

County of Bernalillo

State of New Mexico

BOARD OF COUNTY COMMISSIONERS

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KEN SANCHEZ, VICE CHAIRMAN
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TOM RUTHERFORD, MEMBER
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DISTRICT 4

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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

April 14, 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 3/25/99.

Dear Mr. Moore:

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,

A handwritten signature in cursive script, reading "Susan Calongne".

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: Bill Balch, City of Albuquerque
 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 TITLE: City of Alb. Lift Station 20 ZONE ATLAS/DRNG. FILE#: P-12 1013

DRB#: _____ EPC# _____ WORK ORDER #: _____

LEGAL DESCRIPTION: _____

CITY ADDRESS: 3914 Isleta Blvd. SW, Albuquerque

ENGINEERING FIRM: Molzen-Corbin & Assoc. CONTACT: Angela Montoya

ADDRESS: 2701 Miles Rd SE PHONE: 242-5700

OWNER: City of Albuquerque CONTACT: Bill Balch

ADDRESS: _____ PHONE: _____

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT
☒ DRAINAGE PLAN
☐ CONCEPTUAL GRADING & DRAINAGE PLAN
☒ GRADING PLAN
☐ EROSION CONTROL
☐ ENGINEER'S CERTIFICATION
☐ OTHER

PRE-DESIGN MEETING:

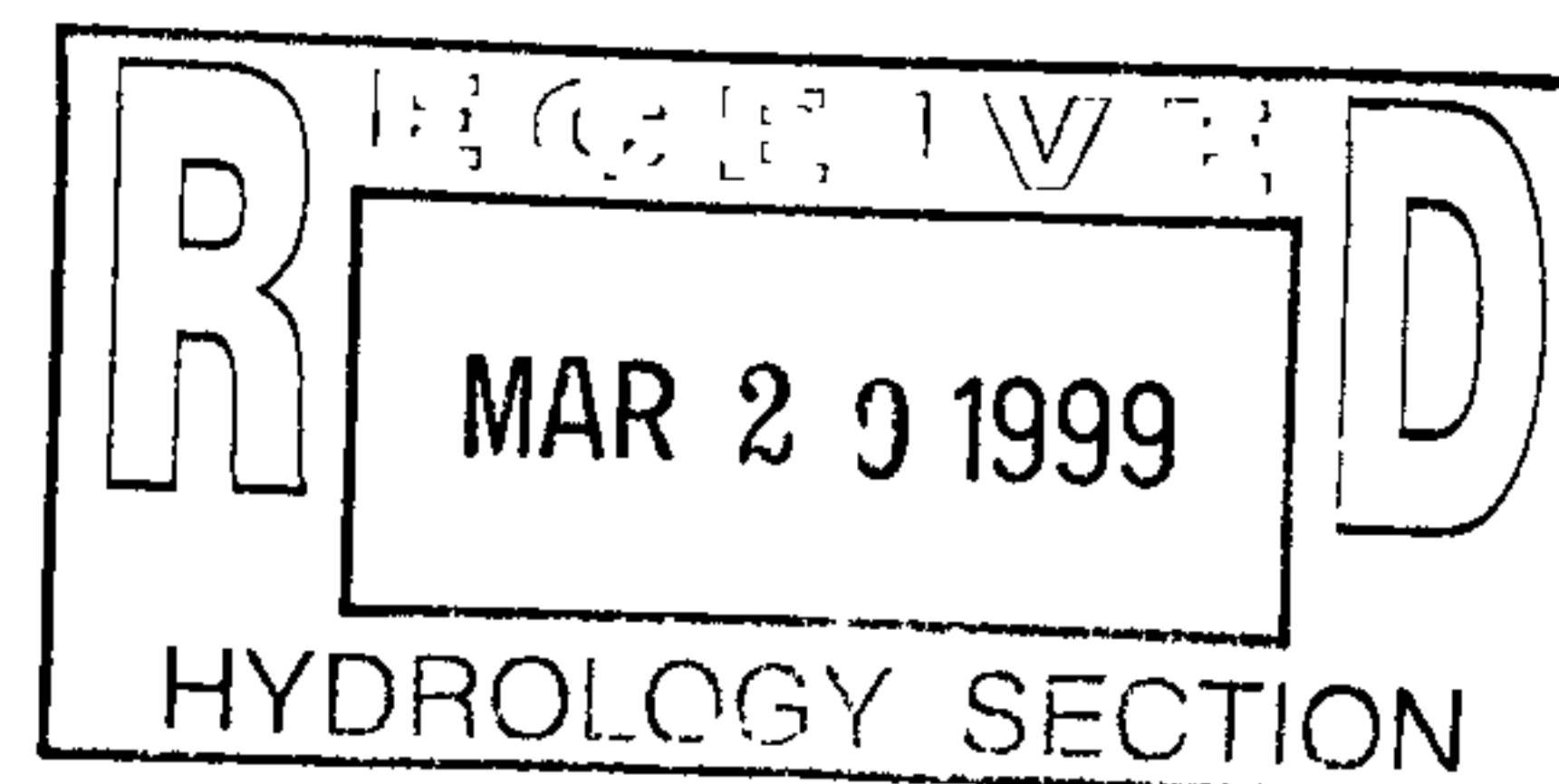
☐ YES
☒ NO
☐ COPY PROVIDED

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
☐ CERTIFICATION OF OCCUPANCY APPROVAL
☐ GRADING PERMIT APPROVAL
☐ PAVING PERMIT APPROVAL
☐ S.A.D. DRAINAGE REPORT
☐ DRAINAGE REQUIREMENTS
☐ OTHER

DATE SUBMITTED: March 26, 1999

BY: Angela Montoya



BERNALILLO COUNTY



FP

PWD SUBMITTAL

Use for all PWD applications EXCEPT Street Excavation

☐ NEW SUBMITTAL

☒ RESUBMITTAL

☐ FINAL SIGNOFF

TODAY'S DATE 3/26/99

CASE NO PWD PWDN 990034

OWNER

OWNER <u>CITY OF ALBUQUERQUE</u>	PHONE
MAILING ADDRESS	CITY ZIP

AGENT

AGENT / CONTRACTOR <u>MOLZEN-CORBIN + ASSOC.</u>	PHONE <u>242-5700</u>
MAILING ADDRESS <u>2701 MILES ROAD SE</u>	CITY <u>ALB.</u> ZIP <u>87107</u>
STATE LICENSE NO	EXP DATE VOLUME CLASS
ARCHITECT/ENGINEER <u>JOE. P. MOORE</u>	LICENSE NO <u>9350</u> PHONE <u>242-5700</u>

