

October 16, 2007

Scott McGee, P.E.

Isaacson & Arfman, PA

128 Monroe NE

Albuquerque, NM 87108

Re: Sports Court, 1431 Mercantile Ave NE,

Approval of Permanent Certificate of Occupancy (C.O.)

Engineer's Stamp dated 04/24/2006 (F-16/D5J)

Certification dated 04/23/2007

Based upon the information provided in your submittal received 10/16/2007, the above referenced certification is approved for Permanent Certificate of Occupancy by Hydrology.

P.O. Box 1293

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

Albuquerque

Sincerely,

New Mexico 87103

Timothy Sims
Plan Checker

Development and Building Services

www.cabq.gov

C: CO Clerk-Katrina Sigala

File

Brad Stopliology

F-16/0-055-

78578/ (S.PORTS COURT)

COVENANT FOR PRIVATE FACILITY

This Covenant, between [state the name of the present real property owner exactly as shown on the real estate document conveying title to the present owner and state the legal status of the owner, for example, "single person" "husband and wife," "corporation of the State of New Mexico," or "partnership": Sterling Development, Inc. ("Owner"), whose address is 8101 San Pedro NE, Suite I, Albuquerque, NM 87113, and the City of Albuquerque, a New Mexico municipal corporation ("City"), whose address is P.O. Box 1293, Albuquerque, New Mexico 87103, is made in Albuquerque, Bernalillo County, New Mexico and is entered into as of the date Owner signs this Covenant.

1. <u>I</u>	Recital. The Owner is the	owner of the following described real property located a
[give legal desc	ription, and street address	S:] Tract 6A-2, Renaissance Center
		(05/15/98, Bk 98C, Pg 135)
		1431 Mercantile NE
'. D 1'11 ~		
in Bernalillo Co	unty, New Mexico (the "	Property").

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

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

A retaining wall along the south side of the property abutting Mercantile Avenue NE

The Facility is more particularly described in Exhibits A and B attached hereto and made a part hereof.

- 3. <u>Maintenance of Facility</u>. The Owner shall maintain the Facility at the Owner's sole cost in accordance with the approved building permit plans.
- 4. <u>Benefit to Property</u>. The Owner acknowledges and understands that the Facility required herein to be constructed on the Owner's property is for the private benefit and protection of the Owner's property and that failure to maintain such Facility could result in damage or loss to the Property and the City's adjacent property.

DECUTION

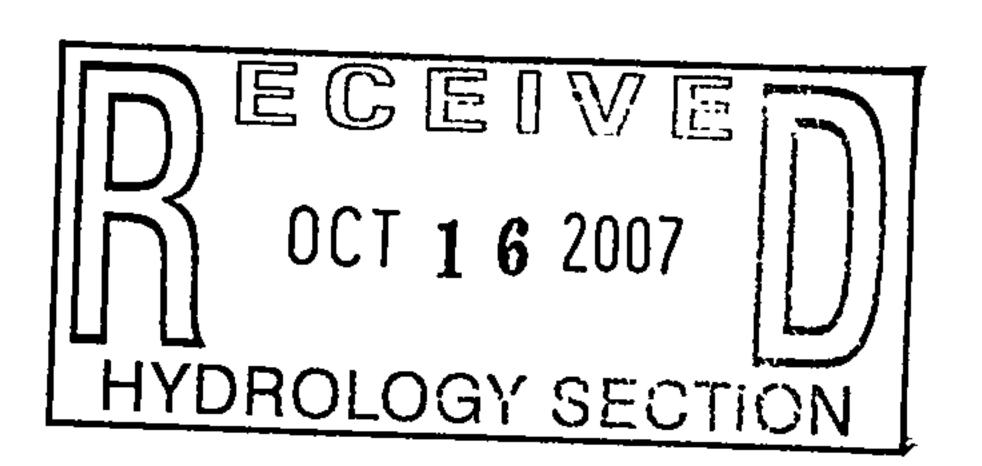
OCT 1 6 2007

HYDROLOGY SECTION

rpd4\pfdrain1.cov (Revised by Legal 8/97)

-1-

- 5. <u>Inspection of Facility</u>. The City shall have no duty or obligation whatsoever to perform any inspection, maintenance or repair of the Facility, it being the duty of the Owner, its heirs, successor's and assigns to construct and maintain the Facility in accordance with approved plans and specifications.
- 6. <u>Liability of City</u>. The Owner understands and agrees that the City shall not be liable to the Owner, its heirs, successors or assigns, or to any third parties for any damages resulting from the Owner's failure to construct, maintain or repair the Facility.
- Facility to constitute a hazard to the health or safety of the general public. The Owner agrees to indemnify, defend and hold harmless the City, its officials, agents and employees, from any claims, actions, suits or other proceedings arising from or out of the negligent acts or omissions of the Owner, its agents, representatives, contractors or subcontractors or arising from the failure of the Owner, its agents, representatives, contractor or subcontractors to perform any act or duty required of the Owner herein; provided, however, to the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to this Agreement, this Agreement to indemnify will not extend to liability, claims, damages, losses or expenses, including attorney's fees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the respective indemnitee, or the agents or employees of the respective indemnitee; or (2) the giving of or the failure to give direction or instructions by the respective indemnitee, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.
- 8. Assessment. Nothing in this Covenant shall be construed to relieve the Owner, its heirs, assigns and successors from an assessment against the Owner's Property for improvements to the Property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Facility will not reduce the amount assessed by the City.
- 9. <u>Binding on Owner's Property</u>. The covenants and obligations of the Owner set forth herein shall be binding on the Owner, its heirs, assigns and successors and on the Owner's Property and constitute covenants running with the Owner's Property until released by the City. This Covenant can only be released by the City's Chief Administrative Officer with the concurrence of the City Engineer.
- 10. Entire Covenant. This Covenant contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

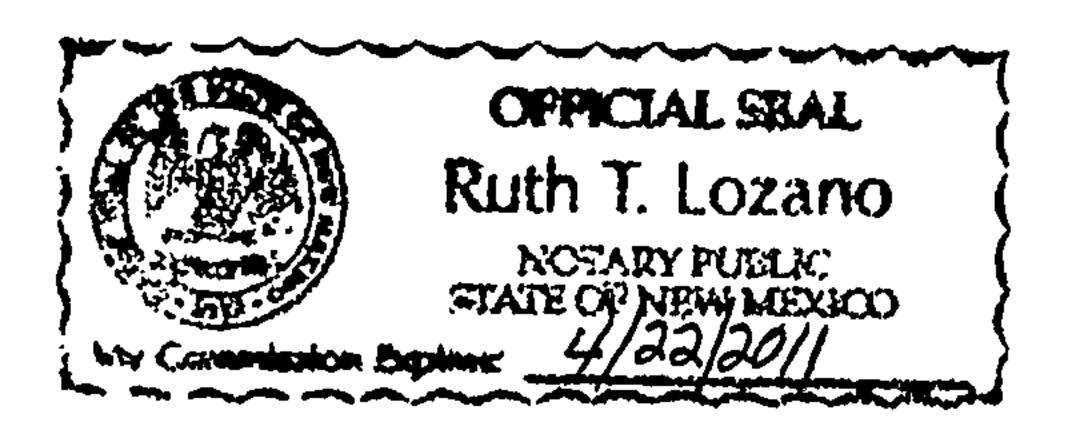


- 11. Changes to Covenant. Changes to this Covenant are not binding unless made in writing, signed by both parties.
- 12. Effective Date of Covenant. This Covenant shall be effective as of the date of signature of the Owner.

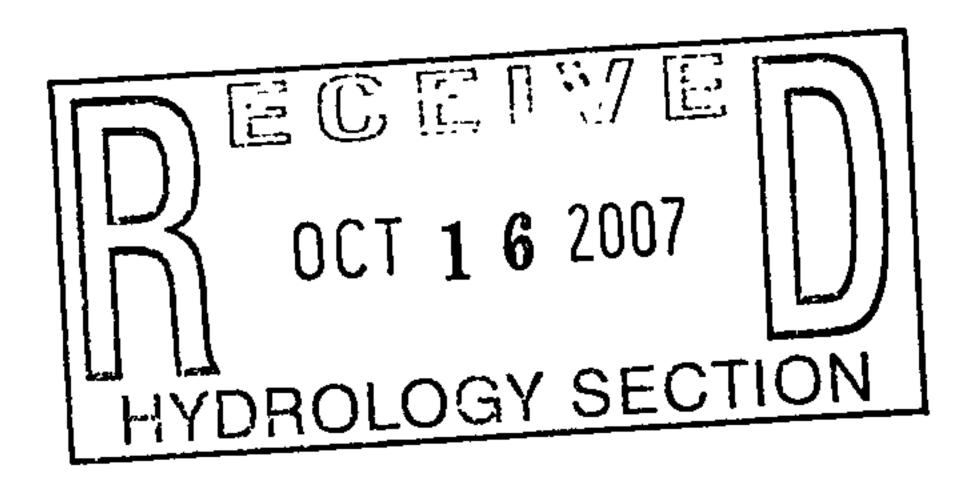
CITY OF ALBUQUERQUE:	OWNER: Sterling Development, Inc.
By:	By: Philip Sterling Title: President Dated: 10407
APPROVED: City Engineer Dated: 1071-07 CITY'S ACKNOW	
STATE OF NEW MEXICO)	
COUNTY OF BERNALILLO)	
This instrument was acknowledged before meriman, Chief Adiranistrative Officer for the City corporation, on behalf of the corporation. OFFICIAL SEAL LISA CORNEJO NOTARY PUBLIC-STATE OF NEW MEXICO My commission expires 7-5-2010 My Commission Expires:	à Carreio

OWNER'S ACKNOWLEDGMENT

STATE OF NEW MEXICO)
OUNTY OF BERNALILLO)
This instrument was acknowledged before me on <u>October 4, 2007</u> , 20 <u>07</u> , by <u>Philip Sterling</u> , <u>President</u> , on behalf of <u>Sterling Development, Inc.</u> .
Notary Public Notary Public
April 22, 2011 My Commission Expires:



[EXHIBIT A ATTACHED]



LEGAL DESCRIPTION

THAT CERTAIN PARCEL of land situate within projected Section 34, Township 11 North, Range 3 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being a portion of TRACT 6—A—2, Renaissance Center as the same is shown and designated on said plat filed for record in the office of the County Clerk of Bernalillo County, New Mexico on May 15, 1998 in Volume 98C, Folio 135 and being more particularly described as a Private Facility Covenant as follows:

BEGINNING at the southeast corner of said TRACT 6-A-2 said point being the true POINT OF BEGINNING of a 22.50' wide Private Facility Covenant;

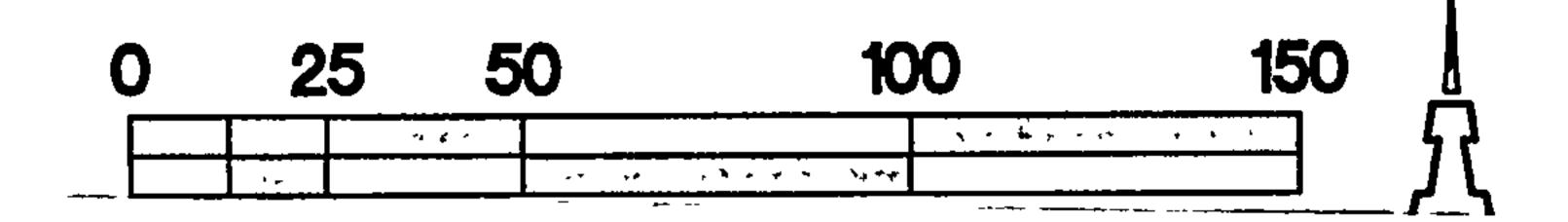
THENCE proceeding N 89'45'02" W along the northerly right—of—way line of Mercantile Avenue NE 300.00 feet to a point, said point being along the southerly tract line of said tract;

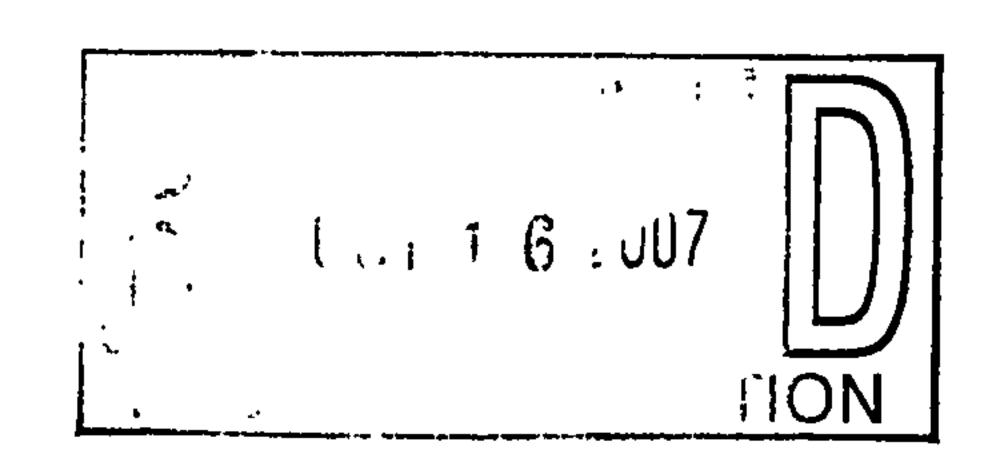
THENCE leaving said right—of—way line and continuing N 00°14'58" E 22.50 feet to a point;

