CITY OF ALBUQUERQUE



May 30, 2007

Mr. Ronald Bohannan, P.E.

Tierra West, LLC

5571 Midway Park Place NE
Albuquerque, NM 87109

Re: Hoffmantown West Church, 6440 Coors Blvd. NW

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

Engineer's Stamp dated 08/24/06 (D-17/D93)

Certification dated 05/22/07

Dear Mr. Bohannan,

P.O. Box 1293

Based upon the information provided in your submittal received 05/24/2007, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

Albuquerque

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

New Mexico 87103

Sincerely,

www.cabq.gov

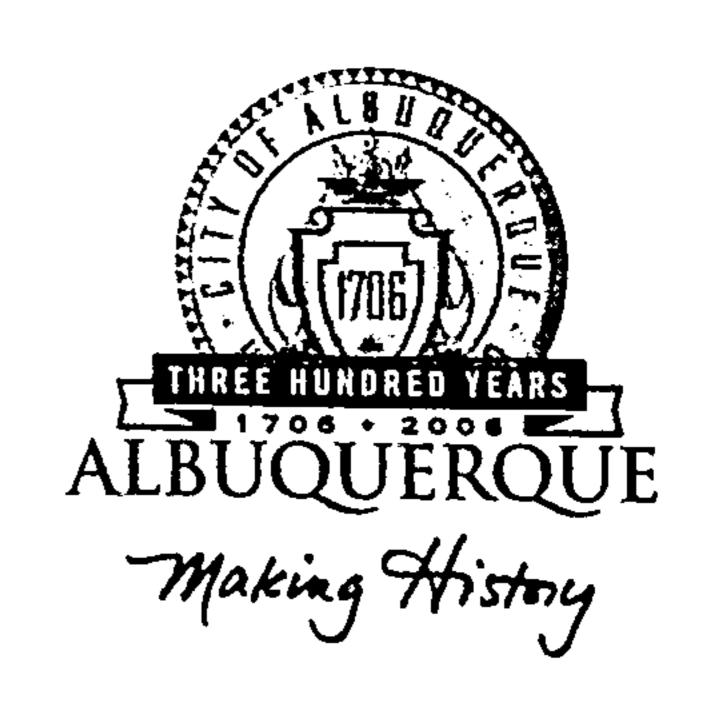
Timothy Sims Dept.

Development and Building Services

C: CO Clerk-Katrina Sigala

File

CITY OF ALBUQUERQUE



September 12, 2006

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

Re: Hoffmantown West Church

Grading and Drainage Plan

Engineer's Stamp dated 8-29-06 (D12-D1)

Dear Mr. Bohannan,

Based upon the information provided in your submittal received 9-07-06, the above referenced plan is approved as amended. Please submit a certified copy of the revised plan along with the original set in order to obtain a Certificate of Occupancy

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

Albuquerque

P.O. Box 1293

New Mexico 87103

Rudy E. Rael, Associate Engineer

Planning Department.

Sincerely,

Development and Building Services

www.cabq.gov

C: File

Weighted E Method

Hoffmantown West Church

TW Job #23080

On-Site Basins - Zone 1

					_			- · · · · · · · · · · · · · · · · · · ·				00-Year		···	10-Year	
Basin	Area	Area	Treati	ment A	Treat	ment B		ment C	Treat	ment D	Weighted E	Volume	Flow	Weighted E	Volume	Flow
*	(sf)	(acres)	%	(acres)	%	(acres)	%	(acres)	%	(acres)	Inches	ac-ft	cfs	Inches	ac-ft	cfs
1	511	0.01	0%	0	0%	0.00	0%	0.00	100%	0.01	1.970	0.002	0.05	1.240	0.001	0.03
2	2,977	0.07	0%	0	0%	0.00	0%	0.00	100%	0.07	1.970	0.011	0.30		0.007	0.20
3	1,776	0.04	0%	0	4%	0.00	0%	0.00	96%	0.04	1.918	0.007	0.17	1.199	0.004	0.11
4	2,786	0.06	0%	0	7%	0.00	0%	0.00	93%	0.06	1.879	0.010	0.27	1.169	0.006	0.18
5	5,606	0.13	0%	0	4%	0.01	0%	0.00	96%	0.12	1.918	0.021	0.55		0.013	0.36
6	2,455	0.06	0%	0	4%	0.00	0%	0.00	96%	0.05	1.918	0.009	0.24	1.199	0.006	0.16
7	6,892	0.16	0%	0	0%	0.00	0%	0.00	100%	0.16	1.970	0.026	0.69		0.016	0.46
8	4,238	0.10	0%	0	4%	0.00	0%	0.00	96%	0.09	1.918	0.016	0.42	1.199	0.010	0.27
9	10,900	0.25	0%	0	55%	0.14	0%	0.00	45%	0.11	1.255	0.026	0.77	0.679	0.014	0.43
10	12,780	0.29	0%	0	65%	0.19	0%	0.00	35%	0.10	1.125	0.028	0.84		0.014	0.44
Total		1.17									<u></u>	0.15	4.30		0.09	2.64

 $\boldsymbol{\cdot}$

Equations:

Weighted E = $(E_a^*A_a + E_b^*A_b + E_c^*A_c + E_d^*A_d)$ / Total Area

Volume = Weighted D * Total Area

Flow = $Q_a * A_a + Q_b * A_b + Q_c * A_c + Q_d * A_d$

Albuquerque

Metropolitan

Authority

Ronald D. Brown, Chair Daniel F. Lyon, Vice Chair Tim Elphooborg, Semelary-Trossuror Janet Salera, Asst. Societary-Trocsmer Daony Mei

rnanday, Director '	Arroyo
ohn P. Kelly, P.E. Gootse Empireer	Flood
	Control

Post-it" Fax Note 7671	Dalo 12-3 # of pages 2
TO BEAD BINGHAM	From LYNN MAZUR
Co./Dept. HYDR GLOCY	Co. AMAGCA
Phone #	Phone #
Fax II	Fax #

2000 Prespect N.E., Albuquenque, NM 87107 Phone: (505) 884-2215 Fax: (505) 884-0214

December 8, 2005

Mr. Ronald Bohannan, P.E. Tierra West, LLC 8509 Jefferson St. ME Albuquerque, NM-87113

Re:

Drainage Report for Hoffmantown West Church, ZAP D-12

Engineer's Stamp Dated March 28, 2005

Dear Mr. Bohannan:

AMAFCA received the referenced report on November 30 and has reviewed it with respect to storm water runoss to the Corrales Main Canal, a Middle Rio Grande Conservancy District (MRGCD) facility. AMAFCA has a license with MRGCD (Contract No. 6-LM-53-01085) for joint use of the Corrales Main Canal as an irrigation / flood control facility with certain discharge conditions. AMAFCA also agreed to maintain the facility.

AMAFCA does not approve the Grading & Drainage Plan. There are some key drainage discharge conditions that have not been adequately addressed in the Drainage Report. The primary discrepancy is how you arrived at the allowable discharge rate. This site is included in AMAFCA's "North Coors Drainage Management Plan, Middle Area" (NCDMP, February 1997), which was prepared to update hydrology, development, and discharge conditions in the area. The allowable discharge from Bosque Meadows Subdivision, including the offsite basin that drains through it, is 35 cfs per the NDDMP. Since, according to your report, it discharges 32 c/s, that leaves 4 cfs allowable discharge not going into the canal. The allowable discharge from the Hoffmantown site, including the offsite basin west of Coors Boulevard, is 98 cfs. Please revise the Drainage Report to reference the NCDMP and the allowable discharge.

Another key discharge condition that must be addressed in the report is the desedimentation requirement in the NCDMP. After discussion with MRGCD, AMAFCA and MRGCD are going to require surface water quality treatment for sediment, pollutants and trash and, to be determined on a case by case basis, possibly additional in-line storm water treatment facilities, such as a Stormceptor manhole. There is a pond shown on the southeast comer of the site, but it does not appear to receive any storm water runoff.

The Drainage Report should also address the size and capacity of the existing storm drain outfall to the canal. If you have any questions, please call me at 884-2215.

Sincerely, AMAFCA

Lynn M. Mazur, P.E., C.F.M.

Development Review Edgineer

Cc: Brad Bingham, City Hydrology Ray Gomez, MRGCD

CITY OF ALBUQUERQUE



Planning Department Transportation Development Services Section

May 11, 2007

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

Re:

Certification Submittal for Final Building Certificate of Occupancy for

Hoffmantown West Church, [D12 / D1]

6440 Coors NW

Engineer's Stamp Dated 05/08/07

Dear Mr. Bohannan:

P.O. Box 1293

The TCL / Letter of Certification submitted on May 10, 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

New Mexico 87103

Nilo E. Salgado-Fernandez, P.E.

