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County of Bernalillo

State of New Mexico

ONE CIVIC PLAZA, N.W.
ALBUQUERQUE, NEW MEXICO 87102

ADMINISTRATION (505) 768-4000

COMMISSION (505) 768-4217

FAX (505) 768-4329

August 20, 1993

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THOMAS J. MESCALL, PROBATE JUDGE

RAY GALLAGHER, SHERIFF

H. R. FINE, TREASURER

Bob Ryals, P.E.
4929 Idlewilde SE
Albuquerque, NM 87108

DRAINAGE PLAN FOR LOT 27, BLOCK 15, TRACT 2, UNIT 1, N.A.A., (C-22/D36),
ENGINEER'S STAMP DATED AUGUST 6, 1993

Dear Mr Ryals:

Based on the information provided on the referenced submittal received August 11, 1993, kindly provide AMAFCA with the original floodplain easement form prior to this office releasing the Building Permit.

Please be advised that prior to the County Building Department performing final inspection of the structure, an Engineer's Certification that the site is in substantial compliance with this plan must be submitted and approved by this office.

If you should have any questions, please do not hesitate to call me at 768-2650.

Cordially,

A handwritten signature in black ink, appearing to read "Gilbert Aldaz", is written over a circular stamp.

Gilbert Aldaz, P.E. & P.S.
City/County Floodplain Administrator

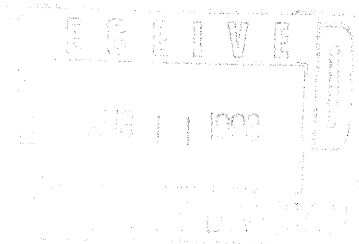
xc: Clifford E. Anderson, AMAFCA
Bob Foglesong, County PWD
John Baldwin, Owner
File

