



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: Monterey Baptist Church Building Permit #: _____ City Drainage #: _____

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: Lot 6A, Block D, Monterey Manor Subdivision

City Address: 12501 Lomas Blvd NE

Engineering Firm: RHD Engineering, LLC Contact: Richard Dourte

Address: 4305 Purple Sage Ave, NW, Albuquerque, NM, 87120

Phone#: 505-288-1621 Fax#: _____ E-mail: rhdenengineering@outlook.com

Owner: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Architect: Simons Architecture PC Contact: Joe Simons

Address: _____

Phone#: 505-480-4796 Fax#: _____ E-mail: joe@simonsarchitecture.com

Surveyor: Harris Surveys Contact: Tony Harris

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Contractor: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL
- ☒ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL G & D PLAN
- ☐ GRADING PLAN
- ☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
- ☐ ENGINEER'S CERT (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEER'S CERT (TCL)
- ☐ ENGINEER'S CERT (DRB SITE PLAN)
- ☐ ENGINEER'S CERT (ESC)
- ☐ SO-19
- ☐ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE 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
- ☐ CERTIFICATE OF OCCUPANCY (PERM)
- ☐ CERTIFICATE OF OCCUPANCY (TCL TEMP)
- ☐ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ GRADING CERTIFICATION
- ☐ SO-19 APPROVAL
- ☐ ESC PERMIT APPROVAL
- ☐ ESC CERT. ACCEPTANCE
- ☐ OTHER (SPECIFY) _____

WAS A PRE-DESIGN CONFERENCE ATTENDED: _____

Yes ☒ No ☐ Copy Provided

DATE SUBMITTED: June 17, 2015 By: [Signature]

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
4. **Erosion and Sediment Control Plan:** Required for any new development and redevelopment site with 1-acre or more of land disturbing area, including project less than 1-acre than any part of a larger common plan of development

