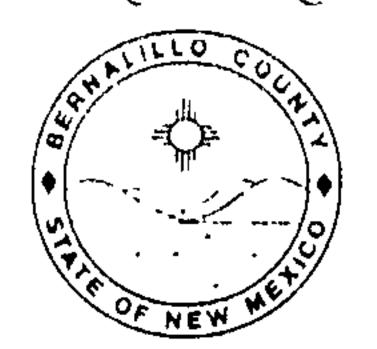
County of Bernalillo

State of New Mexico



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

DAVID K. ANDERSON, ASSESSOR JUDY D WOODWARD, CLERK THOMAS J. MESCALL, PROBATE JUDGE JOE BOWDICH, SHERIFF ORLANDO VIGIL, TREASURER

April 14, 1999

Joe P. Moore, P.E. Molzen-Corbin & Associates 2701 Miles, SE Albuquerque, New Mexico 87106

Grading and Drainage Plan for COA Lift Station 20 (P12/D13) (PWDN 990034) RE: Submitted for Building Permit Approval, Engineer's Stamp Dated 3/25/99.

Dear Mr. Moore:

BOARD OF COUNTY COMMISSIONERS

STEVE D. GALLEGOS, CHAIRMAN

KEN SANCHEZ, VICE CHAIRMAN

BARBARA J. SEWARD, MEMBER

JUAN R. VIGIL, COUNTY MANAGER

TOM RUTHERFORD, MEMBER

LES HOUSTON, MEMBER

DISTRICT 2

DISTRICT 1

DISTRICT 3

DISTRICT 4

DISTRICT 5

Based on the information provided on March 29, 1999, the above referenced plan is approved for Building Permit release.

As you are aware, the Engineer's Certification is required prior to the release of the Certificate of Occupancy for this site.

If you have any questions, or if you need additional information, please call me at 924-3982, or contact Brad Catanach at the County.

Sincerely,

Susan M. Calongne, P.E.

City/County Floodplain Administrator

Bill Balch, City of Albuquerque C:

Lisa Ann Manwill, P.E., Albuquerque Metropolitan Arroyo Flood Control Authority

Brad Catanach, P.E., Bernalillo County Public Works Division

!File)

DRAINAGE INFORMATION SHEET

PROJECT TIT	LE: City	of Alb. Lift Station 20	ZONE ATLA	S/DRNG. FILE#: P-12 1/013
DRB#:		EPC#	_WORK ORDE	R #:
LEGAL DESCR	RIPTION:	·	· · - · · ·	
CITY ADDRES	ss: <u>391</u>	4 Isleta Blvd. SW, Albuc	uerque	
ENGINEERING	FIRM:	<u>Molzen-Corbin & Assoc.</u>	CONTACT:	Angela Montoya
ADDRESS:		2701 Miles Rd SE	_PHONE:	242-5700
OWNER:		City of Albuquerque	_CONTACT:	Bill Balch
ADDRESS:		<u></u>	_PHONE:	
ARCHITECT:			CONTACT:	
ADDRESS:			_PHONE:	<u> </u>
SURVEYOR:			_CONTACT:	
ADDRESS:			_PHONE:	<u> </u>
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			OTHER	
DATE SUBMIT	TED:	<u>March 26, 1999</u>		
BY:		<u>Angela Montoya</u>		MAR 2 9 1999 HYDROLOGY SECTION

ERNALILLO COUNTY

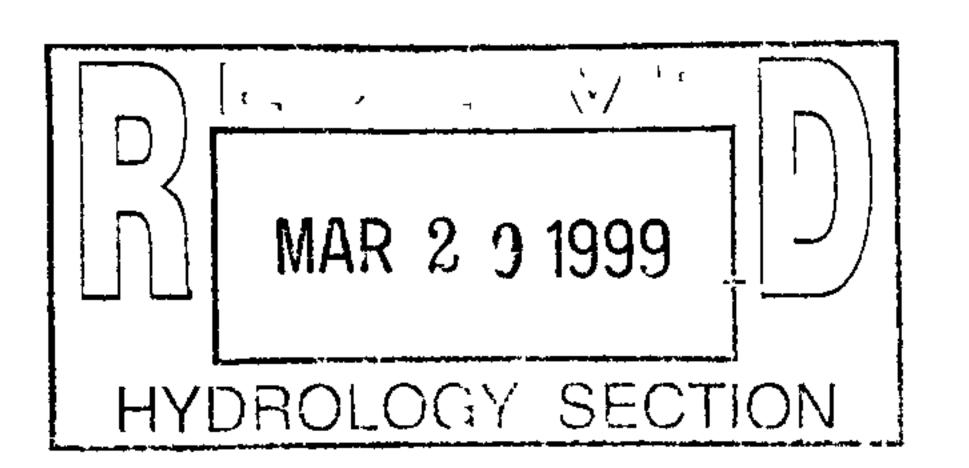
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PWD SUBMITTAL