wp+7928

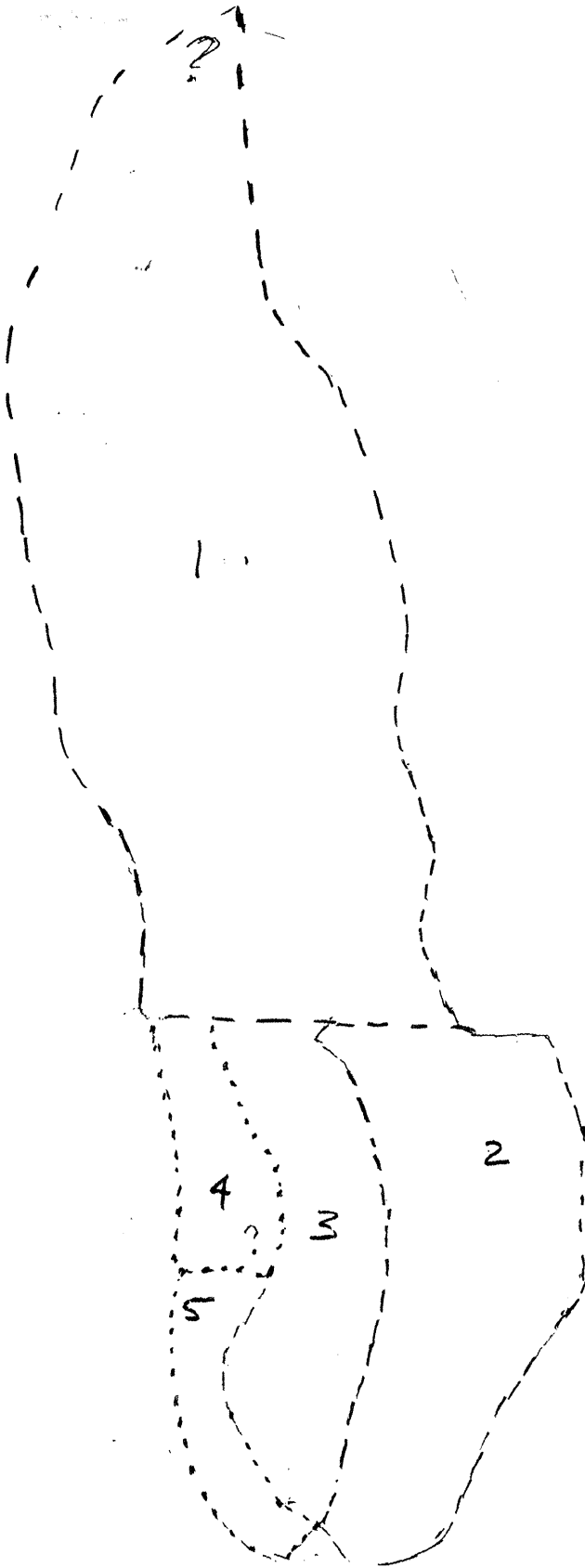
SUPPLEMENTAL DRAINAGE CALCULATIONS
BALDWIN RESIDENCE

LOT 27, BLK15, TRACT 2, UNIT 1
NORTH ALBUQUERQUE ACRES

OFFSITE BASIN MAP	1
AREA CALCULATIONS.....	2-3
OFFSITE HYDROLOGY CALCS.....	4
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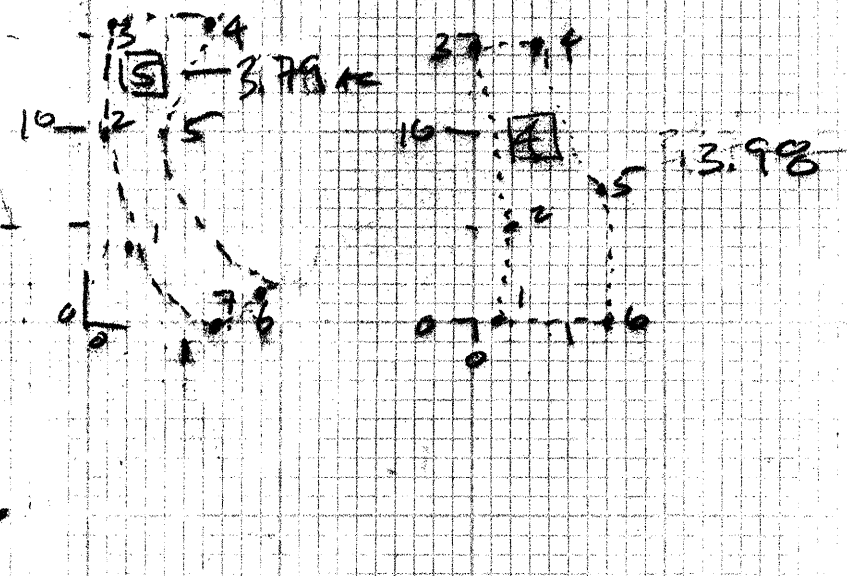
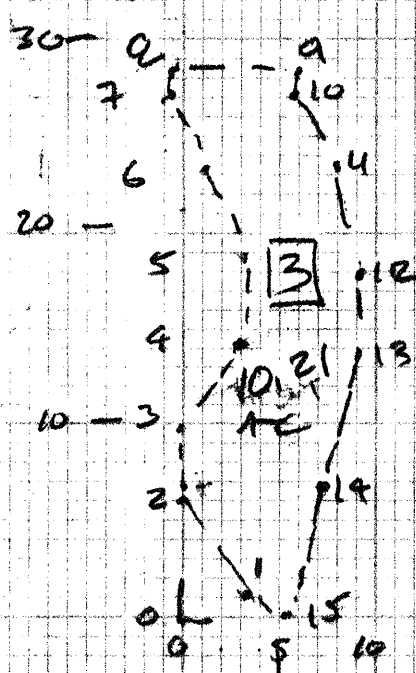
OFFSITE BASIN MAP
SCALE 1"=500'





HOME
AREAS

Hand-drawn diagram of a closed traverse on grid paper. The traverse consists of 12 points connected by lines. The lines are labeled with distances: 30, 20, 10, 12, 10, 10, 10, 10, 10, 10, 10, 10. A square is drawn with side length 10, and a point is marked at its center. The diagram is labeled "12-4-2" and "AC".



CHKD BY _____ DATE _____
BY _____ DATE _____

SCIENT _____
SUBJECT _____

JOB NO. _____
SHEET NO. _____ OF _____

FILE=A-COORDS.W01

AREA BY CO-ORDINATES FOR IRREGULAR POLYGON.

$2A = \{ X(1)*[Y(N)-Y(2)] + X(2)*[Y(3)-Y(1)] + \dots + X(N-1)*[Y(N)-Y(N-2)] + X(N)*[Y(1)-Y(N-1)] \}$

ENTER X,Y PAIRS IN EITHER CLOCKWISE OR COUNTERCLOCKWISE DIRECTION (BUT NOT MIXED)

COPY THE BOTTOM PAIR (Xn,Yn) TO THE TOP OF THE LIST, AND THE ORIGINAL TOP PAIR (X1,Y1)

TO THE BOTTOM OF THE LIST. THIS GIVES N+2 COORDINATE PAIRS

BALDWIN HOME 06/10/93 07:46 PM

BASIN 5

PT #	X	Y	INC	COMP
	6.500	0.000		
1	2.000	4.000	20.000	
2	0.800	10.000	9.600	
3	1.100	16.000	6.600	
4	6.100	16.000	-36.600	
5	4.000	10.000	-58.000	
6	9.000	1.500	-90.000	
7	6.500	0.000	16.250	
8	2.000	4.000		
9				

CALC AREA 66.075
FACTOR 2500.000
TOT AREA 165187.500
(ACRES) 3.792

BASIN 1

PT #	X	Y	INC	COMP
	25.500	0.000		
1	8.000	0.000	64.000	
2	8.000	8.000	120.000	
3	3.200	15.000	51.200	
4	1.500	24.000	25.500	
5	0.000	32.000	0.000	
6	0.000	39.000	0.000	
7	4.800	51.000	86.400	
8	12.800	57.000	-128.000	
9	14.200	41.000	-347.900	
10	20.000	32.500	-360.000	
11	22.500	23.000	-371.250	
12	22.000	16.000	-286.000	
13	24.100	10.000	-265.100	
14	23.000	5.000	-230.000	
15	25.500	0.000	-127.500	
16	8.000	0.000		