Drainage Report

For

Monterey Baptist Church
12501 Lomas Blvd NE
Albuquerque, New Mexico

Prepared by

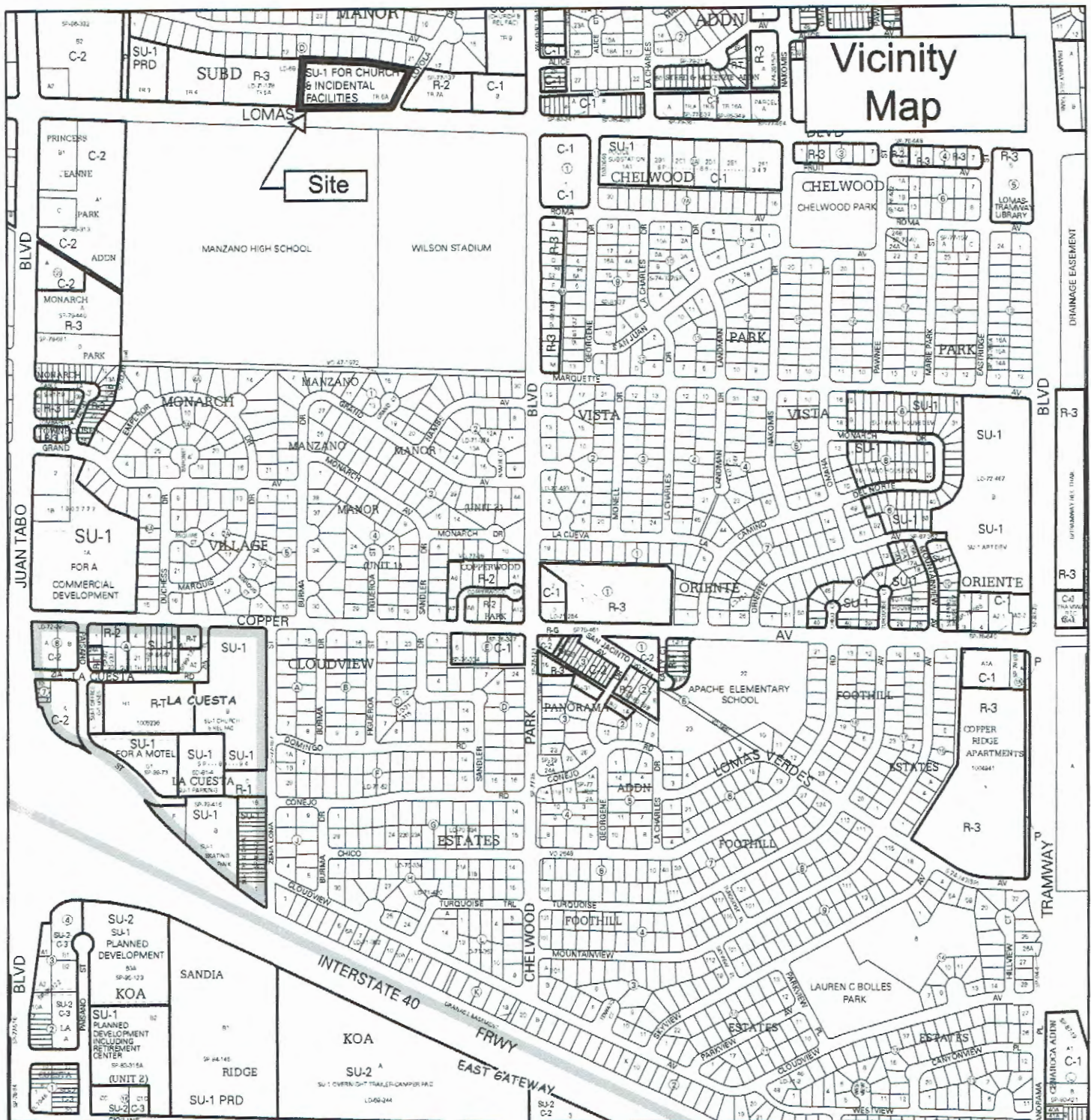
RHD Engineering, LLC
Albuquerque, New Mexico

June 2015

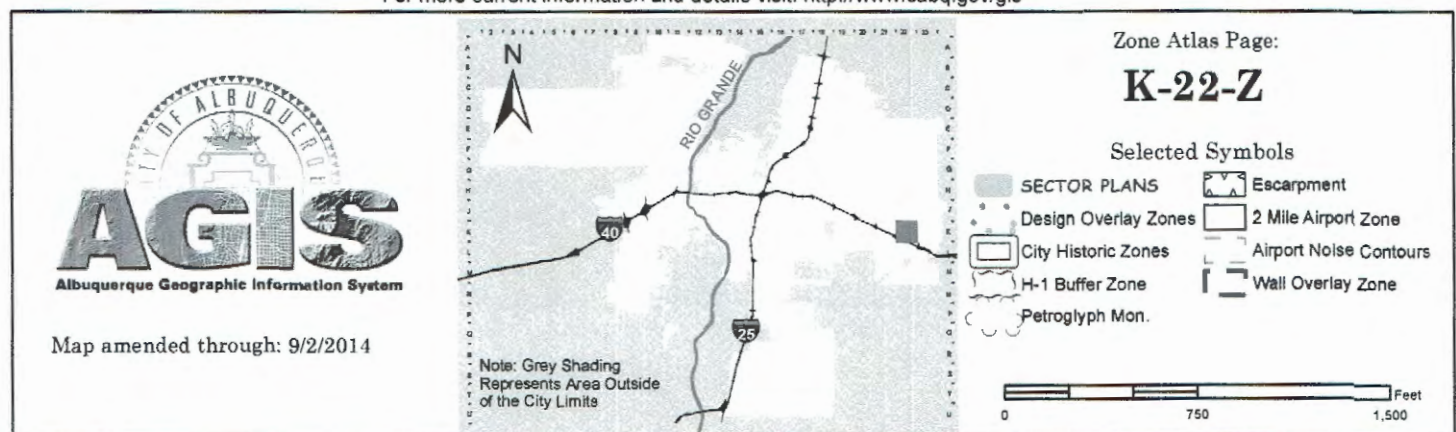


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For more current information and details visit: <http://www.cabq.gov/gis>



Purpose:

The purpose of this drainage report is to provide a drainage management plan for the proposed changes to the Monterey Baptist Church. The site is approximately 2.92 acres in size. The proposed changes include increasing the square footage of the existing building by approximately 1100 sf. This drainage report and plan is prepared utilizing the City of Albuquerque Development Process Manual.

