CITY OF ALBUQUERQUE

November 3, 2006

Ronald R. Bohannan, P.E.
Tierra West, LLC
5571 Midway Park Pl. NE
Albuquerque, NM 87109

Re: 98th and Central Commercial Development, Engineer's Stamp Dated 10-18-06
Site Plan for Building Permit and Building Permit Request, (K9/D31)

Dear Mr. Broughton,

Based upon the information provided in your submittal received on October 19, 2006, there are some additional items that must be addressed prior to approval for DRB action on the Site Plan for Building Permit.

- Please provide the rim elevation for the proposed manhole #5 in Central. You indicate that this manhole is to have an 8-foot diameter. This is assumed to be a typographical error. Please revise this to be a standard type 'C' or type 'E' manhole.
- The plan provided is very light in coloration and is difficult to read in places. The finished floor elevation for the southernmost structure does not appear.
- Your type 'D' inlet #5 shows two (2) different grate elevations.
- Please indicate both the north and west invert elevations for manhole #4 as well as the north and southwest invert elevations for manhole #1.
- The dumpster enclosures must include drains to the sanitary sewer system. A detail showing the grate, invert, and corner elevations must be provided for each enclosure.

If you have any questions or need additional information, feel free to contact me at 924-3990.

Sincerely,

Jeremy Hoover, P.E.
Senior Engineer
Hydrology Section
Development and Building Services

cc: file (K9/D31)

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

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: ~~NE Corner~~ 98th & Central - Commercial Dev. ZONE MAP/DRG. FILE #: K9/D31
DRB#: 1004354 EPC#: WORK ORDER#:

LEGAL DESCRIPTION: Lots 22 thru 26, Block 9, Original Townsite of Westland
CITY ADDRESS: ~~10600~~ 100 98th St. SW

ENGINEERING FIRM: Tierra West LLC — CONTACT: Ron Bohannan
ADDRESS: 5571 Midway Park PL NE — PHONE: 858-3100
CITY, STATE: ABQ, NM — ZIP CODE: 87109

OWNER: Monahiti LLC — CONTACT: Pete Daskalos
ADDRESS: 5321 Menaul Blvd — PHONE: 505-883-0414
CITY, STATE: ABQ, NM — ZIP CODE: 87110

ARCHITECT: — CONTACT:
ADDRESS: — PHONE:
CITY, STATE: — ZIP CODE:

SURVEYOR: Precision Surveys — CONTACT: Larry Medrano
ADDRESS: 8500-A Jefferson St. NE — PHONE: 856-5706
CITY, STATE: ABQ, NM — ZIP CODE: 87109

CONTRACTOR: — CONTACT:
ADDRESS: — PHONE:
CITY, STATE: — ZIP CODE:

TYPE OF SUBMITTAL:
_____ DRAINAGE REPORT
_____ DRAINAGE PLAN ~~1st SUBMITTAL~~
__X__ DRAINAGE PLAN RESUBMITTAL
_____ CONCEPTUAL G & D PLAN
_____ GRADING PLAN
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERT (HYDROLOGY)
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT
_____ ENGINEER/ARCHITECT CERT (TCL)
_____ ENGINEER/ARCHITECT CERT (DRB S.P.)
_____ ENGINEER/ARCHITECT CERT (AA)
_____ OTHER (SPECIFY)

CHECK TYPE OF APPROVAL SOUGHT:
_____ SIA/FINANCIAL GUARANTEE RELEASE
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D APPROVAL
__X__ S. DEV. FOR BLDG. PERMIT APPROVAL
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
__X__ BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY (PERM)
_____ CERTIFICATE OF OCCUPANCY (TEMP)
_____ GRADING PERMIT APPROVAL
_____ PAVING PERMIT APPROVAL
_____ WORK ORDER APPROVAL
_____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:
_____ YES
_____ NO
_____ COPY PROVIDED

RECEIVED
OCT 19 2006
HYDROLOGY SECTION

SUBMITTED BY: ~~10/19/06~~ Sarah Abeyta DATE: 10/19/06

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

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.

2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

DRAINAGE REPORT
FOR

Commercial Development
NE Corner of
98th Street & Central Avenue

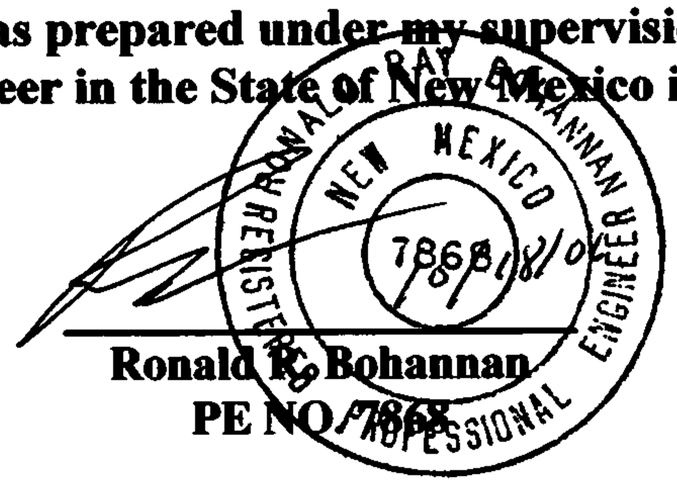
Prepared by:

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

Prepared for:
Pete Daskalos Properties
5321 Menaul Boulevard NE
Albuquerque, NM 87110

Revised
October 18, 2006

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 25066

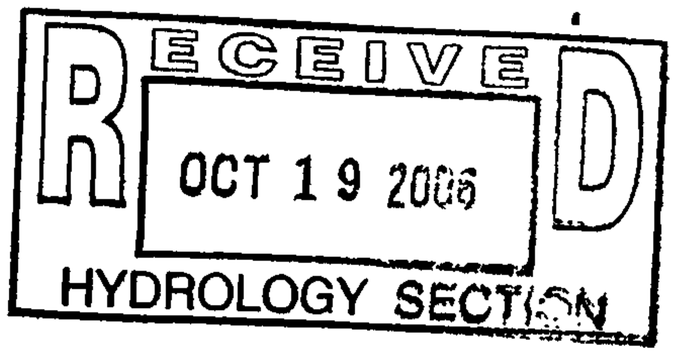


TABLE OF CONTENTS

Section I

Report

Purpose

The purpose of this report is to provide the Master Drainage Management Plan for a 9.56± acre parcel of land. The Drainage Report and Grading Plan with Engineer's Stamp date 6-29-06 was previously approved for rough site grading but the layout and drainage basins have changed since and this report is being submitted for Building Permit Approval. The project will be developed into two phases. The first phase is along Central Avenue, is zoned C-2, and will be an 18,000sf grocery store. The balance of the project, or Phase 2 is zoned SU-1 for I-P and will have multiple users which has been approved by the EPC. The proposed use of 9.56 acres will consist of several commercial lots, retail shops and a fast food restaurant.

Location

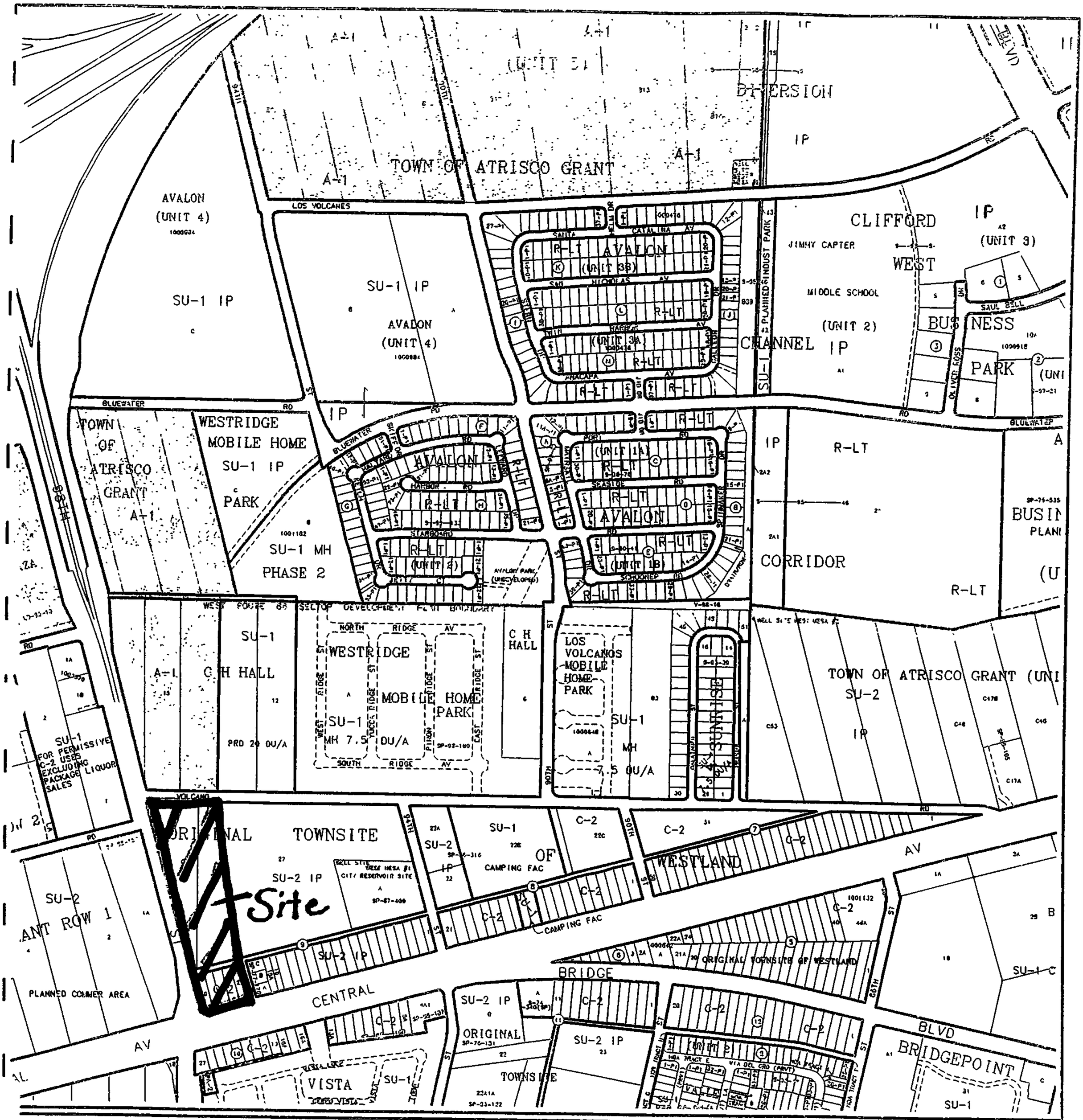
The site is located on the west side of Albuquerque, more specifically on the northeast corner of 98th Street and Central Avenue, NW. There were several buildings on the front lot that have been demolished. The site is shown on the enclosed Vicinity Map, K-9-Z.

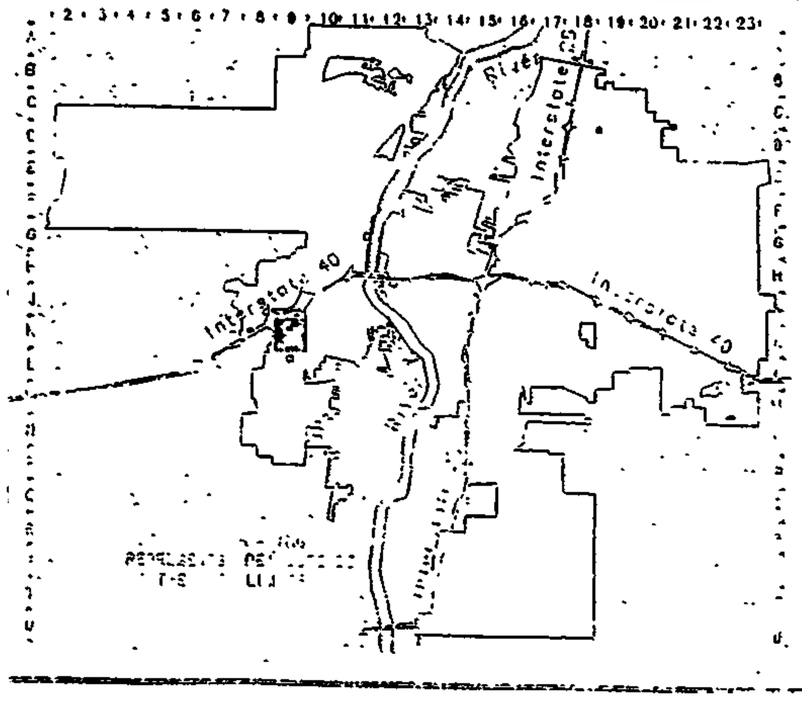
Existing Drainage Conditions

The 9.56± acre site had some existing houses, however those houses have been demolished. The site is currently vacant and drains naturally from west to east to the adjoining property to the east. From that point, it drains slightly south to Central Avenue. The parcel lies within Amole Del Norte storm drain facility as Basin 19 D. The Final Design Report for the Amole Del Norte Storm Diversion Facilities and Tierra Bayita Drainage Facilities, Phase III, prepared by URS Griener, Inc. for the City of Albuquerque shows the parcel sheet flows to 90th Street and the Frontage Road, where it is collected in the storm drain system and into the drainage plan.

Flood Plain

The site is located on Firm Map 35001C0328E. The map indicates that the site does not lie within any 100-year flood plain (see map on page 7).





CITY OF Albuquerque

Albuquerque Geographic Information System

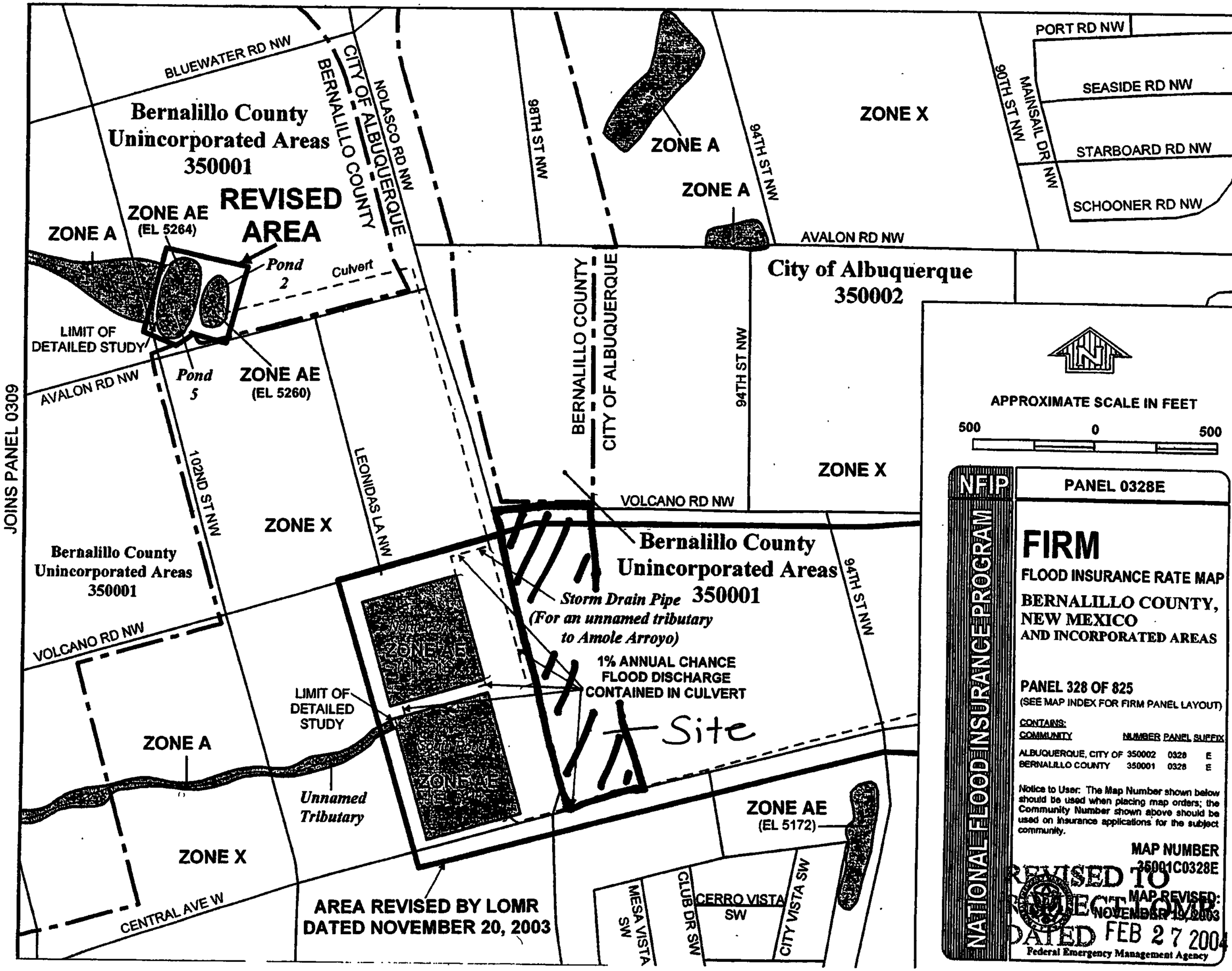
GRAPHIC SCALE IN FEET

250 0 750 1000

Zone Atlas Page

K-9-Z

Map Amended through July 15, 2003


BLUEWATER RD NW
Bernalillo County
Unincorporated Areas
350001
CITY OF ALBUQUERQUE
BERNALILLO COUNTY
NOLASCO RD NW
98TH ST NW
ZONE A
94TH ST NW
ZONE X
PORT RD NW
SEASIDE RD NW
STARBOARD RD NW
SCHOONER RD NW
MAINSAIL DR NW
90TH ST NW
SPINNAKER DR NW
AVALON RD NW
ZONE A
ZONE AE
(EL 5264)
REVISED
AREA
Pond
2
Culvert
LIMIT OF
DETAILED STUDY
AVALON RD NW
Pond
5
ZONE AE
(EL 5260)
City of Albuquerque
350002
BERNALILLO COUNTY
CITY OF ALBUQUERQUE
94TH ST NW
ZONE X
JOINS PANEL 0309
102ND ST NW
LEONIDAS LA NW
ZONE X
VOLCANO RD NW
Bernalillo County
Unincorporated Areas
350001
Bernalillo County
Unincorporated Areas
350001
Storm Drain Pipe
(For an unnamed tributary
to Amole Arroyo)
94TH ST NW
VOLCANO RD NW
1% ANNUAL CHANCE
FLOOD DISCHARGE
CONTAINED IN CULVERT
LIMIT OF
DETAILED
STUDY
ZONE A
Site
Unnamed
Tributary
ZONE X
ZONE AE
(EL 5172)
CENTRAL AVE W
AREA REVISED BY LOMR
DATED NOVEMBER 20, 2003
MESA VISTA SW
CLUB DR SW
CERRO VISTA SW
CITY VISTA SW
APPROXIMATE SCALE IN FEET
500
0
500
NFIP
PANEL 0328E
FIRM
FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO
AND INCORPORATED AREAS
PANEL 328 OF 825
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
ALBUQUERQUE, CITY OF 350002 0328 E
BERNALILLO COUNTY 350001 0328 E
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER
35001C0328E
MAP REVISED:
NOVEMBER 19, 2003
REVISED TO
REFLECT LOMR
DATED FEB 27 2004
NATIONAL FLOOD INSURANCE PROGRAM
Federal Emergency Management Agency

Proposed Drainage Management Plan

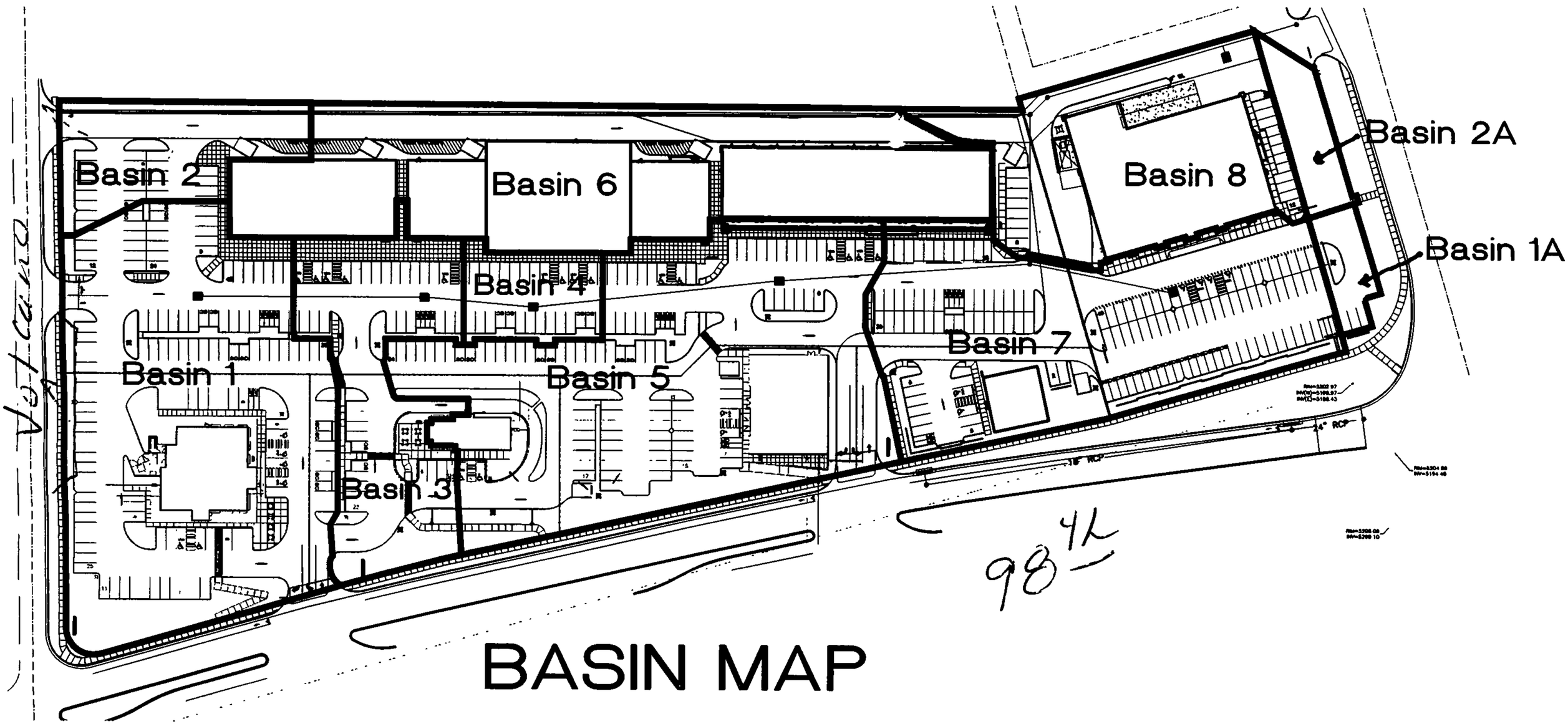
The entire site will be graded and all of the surface improvements will be built out in their entirety. The enclosed grading plan (in the map pocket) shows the grades for the entire project.