CALC AREA 884.325
FACTOR 2500.000
TOT AREA 2210812.500
(ACRES) 50.753

BASIN 4

PT #	X	Y	INC	COMP
	7.200	0.000		
1	1.500	0.000	7.500	
2	2.000	5.000	29.000	
3	0.000	14.500	0.000	
4	3.300	14.700	-24.750	
5	6.800	7.000	-99.960	
6	7.200	0.000	-50.400	
7	1.500	0.000		

CALC AREA 69.305
FACTOR 2500.000
TOT AREA 173262.500
(ACRES) 3.978

BASIN 2

PT #	X	Y	INC	COMP
	8.000	0.000		
1	4.000	0.000	20.000	
2	3.000	5.000	30.000	
3	4.000	10.000	40.000	
4	4.600	15.000	55.200	
5	4.400	22.000	52.800	
6	2.500	27.000	17.500	
7	0.300	29.000	0.900	
8	0.300	30.000	0.300	
9	13.500	30.000	-195.750	
10	16.000	15.500	-400.000	
11	10.000	5.000	-155.000	
12	8.000	0.000	-40.000	
	4.000	0.000		

CALC AREA 287.025
FACTOR 2500.000
TOT AREA 717562.500
(ACRES) 16.473

BASIN 3

PT #	X	Y	INC	COMP
	5.500	0.000		
1	3.300	1.000	19.800	
2	0.000	6.000	0.000	
3	0.000	10.000	0.000	
4	3.000	14.200	27.000	
5	3.000	19.000	26.400	
6	1.000	23.000	8.000	
7	-0.600	27.000	-3.420	
8	-0.600	28.700	-1.020	
9	6.000	28.700	-10.200	
10	6.000	27.000	-31.200	
11	8.000	23.500	-72.000	
12	9.000	18.000	-85.500	
13	9.000	14.000	-100.800	
14	7.200	6.800	-100.800	
15	5.500	0.000	-31.900	
	3.300	1.000		

CALC AREA 177.820
FACTOR 2500.000
TOT AREA 444550.000
(ACRES) 10.205

FILE=DPMHYD40.WQ1

ALBUQUERQUE, NM, DPM (1/93) CRITERIA - SIMPLE PROCEDURE FOR <= 40 ACRES

PX100-6 = PRECIPITATION EXCESS FROM 100-YEAR 6-HOUR STORM

VOL10D = VOLUME OF RUNOFF FROM 100-YEAR 10-DAY STORM

TRTMT CLASS A=UNDISTURBED, B=LAWNS, C=UNPAVED ROADS, D=ROOFS,PAVEMENT: SEE DPM P 22.5-5

***** PROJECT INFO *****

BADLWIN RESIDENCE - CARMEL AVE, N. ALBQ ACRES

OFFSITE = 16.47 ACRES W OF TRANWAY, 3 DU/GROSS ACRE ALLOWED PER BERN. CO. COMP. PLAN

RAIN ZONE 4 SEE DPM P 22.2-2

100-YEAR PRECIPITATION (P) DEPTHS, INCHES

1 HR	6 HR	24 HR	4 DAY	10 DAY
2.23	2.90	3.65	4.70	5.95

06/16/93 01:55 PM OFFSITE EXISITING CONDITIONS: ESTIMATED %A,B,C,D = 75,5,15,5

TRTMT CLASS	AREA SQUARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	VOL10D AC-FT
A	538172.25	12.35	0.80	2.20	27.180	0.824	0.824	0.824	0.824
B	35878.15	0.82	1.08	2.92	2.405	0.074	0.074	0.074	0.074
C	107634.45	2.47	1.46	3.73	9.217	0.301	0.301	0.301	0.301
D	35878.15	0.82	2.64	5.25	4.324	0.181	0.233	0.305	0.391
TOTAL	717563.00	16.47			43.126	1.380	1.431	1.503	1.589
					CU FT	60096	62338	65478	69215

OFFSITE FUTURE CONDITIONS @ 3 DU/ACRE: %A,B,C,D = 22,32,12,34

TRTMT CLASS	AREA SQUARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	VOL10D AC-FT
A	157863.86	3.62	0.80	2.20	7.973	0.242	0.242	0.242	0.242
B	229620.16	5.27	1.08	2.92	15.392	0.474	0.474	0.474	0.474
C	86107.56	1.98	1.46	3.73	7.373	0.241	0.241	0.241	0.241
D	243971.42	5.60	2.64	5.25	29.404	1.232	1.582	2.072	2.656
TOTAL	717563.00	16.47			60.143	2.189	2.539	3.029	3.612
					CU FT	95340	110588	131936	157350