Use for all PWD applications EXCEPT Street Excavation

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BERNALILLO COUNTY USE ONLY C/R's: D (-1, ((-5) -2, 1) (V/ -3, 1)	of any variance or violation of any of the provisions of any COUNTY or approval of plans, specifications, computations, and shop drawings preve requiring the correction of errors in said plans, specifications, computations	r STATE codes, ordinances, standards, or policies. Nor shall such issuance of a permit of ent any authorized COUNTY representative or COUNTY inspector form thereafter ones, or shop drawings or from stopping construction operations which are being carried
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MAR 2 0 1999 Received By	C/R's: \[\[\] \[\] \[\] \\ \] \\ \]	TOTAL FEE
MAR 2 0 1999		
	MAR 2 3 1999	
		; neceived by

Appendix B Pond Calculations



Calculated By A. MONTOL	1A Date /2/16/98	Client COA Project No.
Checked By	Date	Project LIFI STATION 20
Sheet No.	Of	Subject REA'D POND VOLUME
	<u>-</u>	

⇒ ONSITE RUNOFF:

BASIN	areak,100 (DEU)	QPEAKLOS (EXIST.)
A1	0.26cfs	0.10 cfs
A2	0.07 cfs	0.04 ds
1)3	0.16 cfc	0.07 %
-4	0.11 cfs	Q. 03 cfs
A5	0.12 cfs	0.05 ch
BI	0.94 cfs	0.35 Cfs

- BASINS A1-A5: RUNOFF HMCUNTS JAN BE CONSIDERED NEGLIGIBLE.
- => EASING C1-C3: RUNOFF IS SELF CONTAINED.
- => BASIN B1:
 - PROPOSE TO MITIGATE PLUCIOPED TLOW FROM BASIN EI TO COMPLY WITH COUNTY CROINANCE 96-5.
 - DEULLOFED HISTORICAL = REQUIRED PONDING VOLUME

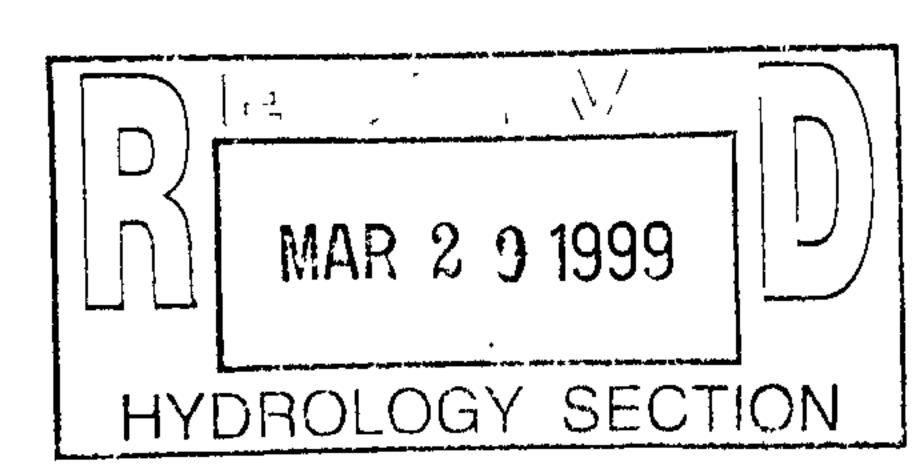
FROPOSEC POND VOUIME:

$$V = \frac{(41' \times 67') + (52 \times 26')}{2} (23.2 - 22.3)$$

$$= 1,845 \text{ cf} \Rightarrow 0.k.$$



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ANNUMENTS:



County of Bernalillo

State of New Mexico

STEVE D. GALLEGOS, CHAIRMAN
DISTRICT 2
KEN SANCHEZ, VICE CHAIRMAN
DISTRICT 1
TOM RUTHERFORD, MEMBER
DISTRICT 3
BARBARA J. SEWARD, MEMBER
DISTRICT 4
LES HOUSTON, MEMBER
DISTRICT 5

