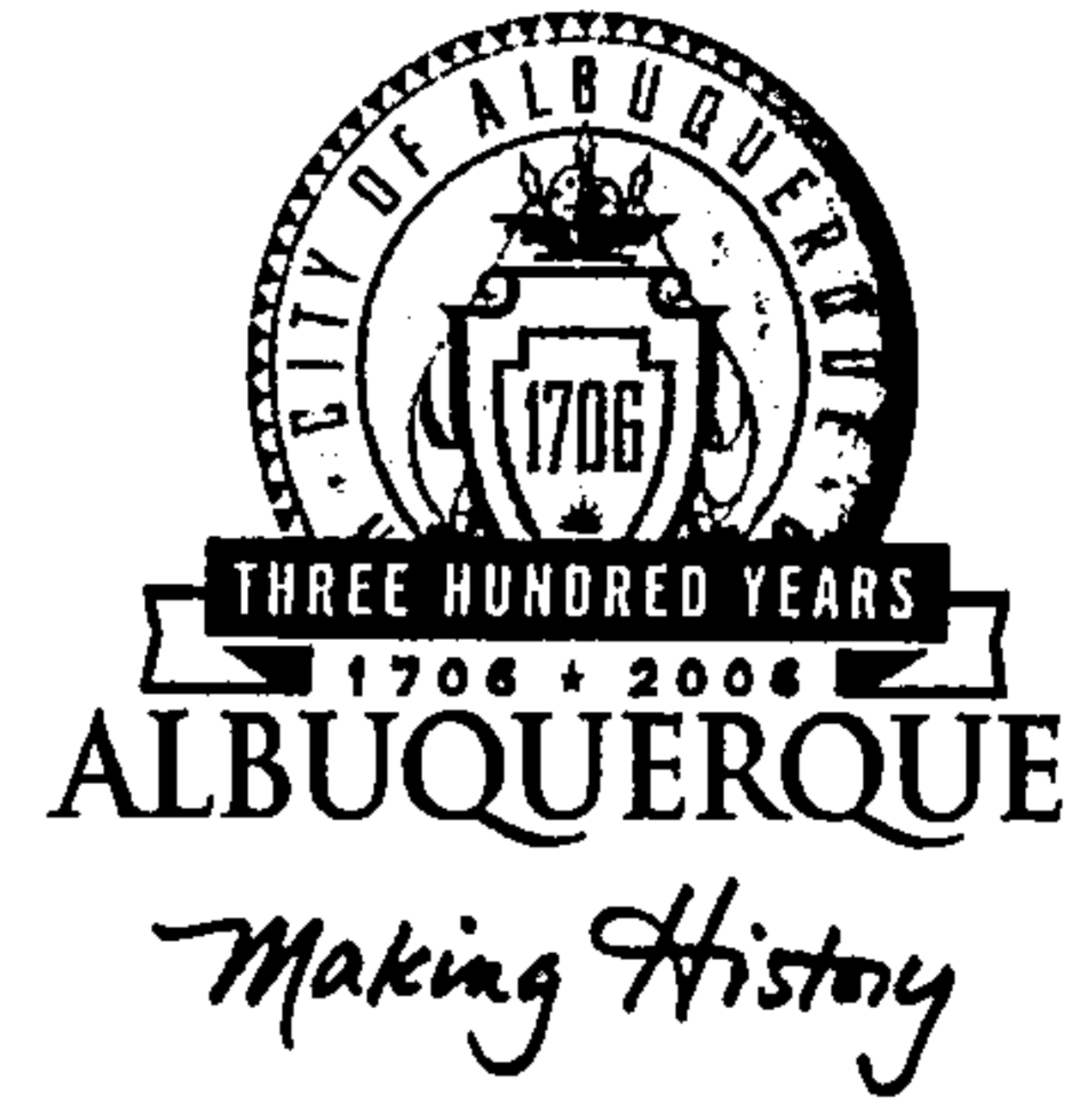


CITY OF ALBUQUERQUE



March 20, 2006

Jackie McDowell, P.E.
McDowell Engineering
7820 Beverly Hills Ave. NE
Albuquerque, NM 87122

**Re: Cross of Hope Lutheran Church, 6104 Taylor Ranch Road NW,
Certificate of Occupancy
Engineer's Stamp dated 7-27-03 (E11-D22)
Certification dated 3-10-06**

P.O. Box 1293

Dear Ms. McDowell,

Albuquerque

Based upon the information provided in your submittal received 3-20-06, the
above referenced certification is approved for release of permanent Certificate of
Occupancy by Hydrology.