SITE INFORMATION

SITE ADDRESS / DIRECTIONS <u>3914 ISLETA BLVD.</u>	ZONE ATLAS NO <u>P-12</u>
LEGAL DESCRIPTION	
LOT SIZE	
EXISTING BUILDING(S) AND USE <u>LIFT STA. FACILITIES</u>	PROPOSED BUILDING(S) <u>ADDITIONAL FACILITIES</u>
UPC # <u>1-012-053-261-072-304-01</u>	

TYPE OF SUBMITTAL

- | | |
|---|--|
| <input type="checkbox"/> REPLAT | <input type="checkbox"/> TRAFFIC IMPACT ANALYSIS / TRAFFIC STUDY |
| <input type="checkbox"/> MINOR SUBDIVISION | <input type="checkbox"/> INFRASTRUCTURE LIST / DESIGN REVIEW |
| <input type="checkbox"/> MAJOR SUBDIVISION | <input type="checkbox"/> SPECIAL USE PERMIT |
| <input type="checkbox"/> CONSTRUCTION DRAWINGS | <input type="checkbox"/> BARRICADING PERMIT |
| <input checked="" type="checkbox"/> GRADING & DRAINAGE PLAN | <input checked="" type="checkbox"/> BUILDING PERMIT |
| <input type="checkbox"/> AS-CONSTRUCTED GRADING & DRAINAGE PLAN | <input type="checkbox"/> INSPECTION |
| <input type="checkbox"/> VARIANCE REQUEST | <input type="checkbox"/> OTHER (Specify): |
| <input type="checkbox"/> LAND DIVISION | |

SUSAN
CALOGNE

The issuance of a permit or a review or approval of plan specifications, computations, and shop drawings, shall not be interpreted to be a permit for, or an approval of any variance or violation of any of the provisions of any COUNTY or STATE codes, ordinances, standards, or policies. Nor shall such issuance of a permit or approval of plans, specifications, computations, and shop drawings prevent any authorized COUNTY representative or COUNTY inspector from thereafter requiring the correction of errors in said plans, specifications, computations, or shop drawings or from stopping construction operations which are being carried on thereunder when in violation of any COUNTY or STATE codes, ordinances, standards, or policies.

☐ Owner ☒ Agent ☐ Contractor

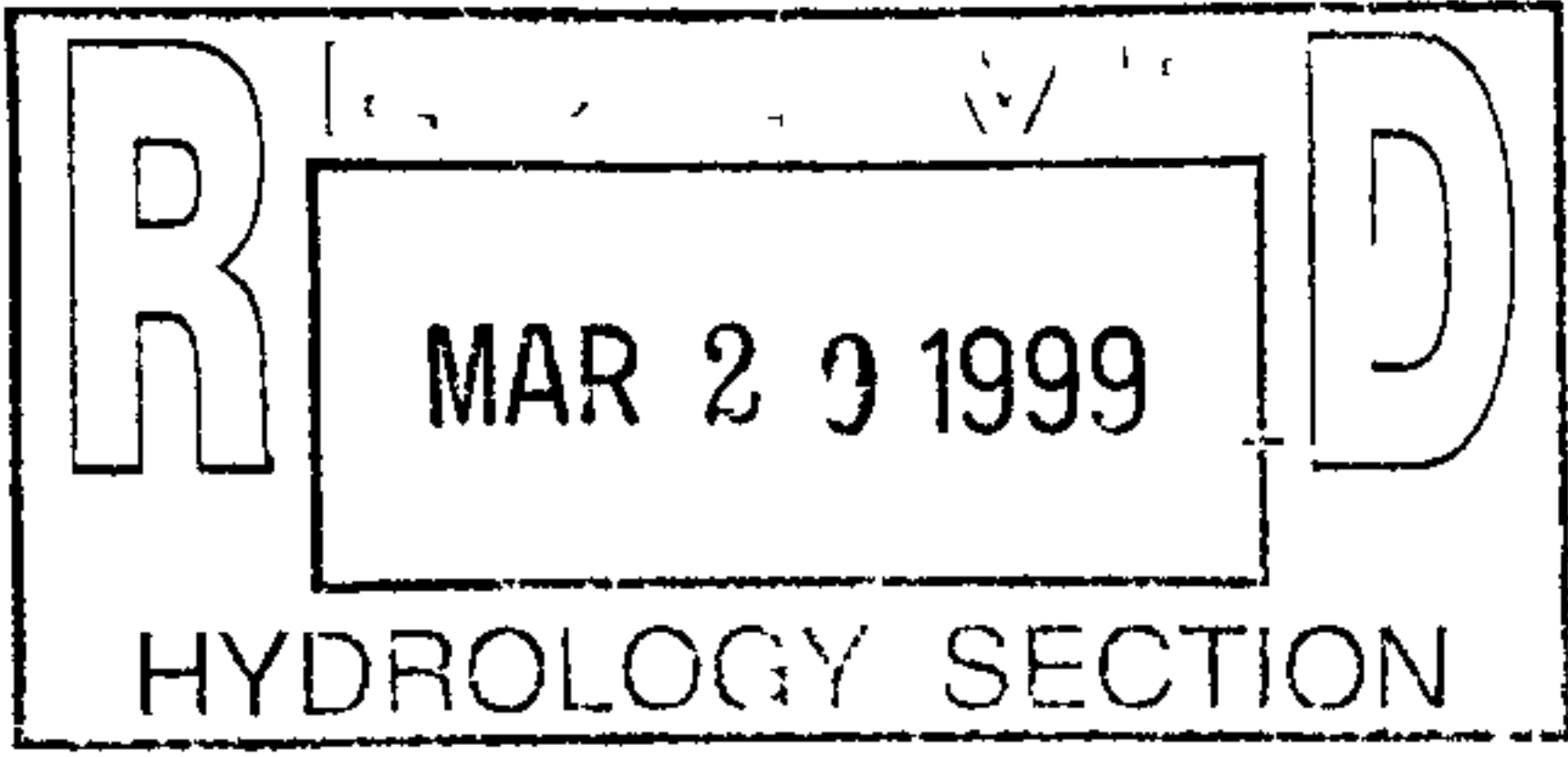
Signature Angele Montoya Date 3/26/99

COUNTY

BERNALILLO COUNTY USE ONLY			
C/R's:	R	D	TOTAL FEE
	MAR 29 1999		Receipt No.
			Received By
HYDROLOGY SECTION			

Appendix B

Pond Calculations



Calculated By A. MONTONA Date 12/16/98
 Checked By _____ Date _____
 Sheet No. 1 Of _____

Client COA Project No. _____
 Project LIFT STATION 20
 Subject REQ'D POND VOLUME

⇒ ONSITE RUNOFF:

BASIN	$Q_{PEAK,100}$ (DEV.)	$Q_{PEAK,100}$ (EXIST.)
A1	0.26 cfs	0.10 cfs
A2	0.07 cfs	0.04 cfs
A3	0.16 cfs	0.07 cfs
A4	0.11 cfs	0.03 cfs
A5	0.12 cfs	0.05 cfs
B1	0.94 cfs	0.35 cfs

⇒ BASINS A1-A5: RUNOFF AMOUNTS CAN BE CONSIDERED NEGLIGIBLE.

