



# *City of Albuquerque*

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

July 13, 1995

Tamara K. Morgan  
Bohannon-Huston, Inc.  
7500 Jefferson NE  
Albuquerque, NM 87109

RE: ENGINEER CERTIFICATION FOR CACTUS TRAIL (C12-D13)  
CERTIFICATION STATEMENT DATED 6/15/95.

Dear Ms. Morgan:

Based on the information provided on your June 16, 1995  
submittal, Engineer Certification for Financial Guarantee release  
is acceptable.

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

Sincerely,

*Bernie J. Montoya*  
Bernie J. Montoya, CE  
Engineering Associate

BJM/dl

c: Andrew Garcia  
Theresa Lucero  
File



# ***City of Albuquerque***

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 5, 1995

## ***CERTIFICATE OF COMPLETION AND ACCEPTANCE***

Sandia Properties Ltd.  
10 Tramway Loop N.E.  
Albuquerque, NM 87122

**RE: CACTUS TRAILS SUBDIVISION PROJECT NO. 5072.80  
MAP NO. (C-12)**

Dear Sir:

This is to certify that the City of Albuquerque accepts Project No. 5072.80 as being completed according to approved plans and construction specifications. Please be advised this certificate of completion and acceptance shall only become effective upon final plat approval and filing in the office of the Bernalillo County Clerk's Office.

The project is described as follows:

- Built new residential street section from Paradise Boulevard south to Marna Lynn Avenue N.W. New Mexico Utilities inspected the placement of the water and sanitary sewer lines and will assume maintenance.

The contractor's correction period begins the date of this letter and will be effective for a period of one (1) year.

