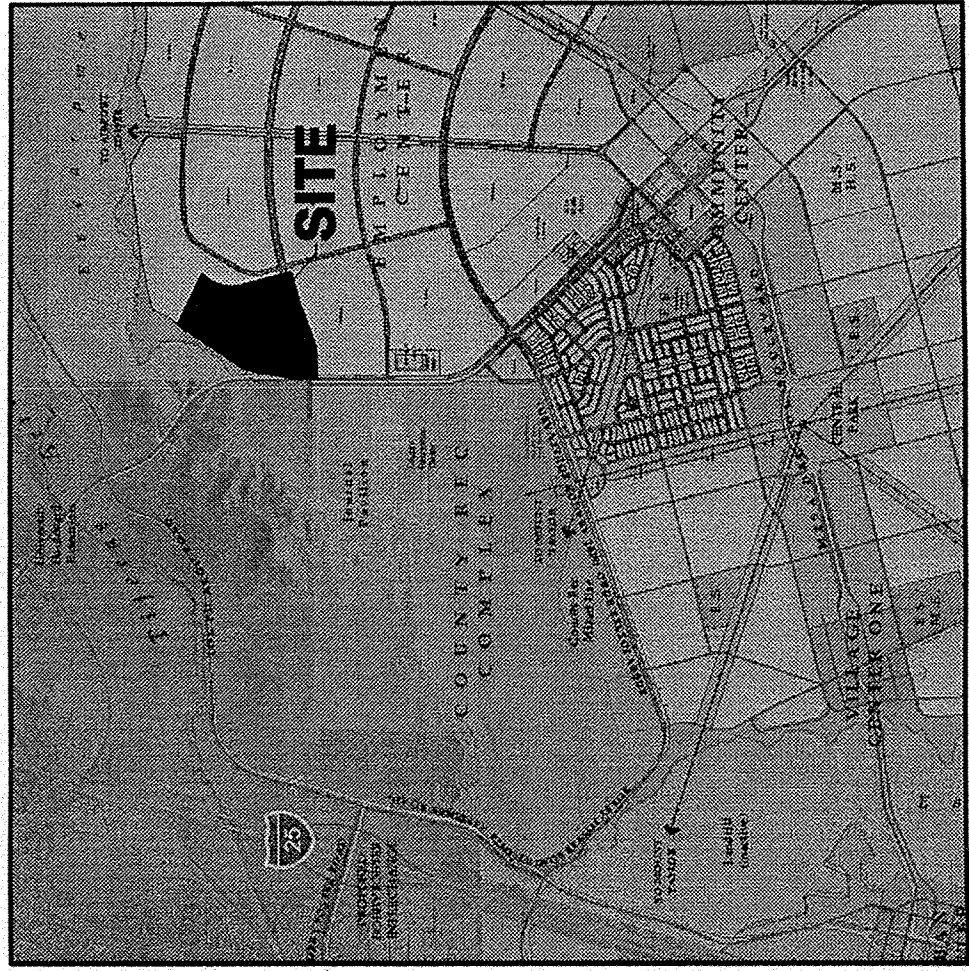
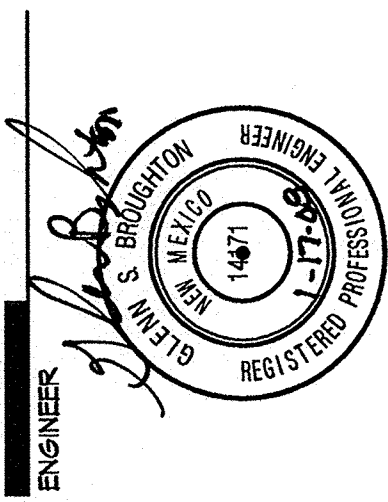




LOCATION MAP  
ZONE ATLAS INDEX MAP R-16



## PROJECT

**Project Pinnacle**  
Mesa del Sol - Innovation Park  
Albuquerque, New Mexico

## Albuquerque, New Mexico

# DRAINAGE MANAGEMENT PLAN

## 1. INTRODUCTION

The purpose of this submittal is to present a grading and drainage plan for the proposed Project Pinnacle building at Mesa del Sol. The site is located northwest of the intersection of Highway 101 and Highway 163, just north of the intersection of Advent Solar. There is vacant land to the north and northeast and a public road to the east and drainage easements to the south. The project will include the main building, parking and landscaped areas. This submittal is in support of the Rough Grading Permit approval.