⇒ BASINS C1-C3: RUNOFF IS SELF CONTAINED.

⇒ BASIN B1:

⇒ PROPOSE TO MITIGATE DEVELOPED FLOW FROM BASIN E1 TO COMPLY WITH COUNTY ORDINANCE 96-5.

⇒ DEVELOPED - HISTORICAL = REQUIRED PONDING VOLUME

$$\Rightarrow Q_{PEAK,100} = 0.69 \text{ cfs}$$

$$\Rightarrow V_{(100-10)} = 1,509 \text{ cf.}$$

⇒ PROPOSED POND VOLUME:

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

$$= 1,845 \text{ cf} \quad \Rightarrow \text{ok.}$$

□ = 25 inch



Calculated By Pick L. Date 7/24/98
 Checked By _____ Date _____
 Sheet No. 1 Of 1

Client COA Project No. _____
 Project COA Lft Sts 30
 Subject Overflow Spillway

⇒ Overflow spillway must convey 100 year - 2 hour storm event discharge of 2.94 cfs (Basin 31)

⇒ Use weir equation to find L required (assume 0.25' of head)

$$Q = CLH^{3/2} \Rightarrow L = \frac{Q}{CH^{3/2}} = \frac{2.94}{(2.67)(0.25)^{3/2}}$$

$$L = 2.8 \text{ ft (say } 3.0 \text{ ft)}$$

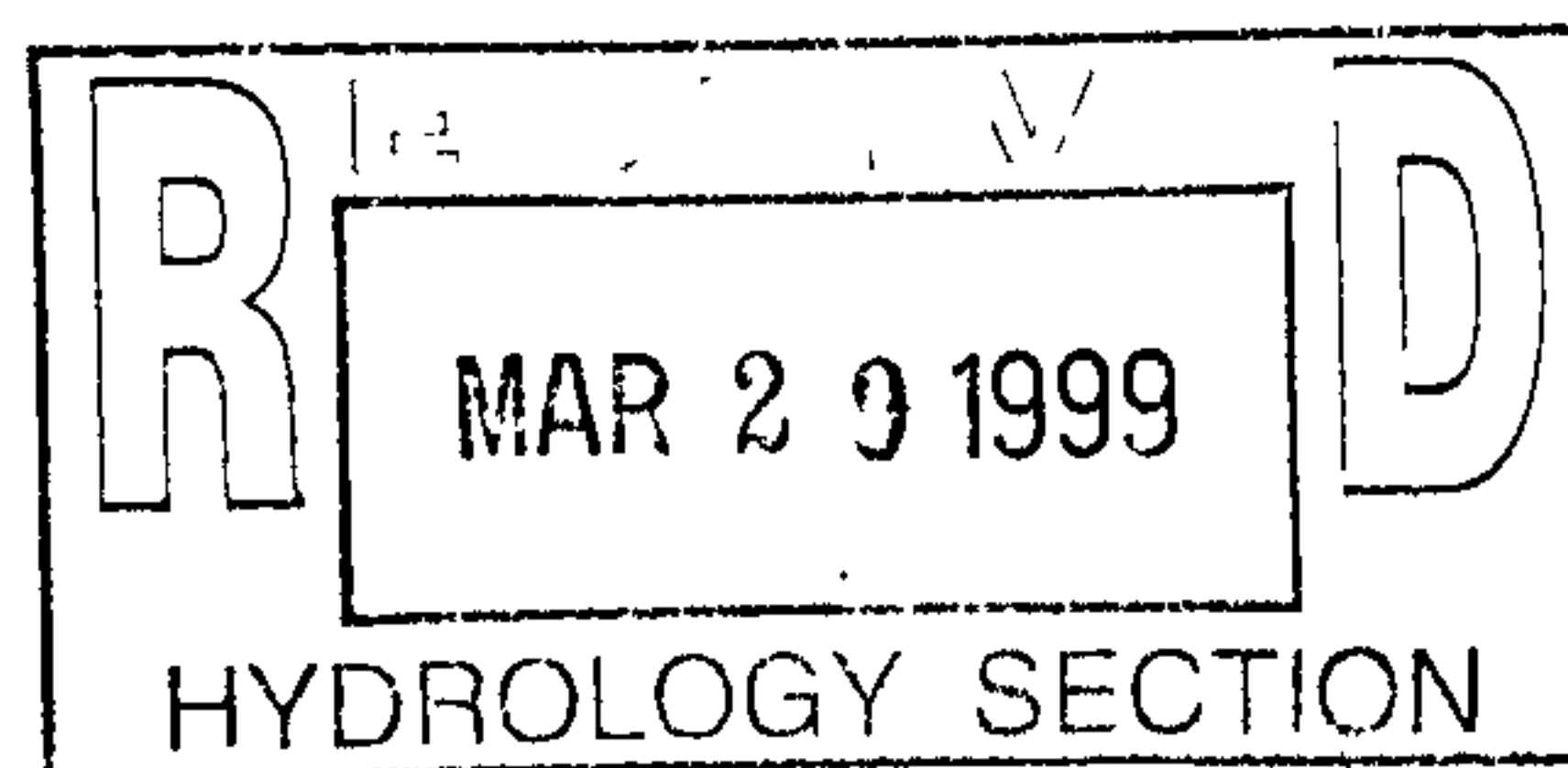
⇒ One CMA block will be turned on side in 40 ft every 5 ft o.c.

$$\Rightarrow 40/5 = 9 \text{ (CMA's on side)}$$

⇒ CMA block on side has opening of about 12 inches

$$\Rightarrow 9 \left(\frac{12}{12} \right) = 9.0 \text{ ft}$$

⇒ O.K.