JUAN R. VIGIL, COUNTY MANAGER



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

DAVID K. ANDERSON, ASSESSOR
JUDY D. WOODWARD, CLERK
THOMAS J. MESCALL, PROBATE JUDGE
JOE BOWDICH, SHERIFF
ORLANDO VIGIL, TREASURER

March 10, 1999

Joe P. Moore, P.E. Molzen-Corbin & Associates 2701 Miles, SE Albuquerque, New Mexico 87106

RE: Grading and Drainage Plan for COA Lift Station 20 (P12/D13) (PWDN 990034) Submitted for Building Permit Approval, Engineer's Stamp Dated 1/29/99.

Dear Mr. Moore:

This letter is a compilation of comments from my office as well as from County Public Works and AMAFCA. Prior to approval for Building Permit release, the following comments must be addressed:

- 1. The Grading and Drainage Plan did not address the entire site. Please show the entire site with the existing FEMA floodplain limits on the plan. Is construction proposed within the floodplain?
- 2. Identify the base flood elevation per the flood maps. The floors of any proposed structures must be higher than the base flood elevation.
- Please provide the pond calculations. The required pond volume is for the 100-year, 10-day storm, plus any compensatory volume for structures within the floodplain.
- 4. It appears that the Grading plan had an original signature and Engineer's stamp. Be sure that the signature and stamp are on the original reproducible Mylar so that all of the copies of the plan are dated the same.

If you have any questions regarding these comments, please call me at 924-3982, or contact Brad Catanach at the County.

Sincerely,

Susan M. Calongne, P.E.

City/County Floodplain Administrator

Lisa Ann Manwill, P.E., Albuquerque Metropolitan Arroyo Flood Control Authority Brad Catanach, P.E., Bernalillo County Public Works Division
File

DRAINAGE INFORMATION SHEET

DRB #: Parcel situated in SEC12, T9N, R2 LEGAL DESCRIPTION: Parcel situated in SEC12, T9N, R2 CITY ADDRESS: Isleta Blvd., SW ENGINEERING FIRM: Molzen-Corbin & Associates CON ADDRESS: 2701 Miles, SE PHO OWNER: City of Albuquerque CON ADDRESS: 4201 Second St., SW PHO Albuquerque, NM 87105 ARCHITECT: CON ADDRESS: PHO SURVEYOR: CON ADDRESS: PHO CONTRACTOR: CON ADDRESS: PHO TYPE OF SUBMITTAL: CHECK TYPE DRAINAGE REPORT SKETC X DRAINAGE PLAN PRELIT CONCEPTUAL GRADING & DRAINAGE PLAN S. DE X GRADING PLAN S. DE	WORK ORDER #: P-12/DO13 WORK ORDER #: PE Tract 8C2B, MRGCD Map #49 WTACT: Joe P. Moore (505) 242-5700 WILLIAM Balch WILLIAM Balch TACT: NE: TACT: TACT: TACT:
CITY ADDRESS: Isleta Blvd., SW ENGINEERING FIRM: Molzen-Corbin & Associates COMMERS: 2701 Miles, SE PHO ADDRESS: 4201 Second St., SW PHO ADDRESS: 4201 Second St., SW PHO Albuquerque, NM 87105 COMMERCHITECT: CHECK TYPE ADDRESS: PHO TYPE OF SUBMITTAL: CHECK TYPE DRAINAGE REPORT SKETCT X DRAINAGE PLAN PRELITE CONCEPTUAL GRADING & DRAINAGE PLAN S. DE X GRADING PLAN S. DE	TACT: Joe P. Moore (505) 242-5700 William Balch NE: TACT: NE: TACT: NE:
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BERNALILLO COUNTY

