



March 23, 1998

Dennis A. Lorenz, P.E.  
Brasher & Lorenz, Inc.  
2201 San Pedro NE  
Building 1, Suite 210  
Albuquerque, New Mexico 87110

**RE: Drainage Report and Grading and Drainage Plan for Avalon Subdivision (K9/D12)  
Submitted for Preliminary Plat Approval, Engineer's Stamp Dated 3/16/98.**

Dear Mr. Lorenz:

Based on the information provided to my office on March 17, 1998, the above referenced plan is approved for Preliminary Plat action.

The above referenced plan is also approved for rough grading, however, no grading will be allowed within the existing FEMA floodplain located on Phase 2 unless construction of the Mobile Home Park pond has begun. If construction of the Mobile Home Park pond has not begun by the time Phase 2 is to be developed, then Phase 2 will be responsible for ponding the runoff from the floodplain. As you are aware, a topsoil disturbance permit is required prior to any grading on the site.

The Grading and Drainage Certification will be required prior to release of financial guarantees for each Phase.

If you have any questions, or if I may be of further assistance to you, please call me at 924-3982.

Sincerely,

Susan M. Calongne, P.E.  
City/County Floodplain Administrator

c: Bo Johnson, Curb Inc.  
DRB-98-50  
File

Good for You, Albuquerque!



## DRAINAGE INFORMATION SHEET

PROJECT TITLE: AVALON SUBDIVISION ZONE ATLAS/DRNG. FILE #: K-9  
DRB #: \_\_\_\_\_ EPC #: \_\_\_\_\_ WORK ORDER #: \_\_\_\_\_  
LEGAL DESCRIPTION: 90TH ST. NW  
CITY ADDRESS: LOTS B5-B7, B39-B43, UNITS, TOWN OF ATRISCO GRANT  
ENGINEERING FIRM: Brasher & Lorenz, Inc. CONTACT: Dennis A. Lorenz  
2201 San Pedro NE Bldg.1 Suite 210  
ADDRESS: Albuquerque, New Mexico 87110 PHONE: 888-6088  
OWNER: CURB INC CONTACT: C. HAEGELIN  
ADDRESS: 6301 INDIAN SCHOOL NE PHONE: 881-9190  
ARCHITECT: NA CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
SURVEYOR: ALBR SURVEYING CONTACT: V. JIRIK  
ADDRESS: 2119 MENAUL NE PHONE: 884-2036  
CONTRACTOR: NA CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

## TYPE OF SUBMITTAL:

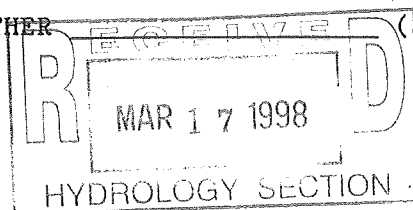
☒ DRAINAGE REPORT  
☐ DRAINAGE PLAN  
☐ CONCEPTUAL GRADING & DRAINAGE PLAN  
☐ GRADING PLAN  
☐ EROSION CONTROL PLAN  
☐ ENGINEER'S CERTIFICATION  
☐ OTHER \_\_\_\_\_

## PRE-DESIGN MEETING:

☒ YES  
☐ NO  
☐ COPY PROVIDED

## CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL  
☒ PRELIMINARY PLAT APPROVAL  
☐ S. DEV. PLAN FOR SUB'D. APPROVAL  
☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL  
☐ SECTOR PLAN APPROVAL  
☐ FINAL PLAT APPROVAL  
☐ FOUNDATION PERMIT APPROVAL  
☐ BUILDING PERMIT APPROVAL  
☐ CERTIFICATE OF OCCUPANCY APPROVAL  
☐ GRADING PERMIT APPROVAL  
☐ PAVING PERMIT APPROVAL  
☐ S.A.D. DRAINAGE REPORT  
☐ DRAINAGE REQUIREMENTS  
☐ OTHER \_\_\_\_\_ (SPECIFY)

DATE SUBMITTED: 3-17-98BY: Dennis A. Lorenz

# **DRAINAGE MASTERPLAN**

**FOR**

## **AVALON SUBDIVISION**

Albuquerque, New Mexico

Prepared For:

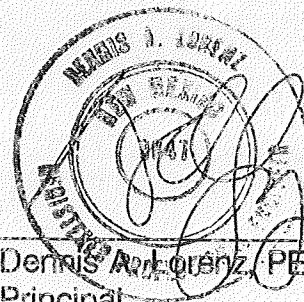
**CURB, INC.**

6301 Indian School NE, Suite 680  
Albuquerque, New Mexico 87110

Prepared By:

**BRASHER & LORENZ, INC.**  
**Consulting Engineers**

2201 San Pedro NE, Building No. 1, Suite 210  
Albuquerque, New Mexico 87110



Dennis A. Lorenz, PE  
Principal

February 1998

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## PURPOSE AND SCOPE

Pursuant to the established Drainage Ordinance for the City of Albuquerque and the Development Process Manual, this Drainage Report outlines the drainage management criteria for controlling developed runoff from the project site. The property is to be developed as Avalon Subdivision, a single family residential subdivision. Paving, landscaping, utility, grading, and drainage improvements will be provided to support the project. The scope of this plan is to provide drainage criteria for the safe management of excess runoff, and illustrate the grading, paving and drainage improvements required to support the project.

## SITE DESCRIPTION

The project site is approximately 49.7 acres in size and is located between Bluewater Road and Avalon Road, and between 94th Street and the Unser Diversion System (See Figure 1). Presently the site is undeveloped. The site is vegetated with native grasses and shrubs. Site terrain slopes west to east at approximately 2 percent. The site is presently described as Tracts B5, B6, B7, and B39 through B43, Unit 5, town of Atrisco Grant. The site is bounded on the east by the Unser Diversion, on the south by Avalon Road, on the west by 94th Street, and on the north by Bluewater Road.

On-site soils consist mainly of Bluepoint (BCC) and Pajarito (PAC) soils (See Figure 2). These soils are found on gently sloping areas of the west mesa. Slopes range from 1 to 9 percent. Runoff is typically slow, and the hazard of wind erosion severe. Bluepoint is classified as Hydrologic soil group "A" and Pajarito in group "B".

As shown by the attached FIRM Panel, this site is impacted by a designated flood hazard zone which flows through the western portion of the site (see Figure 3). The floodplain watershed originates north of Interstate 40 and drains southeasterly.

## EXISTING DRAINAGE MASTERPLANS

The drainage criteria for this site is established by the following Drainage Masterplans:

1. **Master Drainage Plan for the Atrisco Business Park**, prepared by Easterling & Associates, Inc, October 22, 1993. This DMP was prepared to support development of IP zoned property located south of I-40, north of Central Ave, west of Unser Boulevard and east of the subject project site. The DMP recommended construction of the Unser Diversion, which removed the study area from the 100 year floodplain. The Unser Diversion is located along the east boundary of Avalon Subdivision.
2. **Amole del Norte Storm Diversion Facilities- Phase III**, prepared by Griener, Inc. This study analyzed the floodplain areas Tierra Bayita Watershed. The study resulted in the construction of the storm drain and channel extensions from the



North/South Coors ponding areas. Phase III is programmed to extend a 66 inch storm drain up 90th Street to Avalon Subdivision and adjoining properties.

3. **Drainage Report for West Ridge Mobile Home Park**, prepared by Tierra West, LLC, January 1998. This report was prepared to support the development of a mobile home park. The MHP is effected by off-site drainage basins originating north of I-40, including a floodplain. The report recommends construction of storm drains and an interim retention pond near the intersection of Bluewater and 94th Street to remove downstream properties from the floodplain encumbrance.

## EXISTING DRAINAGE CONDITIONS

The undeveloped site is impacted by 2 watersheds:

1. Basin 200 which is located north of the site and south of I-40, drains easterly to the Unser Diversion. Basin 200 and the contributing on-site runoff drain to the Unser Diversion which has adequate capacity for historic runoff.
2. Basin 300 which originates north of I-40 and west of 98th Street, and flows through the property. Basin 300 results in a floodplain on the property. The West Ridge Mobile Home Park proposes an interim retention pond to remove the floodplain from the property.