FILE=DPMHYD40.WQ1

ALBUQUERQUE, NM, DPM (1/93) CRITERIA - SIMPLE PROCEDURE FOR <= 40 ACRES

PX100-6 = PRECIPITATION EXCESS FROM 100-YEAR 6-HOUR STORM

VOL10D = VOLUME OF RUNOFF FROM 100-YEAR 10-DAY STORM

TRTMT CLASS A=UNDISTURBED, B=LAWNS, C=UNPAVED ROADS, D=ROOFS,PAVEMENT: SEE DPM P 22.5-5

***** PROJECT INFO *****

BADLWIN RESIDENCE - CARMEL AVE, N. ALBO ACRES

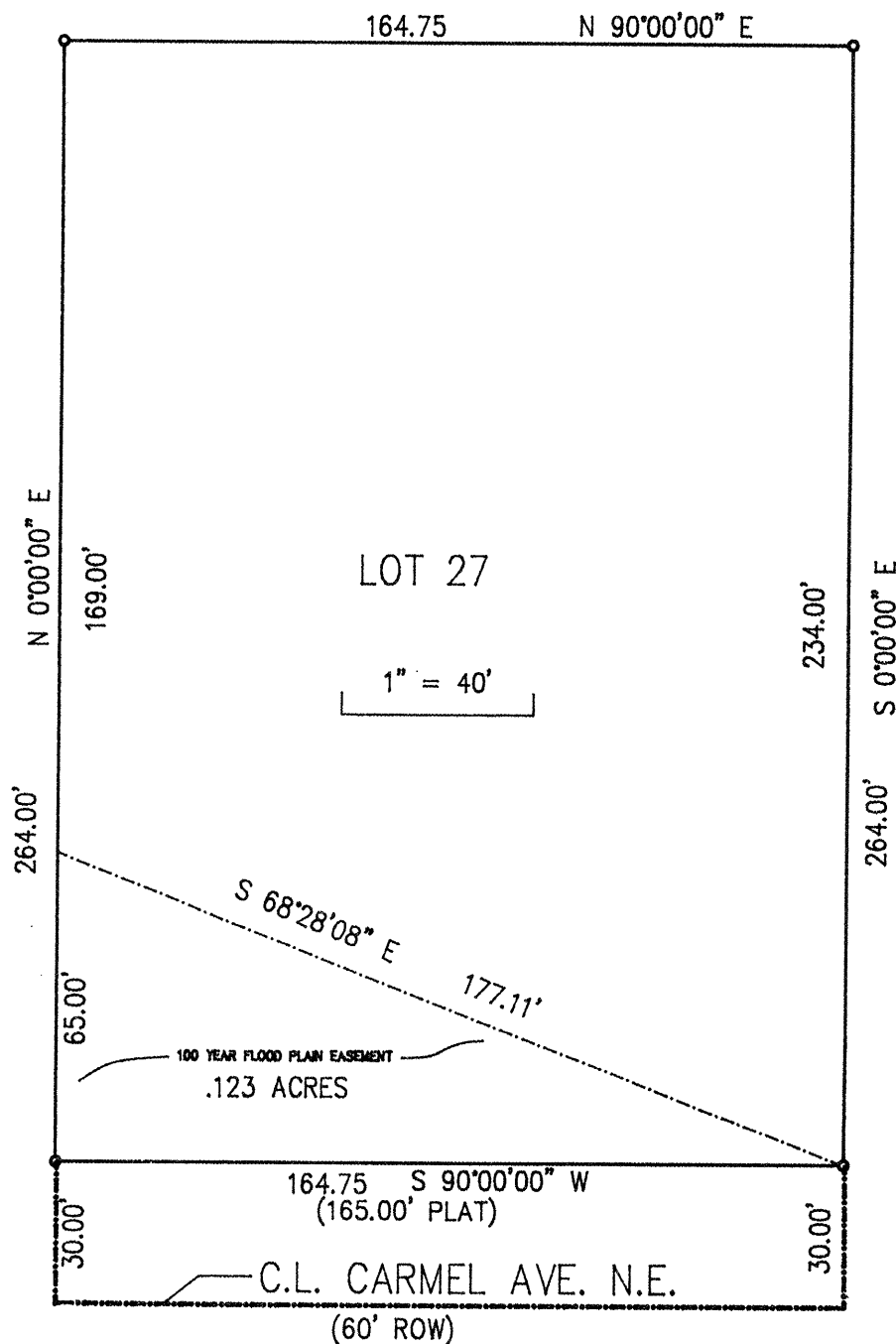
OFFSITE = 16.47 ACRES W OF TRAMWAY, 3 DU/GROSS ACRE ALLOWED PER BERN. CO. COMP. PLAN

06/16/93 01:55 PM ONSITE EXIST CONDITONS: %A,B,C,D = 100,0,0,0

TRTMT CLASS	AREA SQUARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	VOL10D AC-FT
A	38552.00	0.89	0.80	2.20	1.947	0.059	0.059	0.059	0.059
B	0.00	0.00	1.08	2.92	0.000	0.000	0.000	0.000	0.000
C	0.00	0.00	1.46	3.73	0.000	0.000	0.000	0.000	0.000
D	0.00	0.00	2.64	5.25	0.000	0.000	0.000	0.000	0.000
TOTAL	38552.00	0.89			1.947	0.059	0.059	0.059	0.059
					CU FT	2570	2570	2570	2570