The drainage conditions for this site were previously analyzed in the Final Design Report for the Amole del Norte Storm Diversion Facilities, Tierra Bayita Drainage Facilities, Phase III, dated March 1998. The site is part of Basin 19D, as shown in Appendix A. Basin D is approximately 0.0897 square miles, our site is 0.014 square miles of the basin. According to the report Basin 19D can discharge 202.80 cfs to the storm drain in Central. According to the AHYMO Summary included in the report, Basin 19D can discharge 3.533 cfs per acre. Using this amount of discharge per acre, our site can discharge 33.77 cfs of the allowable 202.80 cfs. According to the AHYMO analysis included in the report, the existing storm drain in Central Avenue can accept the flow from this site, and should not exceed the 33.77 cfs.

The site was separated into 10 basins (8 on-site basins and two off-site basin) to analyze the developed drainage conditions (see drainage basin insert). The land treatment types used in the calculations were 75% Type D and 25% Type B, matching the approved master plan. The discharge from Basins 1, 3, 4, and 5 (18.77 cfs) will drain to several Type D inlets in the parking lot. The discharge from Basin 7 and off-site Basin 1A (6.00 cfs) will also drain to a type D inlet located in the parking lot. The discharge from Basin 8 and off-site Basin 2A (4.45 cfs) also drains to a type D inlet. The discharge from Basin 6 (6.27 cfs) will drain to a single C inlet. The area around the single C inlet will act as a detention pond, as shown on the Grading and Drainage Plan. In order to restrict the discharge from the site an 8" orifice will be utilized at this inlet. From the parking lot inlets, the discharge will be conveyed to the existing storm drain located in the Frontage Road adjacent to Central Avenue via storm drain. According to the

$.6\left(\frac{16\pi}{144}\right)\sqrt{2(32.2)(1')}$

$= 1.68$ cfs



98 4L

BASIN MAP

AHYMO data, provided in the Report, the discharge from the site is 33.02 cfs which is under the required 33.77 cfs.

The drainage from Basin 2 (1.63 cfs) will surface drain from the parking lot to Volcano Road. This discharge will be conveyed through a service isle and 6" curb to Volcano Road and then down Volcano Road to an existing inlet.

Calculations

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

Summary

The site will drain to a series of drop inlets which will be built with the construction of the site. From the drop inlets the discharge will be conveyed via a new combined RCP storm drain to the existing 36" RCP in the Frontage Road adjacent to Central Avenue. According to data in the Final Design Report for the Amole del Norte Storm Diversion Facilities, Tierra Bayita Drainage Facilities, Phase III, dated March 1998; the site can discharge 3.533 cfs per acre, 33.77 cfs, to the existing storm drain. The total run-off being generated by the site is 37.12 cfs. The discharge from Basins 1, 3, 4, 5, 7, 8, and off-site Basins 1A and 2A (29.22 cfs) will be allowed to free discharge to the existing 36" RCP without the use of parking lot ponds. The run-off from those basins will discharge to drop inlets on site and be conveyed to the existing 36" RCP via newstorm drain. The drainage from basin 6 will be restricted using a parking lot pond and orifice structure. The restricted discharge from basin 6 will also drain to the existing 36" RCP via new storm drain. Basin 2 will free discharge to Volcano Road and be conveyed to an

existing inlet. According to the AHYMO data, provided in the Report, the discharge from the site (excluding Basin 2) to the existing storm drain is 33.02 cfs which is under the required 33.77 cfs.

Section II

Runoff Calculations

Weighted E Method

Developed Basins

Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		100-Year			10-Year		
			%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
1	84638	1.94	0%	0	25%	0.49	0%	0.00	75%	1.46	1.645	0.266	7.35	0.985	0.159	4.58
2	18702	0.43	0%	0	25%	0.11	0%	0.00	75%	0.32	1.645	0.059	1.63	0.985	0.035	1.01
3	33508	0.77	0%	0	25%	0.19	0%	0.00	75%	0.58	1.645	0.105	2.91	0.985	0.063	1.81
4	10122	0.23	0%	0	25%	0.06	0%	0.00	75%	0.17	1.645	0.032	0.88	0.985	0.019	0.55
5	87772	2.01	0%	0	25%	0.50	0%	0.00	75%	1.51	1.645	0.276	7.63	0.985	0.165	4.75
6	72144	1.66	0%	0	25%	0.41	0%	0.00	75%	1.24	1.645	0.227	6.27	0.985	0.136	3.90
7	64702	1.49	0%	0	25%	0.37	0%	0.00	75%	1.11	1.645	0.204	5.62	0.985	0.122	3.50
8	44804	1.03	0%	0	25%	0.26	0%	0.00	75%	0.77	1.645	0.141	3.89	0.985	0.084	2.42
TOTAL	416,394	9.56										0.266	36.18		0.159	4.58

Restricted w/ 8" orifice →

Off-Site Developed Basins

Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		100-Year			10-Year		
			%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
1A	4367.56	0.10	0%	0	25%	0.03	0%	0.00	75%	0.08	1.645	0.014	0.38	0.985	0.008	0.24
2A	6447	0.15	0%	0	25%	0.04	0%	0.00	75%	0.11	1.645	0.020	0.56	0.985	0.012	0.35
TOTAL	6,447	0.25										0.020	0.94		0.012	0.35

Equations:

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

Volume = Weighted D * Total Area

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

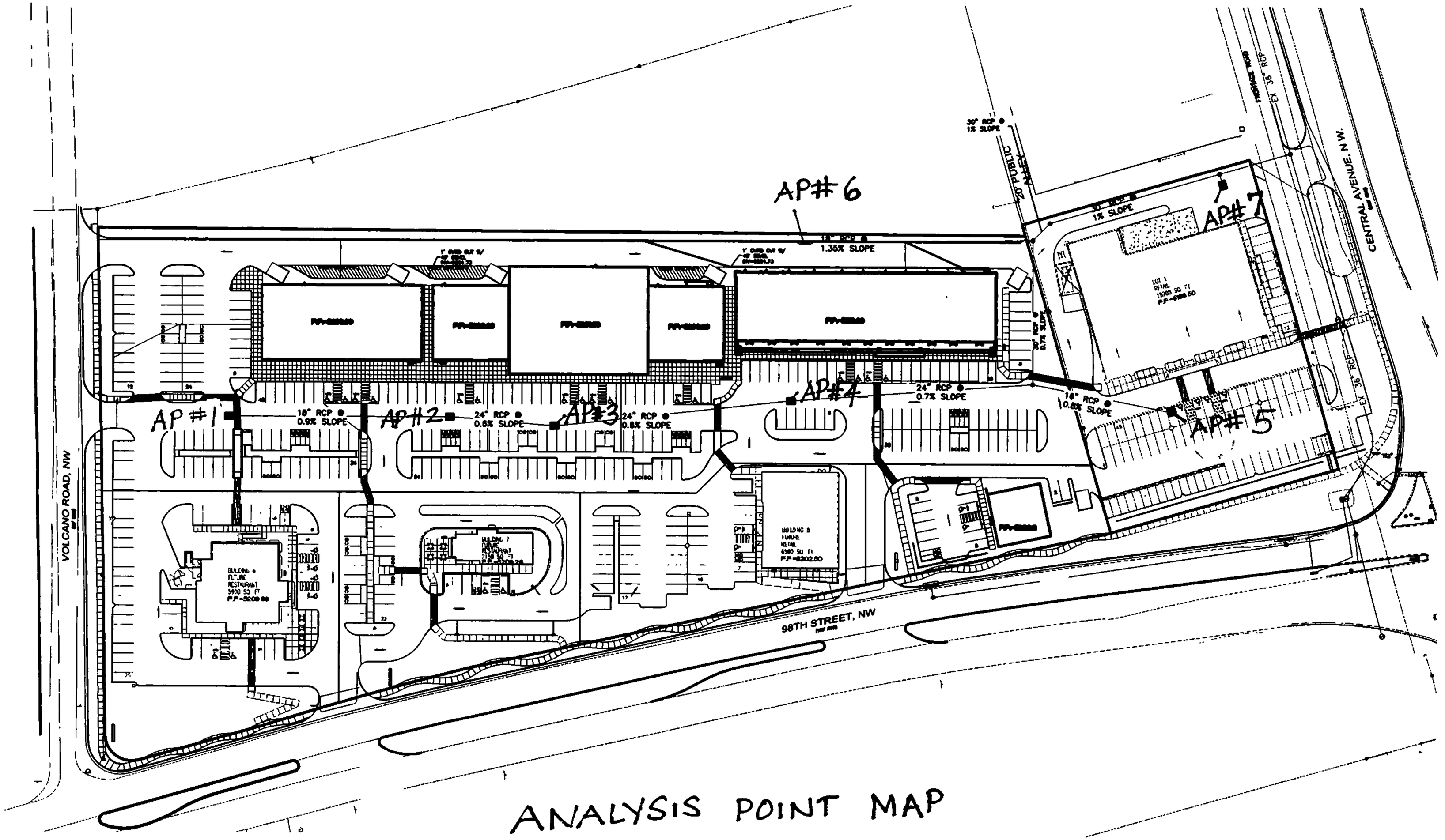
Excess Precipitation, E (inches)		
Zone 1	100-Year	10 - Year
E_a	0.44	0.08
E_b	0.67	0.22
E_c	0.99	0.44
E_d	1.97	1.24

Peak Discharge (cfs/acre)		
Zone 1	100-Year	10 - Year
Q_a	1.29	0.24
Q_b	2.03	0.76
Q_c	2.87	1.49
Q_d	4.37	2.89

Storm Drop Inlets

Capacity of Single "D" Storm Drop Inlet

Capacity of Single "C" Storm Drop Inlet



ANALYSIS POINT MAP

Single 'D' Drop Inlet

EFFECTIVE AREA ASSUMING A 50% CLOGGING FACTOR

SINGLE 'D':

Area at the grate:

L = 38.375" - 7 (1/2" middle bars)
= 34.875"
= 2.906'

W = 25.5" - 13 (1/2 middle bars)
= 19"
= 1.583'

Area = 1.583' x 2.906'
= 4.601 ft^2

Effective Area = 4.601 - 0.5 (4.601)
= 2.30 ft^2

Effective Area = 2.30 ft^2

Orifice Equation
Q = CA sqrt(2gH)
Q = 0.6*2.30*sqrt(2*32.2*0.5)
Q = 7.83 cfs

Total Capacity

Q = 7.83 cfs

AP# 1
Flow required = 7.35 cfs < 7.83 cfs
Single D inlet has capacity

AP# 2
Flow required = 2.91 cfs < 7.83 cfs
Single D inlet has capacity

AP# 3
Flow required = 0.88 cfs < 7.83 cfs
Single D inlet has capacity

AP# 4
Flow required = 7.63 cfs < 7.83 cfs
Single D inlet has capacity

AP# 5
Flow required = 6.00 cfs < 7.83 cfs
Single D inlet has capacity

AP# 7
Flow required = 4.45 cfs < 7.83 cfs
Single D inlet has capacity

Single 'C' Drop Inlet

EFFECTIVE AREA

EFFECTIVE AREA ASSUMING A 50% CLOGGING FACTOR

Area at the grate:

L = 38.375" - 7(2@ middle bars)
= 34.875"
= 2.906'

W = 25.5" - 13(2@ middle bars)
= 19"
= 1.583'

Area = 1.583' x 2.906'
= 4.601 ft^2

Effective Area: = 4.601- 4.601 (0.5 clogging factor)
= 2.30 ft^2 at the grate

Orifice Equation
Q = CA sqrt(2gH)
Q = 0.6*2.30*sqrt(2*32.2*0.5)
Q = 7.83 cfs

Area at the throat:

L = 47.375@
= 3.95'

H = 10:@ - 42@
= 63@
= 0.5208'

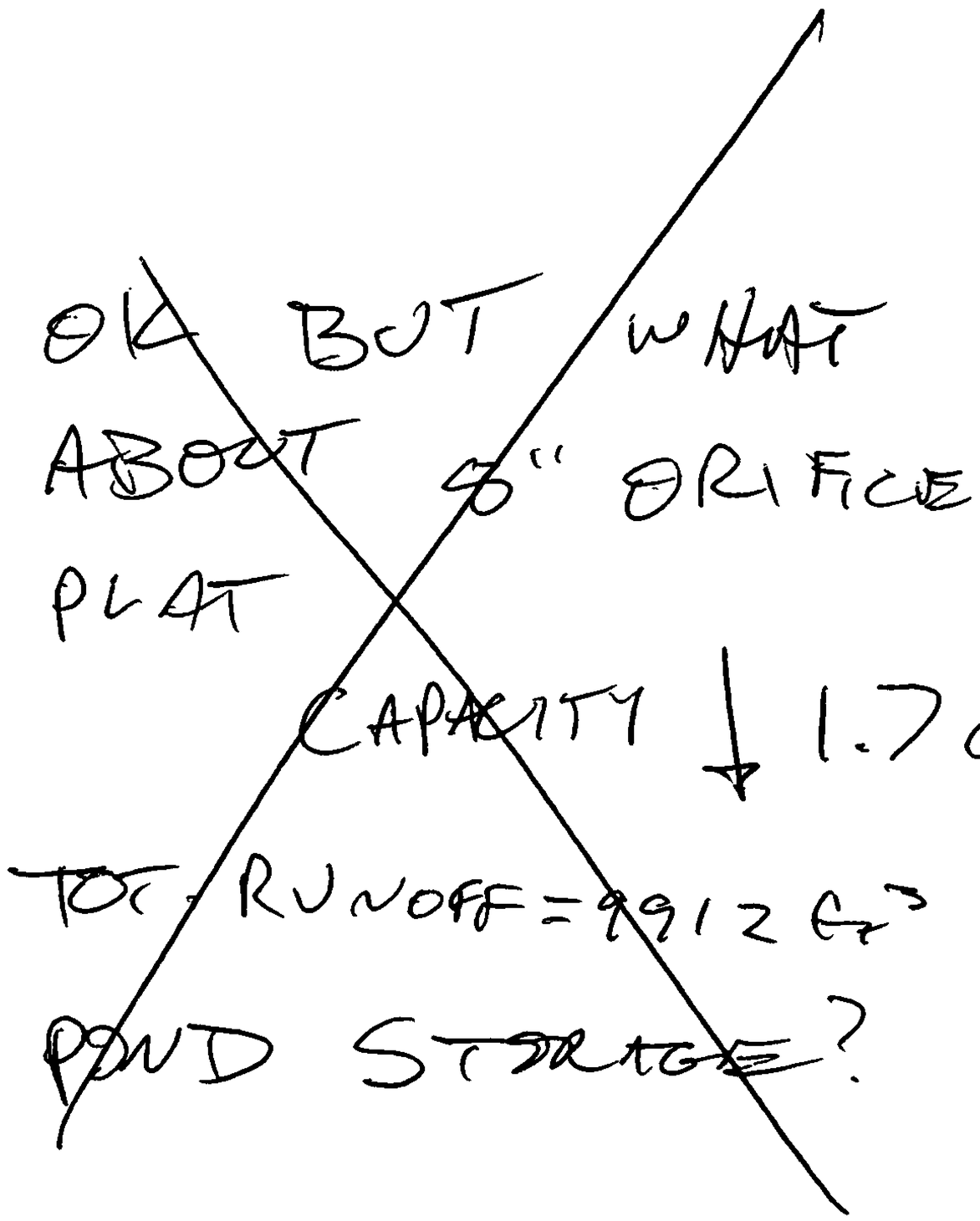
Area = 3.95' x 0.5208'
= 2.06 ft^2 at the throat

Weir Equation
Q = CLH^(3/2)
Q = 2.95 * 3.95 * 0.5^(3/2)
Q = 4.11 cfs

Total Capacity

Q = 7.83grate + 4.11throat
Q = 11.94 cfs

AP# 6
Flow required = 6.27 cfs < 11.94 cfs
Single C inlet has capacity



Pipe Capacity

Pipe Capacity

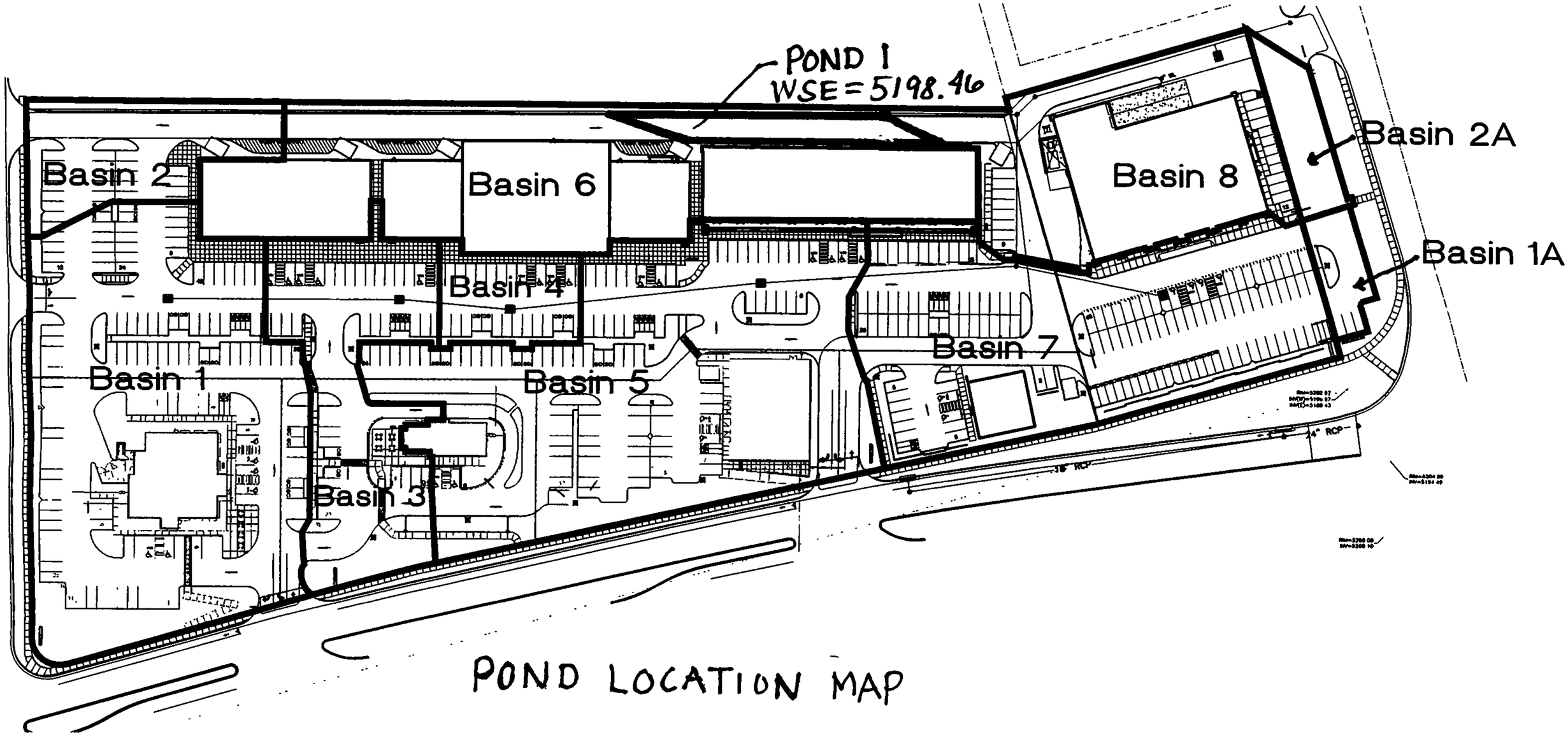
Pipe	D	Slope	Area	R	Q Provided	Q Required	Velocity
	(in)	(%)	(ft^2)		(cfs)	(cfs)	(ft/s)
Inlet 1 to Inlet 2	18	0.9	1.77	0.375	9.99	7.35	4.16
Inlet 2 to Inlet 3	24	0.6	3.14	0.500	17.57	10.26	3.27
Inlet 3 to Inlet 4	24	0.6	3.14	0.500	17.57	11.14	3.55
Inlet 4 to MH 1	24	0.7	3.14	0.500	18.98	18.77	5.97
Inlet 5 to MH 1	18	0.8	1.77	0.375	9.42	5.62	3.18
MH 1 to MH 2	30	0.7	4.91	0.625	34.41	24.39	4.97
Inlet 6 to MH 2	18	1.35	1.77	0.375	12.24	6.27	3.55
MH 2 to MH 3	30	1	4.91	0.625	41.13	31.04	6.32
MH 3 to MH 4	30	1	4.91	0.625	41.13	31.04	6.32
Inlet 7 to MH 4	12	7	0.79	0.250	9.45	4.45	5.67
MH 4 to MH 5	30	1	4.91	0.625	41.13	35.49	7.23

