DRAINAGE INFORMATION SHEET

PROJECT TITLE: Zamora Disinfection Facility	ZONE ATLAS/DRNG.FILE #:E-10 /				
DRB #: EPC #:90-93	WORK ORDER #:				
LEGAL DESCRIPTION: Volcano Cliffs Subdivisio	n, Unit 3 Tract B-1-B				
CITY ADDRESS: 6255 Tesuque N.W.					
ENGINEERING FIRM: Leedshill-Herkenhoff, Inc.	CONTACT: Victoria Dery, P.E.				
ADDRESS: P.O. Box 1217, 87103	PHONE: 247-0294				
OWNER: City of Albuquerque, Water Utility Division	on CONTACT: Art Stuart, P.E.				
ADDRESS: P.O. Box 1293, 87103	PHONE: 857-8239				
ARCHITECT: Same as Engineer	CONTACT:				
ADDRESS:	PHONE:				
	CONTACT: Vladimir Jirik				
ADDRESS: 2119 Menaul N.E. 87107	PHONE:884-2036				
CONTRACTOR: N/A	CONTACT:				
	PHONE:				
TYPE OF SUBMITTAL: DRAINAGE REPORT X DRAINAGE PLAN CONCEPTUAL GRADING & DRAINAGE PLAN X GRADING PLAN EROSION CONTROL PLAN ENGINEER'S CERTIFICATION OTHER	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				
PRE-DESIGN MEETINGS:YESX_NOCOPY PROVIDED	CERTIFICATE OF OCCUPANCY APPROVAL GRADING PERMIT APPROVAL PAVING PERMIT S.A.D. DRAINAGE REPORT DRAINAGE REQUIREMENTS				
DATE SUBMITTED: November 20, 1998 BY: Victoria A. Derry Victoria A. D. G:\data\projects\zamora\disheet.doc	OFFICIENT (SPECIFY) NOV 2 3 1998 HYDROLOGY SECTION				



P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 11, 1999

Victoria Dery, P.E. Leedshill-Herkenhoff, Inc. P.O. Box 1217 Albuquerque, NM 87103

RE: ZAMORA PUMP STATION AND RESERVOIR - Disinfection Facility - (E10-D8A).
GRADING AND DRAINAGE PLAN FOR BUILDING PERMIT APPROVAL.
ENGINEER'S STAMP DATED NOVEMBER 20, 1998.

Dear Ms. Dery:

Based on the information provided on your November 23, 1998 submittal, the above referenced project is approved for Building Permit. The overall site plan, Engineer's Stamp dated August 27, 1997, for the pump station and reservoir had been submitted and approved with that submittal. Both are to be constructed at a future date.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Prior to Certificate of Occupancy approval, an Engineer's Certification per the DPM will be required.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

John P. Murray, P.E.

Hydrology

c:

Andrew Garcia

545

COA/HYDROLOGY DRAINAGE CALCULATIONS

File: g:\data\projects\zamora\drain1.wk1

Project: Zamora Well Field Disinfection Facility

Date:

20-Nov-98

Precipitation Zone (Enter 1-4 from Table A-1):

.

Design Storm Event (Enter 2, 10, or 100):

100

Basin	Treatment		Existing		Proposed			Subt	otal
#		Area (SF)	Area (AC)	Qp (CFS)	Area (SF)	Area (AC)	Qp (CFS)	Existing	Proposed
1	Α	69,727.25	1.600	2.064	59,015.20	1.350	1.742		
	В	0.00	0.000	0.000	9,844.56	0.230	0.467		
	С	0.00	0.000	0.000	0.00	0.000	0.000		
	D	0.00	0.000	0.000	287.50	0.010	0.044	2.064	2.252
2	Α	48,111.43	1.100	1.419	41,834.44	0.960	1.238		
	В	0.00	0.000	0.000	5,492.92	0.130	0.264		
	С	0.00	0.000	0.000	0.00	0.000	0.000		
	D	0.00	0.000	0.000	784.08	0.020	0.087	1.419	1.590
3	Α	0.00	0.000	0.000	0.00	0.000	0.000		
	В	4,003.16	0.090	0.183	4,003.16	0.090	0.183		
	С	0.00	0.000	0.000	0.00	0.000	0.000		
	D	784.08	0.020	0.087	784.08	0.020	0.087	0.270	0.270
	Α	0.00	0.000	0.000	0.00	0.000	0.000		
	В	0.00	0.000	0.000	0.00	0.000	0.000		
	С	0.00	0.000	0.000	0.00	0.000	0.000		
	D	0.00	0.000	0.000	0.00	0.000	0.000	0.000	0.000
	TOTALS	122,625.92	2.810	3.753	122,045.94	2.810	4.112	3.753	4.112