New Mexico 87103

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

www.cabq.gov

Sincerely,

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

C: CO Clerk
file



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 1, 2003

Jackie McDowell, PE
McDowell Engineering
7820 Beverly Hills NE
Albuquerque, NM 87122

6104 Taylor Ranch Dr. N.W.

Re: Cross of Hope Church Grading and Drainage Plan
Engineer's Stamp dated 7-27-03 (E11/D22)

Dear Ms. McDowell,

Based upon the information provided in your submittal dated 7-28-03, the above referenced plan is approved for Building Permit and SO#19 Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

A separate permit is required for construction within City R/W. A copy of this approval letter must be on hand when applying for the excavation permit.

Also, prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist and acceptance of the sidewalk culvert by Storm Drain Maintenance will be required.

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

Sincerely,

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

C: file



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 11, 2002

Jackie McDowell, PE
McDowell Engineering
7820 Beverly Hills NE
Albuquerque, NM 87122

Re: Cross of Hope Church Grading and Drainage Plan
Engineer's Stamp dated 10-7-02 (E11/D22)

Dear Ms. McDowell,

Based upon the information provided in your submittal dated 10-9-02, the above referenced plan is approved for Site Plan for Building Permit and Foundation Permit. Prior to Building Permit and SO#19 Permit approval, please address the following comments.

- The calculations infer that the site is undeveloped although you state on the plan that there is an existing structure and detention pond. Please rectify the calculations accordingly.
- How does the existing pond drain? Is there an outlet that must be removed or altered?
- Please show water surface elevation of the pond and provide a hard-lined emergency spillway. Keep in mind that a minimum of 0.5 feet of freeboard is required.

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

Sincerely,

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

C: file



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

February 22, 1996

Joe Kelley
Chavez-Grieves
5639 Jefferson NE
Albuquerque, NM 87109

RE: DRAINAGE PLAN FOR AN ADDITION TO CROSS OF HOPE LUTHERAN
CHURCH (E11-D22) ENGINEER'S STAMP DATED 2/15/96.

Dear Mr. Kelley:

Based on the information provided on your February 16, 1996 submittal, the above referenced site is approved for Grading/Paving and Building Permit.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Also, prior to Certificate of Occupancy release, Engineer Certification per the D.P.M. checklist will be required. Pond as-built capacity will be required within your certification information.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya, CE
Engineering Associate