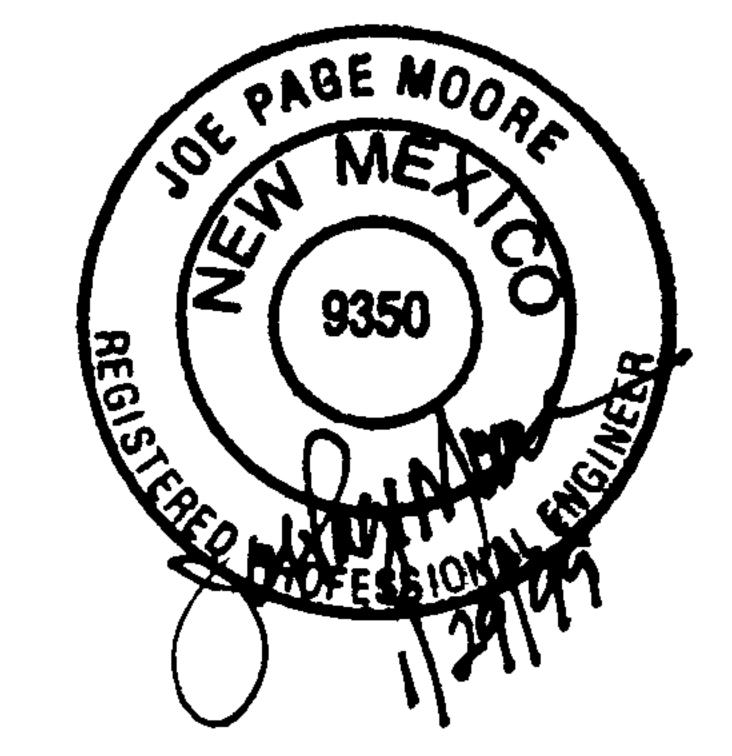
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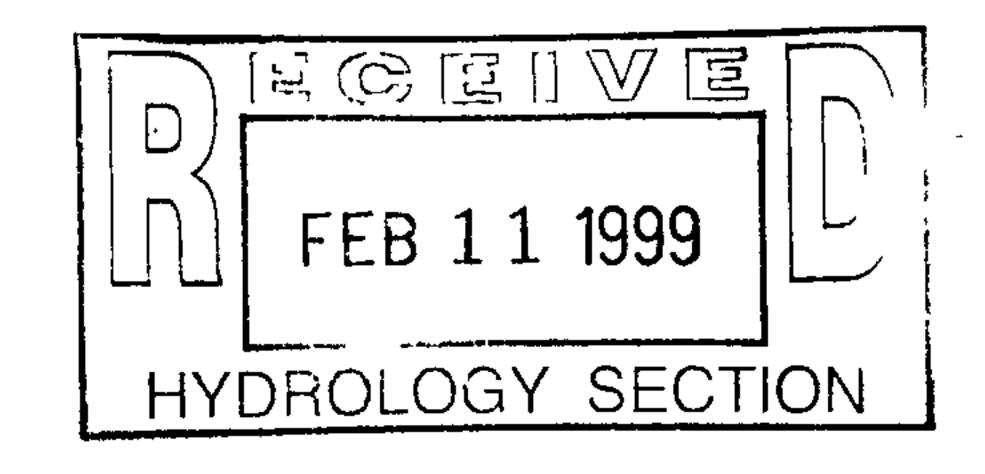
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	of any va approval requiring	nance of a permit or a review or approval of plan specifications, comparisons or violation of any of the provisions of any COUNTY or ST of plans, specifications, computations, and shop drawings prevent g the correction of errors in said plans, specifications, computations der when in violation of any COUNTY or STATE codes, ordinances	ATE codes, ording any authorized Codes, or shop drawing	nances, standards, or policical OUNTY representative or as or from stopping constru	ies. Nor shall su COUNTY inspe	ch issuance of a permit or ctor form thereafter
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DRAINAGE REPORT FOR CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT

WASTEWATER LIFT STATION 20 BAR SCREEN FACILITIES

January 1999





MOLZEN-CORBIN

& Associates

2701 Miles Road, SE Albuquerque, New Mexico 87106 (505) 242-5700

1.0 INTRODUCTION

The Wastewater Utility Division of the City of Albuquerque Public Works Department is proposing to construct improvements to Lift Station No. 20 that includes a new Bar Screen facility, a compost bio-filter box, and asphalt driveway, and other miscellaneous items (see Plate 1). Pursuant to Bernalillo County Drainage Ordinance 96-5, this report outlines the methods by which surface runoff is to be mitigated in accordance with County criteria.

2.0 HYDROLOGY

All hydrologic calculations and analysis have been done in accordance with the City of Albuquerque Development Process Manual, Section 22.2, "Hydrology", 1993. See Appendix A.