Senior Traffic Engineer

www.cabq.gov

Development and Building Services

Planning Department

C

Engineer

Hydrology file CO Clerk

DRAINAGE AND TRANSPORTATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE:	Hoffmantown West Church		ZONÉ MAPA	DRG. FILE # D12-D1
DRB : 100237	EPC #:		WORK ORE	ER #: 761481
LEGAL DESCRIPTION	N Tract 1-A-1, Alban Hills, Unit 1			
CITY ADDRESS:	6440 Coors Boulevard NW	<u>-</u>		
			<u></u>	
ENGINEERING FIRM:	Tierra West, LLC		CONTACT:	Brad Frosch
ADDRESS:	8509 Jefferson NE	<u> </u>	PHONE:	(505) 858-3100
CITY, STATE:	Albuquerque, NM		ZIP CODE:	87113
	Haffun and arrow Min at Observate		00NT40T	
OWNER:	Hoffmantown West Church			Todd Cook
ADDRESS:	2600 American Road SE, Suite 350	_	PHONE:	505-922-9200
CITY, STATE:	Rio Rancho, NM	_	ZIP CODE:	87124
ARCHITECT:	Tate Fishburn Architects		CONTACT	Tate Fishburn
ADDRESS:	P.O. Box 2941		PHONE:	(505) 899-9338
CITY, STATE:	Corrales, NM		ZIP CODE:	87048
		_		
SURVEYOR:	Baseline Field Services		CONTACT:	JJ Bordenave
ADDRESS:	208 3rd St. SW		PHONE:	505-244-3326
CITY, STATE:	Albuquerque, NM	_	ZIP CODE:	87102
	Lata an Oan almontina		00117407	
CONTRACTOR: ADDRESS:	Joiner Construction P.O. Box 15229	<u> </u>		Bill Joiner
CITY, STATE:	Rio Rancho, NM		PHONE: ZIP CODE:	505-892-1311 87174
DRAINAGE PL CONCEPTUAL GRADING PLAN EROSION CON ENGINEER'S C CLOMR/LOMR TRAFFIC CIRCU ENGINEERS CE X ENGINEERS CE OTHER	PORT AN 1st SUBMITTAL, <i>REQUIRES TCL or equal</i> LAN RESUBMITTAL GRADING & DRAINAGE PLAN	<u>CHE</u>	SIA / FINAN PRELIMINA S. DEV. PLA SECTOR PI FINAL PLAT FOUNDATION BUILDING FOUNDATION CERTIFICA CERTIFICA GRADING FOUNDERS	APPROVAL SOUGHT: IACIAL GUARANTEE RELEASE IRY PLAT APPROVAL AN FOR SUB'D. APPROVAL AN FOR BLDG. PERMIT APPROVAL LAN APPROVAL ON PERMIT APPROVAL PERMIT APPROVAL TE OF OCCUPANCY (PERM.) TE OF OCCUPANCY (TEMP.) PERMIT APPROVAL ERMIT APPROVAL DER APPROVAL
NO COPY PROVIDE				MAY 1 0 2007 HYDROLOGY SECTION The section of the
DATE SUBMITTED:	5/10/2007	_BY: _.	. <u> </u>	Brad Frosch

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.

5571 Midway Park Place NE Albuquerque, NM 87109

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

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

May 9, 2007

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

RE: DRB Approved Site Plan Certification for Permanent Certificate of Occupancy

Hoffmantown West Church 6440 Coors Boulevard NW

Dear Mr. Salgado-Fernandez:

Tierra West, LLC requests a Permanent Certification of the DRB approved Site Plan for Building Permit for Hoffmantown West Church, located at 6440 Coors Boulevard NE. Enclosed please find the information sheet, the As-Built Administrative Amendment Site Plan for Building Permit and the Approved Site Plan for Building Permit (for reference only). All punchlist items have been completed and the project has been constructed in substantial compliance with the approved plan. Therefore, we request Certification of the As-Built Administrative Amendment Site Plan for Building Permit for a Permanent Certificate of Occupancy.

If you have any questions or need additional information regarding this matter, please do

lonald R. Bohannan, PE

not hesitate to contact me.

Enclosure/s

cc: T

Todd Cook

D. McCall

JN: 23080 RRB/bf/kdk

2003: 23060 Nilo Perm CO 011607

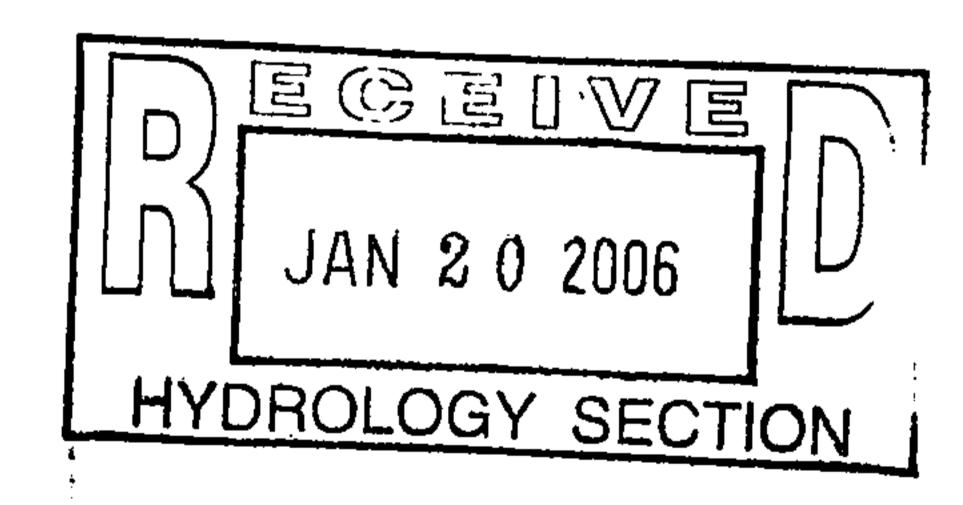
DRAINAGE REPORT

for

Hoffmantown West Church @ The Northeastern Corner of Coors and La Orilla Road Albuquerque, New Mexico

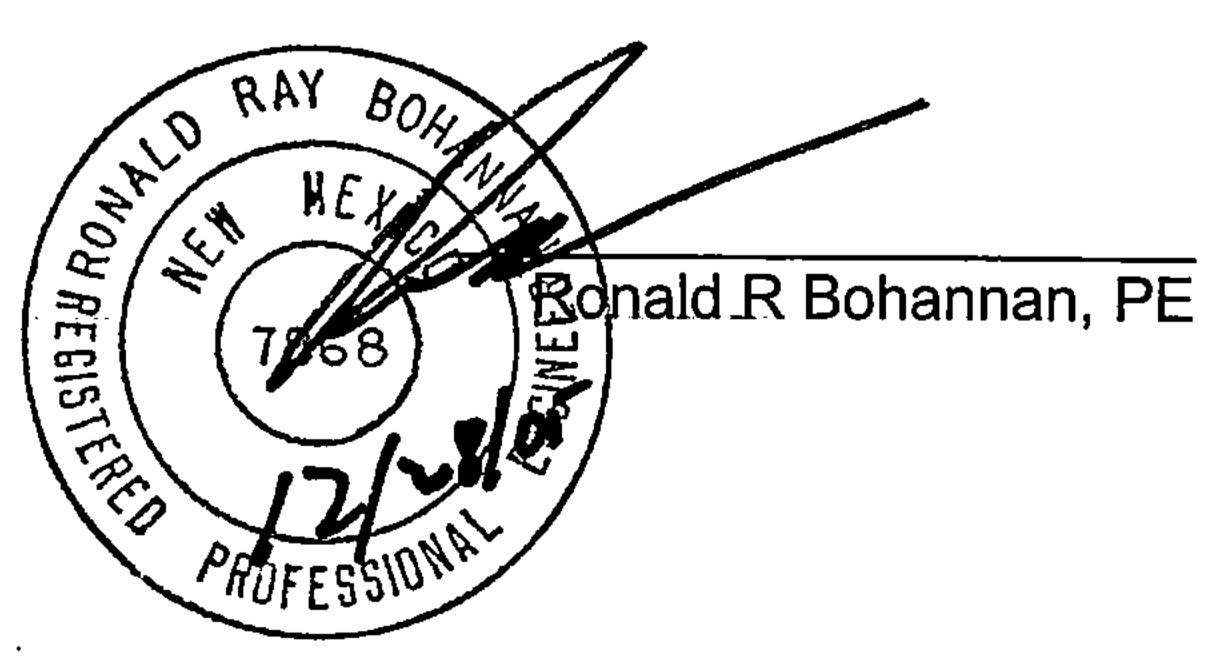
Prepared by:

Tierra West, LLC 8509 Jefferson NE Albuquerque, New Mexico 87113



March, 2005 Revised Dec, 2005

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.



Job No 23080

PURPOSE

The purpose of this report is to provide the drainage management plan for the development of Hoffmantown West Church. This plan will be utilized for the development of the subject 16.3-acre property. This plan is in accordance with the DPM, Chapter 22, Hydrology Section. The purpose of this report is to provide the drainage analysis and management plan for the new site.