BJM/dl

c: Andrew Garcia

<File>

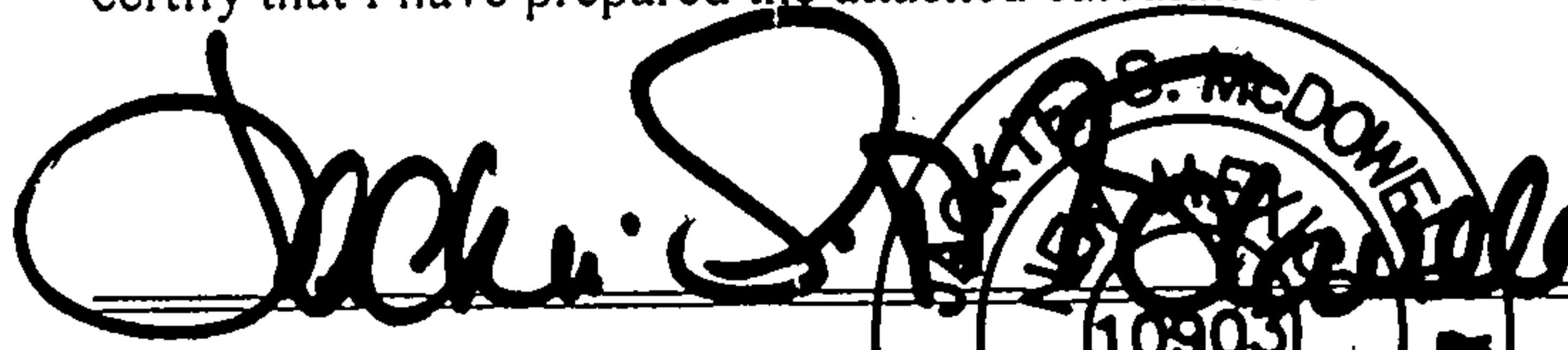
ATTACHMENT NO. 1

SUPPLEMENTAL CALCULATIONS TO

**CROSS OF HOPE LUTHERAN CHURCH
TRACT S-1-B
TAYLOR RANCH**

GRADING & DRAINAGE PLAN

I, Jackie S. McDowell, Registered Professional Engineer, No. 10903, hereby
certify that I have prepared the attached calculations.


Jackie S. McDowell, P.E.



10-7-02

Date
Rev. 7-27-03

5-Oct-02

CROSS OF HOPE LUTHERAN CHURCH - ON SITE CALCS

Calculations: Total Basin

Calculations are based on "Section 22.2 Hydrology of the
Development Process Manual, Volume 2, Design Criteria for the
City of Albuquerque, New Mexico, January 1993 - basins < 40 acres".

Precipitation Zone = 1

Depth at 100-year, 6-hour storm: (Table A-2)

P = 2.20 inches

Land Treatments:

From Table 5 - Percent Treatment D

Single Family Residential =

$$7 \cdot \text{SQR}((N \cdot N) + (5 \cdot N))$$

where N = units/acre

N = ----- = -----, ok < 6

N = 0.00

Therefore Percent Treatment D = 0.00%

(includes local streets)

Areas: (acres)	Existing	Proposed
Treatment A	4.00	0.00
Treatment B	0.00	0.00
Treatment C	0.00	1.74
Treatment D	0.00	2.26
Total (acres) =	4.00	4.00

$$A_D$$

$$A_T$$

Excess Precipitation (E): (Table A-8)	100 yr	10 yr	2 yr
Treatment A	0.44	0.08	0.00
Treatment B	0.67	0.22	0.01
Treatment C	0.99	0.44	0.12
Treatment D	1.97	1.24	0.72

Weighted E:	100 year Existing E*A	100 year Proposed E*A	10 year Existing E*A	10 year Proposed E*A	2 year Existing E*A	2 year Proposed E*A
Treatment A	1.76	0.00	0.32	0.00	0.00	0.00
Treatment B	0.00	0.00	0.00	0.00	0.00	0.00
Treatment C	0.00	1.72	0.00	0.77	0.00	0.21
Treatment D	0.00	4.45	0.00	2.80	0.00	1.63
Total	1.76	6.17	0.32	3.57	0.00	1.84

::

Weighted E = Total E*A/Total Area

Total Area =

4

	100 year Existing	100 year Proposed	10 year Existing	10 year Proposed	2 year Existing	2 year Proposed
Weighted E (inches) =	0.44	1.54	0.08	0.89	0.00	0.46
Weighted E (feet) =	0.04	0.13	0.01	0.07	0.00	0.04

E

Volume = Weighted E * Watershed Area:

	100 year Existing	100 year Proposed	10 year Existing	10 year Proposed	2 year Existing	2 year Proposed
Volume (acre-feet) =	0.15	0.51	0.03	0.30	0.00	0.15
Volume (cubic feet) =	6,389	22,415	1,162	12,952	0	6,665

Peak Discharge (cfs/acre) = Q(p): (Table A-9)	Q(p) 100 year	Q(p) 10 year	Q(p) 2 year
Treatment A	1.29	0.24	0.00
Treatment B	2.03	0.76	0.03
Treatment C	2.87	1.49	0.47
Treatment D	4.37	2.89	1.69