Manning's Equation:

$Q = 1.49/n * A * R^{(2/3)} * S^{(1/2)}$

A = Area
R = D/4
S = Slope
n = 0.013

AHYMO DATA



POND LOCATION MAP

VOLUME CALCULATIONS
POND 1

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

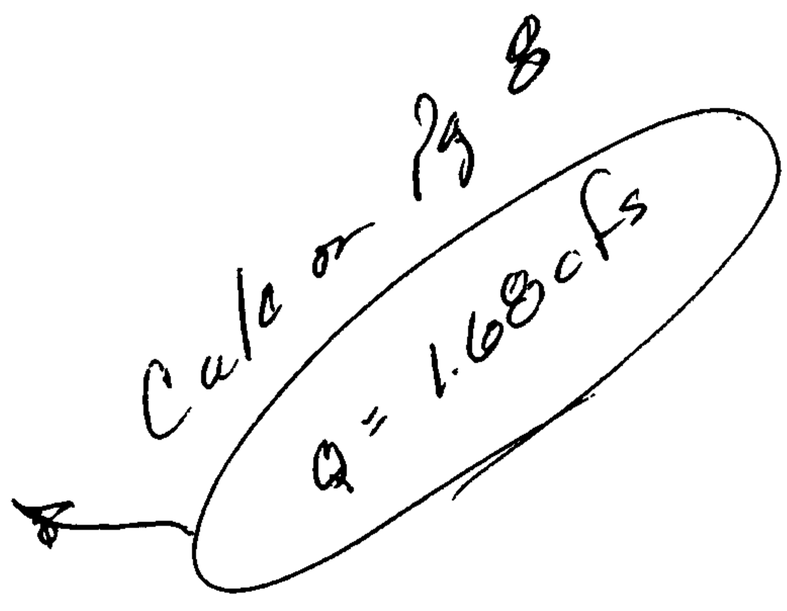
Volume = Ab * D + 0.5 * C * D^2
C = (At - Ab) / Dt

Ab =	6.80
At =	5,626.23
Dt =	1.00
C =	5619.43

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
5193.73	0	0	0.0000
5197.73	4.00	0.0006	3.2184
5197.98	4.250	0.0047	3.3263
5198.23	4.500	0.0168	3.4308
5198.48	4.750	0.0370	3.5322
5198.73	5.000	0.0653	3.6308

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

C =	0.6	
Diameter (in)	8	
Area (ft^2)=	0.349	
g =	32.2	
H (Ft) =		Depth of water above center of orifice
Q (CFS)=		Flow



AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02d RUN DATE (MON/DAY/YR) =09/27/2006

INPUT FILE = Z:\2005\25066\Reports\Drainage\REVISE~1\INPUTR~1.TXT USER NO.=

AHYMO-S-9702d1TierraW-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	
NOTATION										
START										TIME=
.00										
RAINFALL TYPE= 1										RAIN6=
2.350										
COMPUTE NM HYD	100.20	-	1	.00300	7.38	.281	1.75596	1.500	3.844	PER
IMP= 75.00										
COMPUTE NM HYD	100.30	-	2	.00070	1.73	.066	1.75596	1.500	3.871	PER
IMP= 75.00										
COMPUTE NM HYD	100.40	-	3	.00120	2.96	.112	1.75596	1.500	3.856	PER
IMP= 75.00										
COMPUTE NM HYD	100.50	-	4	.00040	1.00	.037	1.75596	1.500	3.899	PER
IMP= 75.00										
COMPUTE NM HYD	100.60	-	5	.00310	7.63	.290	1.75596	1.500	3.844	PER
IMP= 75.00										
COMPUTE NM HYD	100.70	-	6	.00260	6.40	.243	1.75596	1.500	3.845	PER
IMP= 75.00										
COMPUTE NM HYD	100.80	-	7	.00230	5.66	.215	1.75596	1.500	3.847	PER
IMP= 75.00										
COMPUTE NM HYD	100.90	-	8	.00160	3.94	.150	1.75596	1.500	3.851	PER
IMP= 75.00										
COMPUTE NM HYD	100.10	-	9	.00020	.51	.019	1.75596	1.500	3.970	PER
IMP= 75.00										
COMPUTE NM HYD	100.11	-	10	.00020	.51	.019	1.75596	1.500	3.970	PER
IMP= 75.00										
ROUTE RESERVOIR	100.12	6	11	.00260	3.53	.243	1.75586	1.633	2.119	AC-FT=
.036										
ADD HYD	301.00	1& 3	13	.00420	10.34	.393	1.75583	1.500	3.847	
ADD HYD	302.00	13& 4	14	.00460	11.34	.431	1.75579	1.500	3.852	
ADD HYD	303.00	14& 5	15	.00770	18.97	.721	1.75582	1.500	3.849	
ADD HYD	304.00	7& 9	16	.00250	6.17	.234	1.75577	1.500	3.857	
ADD HYD	305.00	15&16	17	.01020	25.14	.955	1.75581	1.500	3.851	
ADD HYD	306.00	17&11	18	.01280	28.56	1.199	1.75582	1.500	3.487	
ADD HYD	307.00	8&10	19	.00180	4.45	.169	1.75570	1.500	3.864	
ADD HYD	306.00	18&19	20	.01460	33.02	1.367	1.75581	1.500	3.533	
FINISH										

```
**************************************************************
*                                                            *
*              NE CORNER 98TH & CENTRAL                      *
*               98TH & CENTRAL (25066)                       *
*         PROPOSED CONDITIONS (100-YEAR, 6-HR STORM)         *
*                                                            *
**************************************************************
*
START                TIME=0.0 HR
RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN
                     RAIN ONE=1.87 IN RAIN SIX=2.35 IN
                     RAIN DAY=2.66 IN DT=0.03333 HR

*
* BASIN 1
*
COMPUTE NM HYD       ID=1 HYD NO=100.2 AREA=0.0030 SQ MI
                     PER A=0 PER B=25.00 PER C=0.00 PER D=75.00
                     TP=0.133 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1

*
*BASIN 2
*
COMPUTE NM HYD       ID=2 HYD NO=100.3 AREA=0.0007 SQ MI
                     PER A=0 PER B=25.00 PER C=0.00 PER D=75.00
                     TP=0.133 HR MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1

*
*BASIN 3
*
COMPUTE NM HYD       ID=3 HYD NO=100.4 AREA=0.0012 SQ MI
                     PER A=0 PER B=25.00 PER C=0.00 PER D=75.00
                     TP=0.133 HR MASS RAINFALL=-1
PRINT HYD            ID=3 CODE=1

*
*BASIN 4
*
COMPUTE NM HYD       ID=4 HYD NO=100.5 AREA=0.0004 SQ MI
                     PER A=0 PER B=25.00 PER C=0 PER D=75.00
                     TP=0.133 HR MASS RAINFALL=-1
PRINT HYD            ID=4 CODE=1

*
*BASIN 5
*
COMPUTE NM HYD       ID=5 HYD NO=100.6 AREA=0.0031 SQ MI
                     PER A=0 PER B=25.00 PER C=0 PER D=75.00
                     TP=0.133 HR MASS RAINFALL=-1
PRINT HYD            ID=5 CODE=1

*

*BASIN 6
*
COMPUTE NM HYD       ID=6 HYD NO=100.7 AREA=0.0026 SQ MI
                     PER A=0 PER B=25.00 PER C=0 PER D=75.00
                     TP=0.133 HR MASS RAINFALL=-1
PRINT HYD            ID=6 CODE=1

*

*BASIN 7
```

```
*
COMPUTE NM HYD       ID=7 HYD NO=100.8 AREA=0.0023 SQ MI
                     PER A=0 PER B=25.00 PER C=0 PER D=75.00
                     TP=0.133 HR MASS RAINFALL=-1
PRINT HYD            ID=7 CODE=1

*

*BASIN 8
*
COMPUTE NM HYD       ID=8 HYD NO=100.9 AREA=0.0016 SQ MI
                     PER A=0 PER B=25.00 PER C=0 PER D=75.00
                     TP=0.133 HR MASS RAINFALL=-1
PRINT HYD            ID=8 CODE=1

*

*OFFSITE BASIN 1A
*
COMPUTE NM HYD       ID=9 HYD NO=100.10 AREA=0.0002 SQ MI
                     PER A=0 PER B=25.00 PER C=0 PER D=75.00
                     TP=0.133 HR MASS RAINFALL=-1
PRINT HYD            ID=9 CODE=1

*

*OFFSITE BASIN 2A
*
COMPUTE NM HYD       ID=10 HYD NO=100.11 AREA=0.0002 SQ MI
                     PER A=0 PER B=25.00 PER C=0 PER D=75.00
                     TP=0.133 HR MASS RAINFALL=-1
PRINT HYD            ID=10 CODE=1

*

* POND 1

*
ROUTE RESERVOIR      ID=11 HYD NO=100.12 INFLOW ID=6 CODE=24
                     OUTFLOW(CFS)      STORAGE(AC-FT)   ELEVATION(FT)
                         0.0000            0.0000          5193.73
                         3.2184            0.0006          5197.73
                         3.3263            0.0047          5197.98
                         3.4308            0.0168          5198.23
                         3.5322            0.0370          5198.48
                         3.6308            0.0653          5198.73
PRINT HYD              ID=11 CODE=1
*


*ADD BASINS 1 THRU 2A

*
ADD HYD              ID=13 HYD NO=301.00 ID=1  ID=3
ADD HYD              ID=14 HYD NO=302.00 ID=13 ID=4
ADD HYD              ID=15 HYD NO=303.00 ID=14 ID=5
ADD HYD              ID=16 HYD NO=304.00 ID=7 ID=9
ADD HYD              ID=17 HYD NO=305.00 ID=15 ID=16
ADD HYD              ID=18 HYD NO=306.00 ID=17 ID=11
ADD HYD              ID=19 HYD NO=307.00 ID=8 ID=10
ADD HYD              ID=20 HYD NO=306.00 ID=18 ID=19


PRINT HYD                  ID=20 CODE=1
```

```
*

FINISH
```

```
    AHYMO PROGRAM (AHYMO_97) -                          - Version:  1997.02d
          RUN DATE (MON/DAY/YR) = 09/27/2006
          START TIME (HR:MIN:SEC) = 13:01:24     USER NO.= AHYMO-S-9702d1TierraW-AH
          INPUT FILE = Z:\2005\25066\Reports\Drainage\REVISE~1\INPUTR~1.TXT


**********************************************************************
*                                                                    *
*                NE CORNER 98TH & CENTRAL                            *
*                 98TH & CENTRAL (25066)                             *
*          PROPOSED CONDITIONS (100-YEAR, 6-HR STORM)                *
*                                                                    *
**********************************************************************
*
START                  TIME=0.0 HR
RAINFALL               TYPE=1 RAIN QUARTER=0.0 IN
                       RAIN ONE=1.87 IN RAIN SIX=2.35 IN
                       RAIN DAY=2.66 IN DT=0.03333 HR

                       COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT
1.40 HR.

                       DT =     .033330 HOURS        END TIME =     5.999400 HOURS
                          .0000   .0034   .0068   .0103   .0139   .0176   .0213
                          .0252   .0291   .0331   .0372   .0414   .0457   .0502
                          .0547   .0594   .0643   .0693   .0744   .0797   .0852
                          .0909   .0968   .1029   .1092   .1159   .1228   .1301
                          .1377   .1457   .1542   .1594   .1649   .1708   .1835
                          .2118   .2555   .3182   .4038   .5163   .6598   .8384
                         1.0565  1.2588  1.3434  1.4147  1.4782  1.5359  1.5890
                         1.6384  1.6845  1.7277  1.7684  1.8068  1.8430  1.8774
                         1.9099  1.9407  1.9699  1.9977  2.0241  2.0309  2.0374
                         2.0435  2.0494  2.0551  2.0606  2.0659  2.0710  2.0759
                         2.0808  2.0855  2.0900  2.0945  2.0988  2.1031  2.1072
                         2.1112  2.1152  2.1191  2.1229  2.1266  2.1303  2.1339
                         2.1375  2.1409  2.1443  2.1477  2.1510  2.1543  2.1575
                         2.1607  2.1638  2.1669  2.1699  2.1729  2.1759  2.1788
                         2.1817  2.1845  2.1873  2.1901  2.1928  2.1956  2.1982
                         2.2009  2.2035  2.2061  2.2087  2.2112  2.2138  2.2162
                         2.2187  2.2212  2.2236  2.2260  2.2284  2.2307  2.2331
                         2.2354  2.2377  2.2400  2.2422  2.2445  2.2467  2.2489
                         2.2511  2.2532  2.2554  2.2575  2.2596  2.2617  2.2638
                         2.2659  2.2679  2.2700  2.2720  2.2740  2.2760  2.2780
                         2.2800  2.2819  2.2839  2.2858  2.2877  2.2896  2.2915
                         2.2934  2.2953  2.2972  2.2990  2.3008  2.3027  2.3045
                         2.3063  2.3081  2.3099  2.3117  2.3134  2.3152  2.3169
                         2.3187  2.3204  2.3221  2.3238  2.3255  2.3272  2.3289
                         2.3305  2.3322  2.3339  2.3355  2.3371  2.3388  2.3404
                         2.3420  2.3436  2.3452  2.3468  2.3484  2.3500

     *
     * BASIN 1
     *
     COMPUTE NM HYD      ID=1 HYD NO=100.2 AREA=0.0030 SQ MI
                         PER A=0 PER B=25.00 PER C=0.00 PER D=75.00
                         TP=0.133 HR MASS RAINFALL=-1

          K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N
=  7.106420
          UNIT PEAK =    8.9032    CFS    UNIT VOLUME =     .9981       B =    526.28       P60 =
1.8700
          AREA =       .002250 SQ MI    IA =     .10000 INCHES    INF =     .04000 INCHES PER
HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033330
```

K = .130697HR TP = .133000HR K/TP RATIO = .982685 SHAPE CONSTANT, N = 3.593454
UNIT PEAK = 1.8445 CFS UNIT VOLUME = .9926 B = 327.09 P60 = 1.8700
AREA = .000750 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 100.20

RUNOFF VOLUME = 1.75596 INCHES = .2810 ACRE-FEET
PEAK DISCHARGE RATE = 7.38 CFS AT 1.500 HOURS BASIN AREA = .0030 SQ. MI.

*
*BASIN 2
*
COMPUTE NM HYD ID=2 HYD NO=100.3 AREA=0.0007 SQ MI
PER A=0 PER B=25.00 PER C=0.00 PER D=75.00
TP=0.133 HR MASS RAINFALL=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.0774 CFS UNIT VOLUME = .9942 B = 526.28 P60 = 1.8700
AREA = .000525 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .130697HR TP = .133000HR K/TP RATIO = .982685 SHAPE CONSTANT, N = 3.593454
UNIT PEAK = .43038 CFS UNIT VOLUME = .9675 B = 327.09 P60 = 1.8700
AREA = .000175 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 100.30

RUNOFF VOLUME = 1.75596 INCHES = .0656 ACRE-FEET
PEAK DISCHARGE RATE = 1.73 CFS AT 1.500 HOURS BASIN AREA = .0007 SQ. MI.

*
*BASIN 3
*
COMPUTE NM HYD ID=3 HYD NO=100.4 AREA=0.0012 SQ MI
PER A=0 PER B=25.00 PER C=0.00 PER D=75.00
TP=0.133 HR MASS RAINFALL=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 3.5613 CFS UNIT VOLUME = .9962 B = 526.28 P60 = 1.8700
AREA = .000900 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .130697HR TP = .133000HR K/TP RATIO = .982685 SHAPE CONSTANT, N = 3.593454
UNIT PEAK = .73779 CFS UNIT VOLUME = .9822 B = 327.09 P60 = 1.8700
AREA = .000300 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 100.40

RUNOFF VOLUME = 1.75596 INCHES = .1124 ACRE-FEET
PEAK DISCHARGE RATE = 2.96 CFS AT 1.500 HOURS BASIN AREA = .0012 SQ. MI.

*
*BASIN 4
*
COMPUTE NM HYD ID=4 HYD NO=100.5 AREA=0.0004 SQ MI
PER A=0 PER B=25.00 PER C=0 PER D=75.00
TP=0.133 HR MASS RAINFALL=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.1871 CFS UNIT VOLUME = .9898 B = 526.28 P60 = 1.8700
AREA = .000300 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .130697HR TP = .133000HR K/TP RATIO = .982685 SHAPE CONSTANT, N = 3.593454
UNIT PEAK = .24593 CFS UNIT VOLUME = .9457 B = 327.09 P60 = 1.8700
AREA = .000100 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 100.50

RUNOFF VOLUME = 1.75596 INCHES = .0375 ACRE-FEET
PEAK DISCHARGE RATE = 1.00 CFS AT 1.500 HOURS BASIN AREA = .0004 SQ. MI.

```
     *
     *BASIN 5
     *
     COMPUTE NM HYD       ID=5 HYD NO=100.6 AREA=0.0031 SQ MI
                          PER A=0 PER B=25.00 PER C=0 PER D=75.00
                          TP=0.133 HR MASS RAINFALL=-1

          K =    .072485HR     TP =    .133000HR     K/TP RATIO =    .545000      SHAPE CONSTANT, N
=  7.106420
          UNIT PEAK =    9.1999     CFS    UNIT VOLUME =     .9981        B =    526.28       P60 =
1.8700
          AREA =       .002325 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER
HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033330


          K =    .130697HR     TP =    .133000HR     K/TP RATIO =    .982685      SHAPE CONSTANT, N
=  3.593454
          UNIT PEAK =    1.9060     CFS    UNIT VOLUME =     .9932        B =    327.09       P60 =
1.8700
          AREA =       .000775 SQ MI     IA =     .50000 INCHES     INF =    1.25000 INCHES PER
HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033330

     PRINT HYD            ID=5 CODE=1

                                        PARTIAL HYDROGRAPH    100.60


          RUNOFF VOLUME =      1.75596 INCHES      =          .2903 ACRE-FEET
          PEAK DISCHARGE RATE =        7.63 CFS  AT    1.500 HOURS    BASIN AREA =    .0031 SQ.
MI.




     *
     *BASIN 6
     *
     COMPUTE NM HYD       ID=6 HYD NO=100.7 AREA=0.0026 SQ MI
                          PER A=0 PER B=25.00 PER C=0 PER D=75.00
                          TP=0.133 HR MASS RAINFALL=-1

          K =    .072485HR     TP =    .133000HR     K/TP RATIO =    .545000      SHAPE CONSTANT, N
=  7.106420
          UNIT PEAK =    7.7161     CFS    UNIT VOLUME =     .9979        B =    526.28       P60 =
1.8700
          AREA =       .001950 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER
HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033330


          K =    .130697HR     TP =    .133000HR     K/TP RATIO =    .982685      SHAPE CONSTANT, N
=  3.593454
          UNIT PEAK =    1.5985     CFS    UNIT VOLUME =     .9919        B =    327.09       P60 =
1.8700
          AREA =       .000650 SQ MI     IA =     .50000 INCHES     INF =    1.25000 INCHES PER
HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033330

     PRINT HYD            ID=6 CODE=1

                                        PARTIAL HYDROGRAPH    100.70
```

RUNOFF VOLUME = 1.75596 INCHES = .2435 ACRE-FEET
PEAK DISCHARGE RATE = 6.40 CFS AT 1.500 HOURS BASIN AREA = .0026 SQ. MI.

*

*BASIN 7
*
COMPUTE NM HYD ID=7 HYD NO=100.8 AREA=0.0023 SQ MI
PER A=0 PER B=25.00 PER C=0 PER D=75.00
TP=0.133 HR MASS RAINFALL=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 6.8258 CFS UNIT VOLUME = .9977 B = 526.28 P60 = 1.8700
AREA = .001725 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .130697HR TP = .133000HR K/TP RATIO = .982685 SHAPE CONSTANT, N = 3.593454
UNIT PEAK = 1.4141 CFS UNIT VOLUME = .9904 B = 327.09 P60 = 1.8700
AREA = .000575 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=7 CODE=1

PARTIAL HYDROGRAPH 100.80

RUNOFF VOLUME = 1.75596 INCHES = .2154 ACRE-FEET
PEAK DISCHARGE RATE = 5.66 CFS AT 1.500 HOURS BASIN AREA = .0023 SQ. MI.

*

*BASIN 8
*
COMPUTE NM HYD ID=8 HYD NO=100.9 AREA=0.0016 SQ MI
PER A=0 PER B=25.00 PER C=0 PER D=75.00
TP=0.133 HR MASS RAINFALL=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.7484 CFS UNIT VOLUME = .9970 B = 526.28 P60 = 1.8700
AREA = .001200 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .130697HR TP = .133000HR K/TP RATIO = .982685 SHAPE CONSTANT, N = 3.593454
UNIT PEAK = .98372 CFS UNIT VOLUME = .9863 B = 327.09 P60 =

1.8700
AREA = .000400 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=8 CODE=1

PARTIAL HYDROGRAPH 100.90

RUNOFF VOLUME = 1.75596 INCHES = .1498 ACRE-FEET
PEAK DISCHARGE RATE = 3.94 CFS AT 1.500 HOURS BASIN AREA = .0016 SQ. MI.