$$\Rightarrow Q_{\text{spillway}} = CLH^{3/2} = 2.67(9)(0.25)^{3/2} = 3 \text{ cfs}$$

□ = 25 inch²





MOLZEN-CORBIN

& Associates

ARCHITECTS/PLANNERS

County of Bernalillo

State of New Mexico

BOARD OF COUNTY COMMISSIONERS

STEVE D. GALLEGOS, CHAIRMAN
DISTRICT 2

KEN SANCHEZ, VICE CHAIRMAN
DISTRICT 1

TOM RUTHERFORD, MEMBER
DISTRICT 3

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DISTRICT 4

LES HOUSTON, MEMBER
DISTRICT 5

JUAN R. VIGIL, COUNTY MANAGER



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ALBUQUERQUE, NEW MEXICO 87102
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DAVID K. ANDERSON, ASSESSOR
JUDY D. WOODWARD, CLERK
THOMAS J. MESSALL, 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.
3. 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,

A handwritten signature in cursive script, reading "Susan Calongne".

Susan M. Calongne, P.E.
City/County Floodplain Administrator

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 TITLE: COA Lift Station 20 ZONE ATLAS/DRNG. FILE #: P-12/D013

DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Parcel situated in SEC12, T9N, R2E Tract 8C2B, MRGCD Map #49

CITY ADDRESS: Isleta Blvd., SW

ENGINEERING FIRM: Molzen-Corbin & Associates CONTACT: Joe P. Moore

ADDRESS: 2701 Miles, SE PHONE: (505) 242-5700

OWNER: City of Albuquerque CONTACT: William Balch

ADDRESS: 4201 Second St., SW PHONE: _____

Albuquerque, NM 87105

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT

☒ DRAINAGE PLAN

☐ CONCEPTUAL GRADING & DRAINAGE PLAN

☒ GRADING PLAN

☐ EROSION CONTROL PLAN

☐ ENGINEER'S CERTIFICATION

☐ OTHER _____

PRE-DESIGN MEETING:

☐ YES

☒ NO

☐ COPY PROVIDED

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

☐ CERTIFICATE OF OCCUPANCY APPROVAL

☐ GRADING PERMIT APPROVAL

☐ PAVING PERMIT APPROVAL

☐ S.A.D. DRAINAGE REPORT

☐ DRAINAGE REQUIREMENTS

☐ SUBDIVISION CERTIFICATION

☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: _____

BY: _____

BERNALILLO COUNTY

☒ NEW SUBMITTAL

☐ RESUBMITTAL

☐ FINAL SIGNOFF

TODAY'S DATE. 2/11/99

PWEP 990150
PWD SUBMITTAL

Use for all PWD applications EXCEPT Street Excavation

CASE NO PWDN 990034

OWNER

OWNER	CITY OF ALBUQUERQUE	PHONE	
MAILING ADDRESS	4201 SECOND ST, SW	CITY	ALB. ZIP 87105

AGENT

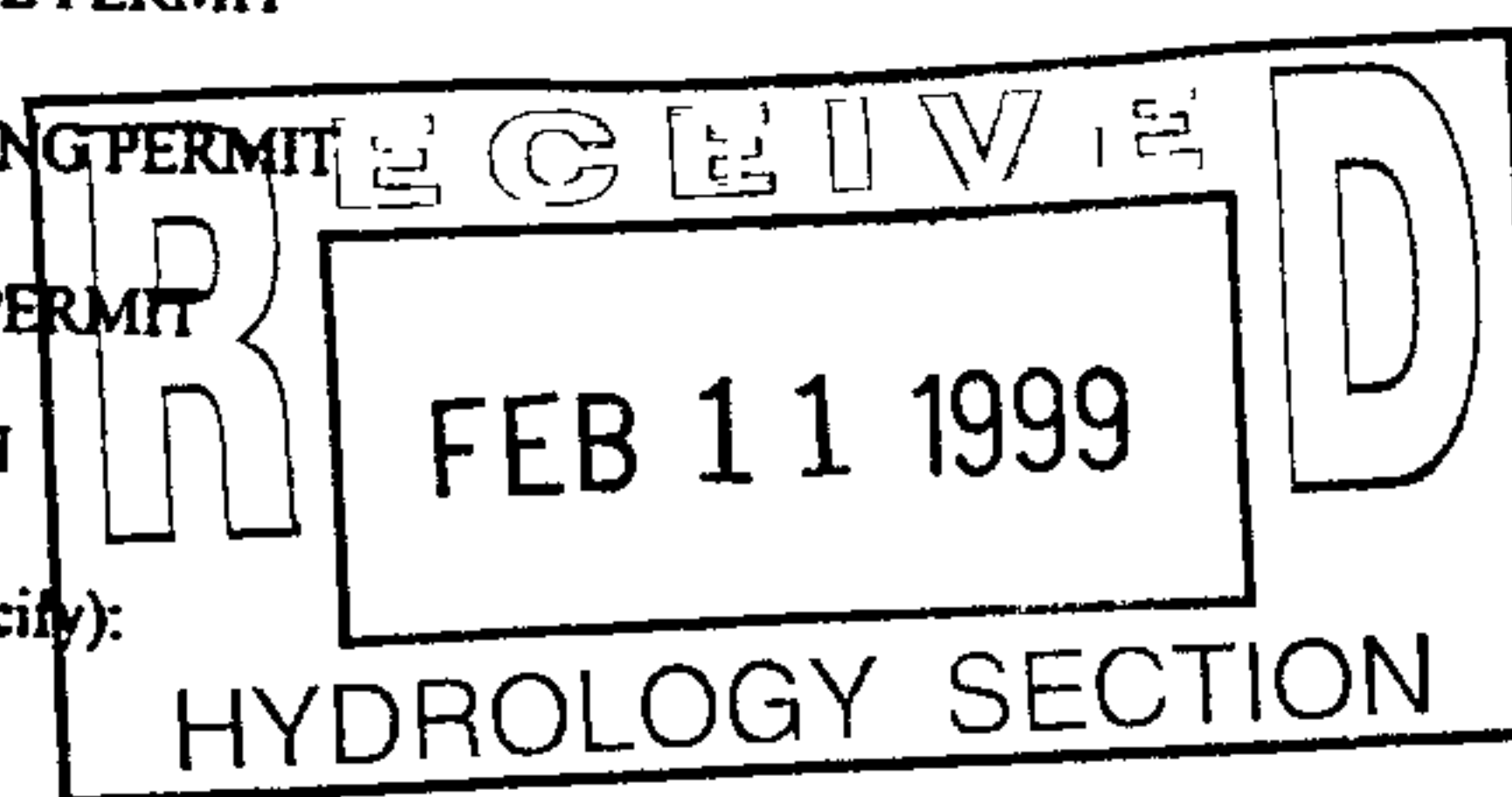
AGENT / CONTRACTOR	MOORE-CORBIN + ASSOCIATES	PHONE	242-5700
MAILING ADDRESS	2701 MILES RD, SE	CITY	ALB ZIP 87109
STATE LICENSE NO	EXP DATE	VOLUME	CLASS
ARCHITECT/ENGINEER	JCE P. MOORE, P.E.	LICENSE NO	9350
		PHONE	242-5700

