. The Owner is the current owner of the real property

Tract 3A4-A-1, Renaissance Center, Recorded on March 2, 2005, in the records of the Bernalillo County Clerk at Book 2005C, Folio 85, in bernalillo County, New Mexico (the "Property").

Pursuant to City ordinances, regulations and other applicable laws, the Owner is required to construct and maintain certain drainage facilities on the Property, and the parties wish to enter into this Covenant to establish the obligations and responsibilities of the parties.

2. Description and Construction of Drainage Facility. The Owner shall construct the following "Drainage Facility" within the Property at the Owner's sole expense in accordance with the standards, plans and specifications approved by the City:

a private drainage pond described as City of Albuquerque Project # 598283

The Drainage Facility is more particularly described in Exhibit A, pages 1 & 2 attached hereto and made a part hereof.

3. Maintenance of Drainage Facility. The Owner shall maintain the Drainage Facility at Owner's sole cost in accordance with the approved Drainage Report and plans.

4. Benefit to Property. The Owner acknowledges and understands that the Drainage Facility required herein to be constructed on the Owner's property is for the private benefit and protection of the Owner's property and that failure to maintain such facility could result in damage or loss to the Property.

5. Inspection of Drainage Facility. The City shall have no duty or obligation whatsoever to perform any inspection, maintenance or repair of the Drainage Facility, it being the duty of the Owner, its heirs, successors and assigns to construct and maintain the facility in accordance with approved plans and specifications.

6. Liability of City. The Owner understands and agrees that the City shall not be liable to the Owner, its heirs, successors or assigns, or to any third parties for any damages resulting from the Owner's failure to construct, maintain or repair the Drainage Facility.

7. Indemnification. The Owner owns and controls the Drainage Facility and shall not permit the Drainage Facility to constitute a hazard to the health or safety of the general public. The

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2005122309 is original recorded.

Owner agrees to indemnify, defend and hold harmless the City, its officials, agents and employees, from any claims, actions, suits or other proceedings arising from or out of the negligent acts or omissions of the Owner, its agents, representatives, contractors or subcontractors or arising from the failure of the Owner, its agents, representatives, contractors or subcontractors to perform any act or duty required of the Developer or Owner herein; provided, however, to the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to this Agreement, this Agreement to indemnify will not extend to liability, claims, damages, losses or expenses, including attorneys' fees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the respective indemnitee, or the agents or employees of the respective indemnitee; or (2) the giving of or the failure to give direction or instructions by the respective indemnitee, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

8. Assessment. Nothing in this Covenant shall be construed to relieve the Owner, its heirs, assigns and successors from an assessment against the Owner's property for improvements to the property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Drainage Facility will not reduce the amount assessed by the City.

9. Binding on Owner's Property. The covenants and obligations of the Owner set forth herein shall be binding on the Owner, its heirs, assigns and successors and on the Owner's property and constitute covenants running with the Owner's property until released by the City. This Covenant can only be released by the City's Chief Administrative Officer with concurrence of the City Engineer.

10. Entire Covenant. This Covenant contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

11. Changes to Covenant. Changes to this Covenant are not binding unless made in writing, signed by both parties.

12. Effective Date of Covenant. This Covenant shall be effective as of the date of signature of the Owner.

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CITY OF ALBUQUERQUE:
Accepted by:

By: _____
James B. Lewis
Chief Administrative Officer
Dated: 8-18-05

OWNER: Sam's East Inc.

By: _____
Title: Barry Shannahan Asst Vice President

Dated: AUG 03 2005

Approved by:

By: _____
Director, Public Works Dept.

Reviewed by:

By: _____
City Engineer

CITY'S ACKNOWLEDGMENT

Approved as to legal terms only
by _____
WAL-MART LEGAL DEPT
Date: 7/26/05

STATE OF NEW MEXICO)
)ss
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on this 18th day of August 2005, by Richard Dourte, City Engineer, ~~on behalf of~~ Planning Department of the City of Albuquerque, a municipal corporation on behalf of said corporation.

My Commission Expires:
11-25-2007

Gloria O. Saavedra
Notary Public

OWNER'S ACKNOWLEDGMENT

STATE OF ARKANSAS)
)ss
COUNTY OF BENTON)

This instrument was acknowledged before me on this 3rd day of August 2005, by Barry Shannahan Asst V.P., on behalf of SAM'S EAST, INC.