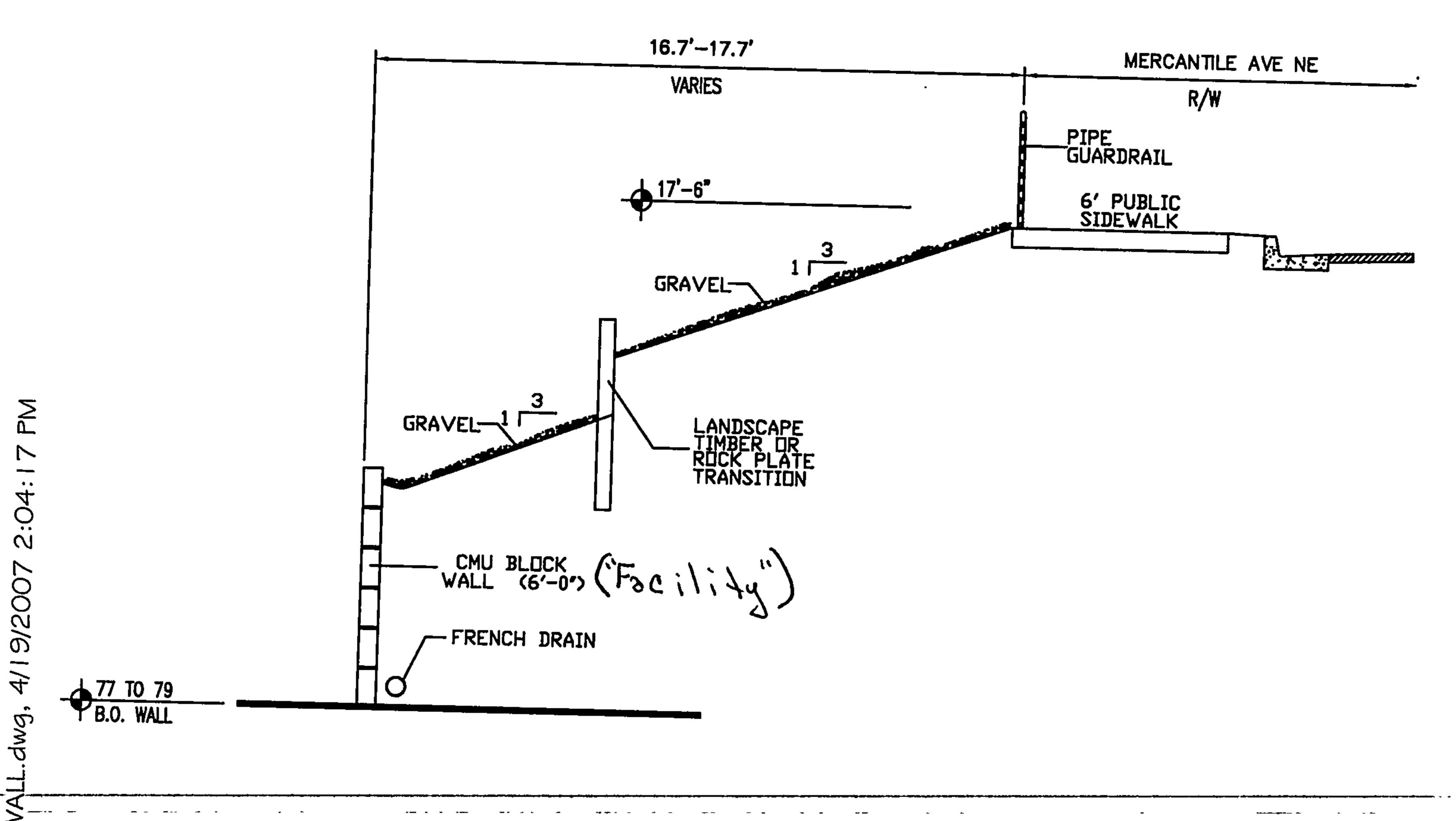
THENCE continuing S 89'45'02" E 300.00 feet to a point, said point being along the easterly tract line of said tract;

THENCE S 00'14'58" W 22.50 feet to the north right—of—way line of Mercantile Avenue NE and the POINT OF BEGINNING and containing 0.1550 acres (6,750 s.f.) more or less.

BASIS OF BEARING: N 89°45'02" W Northerly Right-of-Way line of Mercantile Ave NE.

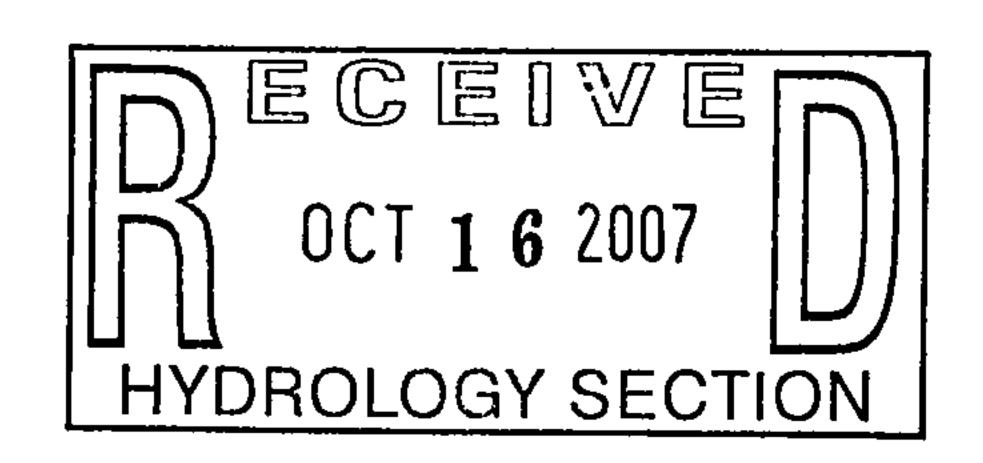






SECTION THROUGH SOUTH RETAINING WALL NTS

EXHIBIT 'B'



DRAINAGE REPORT

FOR

TRACT 6-A-2

OF

RENAISSANCE CENTER

ALBUQUERQUE, NEW MEXICO **APRIL 2006**

Prepared by:

ISAACSON & ARFMAN, P.A. 128 Monroe Street NE Albuquerque, NM 87108 (505) 268-8828

Scott M. McGee, PE

Date

The referenced site is a 3.7 acre commercial property located at the northeast corner of the intersection of Mercantile Ave. NE and Culture Drive NE – Zone Atlas Page F-16.

Legal description: TRACT 6-A-2, RENAISSANCE CENTER, CITY OF

ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

The purpose of this report is to present a Grading and Drainage solution for the proposed site which adheres to the approved 'Drainage Report for Tract 6 and 7 of Renaissance Center' by Tierra West, LLC dated January 9, 1998 (REPORT).

Pertinent information from the approved REPORT is as follows: See attached Proposed Basin Layout copied from the REPORT for additional information:

- The site falls within the Renaissance Drainage Master Plan and is currently undeveloped.
- No off-site runoff enters the site.
- The site does not lie within any 100-year flood plain.

 O(1 × 3.7 z 6.37 c)
- The entire site (consisting of all of Tracts 6A and 7) will drain per the?

 Renaissance Master Drainage Plan at a 0.1 cfs / acre discharge rate from the site.

 Therefore, the allowable discharge rate for the overall Renaissance Center site is (14.47 acres) 1.44 cfs.
- Tract 6-A-2 (the proposed development) falls within Basins 3 and 4.
- Basin 3 of the REPORT is defined as a 1.56 acre area with a Q-100 of 6.96 cfs and a V-100 of 12,894 CF. This volume is to be ponded within Tract 6-A-2 and released to Basin 4 at a confined flow rate of 0.2 cfs controlled by a 2" discharge opening at the inlet.
- Basin 4, along with the allowable runoff from Basins 1, 2 (from adjacent properties) and 3 is ponded within the parking lot and loading dock ponding area of Tract 6-A-1 and discharged at a confined flow rate of 1.44 cfs.
- The main storm sewer structures will be built in Phase I.

RUNOFF CALCULATIONS

The site is @ Zone 2

LAND TREATMENT

Proposed

D = 90.00 %

B = 10.00 %

Existing

B = 100 %

DEPTH (INCHES) @ 100-YEAR STORM

 $P_{60} = 2.01$ inches

 $P_{360} = 2.35 \text{ inches}$

 $P_{1440} = 2.75 \text{ inches}$

DEPTH (INCHES) @ 10-YEAR STORM

 $P_{60} = 2.01 \times 0.667$

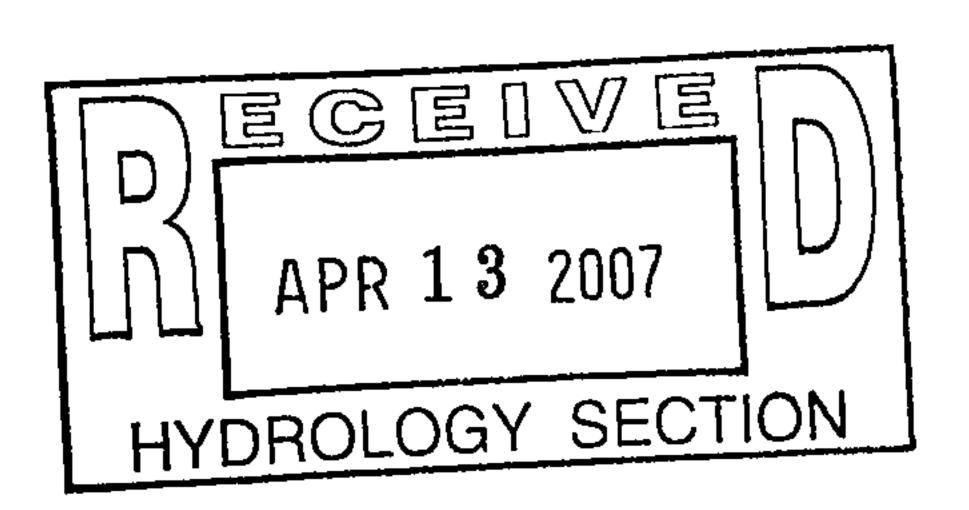
= 1.34 inches

 $P_{360} = 1.57$

 $P_{1440} = 1.83$

See the summary output from AHYMO calculations.

Also see the following summary tables.



RUNOFF SUMMARY TABLE

PROPOSED

DRAINAGE BASINS

BASIN	BASIN AREA (SF)		AREA (MI²)	
1	106,695.23	2.4494	0.003827	
2	63,471.74	1.4571	0.002277	
3	67,862.04	1.5579	0.002434	
4 373,601.25		8.5767	0.013401	

