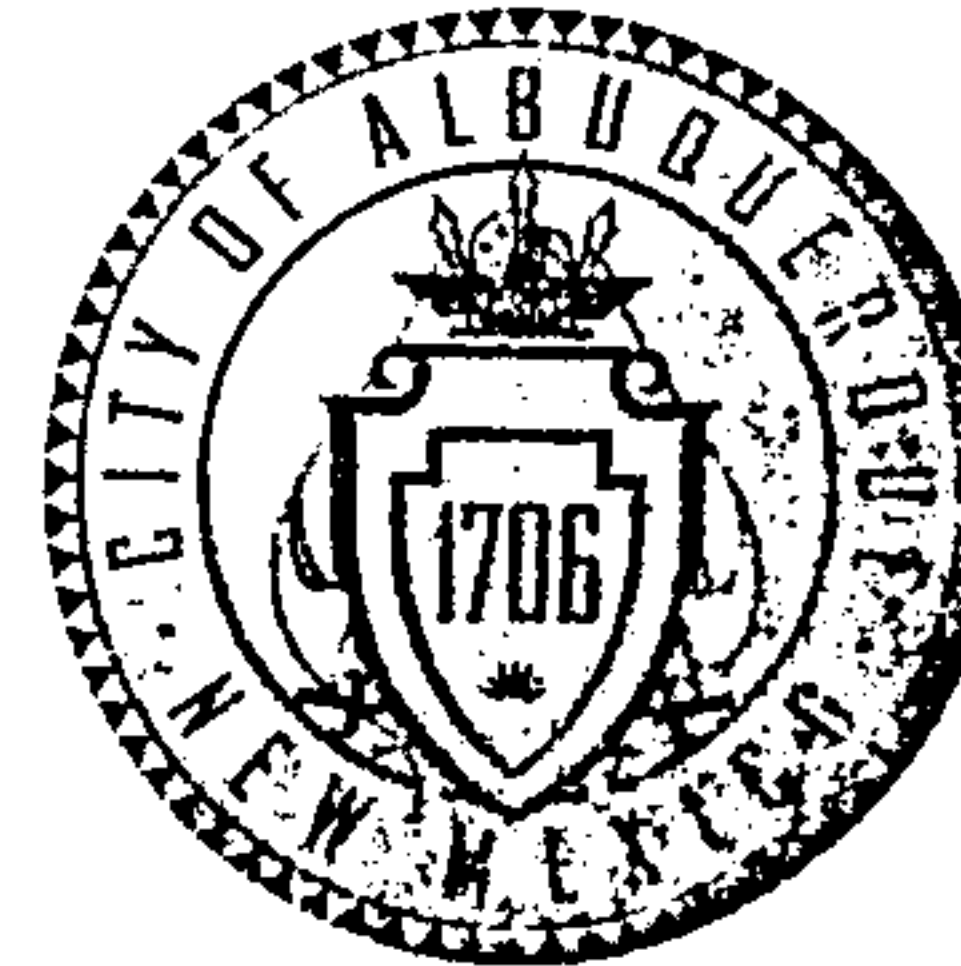


# CITY OF ALBUQUERQUE



**Planning Department  
Transportation Development Services Section**

April 15, 2008

Charlie M. Otero, Registered Architect  
8000 Pennsylvania Circle NE  
Albuquerque, NM 87110

Re: Certification Submittal for Final Building Certificate of Occupancy for  
Expressions of Life, [C-13 / D016G]  
9151 High Assets Way  
Architect's Stamp Dated 04/15/08

Dear Mr. Otero:

PO Box 1293

The TCL / Letter of Certification submitted on April 15, 2008 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Albuquerque

Sincerely,

NM 87103

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

[www.cabq.gov](http://www.cabq.gov)

c: Engineer  
Hydrology file  
CO Clerk



**CHARLIE M. OTERO  
ARCHITECT**

14 April 2008

NILO SALGADO  
Senior Engineer  
City Of Albuquerque  
Transportation Dept.  
PO Box 1293, 600 2<sup>nd</sup> Street NW  
Albuquerque NM 87103

RE: 9151 High Assets Way  
Traffic Control Layout (TCL)

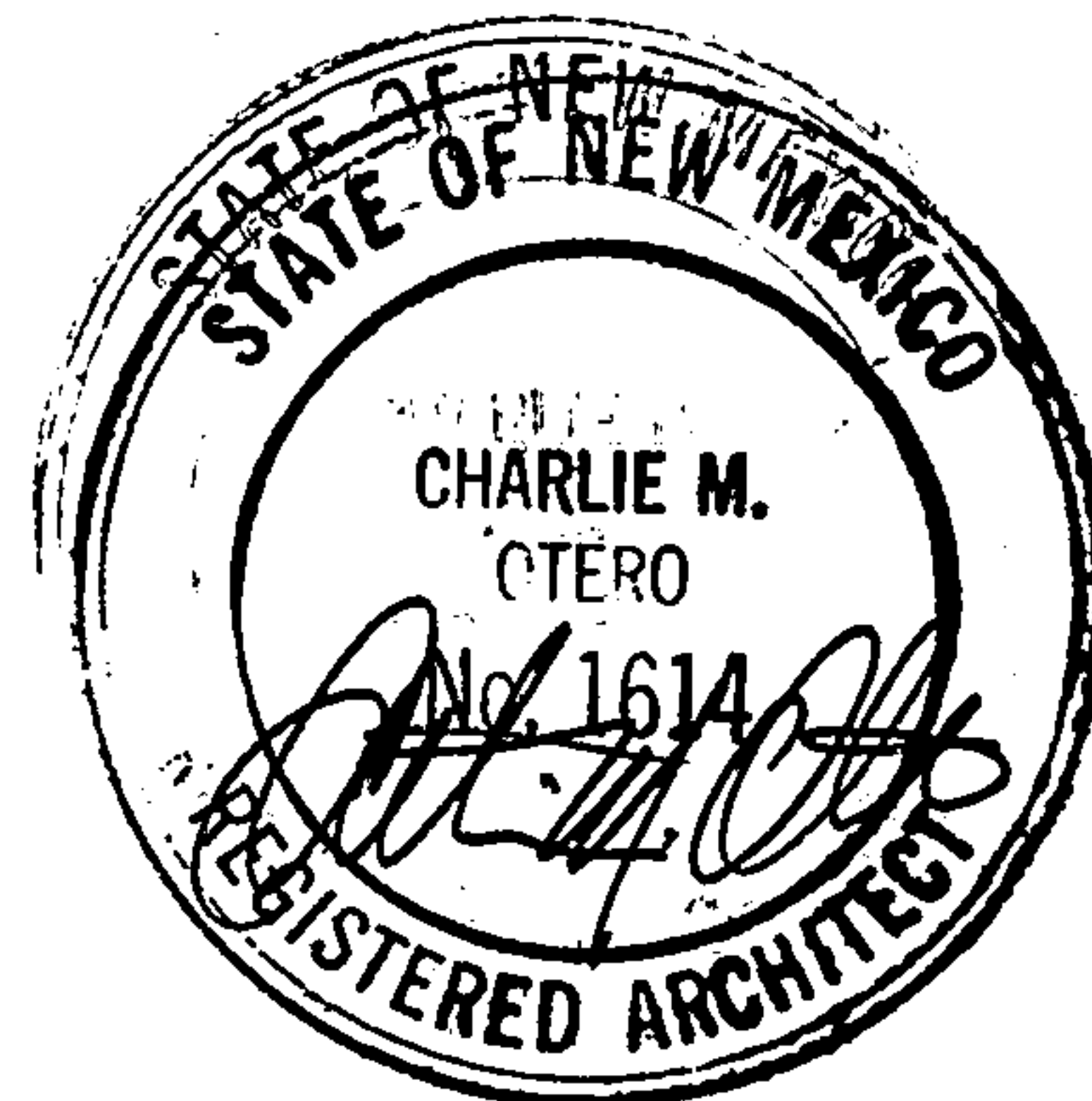
### TRAFFIC CERTIFICATION

I, Charlie M. Otero AIA, of the firm Charlie M. Otero Architect Inc. (CMOA), hereby certify that this project is in substantial compliance with and in accordance with the design intent of the DRB approved plan dated December 12<sup>th</sup> 2006. The record information edited onto the Original Design Document has been obtained by Charlie M. Otero of the firm COMA Inc.. I further certify that I have personally visited the project site on 14 April 2008 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 a Certificate of Occupancy

The exception to the DRB Document is the addition of Motorcycle spaces to the Parking lot.

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

Charlie M Otero AIA  
Charlie M. Otero Architect Inc.



15-April-2008

Architecture / Construction Management Services

8000 Pennsylvania Circle, NE • Albuquerque, New Mexico 87110 • (505) 254-2232 • (505) 883-3161 Fax



**DRAINAGE AND TRANSPORTATION INFORMATION SHEET**  
(REV 12/2005)

PROJECT TITLE: EXPRESSIONS OF LIFE/LIFESPIRE LIVING ZONE MAP: C-13-# D016  
DRB#: 100 3272 EPC#: \_\_\_\_\_ WORK ORDER#: \_\_\_\_\_

LEGAL DESCRIPTION: LOT 3A, 2A AIBUQ. WEST UNIT TWO ALBUQUERQUE  
CITY ADDRESS: 9151 HIGH ASSETS WAY AIB. NM 87120

ENGINEERING FIRM: SMITH ENGINEERING CONTACT: PAT CONLEY  
ADDRESS: 2201 SAN PEDRO DRIVE NE PHONE: 505 8840700  
CITY, STATE: ALBUQ. NM ZIP CODE: 87110

OWNER: EXPRESSIONS OF LIFE INC/DBA JAMES/CAROL INC. CONTACT: CAROL HERRERA  
ADDRESS: 9151 HIGH ASSETS WAY PHONE: 505 - 8314250  
CITY, STATE: ALBUQ. NM ZIP CODE: 87120

ARCHITECT: Charlie M. Otero Architect INC. CONTACT: Charlie Otero  
ADDRESS: 8000 PENNSYLVANIA CIRCLE NE PHONE: 505-2542232  
CITY, STATE: ALBUQU. NM. ZIP CODE: 87110

SURVEYOR: SMITH ENGINEERING CONTACT: PAT CONLEY  
ADDRESS: 2201 SAN PEDRO PHONE: 505 8840700  
CITY, STATE: ALBUQ. NM ZIP CODE: 87110

CONTRACTOR: AMERICAN CONTRACTORS CONTACT: DWAYNE PINO  
ADDRESS: P.O. BOX 56883 PHONE: 505-239 0920  
CITY, STATE: ALBUQ. NM ZIP CODE: 87187

**TYPE OF SUBMITTAL:**

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1<sup>st</sup> SUBMITTAL
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL G & D PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERT (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☒ TRAFFIC CIRCULATION LAYOUT \*
- ☐ ENGINEER'S CERT (TCL)
- ☐ ENGINEER'S CERT (DRB SITE PLAN)
- ☐ OTHER (SPECIFY) \_\_\_\_\_

**CHECK TYPE OF APPROVAL SOUGHT:**

- ☐ SIA/FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D APPROVAL
- ☐ S. DEV. FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY) \_\_\_\_\_

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

DATE SUBMITTED: 15-APRIL, 2002 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.