October 2, 1997

PECEIVED
OCTOR BY

LEEDSHILL - HERKENHOFF, INC. ALBUQUERQUE

Martin J. Chávez, Mayor

Victoria Dery, P.E. Leedshill-Herkenhoff, Inc. P.O. Box 1217 Albuquerque, NM 87103

RE: ZAMORA PUMP STATION AND RESERVOIR (E10-D8A). GRADING AND DRAINAGE PLAN FOR SITE DEVELOPMENT FOR BUILDING PERMIT. ENGINEER'S STAMP DATED AUGUST 28, 1997.

Dear Ms. Dery:

Based on the information provided on your September 15, 1997 submittal, the above referenced project is approved for Site Development Plan for Subdivision Permit. Prior to Building Permit approval, please address the following comment:

1. With your most recent submittal, you attached a letter dated September 8, 1995 from Leedshill-Herkenhoff to the City of Albuquerque. The letter stated that Tesuque and Santo Domingo Street were to be completed under SAD 224 and would take approximately 2 years to finish construction. According to the dates, the above referenced street should be at or near completion. If construction is complete, you should take out all reference to the temporary asphalt lined swale and check your proposed grades with as-built grades.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

Lisa Ann Manwill, P.E.

Hydrology

c: Andrew Garcia

File



October 2, 1997

Martin J. Chávez, Mayor

Victoria Dery, P.E. Leedshill-Herkenhoff, Inc. P.O. Box 1217 Albuquerque, NM 87103

RE: ZAMORA PUMP STATION AND RESERVOIR (E10-D8A). GRADING AND DRAINAGE PLAN FOR SITE DEVELOPMENT FOR BUILDING PERMIT. ENGINEER'S STAMP DATED AUGUST 28, 1997.

Dear Ms. Dery:

Based on the information provided on your September 15, 1997 submittal, the above referenced project is approved for Site Development Plan for Subdivision Permit. Prior to Building Permit approval, please address the following comment:

1. With your most recent submittal, you attached a letter dated September 8, 1995 from Leedshill-Herkenhoff to the City of Albuquerque. The letter stated that Tesuque and Santo Domingo Street were to be completed under SAD 224 and would take approximately 2 years to finish construction. According to the dates, the above referenced street should be at or near completion. If construction is complete, you should take out all reference to the temporary asphalt lined swale and check your proposed grades with as-built grades.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

Lisa Ann Manwill, P.E.

Hydrology

c: Andrew Garcia File



COA/HYDROLOGY DRAINAGE CALCULATIONS

File: g:\data\projects\zamora\drain.wk1

Project: Zamora Well No. 2 Well Equipment, Collector Line & Chlorination Building

Date: 08-Sep-97

Precipitation Zone (Enter 1-4 from Table A-1):