My Commission Expires:
4/1/2011

Carrie Aguirre
Notary Public

" NOTARY SEAL "
Carrie A. Aguirre, Notary Public
Benton County, State of Arkansas
My Commission Expires 4/1/2011

[EXHIBIT A ATTACHED]

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Legal Description-Private Pond

A PRIVATE POND LYING AND SITUATE WITHIN THE ELENA GALLEGOS GRANT, PROJECTED SECTION 34, TOWNSHIP 11 NORTH, RANGE 3 EAST, NEW MEXICO PRINCIPAL MERIDIAN, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO COMPRISING A PORTION OF TRACT 3A4-A-1, RENAISSANCE CENTER, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT THEREOF, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON MARCH 2, 2005 IN BOOK 2005C, PAGE 85, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF DESCRIBED PARCEL FROM WHENCE A TIE TO ALBUQUERQUE CONTROL SURVEY MONUMENT "2-F16" BEARS S 14° 21' 41" W, A DISTANCE OF 890.50 FEET;

THENCE FROM SAID POINT OF BEGINNING, N 44° 48' 29" W A DISTANCE OF 18.79 FEET;
THENCE N 00° 12' 57" E, A DISTANCE OF 303.86 FEET;
THENCE N 45° 07' 32" W, A DISTANCE OF 9.93 FEET;
THENCE S 90° 00' 00" W, A DISTANCE OF 7.41 FEET;
THENCE N 44° 01' 45" W, A DISTANCE OF 15.84 FEET;
THENCE N 00° 00' 00" W, A DISTANCE OF 180.49 FEET;
THECE N 58° 51' 14" E, A DISTANCE OF 21.56 FEET;
THENCE S 56° 18' 07" E, A DISTANCE OF 47.92 FEET;
THENCE S 30° 03' 41" E, A DISTANCE OF 10.38 FEET;
THENCE S 00° 10' 53" W, A DISTANCE OF 43.42 FEET;
THENCE S 46° 30' 52" W, A DISTANCE OF 29.30 FEET;
THENCE S 00° 00' 00" W, A DISTANCE OF 48.54 FEET;
THENCE S 44° 33' 19" E, A DISTANCE OF 32.70 FEET;
THENCE S 00° 07' 08" W, A DISTANCE OF 343.59 FEET;
THENCE S 43° 41' 56" W, A DISTANCE OF 17.92 FEET;
THENCE N 88° 43' 14" W, A DISTANCE OF 14.41 FEET;

TO THE POINT OF BEGINNING, HAVING AN AREA OF 0.5362 ACRES (23,356 SQUARE FEET), MORE OR LESS.

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EXHIBIT
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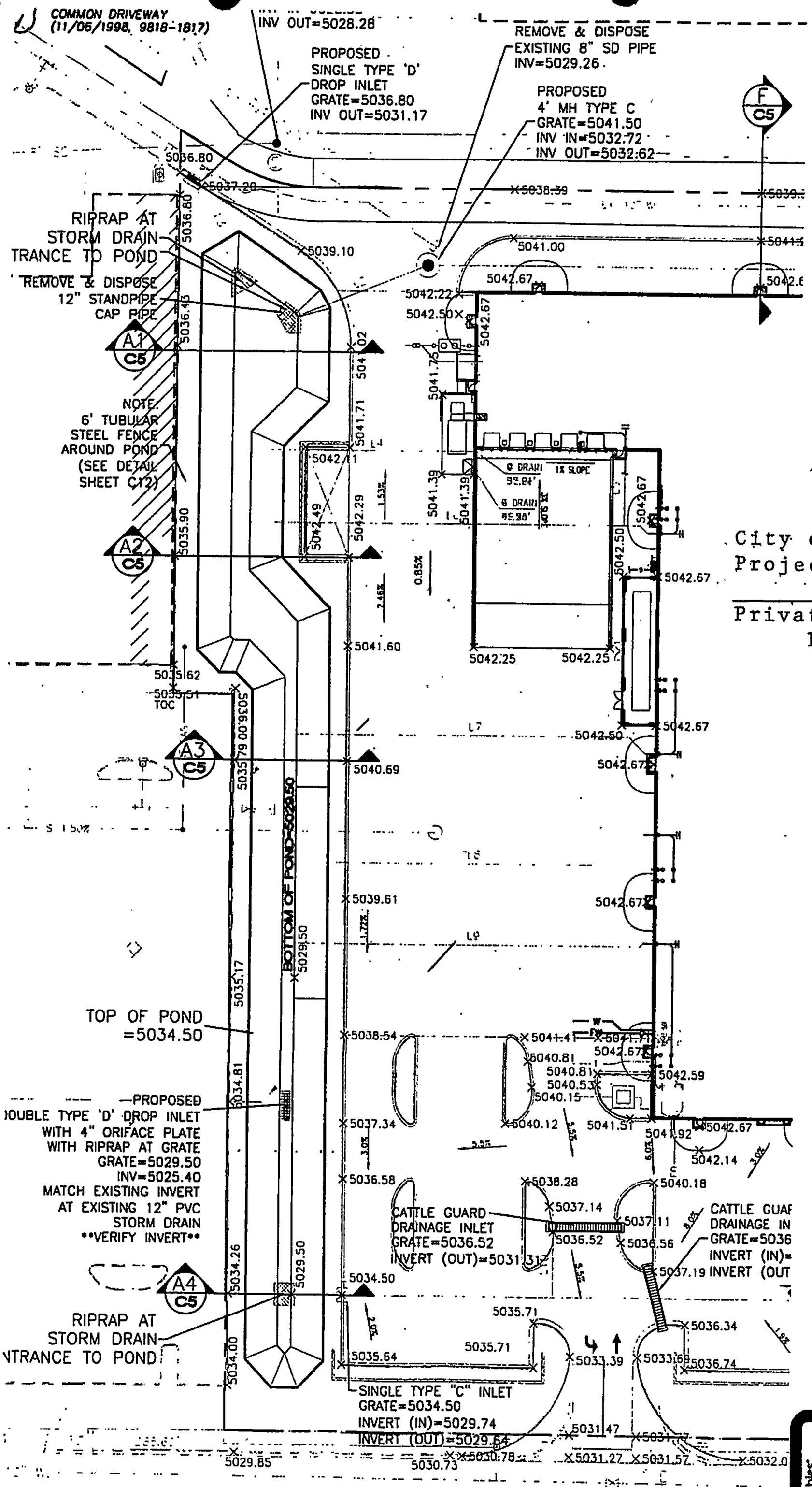
EXHIBIT A