# CITY OF ALBUQUERQUE



March 15, 2010

Patrick J. Conley, P.E.  
**Smith Engineering Company**  
2201 San Pedro Drive NE—Bldg 4  
Albuquerque, NE 87110

**Re: Expressions of Life & Life Spire Living, 9151 High Assets Way,  
Request for Permanent C.O.—Approved  
Engineer's Stamp dated: 03-22-07, (C-13/D016G)  
Certification dated: 3-11-10**

Dear Mr. Conley,

Based upon the information provided in your submittal, received 3-12-10, the above referenced Certification is approved for a release of a Permanent Certificate of Occupancy by Hydrology.

PO Box 1293

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

Sincerely,

Albuquerque

  
Timothy E. Sims

NM 87103

Plan Checker—Hydrology Section  
Development and Building Services

[www.cabq.gov](http://www.cabq.gov)

C: CO Clerk—Katrina Sigala  
File



## DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(Rev. 12/2005)

Life Spire

PROJECT TITLE: Expressions of Life & Living ZONE MAP/DRG. FILE # C-13/00/66  
DRB#: 01741 EPC#: \_\_\_\_\_ WORK ORDER#: \_\_\_\_\_

LEGAL DESCRIPTION: Lot 3-A2A Albuquerque West- Unit Two Albuquerque  
CITY ADDRESS: \_\_\_\_\_

ENGINEERING FIRM: Smith Engineering Co.  
ADDRESS: 2201 San Pedro Drive N.E.  
CITY, STATE: Albuquerque, N.M.

CONTACT: Jerrie Padilla  
PHONE: 884-0700  
ZIP CODE: 87110

OWNER: Expressions of Life Inc.  
ADDRESS: 3805 Atrisco Dr. NW, Suite C  
CITY, STATE: Albuquerque NM 87120

CONTACT: Carol Herrero  
PHONE: 831-6250  
ZIP CODE: 87120

ARCHITECT: Charlie M. Otero Architect  
ADDRESS: 8000 Pennsylvania Circle N.E.  
CITY, STATE: Albuquerque, N.M.

CONTACT: Charlie Otero  
PHONE: 254-2232  
ZIP CODE: 87110

SURVEYOR: Smith Engineering Co.  
ADDRESS: 2201 San Pedro Drive N.E.  
CITY, STATE: Albuquerque N.M.

CONTACT: Loren Risenhoover  
PHONE: 884-0700  
ZIP CODE: 87110

CONTRACTOR: N/A  
ADDRESS: \_\_\_\_\_  
CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
PHONE: \_\_\_\_\_  
ZIP CODE: \_\_\_\_\_

## TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT  
☐ DRAINAGE PLAN 1<sup>st</sup> SUBMITTAL  
☐ DRAINAGE PLAN RESUBMITTAL  
☐ CONCEPTUAL G & D PLAN  
☐ GRADING PLAN  
☐ EROSION CONTROL PLAN  
☒ ENGINEER'S CERT (HYDROLOGY)  
☐ CLOMR/LOMR  
☐ TRAFFIC CIRCULATION LAYOUT  
☐ ENGINEER'S/ARCHITECT'S CERT (TCL)  
☐ ENGINEER'S CERT (DRB SITE PLAN)  
☐ OTHER

## CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA/FINANCIAL GUARANTEE RELEASE  
☐ PRELIMINARY PLAT APPROVAL  
☐ S. DEV. PLAN FOR SUB'D APPROVAL  
☐ S. DEV. FOR BLDG. PERMIT APPROVAL  
☐ SECTOR PLAN APPROVAL  
☐ FINAL PLAT APPROVAL  
☐ FOUNDATION PERMIT APPROVAL  
☐ BUILDING PERMIT APPROVAL  
☒ CERTIFICATE OF OCCUPANCY (PERM)  
☐ CERTIFICATE OF OCCUPANCY (TEMP)  
☐ GRADING PERMIT APPROVAL  
☐ PAVING PERMIT APPROVAL  
☐ WORK ORDER APPROVAL  
☐ OTHER (SPECIFY) \_\_\_\_\_

## WAS A PRE-DESIGN CONFERENCE ATTENDED:

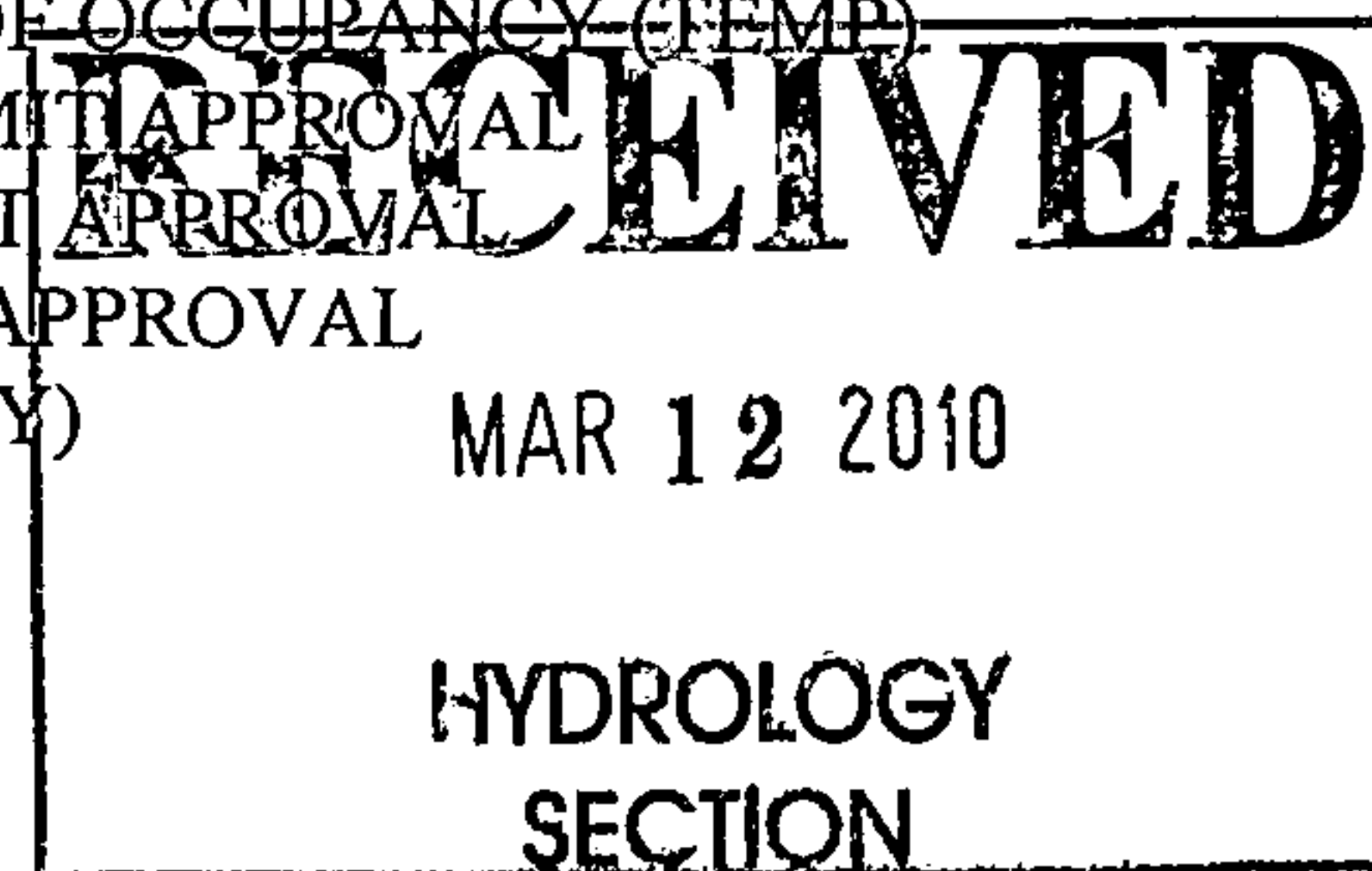
- ☐ YES  
☐ NO  
☐ COPY PROVIDED

SUBMITTED BY: Patrick J. Conley PE

DATE: 3/12/10

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.







# Smith Engineering Company

Solutions for today... Vision for tomorrow

March 10, 2010

Mr. Charlie Otero, AIA  
8000 Pennsylvania Circle NE  
Albuquerque, NM 87110

**Re: Expressions of Life and Life Spire Living, Adult Assisted Living Facility  
Grading Certification  
SEC #106635**

Dear Mr. Otero

Smith Engineering Company (SEC) has performed site visits to make observations related to the required improvements as outlined in our letter to you dated May 22, 2008. This letter cited four areas that required modifications in order that SEC could certify the grading for the site. The areas in question and the site observations by SEC personnel are as follows:

*Area A: Construct the swale and 8" PVC culvert as shown on the plans to the design grades and slopes. Grade the landscaped area between the sidewalk culverts and the building per the plans so the runoff moves to the sidewalk culverts. Clear the landscaping material away from the entrances and exits of the sidewalk culverts so they can drain to the planned drainage swale on the west. The 8" PVC culvert can be placed parallel to the constructed retaining wall to allow for a cleaner installation under the flat work.*

Response: This work has been completed.

*Area B: The proposed 8" PVC connector pipe between the Pond A and Pond B was not installed. There are two options for this area. Either install an 8" PVC connector pipe between the ponds, or install a pump in Pond A to drain runoff to the adjacent road. The discharge pipe from the pump will need to be installed through the existing sidewalk. This will require that a 4" sleeve be installed in the sidewalk to accommodate the discharge pipe from the pump. Please notify SEC of your preferred alternative so that we can supply you with the appropriate design information.*

Response: A pump has been installed and SEC verified operation during a site visit.