ONSITE PROPOSED CONDITONS: APPROX %A,B,C,D = 36,36,13,15

TRTMT CLASS	AREA SQUARE FEET	AREA ACRES	PX100-6 IN/AC	QP100-6 CFS/AC	QP100-6 CFS	VOL6HR AC-FT	VOL1D AC-FT	VOL4D AC-FT	VOL10D AC-FT
A	13971.00	0.32	0.80	2.20	0.706	0.021	0.021	0.021	0.021
B	13971.00	0.32	1.08	2.92	0.937	0.029	0.029	0.029	0.029
C	4990.00	0.11	1.46	3.73	0.427	0.014	0.014	0.014	0.014
D	5620.00	0.13	2.64	5.25	0.677	0.028	0.036	0.048	0.061
TOTAL	38552.00	0.89			2.747	0.093	0.101	0.112	0.125
					CU FT	4032	4384	4875	5461



LEGAL DESCRIPTION

A certain tract of land to be designated as a Flood Plain Easement being the Southerly portion of Lot numbered Twenty seven (27) in Block numbered Fifteen (15) of Tract 2, Unit 1, North Albuquerque Acres, Bernalillo County, New Mexico, as the same is shown and designated on the Plat thereof, filed in the office of the County Clerk of Bernalillo County, New Mexico on March 23, 1931 in Plat Book D, Page 130, and being more particularly described as follows:

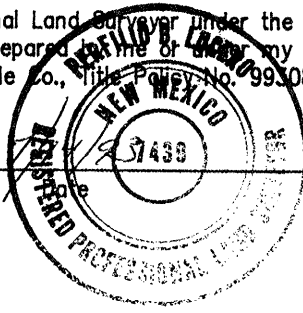
Beginning at the Southeast Corner of said Lot 27, being a point on the North right of way line of Carmel Avenue N.E.; thence from said point of beginning along said right of way S. 90 00'00" W., 164.75' to the Southwest Corner of said Lot 27; thence N. 00 00'00" E., 65', to the Northwest corner; thence S. 68 28'08" E., 177.11' to the point of beginning and containing 0.123 acres more or less.

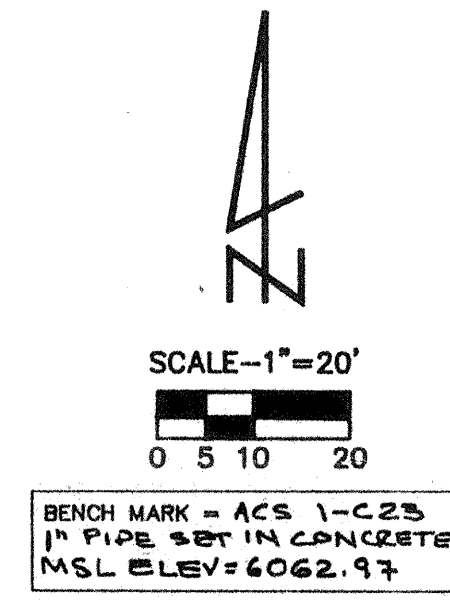
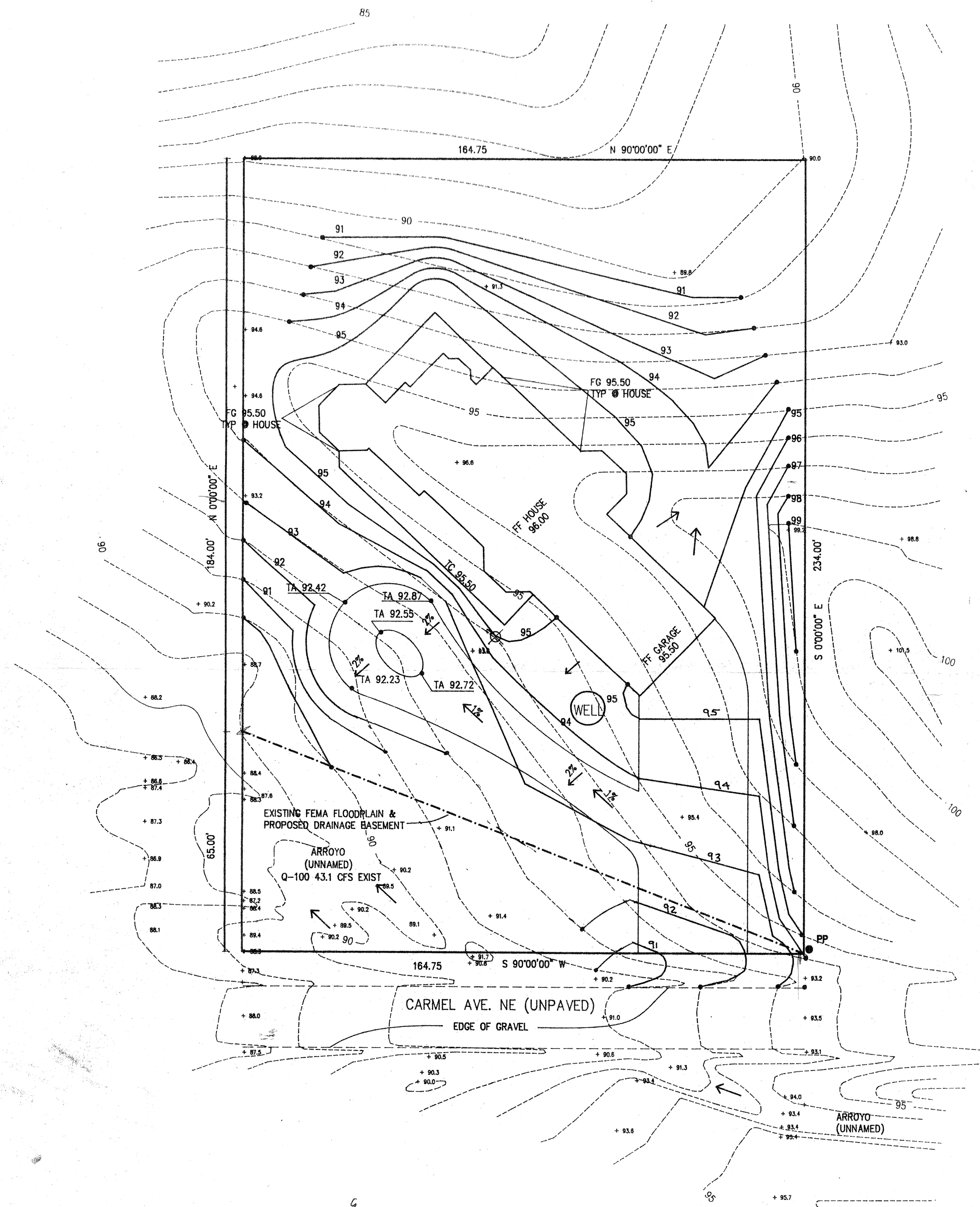
SURVEYOR'S CERTIFICATION