INTRODUCTION

The subject of this report, as shown on the Exhibit A vicinity map, is a 16.3-acre parcel of land located at the northeast corner of Coors and La Orilla Road, zone atlas page D-12. The site is in the City of Albuquerque, Bernalillo County, New Mexico and currently is undeveloped. The legal description of the property is Tract 1-A-1, Alban Hills Unit 1. As shown on FIRM map 35001C01116F.

EXISTING CONDITIONS

Currently the site is undeveloped, and the drainage generally slopes from the west to the east. The 16.3-acre site is bounded on the north by the Bosque Meadows Subdivision, on the east by Middle Rio Grande Conservancy District's Corrales Main Canal, on the west by Coors, and on the south by La Orilla Road.

PROPOSED CONDITIONS

The proposed church will consist of five buildings comprising approximately 150,000 sq ft. The proposed drainage from the site will sheet flow to the eastern side of the property into two single A and one single C water quality inlets and into a 36" RCP stub that was installed with the Bosque Meadows Subdivision (D12/D2). This site is also covered by the North Coors Drainage Management Plan Middle Area, and is located within basin 17.4E. According to the report this basin is allowed to discharge 87 cfs. For this report the site has been split into 4 basins including 3 offsite basins.

Basin 1 consists of the northwest corner of the site; this includes the northwest corner of the parking lot. The storm runoff from this basin will be conveyed in a concrete swale to a water quality inlet and discharged into the Corrales Main Canal via an existing discharged point. The total runoff from this basin is 14.81cfs and a land treatment of 20% B and 80% D was used.

Basin 2 includes the east side of the site and a portion of the site south of the church. The storm runoff from this basin will be collected in a water quality inlet and then discharge into the Corrales Main Canal. The total runoff from this basin is 22.05cfs and a land treatment of 16% B and 84% D was used.

Basin 3 includes the remaining southern portion of the parking lot area. The storm runoff from this basin will be conveyed in a concrete swale into a water quality inlet and then dis-

charged into the Corrales Main Canal. The total runoff from this basin is 8.06 cfs and a land treatment of 20% B and 80% D was used.

Basin 4 includes the proposed church buildings. The storm runoff from this basin will be directed to the east side of the buildings and discharge into the same water quality inlet as Basin 2. The total runoff from this basin is 16.45 cfs and a land treatment of 100% D was used.

The offsite basin 5 includes the remaining portion of land that is left west of Basins 2 and 3 and south of Basin 1. The runoff from this basin will be conveyed in a concrete swale extended from Basin 3 into a water quality inlet and finally into the Corrales Main Canal. The runoff from Basin 5 is 20 cfs; a land treatment of 15%B and 85%D was used to generate the runoff amounts.

The offsite basin 6 includes the portion of Coors Road that borders the property. The runoff from this basin will be conveyed from curb and gutter into the north and south entrances into the site and continue into the water quality inlet and finally into the Corrales Main Canal. The runoff from Basin 6 is 3.60 cfs; a land treatment of 22%B and 78%D was used to generate the runoff amounts.

The offsite basin 7 includes the portion of La Orilla Road that borders the property. The runoff from this basin will be conveyed from curb and gutter into a landscaped pond that is located at the southeast corner of the site. The runoff from Basin (is 3.83cfs; a land treatment of 100%D was used to generate the runoff amounts.

The total flow from all 6 basins is 84.97 cfs and will be collected in two single As and one single C water quality inlets with sweepers on each end. An additional 11 cfs from a culvert under Coors Boulevard, which drains basin 17.2W that is located on the west side of Coors will also be collected by the inlets. This brings the total flow into the inlets to 95.97 cfs. From that point the water will continue to an existing manhole and then into the Corrales Main Canal.

SUMMARY AND RECOMMENDATIONS

Per the pervious drainage report this site has free discharge into existing drainage facilities. The development of this site is consistent with the DPM, Chapter 22, Hydrology section. It is recommended this development be approved for rough grading and Site Plan for Building Permit.

Weighted E Method

Hoffmantown West Church

TW Job# 23080

Zone #1

Existing Basins

	,	· · · · · · · · · · · · · · · · · · ·			en e	Michael Control							100-Year			10-Year	
Basin	Area	Area	Area	Treat	ment A	Treat	ment B	Treat	ment C	Treat	ment D	Weighted E	Volume	Flow	Weighted E	Volume	Flow
	(sf)	(acres)	(sq miles)	%	(acres)	%	(acres)	%	(acres)	%	(acres)	(ac-ft)	(ac-ft)	cfs	(ac-ft)	(ac-ft)	cfs
1	712113.00	16.348	0.02554	0%	0	20%	3.270	0%	0	80%	13.078	1.710	2.330	63.79	1.036	1.411	40.28
2	216719.00	4.975	0.00777	0%	0	15%	0.746	0%	0	85%	4.229	1.775	0.736	20.00	1.087	0.451	12.79

Developed Basins

· ·													100-Year			10-Year	<u>- · · · · · · · · · · · · · · · · · · ·</u>
Basin	Area	Area	Area	Treat	ment A	Treat	ment B	Treat	ment C	Treat	ment D	Weighted E	Volume	Flow	Weighted E		Flow
	(sf)	(acres)	(sq miles)	%	(acres)	%	(acres)	%	(acres)	%	(acres)	(ac-ft)	(ac-ft)	cfs	(ac-ft)	(ac-ft)	cfs
1	165343.00	3.796	0.00593	0%	Ó	20%	0.759	0%	0	80%	3.037	1.710	0.541	14.81	1.036	0.328	9.35
2	240432.00	5.520	0.00862	0%	Ō	16%	0.883	0%	0	84%	4.636	1.762	0.810	22.05	1.077	0.495	14.07
3	89987.00	2.066	0.00323	0%	0	20%	0.413	0%	Ö	80%	1.653	1.710	0.294	8.06	1.036	0.178	5.09
4	164004.00	3.765	0.00588	0%	0	0%	0.000	0%	0	100%	3.765	1.970	0.618	16.45	1.240	0.389	10.88
5	216719.00	4.975	0.00777	0%	0	15%	0.746	0%	0	85%	4.229	1.775	0.736	20.00	1.087	0.451	12.79
6	40700.00	0.934	0.00146	0%	0	22%	0.206	0%	0	78%	0.729	1.684	0.131	3.60	1.016	0.079	2.26
7	38180.00	0.876	0.00137	0%	0	0%	0.000	0%	0	100%	0.876	1.970	0.144	3.83	1.240	0.091	2.53
7	876485.00	21.056		· · - · - · - · · - · -		<u> </u>	3.007		-		18.048	- <u>,,</u>	3.131	84.976			

876485.00 18.048 21.056 3.007

Developed Basins

			····•					·		·			100-Year	- ·		10-Year	
Basin	Area	Area	Area	Treat	ment A	Treat	ment B	Treat	ment C	Treat	ment D	Weighted E	Volume	Flow	Weighted E	Volume	Flow
	(sf)	(acres)	(sq miles)	%	(acres)	%	(acres)	%	(acres)	%	(acres)	(ac-ft)	(ac-ft)	cfs	(ac-ft)	(ac-ft)	cfs
Pond	51861.00	1.191	0.00186	0%	0	100%	1.191	0%	0	0%	0.000	0.670	0.066	2.42	0.220	0.022	0.90
	51861.00	1.191					1.191		• •		0.000		0.066	2.417	······································	·····	

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

DROP INLET CALCULATIONS

Basin	TYPE OF	AREA	Q	-	H ALLOW
	INLET	(SF)	(CFS)	(FT)	(FT)
1 thru 5	Single 'C'	4.36	84	16.0102	0.5
1 thru 5	Single 'C'	4.36	14.845811	0.5001	0.5
1 thru 5	Single 'C'	4.36	20.985914	0.9993	1
1 thru 5	Double 'A'	11.24	84	2.4090	0.5
1 thru 5	Double 'A'	11.24	38.269782	0.5000	0.5
1 thru 5	Double 'A'	11.24	54.101265	0.9993	1
1 thru 5	Single 'A'	9.14	84	3.6471	0.5
1 thru 5	Single 'A'	9.14	31.114569	0.5004	0.5
1 thru 5	Single 'A'	9.14	44.002465	1.0008	1

ORIFICE EQUATION

Q = CA sqrt(2gH)

C =

0.6

g =

32.2

STORM DROP INLET-EFFECTIVE AREA Double 'A'

Area at the grate:

L =
$$88 \frac{3}{4}$$
" - $2(6"_{ends})$ - $6"_{center \, piece}$ - $14(\frac{1}{2} \, \frac{1}{2} \,$

Area at the throat:

L = 13.50"
H =
$$10 \frac{3}{4}$$
" - $4 \frac{1}{2}$ "
= $6 \frac{1}{4}$ "
= 0.5208'
Area = 13.50' x 0.5208'
= 7.03 ft² at the throat

Total Area:

Area =
$$4.21_{grate}$$
 + 7.03_{throat}
= 11.24 ft^2

Single 'C' Drop Inlet EFFECTIVE AREA

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 '

Area =
$$1.583^{\circ} \times 2.906^{\circ}$$

= 4.601 ft^2

Effective Area: =
$$4.601$$
- 4.601 ($0.5_{clogging\ factor}$) = $2.30\ ft^2$ at the grate

Area at the throat:

Area =
$$3.95' \times 0.5208'$$

= 2.06 ft^2 at the throat

Total Area:

Area =
$$2.30_{grate}$$
 + 2.06_{throat}
= 4.36 ft^2

CITY OF ALBUQUERQUE



January 25, 2006

Ron Bohannan, PE Tierra West LLC 8509 Jefferson NE Albuquerque, NM 87113

Re: Hoffmantown West Church Drainage Report

Engineer Stamp date 12-28-05 (D12/D1)

Dear Mr. Bohannan,

Based on information provided in your submittal dated 1-20-06, the above referenced report is approved for Site Development Plan action by the DRB. It is also approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

P.O. Box 1293

Albuquerque

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. Refer to the attachment that is provided with this letter for details. If you have any questions please feel free to call the Municipal Development Department, Hydrology section at 768-3654 (Charles Caruso).

New Mexico 87103

Also, prior to Certificate of Occupancy release, Engineer Certification of the grading plan per the DPM checklist and acceptance of the storm drain by the City Engineer will be required.

www.cabq.gov

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: Lynn Mazur, AMAFCA Ray Gomez, MRGCD Chuck Caruso, DMD file

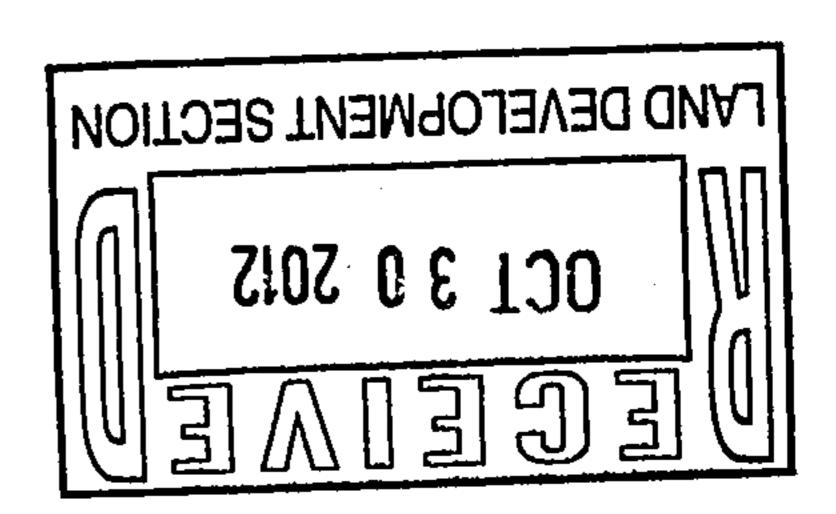
DRAINAGE REPORT

for

Hoffmantown West Church @ The Northeastern Corner of Coors and La Orilla Road Albuquerque, New Mexico

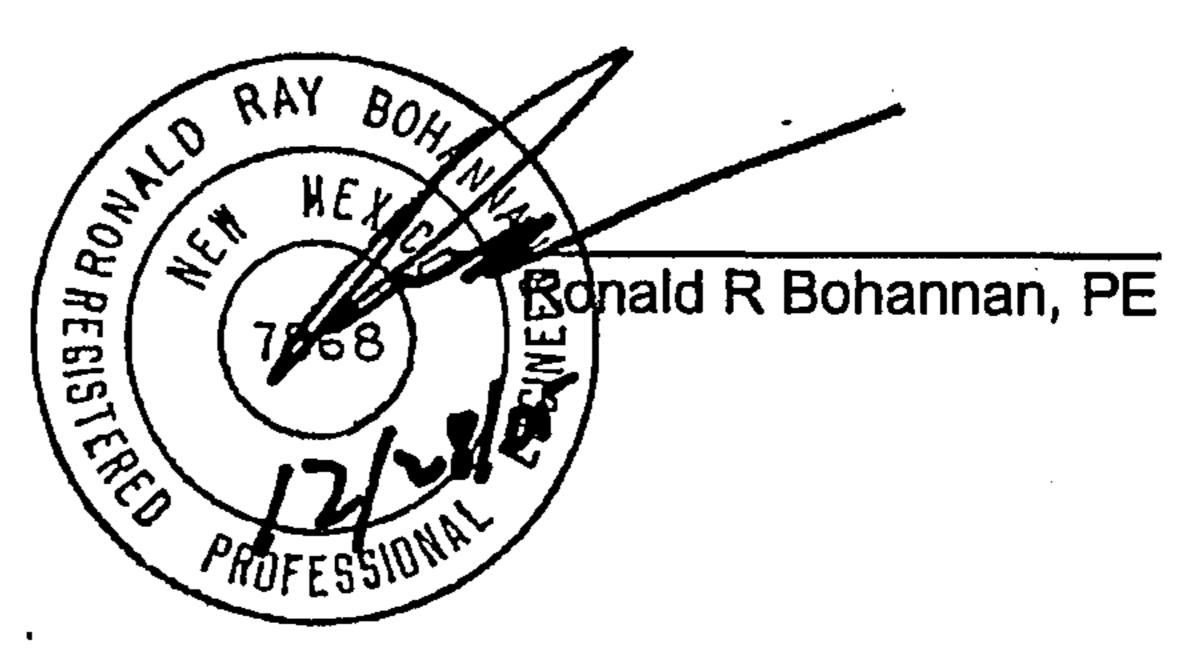
Prepared by:

Tierra West, LLC 8509 Jefferson NE Albuquerque, New Mexico 87113



March, 2005 Revised Dec, 2005

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.



Job No 23080

TABLE OF CONTENTS

Purpose	
Introduction	
Vicinity Map, Exhibit A	
FIRM Map, Exhibit B	
Existing Conditions	
Proposed Conditions	
Summary and Recommendations	
<u>Calculations</u>	9
Weighted E calculations for Site	
Drop Inlet Calculations	
Storm Drop Inlet (Double A) – Effective Area	
Single "C" Drop Inlet - Effective Area	
<u>Map Pockets</u>	
Site Grading and Drainage Plan, Map Pocket A	
Basin Map, Map Pocket B	

PURPOSE

The purpose of this report is to provide the drainage management plan for the development of Hoffmantown West Church. This plan will be utilized for the development of the subject 16.3-acre property. This plan is in accordance with the DPM, Chapter 22, Hydrology Section. The purpose of this report is to provide the drainage analysis and management plan for the new site.

INTRODUCTION

The subject of this report, as shown on the Exhibit A vicinity map, is a 16.3-acre parcel of land located at the northeast corner of Coors and La Orilla Road, zone atlas page D-12. The site is in the City of Albuquerque, Bernalillo County, New Mexico and currently is undeveloped. The legal description of the property is Tract 1-A-1, Alban Hills Unit 1. As shown on FIRM map 35001C01116F.