*

*OFFSITE BASIN 1A
*
COMPUTE NM HYD ID=9 HYD NO=100.10 AREA=0.0002 SQ MI
PER A=0 PER B=25.00 PER C=0 PER D=75.00
TP=0.133 HR MASS RAINFALL=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = .59354 CFS UNIT VOLUME = .9788 B = 526.28 P60 = 1.8700
AREA = .000150 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .130697HR TP = .133000HR K/TP RATIO = .982685 SHAPE CONSTANT, N = 3.593454
UNIT PEAK = .12297 CFS UNIT VOLUME = .8925 B = 327.09 P60 = 1.8700
AREA = .000050 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=9 CODE=1

PARTIAL HYDROGRAPH 100.10

RUNOFF VOLUME = 1.75596 INCHES = .0187 ACRE-FEET
PEAK DISCHARGE RATE = .51 CFS AT 1.500 HOURS BASIN AREA = .0002 SQ. MI.

*

*OFFSITE BASIN 2A
*
COMPUTE NM HYD ID=10 HYD NO=100.11 AREA=0.0002 SQ MI
PER A=0 PER B=25.00 PER C=0 PER D=75.00
TP=0.133 HR MASS RAINFALL=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = .59354 CFS UNIT VOLUME = .9788 B = 526.28 P60 =

1.8700
AREA = .000150 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .130697HR TP = .133000HR K/TP RATIO = .982685 SHAPE CONSTANT, N = 3.593454
UNIT PEAK = .12297 CFS UNIT VOLUME = .8925 B = 327.09 P60 = 1.8700
AREA = .000050 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=10 CODE=1

PARTIAL HYDROGRAPH 100.11

RUNOFF VOLUME = 1.75596 INCHES = .0187 ACRE-FEET
PEAK DISCHARGE RATE = .51 CFS AT 1.500 HOURS BASIN AREA = .0002 SQ. MI.

*

* POND 1

*

ROUTE RESERVOIR ID=11 HYD NO=100.12 INFLOW ID=6 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0000	0.0000	5193.73
3.2184	0.0006	5197.73
3.3263	0.0047	5197.98
3.4308	0.0168	5198.23
3.5322	0.0370	5198.48
3.6308	0.0653	5198.73

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

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5193.73	.000	.00
.80	.01	5193.74	.000	.01
1.60	4.45	5198.44	.034	3.52
2.40	.28	5194.12	.000	.32
3.20	.07	5193.82	.000	.07
4.00	.05	5193.80	.000	.05
4.80	.05	5193.79	.000	.05
5.60	.06	5193.80	.000	.06
6.40	.00	5193.74	.000	.00

PEAK DISCHARGE = 3.525 CFS - PEAK OCCURS AT HOUR 1.63
MAXIMUM WATER SURFACE ELEVATION = 5198.463
MAXIMUM STORAGE = .0356 AC-FT INCREMENTAL TIME= .033330HRS

PRINT HYD ID=11 CODE=1

PARTIAL HYDROGRAPH 100.12

RUNOFF VOLUME = 1.75586 INCHES = .2435 ACRE-FEET

PEAK DISCHARGE RATE = 3.53 CFS AT 1.633 HOURS BASIN AREA = .0026 SQ. MI.

*

*ADD BASINS 1 THRU 2A

*

ADD HYD ID=13 HYD NO=301.00 ID=1 ID=3
ADD HYD ID=14 HYD NO=302.00 ID=13 ID=4
ADD HYD ID=15 HYD NO=303.00 ID=14 ID=5
ADD HYD ID=16 HYD NO=304.00 ID=7 ID=9
ADD HYD ID=17 HYD NO=305.00 ID=15 ID=16
ADD HYD ID=18 HYD NO=306.00 ID=17 ID=11
ADD HYD ID=19 HYD NO=307.00 ID=8 ID=10
ADD HYD ID=20 HYD NO=306.00 ID=18 ID=19

PRINT HYD ID=20 CODE=1

HYDROGRAPH FROM AREA 306.00

RUNOFF VOLUME = 1.75581 INCHES = 1.3672 ACRE-FEET
PEAK DISCHARGE RATE = 33.02 CFS AT 1.500 HOURS BASIN AREA = .0146 SQ. MI.

*

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 13:01:24

APPENDIX A

Section of Final Design Report for the Amole Del Norte Storm Diversion Facilities, Tierra Bayita Drainage Facilities, Phase III March 1998

ID 26

FINAL DESIGN REPORT
AMOLE DEL NORTE
STORM DIVERSION FACILITIES
TIERRA BAYITA DRAINAGE FACILITIES
PHASE III

CITY PROJECT NO. 4073.03
March, 1998

Greiner Job No. E30000114 & E30000115

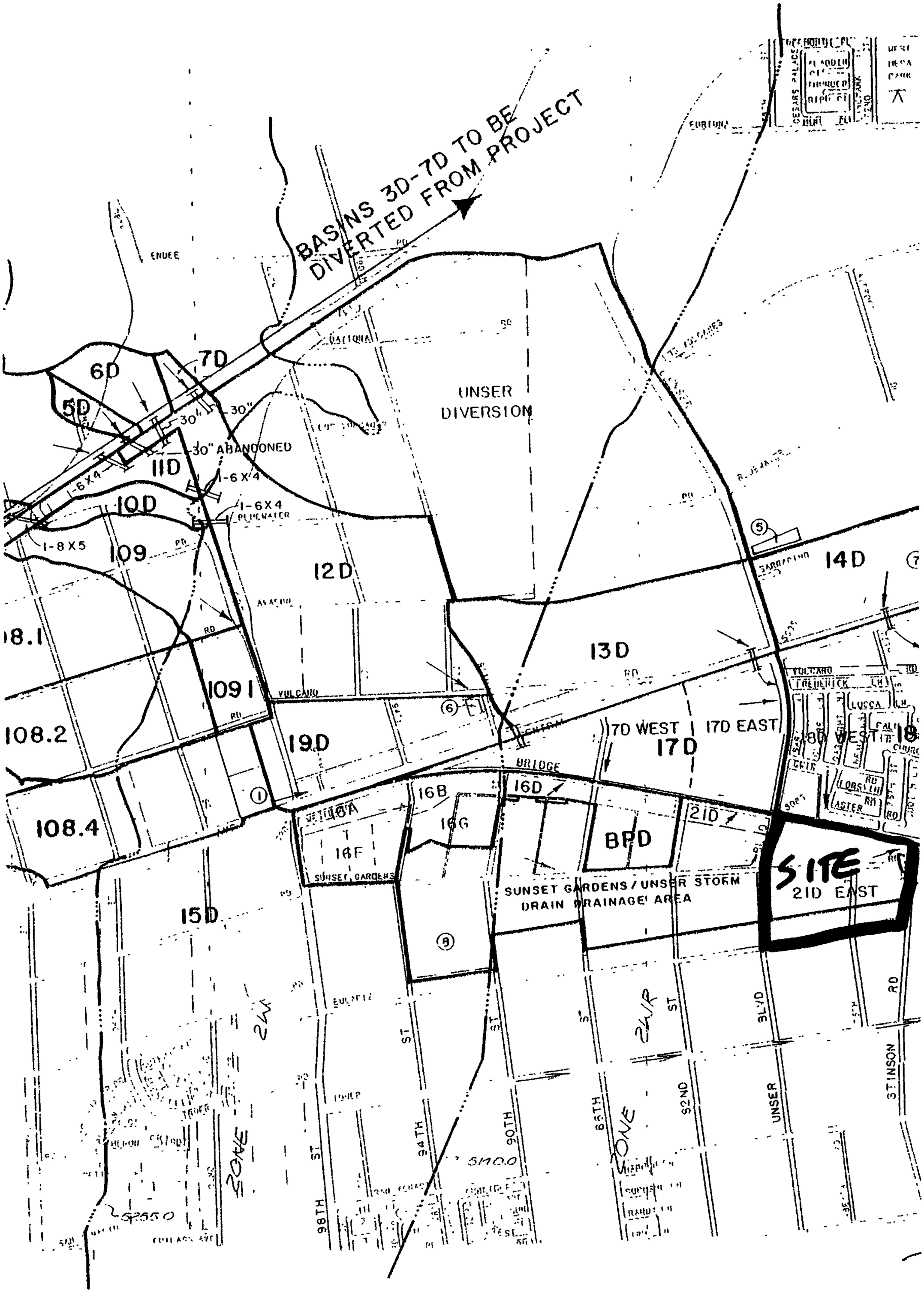
Prepared for:

City of Albuquerque
Public Works Department
P.O. Box 1293
Albuquerque, New Mexico 87103

Daniel L. Morehead, PE & PS
Associate Vice President

Mark S. Holstad, PE
Project Manager

URS Greiner, Inc.
5971 Jefferson Boulevard, NE Suite 101
Albuquerque, New Mexico 87109


BASINS 3D-7D TO BE DIVERTED FROM PROJECT
UNSER DIVERSION
SUNSET GARDENS / UNSER STORM DRAIN DRAINAGE AREA
SITE
21D EAST
17D WEST
17D EAST
18D WEST
6D
5D
7D
11D
10D
9
12D
13D
14D
19D
16B
16D
16F
16G
8PD
15D
108.4
108.2
108.1
109.1
30" ABANDONED
1-6X4
1-8X5
SUNSET GARDENS
BRIDGE
UNSER
ST INSON
RD
98TH
94TH
90TH
86TH
82ND
ZONE 24P
5100
2550

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =02/26/1998
INPUT FILE = AMOLE.DAT USER NO.= GREINRNM.STE

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	
*S 100 YEAR, 6 HOUR STORM										RAIN6=	2.210
RAINFALL TYPE= 1											
*S ALL FLOWS INCLUDE A 2% BULKING FACTOR										PK BF =	1.02
SEDIMENT BULK										PER IMP=	.00
COMPUTE NM HYD	11D	-	11	.02500	21.77	.615	.46095	1.533	1.361	PER IMP=	8.00
COMPUTE NM HYD	10D	-	10	.03360	36.63	1.108	.61847	1.533	1.703		
ADD HYD	10.10	10&11	1	.05860	58.40	1.723	.55127	1.533	1.557		
ROUTE	R1	1	2	.05860	42.04	1.723	.55127	1.600	1.121		
COMPUTE NM HYD	12D	-	12	.24070	462.31	20.498	1.59678	1.567	3.001	PER IMP=	65.00
ADD HYD	R12	12& 2	4	.29930	501.92	22.221	1.39208	1.567	2.620		
DIVIDE HYD	PIPE	4	3	.26269	315.00	19.503	1.39208	1.500	1.874		
	POND	AND	5	.03661	186.92	2.718	1.39207	1.567	7.978		
ROUTE	RR12	3	4	.26269	315.00	19.503	1.39208	1.667	1.874		
*s RECALL FLOW FROM AMOLE DEL NORTE PHASE IIIC - DETENTION BASINS											
RECALL HYD	501.00	-	10	1.06120	97.00	101.925	1.80088	2.950	.143		
COMPUTE NM HYD	19D	-	19	.08970	202.80	8.212	1.71647	1.533	3.533	PER IMP=	75.00
ADD HYD	19.10	19&10	5	1.15090	239.79	102.748	1.67393	1.567	.326		
ROUTE	R19.1	5	6	1.15090	236.32	102.630	1.67200	1.567	.321		
ADD HYD	19.20	6& 4	7	1.41359	551.30	122.133	1.61998	1.567	.609		
ROUTE	19.30	7	8	1.41359	551.28	122.090	1.61941	1.600	.609		
COMPUTE NM HYD	16A	-	1	.01282	34.51	1.253	1.83290	1.500	4.206	PER IMP=	85.00
COMPUTE NM HYD	16F	-	2	.03493	80.83	2.847	1.52798	1.500	3.616	PER IMP=	63.00
ADD HYD	16F.1	1& 2	3	.04775	115.33	4.100	1.60983	1.500	3.774		
ROUTE	16F.2	3	4	.04775	112.16	4.100	1.60984	1.533	3.670		
COMPUTE NM HYD	16B	-	1	.01520	40.91	1.486	1.83290	1.500	4.205	PER IMP=	85.00
ADD HYD	16B.1	1& 4	3	.06295	151.18	5.586	1.66369	1.533	3.753		
COMPUTE NM HYD	16G	-	2	.02011	49.99	1.770	1.65010	1.500	3.884	PER IMP=	70.00
ADD HYD	16G.1	2& 3	16	.08306	199.09	7.355	1.66040	1.533	3.745		
ADD HYD	16.10	16& 8	9	1.49665	730.13	129.445	1.62169	1.533	.762		
ROUTE	16.20	9	1	1.49665	730.06	129.412	1.62127	1.567	.762		
COMPUTE NM HYD	16D	-	10	.01119	30.12	1.094	1.83290	1.500	4.206	PER IMP=	85.00
ADD HYD	16D.1	1&10	1	1.50784	754.97	130.506	1.62285	1.567	.782		
COMPUTE NM HYD	17W	-	17	.08020	173.01	7.342	1.71647	1.567	3.371	PER IMP=	75.00
DIVIDE HYD	86TH	17	17	.06327	82.00	5.792	1.71646	1.433	2.025		
	82TH	AND	18	.01693	91.01	1.550	1.71646	1.567	8.398		
ADD HYD	17.10	17& 1	2	1.57111	836.97	136.298	1.62662	1.567	.832		
ROUTE	17.20	2	3	1.57111	835.00	136.233	1.62584	1.567	.830		
ROUTE	17.30	3	4	1.57111	834.48	136.215	1.62562	1.567	.830		
ADD HYD	17.40	4&18	5	1.58804	925.49	137.765	1.62659	1.567	.911		
COMPUTE NM HYD	BPD	-	6	.03420	77.22	2.615	1.43350	1.500	3.528	PER IMP=	50.00
ADD HYD	6.10	6& 5	7	1.62224	991.01	140.380	1.62252	1.567	.955		
ROUTE	6.20	7	8	1.62224	978.45	140.302	1.62162	1.600	.942		
COMPUTE NM HYD	21D	-	21	.01010	24.83	.881	1.63469	1.500	3.841	PER IMP=	70.00
ADD HYD	21.10	21& 8	6	1.63234	995.91	141.182	1.62170	1.600	.953		
*s UNSER BOULEVARD FLOWS TO CHANNEL - FLOW FROM NORTH OF BRIDGE BLVD											
*s THE FOLLOWING HYDROGRAPH IS TAKEN FROM THE MASTER DRAINAGE PLAN FOR THE											
*s ATRISCO BUSINESS PARK - SEPTEMBER 1992 & REVISED MARCH 1993 & SEPT 1993											
*s by Easterling and Associates & REPRESENTS THE ENTIRE UNSER DIVERSION											
RECALL HYD	180.16	-	2	.67890	248.30	73.770	2.03740	1.550	.571		

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	
ROUTE	R2	2	3	.67890	247.01	73.770	2.03740	1.600	.568		
ROUTE	R3	3	4	.67890	247.54	73.770	2.03740	1.600	.570		
COMPUTE NM HYD	13D	-	13	.16640	342.65	15.680	1.76677	1.567	3.217	PER IMP=	80.00
ROUTE	R13	13	5	.16640	336.38	15.680	1.76678	1.600	3.159		
ADD HYD	13.10	5& 4	5	.84530	583.91	86.967	1.92905	1.600	1.079		
COMPUTE NM HYD	17E	-	17	.06510	171.89	6.190	1.78282	1.500	4.126	PER IMP=	80.00
ADD HYD	17.10	17& 5	7	.91040	703.48	93.157	1.91859	1.567	1.207		
ROUTE	R6	7	8	.91040	688.34	93.079	1.91700	1.633	1.181		
*S FLOW FROM NORTH ON UNSER TO CHANNEL - ADD TO FLOW FROM BRIDGE											
ADD HYD	CHANNEL	8& 6	9	2.54274	1682.47	234.261	1.72743	1.600	1.034		
*s UNSER BLVD - FLOW FROM SOUTH OF BRIDGE EMPTYING TO THE CHANNEL											
*s THE FOLLOWING IS TAKEN FROM SUNSET GARDENS/UNSER BLVD STORM DRAIN											
*s DESIGN ANALYSIS REPORT, DATED 12/5/97 BY RYALS ENGINEERING AND											
*s CONSTRUCTION SERVICES AS REVISED BY TUCKER GREEN, PER SE ENGENEERING											
COMPUTE NM HYD	I	-	1	.00952	18.97	.626	1.23320	1.500	3.113	PER IMP=	38.00
COMPUTE NM HYD	H	-	2	.01501	37.31	1.321	1.65010	1.500	3.884	PER IMP=	70.00
ADD HYD	208.00	1& 2	3	.02453	56.28	1.947	1.48828	1.500	3.585		
*s DIVIDE SO 1ST 8.6 CFS (ID=6) S ON 90TH (ON HOLD): ID=4 E ON SUNSET GARDENS											
DIVIDE HYD	90.S.PAST.SG	3	6	.01035	8.60	.821	1.48828	1.333	1.298		
	SG.E.OF.90	AND	4	.01418	47.68	1.126	1.48828	1.500	5.253		
ROUTE MCUNGE	209.00	4	5	.01418	47.57	1.119	1.47973	1.567	5.241	CCODE =	.2
COMPUTE NM HYD	J	-	1	.00228	6.09	.221	1.81798	1.500	4.172	PER IMP=	85.00
ADD HYD	210.00	1& 5	3	.01646	53.08	1.340	1.52653	1.533	5.038		
COMPUTE NM HYD	SITE.II	-	1	.00839	19.75	.696	1.55434	1.500	3.679	PER IMP=	65.00
*S PARTIAL WATERBLOCK ==> FLOW > 11.6cfs TO 86TH											
DIVIDE HYD	S2.TO.S3	1	2	.00732	11.60	.607	1.55431	1.433	2.475		
	S2.TO.86TH	AND	7	.00107	8.15	.088	1.55431	1.500	11.934		
COMPUTE NM HYD	SITE.III	-	1	.02360	55.53	1.956	1.55434	1.500	3.677	PER IMP=	65.00
ADD HYD	SITE.OUT	1& 2	16	.03092	67.13	2.563	1.55433	1.500	3.392		
*S TOTAL FLOW SUNSET GARDENS WEST OF 86TH											
ADD HYD	SG.W.OF.86	3&16	5	.04738	118.05	3.904	1.54467	1.533	3.893		
COMPUTE NM HYD	C	-	1	.00127	3.50	.128	1.88389	1.500	4.301	PER IMP=	90.00
ADD HYD	218.00	1& 7	3	.00234	11.65	.216	1.73326	1.500	7.787		
ADD HYD	86&SG.N&W	3& 5	7	.04972	128.76	4.120	1.55353	1.533	4.046		
COMPUTE NM HYD	NN	-	1	.01830	33.56	1.116	1.14350	1.500	2.865	PER IMP=	36.40
ADD HYD	INTO.JYDN	1& 6	3	.02865	42.16	1.937	1.26804	1.500	2.299		
ROUTE MCUNGE	300.00	3	5	.02865	40.55	1.927	1.26109	1.600	2.211	CCODE =	.1
COMPUTE NM HYD	NS	-	1	.01719	34.79	1.185	1.29219	1.500	3.162	PER IMP=	46.60
ROUTE MCUNGE	302.00	1	2	.01719	34.26	1.185	1.29208	1.567	3.114	CCODE =	.2
ADD HYD	304.00	2& 5	3	.04584	73.97	3.111	1.27270	1.600	2.521		
COMPUTE NM HYD	JYD	-	17	.02353	55.37	1.951	1.55434	1.500	3.677	PER IMP=	65.00
ADD HYD	JYD.E.AT.86	3&17	4	.06937	118.68	5.062	1.36823	1.533	2.673		
ROUTE MCUNGE	86.S.OF.SG	4	5	.06937	118.57	5.060	1.36766	1.567	2.671	CCODE =	.1
ADD HYD	TOT.SG&86	5& 7	6	.11909	240.79	9.180	1.44526	1.533	3.159		
ROUTE	308.00	6	5	.11909	238.77	9.180	1.44527	1.567	3.133		
COMPUTE NM HYD	T	-	1	.00467	12.45	.453	1.81798	1.500	4.166	PER IMP=	85.00
ADD HYD	310.00	1& 5	3	.12376	249.07	9.632	1.45932	1.567	3.145		
COMPUTE NM HYD	U	-	1	.01032	25.09	.892	1.62025	1.500	3.799	PER IMP=	70.00
ADD HYD	312.00	1& 3	19	.13408	270.07	10.524	1.47171	1.567	3.147		
COMPUTE NM HYD	V	-	11	.03200	67.84	2.315	1.35662	1.500	3.313	PER IMP=	50.00
ADD HYD	SG.AT.82ND	11&19	3	.16608	330.10	12.839	1.44953	1.533	3.106		
ROUTE	314.00	3	5	.16608	328.29	12.839	1.44953	1.567	3.089		