City of Albuquerque
Project #598283

Private Drainage
Pond

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Mary Herrera Bern. Co. COV

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EXCERPT FROM APPROVED PLAN DATED 1-25-05

CONTRACT CONTROL FORM

PRELIMINARY REVIEW

Contact Person Pamela Lujan
Phone No. 924- 3996

Project 598283
CCN# 2005000814
Existing or New (Circle One)

Type of Agreement: Pond Agreement 4938-00

Description/Project Name Sams Club Pen.
Planning Dept./Division: Design Review
Developer: Sams East - Union Pension Investment Trust 932NM

Contract Amount $ -0- SIA Contract Period: _____ - 12-31-2025
Contract Amount $ _____ SIA Contract Period: _____ - _____
Contract Amount $ _____ SIA Contract Period: _____ - _____
Contract Amount $ _____ S/W Contract Period: _____ - _____
Contract Amount $ _____ S/W Contract Period: _____ - _____

DRAFT CONTRACT:
Recd by Legal: _____ Rejected/Returned to Dept.: _____/_____
Returned to Legal: _____/_____ Approved: _____ Initials: _____

FINANCIAL GUARANTY:
Letter of Credit No. _____ Date: _____ Attached: Yes___ No.___ Initial_____
Other: Type _____ Date: _____ Attached: Yes___ No.___ Initial_____

FINAL CONTRACT REVIEW

APPROVALS REQUIRED:

	Date Delivered	Returned to Dept.	Approved By	Approval Date
Utility Div				
Hydrology Div (1)	8.9.05 JLL		BJB	8/10/05
Transportation Div				
DRC Chairman	8.10.05	8/16/05		
Legal Dept	8.15.05			8/15/05
City Engineer	8.18.05	8-18-05		8-18-05
Finance				
CAO				
ABCWUA				
Other: _____				

DISTRIBUTION:	Date:	By:
User Department.	8-24-05	PCL
Vendor		
City Clerk	8/24/05	AC
Treasury		
Other: _____		

ADDENDUM TO COVER PAGE

8/15/05
(Date)

TO: Kevin Curran, Assistant City Attorney, Legal Department

FROM: Project Administrator, Project Review Sec., PWD

SUBJECT: PROJECT NAME: Sams Club Ren. PROJECT # 598283

The attached documents have been review, approved, initialed and/or signed by the DRC Chairman and are submitted for your action as noted.

8/16

ITEM	ACTION: Review & Approval	Reference	Comments
Procedure "A"	☐	☐	
Procedure "B"	☐	☐	
Procedure "B" Modified Non Work Order	☐	☐	
Procedure "C"	☐	☐	
Procedure "C" Modified	☐	☐	
Special Agreement	☑	☐	
Sidewalk Deferral Agreement	☐	☐	
Amendment	☐	☐	
Assignment	☐	☐	
Financial Guarantee	☐	☐	
Construction Paperwork:			
Contractors Proposal	☐	☐	
Performance/Warranty Bonds	☐	☐	
Labor/Material Bonds	☐	☐	
Certificate of Insurance	☐	☐	
Engineers Cost Estimate	☐	☐	
Extension	☐	☐	
Release/Agreement	☐	☐	
Release/Financial Guarantee	☐	☐	
Calling Notice	☐	☐	
Letter of Commitment	☐	☐	
Reduction Letter	☐	☐	
License Agreement	☐	☐	
Monitoring Well Permit	☐	☐	
Agreement & Covenant	☑	☐	
Drainage Covenant	☐	☐	
Revocable Permit	☐	☐	
Encroachment	☐	☐	
Permanent Easement	☐	☐	
Temporary Easement	☐	☐	
Power of Attorney	☐	☐	
Certificate of Work Order Completion	☐	☐	
Certificate of Completion and Acceptance	☐	☐	
Grading & Drainage Certification	☐	☐	
Notice of Acceptance - Centerline Monu.	☐	☐	
Corporate Resolution	☐	☐	

Other:

Please Call _____ at _____ if you have any questions regarding the above or when the documents are ready to be picked up.

No. of Attachments (_____)