*Area C: The grading in the courtyard area does not comply with the planned grades and the drainage openings in the walls were not constructed. Re-grade this area and construct openings in the wall on the south to allow runoff to move out of the courtyard area. Re-grade the landscaped areas between the wall and the sidewalk to move runoff to the sidewalk culverts. Construct the east sidewalk culvert to allow runoff to move to the parking lot.*

2201 San Pedro Drive, NE  
Building 4, Suite 200

Albuquerque, NM 87110  
PatC@smithengineering.pro

Telephone 505/884-0700 Fax 505/884-2376

Mr. Charlie Otero, AIA  
Page 2 of 2  
March 10, 2010

Response: The detail called out for 4 – 8" diameter holes to be drilled in each side of the wall each side of the entry from the parking lot. 4" diameter holes were drilled and 3" sleeves were inserted in the openings in lieu of the 8" diameter holes. Although not in accordance with the detail, these are acceptable for moving water out of the courtyard area. The sidewalk drain was constructed per the detail.

---

*Area D: Construct one 8" diameter opening in the concrete wall just north of the sidewalk culvert to drain Pond B to the sidewalk culvert and out to High Assets Way.*

Response: The detail called out an 8" diameter opening and a 4" diameter opening was drilled in the wall. This is acceptable as this pond was meant to take flows from the west pond. However, the west pond now discharges directly to High Assets Way via the new pump. Therefore, the total runoff getting to this pond is less and the 4" opening is acceptable.

SEC is preparing the grading certification and will submit to the COA for final approval. If you have any questions, please call me at 884-0700

Sincerely,

Smith Engineering Company



Patrick J. Conley, PE  
Project Manager

Enclosure

cc: Brad Bingham, PE, COA Development, Hydrology  
File

# CITY OF ALBUQUERQUE



June 5, 2008

Patrick J. Conley, P.E.  
**Smith Engineering Company**  
2201 San Pedro Drive NE—Bldg 4  
Albuquerque, NE 87110

**Re: Expressions of Life & Life Spire Living, 9151 High Assets Way,  
Approval of 90 Day Temporary Certificate of Occupancy (C.O.),  
Engineer's Stamp dated 03/22/07 (C-13/D016G)  
Certification dated 6/04/08**

Mr. Conley:

PO Box 1293

Based upon the information provided in your submittal received 6/05/08, the above referenced certification is approved for release of 90-day Temporary Certificate of Occupancy by Hydrology. This time allows for all items outlined on the temporary certification to be completed.

Albuquerque

Upon final Certificate of Occupancy the drainage certification stamp will need to be dated.

NM 87103

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

[www.cabq.gov](http://www.cabq.gov)

Sincerely,

Timothy E. Sims  
Plan Checker  
Development and Building Services

C: CO Clerk – Katrina Sigala  
File



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

PROJECT TITLE: Expressions of Life & Life Spire Living ZONE MAP/DRG. FILE # C-13/DOUG.  
DRB#: 01741 EPC#: \_\_\_\_\_ WORK ORDER#: \_\_\_\_\_

LEGAL DESCRIPTION: Lot 3-A-2A Albuquerque West - Unit Two Albuquerque  
CITY ADDRESS: \_\_\_\_\_

ENGINEERING FIRM: Smith Engineering Company  
ADDRESS: 2201 San Pedro Drive NE  
CITY, STATE: Albuquerque, NM

CONTACT: Jerrie Padilla  
PHONE: 884-0700  
ZIP CODE: 87110

OWNER: Expressions of Life Inc.  
ADDRESS: 3805 Atrisco Dr, NW, Suite C  
CITY, STATE: Albuquerque, NM 87120

CONTACT: Carol Herrera  
PHONE: 831-6250  
ZIP CODE: 87120

ARCHITECT: Charlie M. Otero Architect  
ADDRESS: 8000 Pennsylvania Circle, NE  
CITY, STATE: Albuquerque, NM

CONTACT: Charlie Otero  
PHONE: 254-2232  
ZIP CODE: 87110

SURVEYOR: Smith Engineering Company  
ADDRESS: 2201 San Pedro Drive NE  
CITY, STATE: Albuquerque, NM

CONTACT: Loren Risenhoover  
PHONE: 884-0700  
ZIP CODE: 87110

CONTRACTOR: N/A  
ADDRESS: \_\_\_\_\_  
CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
PHONE: \_\_\_\_\_  
ZIP CODE: \_\_\_\_\_

**TYPE OF SUBMITTAL:**

- ☐ DRAINAGE REPORT  
☐ DRAINAGE PLAN 1<sup>st</sup> SUBMITTAL  
☐ DRAINAGE PLAN RESUBMITTAL  
☐ CONCEPTUAL G & D PLAN  
☐ GRADING PLAN  
☐ EROSION CONTROL PLAN  
☒ ENGINEER'S CERT (HYDROLOGY)  
☐ CLOMR/LOMR  
☐ TRAFFIC CIRCULATION LAYOUT  
☐ ENGINEER/ARCHITECT CERT (TCL)  
☐ ENGINEER/ARCHITECT (DRB SITE PLAN)  
☐ OTHER

**CHECK TYPE OF APPROVAL SOUGHT:**

- ☐ SIA/FINANCIAL GUARANTEE RELEASE  
☐ PRELIMINARY PLAT APPROVAL  
☐ S. DEV. PLAN FOR SUB'D APPROVAL  
☐ S. DEV. FOR BLDG. PERMIT APPROVAL  
☐ SECTOR PLAN APPROVAL  
☐ FINAL PLAT APPROVAL  
☐ FOUNDATION PERMIT APPROVAL  
☐ BUILDING PERMIT APPROVAL  
☒ CERTIFICATE OF OCCUPANCY (PERM)  
☒ CERTIFICATE OF OCCUPANCY (TEMP)  
☐ GRADING PERMIT APPROVAL  
☐ PAVING PERMIT APPROVAL  
☐ WORK ORDER APPROVAL  
☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