Introduction:

This site is located at 12501 Lomas Boulevard NE on zone atlas K-22.

The Monterey Baptist Church is presently developed, the proposed new improvements include the addition of approximately 1,100 sf of new building on the east side of the existing structure. The entrance into this church will also be reconfigured. No changing or altering of the parking lot is anticipated, thus the drainage pattern for this parking lot will remain the same.

FEMA Firm map 35001C0359G identifies that this site is located in zone x. Please refer to the drainage plan.

Existing Drainage Conditions:

Approximately half of this site drains (sheet flows) into an existing pond located at the southwest corner of this site discharges that has a controlled outlet into Lomas Boulevard. The majority of the remaining portion of this site free discharges into an existing cobble stone swale that runs along the north side of the sidewalk that is adjacent to Lomas Boulevard and empties into the existing pond located at the southwest corner of this site, and it discharges as mentioned above.

Proposed Conditions:

The proposed conditions for the majority of the site will remain as they are today.

The runoff from drainage basin A will discharge into two inlets, located within the adjoining sidewalk area of the new addition. The pipe from these catch basins will daylight onsite and discharge into the cobble stone swale that empties into the pond at the southwest corner of the site.

The runoff from drainage basin B will sheet flow toward the southeast corner of this basin and discharge into Lomas blvd into the cobble stone swale that empties into the pond at the southwest corner of the site.

The runoff from drainage basin C will flow onto drainage basin A and discharge and discharge into the inlets.

The required first flush volume of stormwater generated by the new impervious areas (1,100 sf addition) is 31cf.

Summary:

This site will discharge the stormwater flows in the same manner as it is today.

For Basin A

The peak flows will increase from .34 cfs to .39 cfs or by 0.05 cfs for the 100 yr 6 hr. event.

The excess precipitation will increase from 529 cf to 642 cf or by 113 cf for the 100 yr 6 hr event.

For Basin B

The peak flows will increase from .45 cfs to .49 cfs or by 0.04 cfs for the 100 yr 6 hr. event.

The excess precipitation will increase from 748 cf to 843 cf or by 95 cf for the 100 yr 6 hr event.

For Basin C

The peak flows will remain the same at 0.32 cfs.

The excess precipitation will remain the same at 594 cf.

The City of Albuquerque's first flush requirements will be adhered to for the construction of the proposed improvements. The first flush for the proposed improvements is 31 cf. The existing pond is going to be increased by 140cf, thus the increased volume of the pond is greater than the first flush requirements.

APPENDIX A

Drainage Calculations for Basin D

Zone 4 (100yr, 6hr)

Land Treatment	Peak discharge	Excess Precipitation
Type A -	2.20 cfs/ac	0.80 inches
Type B -	2.92 cfs/ac	1.08 inches
Type C -	3.73 cfs/ac	1.46 inches
Type D -	5.25 cfs/ac	2.64 inches

