County of Bernalillo

State of New Mexico

2400 BROADWAY, S E.
ALBUQUERQUE, NEW MEXICO 87102
PUBLIC WORKS (505) 848-1500

July 16, 2001

David Thompson
Thompson Engineering Consultants
PO Box 15954
Rio Ranch, New Mexico 87174

RE: Grading and Drainage Plan for South Valley Charter School Phase I (N11-D4) (PWDN 10078) Dated July 13, 2001

Dear Mr. Thomson:

The above referenced drainage plan received July 13, 2001 is approved for Building Permit. Prior to the release of the Building Permit the owner must address the issue of drainage covenants for the retention ponds. Prior to the release of the Certificate of Occupancy the engineer needs to submit the drainage certification for review and approval for the site.

If you have any questions please call me at 924-3982.

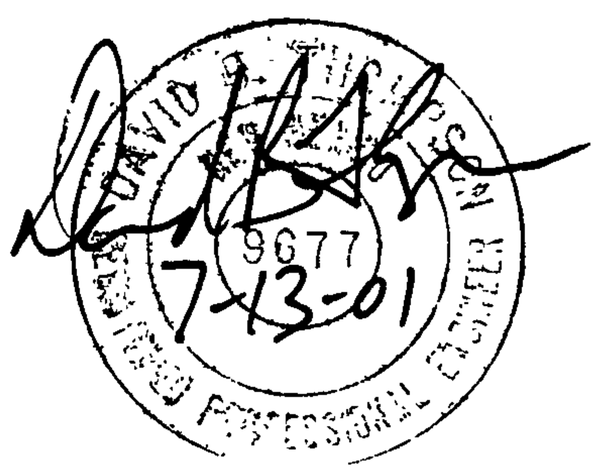
Sincerely,

Carlos A. Montoya
City/County Floodplain Administrator

C: Brian Kent, Bernalillo County

PWDN
10078

DRAINAGE REPORT
for
SOUTH VALLEY CHARTER SCHOOL
PHASE 1



Prepared by:
Thompson Engineering Consultants, Inc.
P.O. Box 15954
Rio Rancho, NM 87174

July 2001

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INTRODUCTION AND SITE LOCATION

South Valley Charter School will be constructing the first phase of their campus to include buildings, parking area, and entrance drive. The site is located on Blake Road SW just east of Coors Boulevard between the Arenal Canal and the Isleta Drain. This drainage report addresses the proposed site conditions for Phase 1 of the site development. Areas of the property that will be developed in future phases of the project have not been addressed in this report. This report summarizes the results of the drainage analysis for this site.

METHODOLOGY

This drainage report follows the Bernalillo County Storm Drainage Ordinance No. 96-5. The hydrologic criteria in Section 22 of the City of Albuquerque Development Process Manual (DPM), entitled "Drainage, Flood Control, and Erosion Control," was followed to perform the analyses given in this report. The site is located within Precipitation Zone 1. The design storm used for both the existing undeveloped and fully developed conditions of the TVI site is the 100-year, 6-hour storm event (2.20 inches) for peak flow calculations and the 100-year, 10-day storm event (3.67 inches) for volume computations.

EXISTING DRAINAGE CONDITIONS

The majority of the site is currently vacant. There are some structures in the north east portion of the site where future development will occur. Runoff collects in low areas on the site. There are no existing retention ponds on site. The Phase 1 portion of the site was divided into four drainage basins, Basin 100 through 400. There are three offsite basins (Basin 1000 through 3000) that drain to the site from the west from the east bank of the Arenal Canal. The following table shows the existing condition land treatments as well as the calculated peak volume for each basin. Detailed calculations can be found in Appendix A.

Table 1 Existing Drainage Conditions

Basin	Area (ac)	10-Day Volume (cubic feet)	Land Treatments			
			A	B	C	D
100	0.664	1061	0.664	0	0	0
200	1.331	2126	1.331	0	0	0
300	1.123	1794	1.123	0	0	0
400	1.007	1608	1.007	0	0	0
1000	0.945	7754	0	0	0.542	0.465
2000	0.258	1763	0	0	0.164	0.094
3000	0.313	1854	0	0	0.231	0.082

According to the FEMA Flood Insurance Rate Map Number 35001C0337 D, effective date September 20, 1996, a portion of the site is located within Flood hazard Zone AH with a base flood elevation of 4930, which is designated as flood depths of 1 to 3 feet. Please refer to Figure 1 on page 3.

