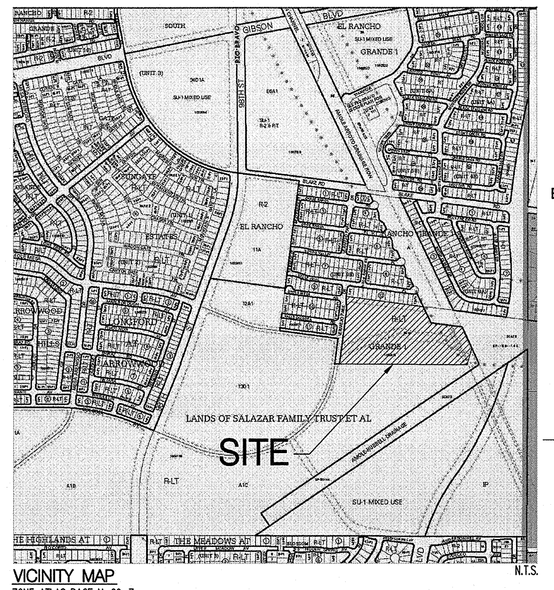

VICINITY MAP
ZONE ATLAS PAGE N-09-Z

LEGAL DESCRIPTION
TRACT 8-A1-A, EL RANCHO GRANDE I, ALBUQUERQUE, NEW MEXICO

GRADING AND DRAINAGE NARRATIVE

Site Location and Background Information
The purpose of this submittal is to present a final grading and drainage plan for the proposed Prototype 3 Elementary School (El Rancho Grande Elementary School) off the far west end of Blake Road S.W. The site is in rainfall zone 1 as defined by figure A-1 of the DPM section 22. The existing legal description of the site is TRACT 8-A1-A, EL RANCHO GRANDE I, ALBUQUERQUE, NEW MEXICO . Please see the vicinity map on this sheet for a graphic depiction of the site location.

Existing Conditions
This entire site is approximately 15 acres and is undeveloped land that is approved for rough grading (stamp date: 7-06-07) per concepts of the approved master drainage plan for Tract 8-A-1-A, El Rancho Grande Elementary School (stamp date: 7-09-2007). The site is naturally sloped roughly 1% to 4% to the east, draining to an existing developed outfall (rated for 57 CFS per the master drainag plan) to the Amole arroyo that was sized for fully developed flows.

Proposed Conditions
Under proposed conditions the site will slope to the east with gentler slopes than present and will make up grade differences w/ steps and terraces. The site contours and storm drain systems will divert and convey runoff to a concrete rundown which will tie directly to the existing site outfall structure. The field will drain to the remainder of the existing detention pond and then to the existing outfall structure. Per the approved plan, the allowable outfall is 57 CFS, and with this plan we are complying with that requirement: Qproposed = 49 CFS.

Flood plain
In accordance with FEMA community map panel #35001C0336E, the site has a zone A flood plain flowing across the northeast portion. This map was revised per a LOMR dated 11/20/06 which removed most of it.

Per the master drainage plan; "The existing flood hazard zone and flood plain drainage easements previously impacting the site are obsolete and will be eliminated by others. As such, they will not limit site developement. APS is working with the seller to have the obsolete floodplain easement officially vacated through DRB."

Conclusions
The proposed site improvemets and drainage trends are consistent with previously approved plans for the site.

This Tract is permitted free discharge up to 57 CFS to an existing 36" RCP outlet near the NE corner to the AMAFCA Amole channel. This design discharges 49 CFS at the peak of the design storm.

Offsite flows do not impact the site.

This drainage submittal has been prepared in accordance with City of Albuquerque requirements. This plan is compliant with the master drainage plan. The implementation of this design would result in the safe passage of the 100 year storm event. With this submittal we request hydrology department approval for building permit.

APS PROTOTYPE #3 SITE BASIN PROPERTIES

Proposed Ultimate Development Conditions Basin Data Table

This table is based on the DPM Section 22.2, Zone: 1

Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages A	B	C	D	Q(100) (cfs/ac.)	Q(100) (CFS)	V(100) (inches)	V(100)SHR (CF)
B1	102665	2.36	0.0%	16.0%	16.0%	68.0%	3.76	***8.85***	*1.61*	*13733*
B2	134730	3.09	0.0%	8.0%	8.0%	84.0%	4.06	***12.57***	*1.79*	*20070*
B3	33291	0.76	0.0%	7.0%	7.0%	86.0%	4.10	***3.13***	*1.81*	*5023*
B4	42456	0.97	0.0%	11.0%	11.0%	78.0%	3.95	***3.85***	*1.72*	*6083*
B5	68370	1.57	0.0%	12.5%	12.5%	75.0%	3.89	***6.11***	*1.69*	*9600*
B6	59608	1.37	0.0%	15.5%	15.5%	69.0%	3.77	***5.17***	*1.62*	*8030*
B7	164009	3.77	0.0%	50.0%	50.0%	0.0%	2.45	***9.22***	*0.83*	*11344*
						SUBTOTAL		***48.90***		
B8	48599	1.12	0.0%	50.0%	50.0%	0.0%	2.45	***2.73***	*0.83*	*3361*
B9	7047	0.16	0.0%	50.0%	50.0%	0.0%	2.45	***0.40***	*0.83*	*487*