SITE INFORMATION

SITE ADDRESS / DIRECTIONS	ISLETA BLVD. + PAJARITO LATERAL	ZONE ATLAS NO	P-12 Z
LEGAL DESCRIPTION	PARCEL SITUATED IN SEC 12, T9N, R2E, TRACT 8C2B, MRGCD MAP #49		
EXISTING BUILDING(S) AND USE	LIFT STATION FACILITIES	PROPOSED BUILDING(S)	BAR SCREEN FACILITIES, BIOFILTER BOX + ASSOCIATED APPURTENANCES.
UPC #	1-012-053-261-072-304-01		

TYPE OF SUBMITTAL

- | | |
|---|--|
| <input type="checkbox"/> REPLAT | <input type="checkbox"/> TRAFFIC IMPACT ANALYSIS / TRAFFIC STUDY |
| <input type="checkbox"/> MINOR SUBDIVISION | <input type="checkbox"/> INFRASTRUCTURE LIST / DESIGN REVIEW |
| <input type="checkbox"/> MAJOR SUBDIVISION | <input type="checkbox"/> SPECIAL USE PERMIT |
| <input type="checkbox"/> CONSTRUCTION DRAWINGS | <input type="checkbox"/> BARRICADING PERMIT |
| <input checked="" type="checkbox"/> GRADING & DRAINAGE PLAN | <input type="checkbox"/> BUILDING PERMIT |
| <input type="checkbox"/> AS-CONSTRUCTED GRADING & DRAINAGE PLAN | <input type="checkbox"/> INSPECTION |
| <input type="checkbox"/> VARIANCE REQUEST | <input type="checkbox"/> OTHER (Specify): |
| <input type="checkbox"/> LAND DIVISION | |



The issuance of a permit or a review or approval of plan specifications, computations, and shop drawings, shall not be interpreted to be a permit for, or an approval of any variance or violation of any of the provisions of any COUNTY or STATE codes, ordinances, standards, or policies. Nor shall such issuance of a permit or approval of plans, specifications, computations, and shop drawings prevent any authorized COUNTY representative or COUNTY inspector from thereafter requiring the correction of errors in said plans, specifications, computations, or shop drawings or from stopping construction operations which are being carried on thereunder when in violation of any COUNTY or STATE codes, ordinances, standards, or policies.