EXISTING

DRAINAGE BASINS

BASIN	AREA (SF)	AREA (AC)	AREA (MI²)
1	1 630,243.79		0.022607

RUNOFF CALCULATION RESULTS

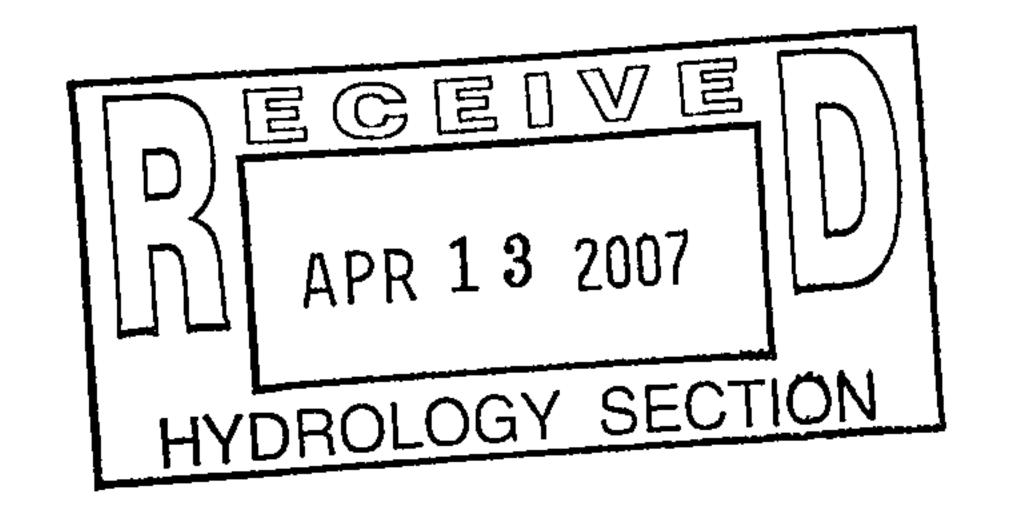
UNDER PROPOSED CONDITIONS

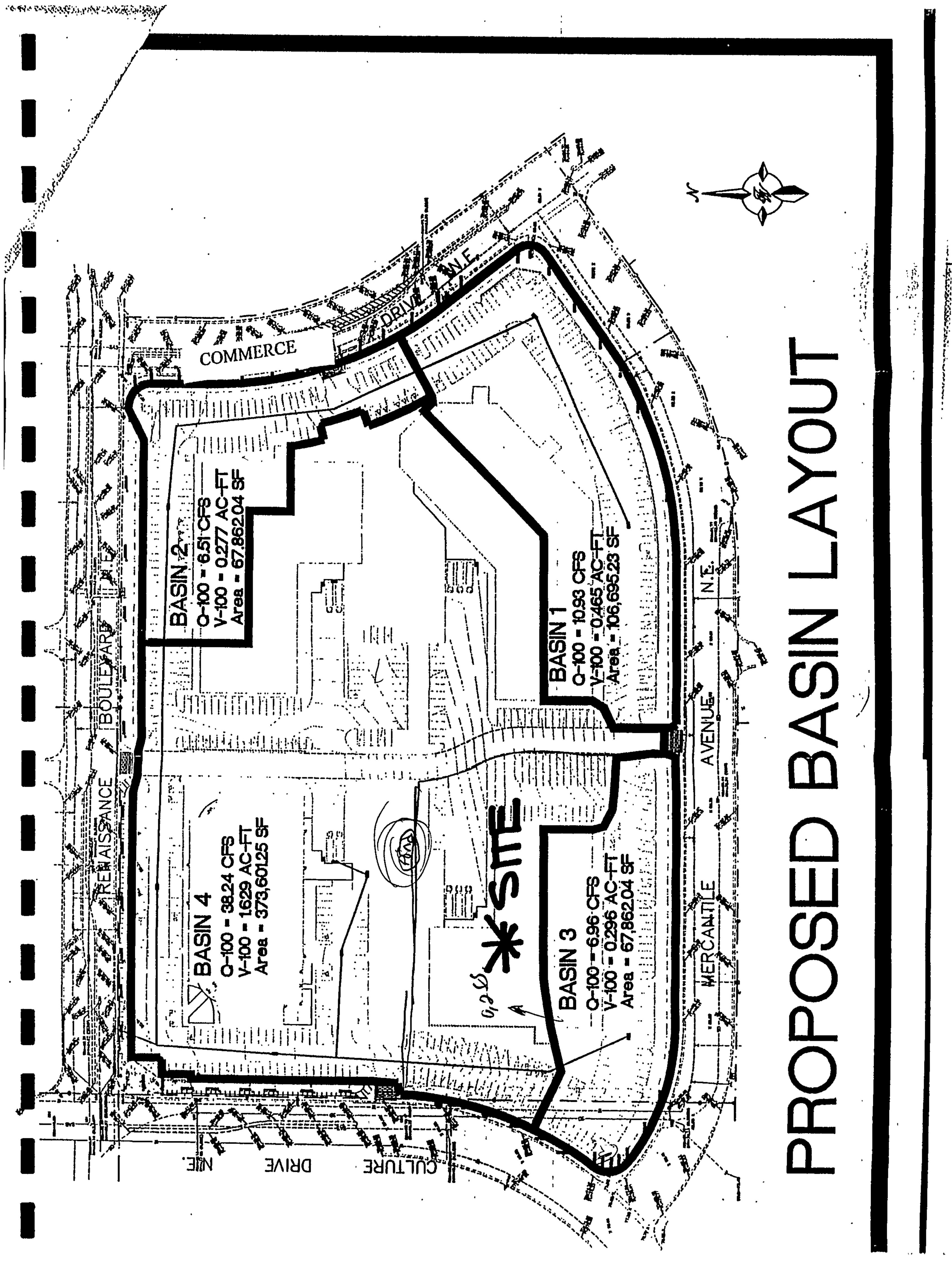
				
BASIN	Q-100	V-100	Q-10	V-10
	CFS	CFS	CFS	CFS
1	10.93	0.465	7.08	0.295
2	6.51	0.277	4.21	0.173
3	6.96	0.296	4.51	0.185
4	38.24	1.629	24.76	1.019

RUNOFF CALCULATION RESULTS

UNDER EXISTING CONDITIONS

BASIN	Q-100	V-100	Q-10	V-10
	CFS	CFS	CFS	CFS
1	32.96	0.938	13.53	0.336





Proposed Solution:

Per the REPORT, Basin 3, with an area of 67,862 sf, a Q-100 of 6.96 cfs, and a V-100 of 0.296 ac-ft (12,894 cf) must be detained and released to Basin 4 at a rate of 0.2-cfs.

This will be accomplished by installing a combined surface / underground detention system with the required capacity to collect the runoff from Sub-basin 1 (14,031 CF, 8.6 cfs). The bulk of the required detention will be within a system of 60" dia. pipes with manifolds and fittings as shown on the plans (see attached ADS N-12 drainage system information). An additional 900 cf will be stored on the surface before spilling over into the adjacent basin. The total proposed capacity of this system is 13,664 CF which exceeds the required volume of 12,894 CF.

An ADS Nyloplast outlet with a BMP Inc. 'Snout' and a 1.5 inch diameter outlet orifice will discharge the detained basin at the approved discharge rate of 0.2 cfs (assuming a head of 9.5' 'worst care' scenario).

Note: A proposed 2' wide covered sidewalk culvert at the northeast corner of the secondary building will act as an overflow for flow in excess of pond capacity.

The remainder of the site is located with Basin 4 which, per the REPORT, is permitted to discharge to the Tract 6-A-1 detention pond and storm sewer system. The majority of this (sub-basins 2 and 3 : Q = 5.0 cfs) will be routed to the existing detention pond via. a private storm drain system. Sub-basin 4 (Q=2.1 cfs) will discharge to Tract 6-A-1 via the entry drive. A proposed landscaped stilling basin will utilize a portion of this sub-basin while releasing excess to the drive at a proposed 2' wide curb opening.

Minor discharge from sub-basin 5 (0.5 cfs) will continue to drain north within the shared east access road.

CALCULATIONS: Sports Courts: October 12, 2005

Calculations are based on the Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE

AREA OF SITE:

160465

SF = 3.684 Ac.

DEVELOPED FLOWS:

EXCESS PRECIPITATION:

On-Site Developed Land Condition Precip. Zone 2 Area a SF Ea = 0.53Area b 16047 Eb = 0.78= Area c Ec = 1.13Area d 144419 Ed = 2.12= Total Area 160465

26557

CF

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

Weighted E =

EaAa + EbAb + EcAc + EdAd

Aa + Ab + Ac + Ad

On-Site Volume of Runoff: V360 = E*A / 12

Developed E = 1.99 in.

Developed V360 =
On-Site Peak Discharge Rate: Qp = QpaAa+QpbAb+QpcAc+QpdAd / 43,560

For Precipitation Zone 2

Qpa = 1.56

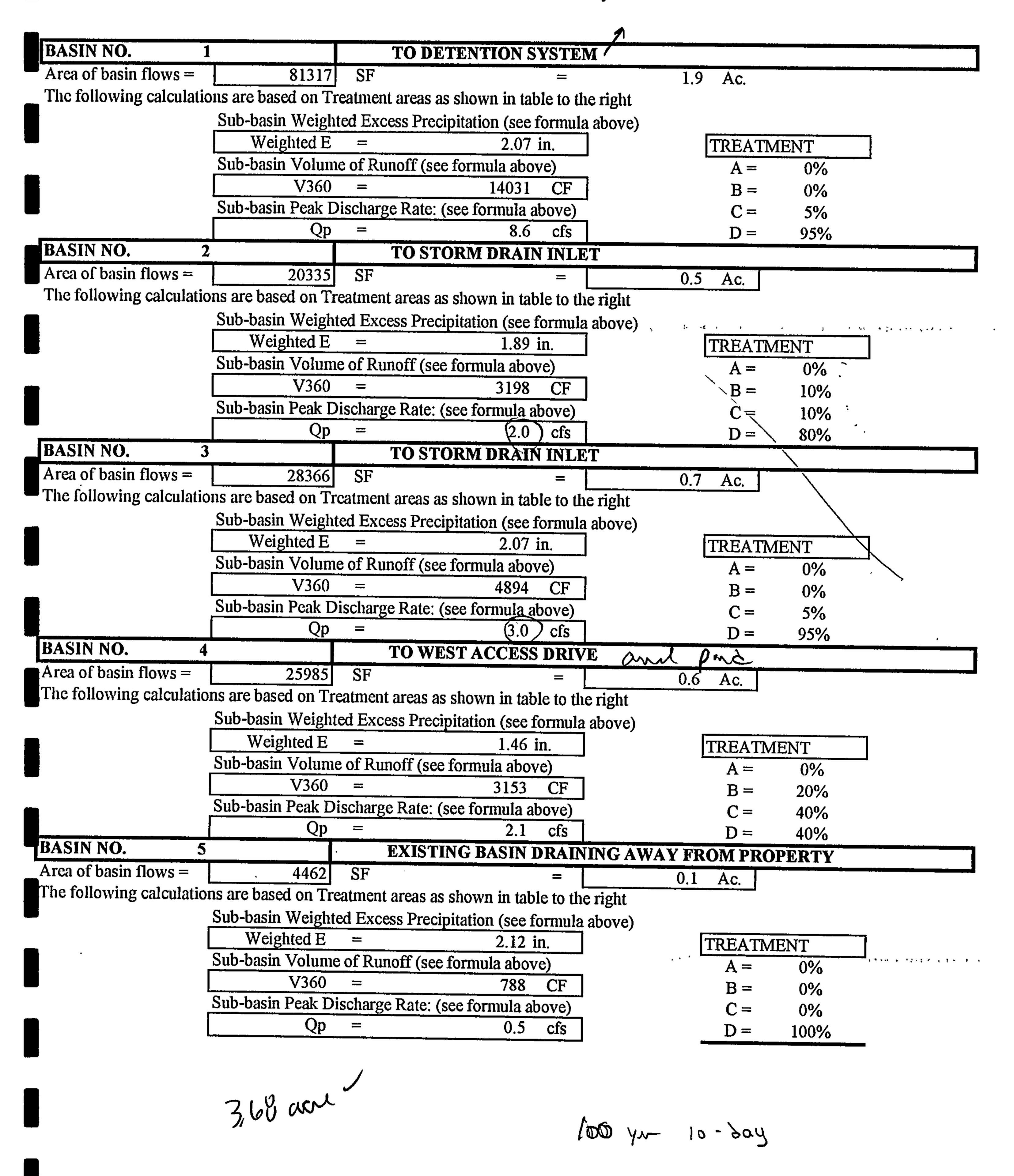
Qbb = 2.28

Qpc = 3.14

Qpd = 4.70

Developed Qp = 16.4 CFS

Basin 1 - Surface Pond 1				Basin 1 - Surface Pond 2			
Contour 5076.5 5076	Area 2235 0	Volume 558.8	CF	Contour 5076.5 5076	Area 1610 . 0	Volume 402.5	CF
POND 1 VO	LUME	558.8	CF	POND 2 VOLU	JME	402.5	CF



ORIFICE EQUATION FOR DISCHARGING SUB-BASIN 1 AT THE CONTROLLED RATE OF 0.2 CFS

Q = C*A*(2*g*l1) ^ ().5			
Where	Q	=	0.2 cfs	
	C	=	0.6	(indicating that the opening will function at 60% capacity)
	A	=	0.0135 sq.ft.	in the same of the control of the co
	g	=	32.2 ft/sec^2	
	h	=	9.5 ft	depth of flow at opening from the center of culvert

1.5" dia. orifice has an area of 0.0123 sq.ft. OK

For the proposed storage volume of 13,664 cf draining at a rate of 0.2 cfs it will take approximately 24 hours to discharge the system.