STORM DRAIN PIPE TABLE

PIPE #	Contributing Basins and Storm Drains	Size in.	Slope	Capacity* cfs	ACTUAL FLOW cfs
PIPES					
SD1	B3	12	1.00%	3.56	3.13
SD2	SD1+B2	24	1.08%	23.51	15.70
SD3	B5	18	1.75%	13.90	6.11
SD4	B4	18	1.00%	10.50	3.85
SD5	B1	18	5.79%	25.28	8.85
SD6	SD2+B6	24	1.00%	22.62	20.87
SD7	SD4+SD5	24	0.50%	16.00	12.70
SD8	SD3+SD6+SD7	30	1.00%	41.02	39.67

INLET TABLE

Inlet #	Inlet Type	Actual Flow	Avail Head ft	Capacity CFS
IN1	1-SGL COA TYPE C	2.09	0.50	5.07
IN2	24" NYLOPLAST PEDESTRIAN	1.04	0.50	3.25
IN4	1-SGL COA TYPE C	3.14	0.50	5.07
IN5	1-SGL COA TYPE C	9.42	0.50	5.07
IN7	24" NYLOPLAST STANDARD	2.58	1.00	5.30
IN8	24" NYLOPLAST PEDESTRIAN	1.04	0.50	3.25
IN9	24" NYLOPLAST PEDESTRIAN	1.16	0.50	3.25
IN10	24" DBL NYLOPLAST PEDESTRIAN	2.75	0.50	6.50
IN11	24" NYLOPLAST PEDESTRIAN	1.16	0.50	3.25
IN12	1-DBL COA TYPE C	8.85	0.50	10.14
IN13	24" NYLOPLAST STANDARD	3.85	2.00	7.00
IN14	30" NYOPLAST STANDARD	2.58	1.00	7.75

6FT SWALE CHANNEL CAPACITY
MANNING'S N = 0.013 SLOPE = 0.108

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	1.0	2.0	3.0	0.0	3.0	6.0	1.0

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.100	0.100	0.030	0.148	0.632	4.932	0.600	0.478
0.200	0.200	0.120	0.939	1.265	7.828	1.200	1.153
0.300	0.300	0.270	2.770	1.897	10.258	1.800	1.937
0.400	0.400	0.480	5.965	2.530	12.427	2.400	2.802
0.500	0.500	0.750	10.815	3.162	14.420	3.000	3.734
0.600	0.600	1.080	17.586	3.795	16.284	3.600	4.724
0.700	0.700	1.470	26.528	4.427	18.046	4.200	5.765
0.800	0.800	1.920	37.874	5.060	19.726	4.800	6.852
0.900	0.900	2.430	51.850	5.692	21.338	5.400	7.982
1.000	1.000	3.000	68.671	6.325	22.890	6.000	9.150

8FT SWALE CHANNEL CAPACITY
MANNING'S N = 0.013 SLOPE = 0.006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	1.0	2.0	4.0	0.0	3.0	8.0	1.0

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.100	0.100	0.040	0.047	0.825	1.178	0.800	0.122
0.200	0.200	0.160	0.299	1.649	1.869	1.600	0.254
0.300	0.300	0.360	0.882	2.474	2.450	2.400	0.393
0.400	0.400	0.640	1.899	3.298	2.968	3.200	0.537
0.500	0.500	1.000	3.444	4.123	3.444	4.000	0.684
0.600	0.600	1.440	5.600	4.948	3.889	4.800	0.835
0.700	0.700	1.960	8.446	5.772	4.309	5.600	0.989
0.800	0.800	2.560	12.059	6.597	4.711	6.400	1.145
0.900	0.900	3.240	16.509	7.422	5.095	7.200	1.304
1.000	1.000	4.000	21.865	8.246	5.466	8.000	1.465

LEGEND
- PROPERTY LINE
- 5301 EXISTING CONTOURS
- BASIN BOUNDARY
- PROPOSED DIRECTION OF FLOW
- WATER BLOCK
- 5305 PROPOSED INDEX CONTOURS
- PROPOSED INTER CONTOURS
- PROPOSED STORM DRAIN INLET

X DRAINAGE MANAGEMENT PLAN
1" = 50'-0"

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JEFFREY L. MULBERRY
16858
12-21-07
LICENSED PROFESSIONAL ENGINEER

PROJECT

ALBUQUERQUE PUBLIC SCHOOLS

Prototype Elementary School Site No. 3

ADDRESS

Vermejo Park Dr SW
Albuquerque, NM

Mark	Date	Description

Date	September 5, 2007
Project Number	548.01
Project File	
Drawn By	Staff
Checked By	Staff
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SHEET TITLE

DRAINAGE MANAGEMENT PLAN

DMP-101

SHEET OF

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

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Fri, 21-Dec-2007 - 8:22am, Plotted by: CPIERCE