"I, Perfilio B. Lucero, a duly qualified Registered Professional Land Surveyor under the laws of the State of New Mexico, do hereby certify that this easement was prepared for me or under my supervision, from a plat of survey prepared by Mr. Carl R. Harrington, Albuquerque Title Co., Title Policy No. 99308/SJM on May 29th, 1991, and not from an actual field survey.

PERFILIO B. LUCERO

N.M.R.P.L.S. No. 7439

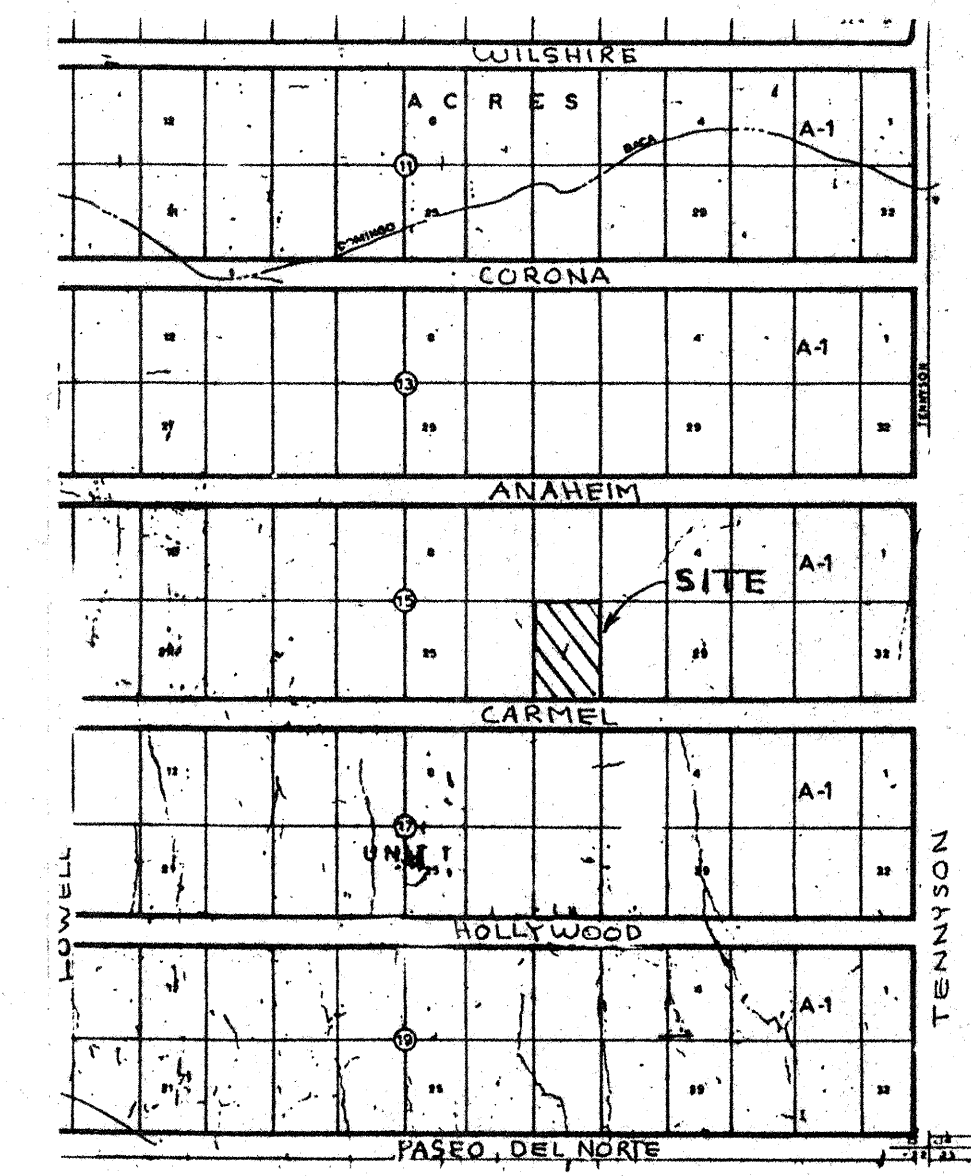




- LEGEND**
- TA TOP OF ASPHALT
 - TP TOP OF PAVEMENT
 - FL FLOW LINE
 - TC TOP OF CURB / CONCRETE
 - SW SIDEWALK
 - FF FINISHED FLOOR
 - FG FINISHED GRADE
 - EQ EXISTING GRADE
 - W WATER VALVE
 - M WATER METER
 - F FIRE HYDRANT
 - T TRAFFIC SIGNAL
 - TRAFFIC CONTROL BOX
 - 0.0' NEW CONTOURS
 - - - 4.0' EXISTING CONTOURS
 - 88.50 NEW SPOT ELEVATION
 - 88.73 EXISTING SPOT ELEVATION
 - FLOW DIRECTION
 - NEW CURB AND GUTTER
 - - - EXISTING CURB AND GUTTER

GENERAL NOTES

1. An excavation/construction permit will be required before beginning any work within Bernalillo County right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.
2. All work detailed on these plans to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with the State of New Mexico Standard Specifications for Public Works Construction, most recent edition. Work within County right of way shall be in accord with County requirements, including the latest edition of the County Street Standards.
3. Two working days prior to any excavation, contractor must contact Line Locating Service (260-1990) for location of existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the Engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to residential street use.
6. Maintenance of these facilities shall be the responsibility of the Owner of the property served.