DEVELOPED DRAINAGE CONDITIONS

Plate 1 shows that under developed conditions, each Drainage Basin will drain to a retention pond. Three of the retention ponds, in basins 100, 200, and 300 will include volume for offsite basins that drain to the pond. Offsite basin 1000 drains to basin 100, offsite basin 2000 drains to basin 200, and offsite basin 3000 drains to basin 300. The retention ponds in Basins 100, 200, and 400 have a depth of less than 1.5 feet and therefore do not require fencing. The retention pond in Basin 300 has a depth of 2.5 feet and therefore will be required to be fenced. The retention ponds in basins 100, 200, and 300 all collect runoff from paved areas through 2-foot wide curb cuts and sidewalk culverts. The retention pond in basin 400, which will be gently sloped, will collect runoff from buildings and sidewalk areas. The retention ponds are sized to store the 100-year, 10-day storm event. The Basin 100 pond has a 100-year volume of 12,516 cubic feet with a water surface elevation of 4929.32. Basin 200 pond has a 100-year volume of 11,707 cubic feet with a water surface elevation of 4928.27. Basin 300 pond has a 100-year volume of 11,667 cubic feet with a water surface elevation of 4928.50. And Basin 400 pond has a 100-year volume of 6,898 cubic feet with a water surface elevation of 4928.42. The following table shows the developed land treatments as well as the calculated runoff volume for each basin. Detailed calculations can be found in Appendix A.

Table 2 Developed Drainage Conditions

Basin	Area (ac)	10-Day Volume (cubic feet)	Land Treatments			
			A	B	C	D
100	0.664	4762	0.169	0.168	0	0.327
200	1.331	9944	0.270	0.269	0.116	0.676
300	1.123	9813	0.201	0.201	0	0.721
400	1.007	6898	0.271	0.271	0	0.465

CONCLUSIONS

The 100-year, 10-day volume for the proposed conditions for the South Valley Charter School are proposed to be retained on site in retention ponds to be maintained by the Charter School. Site drainage improvements include the construction of the retention ponds with concrete rundowns to carry the flows to the ponds from the site.