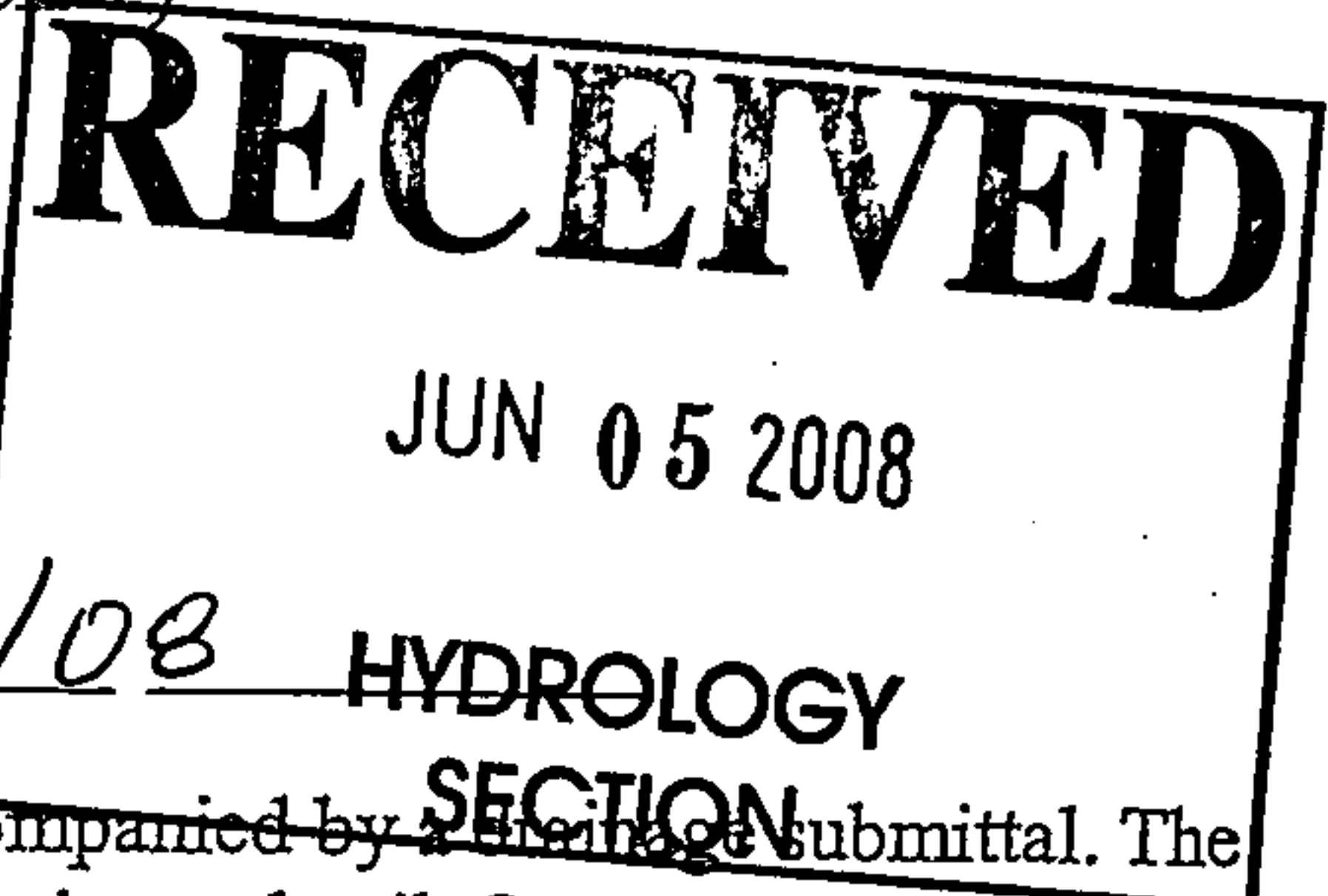
- ☐ YES  
☐ NO  
☐ COPY PROVIDED

SUBMITTED BY: Pat Conley

DATE: 6/4/08 **HYDROLOGY**

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

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



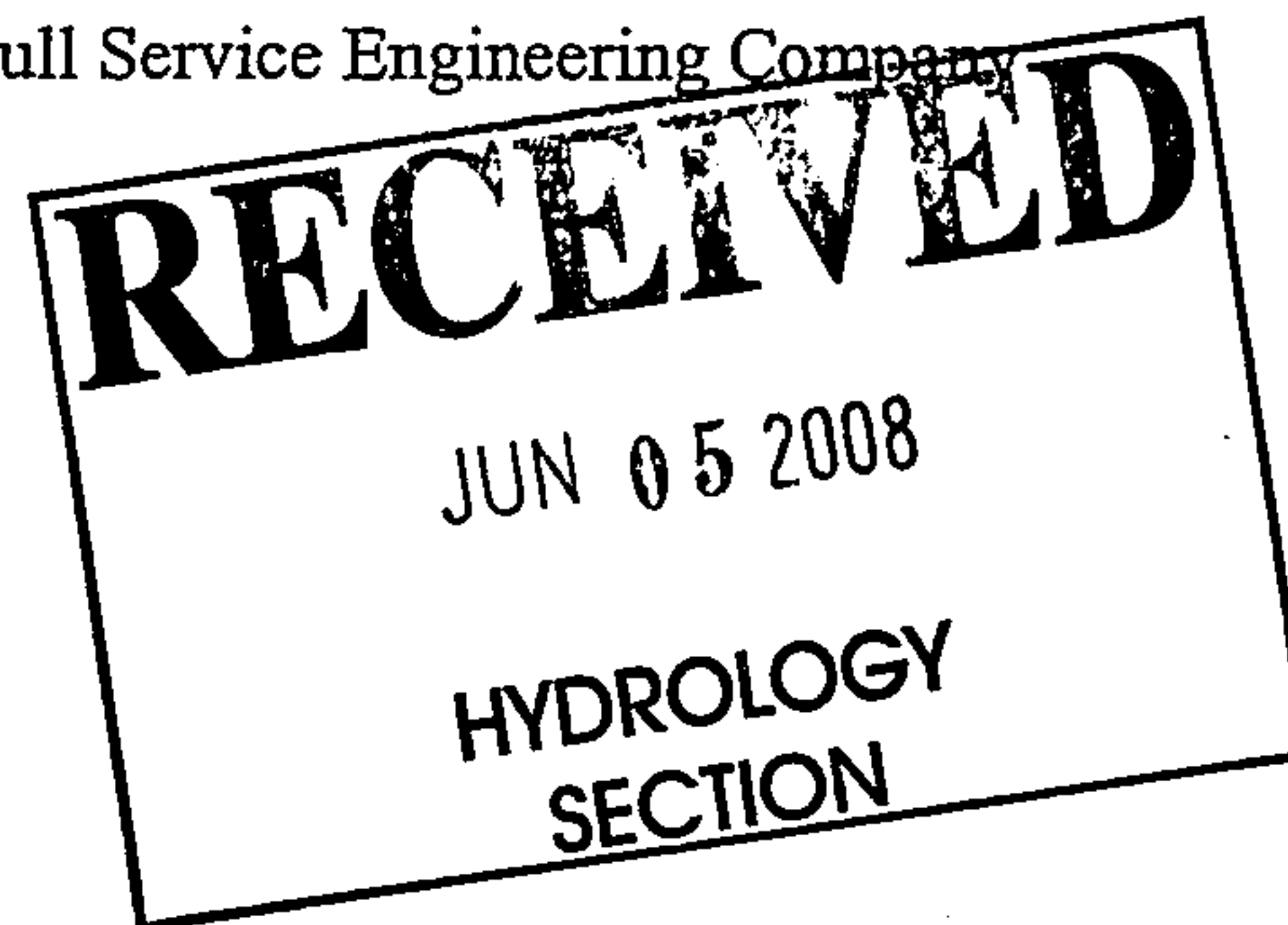


# Smith Engineering Company

A Full Service Engineering Company

May 22, 2008

Mr. Charlie Otero, AIA  
8000 Pennsylvania Circle NE  
Albuquerque, NM 87110



**Re: Expressions of Life and Life Spire Living, Adult Assisted Living Facility  
Required Improvements for Grading Certification  
SEC #106635**

Dear Mr. Otero

Smith Engineering Company (SEC) has received the as-constructed grades for the site from the contactor's surveyor and then performed a site visit to verify that the grading is in general compliance with the plans. It was noted during the field review that there are some drainage improvements shown on the plans that were not constructed correctly. As a result of this, SEC sent out our surveyor to obtain additional spot elevations around the site to assist us in determining the areas of compliance and non-compliance. A review of the survey data and the field visit show that the following items have to be corrected in order for the site to drain in accordance with the approved grading plan. These areas are bubbled on the attached drawing for your information.

Area A: Construct the swale and 8" PVC culvert as shown on the plans to the design grades and slopes. Grade the landscaped area between the sidewalk culverts and the building per the plans so the runoff moves to the sidewalk culverts. Clear the landscaping material away from the entrances and exits of the sidewalk culverts so they can drain to the planned drainage swale on the west. The 8" PVC culvert can be placed parallel to the constructed retaining wall to allow for a cleaner installation under the flat work.

Area B: The proposed 8" PVC connector pipe between the Pond A and Pond B was not installed. There are two options for this area. Either install an 8" PVC connector pipe between the ponds, or install a pump in Pond A to drain runoff to the adjacent road. The discharge pipe from the pump will need to be installed through the existing sidewalk. This will require that a 4" sleeve be installed in the sidewalk to accommodate the discharge pipe from the pump. Please notify SEC of your preferred alternative so that we can supply you with the appropriate design information.

Area C: The grading in the courtyard area does not comply with the planned grades and the drainage openings in the walls were not constructed. Re-grade this area and construct openings in the wall on the south to allow runoff to move out of the courtyard area. Re-grade the landscaped areas between the wall and the sidewalk to move runoff to the sidewalk culverts. Construct the east sidewalk culvert to allow runoff to move to the parking lot.

Area D: Construct one 8" diameter opening in the concrete wall just north of the sidewalk culvert to drain Pond B to the sidewalk culvert and out to High Assets Way.

2201 San Pedro Drive, NE  
Building 4, Suite 200

Albuquerque, NM 87110  
PatC@secnm.com

Telephone 505/884-0700 Fax 505/884-2376



Mr. Charlie Otero, AIA

Page 2 of 2

May 22, 2008

SEC is preparing a revised grading plan to reflect the required improvements listed above. Again, please let us know which alternative you select for the discharge for Pond A so that we can incorporate this into the revised design. It is important that these improvements are constructed to assure that runoff will move away from the buildings to the constructed ponds and then to the street.

Please notify us after these improvements are made so we can perform a site visit to verify compliance with the plans. If you have any questions, please call me at 884-0700

Sincerely,

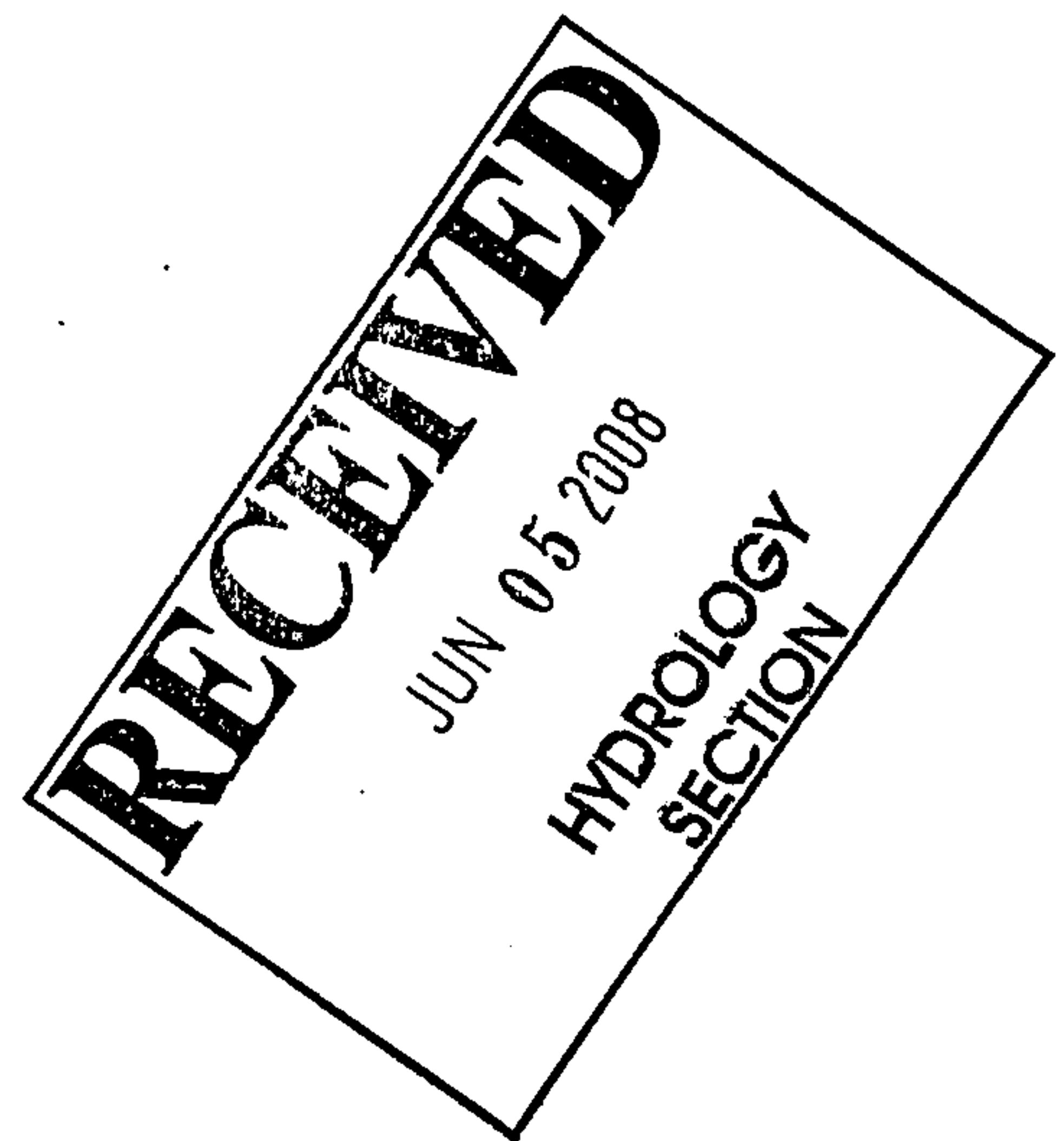
Smith Engineering Company



Patrick J. Conley, PE  
Project Manager

Enclosure

cc: File





## Smith Engineering Company

A Full Service Engineering Company

December 12, 2006

Mr. Brad Bingham  
City of Albuquerque - Hydrology  
600 2<sup>nd</sup> St NW  
Albuquerque, NM 87103

**Re: Expressions of Life & Life Spire Living Drainage Analysis**

Mr. Bingham,

The purpose of this analysis was to determine the size of detention ponds and PVC pipes needed to convey a maximum flow of 1.59 cfs to High Assets Way NW from the project site. The Drainage Analysis Summary for the 100-year storm event summarizes how the size of the detention ponds and PVC pipes was determined. The Hydraulic Calculations and Drainage Analysis Worksheets summarize the basin parameters and peak flows impacting the site. The CulvertMaster Hydraulic Calculations are supplied as reference material used to determine rating curves for each pond. The drainage map and conceptual grading plan will help you to visualize the contributing drainage and how the associated storm water flows will be handled relative to the proposed project site.