Existing Conditions for Basin A

Impervious area (type D)= 800 sf = 0.018 ac

Area other than Impervious (type C)= 3,700 sf -- 800 sf = 2900 sf= .067 ac

Peak Flow generated

.018 ac x 5.25 cfs = .09 cfs

.067 ac x 3.73 cfs = .25 cfs

Total = .34 cfs

Excess Precipitation

800 sf x 2.64 in/12 = 176 cf

2900 sf x 1.46 in/12 = 353 cf

Total = 529 cf

Existing Conditions for Basin B

Impervious area (type D)= 2160 sf = 0.050 ac

Area other than Impervious (type C)= 4400 sf -- 2160 sf = 2240 sf = .051 ac

Peak Flow generated

.050 ac x 5.25 cfs = .26 cfs

.051 ac x 3.73 cfs = .19 cfs

Total = .45 cfs

Excess Precipitation

2160 sf x 2.64 in/12 = 475 cf

2240 sf x 1.46 in/12 = 273 cf

Total = 748 cf

Existing Conditions for Basin C

Impervious area (type D)= 2700 sf = 0.06 ac

Peak Flow generated

.060 ac x 5.25 cfs = .32 cfs

Total = .32 cfs

Excess Precipitation

2700 sf x 2.64 in/12 = 594 cf

Total = 594 cf

Proposed Conditions for Basin A

Impervious area (type D)= 1950 sf = 0.045 ac

Area other than Impervious (type C)= 3,700 sf – 1950sf = 1750 sf= .040ac

Peak Flow generated

.045 ac x 5.25 cfs = .24 cfs

.040 ac x 3.73 cfs = .15 cfs

Total = .39 cfs

Excess Precipitation

1950 sf x 2.64 in/12 = 429 cf

1750 sf x 1.46 in/12 = 213 cf

Total = 642 cf

Proposed Conditions for Basin B

Impervious area (type D)= 3125 sf = 0.072 ac

Area other than Impervious (type C)= 4400 sf – 3125 sf = 1275 sf = .029 ac

Peak Flow generated

.072 ac x 5.25 cfs = .38cfs

.029 ac x 3.73 cfs = .11 cfs

Total = .49 cfs

Excess Precipitation

$$3125 \text{ sf} \times 2.64 \text{ in}/12 = 688 \text{ cf}$$

$$1275 \text{ sf} \times 1.46 \text{ in}/12 = 155 \text{ cf}$$

$$\text{Total} = 843 \text{ cf}$$

First flush requirements (for new impervious area)

$$1,100 \text{ sf} \times 0.34 \text{ inches}/12 = 31 \text{ cf.}$$

Increase in pond volume

The area of pond at contour 5623 is 280 sf, by increasing the depth of the pond by 0.5 ft, the increased volume is $280/2 \times .5 = 140 \text{ cf}$.

Inlet Grate Capacity (see Appendix B)

Each grate @ 0.1 ft depth has a capacity of .40 cfs, with a clogging factor of 50%, each grate will have a capacity of 0.20cfs. Thus four inlet at 0.20 cfs capacity each for a total capacity of 0.80 cfs > 0.71cfs (0.39 cfs + 0.32cfs) needed for drainage Basin A.