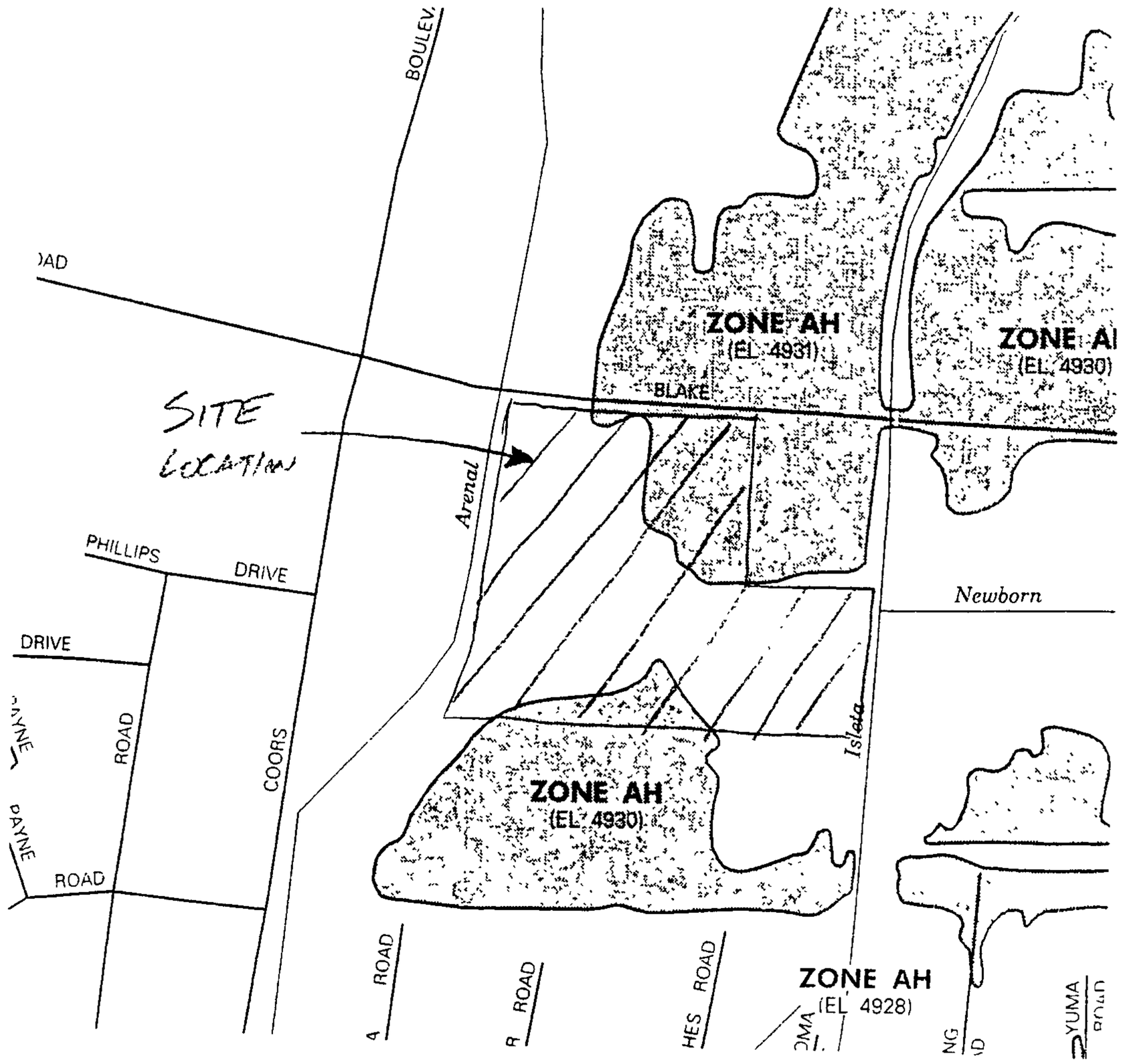

Figure 1 FEMA Floodplain Map

FEMA Flood Insurance Rate Map Number 35001C0337 D,
effective date September 20, 1996

APPENDIX A
HYDROLOGIC CALCULATIONS

HYDROLOGIC CALCULATIONS
SECTION 22.2 OF THE DPM
30-May-01

SOUTH VALLEY CHARTER SCHOOL
ZONE 1

	6-HOUR	24-HOUR	10-DAY
100-YEAR RAINFALL	2.20	2.66	3.67

	TYPE A	TYPE B	TYPE C	TYPE D
PEAK DISCHARGE	1.29	2.03	2.87	4.37
EXCESS RUNOFF	0.44	0.67	0.99	1.97

BASIN	AREA	LAND TREATMENT				PEAK FLOW	RUNOFF 6-HR	RUNOFF 24-HR	RUNOFF 10-DAY	RUNOFF 10-DAY	CFS/AC
		TYPE A	TYPE B	TYPE C	TYPE D						
	acres					CFS	ac-ft	ac-ft	ac-ft	CF	CFS
100	0.664	0.169	0.168	0.000	0.327	1.99	0.069	0.082	0.109	4762	2.99
200	1.331	0.270	0.269	0.116	0.676	4.18	0.145	0.171	0.228	9944	3.14
300	1.123	0.201	0.201	0.000	0.721	3.82	0.137	0.165	0.225	9813	3.40
400	1.007	0.271	0.271	0.000	0.465	2.93	0.101	0.119	0.158	6898	2.91
TOTAL	4.125					12.92	0.45	0.54	0.72	31417	3.13
EXISTING	4.125	4.125	0.000	0.000		5.32	0.151	0.151	0.151	6588	1.29
100	0.664	0.664	0.000	0.000	0.000	0.86	0.024	0.024	0.024	1061	1.29
200	1.331	1.331	0.000	0.000	0.000	1.72	0.049	0.049	0.049	2126	1.29
300	1.123	1.123	0.000	0.000	0.000	1.45	0.041	0.041	0.041	1794	1.29
400	1.007	1.007	0.000	0.000	0.000	1.30	0.037	0.037	0.037	1608	1.29
OFFSITE											
1000	0.945	0.000	0.000	0.542	0.465	3.59	0.121	0.139	0.178	7754	3.80
2000	0.258	0.000	0.000	0.164	0.094	0.88	0.029	0.033	0.040	1763	3.42
3000	0.313	0.000	0.000	0.231	0.082	1.02	0.033	0.036	0.043	1854	3.26
						5 49					
1000	0.945	0.945	0.000	0.000	0.000	1.22	0.035	0.035	0.035	1509	1.29
2000	0.258	0.258	0.000	0.000	0.000	0.33	0.009	0.009	0.009	412	1.29
3000	0.313	0.313	0.000	0.000	0.000	0.40	0.011	0.011	0.011	500	1.29
						1.96					

BASIN 100 12516
POND VOL.