$$A = \frac{6}{6\sqrt{25h}} = \frac{12cds}{0.6\sqrt{2.32.288.5}} = .013584^{2}$$

$$Pro^{2}$$

$$r^{2}\sqrt{4} = \frac{13cds}{0.6\sqrt{2.32.288.5}} = .013584^{2}$$

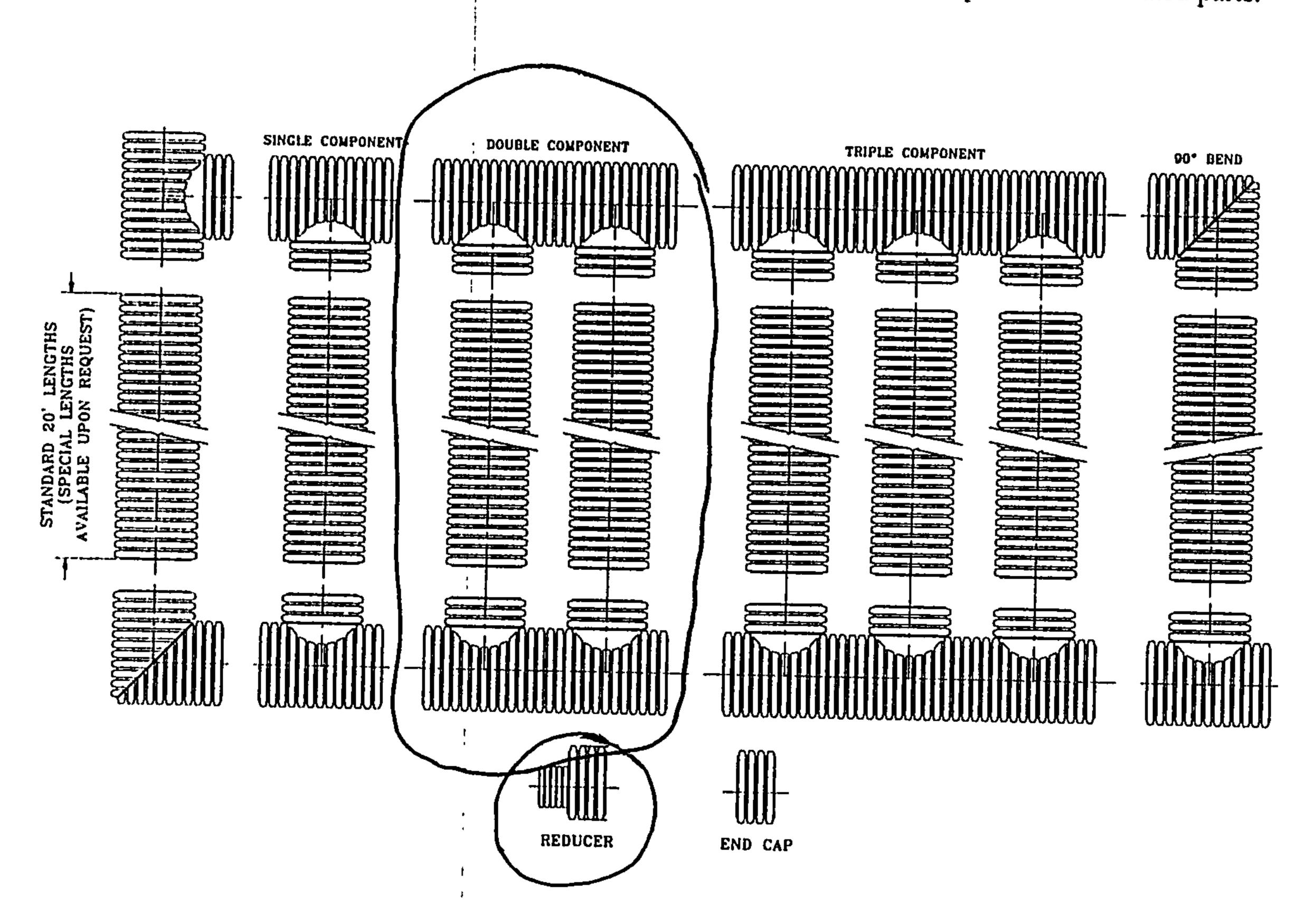
$$r^{2}\sqrt{4} = \frac{13cds}{4} = \frac{78m}{424.52m}$$

Table 5: Storage Description					al Diameter, i				
	12 (300)	· 15 (375) (#18 (450) ¹	24 (600)	3:30 (750)	36 (900) >	42 (1050) -	40 (1200)	CO (4 #00)
90° bend	1.86 (.053)	3.07 (.087)	5.25 (.15)	11.5 (.32)	25.3 (.72)		 	48 (1200) -	60 (1500)
Single lateral	2.35 (.067)	3.73 (.11)				39.4 (1.11)	56.3 (1.60)	80.1 (2.27)	58.9 (1.67)
Double lateral	4.70 (.13)	Annual Contract of the Contrac	6.31 (.18)	14.4 (.41)	30.7 (.87)	46.8 (1.32)	66.2 (1.88)	93.1 (2.64)	63.8 (1.81) *
Triple lateral		7.46 (.21)	12.6 (.36)	28.8 (.82)	61.4 (1.74)	93.6 (2.64)	132 (3.76)	186 (5.28)	127.6 (3.62)
	7.05 (.20)	11.19 (.32)	18.9 (.54)	43.2 (1.23)	92.1 (2.61)	140 (3.96)	N/A	N/A	N/A
10' pipe length	8.1 (.23)	12.2 (.35)	17.8 (.51)	31.6 (.90)	49.1 (1.39)	70.7 (2.00)	93.9 (2.66)	123 (3.49)	the second se
Reducers (all sizes)	.62 (.018)	1.28 (.04)	1.88 (.05)	3.33 (.09)	6.74 (.19)	9.09 (.26)	9.39 (.27)	18.5 (.53)	ئد (2.00) 70.7 بي (0.95) 33.6
End caps	.62 (.018)	1.28 (.04)	1.88 (.05)	3.33 (.09)	6.74 (.19)	9.09 (.26)	9.39 (.27)	18.5 (.53)	24.5 (0.69)

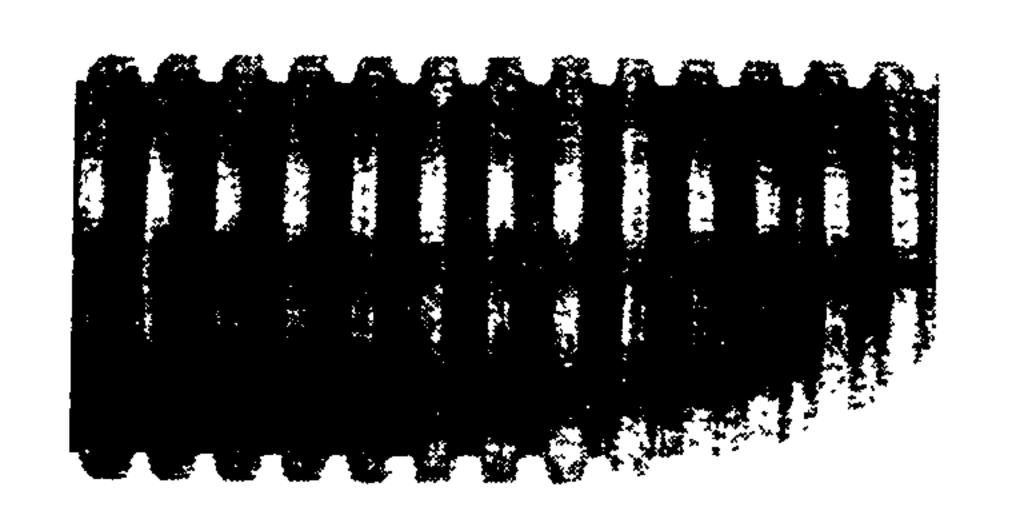
* Note: 90" bend, single lateral and double lateral are manufactured from 36" ADS N-12.

For your convenience, AutoCAD drawing blocks of the ADS standard manifold components shown in Figure 6 can be obtained upon request from ADS. All drawings are in Release 13 format.

Shop drawings to be used for submittal purposes can be found in Appendix A; these include laying dimensions and product numbers of all ADS manifold components and related parts.



(a) 12"-42" plain N-12 manifolds and appurtenances (soil tight)



THE MOST ADVANCED NAME IN DRAINAGE SYSTEMS

UPPER SYSTEM (RETENTION W) 0.2 CFS RELEASE

Droinat Names	4400 0		Input Values				
	1488 Sports Courts	System Pipe Size	60				
Location (City, State.):	Albuquerque, New Mexico	Single or Double Manifold	Double Manifold	' —			
Customer:	Sterling Development	Number Of laterals					
Engineer:	Scott M. McGee	Length Of laterals (FT)	100				
Contractor:		Void Ratio:		(Non-Perforated Detention			
ADS Regional Engineer:		Finished Elevation (FT)		System)			
ADS Area Sales Person:		Pipe Invert Elevation (FT)	100	2.76 Ft of Cover			
Pipe Application:		Excavation Cost (\$/CY):	1.5				
Surface Application:		Backfill Cost (\$/CY):	2				
	•			.			

System Properties

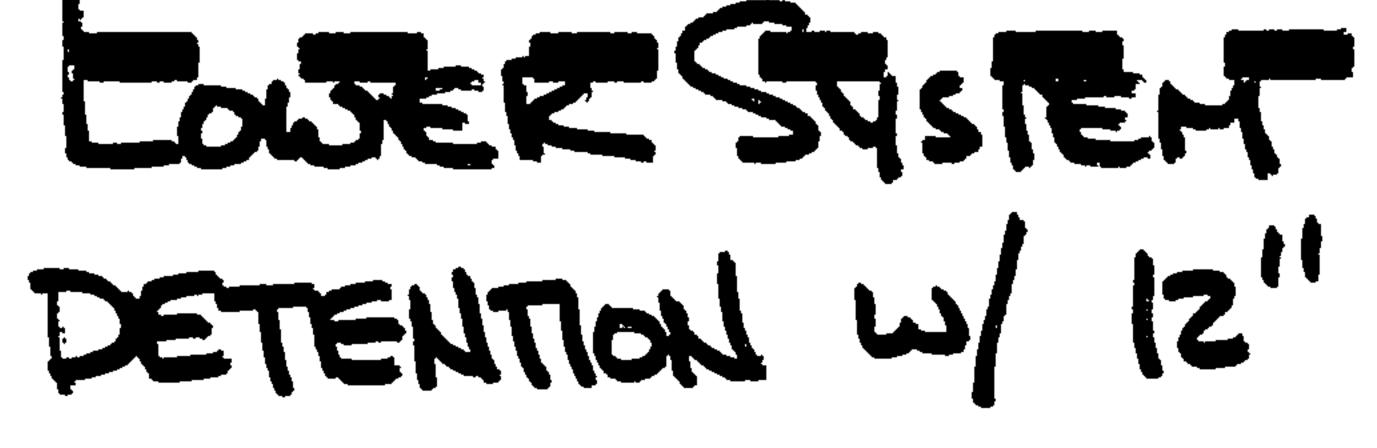
Oyotom 1 Topomos	
Description	
Storage Provided (CF):	13344
Length (ftprnt) (FT):	116.53
Width (ftprnt) (FT):	48.53
Width Of Header (FT)	45.53
Disturbed Surface Area (SY)	628
Estimated Excavation (CY)	1839
Estimated Backfill (CY)	1345
Efficiency (CF/SF)	2.36

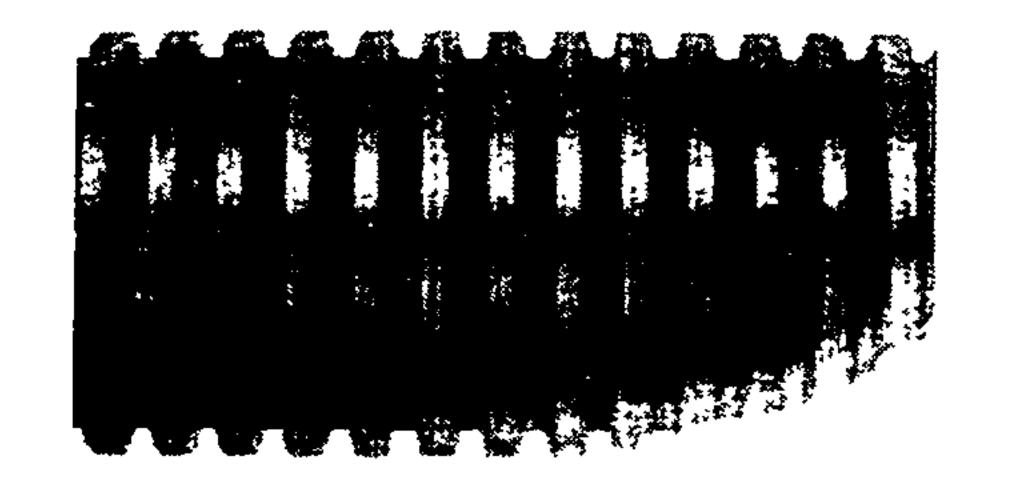
Each lateral consist of 6 sticks of pipe, 5 full sticks with the last stick being 1.65 FT long

System Componets/Ougatition

Description	Unit	Quantity	Cost/Unit	Total
60" N-12 IB Pipe Non-Perforated	LF	620	\$0.00	\$0.00
60" 90 Bend Manifolds	EA.	4	\$0.00	\$0.00
60" Triple Manifolds	EA.	0	\$0.00	\$0.00
60" Double Manifolds	EA.	4	\$0.00	\$0.00
60" Single Manifolds	EA.	0	\$0.00	\$0.00
60" Split Couplers	EA.	18	\$0.00	\$0.00
60" End Caps	EA.	0	\$0.00	\$0.00
Total Cost For Pipe and Fittings			+	\$0.00
Excavation	CY	1839	\$1.50	\$2,759.13
Backfill	CY	1345	\$2.00	\$2,690.42
Total Installed Cost For System		· · · · · · · · · · · · · · · · · · ·	<u> </u>	\$5,449.55

This Excel spreadsheet is intended to assist the design engineer in sizing stormwater management systems using ADS pipe and manifold components. As with any design aid, this tool should be used for estimating only; the engineer should verify the assumptions and methods to ensure they satisfy the project and local design criteria.