Exhibit A- Vicinity Map

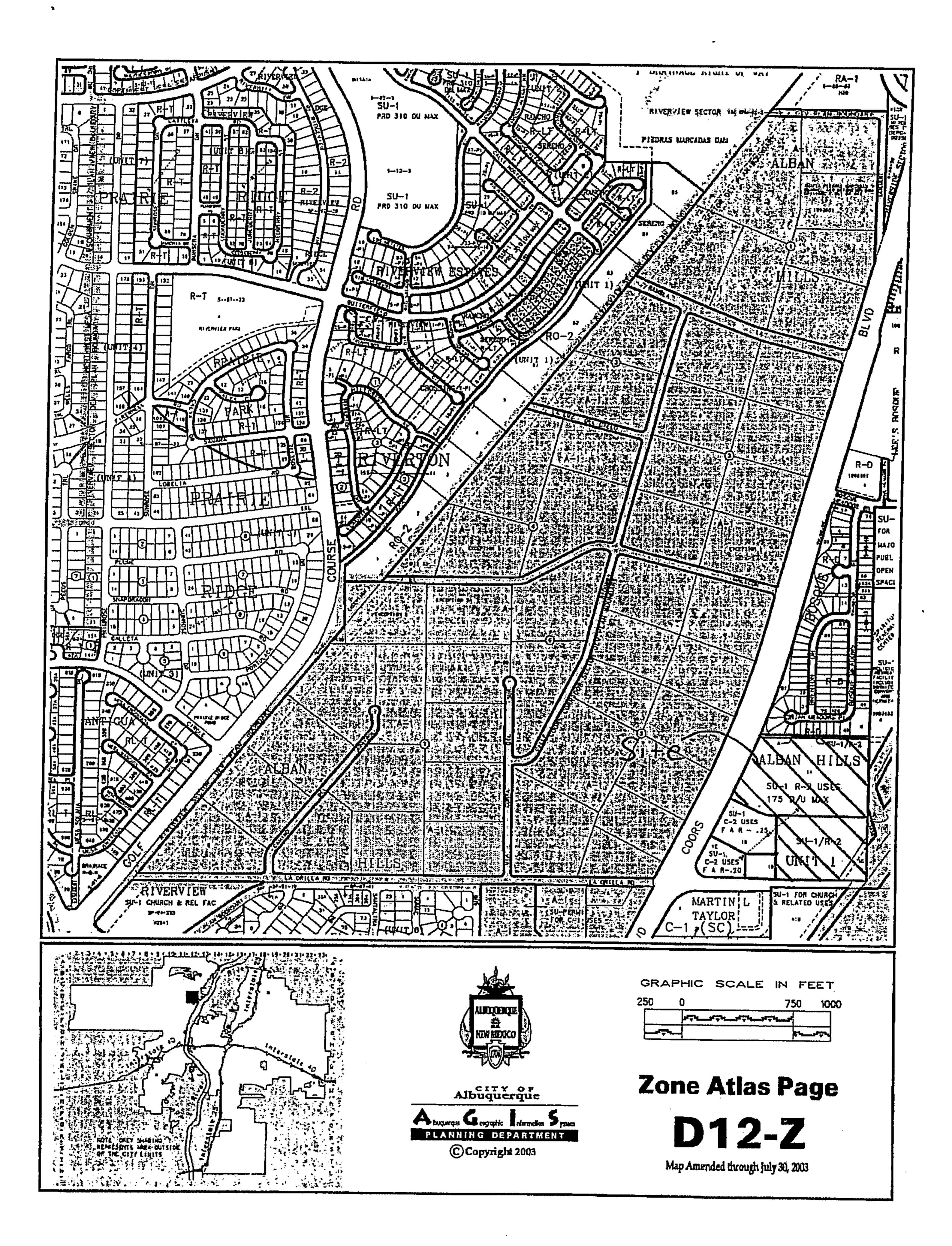
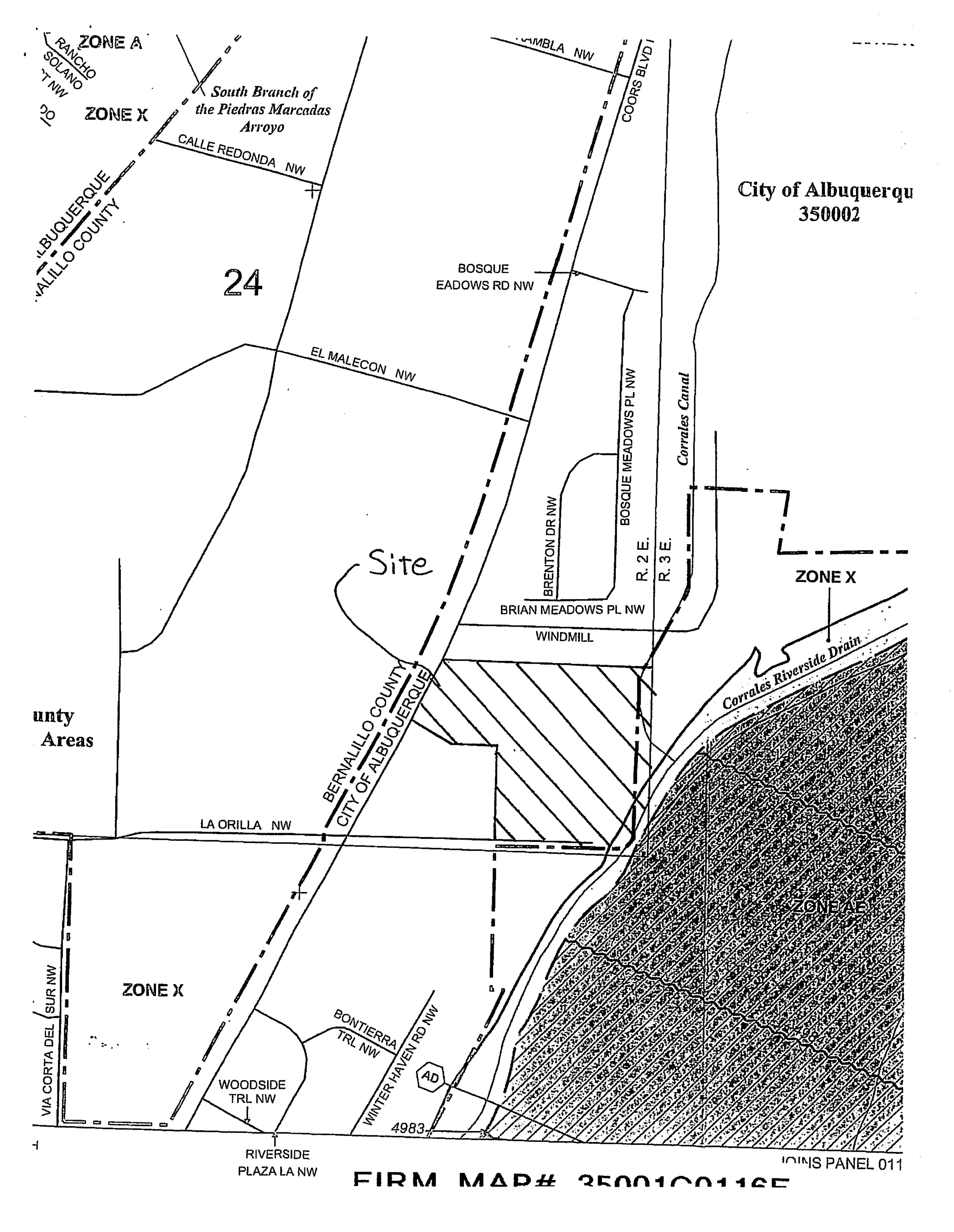


Exhibit B - FIRM Map



EXISTING CONDITIONS

Currently the site is undeveloped, and the drainage generally slopes from the west to the east. The 16.3-acre site is bounded on the north by the Bosque Meadows Subdivision, on the east by Middle Rio Grande Conservancy District's Corrales Main Canal, on the west by Coors, and on the south by La Orilla Road.

PROPOSED CONDITIONS

The proposed church will consist of five buildings comprising approximately 150,000 sq ft. The proposed drainage from the site will sheet flow to the eastern side of the property into two single A and one single C water quality inlets and into a 36" RCP stub that was installed with the Bosque Meadows Subdivision (D12/D2). This site is also covered by the North Coors Drainage Management Plan Middle Area, and is located within basin 17.4E. According to the report this basin is allowed to discharge 87 cfs. For this report the site has been split into 4 basins including 3 offsite basins.

Basin 1 consists of the northwest corner of the site; this includes the northwest corner of the parking lot. The storm runoff from this basin will be conveyed in a concrete swale to a water quality inlet and discharged into the Corrales Main Canal via an existing discharged point. The total runoff from this basin is 14.81cfs and a land treatment of 20% B and 80% D was used.

Basin 2 includes the east side of the site and a portion of the site south of the church. The storm runoff from this basin will be collected in a water quality inlet and then discharge into the Corrales Main Canal. The total runoff from this basin is 22.05cfs and a land treatment of 16% B and 84% D was used.

Basin 3 includes the remaining southern portion of the parking lot area. The storm runoff from this basin will be conveyed in a concrete swale into a water quality inlet and then dis-

charged into the Corrales Main Canal. The total runoff from this basin is 8.06 cfs and a land treatment of 20% B and 80% D was used.

Basin 4 includes the proposed church buildings. The storm runoff from this basin will be directed to the east side of the buildings and discharge into the same water quality inlet as Basin 2. The total runoff from this basin is 16.45 cfs and a land treatment of 100% D was used.

The offsite basin 5 includes the remaining portion of land that is left west of Basins 2 and 3 and south of Basin 1. The runoff from this basin will be conveyed in a concrete swale extended from Basin 3 into a water quality inlet and finally into the Corrales Main Canal. The runoff from Basin 5 is 20 cfs; a land treatment of 15%B and 85%D was used to generate the runoff amounts.

The offsite basin 6 includes the portion of Coors Road that borders the property. The runoff from this basin will be conveyed from curb and gutter into the north and south entrances into the site and continue into the water quality inlet and finally into the Corrales Main Canal. The runoff from Basin 6 is 3.60 cfs; a land treatment of 22%B and 78%D was used to generate the runoff amounts.

The offsite basin 7 includes the portion of La Orilla Road that borders the property. The runoff from this basin will be conveyed from curb and gutter into a landscaped pond that is located at the southeast corner of the site. The runoff from Basin 6 is 3.83cfs; a land treatment of 100%D was used to generate the runoff amounts.