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
COMPUTE NM HYD	W	-	12	.03422	77.86	2.716	1.48844	1.500	3.555	PER IMP= 60.00
ADD HYD	316.00	12& 5	3	.20030	394.29	15.556	1.45618	1.533	3.076	
COMPUTE NM HYD	X	-	13	.01058	27.37	.989	1.75207	1.500	4.042	PER IMP= 80.00
ADD HYD	SG.AT.UNSER	13& 3	4	.21088	420.45	16.544	1.47102	1.533	3.115	
ROUTE	318.00	4	5	.21088	418.41	16.544	1.47102	1.567	3.100	
COMPUTE NM HYD	Y	-	14	.01954	52.58	1.910	1.83290	1.500	4.205	PER IMP= 85.00
*s TOTAL FLOW FROM UNSER APROX 300' S OF AMOLE CHANNEL										
ADD HYD	FUT.TO.AMOLE	14& 5	7	.23042	468.17	18.455	1.50171	1.533	3.175	
*S TOTAL FLOW TO HEAD OF CONCRETE CHANNEL										
ADD HYD	CHANNEL	7& 9	5	2.77316	2112.30	252.716	1.70867	1.600	1.190	
ROUTE	R5	5	6	2.77316	2113.42	252.546	1.70752	1.600	1.191	
COMPUTE NM HYD	18W	-	18	.11220	231.19	9.624	1.60831	1.567	3.220	PER IMP= 68.00
ADD HYD	18.10	18& 6	7	2.88536	2330.57	262.170	1.70366	1.600	1.262	
ROUTE	R7	7	8	2.88536	2333.99	262.092	1.70316	1.600	1.264	
COMPUTE NM HYD	21E	-	21	.06560	170.43	6.024	1.72180	1.500	4.059	PER IMP= 70.00
ADD HYD	21.10	21& 8	9	2.95096	2453.09	268.116	1.70357	1.600	1.299	
ROUTE	R9	9	10	2.95096	2457.37	268.063	1.70324	1.600	1.301	
COMPUTE NM HYD	18E	-	18	.00750	17.13	.620	1.54928	1.500	3.569	PER IMP= 70.00
ADD HYD	18.10	18&10	11	2.95846	2469.38	268.683	1.70285	1.600	1.304	
ROUTE	R11	11	12	2.95846	2473.55	268.617	1.70243	1.600	1.306	
FINISH										

```
     AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
          RUN DATE (MON/DAY/YR) = 03/02/1998
          START TIME (HR:MIN:SEC) = 14:44:24     USER NO.= GREINRNM.STE
          INPUT FILE = AMOLE.DAT


*  AMOLE DEL NORTE STORM DRAIN FACILITIES PHASE III D MODEL - DECEMBER 1995
*    FULLY DEVELOPED CONDITIONS  100 YEAR, 6 HOUR STORM
*  GREINER JN E30000114
* COA PROJECT 4076.92
*  This model is an update of the previous HYMO model for the Amole Del
*    Norte drainage system.  The HYMO was done in 1990.  Basin
*    areas have been revised somewhat due to the current condition changing
*    from 1990 and incorporation of newer Master Drainage Reports for
*    the area
*  ---------------------------------------------------------------------
*  Developed conditions are to be modeled.  This was done by assuming
*    concrete trapazoidal channels for routing purposes using the
*    existing slopes and lengths.  channels - 10'bottom w/ 2:1 ss
*  ---------------------------------------------------------------------
*  Station references are from Amole Del Norte Storm Diversion Facilities
*  Tierra Bayita Drainage Facilities Phases IIIB or IIIA
**********************************************************************
*S  100 YEAR, 6 HOUR STORM
RAINFALL              TYPE=1   QUARTER HR = 0  ONE HR RAIN=1.90
                      SIX HR RAIN=2.21   TWENTYFOUR HR RAIN=2.70

                    COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40
HR.

                    DT =     .033333 HOURS        END TIME =     5.999940 HOURS
                       .0000    .0014    .0029    .0043    .0059    .0074    .0090
                       .0106    .0123    .0140    .0157    .0175    .0193    .0212
                       .0232    .0252    .0272    .0294    .0316    .0339    .0362
                       .0387    .0412    .0439    .0466    .0495    .0525    .0557
                       .0590    .0625    .0663    .0715    .0771    .0831    .0961
                       .1249    .1694    .2331    .3202    .4347    .5806    .7622
                       .9839   1.1890   1.2748   1.3472   1.4117   1.4703   1.5243
                     1.5745   1.6213   1.6652   1.7065   1.7455   1.7824   1.8172
                     1.8502   1.8816   1.9113   1.9395   1.9662   1.9722   1.9779
                     1.9832   1.9883   1.9932   1.9978   2.0023   2.0066   2.0107
                     2.0147   2.0185   2.0223   2.0259   2.0294   2.0328   2.0361
                     2.0393   2.0425   2.0455   2.0485   2.0515   2.0543   2.0571
                     2.0599   2.0625   2.0652   2.0678   2.0703   2.0728   2.0752
                     2.0776   2.0800   2.0823   2.0845   2.0868   2.0890   2.0912
                     2.0933   2.0954   2.0975   2.0995   2.1015   2.1035   2.1055
                     2.1074   2.1093   2.1112   2.1131   2.1149   2.1167   2.1185
                     2.1203   2.1221   2.1238   2.1255   2.1272   2.1289   2.1305
                     2.1322   2.1338   2.1354   2.1370   2.1386   2.1401   2.1417
                     2.1432   2.1447   2.1462   2.1477   2.1492   2.1506   2.1521
                     2.1535   2.1549   2.1564   2.1577   2.1591   2.1605   2.1619
                     2.1632   2.1646   2.1659   2.1672   2.1685   2.1698   2.1711
                     2.1724   2.1736   2.1749   2.1762   2.1774   2.1786   2.1799
                     2.1811   2.1823   2.1835   2.1847   2.1858   2.1870   2.1882
                     2.1893   2.1905   2.1916   2.1928   2.1939   2.1950   2.1961
                     2.1972   2.1983   2.1994   2.2005   2.2016   2.2027   2.2037
                     2.2048   2.2058   2.2069   2.2079   2.2090   2.2100

     *
     *S ALL FLOWS INCLUDE A 2% BULKING FACTOR
     SEDIMENT BULK         CODE=1  BULKING FACTOR = 1.02
     *
     COMPUTE NM HYD        ID=11  HYD=11D  AREA=0.0250   PER A=100  PER B=0
                           PER C=0   PER D=0   TP=0.1333  MASS RAIN=-1

          K =    .162928HR     TP =    .133300HR     K/TP RATIO =  1.222262     SHAPE CONSTANT, N =
2.911962
          UNIT PEAK =    51.494     CFS   UNIT VOLUME =     .9994        B =   274.56       P60 =
1.9000
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     AREA =       .025000 SQ MI     IA =     .65000 INCHES     INF =    1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033333

     BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.02000 AT PEAK FLOW.

PRINT HYD              ID=11   CODE=1

                                                HYDROGRAPH FROM AREA 11D

     RUNOFF VOLUME =       .46095 INCHES       =         .6146 ACRE-FEET
     PEAK DISCHARGE RATE =       21.77 CFS  AT    1.533 HOURS    BASIN AREA =    .0250 SQ. MI.


*
COMPUTE NM HYD         ID=10   HYD=10D  AREA=0.0336    PER A=84   PER B=0
                       PER C=8    PER D=8   TP=0.1333   MASS RAIN=-1
          K =    .072649HR     TP =    .133300HR     K/TP RATIO =    .545000      SHAPE CONSTANT, N =
7.106420
          UNIT PEAK =    10.612     CFS    UNIT VOLUME =     .9982         B =    526.28       P60 =
1.9000
          AREA =       .002688 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033333

          K =    .157995HR     TP =    .133300HR     K/TP RATIO =  1.185260      SHAPE CONSTANT, N =
2.995080
          UNIT PEAK =    65.261     CFS    UNIT VOLUME =     .9996         B =    281.42       P60 =
1.9000
          AREA =       .030912 SQ MI     IA =     .62391 INCHES     INF =    1.59696 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033333

          BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.02000 AT PEAK FLOW.

     PRINT HYD              ID=10   CODE=1

                                                HYDROGRAPH FROM AREA 10D

          RUNOFF VOLUME =       .61847 INCHES       =         1.1083 ACRE-FEET
          PEAK DISCHARGE RATE =       36.63 CFS  AT    1.533 HOURS    BASIN AREA =    .0336 SQ. MI.


     *
     *ADD FLOW FROM 10D AND 11D
     *     EXISTING CONDITION - THESE FLOWS ENTER 12D NEAR EACH OTHER AND CROSS
     *      12D TO A POINT WHERE THEY COMBINE. - FOR DEVELOPED MODEL ADD
     *      HYDROGRAPHS THEN ROUTE THROUGH 12D IN AN ASSUMED CONCRETE CHANNEL
     *      TO SIMULATE DEVELOPED CONDITIONS
     ADD HYD                ID=1    HYD=10.1   ID=10   ID=11
     PRINT HYD              ID=1   CODE=1

                                                OUTFLOW HYDROGRAPH REACH     10.10

          RUNOFF VOLUME =       .55127 INCHES       =         1.7229 ACRE-FEET
          PEAK DISCHARGE RATE =       58.40 CFS  AT    1.533 HOURS    BASIN AREA =    .0586 SQ. MI.


     *
     *ROUTE COMBINED 11/10 FLOW THROUGH 12D - USE 10 FT BOTTOM/ 2:1 SIDE SLOPE
     COMPUTE RATING CURVE CID=1   VSNO=1   NO SEG=1   MIN ELEV=0
                          MAX ELEV=6   CH SLOPE=0.0255   FP SLOPE=0.0255
                          N=0.013    DIST=34
                          DIST ELEV
```

0 6
12 0
22 0
34 6

RATING CURVE VALLEY SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
.00	.00	.00	.00
.32	3.36	27.11	11.26
.63	7.11	87.66	12.53
.95	11.27	176.01	13.79
1.26	15.82	290.95	15.05
1.58	20.78	432.44	16.32
1.89	26.13	600.91	17.58
2.21	31.88	797.03	18.84
2.53	38.03	1021.61	20.11
2.84	44.58	1275.57	21.37
3.16	51.52	1559.82	22.63
3.47	58.87	1875.34	23.89
3.79	66.61	2223.10	25.16
4.11	74.76	2604.09	26.42
4.42	83.30	3019.29	27.68
4.74	92.24	3469.68	28.95
5.05	101.58	3956.24	30.21
5.37	111.32	4479.94	31.47
5.68	121.46	5041.75	32.74
6.00	132.00	5642.61	34.00

COMPUTE TRAVEL TIME ID=2 REACH NO=1 NOVS=1 L=4000 SLP=0.0255

TRAVEL TIME TABLE

REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ.FT.	FLOW RATE CFS	TRAVEL TIME HRS
.316	3.357	27.11	.1376
.632	7.114	87.66	.0902
.947	11.269	176.01	.0711
1.263	15.823	290.95	.0604
1.579	20.776	432.44	.0534
1.895	26.127	600.91	.0483
2.211	31.878	797.03	.0444
2.526	38.028	1021.61	.0414
2.842	44.576	1275.57	.0388
3.158	51.524	1559.82	.0367
3.474	58.870	1875.34	.0349
3.789	66.615	2223.10	.0333
4.105	74.759	2604.09	.0319
4.421	83.302	3019.29	.0307
4.737	92.244	3469.68	.0295
5.053	101.584	3956.24	.0285
5.368	111.324	4479.94	.0276
5.684	121.463	5041.75	.0268
6.000	132.000	5642.61	.0260

ROUTE ID=2 HYD=R1 INFLOW ID=1 DT=0.0
PRINT HYD ID=2 CODE=1

HYDROGRAPH FROM AREA R1

RUNOFF VOLUME = .55127 INCHES = 1.7229 ACRE-FEET
PEAK DISCHARGE RATE = 42.04 CFS AT 1.600 HOURS BASIN AREA = .0586 SQ. MI.

*
COMPUTE NM HYD ID=12 HYD=12D AREA=0.2407 PER A=1 PER B=19

PER C=15 PER D=65 TP=0.2051 MASS RAIN=-1

K = .116105HR TP = .205100HR K/TP RATIO = .566089 SHAPE CONSTANT, N = 6.770819

UNIT PEAK = 389.26 CFS UNIT VOLUME = 1.000 B = 510.29 P60 = 1.9000

AREA = .156455 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .176990HR TP = .205100HR K/TP RATIO = .862946 SHAPE CONSTANT, N = 4.119566

UNIT PEAK = 149.13 CFS UNIT VOLUME = 1.000 B = 363.06 P60 = 1.9000

AREA = .084245 SQ MI IA = .44000 INCHES INF = 1.08200 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.02000 AT PEAK FLOW.

```
PRINT HYD          ID=12  CODE=1
```

HYDROGRAPH FROM AREA 12D

RUNOFF VOLUME = 1.59678 INCHES = 20.4982 ACRE-FEET

PEAK DISCHARGE RATE = 462.31 CFS AT 1.567 HOURS BASIN AREA = .2407 SQ. MI.

```
*
*ADD 12D AND ROUTED 11&10
ADD HYD            ID=4  HYD=R12  ID=12  ID=2
PRINT HYD          ID=4  CODE=1
```

HYDROGRAPH FROM AREA R12

RUNOFF VOLUME = 1.39208 INCHES = 22.2211 ACRE-FEET

PEAK DISCHARGE RATE = 501.92 CFS AT 1.567 HOURS BASIN AREA = .2993 SQ. MI.

```
*
*ADD A DIVIDE HYD HERE TO SIMULATE LIMITING THE FLOW TO THE DOWNSTREAM
*  SYSTEM TO 331 CFS - WHICH WAS THE ORIGINAL DESIGN FLOW
*  IN THE FUTURE COA IS PLANNING ON PROBABLY BUILDING A POND TO LIMIT FLOW
DIVIDE HYD         ID=4  Q=315   ID=3  HYD=PIPE
                                 ID=5  HYD=POND
PRINT HYD          ID=3  CODE=1
```

HYDROGRAPH FROM AREA PIPE

RUNOFF VOLUME = 1.39208 INCHES = 19.5031 ACRE-FEET

PEAK DISCHARGE RATE = 315.00 CFS AT 1.500 HOURS BASIN AREA = .2627 SQ. MI.

```
PRINT HYD          ID=5  CODE=1
```

HYDROGRAPH FROM AREA POND

RUNOFF VOLUME = 1.39207 INCHES = 2.7180 ACRE-FEET

PEAK DISCHARGE RATE = 186.92 CFS AT 1.567 HOURS BASIN AREA = .0366 SQ. MI.

*

*ROUTE THROUGH 66INCH STORM DRAIN - USE FRICTION SLOPE INSTEAD OF PIPE SLOPE
COMPUTE RATING CURVE CID=1 VSNO=1 CODE= -1 SLP=0.0038
DIA=66 N=0.013

RATING CURVE PIPE SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT
.00	.00	.00	.00
.29	.47	1.09	2.44
.57	1.31	4.71	3.36
.86	2.37	10.96	3.99
1.15	3.59	19.71	4.47
1.43	4.92	30.77	4.83
1.72	6.35	43.91	5.10
2.01	7.84	58.82	5.30
2.29	9.38	75.21	5.42
2.58	10.94	92.71	5.49
2.87	12.52	110.96	5.50
3.15	14.09	129.54	5.50
3.44	15.63	148.01	5.50
3.73	17.13	165.89	5.50
4.01	18.57	182.64	5.50
4.30	19.92	197.62	5.50
4.59	21.17	210.09	5.50
4.87	22.26	219.01	5.50
5.16	23.15	222.68	5.50
5.50	23.76	222.68	5.50

COMPUTE TRAVEL TIME ID=4 REACH NO=1 NOVS=1 L=630 SLP=0.0038

TRAVEL TIME TABLE

REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ.FT.	FLOW RATE CFS	TRAVEL TIME HRS
.287	.472	1.09	.0761
.573	1.314	4.71	.0488
.860	2.373	10.96	.0379
1.146	3.589	19.71	.0319
1.433	4.923	30.77	.0280
1.720	6.348	43.91	.0253
2.006	7.839	58.82	.0233
2.293	9.377	75.21	.0218
2.579	10.942	92.71	.0207
2.866	12.518	110.96	.0197
3.153	14.086	129.54	.0190
3.439	15.630	148.01	.0185
3.726	17.132	165.89	.0181
4.013	18.571	182.64	.0178
4.299	19.925	197.62	.0176
4.586	21.166	210.09	.0176
4.872	22.258	219.01	.0178
5.159	23.147	222.68	.0182
5.500	23.758	222.68	.0187

ROUTE ID=4 HYD=RR12 INFLOW ID=3 DT=0.0
TRAVEL TIME TABLE EXCEEDED
PROBLEM FAILED TO CONVERGE AFTER 50 ITERATIONS. CONVERGENCE WAS FORCED. OUTFLOW NUMBER = 58 RATE = 219.23
PRINT HYD ID=4 CODE=1

HYDROGRAPH FROM AREA RR12

RUNOFF VOLUME = 1.39208 INCHES = 19.5031 ACRE-FEET
PEAK DISCHARGE RATE = 315.00 CFS AT 1.667 HOURS BASIN AREA = .2627 SQ. MI.

```
*
*s RECALL FLOW FROM AMOLE DEL NORTE PHASE IIIC - DETENTION BASINS
RECALL HYD          ID=10 HYD=      501.00 DT=  .050000 HRS DA=   1.0612 SM
                    PEAK=     97.003CFS  RO= 1.8009 INCHES  NO PTS=600
                    FLOW RATES
                          .000       .000       .000       .000       .000
                          .000       .000       .000       .000       .000
                          .000       .000       .000       .000       .000
                          .000       .000       .000       .000       .000
                          .000       .000       .000       .000       .039
                          .443      2.000      5.064      5.630     15.910
                        30.855     38.966     45.067     48.996     52.226
                        55.002     56.732     58.292     59.709     61.000
                        62.177     63.386     64.835     66.377     67.693
                        68.710     69.473     70.043     70.466     70.776
                        71.001     71.185     71.357     71.517     71.669
                        71.812     71.948     84.498     95.031     97.003
                        96.932     96.408     95.844     95.338     94.890
                        94.505     94.183     93.910     93.656     93.401
                        93.163     92.971     92.815     92.661     92.507
                        92.378     92.252     92.103     91.946     91.786
                        91.644     91.513     91.377     91.236     91.110
                        91.008     90.895     90.778     90.678     90.584
                        90.495     90.402     90.295     90.194     90.007
                        89.662     89.252     88.838     88.416     87.976
                        87.540     87.121     86.705     86.294     85.898
                        85.515     85.125     84.716     84.307     83.916
                        83.546     83.190     82.834     82.451     82.042
                        81.649     81.281     80.908     80.512     80.117
                        79.752     79.413     79.223     79.268     79.370
                        79.363     79.227     78.998     78.712     78.380
                        78.026     77.678     77.316     76.932     76.541
                        76.135     75.722     75.319     74.945     74.584
                        74.190     73.772     73.377     73.009     72.646
                        72.268     71.999     71.996     71.992     71.985
                        71.977     71.967     71.955     71.942     71.925
                        71.907     71.885     71.861     71.835     71.806
                        71.775     71.741     71.705     71.667     71.626
                        71.583     71.538     71.491     71.442     71.390
                        71.336     71.281     71.223     71.164     71.102
                        71.039     70.973     70.906     70.837     70.767
                        70.695     70.621     70.547     70.470     70.392
                        70.312     70.232     70.149     70.065     69.980
                        69.894     69.806     69.717     69.627     69.535
                        69.442     69.348     69.253     69.157     69.059
                        68.960     68.860     68.759     68.657     68.554
                        68.450     68.343     68.234     68.124     68.011
                        67.896     67.779     67.660     67.539     67.417
                        67.292     67.166     67.038     66.909     66.778
                        66.645     66.511     66.375     66.238     66.099
                        65.959     65.818     65.676     65.532     65.387
                        65.241     65.093     64.945     64.795     64.645
                        64.493     64.341     64.187     64.033     63.853
                        63.666     63.479     63.290     63.101     62.911
                        62.720     62.529     62.336     62.142     61.946
                        61.749     61.551     61.352     61.152     60.951
                        60.749     60.546     60.342     60.137     59.932
                        59.726     59.520     59.313     59.105     58.897
                        58.688     58.479     58.270     58.060     57.850
                        57.640     57.430     57.219     57.008     56.797
                        56.586     56.375     56.164     55.953     55.742
                        55.531     55.320     55.109     54.856     54.557
                        54.259     53.962     53.666     53.371     53.077
                        52.784     52.492     52.201     51.911     51.621
                        51.333     51.046     50.759     50.474     50.190
                        49.906     49.625     49.344     49.064     48.785
                        48.508     48.232     47.957     47.683     47.410
                        47.139     46.870     46.601     46.334     46.068
                        45.804     45.541     45.280     45.019     44.760
```

44.502	44.246	43.991	43.738	43.486
43.235	42.980	42.627	42.278	41.931
41.588	41.248	40.911	40.577	40.247
39.919	39.595	39.273	38.955	38.639
38.327	38.017	37.711	37.407	37.106
36.808	36.513	36.221	35.933	35.646
35.363	35.082	34.803	34.528	34.255
33.984	33.716	33.451	33.189	32.929
32.672	32.417	32.165	31.915	31.668
31.423	31.180	30.941	30.703	30.468
30.235	30.004	29.776	29.550	29.326
29.104	28.885	28.668	28.453	28.240
28.030	27.821	27.614	27.410	27.207
27.007	26.477	25.950	25.438	24.942
24.461	23.995	23.542	23.102	22.676
22.263	21.863	21.474	21.096	20.729
20.373	20.028	19.693	19.368	19.052
18.746	18.449	18.160	17.878	17.605
17.341	17.085	16.837	16.595	16.360
16.131	15.910	15.696	15.486	15.284
15.086	14.895	14.709	14.529	14.353
14.182	14.016	13.855	13.700	13.548
13.400	13.257	13.117	12.981	12.848
12.719	12.594	12.473	12.356	12.241
12.130	12.021	11.916	11.813	11.712
11.614	11.519	11.427	11.337	11.249
11.164	11.082	11.001	10.922	10.844
10.768	10.695	10.624	10.556	10.489
10.424	10.360	10.298	10.237	10.177
10.120	10.063	10.007	9.952	9.897
9.845	9.795	9.746	9.699	9.653
9.607	9.562	9.517	9.475	9.434
9.393	9.351	9.301	9.234	9.149
9.052	8.948	8.839	8.728	8.615
8.499	8.383	8.265	8.146	8.026
7.906	7.786	7.665	7.544	7.423
7.302	7.182	7.061	6.942	6.823
6.704	6.586	6.468	6.349	6.231
6.113	6.000	5.993	5.987	5.980
5.973	5.967	5.960	5.952	5.945
5.938	5.930	5.923	5.915	5.907
5.899	5.891	5.883	5.875	5.867
5.859	5.851	5.842	5.834	5.826
5.817	5.809	5.800	5.791	5.783
5.774	5.765	5.757	5.748	5.739
5.730	5.721	5.712	5.703	5.695
5.686	5.677	5.668	5.659	5.650
5.641	5.632	5.623	5.614	5.604
5.595	5.586	5.577	5.568	5.559
5.550	5.541	5.532	5.523	5.514
5.505	5.496	5.487	5.478	5.468
5.459	5.450	5.441	5.432	5.423
5.414	5.405	5.396	5.387	5.378
5.369	5.360	5.351	5.342	5.333
5.324	5.315	5.306	5.298	5.289
5.280	5.271	5.262	5.253	5.244

COMPUTE NM HYD ID=19 HYD=19D AREA=0.0897 PER A=0 PER B=15
PER C=10 PER D=75 TP=0.1714 MASS RAIN=-1

K = .093965HR TP = .171400HR K/TP RATIO = .548219 SHAPE CONSTANT, N = 7.053046

UNIT PEAK = 205.58 CFS UNIT VOLUME = 1.000 B = 523.76 P60 = 1.9000

AREA = .067275 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .154334HR TP = .171400HR K/TP RATIO = .900429 SHAPE CONSTANT, N =

3.935850
UNIT PEAK = 45.906 CFS UNIT VOLUME = .9999 B = 350.87 P60 =
1.9000
AREA = .022425 SQ MI IA = .44000 INCHES INF = 1.08200 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.02000 AT PEAK FLOW.