## PROPOSED CONDITIONS

As shown by the Plan, the project consists of the development of the property into a single family residential subdivision, with associated paving, utility landscaping and drainage improvements. The Plan shows the elevations required to properly grade and construct the recommended improvements. The direction of drainage flows are given by flow arrows and on-site drainage basins are identified. All drainage improvements recommended by the Plan are detailed on Grading and Drainage Plan located in the back pocket of this report.

As stated in the previous section, the site is impacted by 2 off-site watersheds. The project is also, by virtue of geometry, divided into 2 phases, the acreage west of 90th Street, and the acreage east of 90th Street. The western portion of the project is programmed to drain to the Amole Del Norte storm drain which will be extended up 90th street to Bluewater. Construction is not yet scheduled, but is expected by 1999. The western phase proposes the construction of large diameter storm drains in Bluewater and 90th Street to drain developed flows from off-site Basins 200.0, 300.0 and 300.2, with connections to on-site storm drains. A storm drain will also be constructed from a proposed detention pond located within the West Ridge MHP (Basin 300.1) along the west project interface, to an on-site detention pond located near 90th Street. Due to downstream limitation in the Amole system, discharge from the watershed is limited to 2.05 cfs per acre, which translates into an allowable discharge from the west phase of

49.4 cfs. This limitation results in a future on-site detention pond with a storage capacity of approximately 1.3 acre feet.

The eastern phase and off-site Basin 400.0 are programmed to drain east to the Unser Diversion. The Unser Diversion was designed to remove the floodplains from downstream properties, however, capacity apparently does not exist to allow free discharge from the upstream watershed. Per the DMP the east phase is allowed to discharge 35.8 cfs into the Unser Diversion. This results in a ponding requirement of approximately 1.26 acre feet. The entire east phase will drain into the detention pond via an internal storm drain. The detention pond will drain at a controlled rate into the Unser Diversion.

Off-site Basin 200 will also be intercepted by Bluewater Road. Bluewater street improvements will convey the undeveloped surface runoff to the Unser Diversion. Future developed flows will be routed direct to the Unser Diversion.

## PROJECT PHASING

### PHASE ONE

Phase One consists of the acreage located east of 90th Street. The Phase One Plan (see sheets 1 and 2 in pocket) outlines the improvements recommended to manage excess runoff from the project site. In accordance with the DMP for Atrisco Business Park, Phase One will rout all flows through a permanent detention pond located at the southeast corner of the site. The pond will discharge at a controlled rate of 38.5 cfs into the Unser Diversion. Perimeter street improvements will consist of the construction of the south one-half of Bluewater Road and the full width section of 90th Street. A 54 inch storm drain will be constructed in 90th Street from Bluewater, south to the Avalon Corridor, for future connection to the Amole System. A single drop inlet with a connection to the Unser Diversion is required at the east end of Bluewater to collect street flow from the south one-half of Bluewater.

Off-site improvements consist of the construction of an interim trainer along the north side of Bluewater to direct existing flows east to the Unser Diversion, and the construction of interim trainer dikes and an interim retention pond on Phase Two to retain runoff from undeveloped Phase Two acreage. The Phase Two pond will also provide an outfall for the 54 inch storm drain to be constructed in 90th Street, pending construction of the Amole System.

### PHASE TWO

Phase Two consists of the construction of the acreage located between 90th and 94 Streets. The Phase Two Plan (see sheet 3 in pocket) outlines the improvements recommended to manage excess runoff from the project site. In accordance with the DMP for the Amole del Norte Diversion Facilities Phase II and the DMP for West Ridge MHP, Phase Two is limited to a discharge rate of 2.05 cfs/acre, or 49.4 cfs. Phase Two

*off site  
easements*



will rout all flows through a permanent detention pond located at the proposed park site, which will drain to the future Amole System. If the Amole System is not available at the time of development of Phase Two, an interim retention pond will be construction, sized to retain the 100 year, 10 day volume generated by the subdivision.

Phase Two will rely on the retention pond proposed by West Ridge MHP to remove the existing floodplain, and the interim trainer dike constructed along Bluewater by Phase One. Bluewater Road will be constructed (one-half width) from 90th Street to 94th Street. A future 42 inch storm drain is proposed in Bluewater, to be constructed when off-site Basins 200.0 and 300.2 develop. With the construction of Bluewater drop inlets will be constructed along the south side of the street at 90th Street to collect street flows.