7. No wall or fence, particularly including chain link fence, shall be constructed in the 100-year flood plain shown in any way that will trap silt or debris and/or obstruct flow.
8. Septic tank and absorption field shall be located in accord with Bernalillo County Liquid Waste Ordinance, No. 88-1



VICINITY MAP (C-22) NO SCALE

DRAINAGE PLAN FOR
BALDWIN RESIDENCE
CARMEL AVENUE NE ALBUQUERQUE, NEW MEXICO

ZONING MAP: C-22

LEGAL DESCRIPTION: LOT 27, BLOCK 15, TRACT 2, UNIT 1, NORTH ALBUQUERQUE ACRES

FLOOD ZONE: AO-1: FIRM MAP #35002 0011 C (SOUTH PORTION OF SITE)

SITE DESCRIPTION: THE 0.89 ACRE SITE IS LOCATED ON CARMEL AVE. BETWEEN LOWELL ST. AND TENNYSON AT. IN NORTH ALBUQUERQUE ACRES. AN UNNAMED TRIBUTARY TO THE NORTH-DOMINGO BACA ARROYO CROSSES CARMEL ON THE SOUTH SIDE OF THE SITE AND THERE IS A BROAD SWALE ON THE NORTH. A SMALL PORTION OF THE SITE DRAINS TO THE WEST. PRESENTLY THE SITE IS UNDEVELOPED AND HAS THE SPARSE GRASS AND SHRUB VEGETATION TYPICAL OF THE AREA. CURRENT ZONING ALLOWS 1 DWELLING UNIT PER GROSS ACRE (1 DU/AC) AND SOME NEARBY PARCELS HAVE BEEN DEVELOPED AT THIS DENSITY. THE ALBUQUERQUE-BERNALILLO COUNTY COMPREHENSIVE PLAN ALLOWS FOR 3 DU/AC FOR THIS AREA IN THE FUTURE.

PROPOSED IMPROVEMENTS: RESIDENTIAL HOME WITH ONSITE WELL AND SEWAGE SYSTEM

FLOOD ZONE: FEMA MAPS (1983) SHOW A SHALLOW FLOOD HAZARD ZONE (DEPTH APPROX 1 FT.) CROSSING THE SOUTHERN PORTION OF THE SITE. SINCE 1983 THE RE-CONSTRUCTION OF TRAMWAY BOULEVARD HAS CUT OFF FLOW FROM MOST OF THE WATERSHED AND THE REMAINING 16.5 ACRES (APPROX.) PROBABLY WOULD NOT MERIT A FLOOD ZONE BY CURRENT STANDARDS. FIELD INSPECTION INDICATES A SHALLOW SANDY CHANNEL BED HEADING NORTHWEST FROM CARMEL IN THE WEST 1/2 OR 1/3 OF THE SITE (RATHER THAN IN THE SOUTHEAST CORNER AS INDICATED ON THE FEMA MAP) BUT RECENT ROAD GRADING HAS POSSIBLY REDIRECTED FLOW SO THAT IT WILL FOLLOW THE ROAD INSTEAD. FLOOD PLAIN MAPPING FOR THE AREA MAY BE REVISED IN THE NEAR FUTURE.