3.0 EXISTING CONDITIONS

The site is located along U.S. Highway 85, south of Rio Bravo (see Figure 1). The Western portion of the site lies within Flood Zone AH with flood elevation of 4,923 (see Plate 3). The site is bounded on the south and east by the Pajarito Lateral, on the north by Harrison Middle School and on the west by U.S. Highway 85. Only the eastern portion of the site is developed with Lift Station No. 20 facilities. However, a paved asphalt drive in the western portion of the site has been utilized to provide access from U.S. Highway 85. A CMU wall surrounds the lift station area, which is secured by a locking chain link gate.

The site slopes mildly from the northwest to the southeast, with the dominant slope being from west to east toward the Rio Grande River. Existing site conditions indicate that only very minor offsite flows impact the site from the north and south and that these flows appear to traverse along the northern and southern boundary lines, respectively. Therefore, all of the offsite flows have been considered negligible.

Hydrology for onsite existing conditions can be found in Appendix A.

4.0 PROPOSED CONDITIONS

A retention pond in the southeastern corner of the lot has been sized to contain the 100-year/10-day volume developed in Basin B1. Drainage openings through the proposed CMU wall along the southern edge of the facility will serve as the overflow spillway. The spillway is sized to release a 100-year/6-hour storm discharge of 0.94 cfs. See Appendix B for pond calculations and Plate 4 for CMU wall construction details.

The majority of the developed runoff from Basins A4 and A5 ($Q_{100} = 0.08$ and 0.13, respectively) will combine with Basin A1 runoff of 0.16 cfs and the combined flow of 0.37 cfs will be directed south offsite and eventually east to follow historical flow patterns. The remainder of the runoff will be directed to small surface drains. Developed runoff in Basins A2 and A3 ($Q_{100} = 0.03$ cfs and 0.09 cfs) will follow historical flow patterns along the northern edge of the site toward the east. Plate 2 outlines the proposed basin delineations and Plate 3 shows the proposed grading plan for the site.

The small amount of runoff from Basins C1 and C2 is directed to surface drains which flow into the sewer line facilities. Basin C3 is considered to be self-containing. Hydrology for proposed conditions can be found in Appendix A. Plate 2 outlines the proposed basin delineations and Plate 3 shows the proposed grading plan for the site.