In anticipation of development of Basin 300.1, which is an extension of the West Ridge MHP, Phase Two will provide an 18 inch storm drain from the west property line, through Jetty Court to the Phase Two ponding site located at the park.

### **FUTURE CONDITIONS**

Upon the construction of the Amole del Norte storm drain the 42 inch storm drain in Bluewater can be constructed allowing developing properties connection to the system. All interim retention ponds can then be converted to permanent detention ponds. Other than Phase Two, off-site basin draining to the Amole System include Basins 300.0, 300.1, 300.2 and 200.0. All basins will be required to rout developed flows through permanent detention ponds per the approved DMP's.

*agreed  
convert to  
ponds*

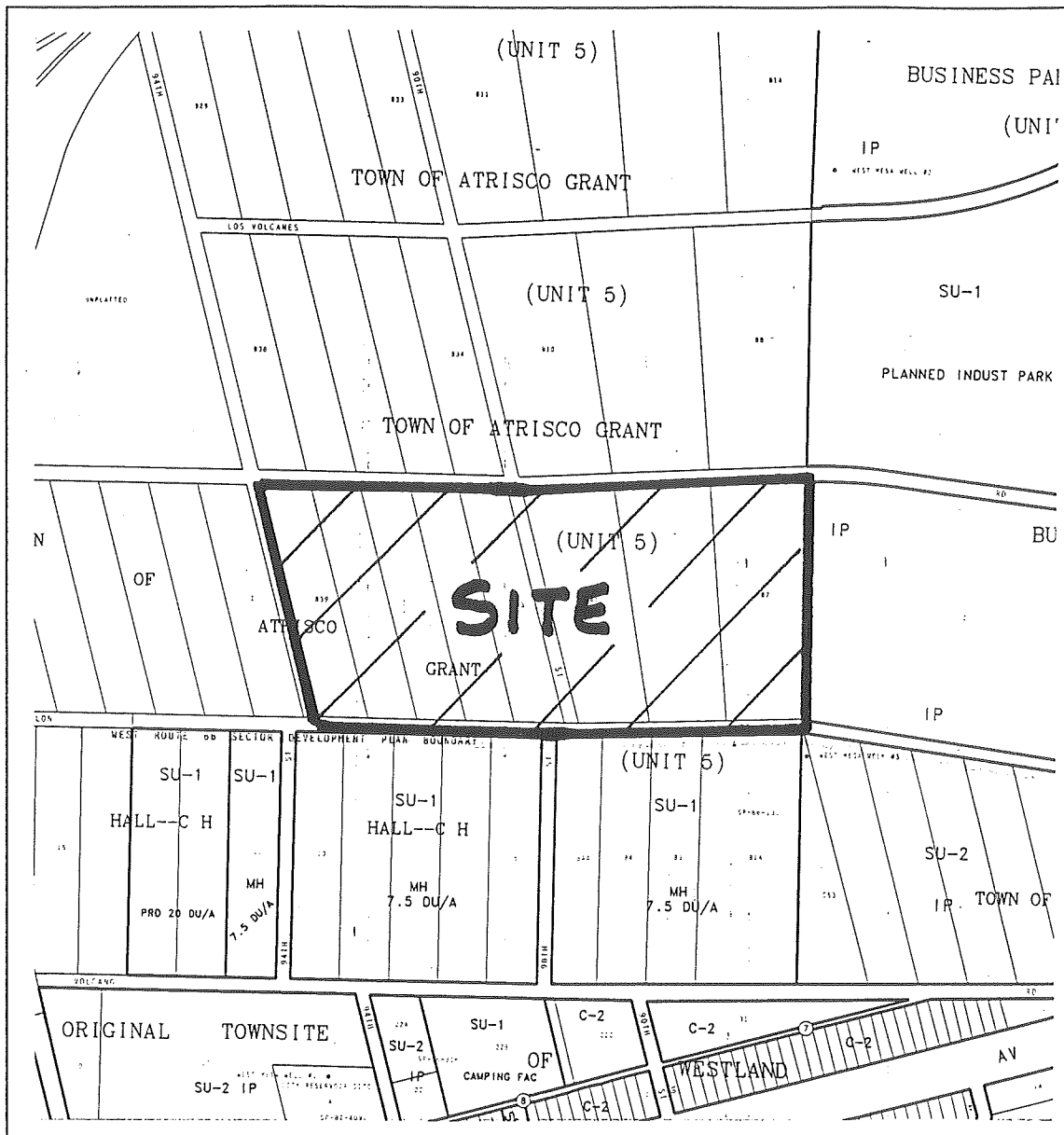
### **TEMPORARY EROSION CONTROL PLAN**

1. The intent of the Temporary Erosion Control Plan is to limit the discharge of sediment into the public street and/or storm drainage system and to protect adjacent properties from excess runoff during construction.
2. The Contractor shall submit a Temporary Erosion Control Plan and obtain a Top Soil Disturbance Permit from Environmental Health prior to performing any earthwork related operations.
3. After the initial site clearing, the temporary erosion control facilities should be constructed per the Plan to direct excess runoff and sediment the outfall locations.
4. It is the Contractor's responsibility to properly maintain all temporary erosion control facilities during the construction phase of the project.