THE MOST ADVANCED NAME IN DRAINAGE SYSTEMS OUTLET

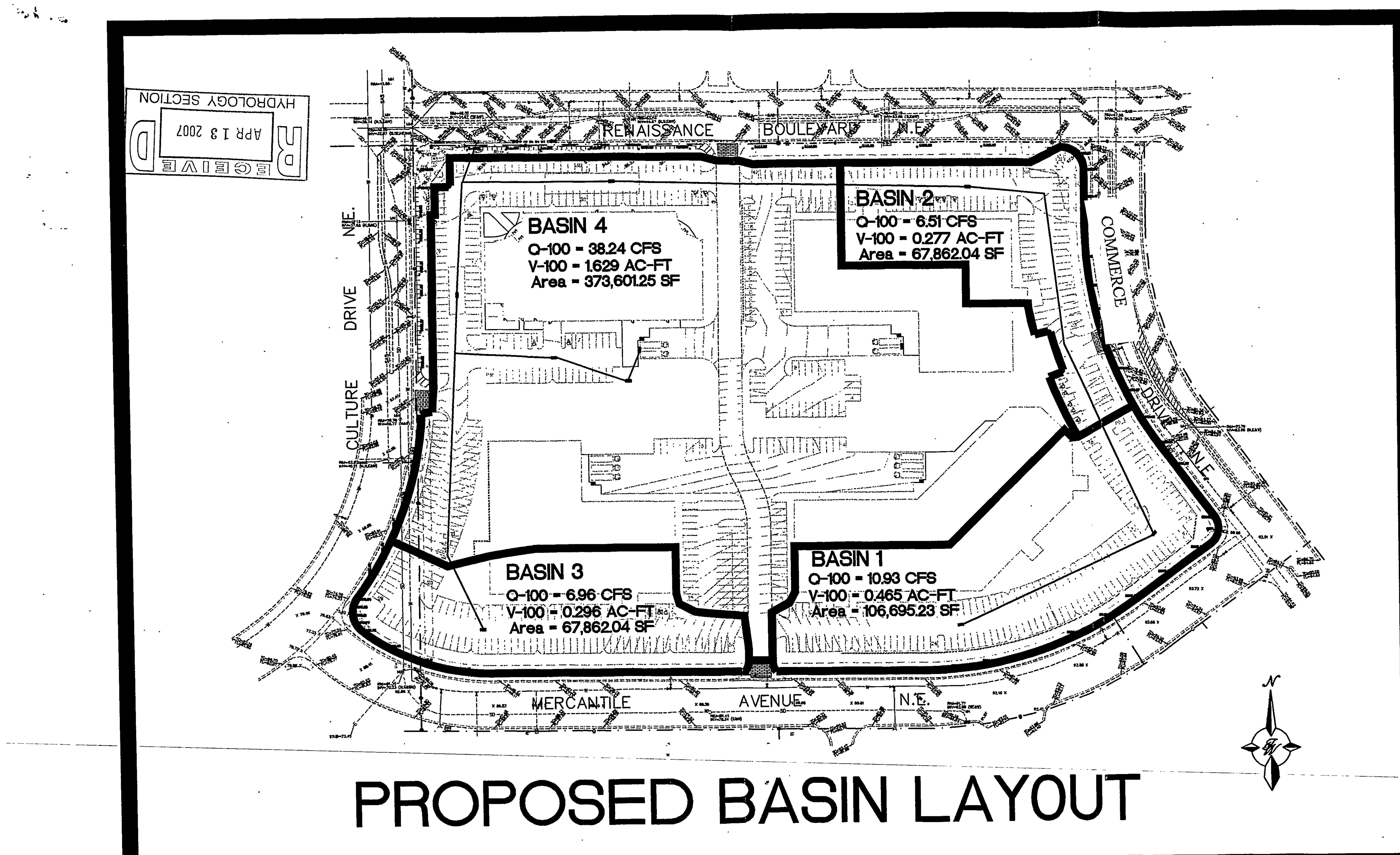
LANDSCAPING IIII

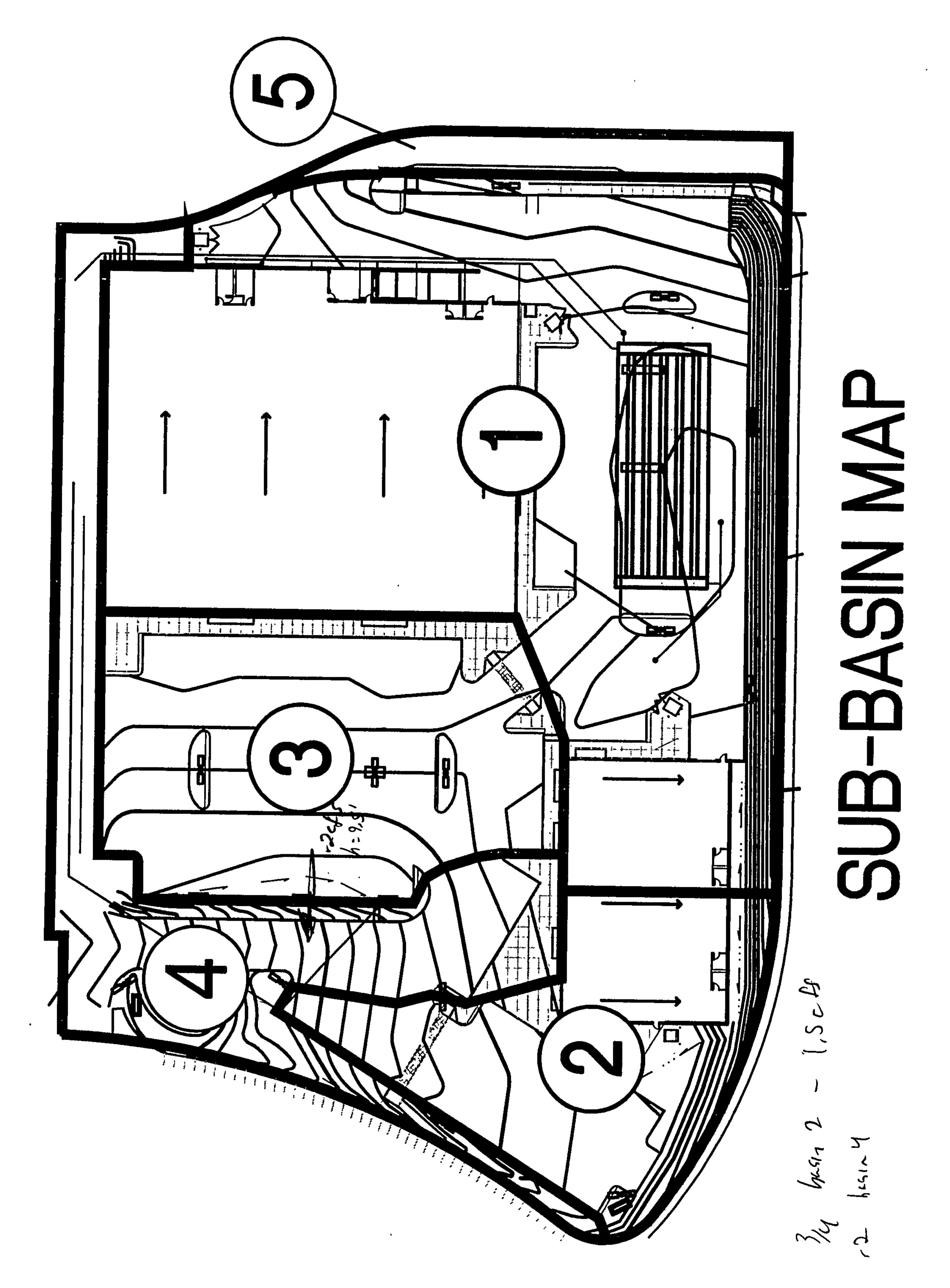
The second second second second

HIEZDS.

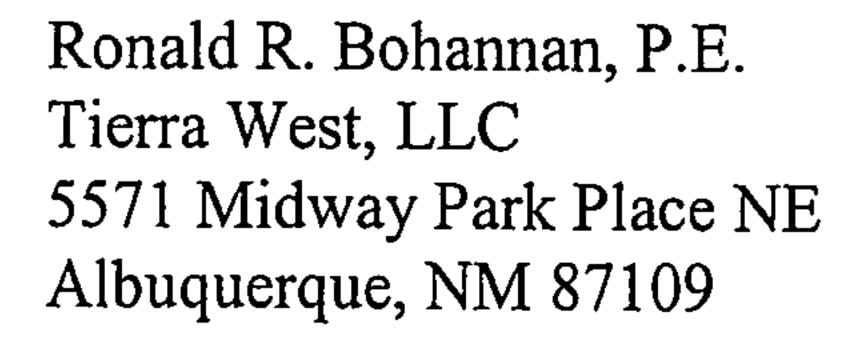
				nput Values		
Project Name: 1488 Sport			System Pipe Size	60	, 🔻	
Location (City, State.): Albuquerqu	ue, New Mexico	Single o	r Double Manifold	Double Manifold	—	
Customer: Sterling De	velopment	_ N	lumber Of laterals	1		
Engineer: Scott M. Mo	cGee	_ Leng	th Of laterals (FT)	100	1	
Contractor:	-	_	Void Ratio:	100		
ADS Regional Engineer:		- Finish			(Non-Perforat System)	lea Detention
		– Finish –	ed Elevation (FT)	108	Cysterny	
ADS Area Sales Person:		Pipe Inv	ert Elevation (FT)	100	2.76	Ft of Cover
Pipe Application:		Excava	ation Cost (\$/CY):	1 <i>.</i> 5		
Surface Application:		- Ba	ckfill Cost (\$/CY):	2		
System Properties Description	System Componets/Quantities					
Storage Provided (CF): 2144	Description	Unit	Quantity	Cost/Unit	Total	Quantity
Length (ftpmt) (FT): 116.53	60" N-12 IB Pipe Non-Perforated	 	120	\$0.00		6 Sticks
Width (ftprnt) (FT): 8.53	60" 90 Bend Manifolds 60" Triple Manifolds	EA.	0	\$0.00		
Width Of Header (FT) 5.53	60" Double Manifolds	EA.	<u> </u>	\$0.00		
sturbed Surface Area (SY) 110	60" Single Manifolds	EA.		\$0.00		
Estimated Excavation (CY) 323	60" Split Couplers	EA.		\$0.00 \$0.00		
Estimated Backfill (CY) 244	60" End Caps	EA.		\$0.00		
Efficiency (CF/SF) 2.16	Total Cost For Pipe and Fittings	<u></u>	<u> </u>	φυ.υυ	\$0.00	
ach lateral consist of 6 sticks of pipe, 5 f	Evention	CY	323	\$1.50		
h the last stick being 1.65 FT long	Backfill	CY	244	\$2.00		
	Total Installed Cost For System	The state of the s				

This Excel spreadsheet is intended to assist the design engineer in sizing stormwater management systems using ADS pipe and manifold components. As with any design aid, this tool should be used for estimating only; the engineer should verify the assumptions and methods to ensure they satisfy the project and local design criteria.





April 22, 2008



Tract 7A Building, Renaissance Grading and Drainage Plan Re:

Engineer's Stamp dated 2-22-08 (F16-D5J)

Dear Mr. Bohannan,

Based upon the information provided in your submittal received 2-28-08, 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.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. In addition to submitting an NOI to the EPA and preparing a SWPPP, please send a copy of the SWPPP on a CD in .pdf format to 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

Albuquerque

PO Box 1293

This CD is required prior to signoff by Hydrology. If you have any questions about this permit, please feel free to call the Municipal Development Department, Hydrology section at 768-3654.

NM 87103

Also, prior to Certificate of Occupancy release, Engineer Certification of the grading plan per the DPM checklist will be required.

www.cabq.gov

If you have any questions, you can contact me at 924-3695.

Sincerely,

Bradley L. Bingham, PE

Principal Engineer, Planning Department. Development and Building Services

Kathy Verhage, DMD File



July 27, 2007

Ronald Bohannan, P.E.

Tierra West LLC

5571 Midway Park Place NW
Albuquerque, NM 87109

Re: Tracts 7A & 7B Renaissance Center, 1500 Renaissance Blvd NE,

Approval of Permanent Certificate of Occupancy (C.O.),

Engineer's Stamp dated 05/08/07 (F-16/D005J)

Certification dated 7/26/07

Based upon the information provided in your submittal received 7/27/07, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

P.O. Box 1293

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

Albuquerque

Sincerely,

New Mexico 87103

Timothy Sims

Plan Checker - Hydrology

Development and Building Services

www.cabq.gov

C: CO Clerk-Katrina Sigala

File

May 15, 2007



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

Re: Tracts 7A and 7B of the renaissance Center Engineer's Stamp dated 5-8-07, (F16/D5J)

Dear Mr. Bohannan,

Based upon the information provided in your submittal received on May 9, 2007, the above referenced plan is approved for Grading and Paving Permits. If you have any questions or need additional information, feel free to contact me at 924-3990.