Design Storm Event (Enter 2, 10, or 100): 100

Basin	Treatment	Existing Proposed				Subt	otal		
##		Area (SF)	Area (AC)	Qp (CFS)	Area (SF)	Area (AC)	Qp (CFS)	Existing	Proposed
1	Α	74,661.00	1.71	2.21	0.00	0.00	0.00		
	В	0.00	0.00	0.00	83,213.00	1.91	3.88		
	С	13,998.00	0.32	0.92	0.00	0.00	0.00		
	D	1,042.00	0.02	0.09	6,488.00	0.15	0.66	3.21	4.53
2	A	8,082.00	0.19	0.25	0.00	0.00	0.00		
	В	0.00	0.00	0.00	4,192.00	0.10	0.20		
	С	4,464.00	0.10	0.29	5,014.00	0.12	0.34		
	D	0.00	0.00	0.00	3,340.00	0.08	0.35	0.53	0.90
3	A	52,454.00	1.20	1.55	0.00	0.00	0.00		
	В	0.00	0.00	0.00	22,834.00	0.52	1.06		
	С	11,240.00	0.26	0.75	24,066.00	0.55	1.58		
	D	140.00	0.00	0.00	17,018.00	0.39	1.70	2.29	4.34
	А	0.00	0.00	0.00	0.00	0.00	0.00		
	В	0.00	0.00	0.00	0.00	0.00	0.00		
	С	0.00	0.00	0.00	0.00	0.00	0.00		
	D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS		166,081.00	3.80	6.04	166,165.00	3.82	9.77	6.04	9.77



Keith Reed Leedshill-Herkenhoff P.O. Box 1217 Albuquerque, NM 87103

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

RECEIVED

JUL 2 1 1995

LEEDSHILL - HERKENHOFF, INC. ALBUQUERQUE

RE: DRAINAGE PLAN FOR ZAMORA PUMP STATION & RESERVOIR (E10-D8A) RECEIVED JUNE 19, 1995.

July 19, 1995

Dear Mr. Reed:

I have reviewed the referenced drainage plan dated June 16, 1995 and forward the following comments:

- 1. Please indicate the proposed street grades on Santo Domingo St. and Tesuque Drive adjacent to your site.
- 2. Are these two streets in construction or design? If the streets are not in construction, you may need to submit an interim plan.
- 3. Show grades at the entrance to the site.
- 4. Show existing and proposed grades on the west property line. Show grades on both sides of the property line.
- 5. Show existing grades 20 feet south of the south property line.

If I can be of further assistance, feel free to contact me at 768-2654.

Sincerely,

Carlos A. Montoya, PE

PWD/Hydrology

CAM/dl

c: Andrew Garcia File



NAME OF PROJECT

ZAWORA P.S.

COMPUTED BY: CHECKED BY:

CREED DESTR

DRAINAGE JOB NUMBER 97015, 11 SHEET NUMBER
OF TOTAL

REVISED 9/20/95

TABLE A-9. PEAK DISCHARGE (cfs/acre)								
		100-YR [2-YR, 10-YR]						
Zone	Α ,	A , B . C						
 1	1.29\	[2.03]	2.87	4.37				
	[0.00, 0.24]	[0.03, 0.76]	[0.47, 1.49]	[1.69, 2.89]				
2	1.56	2.28	3.14	4.70				
	[0.00, 0.38]	[0.08, 0.95]	[0.60, 1.71]	[1.86, 3.14]				
3 .	1.87	2.60	3.45	5.02				
	[0.00, 0.58]	[0.21, 1.19]	[0.78, 2.00]	[2.04, 3.39]				
4	2.20	2.92	3.73	5.25				
	[0.05, 0.87]	[0.38, 1.45]	[1.00, 2.26]	[2.17, 3.57]				

	AREA	TREATMENT		ISTING	PRO	POSED	QP, SUBTOTAL		
	MICH	THE ATTAILEN	AREA (AC)	QP (CFS)	AREA (AC)	Qp (CFS)	EXIST.	PROPOSEL	
	(x)	A 1.7	1163	T	2 2		., _		
	*	В			91/83	3.80	3.2	4.5	
		С.	0.32	0.9			3	144	
	1	D	0.02	0.1	0.15	0,7			
	_	A	0.19	0.2	** ** * *** **** *********************				
	(2)	В			0.10	0.2	0.5	0.8	
		С	0.10	0.3	0.12	0.3			
		D			0.08	0.3			
	X)	Α \	2897	1.60	a 57	1 10	2.44	4.30	
Ì	(3)	В	25	280	229	عاد	204	37	
		C	0.023	9	0.58).7	·		
1		Q	0.01	0.04	0.36	1,41.5			
*A	A	0.32	0.4						
	7	В			0.31	-0.6	0.5	0.7	
		C	0.03	_0.1				· ·	
		D			0.03	0.1			
	-	TOTALS	3.82	6.14	3.82	9.6	6.14	9.6	