Included with this letter are the following documents:

- Drainage Analysis Summary
- AHYMO Hydrologic Data & Calculations
- Proposed Topo Ponding Volumes – Ponds A & B
- CulvertMaster Hydraulic Calculations
- City of Albuquerque Std. Drawing No. 2236 – Sidewalk Culvert w/ associated calculations
- Site Grading & Drainage Plan

Please call me at 884-0700 for any comments or questions you may have.

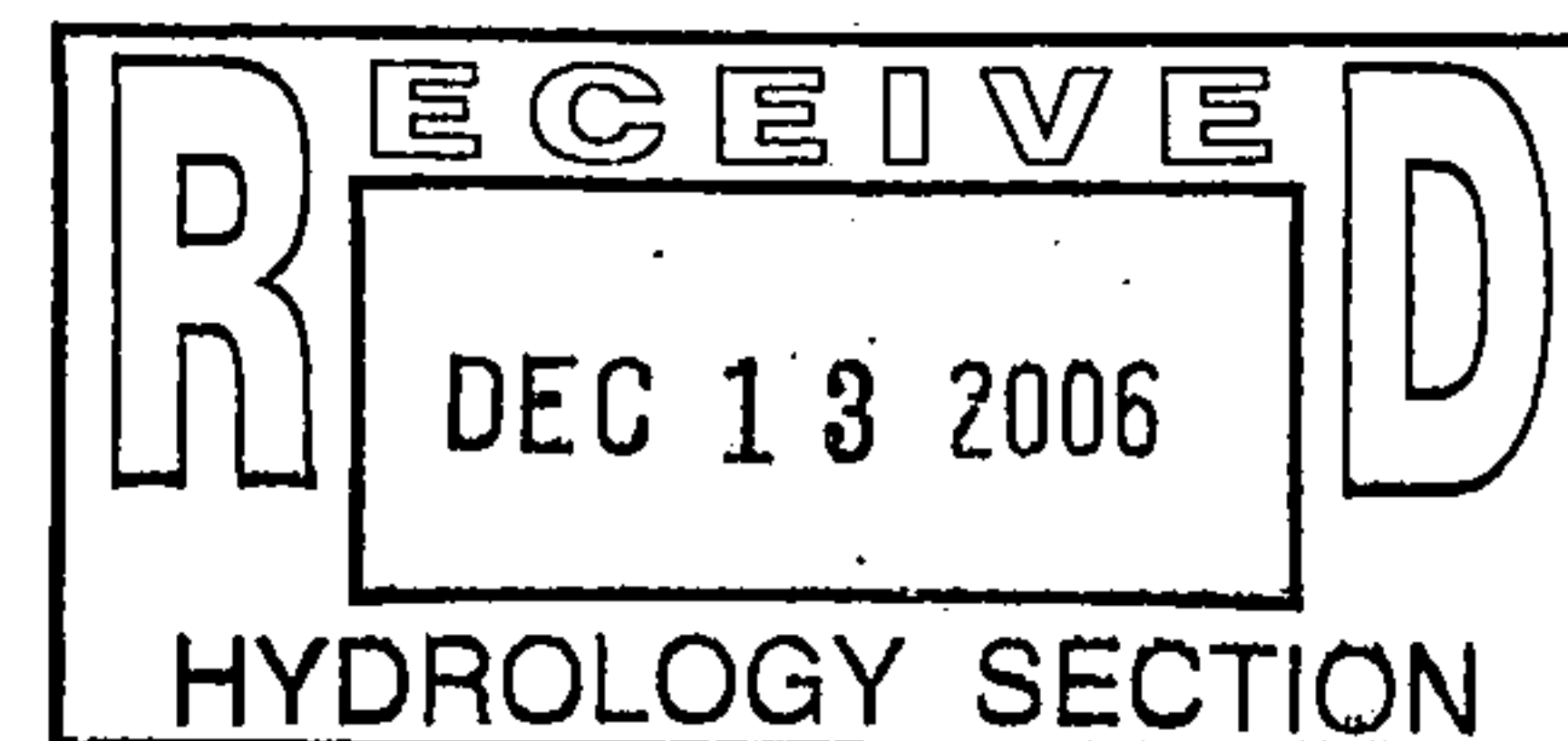
Sincerely,

Smith Engineering Company

Ray G. Chavez, EI

Reviewed by:

Patrick J. Conley, PE





# DRAINAGE ANALYSIS SUMMARY

## EXPRESSIONS OF LIFE & LIFE SPIRE LIVING

### HYDROLOGY

The proposed Expressions of Life & Life Spire Living site is located near the intersection of Paseo Del Norte and Eagle Ranch Road. The flow is generally in a southeasterly direction and the site is currently undeveloped in its existing condition. The site is approximately one acre in area.

The 100-yr hydrology was determined for two basins, Basins A and B, in their proposed condition. Basin A is the west half of the site and drains in a southwesterly direction towards a proposed pond, Pond A. Basin B is the east half of the site and drains in a southeasterly direction towards Pond B. An outflow PVC pipe will be used to drain Pond A to Pond B. Pond B will drain through a sidewalk culvert to High Assets Way NW.

The AHYMO computer program was used to determine the hydrology for the site. This method calculates the 100-yr hydrology using data from the city of Albuquerque (COA) Development Process Manual (DPM). The percentage of land treatments C and D were determined for each basin. Basin A had 32% and 68% land treatments C and D, respectively. Basin B had 18% and 82% land treatments C and D, respectively (see attached AHYMO Hydrologic Data & Calculations). Table 1 below gives AHYMO hydrology data.

**Table 1 – AHYMO Hydrology Data**

Basin	Area (Sq. Mi.)	Land Treatment %	Q(100) cfs	V(100) ac-ft
		A B C D		
A	0.000666	0 0 32 68	1.58	0.059
B	0.000618	0 0 18 82	1.54	0.060

### HYDRAULICS

The hydraulic criteria are to maximize the total volume of both Ponds A and B. This requires that the 100-yr flow depth is contained to the top of the ponds (2 ft depth). The first step was to determine what the outflow from Pond A to Pond B would need to be in order to completely fill Pond A during the peak flow. It was determined from the AHYMO computer program that an outflow of 0.50 cfs outflow would be required. The CulvertMaster computer program determined a 6 in. PVC pipe at the determined slope was necessary to give the required outflow. The next step was to determine the flow area needed to give a maximum outflow of 1.59 cfs from Pond B to High Assets Way NW, per COA requirement. Since the CulvertMaster computer program does not allow the user to enter the dimensions for a sidewalk culvert, the number of 8 in. concrete pipes was determined. The CulvertMaster computer program determined that one 8 in. concrete pipe would be needed to obtain the required outflow. The total area of one 8 in. pipe was used to determine the width of the opening for a COA standard sidewalk culvert based on a standard 5 in. height. The width was determined to be just over 10 in., however the standard 12 in. minimum width is recommended. See the attached CulvertMaster Hydraulic Calculations for detailed hydraulic output.

$$A_g = \pi r^2 = 34.28 \text{ ft}^2$$

$$1.58 \text{ cfs} = \pi r^2 \times \frac{1.58}{\pi}$$

$$r = \sqrt{\frac{1.58}{\pi}}$$

$$= .438 \text{ ft} \times 22 = 9.64 \text{ ft} \approx 10.3 \text{ ft}$$

1. Too much water in street

## **CONCLUSIONS**

The 100-yr water surface reaches the top of Pond A when a 6 in. PVC pipe is used. The required width calculated for the sidewalk culvert was approximately 10 in. The standard 12 in. minimum width for a sidewalk culvert is recommended and gives an outflow of 1.48 cfs to High Assets Way NW. The existing drainage patterns for the site have minor changes.

---



PROJECT Expressions of LifeSHEET NO. 1 OF 1SUBJECT AHYMO DataPROJECT NO. 106635BY RCCDATE 12/7/06

CHECKED BY

DATE

1 / 1LAND TREATMENT AREASBasin A:

Impervious Areas (Land Treatment D):

$$\% D = \frac{12630.98}{18555.65} = \boxed{68\% D}$$

$$\begin{array}{r} 3026.66 \\ 4064.75 \\ 257.32 \\ 998.79 \\ + 4283.46 \\ \hline 12630.98 \text{ SF} \end{array}$$

Semi-impervious Areas (Land Treatment C):

$$\% C = \frac{5924.67}{18555.65} = \boxed{32\% C}$$

$$\begin{array}{r} 879.45 \\ 409.46 \\ 297.23 \\ 324.64 \\ 789.78 \\ 966.68 \\ 369.29 \\ + 1888.14 \\ \hline 5924.67 \text{ SF} \end{array}$$

$$\text{Total Area} = 12630.98 + 5924.67 = 18555.65 \text{ SF} = \boxed{0.000666 \text{ SM}}$$

Basin B:

Impervious Areas (Land Treatment D):

$$\% D = \frac{14110.12}{17225.55} = \boxed{82\% D}$$

$$\begin{array}{r} 8162.13 \\ 936.61 \\ + 501.38 \\ \hline 14110.12 \text{ SF} \end{array}$$

Semi-impervious Areas (Land Treatment C):