6 inch PVC capacity

$$Q = \frac{1.49 \times A \times R^{.67} \times S^{.5}}{n}$$

$$\text{Area} = 0.20 \text{ sf}$$

$$R = A/P = 0.20/1.57 = 0.13$$

$$S = 0.01$$

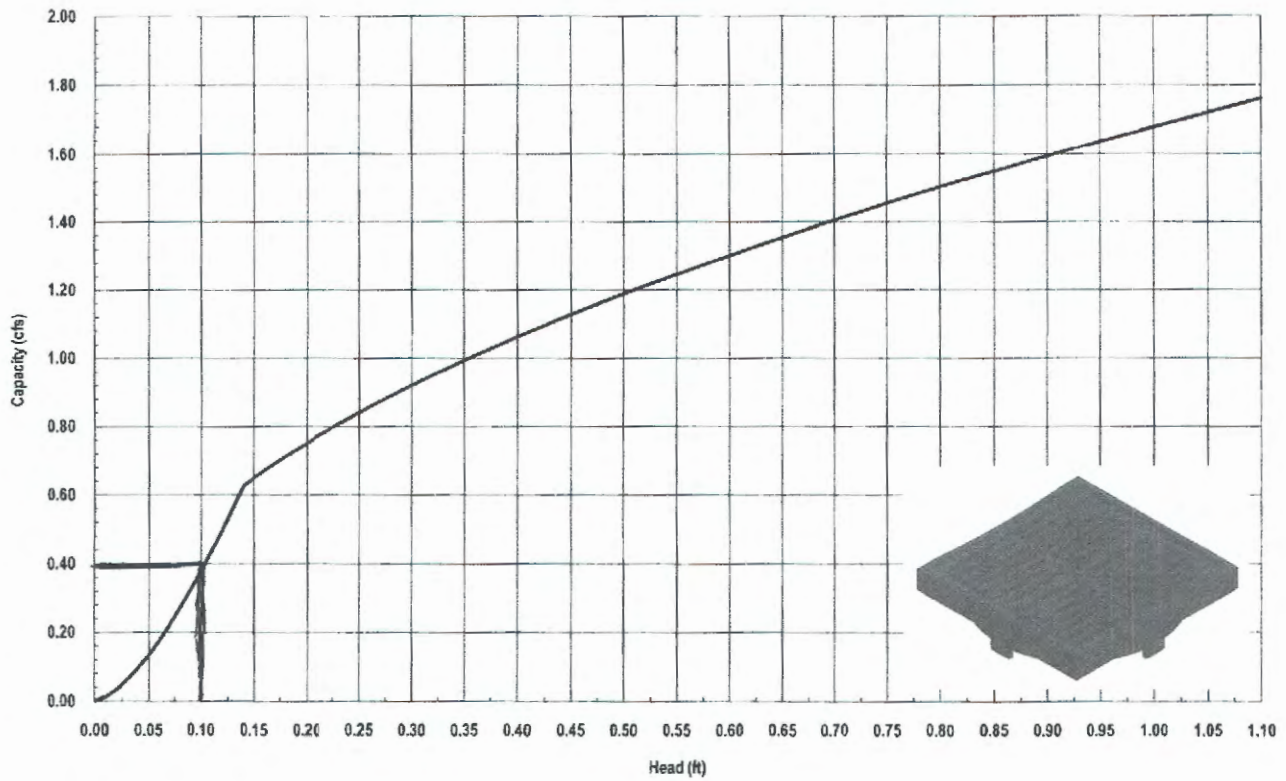
$$n = .009$$

$$Q = \frac{1.49(0.20)((0.13)^{.67})((.01)^{.5})}{.009}$$

$$Q = 0.84 \text{ cfs}$$

Thus the capacity of the 6 inch pvc pipe, 0.84 cfs > 0.71 cfs required for Basin A.
Use an 8 inch pvc pipe

Nyloplast 12" Pedestrian Grate Inlet Capacity Chart




Nyloplast
 3130 Verona Avenue • Buford, GA 30518
 (866) 888-8479 / (770) 932-2443 • Fax: (770) 932-2490
 © Nyloplast Inlet Capacity Charts June 2012

Appendix B

CITY OF ALBUQUERQUE



June 22, 2015

Richard Dourte, P.E.
RHD Engineering, LLC
4305 Purple Sage Ave NW
Albuquerque, NM 87120

**RE: Monterey Baptist Church
12501 Lomas Blvd NE
Grading and Drainage Plan
Engineers Stamp Date 6/17/15 (J22D012A)**

Dear Mr. Dourte,

Based upon the information provided in your submittal received 6/12/15, this plan is approved for Building Permit.

Please attach a copy of this approved plan dated 6/17/15 to the construction sets in the permitting process prior to sign-off by Hydrology.

Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions, please contact me at 924-3695 or Rudy Rael at 924-3977.

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Hydrology
Planning Department

RR/RH
C: File

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL ACCEPTANCE OF ANY PROJECT.