### III. EXISTING HYDROLOGIC CONDITIONS

iii. **EXISTING HYDROLOGIC CONDITIONS**  
The site is approximately 24.8 acres and is currently undeveloped. The land slopes 0.5% to 1.0% from the west to the east toward an existing series of playas located southeast of the site.

#### IV. PROPOSED HYDROLOGIC CONDITIONS

The drainage analysis of this site follows the guidelines and framework of the Drainage Year Zero Drainage Management Plan in which this site is Basin 0F. The site is a 100.5 acre site located on the south side of the site. The site is a system of storm drains. Multiple basins and drains both overland and through a system of storm drains. Basins 1 and 2 drain to water harvesting areas in their respective basins. The storm drain to the onsite storm drain system. Basin 5 drains to a series of storm drains in the site. Basins 6 and 7 surface flow overland and outfall directly to the regional retention pond along the southern property line. Basin 6 flows along the northeast property before discharging into the regional retention pond. Basin 5 and flowing to the retention pond system with a portion surface flowing into Basin 5 and flowing to the retention pond system. Water harvesting areas will be present on the site in all major median areas but were not included in the hydrologic analysis of the site as to account for all developed areas. Please refer to the Drainage Year Zero Drainage Management Plan for more information. This is 100.5 cfs will allow the allowable 110.5 cfs set forth in the Block drainage Management Plan.

### Offsite Drainage

visate drainage  
Current drainage from the north will be diverted along the northeast property line and continuing along historic paths to the existing series of playas located southeast of the site.

## Floodplain

Map 100-1000  
In accordance with FEMA Community Map Panel #35001C0555 D, the site is not located within a floodplain.

## V. CONCLUSION

Y. CONCLUSION The total flow discharged from the site is approximately 102cfs which is less than the allowable discharge of 111cfs. These flows were computed in accordance with section 22.2 of the Development Process Manual. This drainage management plan is capable of safely passing the 100 year storm and meets city requirements. With this submittal we are seeking rough grading permit approval.

### ○ GRADING KEYED NOTES

1. NEW STORM DRAIN, SEE TABLE FOR SIZES AND SLOPE
2. NEW STORM DRAIN INLET TYPE D
3. NEW STORM DRAIN MANHOLE
4. WATER HARVESTING AREA

ROUGH GRADING (±0.5'):