PRINT HYD ID=19 CODE=1

HYDROGRAPH FROM AREA 19D

RUNOFF VOLUME = 1.71647 INCHES = 8.2115 ACRE-FEET
PEAK DISCHARGE RATE = 202.80 CFS AT 1.533 HOURS BASIN AREA = .0897 SQ. MI.

*

*ADD 19D AND OUTFLOW FROM DETENTION BASINS
ADD HYD ID=5 HYD=19.1 ID=19 ID=10
PRINT HYD ID=5 CODE=1

OUTFLOW HYDROGRAPH REACH 19.10

RUNOFF VOLUME = 1.67393 INCHES = 102.7471 ACRE-FEET
PEAK DISCHARGE RATE = 239.79 CFS AT 1.567 HOURS BASIN AREA = 1.1509 SQ. MI.

*

*ROUTE FLOW ALONG CENTRAL FROM 98TH ST TO 90TH ST IN 66INCH STORM DRAIN
COMPUTE RATING CURVE CID=1 VSNO=1 CODE=-1 SLP=0.024
DIA=66 N=0.013

RATING CURVE PIPE SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT
.00	.00	.00	.00
.29	.47	2.73	2.44
.57	1.31	11.85	3.36
.86	2.37	27.54	3.99
1.15	3.59	49.53	4.47
1.43	4.92	77.34	4.83
1.72	6.35	110.34	5.10
2.01	7.84	147.83	5.30
2.29	9.38	189.01	5.42
2.58	10.94	233.00	5.49
2.87	12.52	278.85	5.50
3.15	14.09	325.55	5.50
3.44	15.63	371.97	5.50
3.73	17.13	416.91	5.50
4.01	18.57	458.99	5.50
4.30	19.92	496.65	5.50
4.59	21.17	527.98	5.50
4.87	22.26	550.41	5.50
5.16	23.15	559.62	5.50
5.50	23.76	559.62	5.50

COMPUTE TRAVEL TIME ID=6 REACH NO=1 NOVS=1 L=2550 SLP=.024

TRAVEL TIME TABLE

REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ.FT.	FLOW RATE CFS	TRAVEL TIME HRS
.287	.472	2.73	.1226

.573	1.314	11.85	.0786
.860	2.373	27.54	.0610
1.146	3.589	49.53	.0513
1.433	4.923	77.34	.0451
1.720	6.348	110.34	.0407
2.006	7.839	147.83	.0376
2.293	9.377	189.01	.0351
2.579	10.942	233.00	.0333
2.866	12.518	278.85	.0318
3.153	14.086	325.55	.0306
3.439	15.630	371.97	.0298
3.726	17.132	416.91	.0291
4.013	18.571	458.99	.0287
4.299	19.925	496.65	.0284
4.586	21.166	527.98	.0284
4.872	22.258	550.41	.0286
5.159	23.147	559.62	.0293
5.500	23.758	559.62	.0301

```
ROUTE                ID=6   HYD=R19.1   INFLOW ID=5   DT=0.0
PRINT HYD            ID=6   CODE=1
```

HYDROGRAPH FROM AREA R19.1

RUNOFF VOLUME = 1.67200 INCHES = 102.6290 ACRE-FEET
PEAK DISCHARGE RATE = 236.32 CFS AT 1.567 HOURS BASIN AREA = 1.1509 SQ. MI.

```
*
*ADD ROUTED FLOW FROM 12D, 10D and 11D
ADD HYD              ID=7   HYD=19.2    ID=6   ID=4
PRINT HYD            ID=7   CODE=1
```

OUTFLOW HYDROGRAPH REACH 19.20

RUNOFF VOLUME = 1.61998 INCHES = 122.1321 ACRE-FEET
PEAK DISCHARGE RATE = 551.30 CFS AT 1.567 HOURS BASIN AREA = 1.4136 SQ. MI.

```
*
*ROUTE FLOW TO STA 69+71 IN 84INCH STORM DRAIN
COMPUTE RATING CURVE CID=1   VSNO=1   CODE=-1   SLP=0.017
                     DIA=84     N=0.013
```

RATING CURVE PIPE SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT
.00	.00	.00	.00
.36	.76	4.37	3.11
.73	2.13	18.97	4.28
1.09	3.84	44.09	5.08
1.46	5.81	79.30	5.69
1.82	7.97	123.82	6.15
2.19	10.28	176.67	6.49
2.55	12.70	236.69	6.74
2.92	15.19	302.62	6.90
3.28	17.72	373.05	6.99
3.65	20.28	446.47	7.00
4.01	22.82	521.23	7.00
4.38	25.32	595.56	7.00
4.74	27.75	667.50	7.00
5.11	30.08	734.88	7.00
5.47	32.27	795.18	7.00
5.84	34.28	845.35	7.00
6.20	36.05	881.24	7.00

```
*  AMOLE DEL NORTE STORM DRAIN FACILITIES PHASE III D MODEL - DECEMBER 1995
*    FULLY DEVELOPED CONDITIONS  100 YEAR, 6 HOUR STORM
*  GREINER JN E30000114
* COA PROJECT 4076.92
*  This model is an update of the previous HYMO model for the Amole Del
*    Norte drainage system.  The HYMO was done in 1990.  Basin
*    areas have been revised somewhat due to the current condition changing
*    from 1990 and incorporation of newer Master Drainage Reports for
*    the area
*  ---------------------------------------------------------------
*  Developed conditions are to be modeled.  This was done by assuming
*    concrete trapazoidal channels for routing purposes using the
*    existing slopes and lengths.  channels - 10'bottom w/ 2:1 ss
*  ---------------------------------------------------------------
*  Station references are from Amole Del Norte Storm Diversion Facilities
*  Tierra Bayita Drainage Facilities Phases IIIB or IIIA
*****************************************************************
*S  100 YEAR, 6 HOUR STORM
RAINFALL              TYPE=1   QUARTER HR = 0  ONE HR RAIN=1.90
                      SIX HR RAIN=2.21   TWENTYFOUR HR RAIN=2.70
*
*S ALL FLOWS INCLUDE A 2% BULKING FACTOR
SEDIMENT BULK         CODE=1  BULKING FACTOR = 1.02
*
COMPUTE NM HYD        ID=11  HYD=11D  AREA=0.0250   PER A=100  PER B=0
                      PER C=0   PER D=0   TP=0.1333  MASS RAIN=-1
PRINT HYD             ID=11  CODE=1
*
COMPUTE NM HYD        ID=10  HYD=10D  AREA=0.0336   PER A=84  PER B=0
                      PER C=8   PER D=8  TP=0.1333  MASS RAIN=-1
PRINT HYD             ID=10  CODE=1
*
*ADD FLOW FROM 10D AND 11D
*     EXISTING CONDITION - THESE FLOWS ENTER 12D NEAR EACH OTHER AND CROSS
*      12D TO A POINT WHERE THEY COMBINE. - FOR DEVELOPED MODEL ADD
*      HYDROGRAPHS THEN ROUTE THROUGH 12D IN AN ASSUMED CONCRETE CHANNEL
*      TO SIMULATE DEVELOPED CONDITIONS
ADD HYD               ID=1   HYD=10.1  ID=10  ID=11
PRINT HYD             ID=1  CODE=1
*
*ROUTE COMBINED 11/10 FLOW THROUGH 12D - USE 10 FT BOTTOM/ 2:1 SIDE SLOPE
COMPUTE RATING CURVE CID=1  VSNO=1  NO SEG=1  MIN ELEV=0
                      MAX ELEV=6  CH SLOPE=0.0255  FP SLOPE=0.0255
                      N=0.013   DIST=34
                      DIST ELEV
                       0    6
                       12   0
                       22   0
                       34   6
COMPUTE TRAVEL TIME ID=2  REACH NO=1  NOVS=1  L=4000  SLP=0.0255
ROUTE                 ID=2  HYD=R1  INFLOW ID=1  DT=0.0
PRINT HYD             ID=2  CODE=1
*
COMPUTE NM HYD        ID=12  HYD=12D  AREA=0.2407   PER A=1  PER B=19
                      PER C=15   PER D=65  TP=0.2051  MASS RAIN=-1
PRINT HYD             ID=12  CODE=1
*
*ADD 12D AND ROUTED 11&10
ADD HYD               ID=4  HYD=R12  ID=12  ID=2
PRINT HYD             ID=4  CODE=1
*
*ADD A DIVIDE HYD HERE TO SIMULATE LIMITING THE FLOW TO THE DOWNSTREAM
```

```
*   SYSTEM TO 331 CFS - WHICH WAS THE ORIGINAL DESIGN FLOW
*   IN THE FUTURE COA IS PLANNING ON PROBABLY BUILDING A POND TO LIMIT FLOW
DIVIDE HYD          ID=4  Q=315    ID=3  HYD=PIPE
                                   ID=5  HYD=POND
PRINT HYD           ID=3  CODE=1
PRINT HYD           ID=5  CODE=1
*
*ROUTE THROUGH 66INCH STORM DRAIN - USE FRICTION SLOPE INSTEAD OF PIPE SLOPE
COMPUTE RATING CURVE CID=1  VSNO=1  CODE= -1  SLP=0.0038
                     DIA=66    N=0.013
COMPUTE TRAVEL TIME ID=4  REACH NO=1  NOVS=1  L=630  SLP=0.0038
ROUTE               ID=4  HYD=RR12  INFLOW ID=3  DT=0.0
PRINT HYD           ID=4  CODE=1
*
*s RECALL FLOW FROM AMOLE DEL NORTE PHASE IIIC - DETENTION BASINS
RECALL HYD          ID=10 HYD=      501.00 DT=  .050000 HRS DA=   1.0612 SM
                    PEAK=     97.003CFS  RO= 1.8009 INCHES  NO PTS=600
FLOW RATES
        .000        .000        .000        .000        .000
        .000        .000        .000        .000        .000
        .000        .000        .000        .000        .000
        .000        .000        .000        .000        .000
        .000        .000        .000        .000        .039
        .443       2.000       5.064       5.630      15.910
      30.855      38.966      45.067      48.996      52.226
      55.002      56.732      58.292      59.709      61.000
      62.177      63.386      64.835      66.377      67.693
      68.710      69.473      70.043      70.466      70.776
      71.001      71.185      71.357      71.517      71.669
      71.812      71.948      84.498      95.031      97.003
      96.932      96.408      95.844      95.338      94.890
      94.505      94.183      93.910      93.656      93.401
      93.163      92.971      92.815      92.661      92.507
      92.378      92.252      92.103      91.946      91.786
      91.644      91.513      91.377      91.236      91.110
      91.008      90.895      90.778      90.678      90.584
      90.495      90.402      90.295      90.194      90.007
      89.662      89.252      88.838      88.416      87.976
      87.540      87.121      86.705      86.294      85.898
      85.515      85.125      84.716      84.307      83.916
      83.546      83.190      82.834      82.451      82.042
      81.649      81.281      80.908      80.512      80.117
      79.752      79.413      79.223      79.268      79.370
      79.363      79.227      78.998      78.712      78.380
      78.026      77.678      77.316      76.932      76.541
      76.135      75.722      75.319      74.945      74.584
      74.190      73.772      73.377      73.009      72.646
      72.268      71.999      71.996      71.992      71.985
      71.977      71.967      71.955      71.942      71.925
      71.907      71.885      71.861      71.835      71.806
      71.775      71.741      71.705      71.667      71.626
      71.583      71.538      71.491      71.442      71.390
      71.336      71.281      71.223      71.164      71.102
      71.039      70.973      70.906      70.837      70.767
      70.695      70.621      70.547      70.470      70.392
      70.312      70.232      70.149      70.065      69.980
      69.894      69.806      69.717      69.627      69.535
      69.442      69.348      69.253      69.157      69.059
      68.960      68.860      68.759      68.657      68.554
      68.450      68.343      68.234      68.124      68.011
      67.896      67.779      67.660      67.539      67.417
      67.292      67.166      67.038      66.909      66.778
```

66.645	66.511	66.375	66.238	66.099
65.959	65.818	65.676	65.532	65.387
65.241	65.093	64.945	64.795	64.645
64.493	64.341	64.187	64.033	63.853
63.666	63.479	63.290	63.101	62.911
62.720	62.529	62.336	62.142	61.946
61.749	61.551	61.352	61.152	60.951
60.749	60.546	60.342	60.137	59.932
59.726	59.520	59.313	59.105	58.897
58.688	58.479	58.270	58.060	57.850
57.640	57.430	57.219	57.008	56.797
56.586	56.375	56.164	55.953	55.742
55.531	55.320	55.109	54.856	54.557
54.259	53.962	53.666	53.371	53.077
52.784	52.492	52.201	51.911	51.621
51.333	51.046	50.759	50.474	50.190
49.906	49.625	49.344	49.064	48.785
48.508	48.232	47.957	47.683	47.410
47.139	46.870	46.601	46.334	46.068
45.804	45.541	45.280	45.019	44.760
44.502	44.246	43.991	43.738	43.486
43.235	42.980	42.627	42.278	41.931
41.588	41.248	40.911	40.577	40.247
39.919	39.595	39.273	38.955	38.639
38.327	38.017	37.711	37.407	37.106
36.808	36.513	36.221	35.933	35.646
35.363	35.082	34.803	34.528	34.255
33.984	33.716	33.451	33.189	32.929
32.672	32.417	32.165	31.915	31.668
31.423	31.180	30.941	30.703	30.468
30.235	30.004	29.776	29.550	29.326
29.104	28.885	28.668	28.453	28.240
28.030	27.821	27.614	27.410	27.207
27.007	26.477	25.950	25.438	24.942
24.461	23.995	23.542	23.102	22.676
22.263	21.863	21.474	21.096	20.729
20.373	20.028	19.693	19.368	19.052
18.746	18.449	18.160	17.878	17.605
17.341	17.085	16.837	16.595	16.360
16.131	15.910	15.696	15.486	15.284
15.086	14.895	14.709	14.529	14.353
14.182	14.016	13.855	13.700	13.548
13.400	13.257	13.117	12.981	12.848
12.719	12.594	12.473	12.356	12.241
12.130	12.021	11.916	11.813	11.712
11.614	11.519	11.427	11.337	11.249
11.164	11.082	11.001	10.922	10.844
10.768	10.695	10.624	10.556	10.489
10.424	10.360	10.298	10.237	10.177
10.120	10.063	10.007	9.952	9.897
9.845	9.795	9.746	9.699	9.653
9.607	9.562	9.517	9.475	9.434
9.393	9.351	9.301	9.234	9.149
9.052	8.948	8.839	8.728	8.615
8.499	8.383	8.265	8.146	8.026
7.906	7.786	7.665	7.544	7.423
7.302	7.182	7.061	6.942	6.823
6.704	6.586	6.468	6.349	6.231
6.113	6.000	5.993	5.987	5.980
5.973	5.967	5.960	5.952	5.945
5.938	5.930	5.923	5.915	5.907
5.899	5.891	5.883	5.875	5.867

```
                    5.859     5.851     5.842     5.834     5.826
                    5.817     5.809     5.800     5.791     5.783
                    5.774     5.765     5.757     5.748     5.739
                    5.730     5.721     5.712     5.703     5.695
                    5.686     5.677     5.668     5.659     5.650
                    5.641     5.632     5.623     5.614     5.604
                    5.595     5.586     5.577     5.568     5.559
                    5.550     5.541     5.532     5.523     5.514
                    5.505     5.496     5.487     5.478     5.468
                    5.459     5.450     5.441     5.432     5.423
                    5.414     5.405     5.396     5.387     5.378
                    5.369     5.360     5.351     5.342     5.333
                    5.324     5.315     5.306     5.298     5.289
                    5.280     5.271     5.262     5.253     5.244

COMPUTE NM HYD      ID=19  HYD=19D  AREA=0.0897   PER A=0  PER B=15
                    PER C=10   PER D=75  TP=0.1714  MASS RAIN=-1
PRINT HYD           ID=19  CODE=1
*
*ADD 19D AND OUTFLOW FROM DETENTION BASINS
ADD HYD             ID=5  HYD=19.1  ID=19  ID=10
PRINT HYD           ID=5  CODE=1
*
*ROUTE FLOW ALONG CENTRAL FROM 98TH ST TO 90TH ST IN 66INCH STORM DRAIN
COMPUTE RATING CURVE CID=1  VSNO=1  CODE=-1  SLP=0.024
                    DIA=66    N=0.013
COMPUTE TRAVEL TIME ID=6  REACH NO=1  NOVS=1  L=2550  SLP=.024
ROUTE               ID=6  HYD=R19.1  INFLOW ID=5  DT=0.0
PRINT HYD           ID=6  CODE=1
*
*ADD ROUTED FLOW FROM 12D, 10D and 11D
ADD HYD             ID=7  HYD=19.2   ID=6  ID=4
PRINT HYD           ID=7  CODE=1
*
*ROUTE FLOW TO STA 69+71 IN 84INCH STORM DRAIN
COMPUTE RATING CURVE CID=1  VSNO=1  CODE=-1  SLP=0.017
                     DIA=84    N=0.013
COMPUTE TRAVEL TIME ID=8  REACH NO=1  NOVS=1  L=813  SLP=0.017
ROUTE               ID=8  HYD=19.3  INFLOW ID=7  DT=0.0
PRINT HYD           ID=8  CODE=1
*
*REVISE BASIN 16 NORTH TO BRING FLOW FROM MOBILE HOMES BTWN 98TH AND 94TH
*    TO THE BRIDGE STORM DRAIN & REVISE AREA BTWN 94TH AND 90TH
*    PER SUNSET GARDENS/UNSER BLVD SD REPORT (AREA PREVIOUSLY IN 16SOUTH)
*AREA NORTH OF MOBILE HOMES FRONTING ON CENTRAL AVENUE
COMPUTE NM HYD      ID=1  HYD=16A  AREA=0.01282  PER A=0  PER B=10
                    PER C=5  PER D=85  TP=0.1333  MASS RAIN=-1
PRINT HYD           ID=1  CODE=1
*
*  MOUNTAIN VIEW MOBILE HOME PARK
COMPUTE NM HYD      ID=2  HYD=16F  AREA=0.03493  PER A=2  PER B=33
                    PER C=2  PER D=63  TP=0.134  MASS RAIN=-1
PRINT HYD           ID=2  CODE=1
*
*ADD BASINS 16A AND 16F
ADD HYD             ID=3  HYD=16F.1  ID=1  ID=2
PRINT HYD           ID=3  CODE=1
*
*ROUTE THIS FLOW DOWN BRIDGE TO BRING IT TO THE PROJECT THROUGH 16B
*    ASSUME IN A PIPE
COMPUTE RATING CURVE CID=1  VSNO=1  CODE=-1  SLOPE=0.01
                    DIA= 48  N=0.013
```

Map Pocket

Grading and Drainage Plan

CITY OF ALBUQUERQUE
PLANNING DEPARTMENT

HYDROLOGY DEVELOPMENT SECTION
DEVELOPMENT REVIEW BOARD MEMO

DRB PROJECT NO: 1004354 **AGENDA ITEM NO: 7**

SUBJECT:

Plat Approval

Site Plan for Building Permit

ENGINEERING COMMENTS:

Hydrology has no objection.