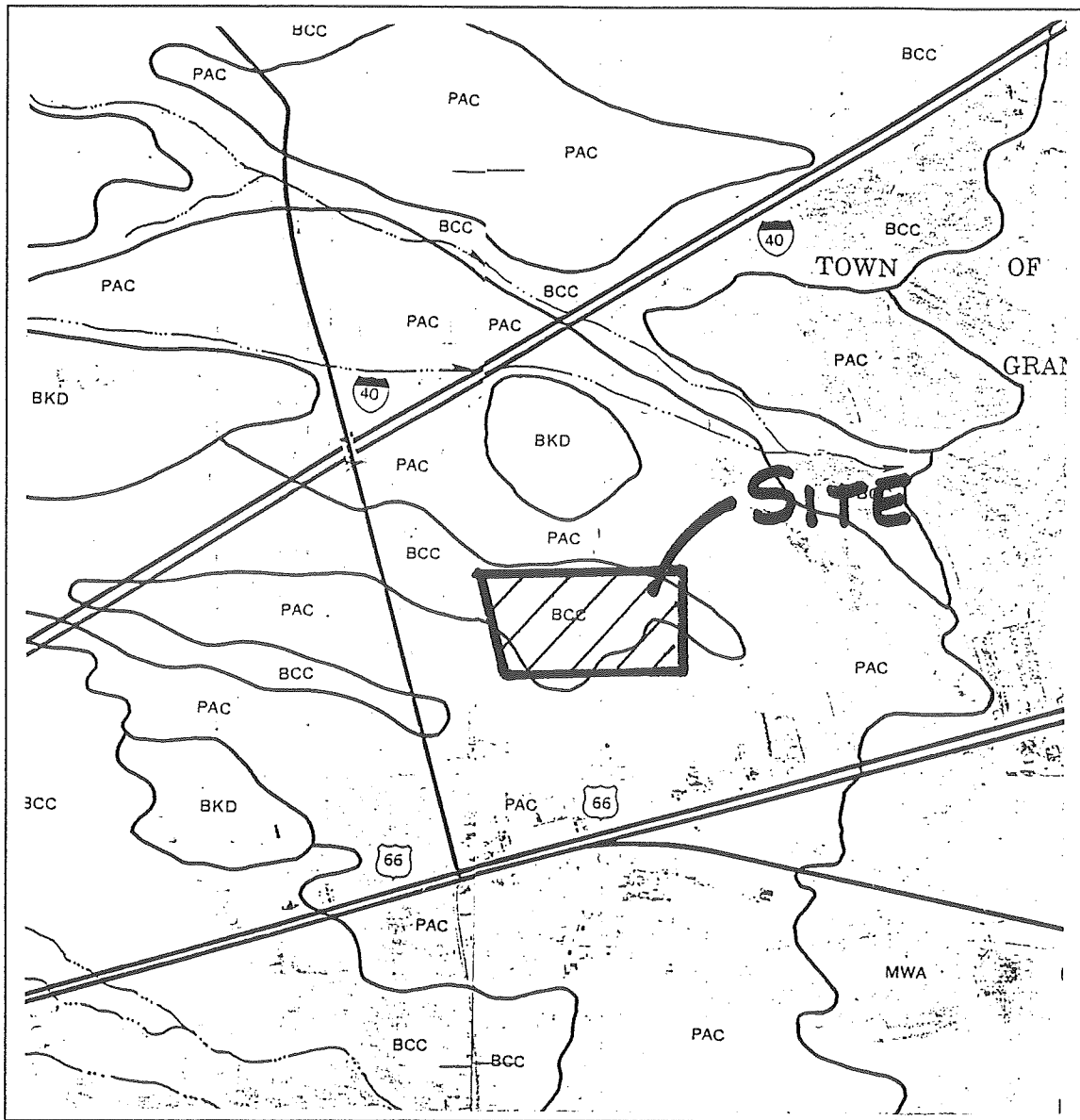
## APPENDIX

## MAPS



LOCATION MAP  
Figure 1



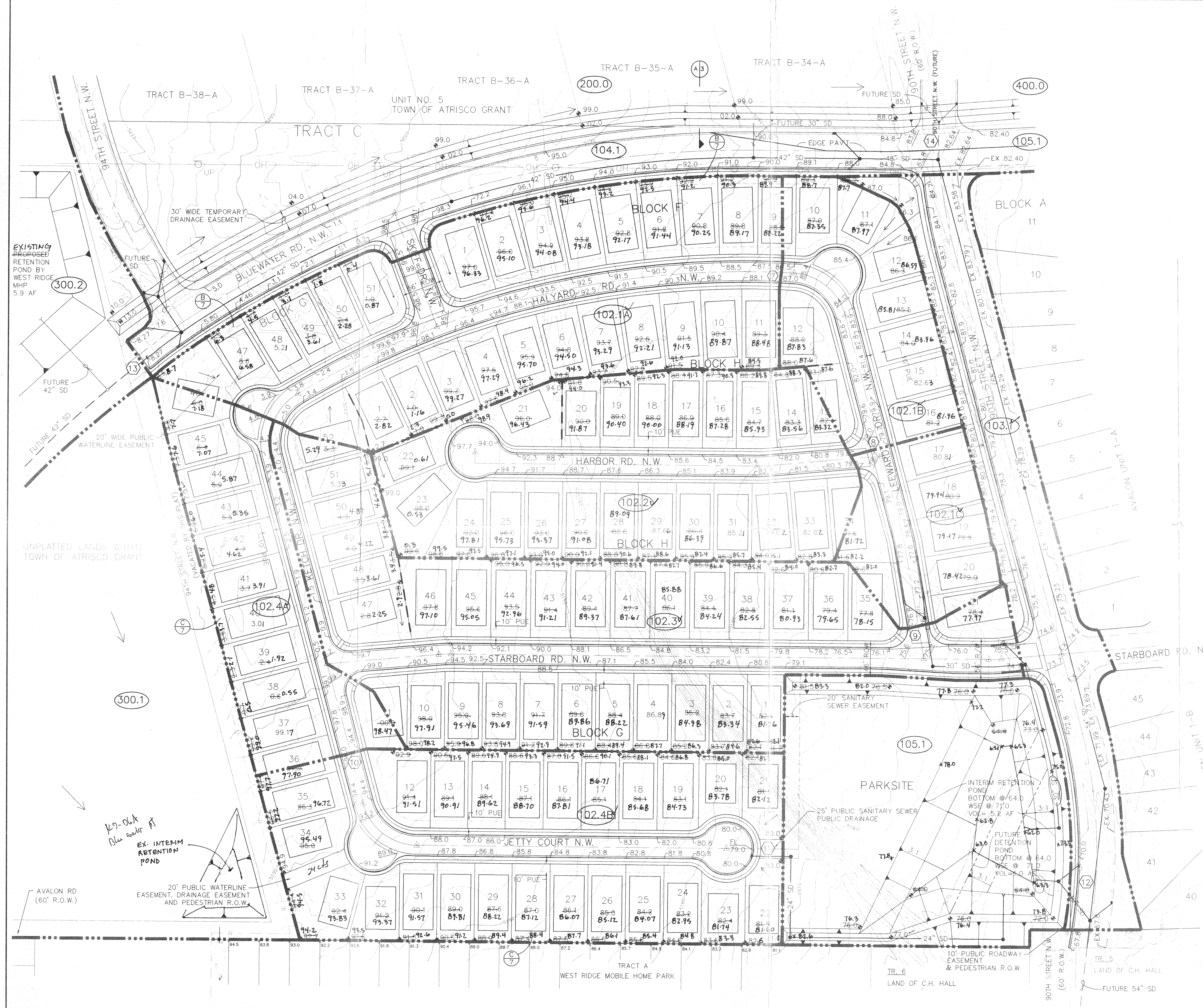


SOILS MAP  
Figure 2



### Figure 3





LEGEND

- EXISTING CONTOUR ELEVATION
- EXISTING SPOT ELEVATION
- PROPOSED CONTOUR ELEVATION
- PROPERTY LINE
- VERIFIED PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- DRAINAGE SWALE
- DRAINAGE BASIN DIVIDE
- MAPPED FLOODPLAIN
- MOUNTABLE CURB
- STD CURB & GUTTER
- PERIMETER CMU WALL
- WATER BLOCK
- LIGHT POLE
- ANALYSIS POINT
- DRAINAGE BASIN DIVIDE
- DRAINAGE BASIN ID

AS-BUILT SPOT ELEVATION.

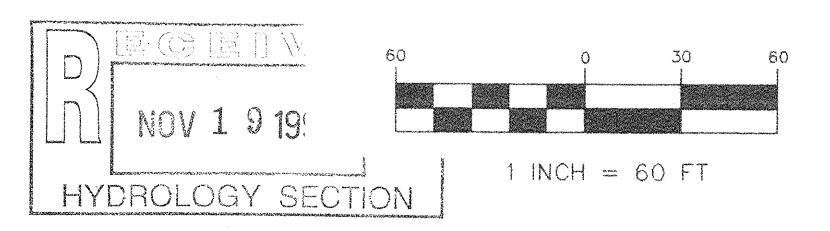
ENGINEER'S CERTIFICATION

I, the undersigned, being a Professional Engineer in the State of New Mexico, do hereby certify that this drawing was prepared by me or under my supervision, and that the as-built information shown hereon