☐ Owner ☒ Agent ☐ Contractor

Signature

Angele Montoya

Date

2/11/99

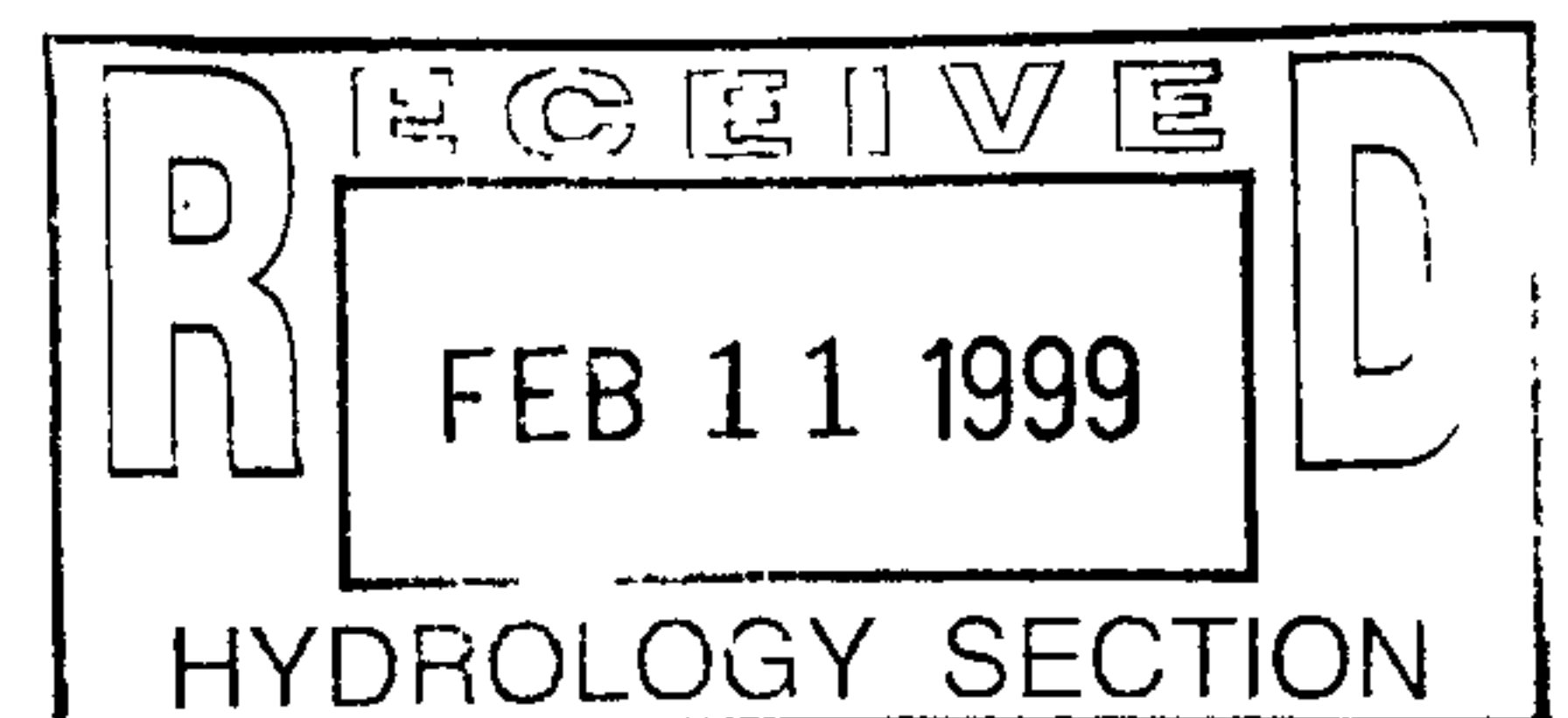
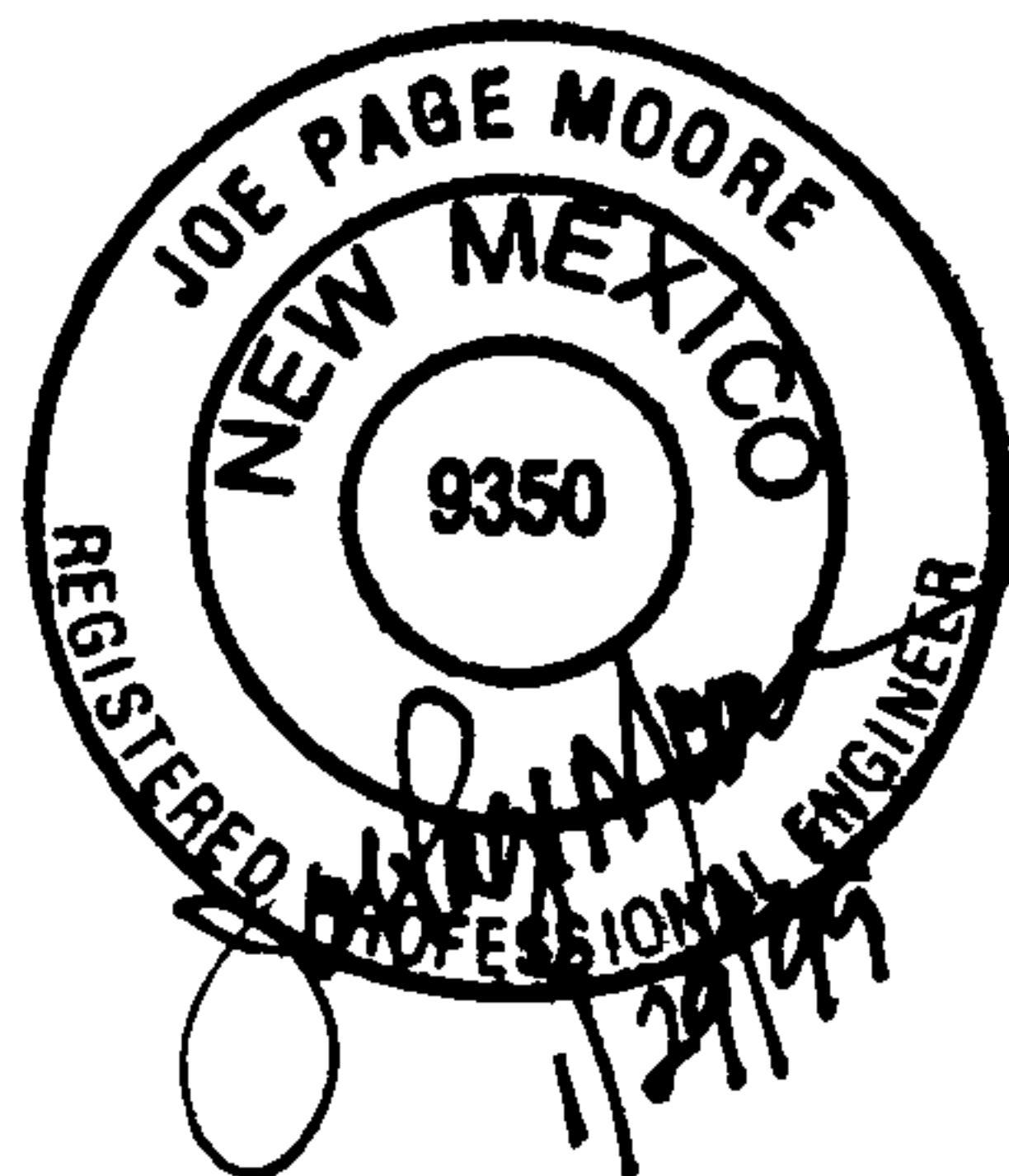
COUNTY