LEEDSHILL - HERKENHOFF, INC.	NAME OF PROJECT			SHEE	T NUM	BER
	ZAMORA	P5		1	OF	7
Albuquerque • San Diego • Santa Fe	COMPUTED BY:	CHECKED BY:	JOB NUMBER	DATE	7.	1,-
ENGINEERING COMPUTATIONS	K REED	08912	92015.11	5	//0/	195

| INLET CALC

Q = 0.8 CFS (PROPOSED COMPINION, BASIN 2 => SEE ATTACHED)

INLET AS WEIR

where
$$Q_i = discharge$$
, $cfs = 0.8 cfs$
 $Cw = 3.0$
 $P = Perimeter of grate, ft.$
 $d = depth of water, ft.$

INLET AS ORIFICE

where
$$Q_i = C_o A (2gd)^{0.5}$$

 $Q_i = C_o A (2gd)^{0.5}$
where $Q_i = discharge, cfs = 0.8 cfs$
 $C_o = 0.67$
 $A = clear open area of grate, sf
 $g = 32.2 fps$$

COA INLET

USE STD DWG 7220 (ATTACHED)

LEEDSHILL . HERKENHOFF, INC.	NAME OF PROJECT			SHEET	NUMBE	ER
	ZAMORA	PS		6	OF	1
Albuquerque • San Diego • Santa Fe	COMPUTED BY:	CHECKED BY:	JOB NUMBER	DATE:	, ,	!
ENGINEERING COMPUTATIONS	L REED	57972	192015,11	5/	10/	95

SINGLE INLET

GRATE =
$$40'' \times 25''$$

P = PERIMETER = $2\left(\frac{40+25}{12}\right) = 10.83 \text{ FE}.$
A = AREA = $\frac{40'' \times 15''}{144 \text{ m}^2/\text{sf}} = 6.94 \text{ SF}$

SUBTRACT AREA OF BARS:

$$13 \times \frac{1}{2}$$
" $\times 40$ " = 1.81 SF
 $9 \times \frac{1}{2}$ " $\times 25$ " = 0.78 SF
 $\Sigma = 7.59$ SF

$$A_T = (\rho.94 - 2.59 = 4.35 SF$$

AS WEIR:
$$Q = C_{\omega}Pd$$

$$0.8 = 3(10.83)d$$

$$d = 0.085 ft$$

As DRIFICE:

$$Q = C_0 A (2gd)^{0.5}$$

 $0.8 = 0.67(4.35)(2(37.7)d)^{0.5}$
 $d = 0.0012 ft$

(F) A CT3 AS WEIR W/ d = 0.085 A.

USE SINGLE INLET



P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 9, 1995

Robert E. Roughton Leedshill-Herkenhoff P.O. Box 1217 Albuquerque, NM 87103

RE: DRAINAGE PLAN FOR ZAMORA PUMP STATION & RESERVOIR (E10-D8A)

RECEIVED 9/21/95.

Dear Mr. Roughton:

The above referenced plan dated 9/8/95 is approved for Site development for building permit. I will sign the construction drawings as soon as they are made available to me. Certification of the project is required upon completion of the project.

If you have any questions, please call me at 768-2654.

Sincerely,

Carlos A. Montoya, P.E.

PWD/Hydrology Division

CAM/dl

c: Andrew Garcia

File



P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

September 24, 1992

Robert E. Roughton Leedshill-Herkenhoff, Inc. P.O. Box 1217 Albuquerque, NM 87103

RE: REVISED DRAINAGE PLAN FOR ZAMORA WELL NO.1 WELL EQUIPMENT & TRANSMISSION LINE (E10/D8A) PROJECT NO. 4395.91 REVISION DATED 9/92.