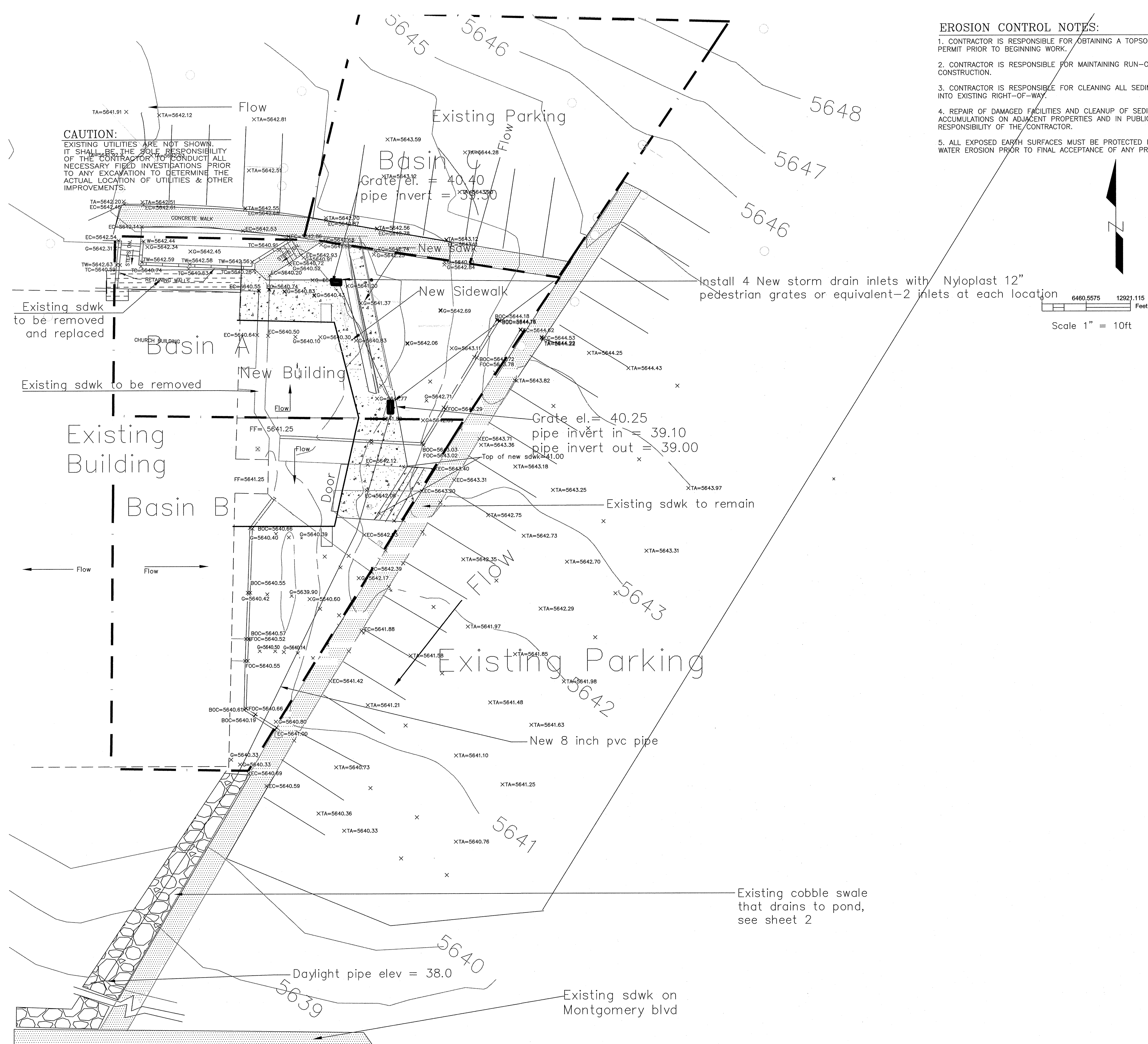
Tract 6-A, Block D, Monterey Manor Subdivision
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

NOTES:

1. ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.
2. THE FIRST .34" OF STORM RUNOFF FROM THE NEW ADDITION TO CONFORM TO THE WATER QUALITY REQUIREMENTS.