DESPITE THESE ISSUES, DEVELOPMENT OF THE SITE RESPECTS THE FLOOD PLAIN AS SHOWN ON THE FEMA MAPS. THERE IS NO FILLING IN THE FLOOD PLAIN AND ALL WELLS, STRUCTURES, AND SEWAGE SYSTEMS ARE WELL OUTSIDE AND ABOVE THE MAPPED FLOOD ZONE. NO FLOW-OBSTRUCTING FENCING IS ALLOWED IN THE FLOODPLAIN WHILE THE FLOODPLAIN IS IN EFFECT.

CALCULATIONS BELOW GIVE THE PEAK FLOW IN THE MAPPED FLOOD ZONE FOR THE CURRENT DRAINAGE AREA ABOVE THE WEST PROPERTY LINE. FOR FUTURE CONDITIONS THE 60.1 CFS PEAK REJECTS FULL DEVELOPMENT AT 3 DU/AC AND NO FLOW REDUCING STRUCTURES. SINCE ONE SITE (PRINCE OF PEACE CHURCH) NOW HAS A POND WITH A CONTROLLED OUTLET AND SEVERAL SITES HAVE BEEN DEVELOPED AT 1 DU/AC THE 60.1 CFS IS AN UPPER LIMIT. THE EXISTING CONDITIONS ESTIMATE OF 43.1 CFS IS HIGHER THAN THE 29.5 CFS CITED IN THE DRAINAGE SUBMITTAL FOR LOT 26, ADJACENT ON THE WEST (DOWNSTREAM). IT IS UNCLEAR HOW THE EXISTING 24" CULVERT IN THE UNNAMED DIRT ROAD COULD SERVE AS A SIGNIFICANT FLOW RESTRICTOR, AS INDICATED IN THAT SUBMITTAL, BECAUSE IF FLOW WERE MORE THAN SLIGHTLY ABOVE CULVERT CAPACITY IT WOULD IT SPILL INTO CARMEL AND REJOIN THE MAIN FLOW IN FRONT OF LOT 27, APPROXIMATELY 200 FEET DOWNSTREAM.

HYDROLOGY CALCULATIONS & RESULTS

1. METHODOLOGY: CITY OF ALBUQUERQUE METHOD FOR AREAS <= 40 ACRES
ALBUQUERQUE DPM SECTION 22.2 (JANUARY, 1993)

2. NOTES: * SEE DRAINAGE FILE FOR DETAILS & INDIVIDUAL BASINS

3. RAINFALL ZONE = 4: 100-YR 6-HR DURATION RAIN = 2.90 IN (TABLE 2) (DESIGN STORM)

4. LAND TREATMENTS & PEAK RUNOFF RATES Qp CFS/AC (TABLES 4 & 9)

	A	B	C	D	Qp
NATURAL	2.20				2.92
PACKED EARTH, DIRT ROADS	3.73				5.25
ROOFS, CONCRETE, PAVING					5.25

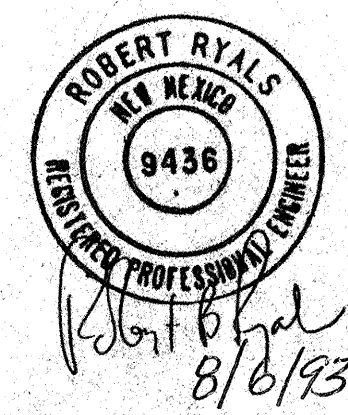
5. RESULTS

	EXISTING	PROPOSED	EXISTING	FUTURE
TREATMENT A, AC-%	0.885 100.0	0.321 36.2	12.355 75.0	3.624 22.0
TREATMENT B, AC-%	0.0	0.0	0.824 5.0	5.271 32.0
TREATMENT C, AC-%	0.0	0.0	0.115 12.9	2.471 15.0
TREATMENT D, AC-%	0.0	0.0	0.129 14.6	0.824 5.0
TREATMENT E, AC-%	0.0	0.0	0.129 14.6	5.601 34.0
	(0.885 100.0)	(0.886 99.9)	(16.474 100.0)	(16.473 100.0)
Qpeak, cfs	1.95	2.75	43.1	60.1
VOLUME, CU FT	2,570	4,032	60,096	95,340
VOLUME, AC FT	0.06	0.09	1.38	2.19

RESUBMITTAL NEEDS
* DEDICATION OF
EASEMENT PRIOR
TO RELEASE
OF B.P.

C. E. Chen * 8/12/93
A.M.A.P.C.A.

John H. Taylor 8/13/93
BERNALILLO COUNTY.



**BALDWIN RESIDENCE
GRADING & DRAINAGE PLAN**

RYALS engineering & construction services
4929 Idlewild S.E. Albuquerque, NM 87109
(505) 265-8267 269-1142 mobile telephone

SHEET NO.
1 OF 1