Dear Mr. Roughton:

Based on the information provided on your September 18, 1992 resubmittal, the above referenced site is approved for Building Permit & Work Order.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Also, when the construction of the booster station and reservoir project is implemented, a revised drainage plan will be required. At that time, the site paving run-off may be connected to the wash discharge line.

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

Sincerely,

Bernie J. Montoya, CE Engineering Assistant

BJM/d1/WPHYD/3631

xc: Alan Martinez

File

PUBLIC WORKS DEPARTMENT



P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 5, 1990

Dan Grochowski, P.E. Bohannan-Huston, Inc. 7500 Jefferson Street, NE Albuquerque, New Mexico 87109

RE: CONCEPTUAL GRADING & DRAINAGE PLAN FOR VOLCANO 1W RESERVOIR, (E-10/D8A), ENGINEERS STAMP DATED SEPTEMBER 20, 1990

Dear Mr. Grochowski:

Based on the information provided on the referenced submittal received September 21, 1990, the plan is approved by Hydrology Development for Site Development Plan approval by EPC. Please be advised that prior to Site Development Plan approval by DRB, an infrastructure list or a letter of commitment will be required by the City Agency representing the project.

A detailed drainage plan per the D.P.M. checklist will be required by Hydrology prior to Building Permit or Work Order Approval. If you should have any questions, please do not hesitate to call me at 768-2650.