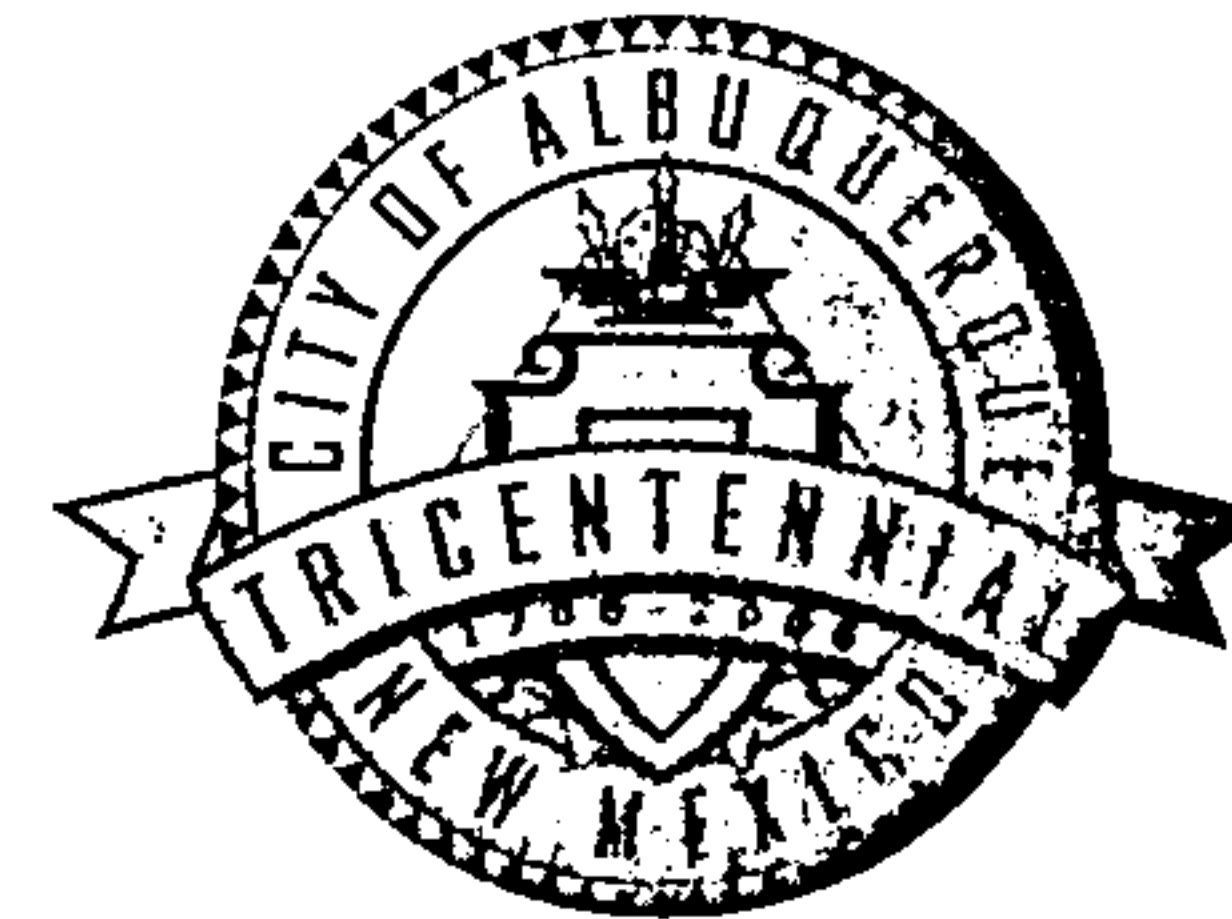
$$\% C = \frac{3115.43}{17225.55} = \boxed{18\% C}$$

$$\begin{array}{r} 910.64 \\ 354.19 \\ + 1850.60 \\ \hline 3115.43 \text{ SF} \end{array}$$

$$\text{Total Area} = 14110.12 + 3115.43 = 17225.55 \text{ SF} = \boxed{0.000618 \text{ SM}}$$



# CITY OF ALBUQUERQUE



March 30, 2007

Patrick J. Conley, P.E.  
Smith Engineering Company  
2201 San Pedro NE  
Albuquerque, NM 87110

**Re: Expressions of Life & Life Spire Living Grading Plan  
Engineer's Stamp dated 3-23-07 (C13/D16G)**

Dear Mr. Conley,

Based upon the information provided in your submittal dated 3-27-07, the above referenced plan is approved for Building Permit and SO19 Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

P.O. Box 1293

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.

Albuquerque

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

New Mexico 87103

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

Sincerely,

Curtis A. Cherne, E.I.  
Engineering Associate, Planning Dept.  
Development and Building Services

[www.cabq.gov](http://www.cabq.gov)

C: file  
Antoinette Baldonado, Excavation and Barricading  
Dwayne Schmitz, Street/Storm Drain Maintenance



# CITY OF ALBUQUERQUE



January 11, 2007

Patrick J. Conley, P.E.  
Smith Engineering Company  
2201 San Pedro NE  
Albuquerque, NM 87110

**Re: Expressions of Life & Life Spire Living Grading Plan and Drainage Report  
Engineer's Stamp dated 12-12-06 (C13/D16G)**

Dear Mr. Conley,

Based upon the information provided in your submittal dated 12-13-06, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

P.O. Box 1293

Albuquerque

New Mexico 87103

[www.cabq.gov](http://www.cabq.gov)

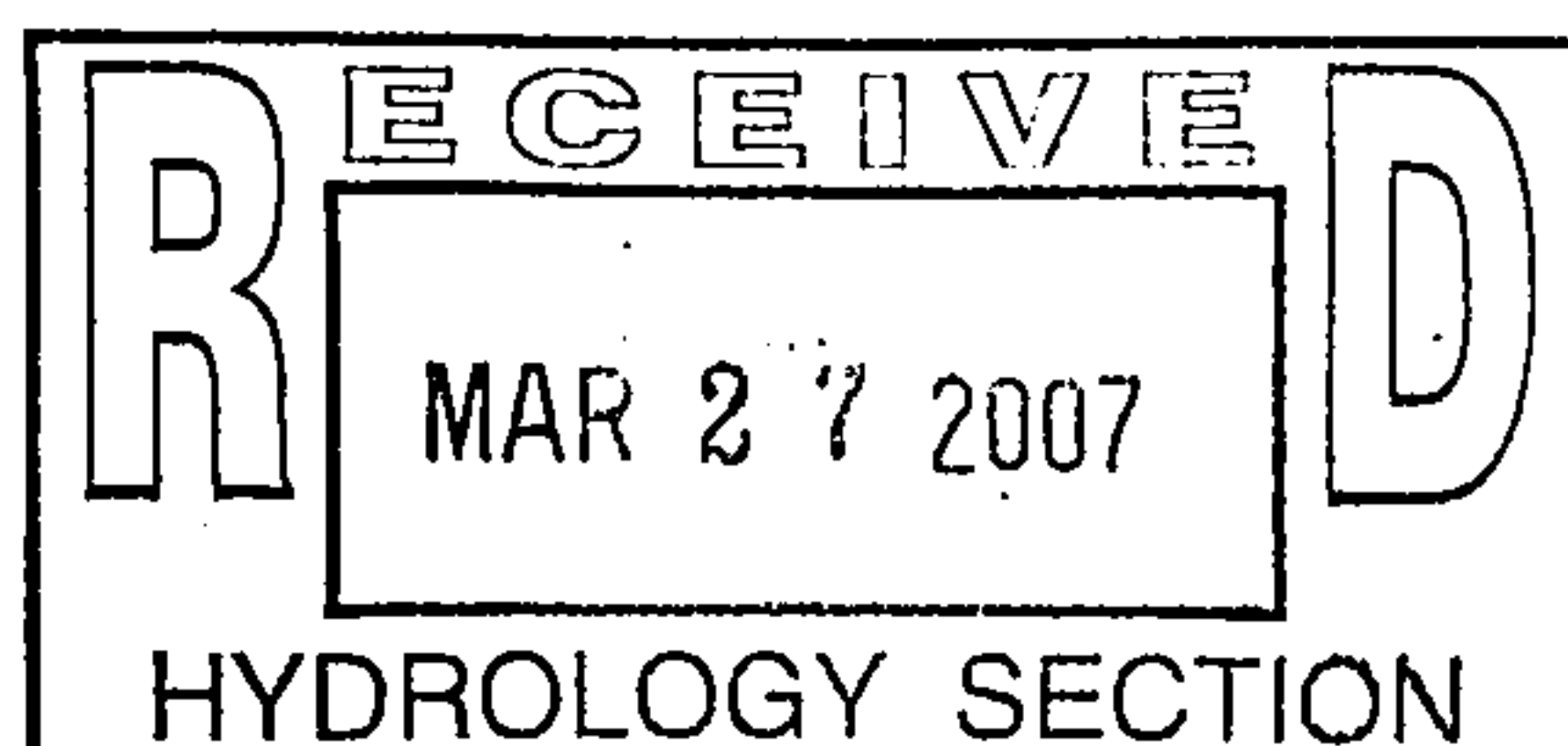
- The area of pipe used to model the runoff from Pond B to High Assets Way is smaller than the area of a sidewalk culvert. A sidewalk culvert is a little deeper than 7 inches. The 8 in pipe size selected was based on a 5 in deep sidewalk culvert. This will allow more water to enter High Assets Way than calculated and perhaps more than allowed.
- Discuss offsite flows.

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

Sincerely,

Curtis A. Cherne, E.I.  
Engineering Associate, Planning Dept.  
Development and Building Services

C: file





# Smith Engineering Company

A Full Service Engineering Company

March 22, 2007

Curtis Cherne, EI  
Engineering Associate, Planning Department  
City of Albuquerque  
Development and Building Services  
Plaza del Sol  
600 2<sup>nd</sup> Street NW  
Albuquerque, NM 87102

**Re: Expressions of Life & Life Spire Living Grading Plan and Drainage Report  
Engineer's Stamp Dated 12/12/06 (C13/D13G)  
SEC# 106635**

Dear Mr. Cherne:

Thank you for your review of the referenced drainage submittal. We are responding to your comments in your letter dated January 11, 2007 (attached).

*Comment: The area of pipe used to model the runoff from Pond B to High Assets Way is smaller than the area of a sidewalk culvert. A sidewalk culvert is a little deeper than 7 inches. The 8-inch pipe size selected was based on a 5-inch deep sidewalk culvert. This will allow more water to enter High Assets Way than calculated and perhaps more than allowed.*

Response: We have re-sized the culvert to be 9-1/2 inches wide rather than the 12 inches as shown on our previous submittal. Also, the existing curb-and-gutter is 6 inches tall rather than the typical 8 inches of a standard curb-and-gutter. Assuming an "n" value of 0.015 for the field formed sidewalk culvert, the flow through the culvert will be 0.42 feet (5 inches) deep for the planned 1.48 cfs discharge from the site. The culvert will be approximately 1 inch less in depth than the 6 inch tall C&G. The reduction of the width to 9 inches will restrict the flow from Pond B to High Assets Way to the maximum allowable discharge of 1.48 cfs as calculated in the AHYMO analysis. We have included the flow calculations for this sidewalk culvert with this letter.