The total flow from all 6 basins is 84.97 cfs and will be collected in two single As and one single C water quality inlets with sweepers on each end. An additional 11 cfs from a culvert under Coors Boulevard, which drains basin 17.2W that is located on the west side of Coors will also be collected by the inlets. This brings the total flow into the inlets to 95.97 cfs. From that point the water will continue to an existing manhole and then into the Corrales Main Canal.

SUMMARY AND RECOMMENDATIONS

Per the pervious drainage report this site has free discharge into existing drainage facilities. The development of this site is consistent with the DPM, Chapter 22, Hydrology section. It is recommended this development be approved for rough grading and Site Plan for Building Permit.

CALCULATIONS

Weighted E Method

Hoffmantown West Church TW Job# 23080

Zone #1

Existing Basins

													100-Year			10-Year	
Basin	Area	Area	Area	Treat	ment A	Treat	ment B	Treat	ment C	Treat	ment D	Weighted E	Volume	Flow	Weighted E	Volume	Flow
	(sf)	(acres)	(sq miles)	%	(acres)	%	(acres)	%	(acres)	%	(acres)	(ac-ft)	(ac-ft)	cfs	(ac-ft)	(ac-ft)	cfs
1	712113.00	16.348	0.02554	0%	0	20%	3.270	0%	0	80%	13.078	1.710	2.330	63.79	1.036	1.411	40.2
2	216719.00	4.975	0.00777	0%	0	15%	0.746	0%	0	85%	4.229	9	0.736	20.00	1.087	0.451	12.79
						·			Ī								

Developed Basins

												· •	100-Year			10-Year	
Basin	Area	Area	Area	Treat	ment A	Treat	ment B	Trea	tment C	Treat	ment D	Weighted E	Volume	Flow	Weighted E	Volume	Flow
	(sf)	(acres)	(sq miles)	%	(acres)	%	(acres)	%	(acres)	%	(acres)	(ac-ft)	(ac-ft)	cfs	(ac-ft)	(ac-ft)	cfs
1	165343.00	3.796	0.00593	0%	0	20%	0.759	0%	0	80%	3.037	1.710	0.541	14.81	1.036	0.328	9.35
2	240432.00	5.520	0.00862	0%	0	16%	0.883	0%	0	84%	4.636	1.762	0.810	22.05	1.077	0.495	14.07
3	89987.00	2.066	0.00323	0%	0	20%	0.413	0%	0	80%	1.653	1.710	0.294	8.06	1.036	0.178	5.09
4	164004.00	3.765	0.00588	0%	0	0%	0.000	0%	0	100%	3.765	1.970	0.618	16.45		0.389	10.88
5	216719.00	4.975	0.00777	0%	0	15%	0.746	0%	0	85%	4.229	1.775	0.736	20.00	1.087	0.451	12.79
6	40700.00	0.934	0.00146	0%	0	22%	0.206	0%	0	78%	0.729	1.684	0.131	3.60	1.016	0.079	2.26
7	38180.00	0.876	0.00137	0%	0	0%	0.000	0%	0	100%	0.876	1.970	0.144	3.83	1.240	0.091	2.53
								•									

876485.00 21.056 3.131 84.976

Developed Basins

	10-Year			100-Year													
e Flow	Volume	Weighted E	Flow	Volume	Weighted E	ment D	Treat	nent C	Treatr	nent B	Treatr	nent A	Treatr	Area	Area	Area	Basin
	(ac-ft)	(ac-ft)	cfs	(ac-ft)	(ac-ft)	(acres)	%	(acres)	%	(acres)	%	(acres)	%	(sq miles)	(acres)	(sf)	
22 0.9	0.022	0.220	2.42	0.066	0.670	0.000	0%	0	0%	1.191	100%	0	0%	0.00186	1.191	51861.00	Pond
<u>.uz</u>		0.220	2.42	0.000	0.010	0.000	078		378		10078	<u> </u>	- 3/8				

51861.00 1.191 0.000 0.066 2.417

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

DROP INLET CALCULATIONS

Basin	TYPE OF	AREA	Q	 -	H ALLOW
	INLET	(SF)	(CFS)	(FT)	(FT)
1 thru 5	Single 'C'	4.36	84	16.0102	0.5
1 thru 5	Single 'C'	4.36	14.845811	0.5001	0.5
1 thru 5	Single 'C'	4.36	20.985914	0.9993	1
1 thru 5	Double 'A'	11.24	84	2.4090	0.5
1 thru 5	Double 'A'	11.24	38.269782	0.5000	0.5
1 thru 5	Double 'A'	11.24	54.101265	0.9993	1
1 thru 5	Single 'A'	9.14	84	3.6471	0.5
1 thru 5	Single 'A'	9.14	31.114569	0.5004	0.5
1 thru 5	Single 'A'	9.14	44.002465	1.0008	1

ORIFICE EQUATION

Q = CA sqrt(2gH)

C =

0.6

g =

32.2

STORM DROP INLET-EFFECTIVE AREA Double 'A'

Area at the grate:

L =
$$88 \frac{3}{4}$$
" - $2(6$ " ends) - 6 " center piece - $14(\frac{1}{2} \frac{1}{2} \frac{$

Area at the throat:

L =
$$13.50$$
"

H = 10.34 " - $4.1/2$ "

= $6.1/4$ "

= 0.5208 '

Area = 13.50 ' x 0.5208 '

= 7.03 ft^2 at the throat

Total Area:

Area =
$$4.21_{grate}$$
 + 7.03_{throat}
= 11.24 ft^2

Single 'C' Drop Inlet EFFECTIVE AREA

Area at the grate:

Effective Area: =
$$4.601$$
- 4.601 (0.5 _{clogging factor}) = 2.30 ft² at the grate

Area at the throat:

Area =
$$3.95' \times 0.5208'$$

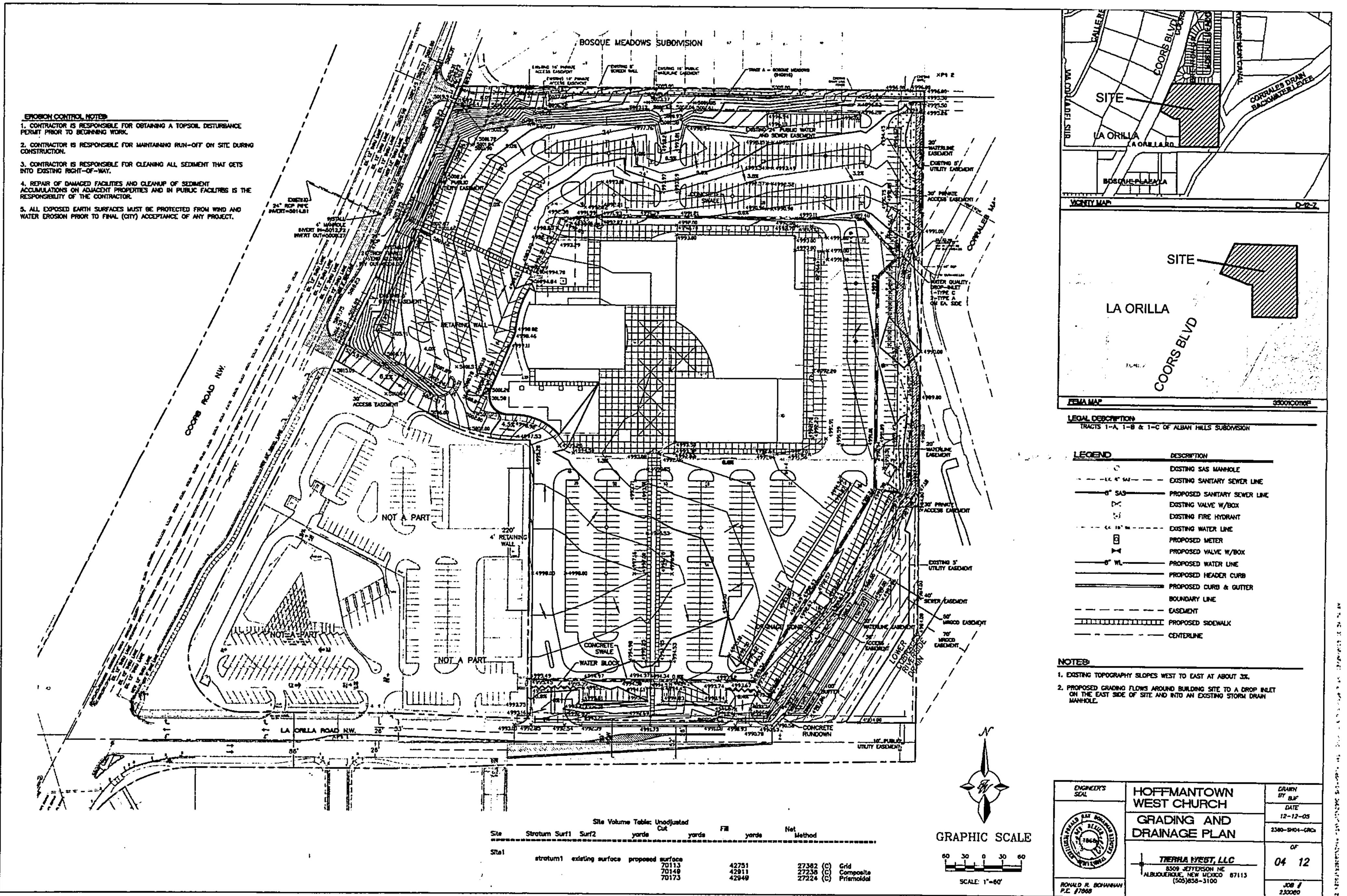
= 2.06 ft^2 at the throat

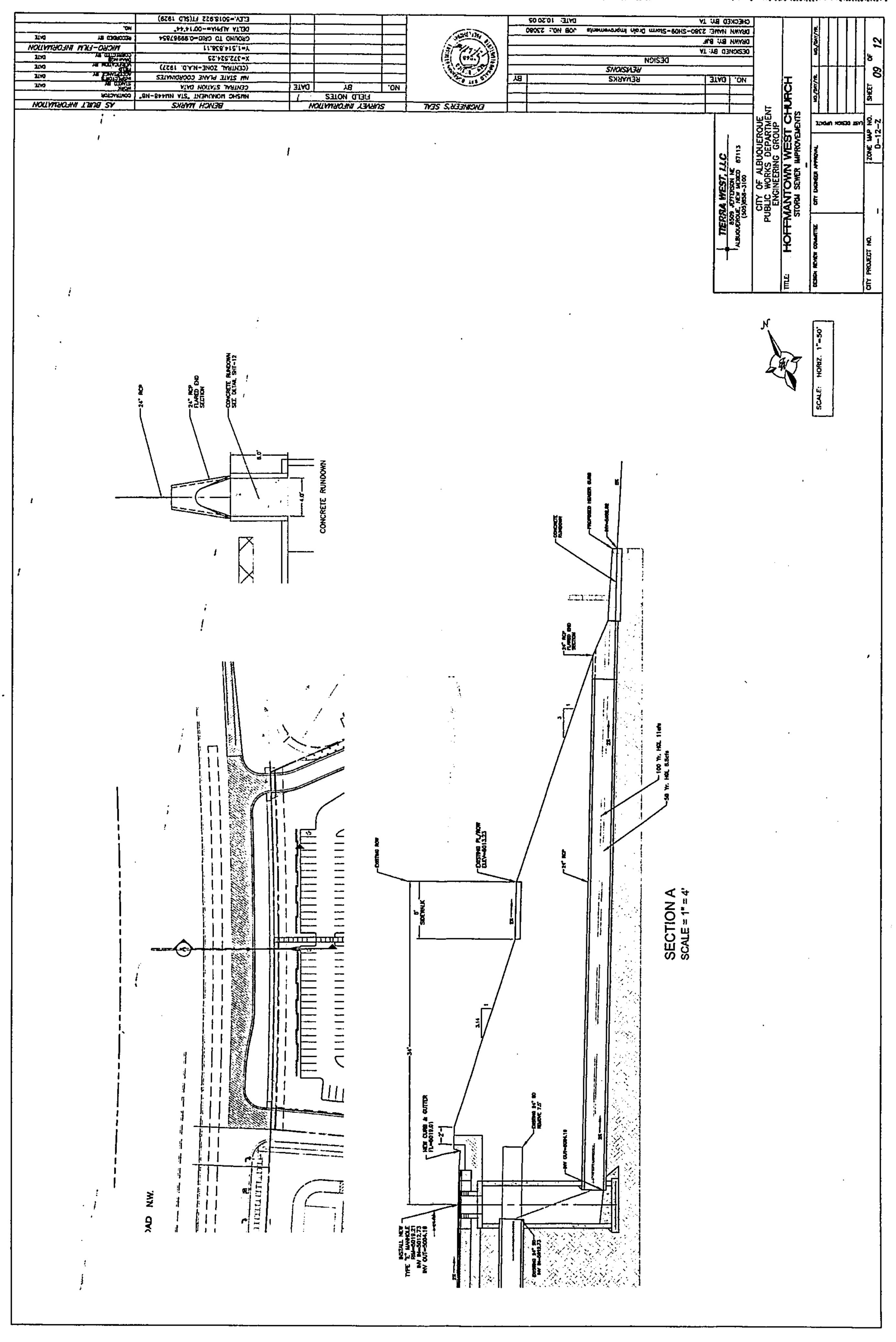
Total Area:

Area =
$$2.30_{grate}$$
 + 2.06_{throat}
= 4.36 ft^2

MAP POCKET A

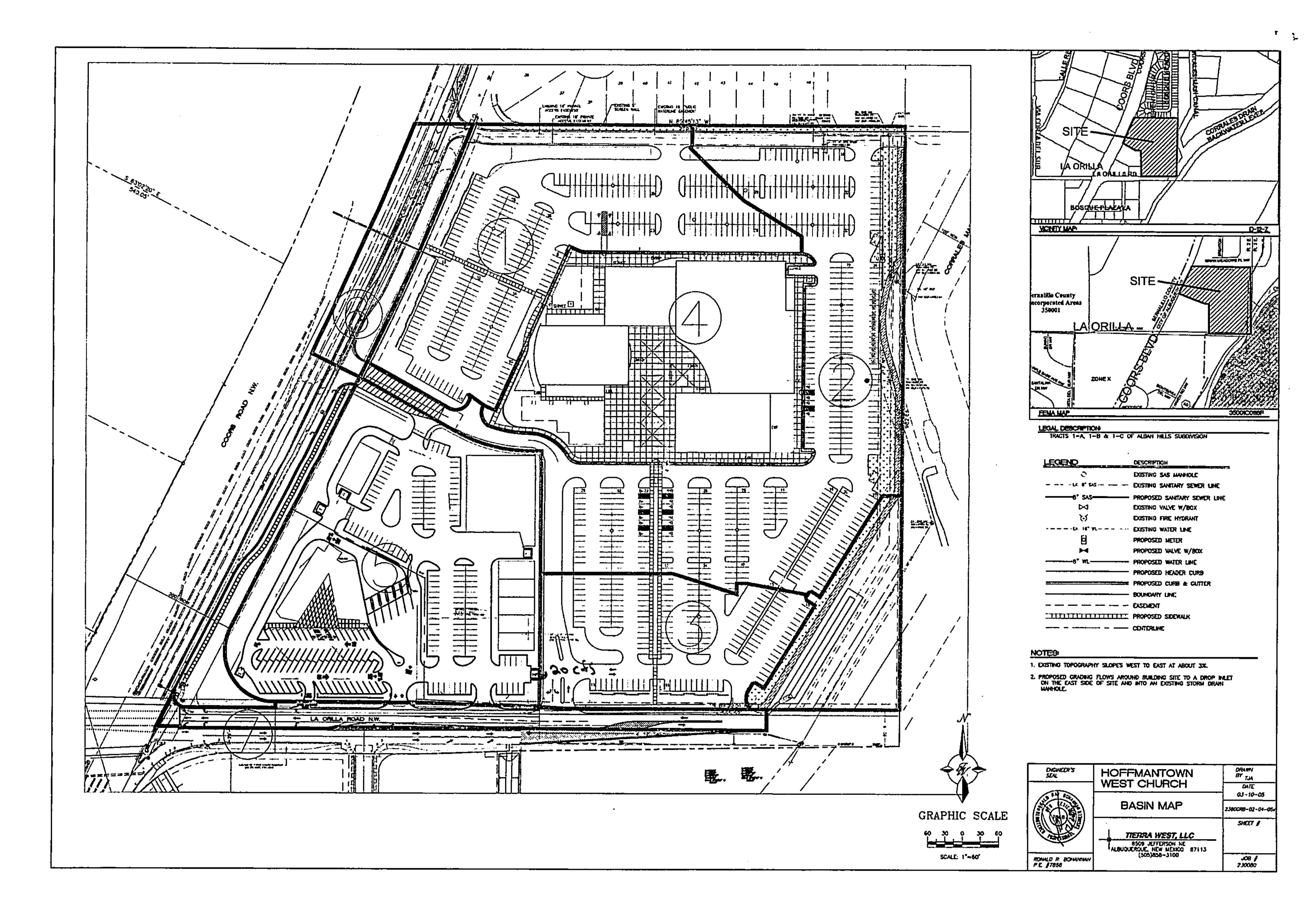
SITE GRADING AND DRAINAGE PLAN





MAP POCKET B

Proposed Basin Map



Full capactiy pipe flow

Pipe	Length	Slope	Diameter	Туре
	(ft)		in	
1 (to outfall)	345	0.55%	17.7	HDPE
2	230	0.55%	17.7	HDPE
3	45	0.55%	17.7	HDPE
4	54	0.55%	17.1	PVC
5	40	0.55%	12.6	PVC
6	100	0.55%	10.0	PVC
7	50	0.55%	6.0	PVC
8	70	1.86%	6.4	PVC
9	55	1.86%	5.5	PVC
10	50	1.86%	2.7	PVC
11	103	1.10%	10.8	PVC
12	102	1.10%	8.4	PVC

CITY OF ALBUQUERQUE



February 5, 2013

Jeff Wooten, P.E. Tierra West, LLC 5571 Midway Park Place NE Albuquerque, NM 87109

Re: Sagebrush Plaza, 6440 Coors Blvd. NW

Paving Certification

Engineer's Stamp Date: 12-19-12

Certification Date: 01-31-13

Dear Mr. Wooten,

PO Box 1293

Thank you for providing an Engineer Paving Certification for the Grading and Drainage Plan received on 02-01-13, for the above referenced plan number D-12/D001. This information will be placed in the project file. This letter does not constitute acceptance of the project site for Certification of Occupancy purposes.