JUN - 9 1995

**DRAINAGE REPORT  
FOR  
RIVERVIEW TRACTS H-1& H-2  
NOW COMPRISING  
CACTUS TRAIL SUBDIVISION**

**AUGUST 1994**

**PREPARED FOR:**

**SANDIA PROPERTIES, LTD., CO.  
#10 TRAMWAY LOOP NE  
ALBUQUERQUE, NM 87122**

**PREPARED BY:**

**BOHANNAN-HUSTON, INC.  
7500 JEFFERSON STREET NE  
COURTYARD 1  
ALBUQUERQUE, NM 87109**

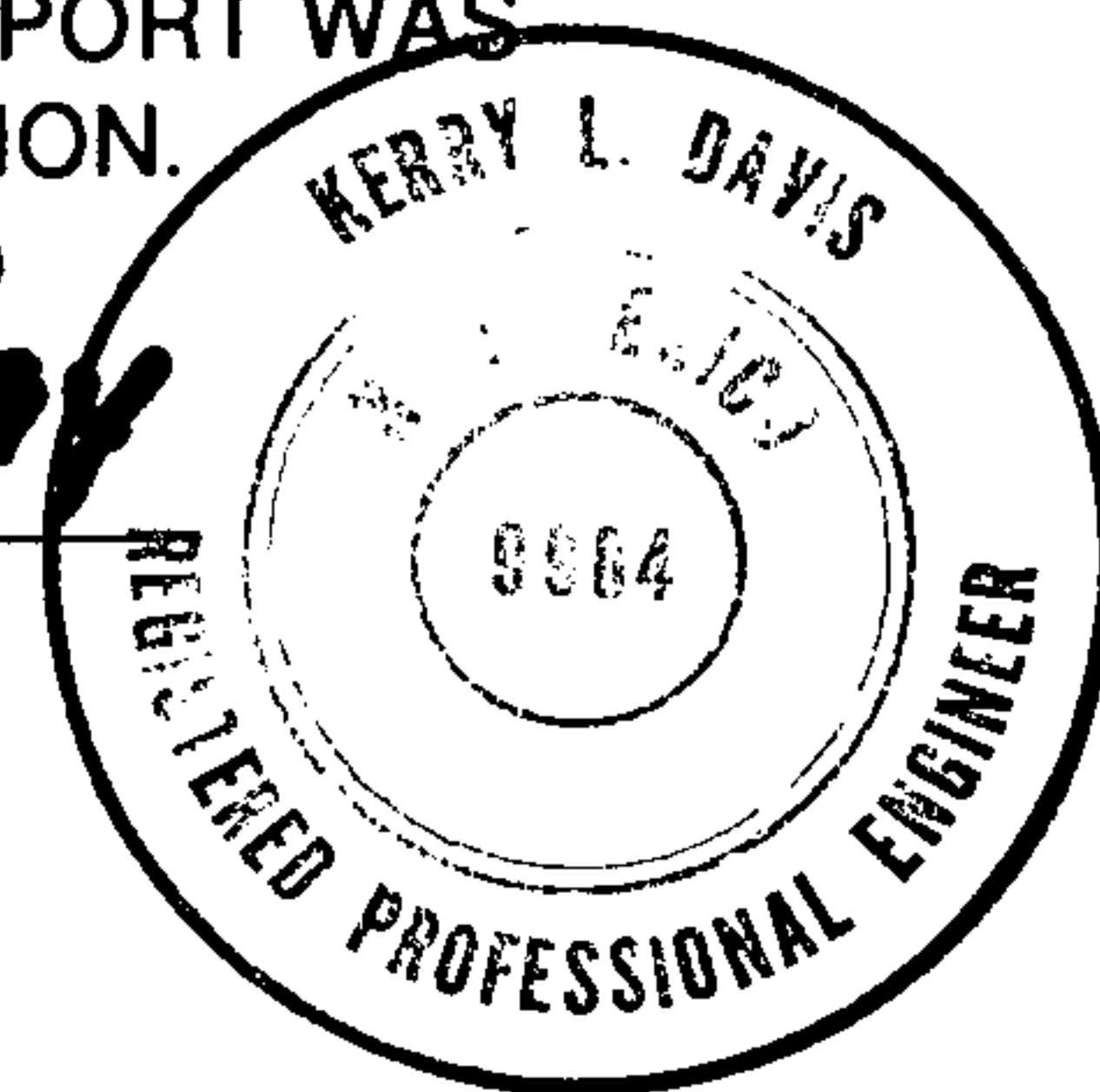
**JOB NO. 94172.02**

I CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER  
IN THE STATE OF NEW MEXICO AND THAT THIS REPORT WAS  
PREPARED BY ME OR UNDER MY SUPERVISION.

  
KERRY L. DAVIS, P.E.

8/10/94  
DATE

NMPE NO. 9984



AUG 10 1994

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## **I. PURPOSE**

The purpose of this report is to present the Drainage Management Plan for preliminary plat and rough grading approval for the development of Cactus Trail Subdivision, which currently is legally described as Riverview Subdivision Tracts H-1 & H-2. The plan has been prepared in accordance with the requirements of the Development Process Manual (DPM) of the City of Albuquerque, including revisions promulgated in January 1993 (DPM Update). The site is proposed to be developed into a single-family, detached residential subdivision with typical lot sizes of 50' wide by 110' deep.

## **II. SITE LOCATION AND EXISTING CONDITIONS**

The subject tracts are located southeast of the intersection of Paradise Boulevard NW, and Golf Course Road NW, ~~within the north branch of the Piedras Marcadas watershed.~~ They lie within the Riverview Sector Development Plan Area of the City of Albuquerque on the west mesa and are zoned R-LT. The site is bounded by Paradise Boulevard on the north, unplatted lands of the Paradise Hills United Methodist Church on the east, the existing right-of-way of Marna Lynn Avenue on the south, and undeveloped property zoned SU-1 for C-2 and IP uses on the west.

Richland Hills Subdivision to the south is a single-family, residential subdivision that is under construction at this time by Sivage Thomas Homes. Paradise Boulevard consists of two lanes of temporary paving within the existing 106' right-of-way. Marna Lynn Avenue is an existing street with varying widths of existing residential paving located within its 60' right-of-way.

~~The site generally slopes down from north to south and discharges into Marna Lynn Avenue on the south via sheet flow. Marna Lynn Avenue connects to existing pavement east of the site that was constructed as part of the Petroglyph Elementary School. Marna Lynn Avenue drains east to Education Place, which conveys runoff south into the Richland Hills Subdivision. The Piedras Marcadas north branch storm~~



sewer which provides an outfall from the Richland Hills Subdivision was designed to include flows from the Cactus Trail Subdivision. No off-site flows enter the site from any side.