APPROVED FOR ROUGH GRADING DATE 1/17/08

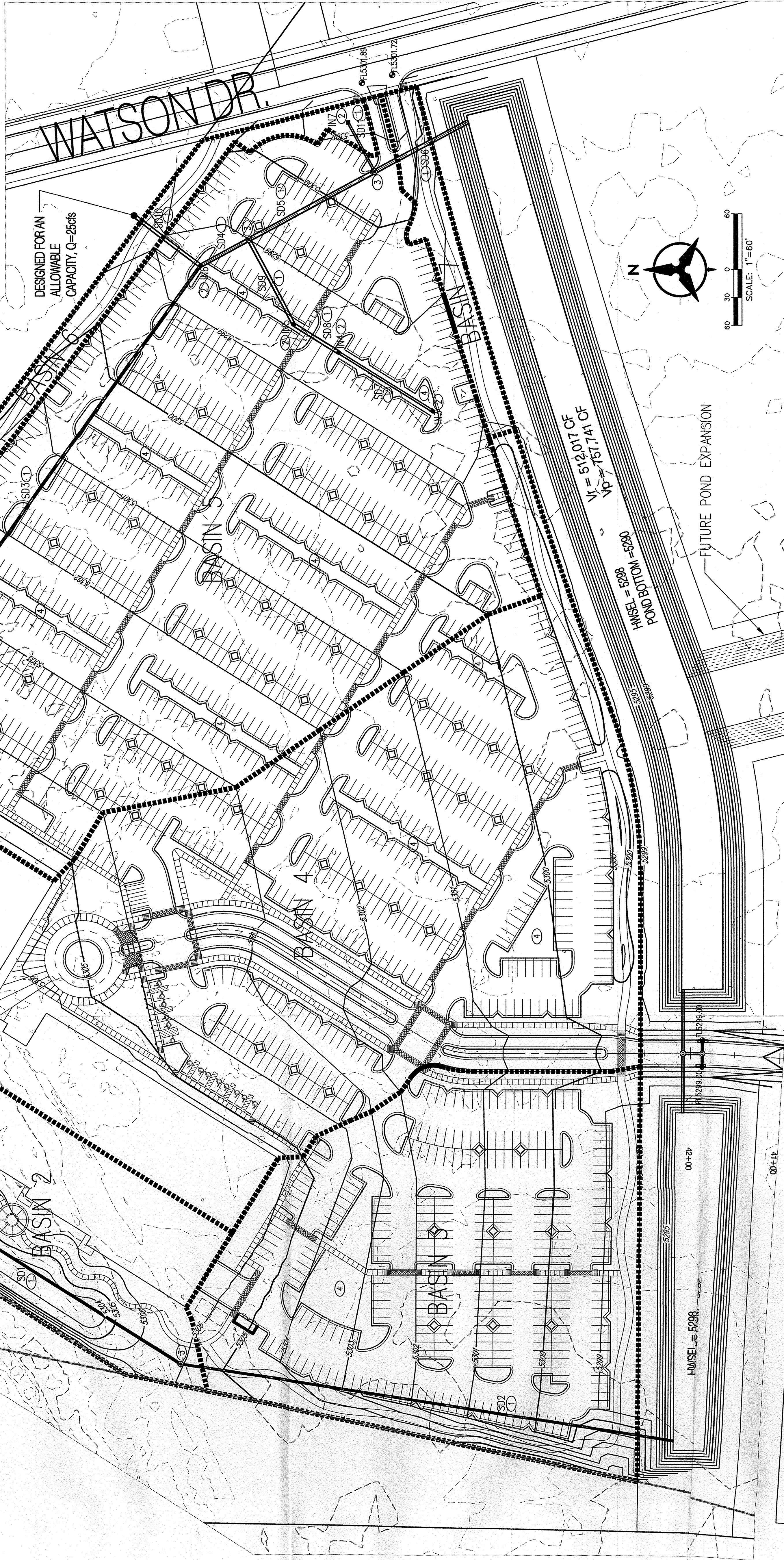
**mesa del cal**

**Bohannon** ▲ **Huston** INC.

Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335  
ENGINEERING & SPATIAL DATA & ADVANCED TECHNOLOGIES

## GRADING NOTES

1. AND IN ACCORDANCE HEREIN, GRADING SHALL BE PERFORMED AT THE ELEVATIONS SHOWN ON THE PLANS.
2. THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE INCIDENTAL TO THE PROJECT COST.
3. ALL WORK RELATIVE TO FOUNDATION CONSTRUCTION, SITE PREPARATION, AND PAVEMENT INSTALLATION, AS SHOWN ON THIS PLAN, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "TECHNOLOGICAL INVESTIGATION" AS PROVIDED BY THE ARCHITECT OR OWNER. ALL OTHER WORK SHALL, UNLESS OTHERWISE STATED OR PROVIDED FOR HEREIN, BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT, (FIRST PRIORITY) SPECIFICATIONS, AND/OR THE CITY OF ALBUQUERQUE (COA) STANDARD SPECIFICATIONS FOR PUBLIC WORKS (SECOND PRIORITY).
4. EARTH SLOPES SHALL NOT EXCEED 3:1 HORIZONTAL TO 1 VERTICAL UNLESS SHOWN OTHERWISE.
5. IT IS THE INTENT OF THESE PLANS THAT THE CONTRACTOR SHALL NOT PERFORM ANY WORK OUTSIDE OF THE PROPERTY BOUNDARIES EXCEPT AS REQUIRED BY THIS PLAN.
6. THE CONTRACTOR IS TO INSURE THAT NO SOIL BODIES FROM THE SITE ONTO ADJACENT PROPERTY OR PUBLIC RIGHT-OF-WAY. THIS SHOULD BE ACHIEVED BY CONSTRUCTING TEMPORARY BERM(S) OR FENCE AT THE PROPERTY LINES AND MEETING THE SOIL TO PROTECT IT FROM WIND EROSION.
7. A DISPOSAL SITE FOR ANY & ALL EXCESS EXCAVATION MATERIAL, AND UNSUITABLE MATERIAL AND/OR A DRAINAGE DRAIN CONTAINING ACCEPTABLE FILL MATERIAL SHALL BE DETERMINED AND APPROVED BY THE DISTRICT ENGINEER. ALL EXCESS MATERIALS AND REGULATIONS SHALL BE REMOVED BY THE CONTRACTOR, WITH COSTS INCURRED IN OBTAINING A DISPOSAL OR BROWSE SITE AND HAIL TO OR FROM SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE.
8. PAVING AND ROADWAY GRADES SHALL BE +/- .01' FROM PLAN ELEVATIONS. PUD ELEVATION SHALL BE +/- .005' FROM BUILDING PLAN ELEVATION.
9. ALL PROPOSED CONTIGUOUS REFLECT TOP OF PAVEMENT ELEVATIONS IN THE PARKING AREA, AND MUST BE ADJUSTED FOR MEDIAN AND ISLANDS.
10. VERIFY ALL ELEVATIONS SHOWN ON PLAN FROM BASS OF ELEVATION CONTROL STATION POINT, TO BEGINNING CONSTRUCTION.