*Comment: Discuss off-site flows.*

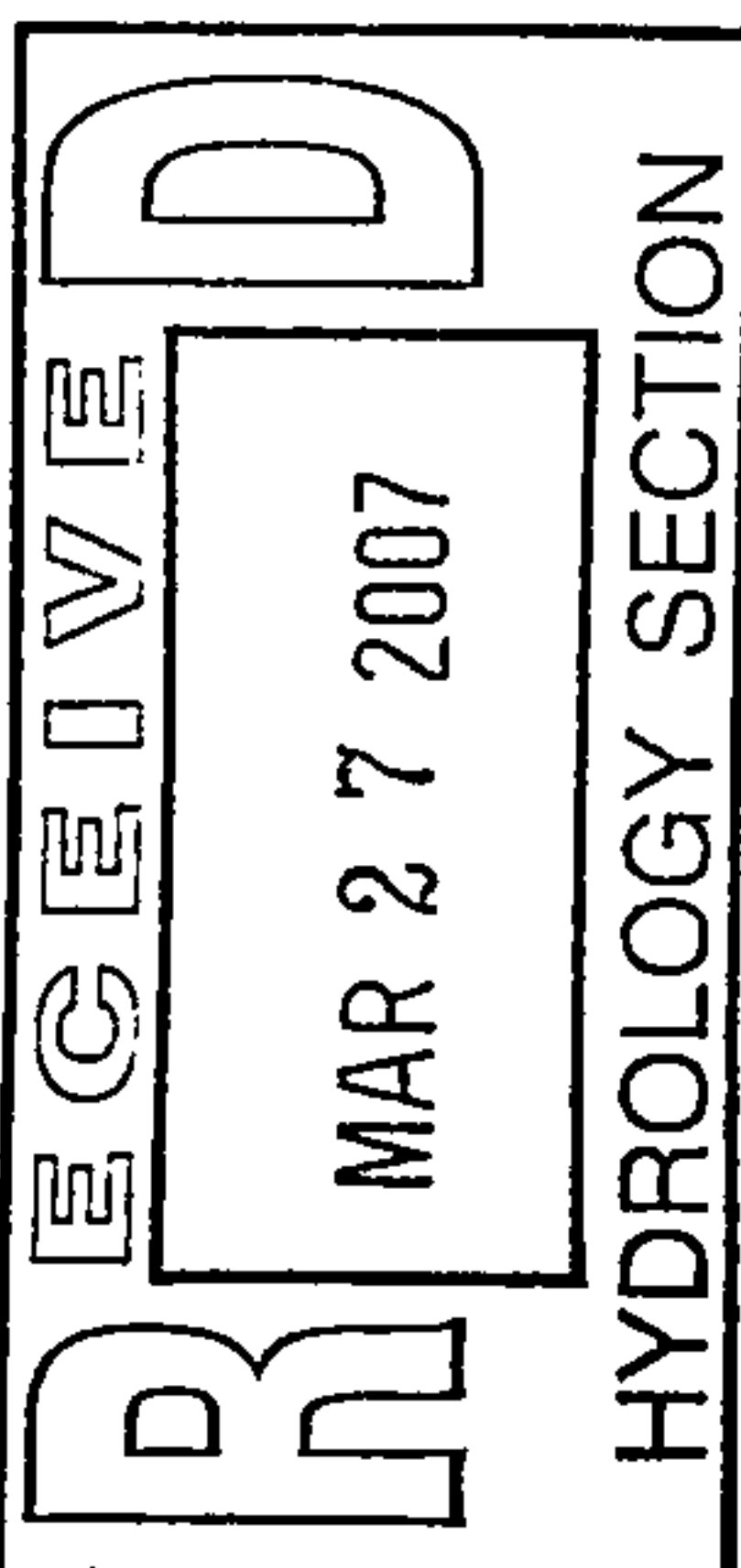
Response: The Expressions of Life site is being raised in grade relative to the existing contours of the site. This results in new retaining walls being constructed on the west, north and east sides of the site. The off-site flows from the tract to the west are contained on that site and control discharge to High Assets Way per the requirements of the master drainage plan of this development. Paseo del Norte is located to the north of the site and the flows for this road are confined within the right-of-way. A small portion of this site along the north side of the site will

2201 San Pedro Drive, NE  
Building 4, Suite 200

Albuquerque, NM 87110  
PatC@secnm.com

Telephone 505/884-0700 Fax 505/884-2376

Rev. 20060824 Z:\Projects\2006 Projects\106635 Expressions of Life & Life Spire Living\Civil\Hydrology\response letter to coa review comments related to hydrology 032207.doc



Curtis Cherne, EI  
Engineering Associate, Planning Department  
City of Albuquerque  
Page 2 of 2  
March 22, 2007

drain north onto Paseo del Norte. This is the historic flow path for this runoff. The tract to the east is currently undeveloped but the topography of that tract falls to the southeast and away from the Expressions of Life site. Therefore, there are no off-site flows that reach or impact the Expressions of Life site and the flows from this development will not impact any adjacent tracts.

We hope this letter answers the questions you had relative to the drainage from this site. If you have any additional questions, please call me at 884-0700.

Sincerely,

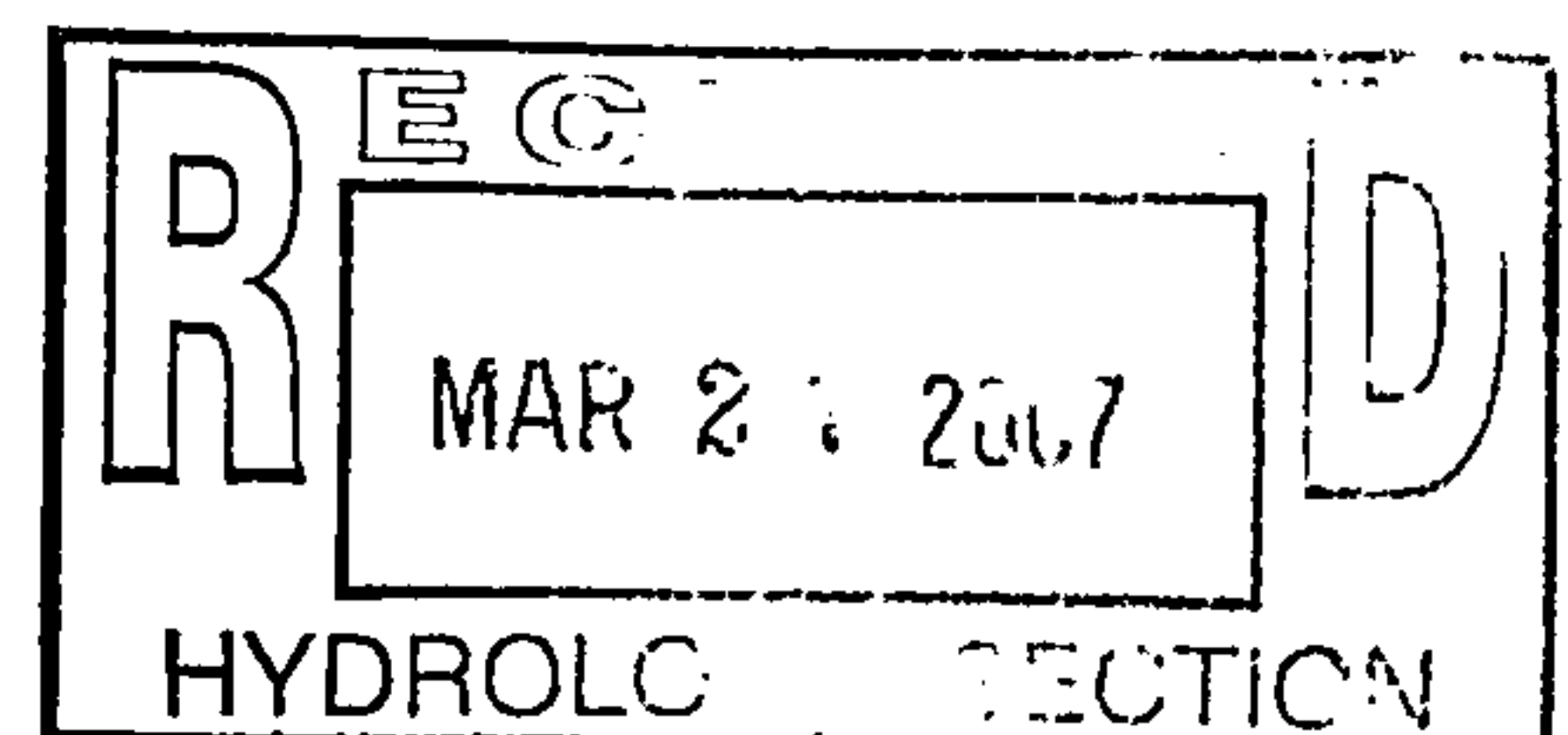
Smith Engineering Company



Patrick J. Conley, PE  
Project Manager

Enclosure

cc: File  
Charlie Otero, AIA





## Worksheet for 9-1/2 inch sidewalk culvert Expressions of Life

### Project Description

Friction Method                      Manning Formula  
Solve For                              Normal Depth

### Input Data

Roughness Coefficient                      0.015  
Channel Slope                              0.01700    ft/ft  
Bottom Width                              0.79    ft  
Discharge                              1.48    ft<sup>3</sup>/s