BASIN 200 11707
POND VOL.

BASIN 300 11667
POND VOL.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Public Works Department
Transportation Development Services Section

January 17, 2002

Sandra Fairchild for Claudio Vigil, Registered Architect
Claudio Vigil Architects
1801 Rio Grande N.W.
Albuquerque, NM 87104

Re: Certification Submittal for Final Building Certificate of Occupancy for
Applied Technology Assoc., [M21 / D008]
1300 Britt(formerly 10500 Gibson) S.E.
Architect's Stamp Dated 01/17/02

Dear Mr. Ms. Fairchild:

The TCL / Letter of Certification submitted on 01/17/2002 is not sufficient for acceptance by this office for final Certificate of Occupancy (C.O.).

The TCL (or DRB Site Plan) and the Letter of Certification submitted for Final C.O. needs to be submitted to the Hydorlogy Section, on the Planning side of the Plaza Del Sol Building, to be logged in to the system for evaluation. This requires completion of the Drainage Information Sheet by the designer-of-record or his staff. All future submittals of any type need to be accompanied by the Drainage Information Sheet and submitted to Hydrology for review or evaluation.

Sincerely,

Mike Zamora
Commercial Plan Checker
Development and Building Services
Public Works Department

c: Hydrology File
Mike Zamora

DRAINAGE INFORMATION SHEET
(REV. 11/01/2001)

PROJECT TITLE: Applied Technology Assoc's
DRB #: _____ EPC#: _____ ZONE MAP/DRG. FILE #: M21/D008
WORK ORDER#: _____

LEGAL DESCRIPTION: _____
CITY ADDRESS: _____

ENGINEERING FIRM: _____
ADDRESS: _____ CONTACT. _____
CITY, STATE: _____ PHONE: _____
ZIP CODE: _____

OWNER: _____
ADDRESS: _____ CONTACT: _____
CITY, STATE: _____ PHONE: _____
ZIP CODE: _____

ARCHITECT: _____
ADDRESS: _____ CONTACT: _____
CITY, STATE: _____ PHONE: _____
ZIP CODE: _____

SURVEYOR: _____
ADDRESS _____ CONTACT: _____
CITY, STATE: _____ PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____ CONTACT: _____
CITY, STATE: _____ PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:
- ____ DRAINAGE REPORT
- ____ DRAINAGE PLAN
- ____ CONCEPTUAL GRADING & DRAINAGE PLAN
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ____ CLOMR/LOMR
- ✓ TRAFFIC CIRCULATION LAYOUT (TCL)
- ____ ENGINEERS CERTIFICATION (TCL)
- ____ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ____ OTHER

CHECK TYPE OF APPROVAL SOUGHT:
- ____ SIA / FINANCIAL GUARANTEE RELEASE
- ____ 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 (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

RECEIVED
JAN 17 2002
HYDROLOGY SECTION

DATE SUBMITTED: 1/18/02 BY: _____

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot 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
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5)
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or

County of Bernalillo

State of New Mexico

2400 BROADWAY, S.E.
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July 10, 2001

David Thompson
Thompson Engineering Consultants
PO Box 15954
Rio Ranch, New Mexico 87174

RE: Grading and Drainage Plan for South Valley Charter School Phase I (N11-D4) (PWDN 10078) Dated May 31, 2001

Dear Mr. Thomson:

I have reviewed the referenced drainage plan received June 6, 2001 and forward the following comments. Also, this is a compilation of AMAFCA, City, and County comments.

1. Please do not screen the existing contours. The existing contours are hard to read.
2. Are there off-site flows from the south into the property?
3. Show the floodplain on the drainage plan.
4. Will the sidewalk culverts have a metal plate as shown on COA Drawing 2236?
5. Please show more proposed elevations for the entrance road.
6. Please submit drainage covenants for the drainage ponds.
7. Provide the engineer's certification that the site has been personally inspected and no grading, fill, or excavation has occurred since the preparation of the topography shown on this plan.
8. Show locations of septic and well or sewer and water line.

Sincerely,

Carlos A. Montoya
City/County Floodplain Administrator

C: Brian Kent, Bernalillo County

County of Bernalillo

State of New Mexico

BOARD OF COUNTY COMMISSIONERS
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IRA ROBINSON, PROBATE JUDGE
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ORLANDO VIGIL, TREASURER

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Carlos A. Montoya
City/County Floodplain Administrator

C: Brian Kent, Bernalillo County