| INLET TABLE |                   |             |             |              |
|-------------|-------------------|-------------|-------------|--------------|
| Inlet #     | Inlet Type        | Actual Flow | Avail Head† | Capacity CFS |
| N1          | 1-SGL COA TYPE D* | 6.62        | 1.00        | 11.07        |
| N2          | 1-SGL COA TYPE D* | 8.12        | 1.00        | 11.07        |
| N3          | 1-SGL COA TYPE D* | 8.70        | 0.80        | 9.91         |
| N4          | 1-SGL COA TYPE D* | 8.70        | 0.80        | 9.91         |
| N5          | 1-SGL COA TYPE D* | 8.70        | 0.80        | 9.91         |
| N6          | 1-SGL COA TYPE D* | 8.70        | 0.80        | 9.91         |
| N7          | 1-SGL COA TYPE D* | 1.33        | 0.50        | 7.83         |

| STORM DRAIN PIPE TABLE |                                      |          |       |              |                 |       |
|------------------------|--------------------------------------|----------|-------|--------------|-----------------|-------|
| PIPE #                 | Contributing Basins and Storm Drains | Size in. | Slope | Capacity cfs | ACTUAL FLOW cfs |       |
|                        |                                      |          |       |              |                 |       |
| PIPES                  |                                      |          |       |              |                 |       |
| SD1                    | B2                                   | 18       | 0.50% | 7.43         | 6.62            |       |
| SD2                    | B2                                   | 18       | 0.50% | 7.43         | 6.62            |       |
| SD3                    | B1                                   | 24       | 0.50% | 16.00        | 8.12            |       |
| SD4                    | B1+(A)B5+OS1                         | 36       | 0.50% | 47.16        | 41.82           |       |
| SD5                    | B1+B4B+OS1                           | 42       | 0.50% | 71.14        | 61.92           |       |
| SD6                    | B1+B5+B6+OS1                         | 42       | 0.50% | 71.14        | 69.25           |       |
| SD7                    | 1(A)B5                               | 24       | 0.50% | 16.00        | 8.70            |       |
| SD8                    | S9                                   | 12(B)B5  | 36    | 0.50%        | 47.16           | 17.40 |
| SD9                    | S9                                   | 3(A)B5   | 36    | 0.50%        | 47.16           | 26.11 |
| SD10                   | OS1                                  | 30       | 0.50% | 29.00        | 25.00           |       |
| SD11                   | B6                                   | 18       | 0.50% | 7.43         | 1.33            |       |

| IES        |        |          |                       |                         |        |
|------------|--------|----------|-----------------------|-------------------------|--------|
| Data Table |        |          |                       |                         |        |
|            |        |          |                       |                         |        |
|            | Q(100) | V(100)   | V(100) <sub>IRR</sub> | V(100) <sub>Proxy</sub> |        |
|            | (CFS)  | (Inches) | (CF)                  | (CF)                    |        |
| 1)         | 8.12   | 1.05     | 11171                 | 11171                   | 14582  |
|            | 6.62   | 1.32     | 9742                  | 9742                    | 14480  |
|            | 17.11  | 1.99     | 27670                 | 27670                   | 47734  |
|            | 32.46  | 1.99     | 52487                 | 52487                   | 90543  |
|            | 34.81  | 1.99     | 56290                 | 56290                   | 97105  |
|            | 1.33   | 0.78     | 1646                  | 1646                    | 1646   |
|            | 0.87   | 1.05     | 1191                  | 1191                    | 1554   |
|            | 101.31 |          | 160197                |                         | 267644 |