LIST OF ATTACHMENTS

FIGURES

Figure 1 Vicinity Map

APPENDICES

Appendix A Hydrologic Calculations

Appendix B Pond Calculations

PLATES

Plate 1 Overall Site Plan

Plate 2 Developed Conditions Basin Map

Plate 3 Site Grading Plan
Plate 4 CMU Wall Plan
Plate 5 Civil Detail Sheet

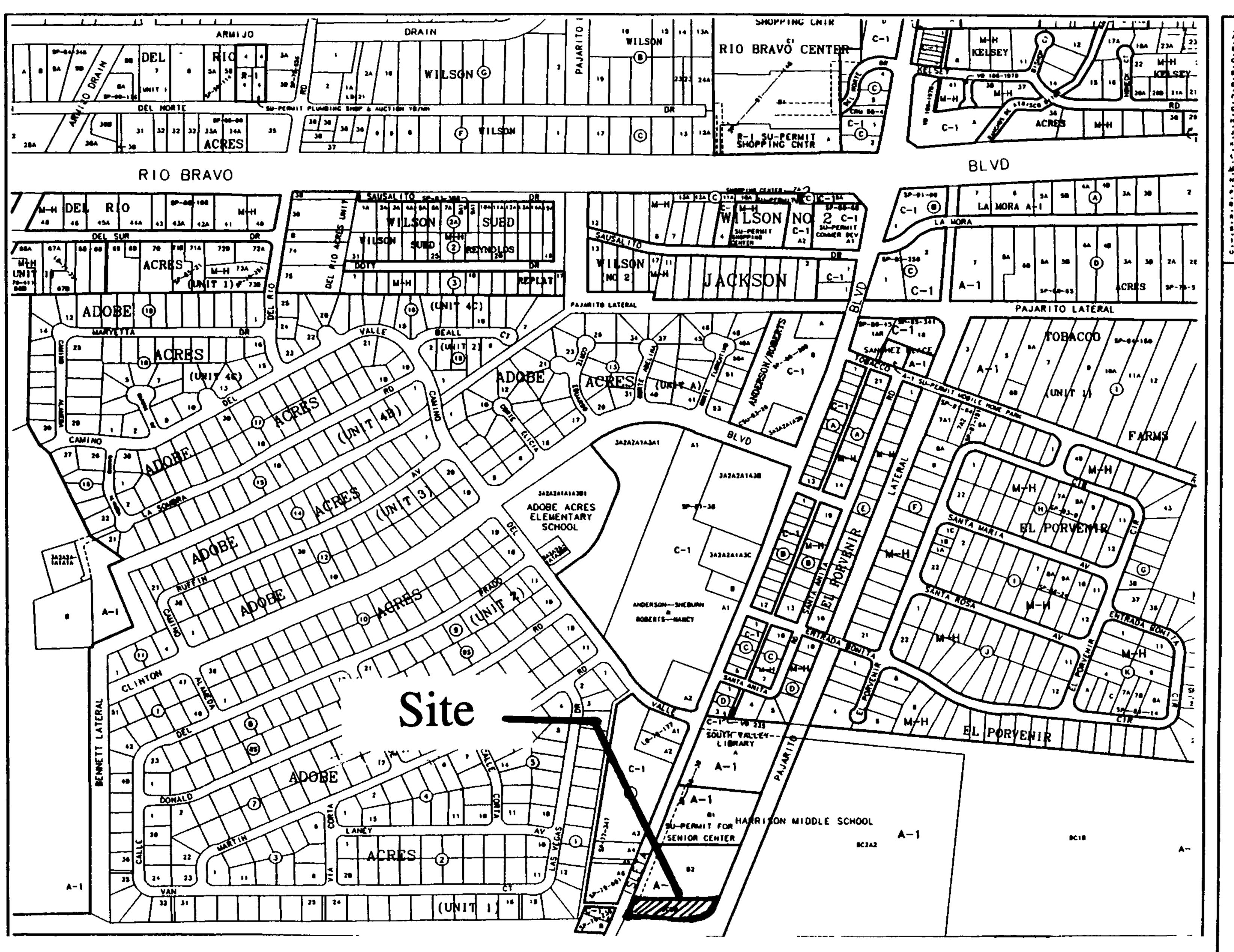
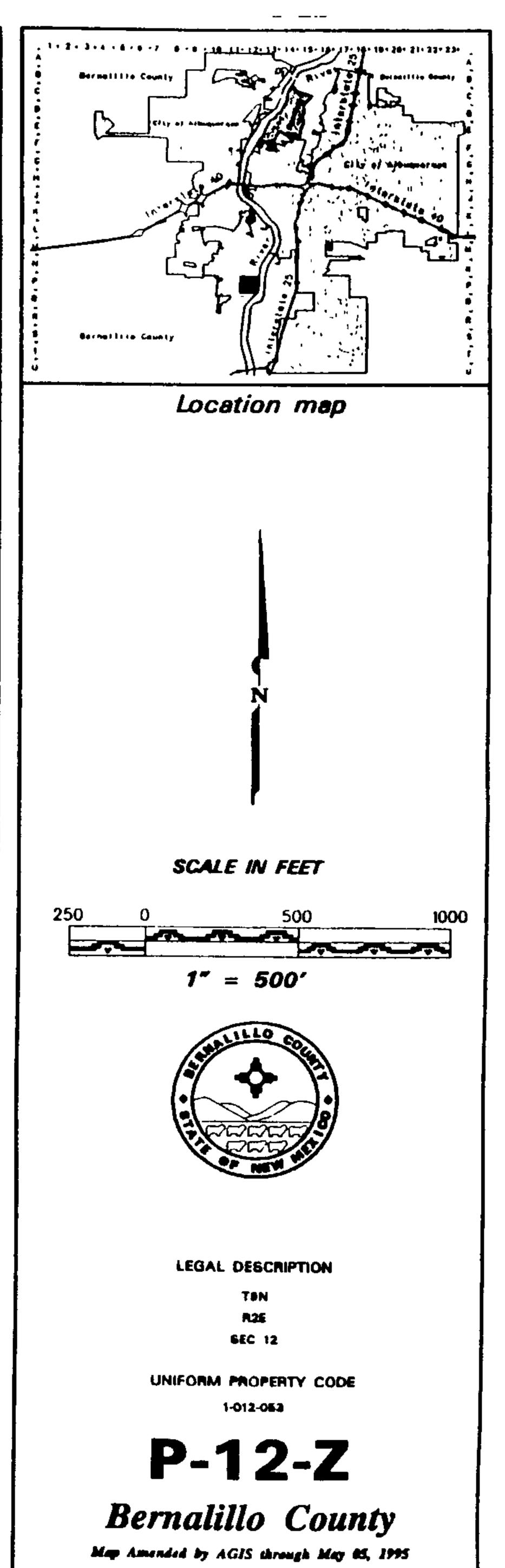