### Results

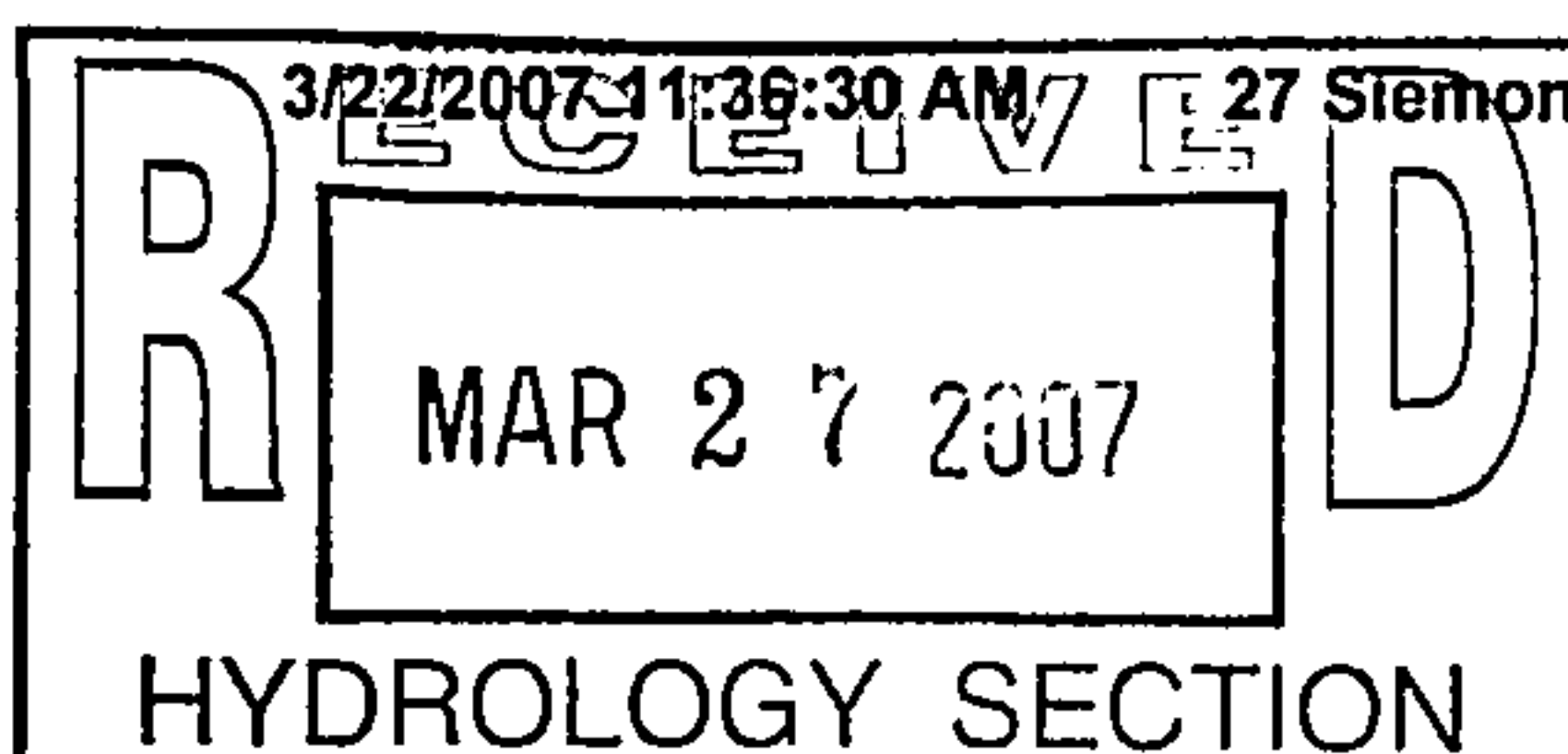
Normal Depth                              0.42    ft  
Flow Area                              0.33    ft<sup>2</sup>  
Wetted Perimeter                              1.63    ft  
Top Width                              0.79    ft  
Critical Depth                              0.48    ft  
Critical Slope                              0.01207    ft/ft  
Velocity                              4.47    ft/s  
Velocity Head                              0.31    ft  
Specific Energy                              0.73    ft  
Froude Number                              1.22  
Flow Type                              Supercritical

### GVF Input Data

Downstream Depth                              0.00    ft  
Length                              0.00    ft  
Number Of Steps                              0

### GVF Output Data

Upstream Depth                              0.00    ft  
Profile Description  
Profile Headloss                              0.00    ft  
Downstream Velocity                              Infinity    ft/s  
Upstream Velocity                              Infinity    ft/s  
Normal Depth                              0.42    ft  
Critical Depth                              0.48    ft  
Channel Slope                              0.01700    ft/ft  
Critical Slope                              0.01207    ft/ft



## DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(Rev. 12/05)

PROJECT TITLE: Expressions of Life & Life Spire Living ZONE MAP/DRG. FILE # C-13 *D16 G*  
 DRB#: 01741 EPC#: \_\_\_\_\_ WORK ORDER#: \_\_\_\_\_ *Phone System*

LEGAL DESCRIPTION: Lot 3-A-2A Albuquerque West – Unit Two Albuquerque  
 CITY ADDRESS: \_\_\_\_\_

ENGINEERING FIRM: Smith Engineering Company  
 ADDRESS: 2201 San Pedro Drive NE  
 CITY, STATE: Albuquerque, NM

CONTACT: Pat Conley *Fri 17:30-11:30*  
 PHONE: 884-0700  
 ZIP CODE: 87110

OWNER: Expressions of Life Inc.  
 ADDRESS: 3805 Atrisco Dr, NW, Suite C  
 CITY, STATE: Albuquerque, NM 87120

CONTACT: Carol Herrera  
 PHONE: 831-6250  
 ZIP CODE: 87120

ARCHITECT: Charlie M. Otero Architect  
 ADDRESS: 8000 Pennsylvania Circle, NE  
 CITY, STATE: Albuquerque, NM

CONTACT: Charlie Otero  
 PHONE: 254-2232  
 ZIP CODE: 87110

SURVEYOR: Smith Engineering Company  
 ADDRESS: 2201 San Pedro Drive NE  
 CITY, STATE: Albuquerque, NM

CONTACT: Loren Risenhoover  
 PHONE: 884-0700  
 ZIP CODE: 87110

CONTRACTOR: N/A  
 ADDRESS: \_\_\_\_\_  
 CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 ZIP CODE: \_\_\_\_\_

## TYPE OF SUBMITTAL:

- ☒ DRAINAGE REPORT  
☐ DRAINAGE PLAN 1<sup>st</sup> SUBMITTAL  
☐ DRAINAGE PLAN RESUBMITTAL  
☐ CONCEPTUAL G & D PLAN  
☒ GRADING PLAN  
☐ EROSION CONTROL PLAN  
☐ ENGINEER'S CERT (HYDROLOGY)  
☐ CLOMR/LOMR  
☐ TRAFFIC CIRCULATION LAYOUT  
☐ ENGINEER/ARCHITECT CERT (TCL)  
☐ ENGINEER/ARCHITECT (DRB SITE PLAN)  
☐ OTHER

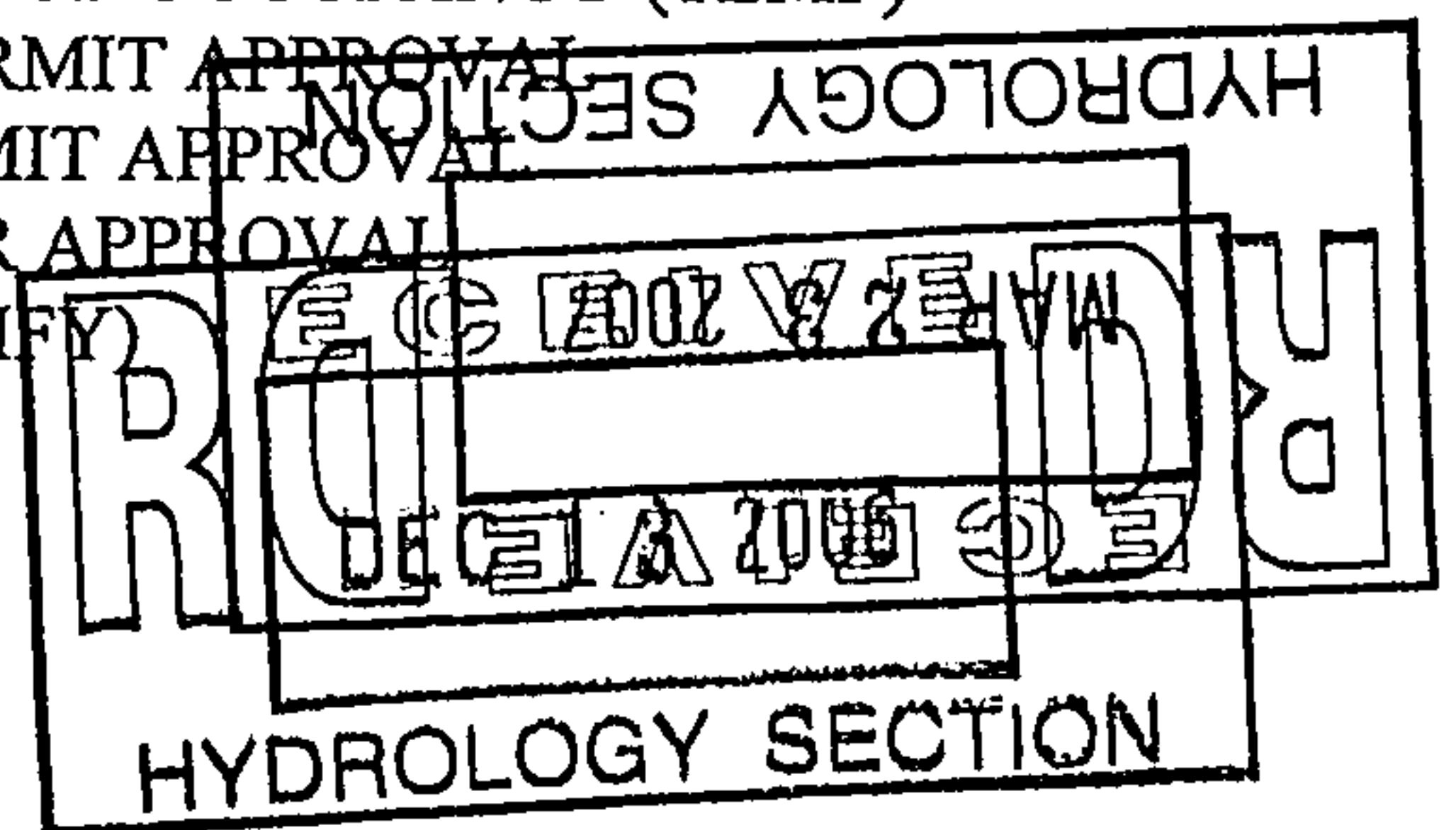
*See paid ✓*

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☒ YES  
☐ NO  
☐ COPY PROVIDED

## CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA/FINANCIAL GUARANTEE RELEASE  
☐ PRELIMINARY PLAT APPROVAL  
☐ S. DEV. PLAN FOR SUB'D APPROVAL  
☐ S. DEV. FOR BLDG. PERMIT APPROVAL  
☐ SECTOR PLAN APPROVAL  
☐ FINAL PLAT APPROVAL  
☐ FOUNDATION PERMIT APPROVAL  
☒ BUILDING PERMIT APPROVAL  
☐ CERTIFICATE OF OCCUPANCY (PERM)  
☐ CERTIFICATE OF OCCUPANCY (TEMP)  
☐ GRADING PERMIT APPROVAL  
☐ PAVING PERMIT APPROVAL  
☐ WORK ORDER APPROVAL  
☐ OTHER (SPECIFY) \_\_\_\_\_



SUBMITTED BY: Jerrie Padilla

DATE: 12-13-06

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

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