46.00
 TW=44.00
 BW=39.00
 -5601-
 -5600-
 -5600-
 -5601-
 -5600-
 LOT LINE
 CENTERLINE
 RIGHT-OF-WAY
 PROPOSED RETAINING WALL
 PROPOSED ROCK FACE WALL
 EXISTING CURB AND GUTTER
 PROPOSED EDGE OF CONCRETE
 PROPOSED FLOWLINE
 EXISTING WALL
 PROPOSED BASIN BOUNDARY

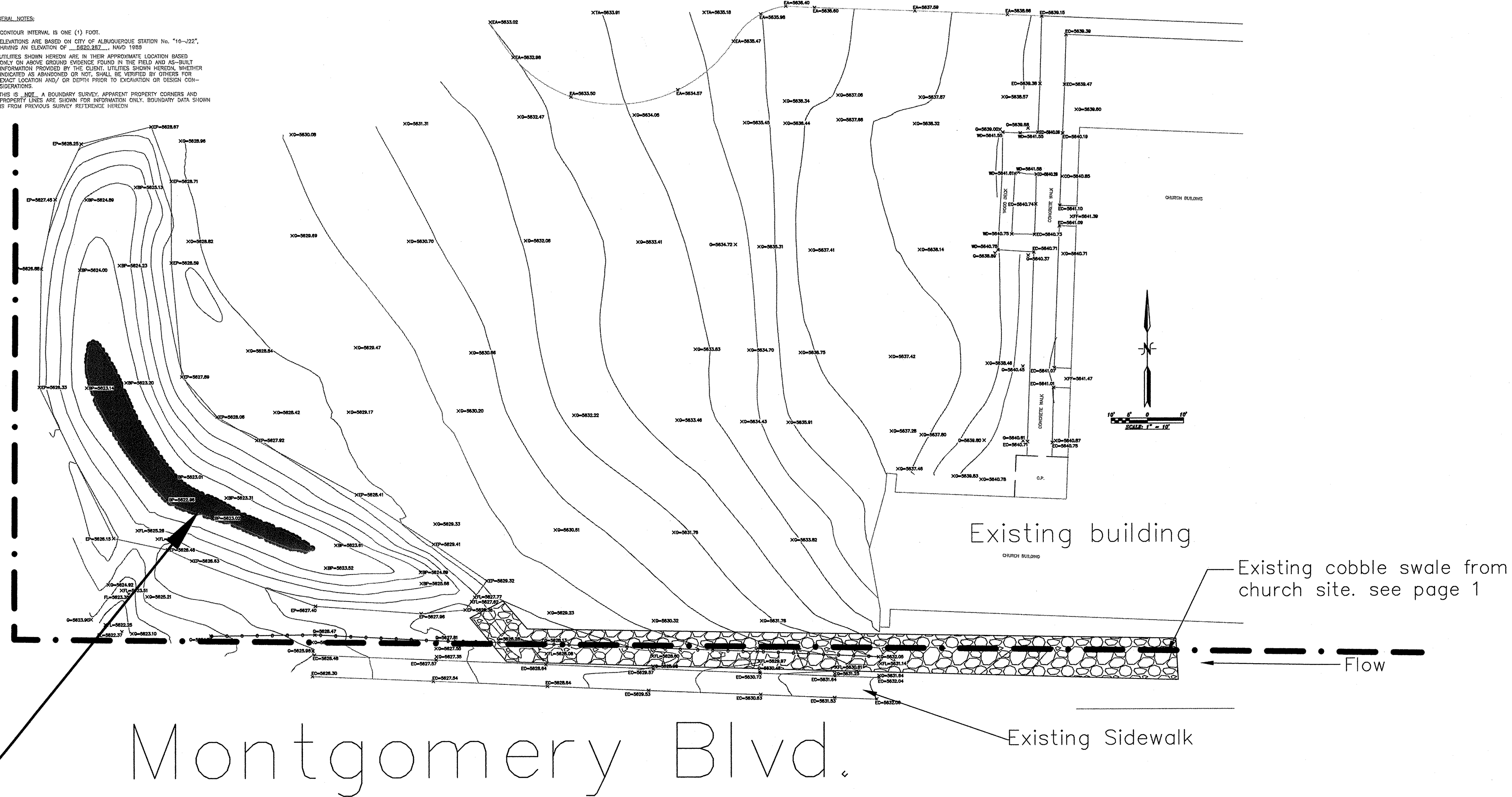
	ENGINEER'S SEAL	DRAWN BY	DATE 5-2015
	Monterey Baptist Church	GRADING AND DRAINAGE PLAN	SHEET # 1 of 2
Richard Dourte P.E. #10854	RHD Engineering, LLC 4305 Purple Sage Ave. NW ALBUQUERQUE, NM 87120 (505) 288-1621	JOB #	