Total Q(p), cfs:	100 year Existing Q(p)*A	100 year Proposed Q(p)*A	10 year Existing Q(p)*A	10 year Proposed Q(p)*A	2 year Existing Q(p)*A	2 year Proposed Q(p)*A
Treatment A	5.16	0.00	0.96	0.00	0.00	0.00
Treatment B	0.00	0.00	0.00	0.00	0.00	0.00
Treatment C	0.00	4.99	0.00	2.59	0.00	0.82
Treatment D	0.00	9.88	0.00	6.53	0.00	3.82
Total Q (cfs) =	5.16	14.87	0.96	9.12	0.00	4.64

Q_{EXIST}

Q_P

RATIONAL METHOD:

Coefficient C: (Table A-11)	100 year	10 year	2 year
-----------------------------	----------	---------	--------

6

Treatment A	0.27	0.08	0.00
Treatment B	0.43	0.24	0.02
Treatment C	0.61	0.47	0.26
Treatment D	0.93	0.92	0.92
Peak Intensity (in/hour): (Table A-10)	4.70	3.14	1.84

Q = CIA (cfs):	100 year Existing CIA	100 year Proposed CIA	10 year Existing CIA	10 year Proposed CIA	2 year Existing CIA	2 year Proposed CIA
Treatment A	5.08	0.00	1.00	0.00	0.00	0.00
Treatment B	0.00	0.00	0.00	0.00	0.00	0.00
Treatment C	0.00	4.99	0.00	2.57	0.00	0.83
Treatment D	0.00	9.88	0.00	6.53	0.00	3.83
Total Q (cfs) =	5.08	14.87	1.00	9.10	0.00	4.66

McDowell Engineering Inc.

7820 Beverly Hills Ave. NE
Albuquerque, New Mexico 87122
Tele: (505)828-2430
Fax: (505)821-4857

Project: Cross of Hope
Project No.: _____ Date: 10-5-02
Subject: POND CALCULATIONS
By: JSM Sheet 1 of 2

The site is currently developed with 2 buildings, parking & landscaping. An existing drainage pond is located at the southern end of the property.

These calculations and the Grading & Drainage Plan will design the detention pond for Pre-Development conditions (Treatment Type A = 4.0 ac - entire site) vs. Post Development Conditions for total development of the entire site.

$$A_D = 2.26 \text{ ac}$$

$$A_T = 4.00 \text{ ac}$$

$$t_c = 0.2 \text{ hr}$$

$$\begin{aligned} t_p &= 0.7(t_c) + (1.6 - A_D/A_T)/12 \\ &= 0.7(0.2) + (1.6 - 2.26/4.00)/12 \\ &= \underline{0.2263 \text{ hr} = t_p} \end{aligned}$$

$$Q_p = 14.87 \text{ cfs}$$

$$E = 1.54 \text{ in.}$$

McDowell Engineering Inc.

7820 Beverly Hills Ave. NE
Albuquerque, New Mexico 87122
Tele: (505)828-2430
Fax: (505)821-4857

Project: CROSS OF HOPE
Project No.: _____ Date: 10-5-02
Subject: POND CALCS
By: OSM Sheet 2 of 2

$$\begin{aligned} t_B &= (2.107)(E) \left(\frac{A_T}{Q_P} \right) - 0.25 \left(\frac{A_D}{A_T} \right) \\ &= (2.107)(1.521) \left(\frac{4.00}{14.87} \right) - 0.25 \left(\frac{2.26}{4.00} \right) \\ &= 0.8728 - 0.1413 = 0.7316 \text{ hr} = t_B \end{aligned}$$

Volume required to Pond = 11,664 cf.
(See attached hydrograph)

POND VOL. PROVIDED:

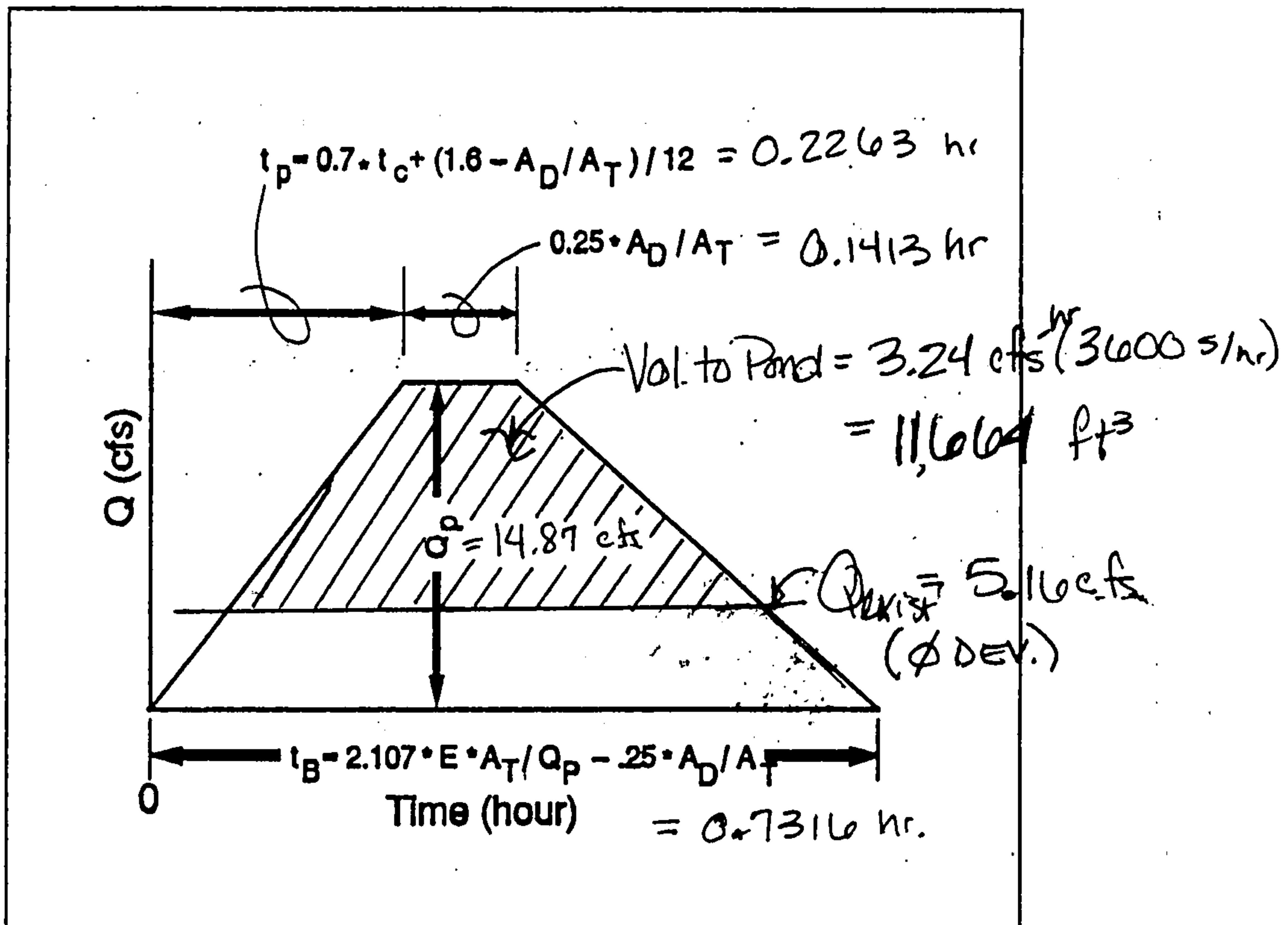
ELEV (ft)	Δh	AREA (sf)	VOLUME (cf)
5111.5		10439	
	0.5		4813
5111		8812	
	1.0		7211
5110		5610	

$$\begin{aligned} \text{TOT} &= 12024 \text{ cf.} \\ &> 11664 \text{ cf.} \end{aligned}$$

✓ OK

Continue the peak for $0.25 \cdot A_D / A_T$ hours. When A_D is zero, the hydrograph will be triangular. When A_D is not zero, the hydrograph will be trapezoidal. FIGURE A-3 shows the hydrograph in graphic form.