Hydrology has no objection.

When submitting the grading and drainage plan for Building Permit:

1. The slight increase in runoff should be mitigated by water harvesting in the landscape areas on the
2. The dumpster should drain to the sanitary sewer.

RESOLUTION/COMMENTS:

SIGNED:

Curtis Cherne
Hydrology Section
City Engineer Designee
AMAFCA Designee
924-3986

DATE: 7-24-13

+

CITY OF ALBUQUERQUE
PLANNING DEPARTMENT

HYDROLOGY DEVELOPMENT SECTION
DEVELOPMENT REVIEW BOARD MEMO

DRB PROJECT NO: 1009090 **AGENDA ITEM NO: 1**

SUBJECT:

Site Plan for Building Permit

ENGINEERING COMMENTS:

Hydrology is conditionally approving the site plan and can sign the infrastructure list.

Conditions:

1. The drainage report and overall grading plan are to be modified per our latest discussion.
2. The modified overall grading plan, once approved, is to be inserted in to the plan set.

A recorded SIA is required for signature on the site plan.

RESOLUTION/COMMENTS:

SIGNED:

Curtis Cherne
Hydrology Section
City Engineer Designee
AMAFCA Designee
924-3986

DATE: 7-10-13

7-23-13

church's on 9th st

check DRB for approval

Conceptual drainage plan

CL

CITY OF ALBUQUERQUE

April 16, 2008

Ronald Ray Bohannan, P.E.
Tierra West, LLC.
5571 Midway Park Place N.E.
Albuquerque, NM 87109

Re: Krania, 110 98th St. NW—Bldgs 1-5 & 9, Northeast Corner of 98th & Central,

Approval of Permanent Certificate of Occupancy (C.O.), Engineer's Stamp dated 5-24-07 (K-09/D031)

Certification dated 4-16-08

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Mr. Bohannan:

Based upon the information provided in your submittal received 4-16-08, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

If you have any questions, you can contact me at 924-3982.

Sincerely,

Timothy E. Sims
Plan Checker
Development and Building Services

C: CO Clerk – Katrina Sigala
File

DRAINAGE AND TRANSPORTATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Krania
ZONE MAP/DRG. FILE # K9/D30
DRB : 1004354
EPC #:
WORK ORDER #: 7903.82

LEGAL DESCRIPTION Lots 1 & 5
CITY ADDRESS: 110 98th St. NW & 120 98th St. NW

ENGINEERING FIRM:	Tierra West, LLC	CONTACT:	Ron Bohannan
ADDRESS:	5571 Midway Park Place	PHONE:	(505) 858-3100
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87109
OWNER:	Monahiti LLC	CONTACT:	Pete Daskalos
ADDRESS:	5321 Menaul Blvd	PHONE:	(505) 883-0414
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87110
ARCHITECT:	N/A	CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	Precision Surveys, Inc.	CONTACT:	Larry Medrano
ADDRESS:	8500-A Jefferson Street NE	PHONE:	(505) 856-5700
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87113
CONTRACTOR:	Chava Trucking	CONTACT:	Rudy Guzman
ADDRESS:	P.O. Box 25427	PHONE:	(505) 452-0663
CITY, STATE:	Albuquerque, NM 87105	ZIP CODE:	87105

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ____ YES
- x NO
- ____ COPY PROVIDED

RECEIVED
APR 16 2008
HYDROLOGY SECTION

DATE SUBMITTED: 4/16/2007
BY: Brad Frosch (cell# 263-5808)

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

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

CITY OF ALBUQUERQUE

April 8, 2008

Ronald Ray Bohannan, P.E.
Tierra West, LLC.
5571 Midway Park Place N.E.
Albuquerque, NM 87109

Re: El Mezquite, 100 98th St. NW,
Approval of Permanent Certificate of Occupancy (C.O.), Engineer's Stamp dated 5/24/07 (K-09/D038)
Certification dated 4/04/08

Mr. Bohannan:

Based upon the information provided in your submittal received 4/07/08, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

If you have any questions, you can contact me at 924-3982.

Sincerely,

Timothy Sims
Plan Checker
Development and Building Services

C: CO Clerk – Katrina Sigala
File

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: El Mezquite — ZONE MAP/DRG. FILE # K9/D31

DRB #: 1004354 — EPC #: — WORK ORDER #: 7903.82

LEGAL DESCRIPTION: Lot A, Monahiti

CITY ADDRESS: 100 98th Street NW

ENGINEERING FIRM:	Tierra West, LLC	CONTACT:	Ron Bohannan
ADDRESS:	5571 Midway Park Place	PHONE:	(505) 858-3100
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87109
OWNER:	Monahiti LLC	CONTACT:	Pete Daskalos
ADDRESS:	5321 Menaul Blvd	PHONE:	(505) 883-0414
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87110
ARCHITECT:	N/A	CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	Precision Surveys, Inc.	CONTACT:	Larry Medrano
ADDRESS:	8500-A Jefferson Street NE	PHONE:	(505) 856-5700
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87113
CONTRACTOR:	Chava Trucking	CONTACT:	Rudy Guzman
ADDRESS:	P.O Box 25427	PHONE:	(505) 452-0663
CITY, STATE:	Albuquerque, NM 87105	ZIP CODE:	87105

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ___ YES
- x NO
- ___ COPY PROVIDED

RECEIVED
APR 07 2008
HYDROLOGY SECTION

DATE SUBMITTED: 4/7/2008 — BY: Brad Frosch (cell# 263-5808)

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

1. **Conceptual Grading and Drainage Plans**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
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3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

CITY OF ALBUQUERQUE

April 16, 2008

Ronald Ray Bohannan, P.E.
Tierra West, LLC.
5571 Midway Park Place N.E.
Albuquerque, NM 87109

Re: Krania, 110 98th St. NW—Bldgs 1-5 & 9, Northeast corner of 98th & Central,

Approval of 90 Day Temporary Certificate of Occupancy (C.O.), Engineer's Stamp dated 5-24-07 (K-09/D031)

Certification dated 4-14-08

Mr. Bohannan:

Based upon the information provided in your submittal received 4-14-08, the above referenced certification is approved for release of 90 Day Temporary Certificate of Occupancy by Hydrology.

If you have any questions, you can contact me at 924-3982.

Sincerely,

Timothy E. Sims
Plan Checker
Development and Building Services

C: CO Clerk – Katrina Sigala
File

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION SHEET

(REV. 1/28/2003rd)

K-09/D031

PROJECT TITLE: Krania
ZONE MAP/DRG. FILE # ~~K9/D30~~
DRB : 1004354 EPC #:
WORK ORDER #: 7903.82

LEGAL DESCRIPTION Lots 1 and 5
CITY ADDRESS: 110 98th St. NW & 120 98th St. NW

ENGINEERING FIRM:	Tierra West, LLC	CONTACT:	Ron Bohannan
ADDRESS:	5571 Midway Park Place	PHONE:	(505) 858-3100
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87109
OWNER:	Monahiti LLC	CONTACT:	Pete Daskalos
ADDRESS:	5321 Menaul Blvd	PHONE:	(505) 883-0414
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87110
ARCHITECT:	N/A	CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	Precision Surveys, Inc.	CONTACT:	Larry Medrano
ADDRESS:	8500-A Jefferson Street NE	PHONE:	(505) 856-5700
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87113
CONTRACTOR:	Chava Trucking	CONTACT:	Rudy Guzman
ADDRESS:	P.O. Box 25427	PHONE:	(505) 452-0663
CITY, STATE:	Albuquerque, NM 87105	ZIP CODE:	87105

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ___ YES
- x NO
- ___ COPY PROVIDED

RECEIVED
APR 14 2008
HYDROLOGY SECTION

DATE SUBMITTED: 4/14/2008 BY: Brad Frosch (cell# 263-5808)

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

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3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

CITY OF ALBUQUERQUE

Planning Department
Transportation Development Services Section

April 16, 2008

Ronald Bohannan, P.E.
5571 Midway Park Place NE
Albuquerque, NM 87109

Re: Certification Submittal for Final Building Certificate of Occupancy for
Krania Lots 1 & 5 (Bldgs 1-5 & 9), [K-09 / D031]
110 & 120 98th St. NW
Engineer's Stamp Dated 04/16/08

Dear Mr. Bohannan:

The TCL / Letter of Certification submitted on April 16, 2008 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Sincerely,

Nilo E. Salgado-Fernandez, P.E.
Senior Traffic Engineer
Development and Building Services
Planning Department

c: Engineer
Hydrology file
CO Clerk

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION SHEET

(REV. 1/28/2003rd)

D31

PROJECT TITLE: Krania
DRB : 1004354 EPC #:
ZONE MAP/DRG. FILE # K9/~~D30~~
WORK ORDER #: 7903.82

LEGAL DESCRIPTION Lots 1 & 5
CITY ADDRESS: 110 98th St. NW & 120 98th St. NW

ENGINEERING FIRM: Tierra West, LLC
ADDRESS: 5571 Midway Park Place
CITY, STATE: Albuquerque, NM
CONTACT: Ron Bohannan
PHONE: (505) 858-3100
ZIP CODE: 87109

OWNER: Monahiti LLC
ADDRESS: 5321 Menaul Blvd
CITY, STATE: Albuquerque, NM
CONTACT: Pete Daskalos
PHONE: (505) 883-0414
ZIP CODE: 87110

ARCHITECT: N/A
ADDRESS:
CITY, STATE:
CONTACT:
PHONE:
ZIP CODE:

SURVEYOR: Precision Surveys, Inc.
ADDRESS: 8500-A Jefferson Street NE
CITY, STATE: Albuquerque, NM
CONTACT: Larry Medrano
PHONE: (505) 856-5700
ZIP CODE: 87113

CONTRACTOR: Chava Trucking
ADDRESS: P.O. Box 25427
CITY, STATE: Albuquerque, NM 87105
CONTACT: Rudy Guzman
PHONE: (505) 452-0663
ZIP CODE: 87105

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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- ___ SECTOR PLAN APPROVAL
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- ___ PAVING PERMIT APPROVAL
- ___ WORK ORDER APPROVAL
- ___ SO-19

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ___ YES
- x NO
- ___ COPY PROVIDED

RECEIVED
APR 16 2008
HYDROLOGY SECTION

DATE SUBMITTED: 4/16/2007 BY: Brad Frosch (cell# 263-5808)

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

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TIERRA WEST, LLC

5571 Midway Park Place NE Albuquerque, NM 87109
(505) 858-3100 Fax (505) 858-1118 1-800-245-3102
tierrawestllc.com

April 16, 2008

Mr. Nilo Salgado-Fernandez, PE
Development and Building Services
Public Works Department
PO Box 1293
Albuquerque, NM 87103

RE: Certification of Site Plan for Final Certificate of Occupancy
Lots 1 & 5, Krania
110 & 120 98th Street NW

Dear Mr. Salgado-Fernandez:

Tierra West, LLC requests a Final Certification of the approved Site Plan for Building Permit for Lots 1 & 5, located at 110 & 120 98th Street NW, respectively. Construction of the site improvements are in substantial compliance with the approved Site Plan for Building Permit. Enclosed, please find the information sheet, the As-Built Approved Site Plan for Building Permit, the Site Plan for Subdivision and the Amended Site Plan for Subdivision (for reference only). Therefore, we request Final Certificate of Occupancy.

If you have any questions or need additional information regarding this matter, please do not hesitate to contact me.

Sincerely,

Ronald R. Bohannan, PE

Enclosures

cc: Pete Daskalos

JN: 25066
RRB/BF/kdk

2005 25066 El Mezquite Perm CO Krania lots 1and5

RECEIVED
APR 16 2008
HYDROLOGY SECTION

CITY OF ALBUQUERQUE

Planning Department
Transportation Development Services Section

April 1, 2008

Ronald R. Bohannan, P.E.
5571 Midway Park Place NE
Albuquerque, NM 87109

Re: Certification Submittal for Final Building Certificate of Occupancy for
El Mesquite Market, [K-09 / D031]
100 98th Street NW
Engineer's Stamp Dated 03/26/08

Dear Mr. Bohannan:

The TCL / Letter of Certification submitted on March 31, 2008 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Sincerely,

Nilo E. Salgado-Fernandez, P.E.
Senior Traffic Engineer
Development and Building Services
Planning Department

c: Engineer
Hydrology file
CO Clerk

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

TIERRA WEST, LLC

5571 Midway Park Place NE Albuquerque, NM 87109
(505) 858-3100 Fax (505) 858-1118 1-800-245-3102
tierrawestllc.com

March 26, 2008

Mr. Nilo Salgado-Fernandez, PE
Development and Building Services
Public Works Department
PO Box 1293
Albuquerque, NM 87103

RE: TCL Certification for Final Certificate of Occupancy
El Mezquite Market
100 98th Street NW

Dear Mr. Salgado-Fernandez:

Tierra West, LLC requests a Final Certification of the approved TCL for the El Mezquite Market at 100 98th Street NW. Construction of the site improvements is in substantial compliance with the approved Traffic Circulation Layout. Enclosed, please find the information sheet and the As-Built Approved Traffic Circulation Layout. Therefore, we request Final Certificate of Occupancy.

If you have any questions or need additional information regarding this matter, please do not hesitate to contact me.

Sincerely,

Ronald R. Bohannan, PE

Enclosure/s

cc: Pete Daskalos

JN: 25066
RRB/BF/kdk

RECEIVED
MAR 31 2008
HYDROLOGY SECTION

2005 25066 El Mezquite Perm CO Nilo032408

DRAINAGE AND TRANSPORTATION SHEET

(REV. 1/28/2003rd)

K-09/D031

PROJECT TITLE: El Mezquite
DRB : 1004354 EPC #:
ZONE MAP/DRG. FILE #: ~~K9/D30~~
WORK ORDER #: 7903.82

LEGAL DESCRIPTION: Lot A, Monahiti
CITY ADDRESS: 100 98th Street NW

ENGINEERING FIRM:	Tierra West, LLC	CONTACT:	Ron Bohannan
ADDRESS:	5571 Midway Park Place	PHONE:	(505) 858-3100
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87109
OWNER:	Monahiti LLC	CONTACT:	Pete Daskalos
ADDRESS:	5321 Menaul Blvd	PHONE:	(505) 883-0414
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87110
ARCHITECT:	N/A	CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	Precision Surveys, Inc.	CONTACT:	Larry Medrano
ADDRESS:	8500-A Jefferson Street NE	PHONE:	(505) 856-5700
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87113
CONTRACTOR:	Chava Trucking	CONTACT:	Rudy Guzman
ADDRESS:	P.O. Box 25427	PHONE:	(505) 452-0663
CITY, STATE:	Albuquerque, NM 87105	ZIP CODE:	87105

CHECK TYPE OF SUBMITTAL:

- ___ DRAINAGE REPORT
- ___ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
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- ___ CLOMR/LOMR
- X TRAFFIC CIRCULATION LAYOUT (TCL)
- ___ ENGINEERS CERTIFICATION (TCL)
- ___ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ___ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

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- ___ PAVING PERMIT APPROVAL
- ___ WORK ORDER APPROVAL
- ___ SO-19

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ___ YES
- x NO
- ___ COPY PROVIDED

RECEIVED
MAR 31 2008
HYDROLOGY SECTION

DATE SUBMITTED: 3/24/2008 BY: Brad Frosch (cell# 263-5808)

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

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CITY OF ALBUQUERQUE

April 23, 2007

Ronald R. Bohannan, P.E.
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, NM 87109

Re: NE Corner of 98th & Central Grading and Drainage Plan
Engineer's Stamp dated 7-17-07 (L20-D08)

Dear Mr. Bohannan,

Based upon the information provided in your submittal received 7-17-07, the above referenced plan is approved for SO#19 Permit. A separate permit is required for construction within City R/W. A copy of this approval letter must be on hand when applying for the excavation permit. Acceptance of the work by the City's Storm Drain Maintenance Inspector is required for Certificate of Occupancy signoff by Hydrology.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham, PE
Principal Engineer, Planning Dept.
Development and Building Services

C: Antoinette Baldonado, DMD
Dwayne Schmitz, DMD
file

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION SHEET

(REV. 1/28/2003rd)

K-9/D 31

PROJECT TITLE: NE Corner 98th & Central
DRB #: 1004354 EPC #:
ZONE MAP/DRG. FILE #: ~~K9/D30~~
WORK ORDER #: ***7903.82***

LEGAL DESCRIPTION: Portions of Lot 27 and Tract O, Original Townsite of Westland
CITY ADDRESS:

ENGINEERING FIRM:	Tierra West, LLC	CONTACT:	Ron Bohannan
ADDRESS:	5571 Midway Park Place	PHONE:	(505) 858-3100
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87109
OWNER:	Monahiti, LLC	CONTACT:	Pete Daskalos
ADDRESS:	5321 Menaul Blvd	PHONE:	(505) 883-0414
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87110
ARCHITECT:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	Precision Surveys, Inc.	CONTACT:	Larry Medrano
ADDRESS:	8500-A Jefferson Street NE	PHONE:	(505) 856-5700
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87113
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	

CHECK TYPE OF SUBMITTAL:

- ____ DRAINAGE REPORT
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- ____ CONCEPTUAL GRADING & DRAINAGE PLAN
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ____ CLOMR/LOMR
- ____ TRAFFIC CIRCULATION LAYOUT (TCL)
- ____ ENGINEERS CERTIFICATION (TCL)
- ____ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ____ OTHER

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- ____ PAVING PERMIT APPROVAL
- ____ WORK ORDER APPROVAL
- X SO-19

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ____ YES
- x NO
- ____ COPY PROVIDED

RECEIVED
JUL 17 2007
HYDROLOGY SECTION

DATE SUBMITTED: 7/7/2007 BY: Sarah Abeyta

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

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CITY OF ALBUQUERQUE

December 21, 2006

Ronald R. Bohannan, P.E.
Tierra West, LLC.
5571 Midway Park Place NE
Albuquerque, NM 87103

Re: 98th and Central request for Building Permit Engineer's Stamp dated 12-1-06 (K9/D31)

Dear Mr. Bohannan,

Based upon the information provided in your submittal received 12-5-06, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Although typically a work order item, due to its location outside of the Central Ave. traffic lanes and within the proposed access driveway, your manhole #5 may be constructed with an SO-19 permit. Please submit two (2) copies of the plan with the appropriate SO-19 general notes. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions, you may contact either myself at 924-3990 or Kristal Metro at 924-3981.

Sincerely,

Jeremy Hoover, P.E.
Senior Engineer
Hydrology Section
Development and Building Services

cc: file K9/D31

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

CITY OF ALBUQUERQUE

June 18, 2007

Ronald R. Bohannan, P.E.
Tierra West, LLC.
5571 Midway Park Place NE
Albuquerque, NM 87103

Re: 98th and Central request for Building Permit (K9/D31)
Engineer's Stamp dated ~~5-29-07~~ 5-24-07 8-16-07

Dear Mr. Bohannan,

Based upon the information provided in your submittal received on June 18, 2007, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Although typically a work order item, due to its location outside of the Central Ave. traffic lanes and within the proposed access driveway, the proposed southernmost storm drain manhole may be constructed with an SO-19 permit. Please submit two (2) copies of the plan with the appropriate SO-19 general notes. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

This project will also require a National Pollutant Discharge Elimination System (NPDES) permit. Inquiries regarding this permit should be directed to Sertil Kandar at 768-3645. In addition to submitting an NOI to the EPA and preparing a SWPPP, please send a copy of their SWPPP on a CD in .pdf format to Kathy Verhage with the Department of Municipal Development Storm Drainage Division at the following address.

Department of Municipal Development
Storm Drainage Division
P.O. Box 1293, One Civic Plaza, Rm. 301
Attn: Kathy Verhage
Albuquerque, NM 87103

If you have any questions, you may contact me at 924-3990.

Sincerely,

Jeremy Hoover, P.E.
Senior Engineer
Hydrology Section
Development and Building Services

cc: file K9/D31

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

7903.82

w/o &

5D 19

BEFORE C.O.

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: NE Corner 98th + Central ZONE MAP/DRG. FILE # K9/D31
DRB#: 1004354 EPC#: WORK ORDER#:

LEGAL DESCRIPTION: Lots 22-26, Block 9, Original Townsite of Westland
CITY ADDRESS: 100 98th NW

ENGINEERING FIRM: Tierra West LLC CONTACT: Sarah Abeyta
ADDRESS: 5571 Midway Pk Pl. PHONE: 858-3100
CITY, STATE: ABQ, NM ZIP CODE: 87109

OWNER: Monaliti LLC CONTACT: Pete Daskalos
ADDRESS: 5321 Menaul Blvd PHONE: 883-0414
CITY, STATE: ABQ, NM ZIP CODE: 87110

ARCHITECT: CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

SURVEYOR: Precision Surveys CONTACT: Larry Medrano
ADDRESS: 8600-A Jefferson PHONE: 856-5700
CITY, STATE: ABQ, NM ZIP CODE: 87113

CONTRACTOR: CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

TYPE OF SUBMITTAL:
_____ DRAINAGE REPORT
_____ DRAINAGE PLAN 1st SUBMITTAL
X DRAINAGE PLAN RESUBMITTAL
_____ CONCEPTUAL G & D PLAN
_____ GRADING PLAN
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERT (HYDROLOGY)
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT
_____ ENGINEER/ARCHITECT CERT (TCL)
_____ ENGINEER/ARCHITECT CERT (DRB S.P.)
_____ ENGINEER/ARCHITECT CERT (AA)
_____ OTHER (SPECIFY)

CHECK TYPE OF APPROVAL SOUGHT:
_____ SIA/FINANCIAL GUARANTEE RELEASE
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D APPROVAL
_____ S. DEV. FOR BLDG. PERMIT APPROVAL
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
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_____ CERTIFICATE OF OCCUPANCY (TEMP)
_____ GRADING PERMIT APPROVAL
_____ PAVING PERMIT APPROVAL
_____ WORK ORDER APPROVAL
_____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:
_____ YES
_____ NO
_____ COPY PROVIDED

RECEIVED
JUN 18 2007
HYDROLOGY SECTION

SUBMITTED BY: Sarah Abeyta DATE: 6/18/07

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

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.