Sincerely,

P.O. Box 1293

Yeremy Hoover F.E.

Senior Engineer
Hydrology Section

Development and Building Services

Albuquerque

cc:

file (F16/D5J)

New Mexico 87103

www.cabq.gov

April 26, 2007

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

Re: Tracts 7A and 7B of the renaissance Center Engineer's Stamp dated 4-12-07, (F16/D5J)

Dear Mr. Bohannan,

Based upon the information provided in your submittal received on April 13, 2007, the above referenced plan is approved for Grading and Paving Permits. If you have any questions or need additional information, feel free to contact me at 924-3990.

Sincerely,

P.O. Box 1293

Jeremy Hoøver, P.E.

Senior Engineer

Hydrology Section

Development and Building Services

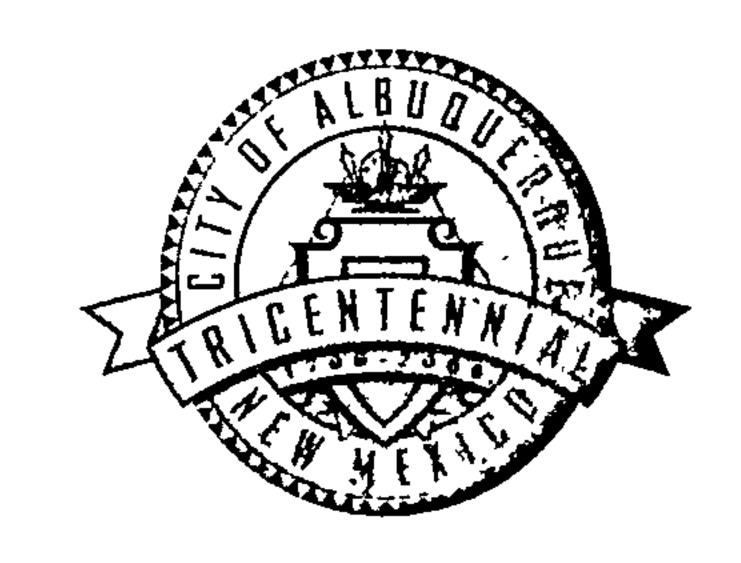
Albuquerque

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cc: file (F16/D5J)

New Mexico 87103

www.cabq.gov



Planning Department Transportation Development Services Section

April 23, 2007

George R. Rainhart, Registered Architect, George Rainhart, Architect & Associates P.C. 2325 San Pedro NE, Ste. 2-B Albuquerque, NM 87110

Re:

Approval of Temporary Certificate of Occupancy (C.O.) for

Renaissance Sports Court, [F-16 / D5J]

1431 Mercantile

Architect's Stamp Dated 04/18/07

Dear Mr. Rainhart:

Based on the information provided on your submittal dated April 23, 2007, the above referenced project is approved for a 90-day Temporary C.O.

P.O. Box 1293

A Temporary C.O. has been issued allowing the outstanding *parking*, *retaining* and an approved site plan issues to be completed within this time period. When these remaining issues have been fully completed, are in substantial compliance, and a final Certification for Transportation has been resubmitted to the City's Hydrology office for approval, a Permanent C.O. will be issued.

Albuquerque

New Mexico 87103

www.cabq.gov

The Certification package for Final C.O. must include an <u>exact</u> copy of the approved TCL, or signed off D.R.B. Site Plan, which is in each of the two City Permit Plan Sets—the contractor's City field set and the City's plan set in the basement of the Plaza Del Sol building. Package also must include a letter of certification on designer's letterhead-stamped with his seal, signed, and dated. Submit package along with fully completed Drainage Information Sheet to front counter personnel for log in and evaluation by Transportation.

If you have any questions, please call me at 924-3630.

Sincefely

Mlo E. Salgado-Fernandez, P.E.

Senior Traffie Engineer

Development and Building Services

Planning Department

C:

Engineer
Hydrology file
CO Clerk

TRAFFIC CERTIFICATION

I, George Rainhart, NMPE OR NMRA NMRA OF THE FIRM George Rainhart
Architect & Associates, HEREBY CERTIFY THAT THIS PROJECT HAS IS IN
DESIGN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH
THE DESIGN INTENT OF THE APPROVED PLAN DATED June 01, 2006. THE
RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT
HAS BEEN OBTAINED BY Anton Dattilo OF THE FIRM George Rainhart Architect &
Associate. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE
PROJECT SITE ON April 18, 2007 AND HAVE DETERMINED BY VISUAL
INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF
ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF
MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN
SUPPORT OF A REQUEST FOR Temporary Certificate of Occupancy.

Note: Additional square footage, parking and retaining walls were approved by Administrative Amendment revised 12/27/06

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE TRAFFIC ASPECTS OF THIS PROJECT. THOSE RELYING ON THE RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

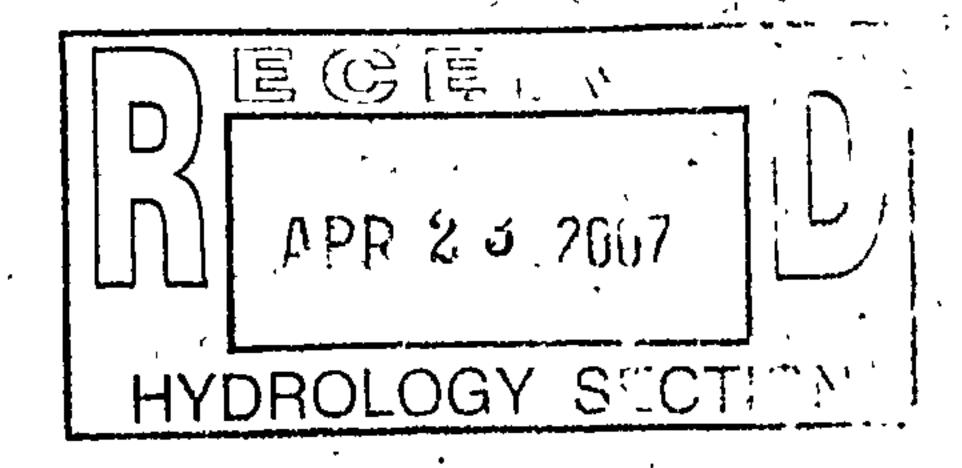
Signature of Engineer of Architect

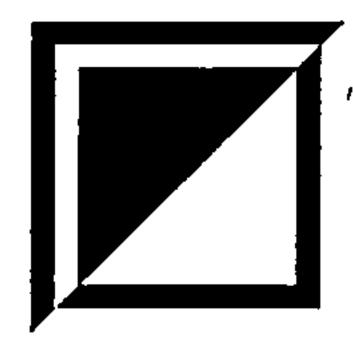
GEORGE R.

RAINHART

ENGINEER'S OR ARCHITECT'S STAMP

<u>4 /807</u> Date

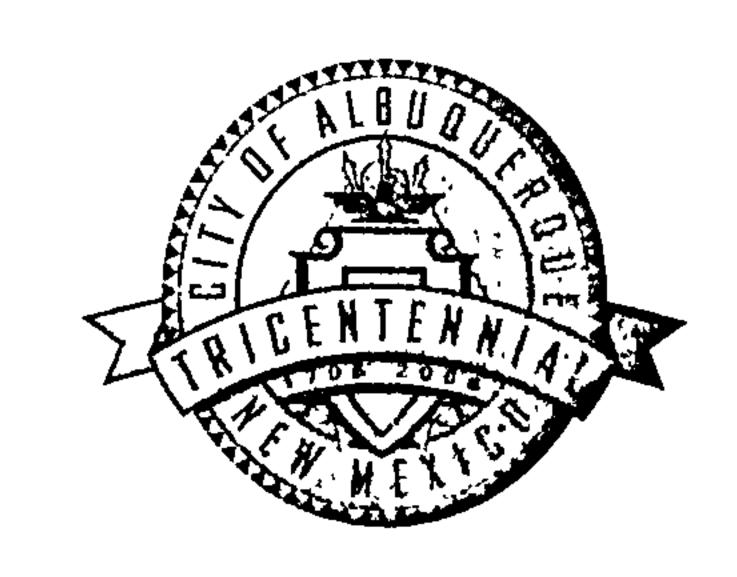




GEORGE RAINHART, ARCHITECT & ASSOCIATES P.C.

2325 SAN PEDRO NE SUITE 2-B ALBUQUERQUE, NEW MEXICO 87110

PHONE: 505-884-9110 FAX: 505-837-9877 Email: graa@gra-arch.com



Planning Department Transportation Development Services Section

December 21, 2007

George R. Rainhart, Registered Architect 2325 San Pedro NE, Ste. 2-B Albuquerque, NM 87110

Re:

Certification Submittal for Final Building Certificate of Occupancy for

Sports Court, [F-15/D5J]

1431 Mercantile NE

Architect's Stamp Dated 12/21/07

F-16

Dear Mr. Rainhart:

P.O. Box 1293

The TCL / Letter of Certification submitted on December 21, 2007 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Albuquerque

Singerely

New Mexico 87103

Nilø E. Salgadø-Fernandez, P.E.

Sehior Traffic Engineer

www.cabq.gov Development and Building Services

Planning Department

C:

Engineer
Hydrology file
CO Clerk

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

	(12/2005)	
PROJECT TITLE: Sports Court	ZONE MAP: F-/S/DS.	
DRB#: EPC#:	WORK ORDER#:	
LEGAL DESCRIPTION:	<u> </u>	
CITTADDRESS: //S/////////		
ENGINEERING FIRM:	CONTACT:	
ADDRESS:	PHONE:	
CITY, STATE:	ZIP CODE:	
OWNER:	CONTACT:	
ADDRESS:	PHONE:	
CITY, STATE:	ZIP CODE:	
ARCHITECT: George Rginhart A. ADDRESS:	chitect CONTACT:	
ADDRESS.	PHONE:	
CITY, STATE:	ZIP CODE:	
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
SURVEYOR:	CONTACT:	
ADDRESS:	PHONE:	
CITY, STATE:	ZIP CODE:	
CONTRACTOR:	CONTACT:	
ADDRESS:	PHONE:	
CITY, STATE:	ZIP CODE:	
	HECK TYPE OF APPROVAL SOUGHT:	
DRAINAGE REPORT	SIA/FINANCIAL GUARANTEE RELEASE	
DRAINAGE PLAN 1 st SUBMITTAL	PRELIMINARY PLAT APPROVAL	
DRAINAGE PLAN RESUBMITTAL	S. DEV. PLAN FOR SUB'D APPROVAL	
CONCEPTUAL G & D PLAN S. DEV. FOR BLDG. PERMIT APPROVAL		
GRADING PLAN EROSION CONTROL PLAN	SECTOR PLAN APPROVALFINAL PLAT APPROVAL	
ENGINEER'S CERT (HYDROLOGY)	FOUNDATION PERMIT APPROVAL	
CLOMR/LOMR	BUILDING PERMIT APPROVAL	
TRAFFIC CIRCULATION LAYOUT	CERTIFICATE OF OCCUPANCY (PERM)	
ENGINEER'S CERT (TCL)	CERTIFICATE OF OCCUPANCY (TEMP)	
ENGINEER'S CERT (DRB SITE PLAN)	GRADING PERMIT APPROVAL	
OTHER (SPECIFY)	PAVING PERMIT APPROVAL	
	WORK ORDER APPROVAL	
• •	OTHER (SPECIFY)	
WAS A PRE-DESIGN CONFERENCE ATTENDED:		
WAS A PRE-DESIGN CONFERENCE ATTENDED: YES	DEC 2 1 2007	
1 LS NO		
COPY PROVIDED	HYDROLOGY SECTION	
<del></del>		
DATE SUBMITTED: /2 -2/-/-/>	BY: Clayton Thoungs	

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 defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

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

### TRAFFIC CERTIFICATION -

1. George Rainhart, NMPE OR NMRA NMRA OF THE FIRM George Rainhart Architect & Associates, HEREBY CERTIFY THAT THIS PROJECT HAS IS IN DESIGN SUBSTANTIAL COMPLIANE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED November 18, 2007. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY George Rainhart OF THE FIRM George Rainhart Architect & Associates. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON OCTOBER 16, 2007 AND HAVE DETERMINED BY VISUAL INSPECTION THAT THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR Permanent Certification of Occupancy.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERYIFY SUBSTANTIAL COMPLIANCE OF THE TRAFFIC ASPECTS OF THIS PROJECT. THOSE RELYING ON THE RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER

PURPOSE.