| PROJECT PINNACLE BASIN PROPERTY                       |                   |               |      |        |      |       |          |  |  |
|-------------------------------------------------------|-------------------|---------------|------|--------|------|-------|----------|--|--|
| Proposed Ultimate Development Conditions Basin D      |                   |               |      |        |      |       |          |  |  |
| This table is based on the DPM Section 22.2, Zone 1-2 |                   |               |      |        |      |       |          |  |  |
| Basin                                                 | Area<br>(SQ. FT.) | Area<br>(AC.) | A    | B      | C    | D     | Q(100)   |  |  |
| B1                                                    | 127910            | 2.94          | 0.0% | 80.0%  | 0.0% | 20.0% | (cfs/ac. |  |  |
| B2                                                    | 88835             | 2.04          | 0.0% | 80.0%  | 0.0% | 20.0% | 2.76     |  |  |
| B3                                                    | 167193            | 3.84          | 0.0% | 10.0%  | 0.0% | 40.0% | 3.25     |  |  |
| B4                                                    | 317139            | 7.28          | 0.0% | 10.0%  | 0.0% | 90.0% | 4.46     |  |  |
| B5                                                    | 340124            | 7.81          | 0.0% | 10.0%  | 0.0% | 90.0% | 4.46     |  |  |
| B6                                                    | 25317             | 0.58          | 0.0% | 100.0% | 0.0% | 0.0%  | 4.46     |  |  |
| B7                                                    | 13635             | 0.31          | 0.0% | 80.0%  | 0.0% | 20.0% | 2.28     |  |  |
|                                                       | TOTALS            | 24.80         |      |        |      |       | 2.76     |  |  |





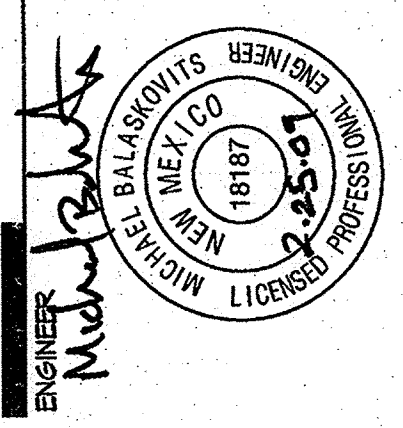






Mesa Del Sol  
DRAINAGE AREA 0 POND  
(FIDELITY POND)  
Albuquerque, New Mexico

Bohannon & Huston  
ENGINEERING & SPATIAL DATA > ADVANCED TECHNOLOGIES  
COURTARD 1 7500 Jefferson St. NE Albuquerque, NM 87109-4335