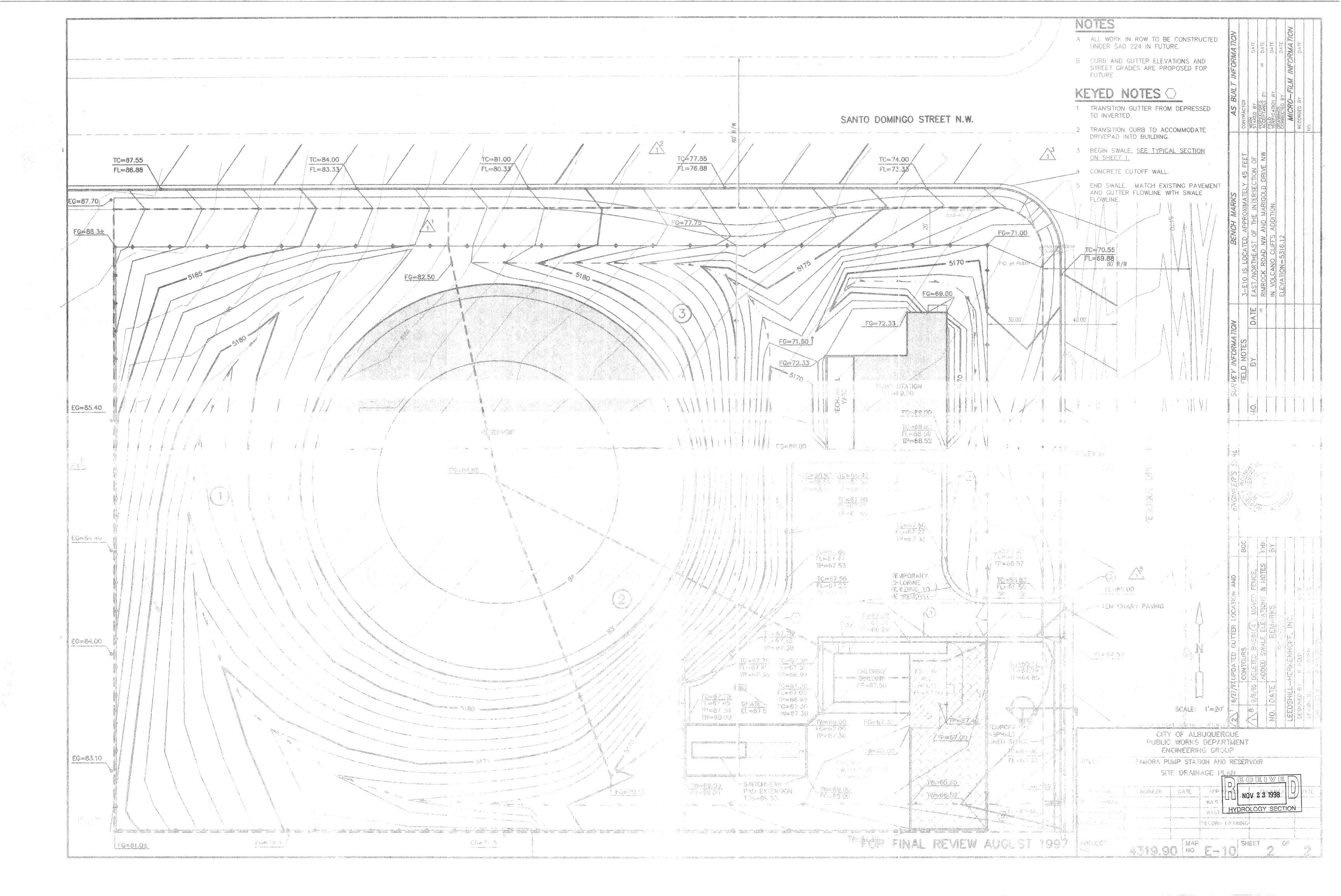
Cordially

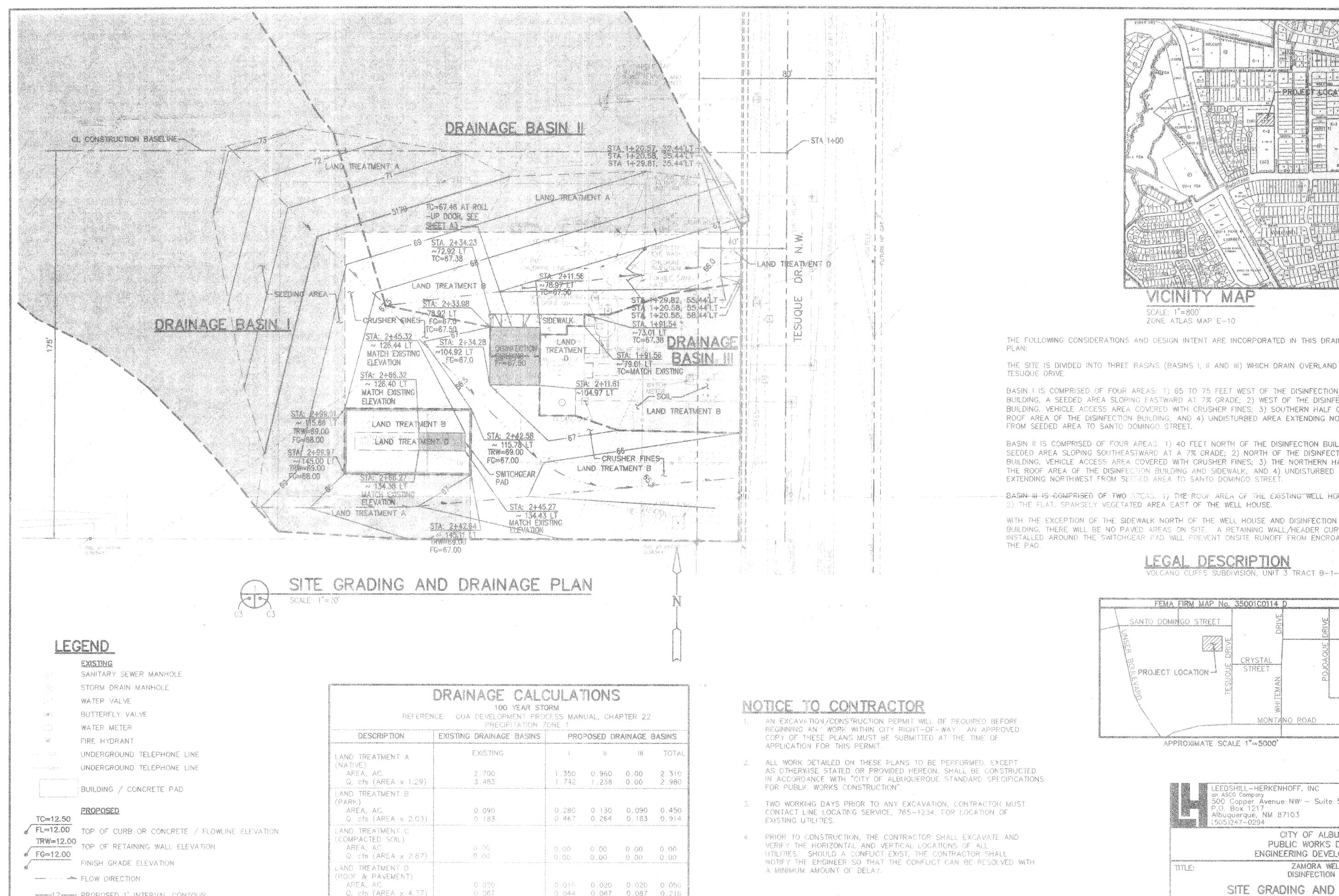
Gilbert Aldaz, P.E. & L.