<u>.</u>

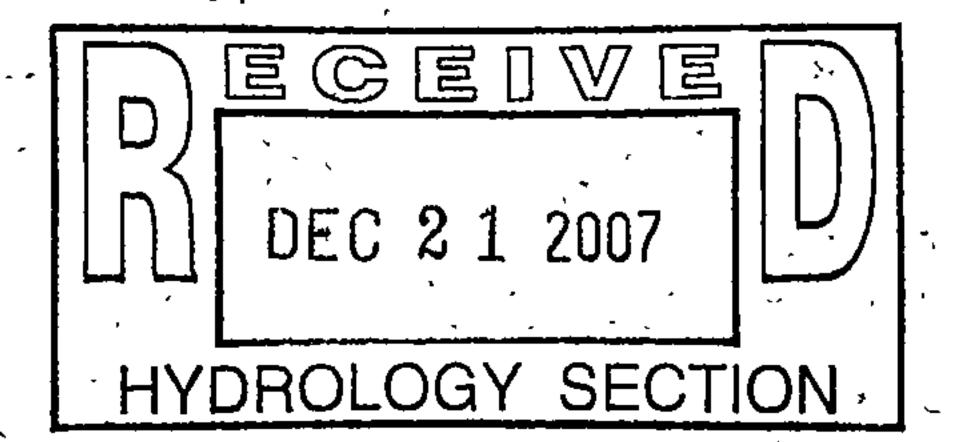
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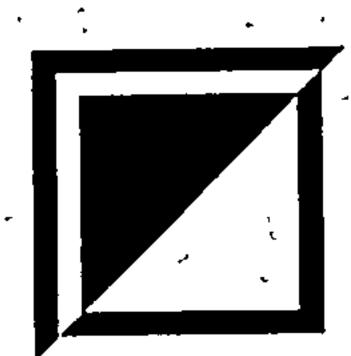
GEORGE R.

RAINHART

Signature of Engineer or Architect

12/67 Date





GEORGE RAINHART, ARCHITECT & ASSOCIATES P.C.

2325 SAN PEDRO NE SUITE 2-B ■ ALBUQUERQUE, NEW MEXICO 87110 PHONE: 505-884-9110 ■ FAX: 505-837-9877 ■ Email: graa@gra-arch.com

# DRAINAGE REPORT FOR

Land in the College of the College o

# TRACT 6 & 7 OF RENAISSANCE CENTER

# OFFICE / WAREHOUSE

Prepared by:



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

January 9, 1998

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

### Location

Tract 6A & 7 of the Renaissance Center are located at the southwest corner of Renaissance Boulevard and Culture Drive. See attached Zone Atlas page number F-16 for location. We are proposing to subdivide the lot into 4 tracts and build an office/warehouse on each Tract.

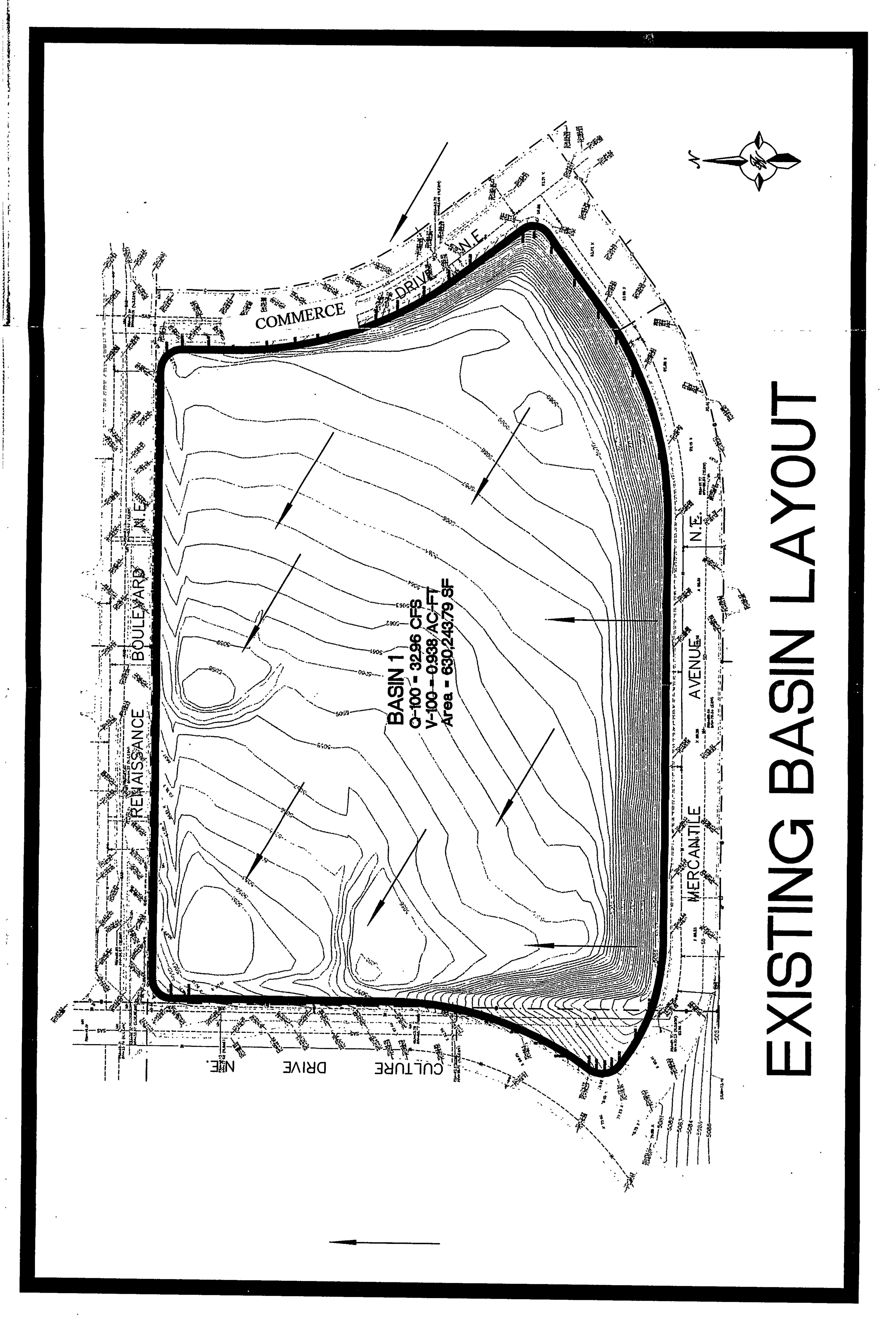
. วิธีสาราธิแล้ว การาธิสาราธิการาธิสาราธิการาธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสารา เกิดสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสาราธิสารา

# Purpose

The purpose of this drainage report is to present a grading and drainage solution for the proposed sites. We are requesting rough grading approval, site development plan for subdivision purposes, site development plan for building permit, final plat approval (Tracts 6A-1, 6A-2, 7A, & 7B) and building permit.

# **Existing Drainage Conditions**

The site falls within the Renaissance Drainage Master Plan, and it is currently undeveloped. The existing conditions for Tracts 6 and 7 were originally analyzed under the Master Drainage Plan for Renaissance. No offsite runoff enters this site. All offsite runoff on the north side of the site is intercepted by Renaissance Boulevard. The offsite runoff on the east side is intercepted by Commerce Drive. The offsite runoff on the west side is



Mercantile Avenue. The entire runoff from Tract 6A & 7 drains north to two existing desilting ponds at an undeveloped flow rate (100-year) of 32.96 cfs and from there to Renaissance Boulevard. From there the runoff is intercepted by the existing storm sewer inlets in the street and carried via storm sewer pipe to Renaissance detention pond. See enclosed existing basin layout for the undeveloped area. The site was analyzed under one Basin 1.

Let by the best of the state of

### Flood Plain and Soil Condition

The site is located on FEMA Map No. 350002 panel 16 as shown on the attached excerpt. The map shows that the site does not lie within any 100 year flood plains.

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

# Proposed Conditions and On-Site Drainage Management Plan

This project will develop in four phases that encompasses tracts 6A-1, 6A-2, 7A, and 7B. Phases I (Tract 6A-1) and III (Tract 7B) will be built first. The enclosed site plan, in the map pocket, shows a layout for the entire project, Tracts 6A & 7.

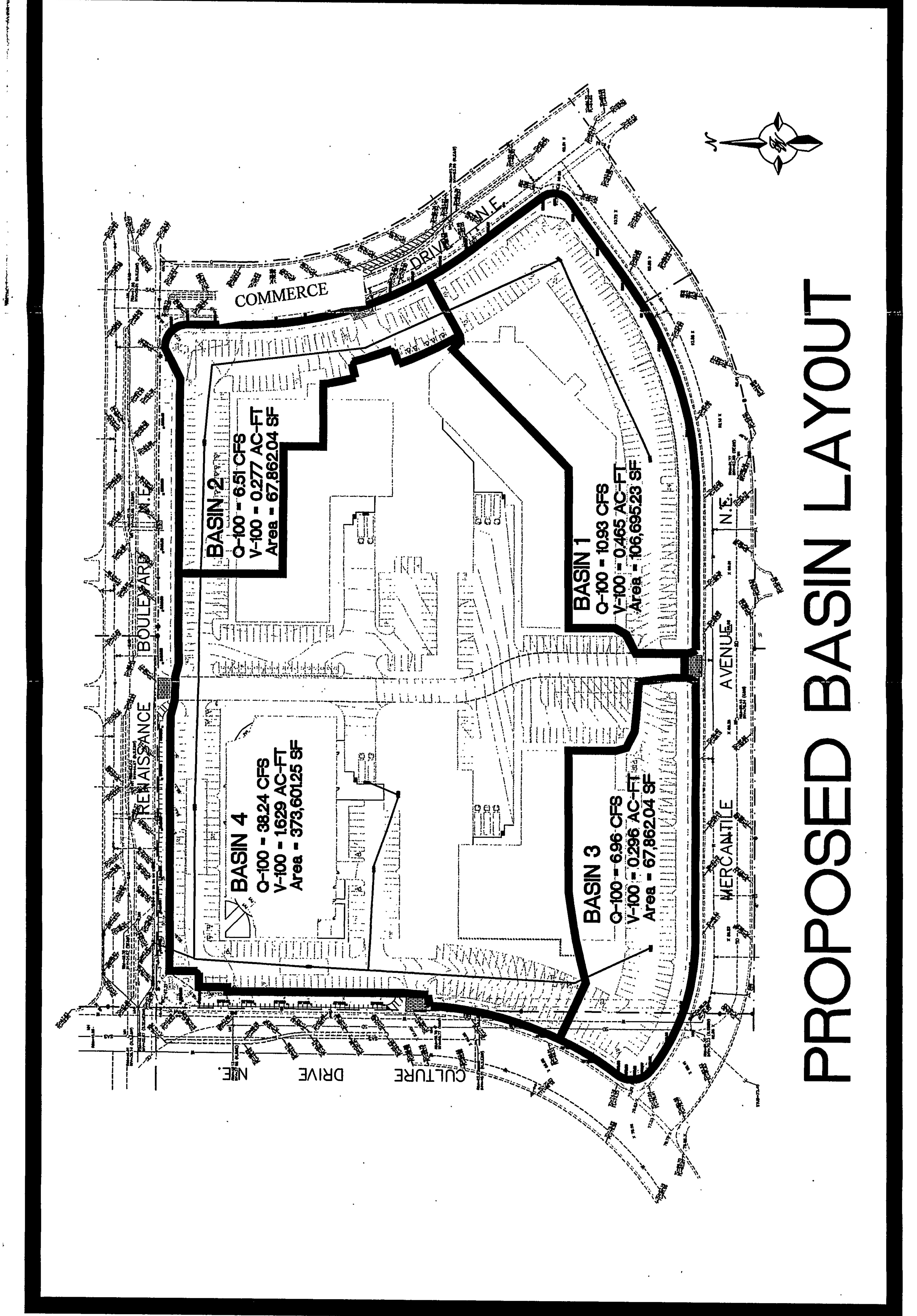
# Drainage Management

The entire site runoff will drain per the Renaissance Master Drainage Plan at a 0.1 cfs/acre discharge rate from the site. Therefore, the allowable discharge rate for the this site is (14.47 acres) is 1.44 cfs. The site is divided into four basins 1, 2, 3, and 4. Each basin will pond the runoff within the parking lot or a designed ponding area and discharge the runoff at a confined flow rate of not exceeding 1.44 cfs.

The second secon

Basin 1, with a flow rate of 10.93 cfs, is ponded within the parking lot and drained at a confined flow rate of 0.24 cfs to Basin 2. Basin 2, with a flow rate of 6.51 cfs, along with the flow from Basin 1 is ponded within the parking lot and then drained to basin 4 at a confined flow rate of 0.87 cfs. Basin 3, with a flow rate of 6.96 cfs, is ponded within the parking lot and then drained to Basin 4 at a confined flow rate of 0.20 cfs. Basin 4, with a flow rate of 38.24 cfs, along with the runoff from Basin 1, 2, and 3 is ponded within parking lot and loading dock ponding area and discharged a confined flow rate of 1.41 cfs which is less that allowable discharge of 1.44 cfs. The runoff from Basin 4 is drained to an existing inlet via storm sewer pipe on Renaissance Boulevard.