2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

TIERRA WEST, LLC

5571 Midway Park Place NE
Albuquerque, NM 87109

(505) 858-3100
fax (505) 858-1118

twllc@tierrawestllc.com
1-800-245-3102

May 24, 2007

Mr. Bradley Bingham, PE
Public Works Department
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RE: Revised Grading Plan and Building Permit Approval for
NE Corner 98th & Central
Zone Atlas K9/D31

Dear Mr. Bingham:

Tierra West, LLC on behalf of Krania, LLC, requests approval for Grading Plan and Building Permit changes made to the revised Grading and Drainage Plan dated 5-24-07 for the above referenced project. The original Grading and Drainage Plan was approved on 12-01-06, Drainage file number K9/D31. The Grading and Drainage Plan was changed due to some modifications on the building footprint. The approved concept covered in the original Drainage Report is still in place and the basins and they all drain as originally planned. The amount of discharge for each basin also remains the same as originally approved. The revised plan is being submitted for re-approval in order to make the plan more accurate at the time As-Builts are prepared when the project is complete. The changes from the original plan are shown on the attached Grading and Drainage Plan.

If you have any questions or need additional information regarding this matter, please do not hesitate to contact me.

Sincerely,

Ronald R. Bohannan, P.E.

Enclosure/s

cc: Pete Daskalos

JN: 25066
RRB/cla

RECEIVED
JUN 18 2007
HYDROLOGY SECTION

2007-25066 Brad Bingham grading and building approval 05-24-07.doc

CITY OF ALBUQUERQUE

January 22, 2007

Ronald Bohannan, P.E.
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, NM 87109

Re: 98th and Central Commercial Development aka El Mesquite Market, 100 98th Street, Traffic Circulation Layout
Engineer's Stamp dated 1-10-07 (K9-D31)

Dear Mr. Bohannan,

The TCL submittal received 1-18-07 is approved for Building Permit. The plan is stamped and signed as approved. A copy of this plan will be needed for each of the building permit plans. Please keep the original to be used for certification of the site for final C.O. for Transportation. **Public infrastructure or work done within City Right-of-Way shown on these plans is for information only and is not part of approval. A separate DRC and/or other appropriate permits are required to construct these items.** In addition, please be aware that a cross lot access easement must be recorded prior to the future development shown on the plan.

If a temporary CO is needed, a copy of the original TCL that was stamped as approved by the City will be needed. This plan must include a statement that identifies the outstanding items that need to be constructed or the items that have not been built in "substantial compliance," as well as the signed and dated stamp of a NM registered architect or engineer. Submit this TCL with a completed Drainage and Transportation Information Sheet to Hydrology at the Development Services Center of Plaza Del Sol Building.

When the site is completed and a final C.O. is requested, use the original City stamped approved TCL for certification. A NM registered architect or engineer must stamp, sign, and date the certification TCL along with indicating that the development was built in "substantial compliance" with the TCL. Submit this certification TCL with a completed Drainage and Transportation Information Sheet to Hydrology at the Development Services Center of Plaza Del Sol Building.

Once verification of certification is completed and approved, notification will be made to Building Safety to issue Final C.O. To confirm that a final C.O. has been issued, call Building Safety at 924-3306.

Sincerely,

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

C: File

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

DRAINAGE AND TRANSPORTATION SHEET

(REV. 1/28/2003rd)

K-9/D031

98TH and Central Commercial Development K9/D031

PROJECT TITLE: NE Corner 98th & Central Comm Dev ZONE MAP/DRG. FILE #: ~~K9/D30~~

DRB #: 1004354 EPC #: WORK ORDER #:

LEGAL DESCRIPTION: Lots 22 thru 26, Block 9, Original Townsite of Westland

CITY ADDRESS: 100 98th Street SW

ENGINEERING FIRM:	Tierra West, LLC	CONTACT:	Ron Bohannan
ADDRESS:	5571 Midway Park Place	PHONE:	(505) 858-3100
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87109

Ron Bohannan Stamp Date → 1/10/07

OWNER:	Monahiti, LLC	CONTACT:	Pete Daskalos
ADDRESS:	5321 Menaul Blvd.	PHONE:	202-883-0414
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87110
ARCHITECT:		CONTACT:	
ADDRESS:		PHONE:	
CITY,.STATE:		ZIP CODE:	
SURVEYOR:	Precision Surveys	CONTACT:	Larry Medrano
ADDRESS:	8500-A Jefferson Street NE	PHONE:	505-856-5700
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87109
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ____ YES
- x NO
- ____ COPY PROVIDED

RECEIVED
JAN 18 2007
HYDROLOGY SECTION

DATE SUBMITTED: ~~1/10/2007~~ BY: Sarah Abeyta

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

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2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

2 copies of TCL needed

Per Jane Rael, an encroachment agreement is not needed for this parking lot
- no parking spaces in the ROW
(spaces in the ROW do not count toward required spaces)

Prior to future development, a cross lot access easement must be recorded

GRANT OF EASEMENT

Krania LLC (Grantor), being the owner(s) of the real property described on Exhibit "A" attached hereto, for good and valuable consideration, the receipt of which is hereby acknowledged, does grant unto **Monahiti LLC** ("Grantee"), and its successors and assigns: **A Parking and Pedstrian Easement** ("Easement") for the benefit of Grantees property access in, under, over and across the following described real estate: **Lots 22, 23, 24, 25 and 26, Block 29 of the Original Townsite of Westland, filed in the office of the County Clerk, Bernalillo County, New Mexico on March 23, 1935, in Map Book D, Folio 53** more particularly described on Exhibit A.

Grantor shall be responsible for the improvement construction, reconstruction, installation, maintenance, repair, modification, replacement and operation of the Easement.

Except by the written approval of Grantor, no fence, building or other obstruction shall be placed or maintained in said Easement. The granting of this Easement shall not obligate the Grantor to provide for the protection of property outside of the Easement granted.

Grantor reserves all rights to use the Parking and Pedestrian Easement for itself and its invitees not inconsistent with this Grant of Easement including the right to use said lands for open space, landscaping, parking and other purposes which will not interfere with the rights hereby granted

To have and to hold the said right and Easement for the uses and purposes aforesaid, unto the Grantee, their successors and assigns, forever.

Witness its hand and seal this 17th day of January, 2007

By: _____

Title: Manager

ACKNOWLEDGEMENT

STATE OF NEW MEXICO)
)
COUNTY OF BERNALILLO)

NOTARY PUBLIC
STATE OF
NEW MEXICO
MICHELE B. ORTIZ
My Commission Expires 8/11/10

The foregoing instrument was acknowledged before me this 17th day of January, 2007, by **Peggy Daskalos** (person), Manager (title) of **Krania LLC**, a New Mexico **Corporation**.

Michele B Ortiz
Notary Public
My Commission Expires: 8/11/10

Exhibit A

Legal Description
Pedestrian Access and Parking Easement

A PUBLIC PEDESTRIAN AND PARKING EASEMENT, LYING AND SITUATE WITHIN THE TOWN OF ATRISCO GRANT, PROJECTED SECTION 21, TOWNSHIP 10 NORTH, RANGE 2 EAST, NEW MEXICO PRINIPAL MERIDAN, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, COMPRISING OF THE REMAINING PORTION OF TRACT LETTERED "O" AND THE REMAINING WESTERLY PORTION OF LOT NUMBERED TWENTY-SEVEN (27), IN BLOCK NUMBERED TWENTY-NINE (29) OF THE ORIGINAL TOWNSITE OF WESTLAND AS THE SAME ARE SHOWN AND DESIGNATED ON THE PLAT THEREOF, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON MARCH 23, 1935, IN MAP BOOK D, FOLIO 53, SAID TRACT BEING MORE PARTICULARLY DESCRIBED BY NEW MEXICO STATE PLANE COORDINATE (CENTRAL ZONE-NORTH AMERICAN DATUM OF 1927) GRID BEARINGS AND GROUND DISTANCES (US SURVEY FOOT) BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHERNMOST CORNER OF DESCRIBED EASEMENT, ALSO BEING A POINT LYING ON THE EAST RIGHT OF WAY OF 98TH STREET, NW, FROM WHENCE A TIE TO ALBUQUERQUE CONTROL SURVEY MONUMENT "10-L9" BEARS S 30°05'14" W, A DISTANCE OF 99.07 FEET;

THENCE FROM SAID BEGINNING POINT, N 14°59'24" W ALONG SAID EAST RIGHT OF WAY LINE, A DISTANCE OF 220.07 FEET TO THE NORTHWEST CORNER OF DESCRIBED EASEMENT TO AN ANGLE POINT;

THENCE LEAVING SAID EAST RIGHT OF WAY LINE, N 74°55'40" E A DISTANCE OF 60.23 FEET TO THE NORTHEAST CORNER OF DESCRIBED EASEMENT MARKED BY A FOUND ½ INCH IRON PIPE (BENT);

THENCE S 00°20'45" W A DISTANCE OF 20.88 FEET TO A FOUND 1 INCH IRON PIPE;

THENCE S 00°18'25" W A DISTANCE OF 207.36 FEET TO THE POINT OF BEGINNING HAVING AN AREA OF 0.1521 ACRES (6,626 SQUARE FEET) MORE OR LESS, ALL AS SHOWN ON THE ATTACHED EXHIBIT A.

Surveyor's Certificate

I, LARRY W. MEDRANO, A REGISTERED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO, HEREBY CERTIFY THAT THIS LEGAL DESCRIPTION WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY MEETING THE MINIMUM REQUIREMENTS FOR THIS CLASSIFICATION OF SURVEY AS PER THE MINIMUM STANDARDS FOR LAND SURVEYING IN NEW MEXICO AS ADOPTED BY THE N.M. BOARD OF REGISTRATION FOR ENGINEERS AND SURVEYORS, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

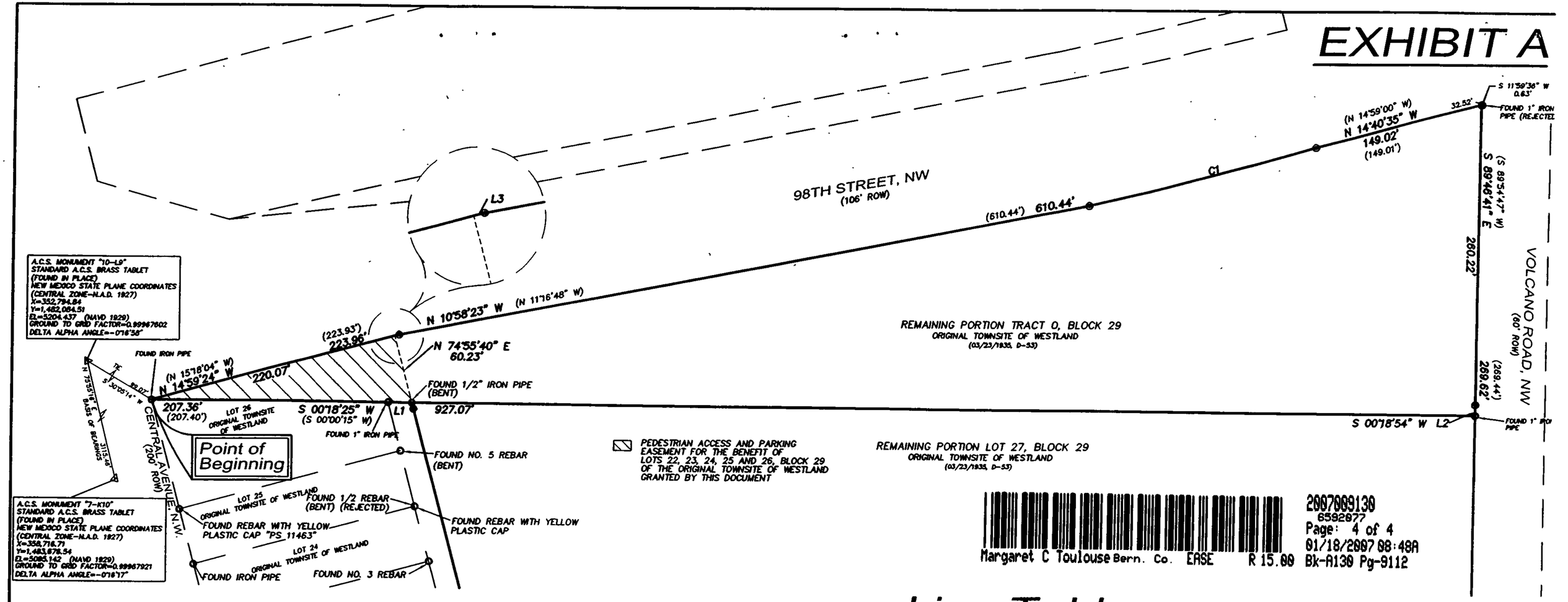
01/04/2007

LARRY W. MEDRANO
N.M.P.S. NO. 11993

DATE

G:\Documents\Legal Descriptions\2006 legals\068353EX-LGL.doc

EXHIBIT A



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Page: 4 of 4
01/18/2007 08:48A
Bk-A130 Pg-9112
Margaret C Toulouse Bern. Co. EASE R 15.00

Curve Table

CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	CHORD LENGTH	CHORD BEARING
C1	3146.20'	203.22'	03°42'03"	101.64'	203.18'	S 14°39'19" E
	(3146.20')	(203.18')	(03°42'03")		(S 14°57'44" E)	(203.18')

Line Table

LINE	BEARING	DISTANCE
L1	S 00°20'45" W	20.88'
	(S 00°00'15" E)	(21.06')
L2	N 89°46'41" W	9.40'
L3	N 14°59'24" W	3.90'

Legend

0' 100' 200' 300'

SCALE 1'=100'

(N 90°00'00" E)	RECORD BEARINGS AND DISTANCES SHOWN IN PARENTHESIS
N 90°00'00" E	MEASURED BEARING AND DISTANCES
○	FOUND AND USED MONUMENT AS DESIGNATED
◉	DENOTES NO. 4 REBAR WITH YELLOW PLASTIC CAP "PS 11993" SET THIS SURVEY

PRECISION SURVEYS, INC.

8500-A Jefferson Street, NE
Albuquerque, NM 87113

866.422.8011 TOLL FREE
505.856.5700 PHONE
505.856.7900 FAX

CITY OF ALBUQUERQUE

December
~~November~~ 19, 2006

Ronald Bohannan, P.E.
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, NM 87109

Re: 98th and Central Commercial Development, 100 98th Street SW, Traffic Circulation Layout
No Engineer's Stamp (K9-D31)

Dear Mr. Bohannan,

Based upon the information provided in your submittal received 12-12-06, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. The traffic circulation layout must be stamped, signed, and dated by an engineer or architect licensed in the state of New Mexico.
2. Provide the dimensions of the parking spaces located to the south of the proposed building.
3. A copy of both the encroachment agreement and the cross lot access easement must be provided.

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

Sincerely,

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

C: File

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

CITY OF ALBUQUERQUE

October 31, 2006

Ronald Bohannan, P.E.
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, NM 87109

Re: 98th and Central Commercial Development, 100 98th Street SW, Traffic Circulation Layout

Engineer's Stamp dated 10-18-06 (K9-D31)

Dear Mr. Bohannan,

Based upon the information provided in your submittal received 10-19-06, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

1. Clarify existing versus proposed versus future conditions.
2. Provide a copy of refuse approval.
3. Show the extents of the proposed screen wall.
4. Are you closing off access to the alley? Please provide more details.
5. Has the public alley been vacated in this area? Provide proof of this vacation. yes, per WG
6. Show the existing entrance clearly; define the width. Provide a build note stating that the sidewalk and curb and gutter will be rebuilt in this area.
7. Is there a work order for this site? What are the extents of the work order? Are you adding median access along Central?
8. List the number of parking spaces required by the zoning code as well as the proposed number of parking spaces. spaces outside of property don't count - encroachment agrmt
9. What do the boundary lines indicate? Where are the property lines?
10. Provide recorded copies of all access easements.
11. Please note that the 2-foot overhang is not allowed to encroach on the 6 foot required width of sidewalk.
12. Truncated domes must be included on all ramps located in the public right of way.
13. A wheelchair ramp is required at all curb return entrances.
14. All entrances require striping and/or signing to define proper usage.
15. Label the compact parking spaces by placing the words "compact" on the pavement of each space.

copy of encroachment agrmt and cross lot access esmt

Stamp, sign, and date

Need dimensions of spaces S of bldg.

CITY OF ALBUQUERQUE

16. The minimum dimensions of compact parking spaces are 15 feet in length and 8 feet in width.
17. Any parking space that does not have a clear area of 8.5 feet in width and 18 feet in length (assuming a 2 foot overhang) should be considered a compact space. Therefore, the spaces that have a landscaping island intruding upon this area are compact spaces and should be designated as such.
18. Per Chapter 23 of the Development Process Manual, Section 7, Part B.1, "Where a large number of small car spaces are utilized, these spaces should be spread throughout the parking area instead of being clustered in one area."
19. Show the heavy vehicle circulation path. This can be shown on a separate sheet if necessary.
20. Check the location of keyed note 8 along Central Avenue.
21. Call out the width of the landscaped islands. Please note that a 10-foot minimum width is required.
22. A meandering sidewalk is shown along a portion of 98th Street; is this existing? Please note that a sidewalk easement shall be required for all public sidewalk located outside of the right of way.
23. Provide proof that adequate queuing lengths are provided. Is this site going to be developed as a supermarket? If so, a 75-foot minimum throat length is required.

FUTURE

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

Sincerely,

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

C: File

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: ~~NE Corner~~ 98th & Central - Commercial Development ZONE MAP/DRG. FILE #: ~~K9/D31~~ K-9/D31

DRB #: 1004354 EPC #: WORK ORDER #:

LEGAL DESCRIPTION: Lots 22 thru 26, Block 9, Original Townsite of Westland

CITY ADDRESS: 100 98th Street SW

ENGINEERING FIRM:	Tierra West, LLC	CONTACT:	Ron Bohannan
ADDRESS:	5571 Midway Park Place	PHONE:	(505) 858-3100
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87109
OWNER:	Monahiti, LLC	CONTACT:	Pete Daskalos
ADDRESS:	5321 Menaul Blvd	PHONE:	202-883-0414
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87110
ARCHITECT:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	Precision Surveys	CONTACT:	Larry Medrano
ADDRESS:	8500-A Jefferson Street NE	PHONE:	505-856-5700
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87109
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ___ YES
- x NO
- ___ COPY PROVIDED

RECEIVED
OCT 19 2006
HYDROLOGY SECTION

DATE SUBMITTED. 10/18/2006 BY: Sarah Abeyta

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

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2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

V - What PARTS will BE CONSTRUCTED UNDER W/O.?
✓ PARKing calcs.?
✓ SW easement will be needed for SW along 9th
✓ How will ADA access EAST ~~Entrance~~ on frontage road.
✓ — Boundry lines are conflicting, please clarify
✓ — Copy of replat or cross lot access easement.
✓ — All ADA Ramps w/in COA need truncated Domes.
✓ — will there be valley gutters @ proposed entrances.
✓ — Clarify/EXPLAIN the sidewalks along Central & ALong 9th St. (How for Being Built)

- DEFINE THE ~~DIFFERENCE~~ [redacted] "SMALL CAR" PARKING STALLS. ALONG ~~the~~ South part of BuilDING
- REFUSE APPROVAL
✓ — PARKing Bumpers OR 8' SW will be required along South END of BuilDING.
- 10' WIDE PARKing ISLAND IS REQUIRED FOR 90° PARKing
✓ — CLARIFY EXTENT of 8' SCREEN WALL
✓ — CLARIFY EXTENT of WORK (PROPOSED.)

WILFRED
ONEWAY @ EAST Building (18' OK)

CITY OF ALBUQUERQUE

July 17, 2006

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

Re: 98th and Central request for Building Permit
Engineer's Stamp dated 6-29-06

(K9/D31)

Dear Mr. Bohannan,

Based upon the Drainage Report and Grading Plan contained in your submittal dated June 29, 2006, the referenced plan is approved for rough site grading. While the plan is generally acceptable, the following items must be addressed prior to Building Permit approval.

1. An SO19 is required for the connection of the new private drainage facility to the existing public storm drain in Central.
2. Construction of private facilities within the existing public right-of-way in Central will require an encroachment agreement.
3. Due to the proposed grade change (cut) above the existing 36-inch storm sewer in the Central right-of-way, the Hydraulic Grade Line (HGL) within that section of pipe must be determined and submitted.
4. Runoff generated by trash enclosures may not be routed into storm drains. Drains to the sanitary sewer collection system must be included in the site work. As such, details of the trash enclosures with the drains and associated spot elevations must be shown.

Please revise the Grading and Drainage plan accordingly and submit an SO19 for Building Permit approval. If you have any questions, you may contact the undersigned at 924-3990.

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

Sincerely,

Jeremy Hoover, P.E.
Senior Engineer
Hydrology Section
Development and Building Services

cc: file K9/D31
file DRB #1004354