is based on actual field measurements performed by Timothy Aldrich NMPLS 7719, and inspections performed by Brasher & Lorenz, Inc. I further certify that, as of this date, the in-place fill material is in substantial compliance with the approved Grading and Drainage Plan prepared by Brasher & Lorenz, Inc., dated July 26, 1999.

This certification is limited to on-site grading and in-place fill material, and does not extend to the structural integrity of the materials used nor the workmanship of the contractor(s). At this date the public infrastructure improvements are not complete. Future certification is required to cover other necessary elements of the site.

Dennis A. Lorenz, NMPE 9647 Date 11-18-99

AS BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL		REVISIONS		DESIGN	
CONTRACTOR	DATE	WORK BY	DATE	FIELD NOTES	BY	NO.	DATE	NO.	DATE	NO.	DATE
ACCS 10-K10 ACS 3 1/4" ALUM CAP 54" EAST		OF NORTH END OF BACK OF CURB OF TRAFFIC									
ISLAND ON LOS VOLCANES RD. THE STATION		IS SET FLUSH IN THE TOP OF CURB AND IS									
STAMPED "10-K10, 1989"		ELEVATION = 5142.79 FEET									
MICRO-FILM INFORMATION		REMARKS		BY		DATE		DESIGNED BY DAL		DATE 4/99	
		IN-PLACE FILL AS-BUILT		BY		DATE 4/99		DRAWN BY M.D.T.		DATE 4/99	
		REVISIONS		DATE		CHECKED BY DAL		DATE 4/99			



**BLI** BRASHER & LORENZ, INC.  
Consulting Engineers  
2201 San Pedro NE Building 1 Suite 210  
Albuquerque, New Mexico 87110  
Ph: 505-888-6088 Fax: 505-888-6188

CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DEVELOPMENT GROUP

TITLE: AVALON SUBDIVISION, UNIT II  
PHASE TWO GRADING & DRAINAGE PLAN

Design Review Committee: City Engineer Approval

City Project No. 615581 Zone Map No. K-9 Sheet 6 Of 31