

DRAINAGE REPORT

For

**Noah's Event Center at Fountain Hills**  
**Albuquerque, New Mexico**

Prepared by

Rio Grande Engineering  
PO Box 93924  
Albuquerque, New Mexico 87199

September 2014



David Soule P.E. No. 14522

**TABLE OF CONTENTS**

Purpose ..... 3

Introduction..... 3

Existing Conditions..... 3

Exhibit A-Vicinity Map ..... 4

Proposed Conditions ..... 5

Summary ..... 5

**Appendix**

Site Hydrology/Hydraulic Calculations ..... A

Excerpts from Fountain Hills Master Drainage Plan..... B

**Map**

Site Grading and Drainage Plan

## **PURPOSE**

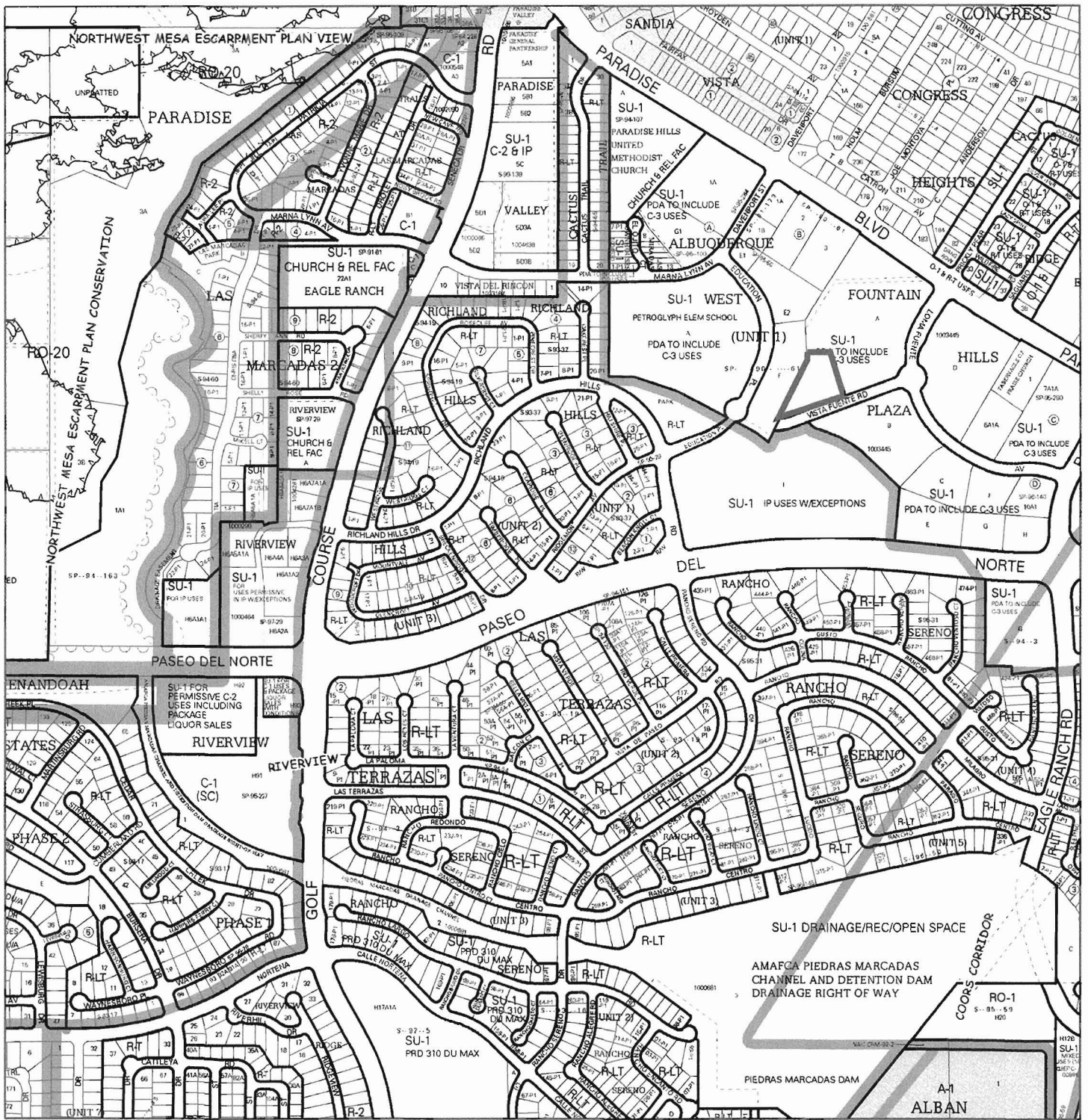
The purpose of this report is to provide the Drainage Management Plan for the development of a 2 acre lot located on Vista Fuentes Road between Education Place and Loma Fuentes Drive NW. This plan was prepared in accordance with the City of Albuquerque design regulations, utilizing the City of Albuquerque's Development Process Manual drainage guidelines. This report will demonstrate that the lot development and grading does not adversely affect the surrounding properties, nor the upstream or downstream facilities.