BERNALILLO COUNTY USE ONLY	
C/R's:	TOTAL FEE.
	Receipt No
	Received By

**DRAINAGE REPORT FOR CITY OF
ALBUQUERQUE PUBLIC WORKS
DEPARTMENT**

**WASTEWATER LIFT STATION 20
BAR SCREEN FACILITIES**

January 1999



MOLZEN-CORBIN & Associates



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

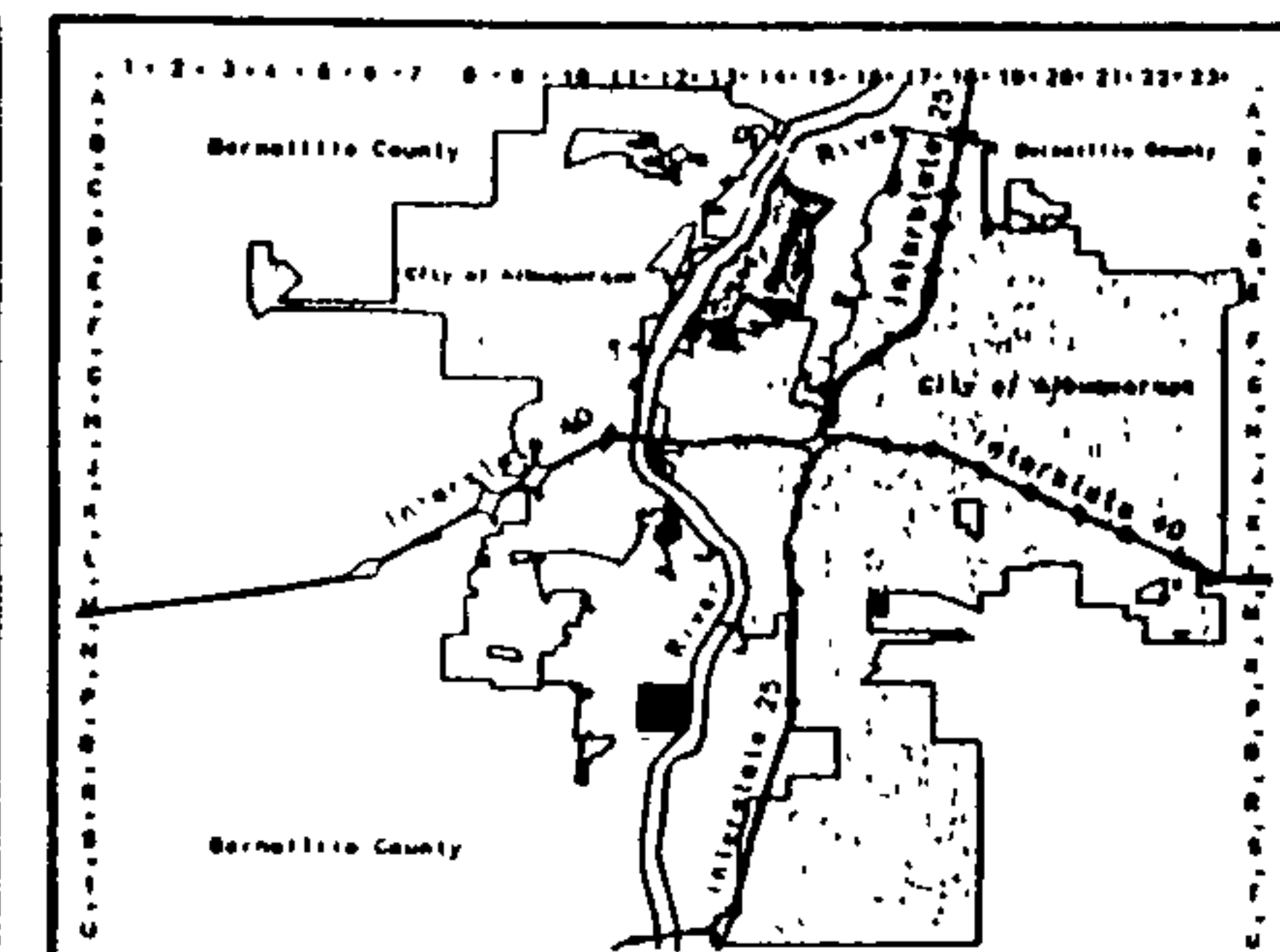
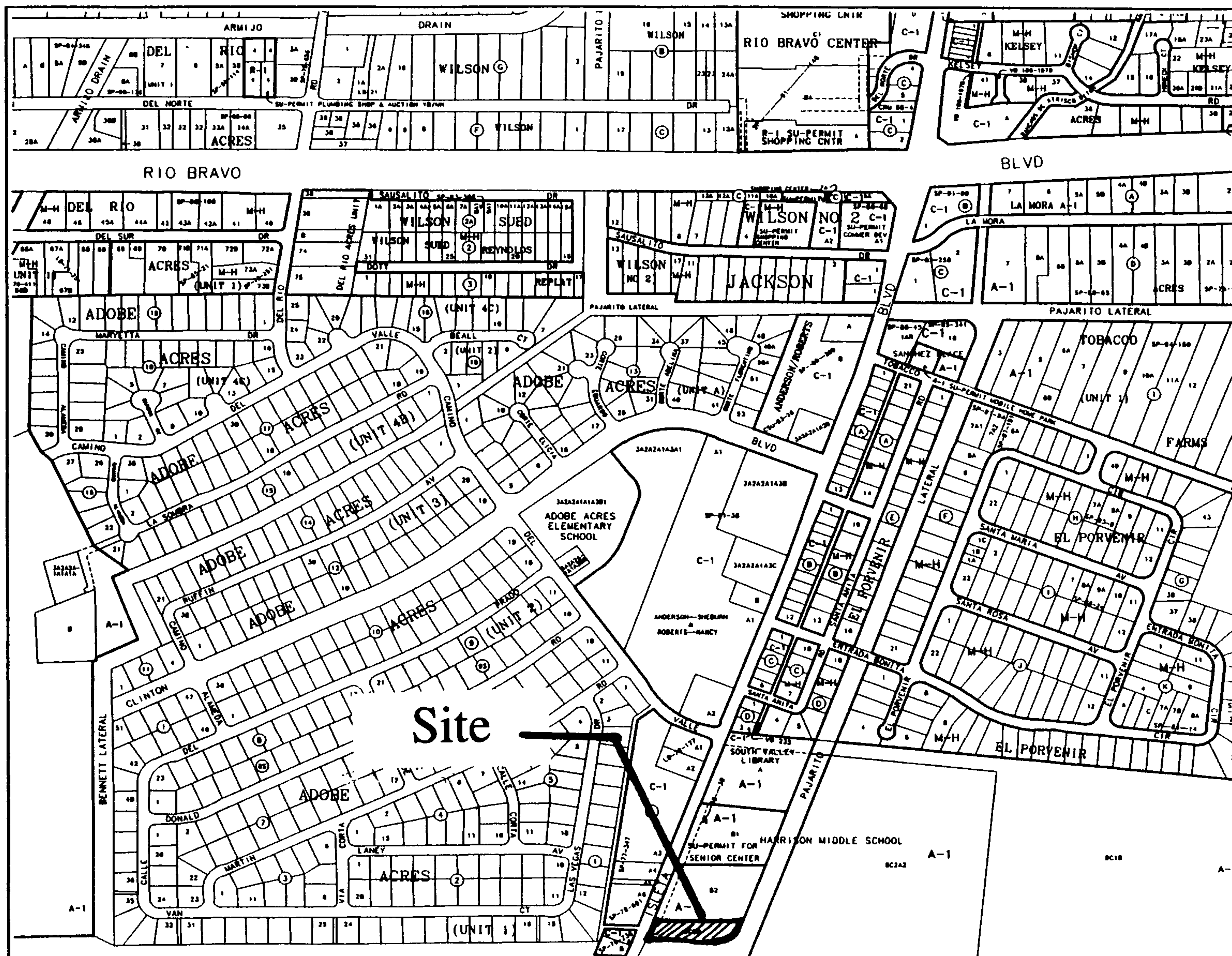
Plate 1 Overall Site Plan