Albuquerque

If you have any questions, I can be contacted at 924-3695.

NM 87103

Sincerely,

www.cabq.gov

Shahab Blazar, P.E.
Senior Engineer, Planning Dept.

Development and Building Services

C: email

DRAINAGE AND TRANSPORTATION SHEET

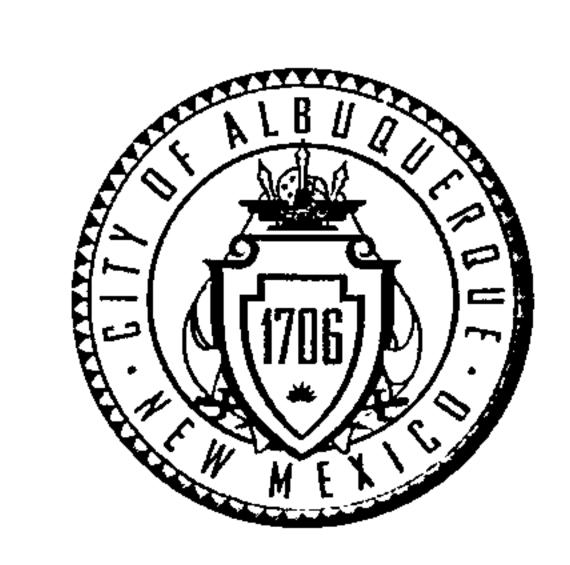
(REV. 1/28/2003rd)

PROJECT TITLE: DRB #:	Sagebrush Plaza EPC #:	ZONE MAP/I WORK ORD	DRG. FILE #: D-12-D1 ER #:
LEGAL DESCRIPTION CITY ADDRESS:	Tract 1-D-1-A, Block 15, Alban Hills Unit 6420 Coors Boulevard NW		
ENGINEERING FIRM: ADDRESS: CITY, STATE:	Tierra West LLC 5571 Midway Park Place NE Albuquerque, NM	CONTACT: PHONE: ZIP CODE:	Jeff Wooten (505) 858-3100 87109
OWNER: ADDRESS: CITY, STATE:	Sagebrush Community Church 6440 Coors Boulevard NW Albuquerque, NM	CONTACT: PHONE: ZIP CODE:	Bob Church 505 922-9200 87124
ARCHITECT: ADDRESS: CITY, STATE:		CONTACT: PHONE: ZIP CODE:	
SURVEYOR: ADDRESS: CITY, STATE:	Surv-Tek	CONTACT: PHONE: ZIP CODE:	Russ Hugg
CONTRACTOR: ADDRESS: CITY, STATE:		CONTACT: PHONE: ZIP CODE:	
DRAINAGE PL CONCEPTUAL O GRADING PLAN EROSION CONT X ENGINEER'S CE CLOMR/LOMR TRAFFIC CIRCL ENGINEERS CE	ORT N 1st SUBMITTAL, <i>REQUIRES TCL or equal</i> AN RESUBMITTAL GRADING & DRAINAGE PLAN	SIA / FINAN PRELIMINA S. DEV. PLA S. DEV. PLA SECTOR PL FINAL PLAT FOUNDATIO BUILDING F CERTIFICA CERTIFICA GRADING F PAVING PE	APPROVAL SOUGHT: ACIAL GUARANTEE RELEASE RY PLAT APPROVAL AN FOR SUB'D. APPROVAL AN FOR BLDG. PERMIT APPROVAL LAN APPROVAL ON PERMIT APPROVAL PERMIT APPROVAL TE OF OCCUPANCY (PERM.) TE OF OCCUPANCY (TEMP.) PERMIT APPROVAL RMIT APPROVAL CRAIT APPROVAL CRAIT APPROVAL CRAIT APPROVAL CRAIT APPROVAL CORRESPONDED CORRESPO
WAS A PRE-DESIGN CO YES NO COPY PROVIDE	NFERENCE ATTENDED:	X File Copy - No 740 e	Cept [] [] [] [] [] [] [] [] [] [] [] [] []
DATE SUBMITTED:	1/31/2013	BY: Jeffrey Woo	ten LAND DEVELOPMENT SECTION

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



December 3, 2012

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

Re: Sagebrush Community Church, 6440 Coors Blvd NW

Request for Permanent C.O. –Accepted

Engineer's Stamp dated: 8-29-06, (D12D001)

Certification dated: 11-29-12

Dear Mr. Bohannan,

Based upon the information provided in the Certification received 11-30-12, the above referenced Certification is acceptable for a release of a Permanent Certificate of Occupancy by Hydrology.

PO Box 1293

A separate grading plan should be submitted for subsequent Building Permit approvals as it is difficult to see where the building is on the certification submitted and will help with grading adjacent to the structure.

Albuquerque

NM 87103

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

Sincerely,

Curtis Cherne, P.E.

Principal Engineer, Hydrology

Development and Building Services

www.cabq.gov

C: CO Clerk—Katrina Sigala E-mail

DRAINAGE AND TRANSPORTATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Sagebrush Community Church DRB #: EPC #:		ZONE MAP/DRG. FILE #: D-12/D1 WORK ORDER #:		
LEGAL DESCRIPTION CITY ADDRESS:	Tract 1-A-1 Alban Hills, Unit 1 6440 Coors Boulevard NW			
ENGINEERING FIRM: ADDRESS: CITY, STATE: OWNER: ADDRESS:	Tierra West LLC 5571 Midway Park Place NE Albuquerque, NM Sagebrush Community Church 6440 Coors Boulevard NW	CONTACT: PHONE: CONTACT: PHONE:	Ron Bohannan (505) 858-3100 87109 Todd Cook 505 922-9200	
CITY, STATE: ARCHITECT: ADDRESS: ARCHITECT: ADDRESS: CITY, STATE:	Albuquerque, NM Tate Fishburn P.O. Box 2941 Corrales, NM	ZIP CODE: CONTACT: PHONE: PHONE: ZIP CODE:	87124	
SURVEYOR: ADDRESS: CITY, STATE:	Santiago Romero Jr Albuquerque, NM	CONTACT: PHONE: ZIP CODE:		
CONTRACTOR: ADDRESS: CITY, STATE:	Jaynes Corporation 2906 Broadway Albuquerque, NM	CONTACT: PHONE: ZIP CODE:	Matt Anderson (505) 345-8591 87107	
DRAINAGE PL CONCEPTUAL O GRADING PLAN EROSION CONT X ENGINEER'S CE CLOMR/LOMR TRAFFIC CIRCL ENGINEERS CE	ORT N 1st SUBMITTAL, <i>REQUIRES TCL or equal</i> AN RESUBMITTAL BRADING & DRAINAGE PLAN	SIA / FINAN PRELIMINA S. DEV. PLA S. DEV. PLA SECTOR PI FINAL PLAT FOUNDATIO BUILDING F CERTIFICA CERTIFICA GRADING F PAVING PE	APPROVAL SOUGHT: IACIAL GUARANTEE RELEASE ARY PLAT APPROVAL AN FOR SUB'D. APPROVAL AN FOR BLDG. PERMIT APPROVAL LAN APPROVAL T APPROVAL ON PERMIT APPROVAL PERMIT APPROVAL TE OF OCCUPANCY (PERM.) TE OF OCCUPANCY (TEMP.) PERMIT APPROVAL RMIT APPROVAL ERMIT APPROVAL DER APPROVAL	
WAS A PRE-DESIGN CO YES NO COPY PROVIDE	NFERENCE ATTENDED:		NOV 3 0 2012 LAND DEVELOPMENT SECTION	
DATE SUBMITTED:	11/30/201	2 BY: Brad Frosch	for Ron Bohannan	

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.