PROJECT

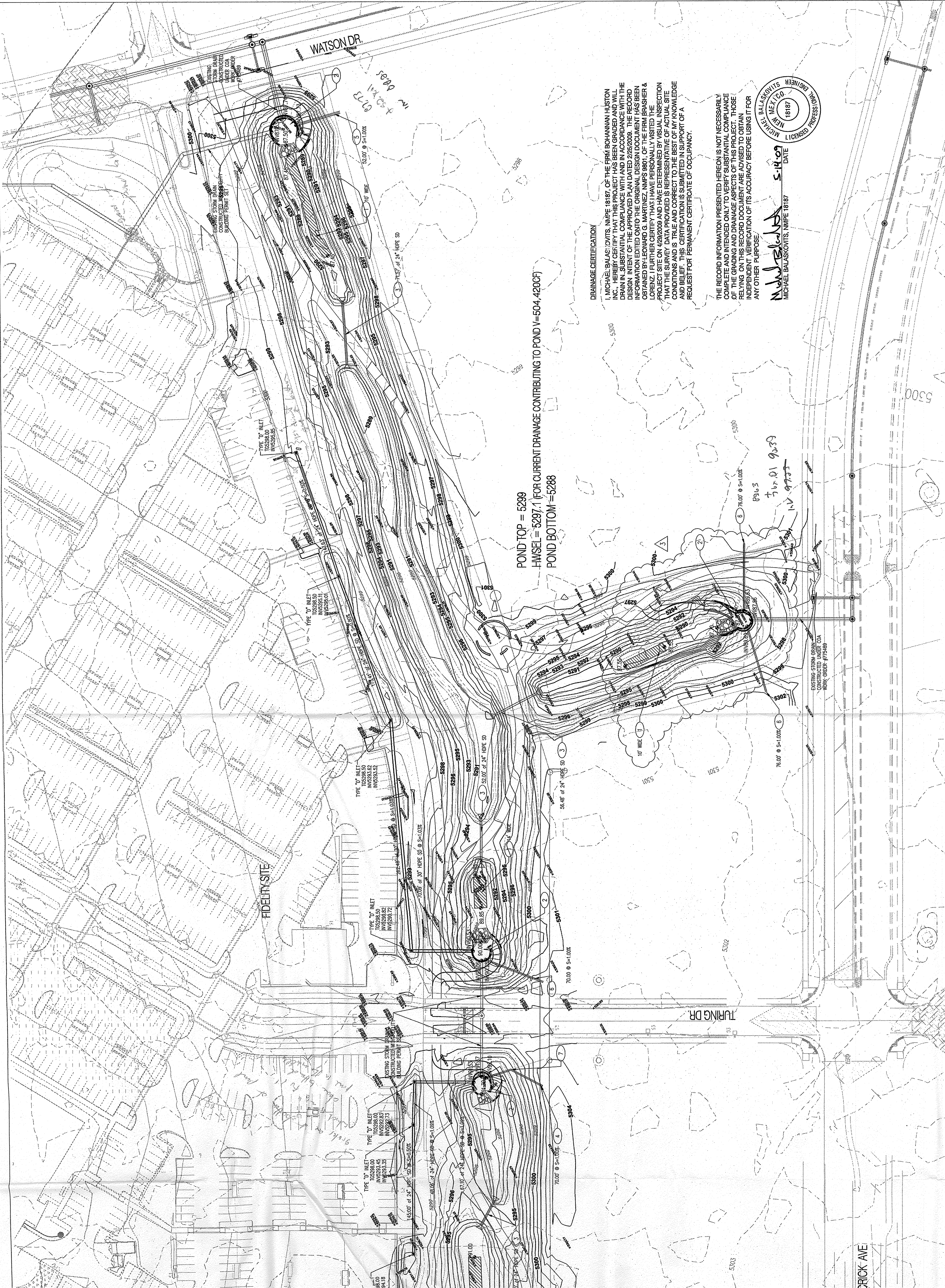
- REVISIONS
- Δ STORM DRAIN REV. 1.12.08
  - Δ INFILTRATION BASIN REV. 1.15.08
  - Δ MINOR GRADING REV. 2.23.08
  - Δ
  - Δ
  - Δ

DRAWN BY  
REVIEWED BY  
DATE 08.23.08  
PROJECT NO. 090563  
DRAWING NAME

Grading and  
Drainage Plan

RECEIVED  
MAY 14 2009  
HYDROLOGY  
SECTION

INFLTRATION BASIN DETAIL



**DRAINAGE CERTIFICATION**  
I, MICHAEL BALASKOVITS, CIVIL ENGINEER, LICENSE NO. 18187, OF THE FIRM BOHANNON & HUSTON, INC., HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADDED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 2/28/2008. THE RECORD INFORMATION EDITED ON THE ORIGINAL DESIGN DOCUMENT HAS BEEN REVIEWED AND FOUND TO BE CORRECT. I HAVE PERSONALLY VISITED THE PROJECT SITE ON 02/28/2008 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 PERMANENT CERTIFICATE OF OCCUPANCY.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN. IT IS THE USER'S RESPONSIBILITY TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

**Michael Balaskovits**  
MICHAEL BALASKOVITS, CIVIL ENGINEER  
NEW MEXICO  
18187  
DATE 5.14.09

- KEYED NOTES**
- 1 INFILTRATION BASIN PER DETAIL THIS SHEET (SEE PLAN FOR SIZE).
  - 2 FORE BAY SEE LANDSCAPE PLANS FOR DETAILS.
  - 3 24" HDPE STORM DRAIN WITH CMP END SECTIONS.
  - 4 24" HDPE STORM DRAIN CAP FOR FUTURE USE.
  - 5 30" HDPE STORM DRAIN FOR FUTURE USE.
  - 6 18" HDPE STORM DRAIN CAP FOR FUTURE USE.
  - 7 INSTALL PERMANENT EXCAVATED FITTING PER MANUFACTURER'S RECOMMENDATIONS.

**NOTE**

PIPE AND FITTING SHALL BE INSTALLED AND SLOPPED PER MANUFACTURER'S SPECIFICATIONS. CONNECTIONS TO CONCRETE MANHOLES AND CONCRETE DROP INLETS SHALL USE WATER STOP GASKETS AND SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