FIGURE A-3



Example A-8

Determine the hydrograph for Example A-5.

$$A_T = 14.0 \text{ acres} \quad A_D = 4.0 \text{ acres} \quad t_c = 0.2 \text{ hour} \quad Q_p = 37.24 \text{ cfs}$$

$$E = ((3 \cdot .44) + (5 \cdot .67) + (2 \cdot .99) + (4 \cdot 1.97)) / (3 + 5 + 2 + 4) = 1.038 \text{ inches}$$

$$t_p = (0.7 \cdot 0.2) + (1.6 - (4 / 14)) / 12 = 0.2495 \text{ hours}$$

$$t_b = (2.107 \cdot 1.038 \cdot 14 / 37.24) - (0.25 \cdot 4 / 14) = 0.7157 \text{ hours}$$

$$\text{Duration of peak} = 0.25 \cdot 4 / 14 = 0.0714 \text{ hours}$$

McDowell Engineering Inc.

7820 Beverly Hills Ave. NE
Albuquerque, New Mexico 87122
Tele: (505)828-2430
Fax: (505)821-4857

Project: CROSS OF HOPE 17-27-03
Project No.: _____ Date: 10-6-02
Subject: SPILLWAY & S/W CULVERT OUTLET
By: JSM Sheet 1 of 1

S/W CULVERT OUTLET CAPACITY:

$$Q_{\text{EXIST}} = 5.16 \text{ cfs}$$

$$\text{Outlet Capacity} \Rightarrow Q = CA\sqrt{2gh}$$

Where,

$$C = 0.6$$

$$A = 0.5(2) = 1.0 \text{ sf}$$

$$g = 32.2 \text{ ft/s}^2$$

$$h = 1.25 \text{ ft}$$

$$\therefore Q = 5.38 \text{ cfs}$$

(approx 4% > exist) OK

SPILLWAY

$$Q = CLH^{3/2}$$

$$\text{Where, } C = 3.0, \quad Q = 5.16 \text{ cfs}$$

$$H = 0.25'$$

$$\text{then } L = 13.76' \text{ use } 14'$$



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

***Planning Department
Transportation Development Services Section***

March 19, 2004

Mark Baczek, Registered Architect
13604 Rebonito Ct NE
Albuquerque, NM 87112

Re: Certification Submittal for Final Building Certificate of Occupancy for
Cross of Hope Lutheran Church, [E-11 / D22]
6104 Taylor Ranch Drive NW
Architect's Stamp Dated 03/12/04

Dear Mr. Baczek:

The TCL / Letter of Certification submitted on March 19, 2004 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Sincerely,

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

c: Engineer
Hydrology file
CO Clerk



3/12/04

Traffic Circulation Layout Substantial Compliance Certificate

Regarding:

Cross of Hope Lutheran Church

6104 Taylor Ranch Drive N.W.

Albuquerque, New Mexico 87120-2639

(505) 897-0047

Rev. Dale G. Bauer, Pastor

Legal Description: Tract S-1-B Taylor Ranch

Location: Located at the southeast corner of Taylor Ranch Drive & Kachina St.

This letter is to note for the record that I have inspected the construction improvements to the site noted above & have found the construction improvements to be "Substantially Compliant" with the approved Traffic Circulation Layout (TCL), as approved for the building permit.

There have been a couple of minor revisions to the parking lot layout; these are noted in the attached site plan. These revisions include: [1] the provision of two additional handicap parking stalls & an HC access aisle, [2] the upsizing of four compact parking stalls to standard parking stalls & [3] the shifting of the parking stalls at the Southeast corner of the parking lot. All these revisions resulted in the deletion of three parking spaces from the total parking count. There is an ample surplus of parking spaces remaining. In a review by Bob Paulsen on 3/11/04, these revisions were verbally approved. The revised Site Plan has been formally submitted for an Administrative Amendment.

Dorman/Breen Architects
Mark Baczek, AIA @ 792-8160