As shown by Panel 3500020008, of the National Flood Insurance Program (NFIP) Flood Boundary and Floodway Maps for the City of Albuquerque, dated September 15, 1983, none of the property is within a designated Flood Hazard Zone

### **III. PROPOSED DEVELOPMENT**

The proposed development consists of a single-family, detached residential subdivision with an overall density of about 5.4 dwelling units/acre. Proposed lot sizes are typically 50' wide by 110' deep. Proposed street configurations are shown on the preliminary plat (Plate 1), and on the preliminary grading plan (Plate 2). The project is proposed to be constructed in a single phase.

### **IV. HYDROLOGIC AND HYDRAULIC ANALYSIS**

The hydrologic calculations which appear herein analyze the developed discharge for the 100-year, 6-hour rainfall event, as identified within the recent revision to Chapter 22.2 of the Development Process Manual (DPM Update). Peak discharges of runoff have been calculated using the rational method, as presented within the DPM Update (version 1/93).

The hydraulic calculations which appear herein were computed as follows: street capacities were computed using Manning's equation with Manning's N values as identified within the latest edition of the DPM. The capacities of streets were computed with the maximum water elevation at top of curb and maximum energy to be contained within the right-of-way. All calculations have been made in accordance with DPM procedures.

## **V. DRAINAGE MANAGEMENT PLAN**

Under developed conditions, the site will be graded to deliver runoff from developed lots, directly to the internal street sections. Internal streets will convey developed runoff to the south where it will be conveyed through existing street sections to downstream storm sewer facilities within the Richland Hills Subdivision. ~~These storm drain facilities were designed in order to convey developed flows from the Cactus Trail Subdivision, as shown on the excerpts from the Richland Hills Subdivision Drainage Report.~~

Cactus Trail Subdivision will be graded as a single earthwork contract. During the time between completion of the subdivision grading and construction of homes on individual lots, erosion control will be handled by the following measures: 1) erosion control berms will be provided to protect individual lots; 2) temporary desiltation ponds will be used where excess runoff can be conveyed to existing downstream streets; 3) hay bales and erosion control berms will be used to control flows in graded street sections; and 4) perimeter walls and snow fencing will be used to control dust blowing from the site. Details for installation of these measures are identified on the grading plan, Plate 2

The drainage and grading plan shows: 1) existing grades indicated by spot elevations and contours at 1' 0" intervals; 2) proposed grades indicated by spot elevations and slopes; 3) the limit and character of existing improvements; 4) the limit and character of proposed improvements; and 5) continuity between existing and proposed grades. As shown by this plan, the proposed improvements consist of a 39 lot, detached residential subdivision complete with paving and utility improvements.

## **VII. CONCLUSIONS**

Based upon the findings of this analysis, the proposed improvements are adequate to convey runoff generated by the design storm from the site through existing downstream street sections to the north branch Piedras Marcadas Arroyo storm sewer

to the Piedras Marcadas Dam without damage to private property, in addition to providing protection from flooding that could occur as a result of sediment or erosional deposition downstream of the site. Grading of the site, as shown on Plate 2, is anticipated to allow implementation of the drainage management plan identified in this analysis.



### HYDROLOGIC COMPUTATIONS

| BASIN DESCRIPTION  | AREA |        | % LAND TREATMENT |    |    |    | Tp<br>(HOURS) | DISCHARGE<br>CFS/ACRE | Q<br><del>(CFS)</del> |
|--------------------|------|--------|------------------|----|----|----|---------------|-----------------------|-----------------------|
|                    | AC   | SQ.MI. | A                | B  | C  | D  |               |                       |                       |
| CACTUS TRAIL SUBD. | 7.27 | 0.0114 | 0                | 30 | 10 | 60 | 0.1333        | 3.52                  | <del>25</del>         |

**NOTES AND ASSUMPTIONS:**

1. PROJECT IS WITHIN HYDROLOGIC ZONE 1
2. PEAK DISCHARGE IS WITHIN 10% OF DISCHARGE UTILIZED FOR DESIGN OF DOWNSTREAM STREET AND STORM SEWER FACILITIES (RICHLAND HILLS DRAINAGE REPORT).
3. ASSUME PERVIOUS AREAS ARE 75% GRASS OR TURF, 25% DESERT LANDSCAPING.

$$\text{DISCHARGE} = (0.0)(1.29) + (0.3)(2.03) + (0.1)(2.87) + (0.6)(4.37) = 3.52 \text{ CFS/AC}$$