## **INTRODUCTION**

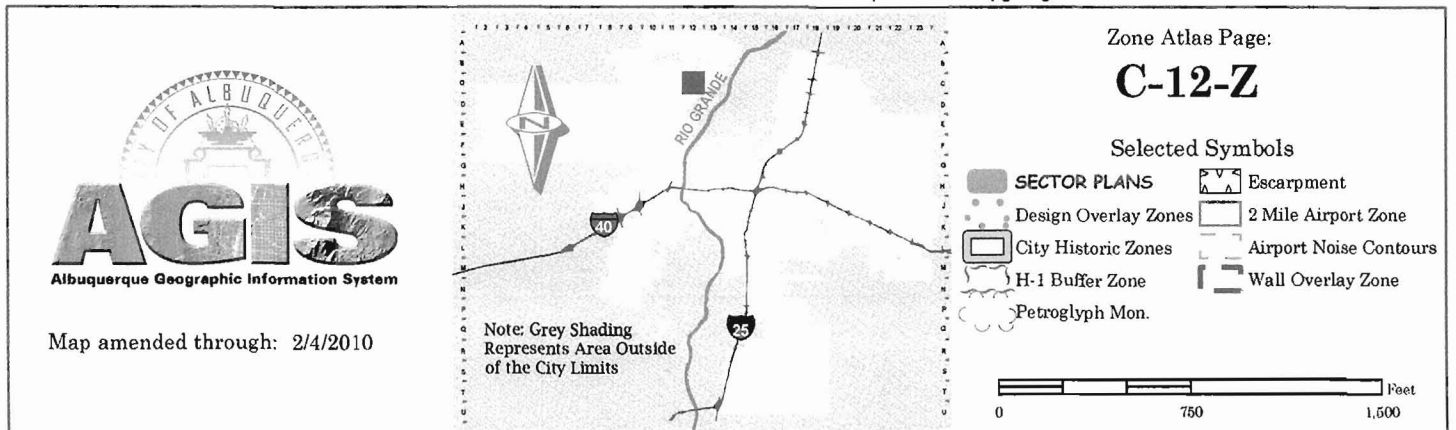
The subject of this report, as shown on the Exhibit A, is a 1.99-acre parcel of land located on the north side of Vista Fuentes Road between Education Place and Loma Fuentes Drive NW. The legal description of this site is Lot 1-A Fountain Hills Plaza. As shown on FIRM map3501C0116G, the entire site is located within Flood Zone X. The site is part of the Fountain Hills plaza master drainage plan. As part of this development Vista Fuentes Road will be constructed from Education place to Loma Fuentes Road

## **EXISTING CONDITIONS**

The site appears to be in a native condition. Due to a large channelization and storm drain on the adjacent upstream lot, the site is not impacted by any upland flows. The site generally slopes from the northwest to the north east with average 6% grade. Currently discharges all of its flow to the south east.



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



## **PROPOSED CONDITIONS**

The proposed improvements consist of a new 9000 square foot building and associated parking field. The scope of this project includes the construction of the Vista Fuentes roadway. The lot has been designed to retain on site 2982 cubic feet of water. The water quality volume based upon .34 Inches is 2466 cubic feet. As shown on the drainage hydraulic calculation sheet, each contributing basin generated enough flow to fill the shallow ponds. The site is part of basin B-1A of the fountain hills master drainage plan. This basin assumes a peak discharge rate of 4.18 cfs per acres. The developed conditions for this site will produce 7.52 cfs or 3.78 cfs per acre. The flow leaving the site will flow down vista Fuentes road and be captured by new inlets located at the round about intersection with Loma Fuentes. As shown on the street capacity spread sheet the combined onsite and roadway flows of 8.29 cfs will flow at a depth of .38' and will remain on the north half of the road. The inlets consist of a double A inlet on the north and a single A on the south. As shown each grate has a capacity of 8 cfs so the inlets on the north side can handle the flow. Once the flow enters the existing storm drain it is conveyed to a regional detention pond for the fountain hills development.

## **SUMMARY AND RECOMMENDATIONS**

This project is a development of a commercial lot within the fountain hills plaza master plan. The development is allowed to discharge 8.32 cfs. Our discharge rate of 7.52 is less than allowed. Our site is graded such that the required water quality holding capacity of 2466 is exceeded. The site has been designed such that most paved areas drain thru these water quality ponds. The offsite roadway is being constructed with this development and has the capacity to convey all the flows generated by the development. The site has been designed in accordance with City of Albuquerque Drainage ordinance. This drainage plan and report conforms to the governing drainage regulations of the City. Since the effected area site encompasses more than 1 acre, a NPDES permit will be required prior to any construction activity.

**APPENDIX A**  
**SITE HYDROLOGY**