Figure 1 - Vicinity Map



Appendix A Hydrologic Calculations

Calculated By	A MONTOUA	Date 12/16/98	Client COA Project No.	
Checked By	7 "	Date	Project LIFT STATION ZO	
Sheet No.		Of 6	Subject Hyproway	

EXISTING VS DEUELOPED CONDITIONS:

NOTE: ASSUMING HISTORICAL LAND TREATMENT TUPE A.

$$\Rightarrow O_{PEAK,100} = (3,450)(1.29) = 0.10 \text{ cfs}$$

$$.43,560$$

$$\Rightarrow V(100-6) = V(100-10) = \frac{(3,450)(0.44)}{12} - 126.5cf$$

=> DEVELOPED:

=> LAND TREATMENT PLUCCATIONS:

$$A = 0$$
 $B = 0$
 $C = 75\% = 2,588 \text{ sf.}$
 $D = 15\% = 862 \text{ sf.}$

$$\Rightarrow Q_{peak,100} = (2588)(2.87) + 862(4.37) = 0.26 \text{ cfs}$$

$$43,560$$

$$\Rightarrow , \ \forall (100-10) = (2588)(0.99) + 862(1.97) + 862(1.47) = 460.6-cf$$

Calculated By A. MONTOUA	Date 12/16/98	Client COA Project No.
Checked By	Date	Project LIFT STATION 20
Sheet No. 2	Of /p	Subject Hyprocogu
; · · · · · · · · · · · · · · · · · · ·	Ŧ	

$$\Rightarrow Q_{PEAK,100} = (1215)(1.29) = 0.04 cfs$$

$$43,560$$

$$\Rightarrow V_{(100-6)} = V_{(100-10)} = \frac{(1,215)(0.44)}{12} = 44.6cf.$$

$$\Rightarrow O_{PEAK,100} = \frac{(407.5)(2.03) + (607.5)(2.87)}{43,560} = 0.07 cfs$$

$$\Rightarrow V_{(100-10)} = (607.5)(0.67) + (607.5)(0.99) = 84.0 \text{ cf.}$$

$$= Q_{peak, 100} = (2,420)(1.29) = 0.07 \text{ cfs}$$

$$43,560$$

Calculated By	A. MONTOYA	Date	12/16/98	Client	COA	Project No.
Checked By		Date	<i>\{\}</i>	Project	LIFT STATION	U 20
Sheet No.	3	Of	6	Subject	HYDROLOGY	

$$\Rightarrow V(100-10) = (2,420)(0.44) = 88.7 \text{ cf.}$$

=> LAND TREATMENT ALLOCATIONS:

$$A = 0$$
 $B = 0$
 $C = 100\% = 2,420 = 4$
 $D = 0$

$$\Rightarrow Q_{pEAK,100} = (2420)(2.87) = 0.16 cfs$$

$$43,560$$

$$= \frac{199.65 \text{ cf}}{12}$$

=> BASIN A4:

$$\Rightarrow Q_{PEAK, 100} = \frac{(1125)(1.29)}{43560} = 0.03 cfs - 43560$$

$$\Rightarrow V_{100-10} = \frac{(1125)(0.44)}{12} = 41.25 cf$$

Calculated By A MON	JTO UA Date 12/16/98	Client COA Project No.
Checked By	Date	Project LIFT STATION 20
Sheet No. 4/	Of 6	Subject /-/uprocogu
<u> </u>		

DEVELOPED;

LAND TREATMENT, AUDCATIONS:

$$\Rightarrow Q_{PEAK,100} = (1125)(4.37) = 0.11 cfs$$
43,560

$$\Rightarrow \sqrt{(000-10)} = \frac{(1125)(1.97)}{12} + \frac{(1125)(1.47)}{12} = 322.5 cf.$$

BASIN A5:

$$\Rightarrow Q_{PEAK,100} = 0.05 \text{ cfs}$$

$$\Rightarrow V_{(100-10)} = 66.0 \text{ cf}$$

=> DEVELOPED:

Calculated By A. MONTOY	A Date 12/16/98	Client	COA	Project N	О.
Checked By	Date	Project	LIFT STATION	20	HE.
Sheet No. 5	Of 6	Subject	Hydrocogy		H
BASIN CI:	TING: LAT = 840	s.f.)			
	$\Rightarrow Q_{ERK,100} = 0.02 \text{ cfs}$ $\Rightarrow V_{(100-10)} = 30.8 \text{ cf}$	*]
. DEU	ELOPED:	•	~ ~	L	
	-> LAND TERATHEINT F	LLOCATIO	Ns: D=100	2	
	$\Rightarrow Q_{PEAK,100} = 0.08 \text{ cfs}$ $\Rightarrow V(100.10) = 240.8 \text{ cf}$				
$\Rightarrow_{Basin} C2$		•	•		· · · · · · · · · · · · · · · · · · ·
$\Rightarrow E_{V15}$	TING: (AT = 170 sf)			,	
	$\Rightarrow Q_{PEAK,100} = 0.01 \text{ cfs}$ $\Rightarrow V_{(100-10)} = 4.2 \text{ cf}$	· ·	- ·		-
=> DEUE	ELOPED :			• •	
	=> LAND TREATMENT AL	LOCATION	s: D=1007	2	<u>.</u>
	=> QPEAK,100 = 0.02 cf= >> V(100-10) = 48.7 C				
=> BASIN (3:					•
$\Rightarrow R_{A/A}$ $\Rightarrow R_{UA}$	FALL IS SELF. CONTAINE OFF IS NEGUGIBLE				
☐ =.25 inch²		,			

MOLZEN-CORBIN



Calculated By	A. MONTOUA	Date	12/16/98	Client	COA	Project No.	
Checked By	7	Date		Project	LIFT STAT	10N ZO	Hý Hý
Sheet No.	6	Of	6	Subject	HUDROLDGE	<u></u>	11½ 11½

=> DE VELCPED:

= 25 inch²



Appendix B Pond Calculations

Calculated By A. MONTOUA	Date /2/16/98	Client	COA	Project No.
Checked By	Date	Project	LIFT STATION 20	
Sheet No. /	Of	Subject	REQ'D POND YOU	UNE

DNSITE RUNOFF:

BASIN	QPEAK,100 (DEU)	apeak,100 (EXIST.)
AI	0.26 cfs	0.10 cfs
A2	0:07:c/s	0.0445
1)3	0.16 0.5	0.07 %
4	0.11 cfs	Q. 03cfs
A5	Q. 12 cfs	0.05 c/s
BI	0,94 cfs	0.35 Cfs.

- BASINS A1-A5: RUNDEF IMCUNTS JAN EE JUNSIDERED NEGLIGIBLE.
- BASING CI-C3: RUNOFF IS SELF CONTAINED.
- ⇒ BASIN B1:
 - PROPOSE TO MITIGATE PEUCLOPED FLOW FROM BASIN EI TO COMPLY WITH, COUNTY, ORDINANCE 96-5.
 - DEUTLOPED HISTORICAL = REQUIRED PONDING VOLUME

PROPOSED POND VOUME:

$$V' = (41' \times 67') + (52 \times 26')$$

$$= (23.2 - 22.3)$$

$$= (1.845) cf$$

$$\Rightarrow 0k$$

= 25 inch²

Calculated By	Rick L. Date 7/24/98	Client COA Project No.
Checked By	Date	Project Cop Lot Sty 30
Sheet No.	/ Of /	Subject Der Clow Spilway
	Spillwan much storm event disch	lonvey 100 year - Le home uge 500 2.94 cm (Besin 31)
• •	- - · · · · · · · · · · · · · · · · · · ·	to find to regime
	$Q = CLH^{3/2} \Longrightarrow L$	$= \frac{Q}{2 \mu^{3/2}} = \frac{2.94}{(2.67)(3/2)^{3/2}}$
*** **********************************	$\mathcal{L} = 2.8 \mathcal{L} (5a)$	
	Ince ema black. 40. f.4 ev.	will be turned on sine ey. 5 ft o.c.
	¥ 40/5 =	9 (2mu's on sine)
	Coma block on side obest. 12 inches	
	9 (13/2) = 0.K.	9.0 54
	Qsp. 11 way = CLH 3/2 =	$Z.67(9)(0.25)^{3/2} = .3 cfs$

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