Civil Engineer/Hydrology

GA wp+2202

PUBLIC WORKS DEPARTMENT





0.044 0.087 0.087 0.218

1.540 1.110 0.110 3.810

-2.253 1.589 0.**27**0 4.112

PROPOSED 1' INTERVAL CONTOUR

BUILDING / SWITCHGEAR PAD

--- DRAINAGE BASIN BOUNDARY

CONCRETE

GRADE BREAK

TAL

AREA, AC.

Q, ofs

2 870

3.753

ZONE ATLAS MAP E-10 THE FOLLOWING CONSIDERATIONS AND DESIGN INTENT ARE INCORPORATED IN THIS DRAINAGE THE SITE IS DIVIDED INTO THREE BASINS (BASINS I, II AND III) WHICH DRAIN OVERLAND TOWARD: BUILDING, A SEEDED AREA SLOPING EASTWARD AT 7% GRADE; 2) WEST OF THE DISINFECTION BUILDING, VEHICLE ACCESS AREA COVERED WITH CRUSHER FINES; 3) SOUTHERN HALF OF THE ROOF AREA OF THE DISINFECTION BUILDING; AND 4) UNDISTURBED AREA EXTENDING NORTHWEST BASIN II IS COMPRISED OF FOUR AREAS: 1) 40 FEET NORTH OF THE DISINFECTION BUILDING, A SEEDED AREA SLOPING SOUTHEASTWARD AT A 7% GRADE; 2) NORTH OF THE DISINFECTION THE ROOF AREA OF THE DISINFECTION BUILDING AND SIDEWALK: AND 4) UNDISTURBED AREA BASIN III IS COMPRISED OF TWO AREAS. 1) THE ROOF AREA OF THE EXISTING WELL HOUSE, AND BUILDING, THERE WILL BE NO PAVED AREAS ON SITE. A RETAINING WALL/HEADER CURB INSTALLED AROUND THE SWITCHGEAR PAD WILL PREVENT ONSITE RUNOFF FROM ENCROACHING VOLCANO CLIFFS SUBDIVISION, UNIT 3 TRACT 8-1-8 FEMA FIRM MAP No. 35001C0114 D CRYSTAL STREET MONTANO ROAD APPROXIMATE SCALE 1"=5000" EEDSHILL-HERKENHOFF, INC. 100 Copper Avenue NW - Suite 500 O. Box 1217 Albuquerque, NM 87103 505)247-0294 CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING DEVELOPMENT GROUP ZAMORA WELL FIELD DISINFECTION FACILITY SITE GRADING AND DRAINAGE PLAN Design Review Committee | City Engineer Approve Nov 2 3 1998 City Project No. Zone Map No. Sheet 4912.93 E-10 /95019_DF/CML/5019CSCO/11-20-96/KHK