The discharge from Basin 1 is controlled by a 2" discharge opening at the inlet. The discharge from Basin 2 is controlled by a 4" discharge opening at the inlet. The discharge from Basin 3 is controlled by a 2" discharge opening at the inlet and the discharge from Basin 4 is controlled by a 4-1/8" discharge opening at the discharge point.



The entire site will be graded in phase I of this project. The storm sewer structures will be built in phase I. Therefore, all the future parking lot ponding will act as desilting ponds.

Additional desilting ponds will be added at the phase line of the project to intercept all the silts prior to entering the site.

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## **Emergency Conditions**

In case of an emergency the runoff will overflow the parking ponding to the north and will continue north to Renaissance Boulevard.

## Summary

The site will be built in four phases. Phase I (Tract 6A-1) and III (Tract 7B) will be built first and phases II & IV will follow after that. The runoff is ponded on site and then discharge via storm sewer pipe to an existing inlet in Renaissance Boulevard at a confined flow rate of 1.41 cfs which is less than the allowable of 1.44 cfs.

#### **Calculations**

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

#### Infrastructure List

All work will be performed under building permit outside of any public right of way, except the median modification on Commerce Drive. A copy of the infrastructure list is attached to this report. See section VII of this report.

The continue of the continue o

# **RUNOFF CALCULATIONS**

a controlled to the test of test of the test of the test of the test of the test of te

The site is @ Zone 2

### LAND TREATMENT

Proposed

D = 90.00 %

B = 10.00 %

Existing

B = 100 %

# DEPTH (INCHES) @ 100-YEAR STORM

 $P_{60} = 2.01$  inches

 $P_{360} = 2.35 \text{ inches}$ 

 $P_{1440} = 2.75 \text{ inches}$ 

# DEPTH (INCHES) @ 10-YEAR STORM

 $P_{60} = 2.01 \times 0.667$ 

= 1.34 inches

 $P_{360} = 1.57$ 

 $P_{1440} = 1.83$ 

See the summary output from AHYMO calculations.

Also see the following summary tables.

# RUNOFF SUMMARY TABLE

A STANDARD ST

# PROPOSED DRAINAGE BASINS

BASIN	AREA (SF)	AREA (AC)	AREA (MI²)
1	106,695.23	2.4494	0.003827
2	63,471.74	1.4571	0.002277
3	67,862.04	1.5579	0.002434
4	373,601.25	8.5767	0.013401

## EXISTING

#### DRAINAGE BASINS

BASIN	AREA (SF)	AREA (AC)	AREA (MI ² )
1	630,243.79	14.4684	0.022607

# RUNOFF CALCULATION RESULTS UNDER PROPOSED CONDITIONS

BASIN	Q-100	V-100	Q-10	V-10
	CFS	CFS	CFS	CFS
1	10.93	0.465	7.08	0.295
2	6.51	0.277	4.21	0.173
3	6.96	0.296	4.51	0.185
4	38.24	1.629	24.76	1.019

# RUNOFF CALCULATION RESULTS UNDER EXISTING CONDITIONS

BASIN	Q-100	V-100	Q-10	V-10
	CFS	CFS	CFS	CFS
1	32.96	0.938	13.53	0.336

# POND VOLUME CALCULATIONS

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#### POND #1

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

Inlet Depth =4.24'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)

At - Top Of The Pond Surface Area

D - Water Depth

(From top of inlet)

Dt - Total Pond Depth (From top of inlet to maximum water detph)

C - Change In Surface Area / Water Depth

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

$$C = (At - Ab) / Dt$$

Ab =6.94 SF

At =36,403.15 SF

Dt =1.50 FT

(Ponding depth from top of the inlet to maximum ponding depth

Dia =

2 IN

Radius =

1 IN

24264.14 FT/LF-DEPTH

<u> </u>			<u></u>	
H	$\mathbf{D}$	VOLUME	Q	FULL
(FT)	(FT)	(AC-FT)	(CFS)	ELEV.
0.00	0.00	0.00000	0.00	5072.26
2.00	2.00	0.00032	0.15	5074.26
4.24	4.24	0.00068	0.21	5076.50
4.44	0.20	0.01185	0.22	5076.70
4.64	0.40	0.04530	0.22	5076.90
4.84	0.60	0.10104	0.23	5077.10
5.04	0.80	0.17905	0.23	5077.30
5.24	1.00	0.27935	0.24	5077.50
5.44	1.20	0.40193	0.24	5077.70
5.64	1.40	0.54679	0.25	5077.90
5.74	1.50	0.62757	0.25	5078.00

$$Q = CA \bigvee 2gH$$

$$C = 0.60$$

$$A = \P r^2$$

$$g = 32.2$$

H = water depht, measured from the center of the orifice plate

#### POND #2

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

Inlet Depth =3.48'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)

At - Top Of The Pond Surface Area

D - Water Depth (From top of inlet)

Landan and the second and the second

Dt - Total Pond Depth (From top of inlet to maximum water detph)

C - Change In Surface Area / Water Depth

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

$$C = (At - Ab) / Dt$$

Ab =6.94 SF

At =22,390.70 SF

Dt =1.50 FT (Ponding depth from top of the inlet to maximum ponding depth)

Dia =4 IN Radius = 2 IN

14922.51 FT/LF-DEPTH

				<del></del>
H	D	VOLUME	Q	FULL
(FT)	(FT)	(AC-FT)	(CFS)	ELEV.
0.00	0.00	0.00000	0.00	5062.02
2.60	2.60	0.00041	0.66	5064.62
3.48	3.48	0.00055	0.76	5065.50
3.68	0.20	0.00744	0.79	5065.70
3.88	0.40	0.02802	0.81	5065.90
4.08	0.60	0.06231	0.83	5066.10
4.28	0.80	0.11031	0.85	5066.30
4.48	1.00	0.17200	0.87	5066.50
4.68	1.20	0.24740	0.89	5066.70
4.88	1.40	0.33650	0.91	5066.90
4.98	1.50	0.38619	0.92	5067.00

#### POND #3

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

Inlet Depth =2.50'

Ab - Bottom Of The Pond Surface Area (Top of the inlet)

At - Top Of The Pond Surface Area

D - Water Depth (From top of inlet)

Dt - Total Pond Depth (From top of inlet to maximum water detph)

C - Change In Surface Area / Water Depth

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

$$C = (At - Ab) / Dt$$

Ab =6.94 SF

At =21,508.45 SF

Dt =1.50 FT (Ponding depth from top of the inlet to maximum ponding depth)

Dia =2 IN Radius = 1 IN

14334.34 FT/LF-DEPTH

H	D	VOLUME	O	FULL
(FT)	(FT)	(AC-FT)	(CFS)	ELEV.
0.00	0.00	0.00000	0.00	5070.00
1.25	2.50	0.00040	0.11	5071.25
2.50	2.50	0.00040	0.16	5072.50
2.70	0.20	0.00701	0.17	5072.70
2.90	0.40	0.02679	0.18	5072.90
3.10	0.60	0.05973	0.18	5073.10
3.30	0.80	0.10583	0.19	5073.30
3.50	1.00	0.16509	0.19	5073.50
3.70	1.20	0.23752	0.20	5073.70
3.90	1.40	0.32311	0.21	5073.90
4.00	1.50	0.37084	0.21	5074.00

#### POND #4

Ponding data for the combination of parking lot and loading dock ponding

The state of the s

D - Water Depth (From top of inlet)

Dt - Total Pond Depth (From top of inlet to maximum water detph)

Dia = 4.125 IN Radius = 2.0625 IN

H	D	VOLUME	Q	FULL
(FT)_	(FT)	(AC-FT)	(CFS)	ELEV.
0.00	0.00	0.00000	0.00	5045.80
2.50	0.00	0.00040	0.68	5048.30
5.20	0.00	0.00083	1.00	5051.00
6.20	0.00	0.00099	1.10	5052.00
6.70	0.50	0.04553	1.14	5052.50
7.20	1.00	0.09505	1.18	5053.00
7.70	1.50	0.15639	1.23	5053.50
8.20	2.00	0.23638	1.27	5054.00
8.70	2.50	0.32941	1.30	5054.50
8.90	2.70	0.38161	1.32	5054.70
9.10	2.90	0.46382	1.34	5054.90
9.20	3.00	0.55406	1.34	5055.00
9.30	3.10	0.57502	1.35	5055.10
9.50	3.30	0.71527	1.36	5055.30
9.70	3.50	0.88455	1.38	5055.50
9.90	3.70	1.08287	1.39	5055.70
10.10	3.90	1.31022	1.41	5055.90
10.20	4.00	1.43478	1.42	5056.00

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
INPUT FILE = 9793EXST

RUN DATE (MON/DAY/YR) =01/08/1998
USER NO.= R_BOHANN.IO1

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE =	
COMPUTE NM START	YPE= 2 HYD 101.10 YPE= 2		1	.02261	32.96	.938	.77821	1.533	2.278	TIME= RAIN24= PER IMP= TIME= RAIN24=	.00 2.750 .00 .00
COMPUTE NM FINISH		-	1	.02261	13.53	.336	.27828	1.533	.935	PER IMP=	.00

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AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
INPUT FILE = 9793PROP

RUN DATE (MON/DAY/YR) =01/08/1998
USER NO.= R_BOHANN.IO1

		FROM	TO		PEAK	RUNOFF		TIME TO	CFS	PAGE =	= 1
	HYDROGRAPH	ID	ID	AREA	DISCHARGE	VOLUME	RUNOFF	PEAK	PER		
COMMAND	IDENTIFICATION	NO.	NO.	(SQ MI)	(CFS)	(AC-FT)	(INCHES)	(HOURS)	ACRE	NOTATI	ON
START										TIME=	.00
RAINFALL TY	PE= 2									RAIN24=	2.750
COMPUTE NM H	YD 101.10	•	1	.00383	10.93	.465	2.27928	1.500	4.464	PER IMP=	90.00
COMPUTE NM H	YD 102.10	-	1	.00228	6.51	.277	2.27929	1.500	4.468	PER IMP=	90.00
COMPUTE NM H	YD 103.10	-	1	.00243	6.96	.296	2.27930	1.500	4.468	PER IMP=	90.00
COMPUTE NM H	YD 104.10	-	2	.01340	38.24	1.629	2.27927	1.500	4.459	PER IMP=	90.00
START										TIME=	.00
RAINFALL TY	PE= 2									RAIN24=	1.830
COMPUTE NM H	YD 101.10	-	1	-00383	7.08	.291	1.42509	1.500	2.890	PER IMP=	90.00
COMPUTE NM H	YD 102.10	-	1	.00228	4.21	.173	1.42510	1.500	2.892	PER IMP=	90.00
COMPUTE NM H	YD 103.10	-	1	.00243	4.51	.185	1.42510	1.500	2.892	PER IMP=	90.00
COMPUTE NM H	YD 104.10	-	2	-01340	24.76	. 1.019	1.42509	1.500	2.887	PER IMP=	90.00
FINISH											

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AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 INPUT FILE = 9793

RUN DATE (MON/DAY/YR) =01/08/1998
USER NO.= R_BOHANN.IO1

	HYDROGRAPH	FROM ID	TO ID	AREA	PEAK DISCHARGE	RUNOFF VOLUME	RUNOFF	TIME TO PEAK	CFS PER	PAGE :	= 1
COMMAND	IDENTIFICATION	NO.	NO.	(SQ MI)	(CFS)	(AC-FT)	(INCHES)	(HOURS)	ACRE	NOTAT	ION
START									_		
RAINFALL TY	PE= 2									IME=	.00
COMPUTE NM HY		-	1	-00383	10.93	.465	2.27928	1.500	4.464 PI	AIN24= ER IMP=	2.750 90.00
ROUTE RESERVO		1	2	.00383	.24	.365	1.78762	1.866	.098 A		.402
COMPUTE NM HY	/D 102.10	-	1	.00228	6.51	.277	2.27929	1.500	4.468 PE		
ADD HYD	102.20	1& 2	3	-00610	6.74	.642	1.97102	1.500	1.726	-K IMP-	70.00
ROUTE RESERVO	DIR 502.10	3	5	-00610	.87	-642	1.97054	2.200	.222 AC	'_	140
COMPUTE NM HY	D 103.10	-	1	.00243	6.96	.296	2.27930	1.500	4.468 PE	-	-168
ROUTE RESERVO	IR 503.10	1	4	.00243	.20	.290	2.23726	2.533			90.00
COMPUTE NM HY	D 104.10	-	2	.01340	38.24	1.629	2.27927	1.500	.127 AC		.221
ADD HYD	104.20	2& 4	1	-01584	38.43	1.919	2.27282		4.459 PE	K IMP=	90.00
ADD HYD	104.30	1& 5	2	.02194	39.25	2.561		1.500	3.792		
ROUTE RESERVO FINISH	IR 506.10	2	1	.02194	1.41	2.138	2.18872 1.82746	1.500 3.133	2.796 .100 AC	-FT=	1.304

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