OF
A PORTION OF
MONTEREY BAPTIST CHURCH
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO
MAY, 2015

LEGEND
ED = EDGE OF CONCRETE
TA = TOP OF ASPHALT
EA = EDGE OF ASPHALT
FF = FRESH FLOOR
WD = WOOD DECK
CL = CLEAN OUT
FL = FLOW LINE
BL = BOTTOM OF POND
EP = EDGE OF POND
G = GROUND

- GENERAL NOTES:
1. CONTOUR INTERVAL IS ONE (1) FOOT.
2. ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE STATION NO. "16-227", HAVING AN ELEVATION OF 5603.82, NAVD 1983.
3. UTILITIES SHOWN HEREIN ARE IN THEIR APPROXIMATE LOCATION BASED ONLY ON ABOVE GROUND EVIDENCE FOUND IN THE FIELD AND AS-BUILT INFORMATION PROVIDED BY THE CLIENT. UTILITIES SHOWN HEREIN, WHETHER INDICATED AS APPROVED OR NOT, SHALL BE VERIFIED BY OWNERS FOR EXACT LOCATION AND/OR DEPTH PRIOR TO EXCAVATION OR DESIGN CONSIDERATIONS.
4. THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS AND PROPERTY LINES ARE SHOWN FOR INFORMATION ONLY. BOUNDARY DATA SHOWN IS FROM PREVIOUS SURVEY REFERENCE HEREIN.

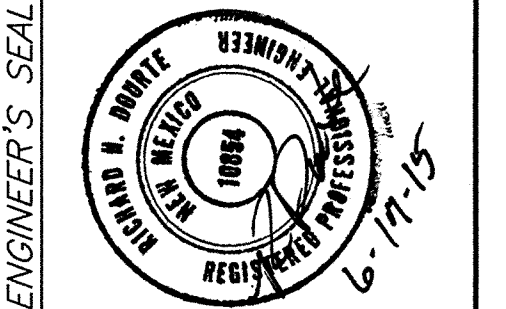


Note: Increase pond volume by lowering this area of pond to elevation 5622.50 to allot for first flush requirements. Volume increase = 140cf.

RHD Engineering, LLC
4305 Purple Sage Ave. NW
ALBUQUERQUE, NM 87120
(505) 288-1621

CITY OF ALBUQUERQUE
PUBLIC WORKS DIVISION
ENGINEERING GROUP
TITLE: **Monterey Baptist Church**
POND DETAILS

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.
CITY PROJECT NO.	ZONE MAP NO.	SHEET	2	OF 2



REMARKS	BY
DESIGN	
REVISIONS	
NO.	DATE
DESIGNED BY:	DATE:
DRAWN BY:	DATE:
CHECKED BY:	DATE:

SURVEY INFORMATION	ENGINEER'S SEAL	FIELD NOTES	MONUMENT	AS BUILT INFORMATION
NO.		BY	N=	CONTRACTOR
		DATE	E=	WORK STARTED BY
			ELEV=	INSPECTOR'S DATE
			NEW MEXICO STATE PLANE	FIELD CHANGE BY
			CENTRAL ZONE	VERIFICATION BY
			G-G 0.999677	DATE
				RECORDED BY
				DATE