Plate 2 Developed Conditions Basin Map

Plate 3 Site Grading Plan

Plate 4 CMU Wall Plan

Plate 5 Civil Detail Sheet



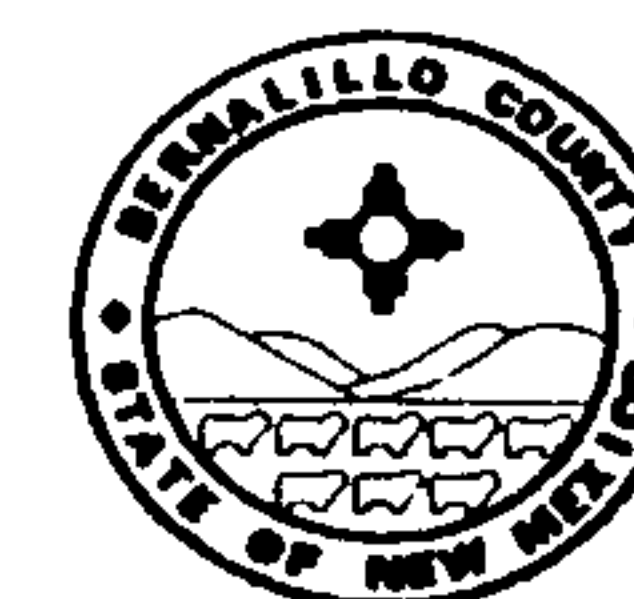
Location map



SCALE IN FEET



1" = 500'



LEGAL DESCRIPTION

T8N
R2E
SEC 12

UNIFORM PROPERTY CODE

1-012-063

P-12-Z

Bernalillo County

Map Amended by AGIS through May 05, 1995

Figure 1 – Vicinity Map

Appendix A

Hydrologic Calculations

Calculated By A. MONTOLYA Date 12/16/98
Checked By _____ Date _____
Sheet No. 1 Of 6

Client COA Project No. _____
Project LIFT STATION 20
Subject HYDROLOGY

EXISTING VS DEVELOPED CONDITIONS:

NOTE: ASSUMING HISTORICAL LAND TREATMENT TYPE A.

⇒ PRECIPITATION ZONE 1

⇒ BASIN A1:

⇒ EXISTING: ($A_T = 3,450$ sf)

$$\Rightarrow Q_{\text{PEAK},100} = \frac{(3,450)(1.29)}{43,560} = 0.10 \text{ cfs}$$

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

⇒ DEVELOPED:

⇒ LAND TREATMENT ALLOCATIONS:

$$A = 0$$

$$B = 0$$

$$C = 75\% = 2,588 \text{ sf}$$

$$D = 15\% = 862 \text{ sf}$$

$$\Rightarrow Q_{\text{PEAK},100} = \frac{(2,588)(2.87) + 862(4.37)}{43,560} = 0.26 \text{ cfs}$$

$$\Rightarrow V_{(100-10)} = \frac{(2,588)(0.99) + 862(1.97)}{12} + \frac{862(1.47)}{12} = 460.6 \text{ cf}$$

□ = 25 inch²



Calculated By A. MONTOLYA Date 12/16/98
Checked By _____ Date _____
Sheet No. 2 Of 6

Client COA Project No. _____
Project LIFT STATION 20
Subject HYDROLOGY

⇒ BASIN A2:

⇒ EXISTING: ($A_T = 1215 \text{ sf}$)

$$\Rightarrow Q_{\text{PEAK}, 100} = \frac{(1215)(1.29)}{43,560} = 0.04 \text{ cfs}$$

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

⇒ DEVELOPED:

⇒ LAND TREATMENT ALLOCATIONS:

$$A = 0$$

$$B = 50\% = 607.5 \text{ sf.}$$

$$C = 50\% = 607.5 \text{ sf.}$$

$$D = 0$$

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

$$\Rightarrow V_{(100-10)} = \frac{(607.5)(0.67) + (607.5)(0.99)}{12} = 84.0 \text{ cf.}$$

⇒ BASIN A3:

⇒ EXISTING: ($A_T = 2,420 \text{ sf}$)

$$\Rightarrow Q_{\text{PEAK}, 100} = \frac{(2,420)(1.29)}{43,560} = 0.07 \text{ cfs}$$

□ = 25 inch²



Calculated By A. MONTONA Date 12/16/98
Checked By _____ Date _____
Sheet No. 3 Of 6

Client CDA Project No. _____
Project LIFT STATION 2D
Subject HYDROLOGY

$$\Rightarrow V_{(100-10)} = \frac{(2,420)(0.44)}{12} = 88.7 \text{ cf.}$$

\Rightarrow DEVELOPED:

\Rightarrow LAND TREATMENT ALLOCATIONS:

$$A = 0$$

$$B = 0$$

$$C = 100\% = 2,420 \text{ sf}$$

$$D = 0$$

$$\Rightarrow Q_{\text{PEAK}, 100} = \frac{(2,420)(2.87)}{43,560} = 0.16 \text{ cfs}$$

$$\Rightarrow V_{(100-10)} = \frac{(2,420)(0.99)}{12} = 199.65 \text{ cf}$$

\Rightarrow BASIN A4:

\Rightarrow EXISTING: ($A_T = 1125 \text{ sf}$)

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

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

$\square = 25 \text{ inch}^2$



Calculated By A MONTOLYA Date 12/16/98
Checked By _____ Date _____
Sheet No. 4 Of 6

Client COA Project No. _____
Project LIFT STATION 20
Subject HYDROLOGY

⇒ DEVELOPED:

⇒ LAND TREATMENT ALLOCATIONS:

$$A = 0$$

$$B = 0$$

$$C = 0$$

$$D = 100\% = 1125 \text{ sf}$$

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

$$\Rightarrow V_{(100-10)} = \frac{(1125)(1.97)}{12} + \frac{(1125)(1.47)}{12} = 322.5 \text{ cf.}$$

⇒ BASIN A5:

⇒ EXISTING: ($A_T = 1800 \text{ sf}$)

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

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

⇒ DEVELOPED:

⇒ LAND TREATMENT ALLOCATIONS: ($D = 100\%$)

$$\Rightarrow Q_{\text{PEAK},100} = 0.18 \text{ cfs}$$

$$\Rightarrow V_{(100-10)} = 516.0 \text{ cf.}$$

□ = 25 inch²



Calculated By A. MONTUÑA Date 12/16/98
Checked By _____ Date _____
Sheet No. 5 Of 6

Client CDA Project No. _____
Project LIFT STATION 20
Subject HYDROLOGY

⇒ BASIN C1:

⇒ EXISTING: ($A_T = 840 \text{ sf}$)

$$\Rightarrow Q_{\text{PEAK},100} = 0.02 \text{ cfs}$$

$$\Rightarrow V_{(100-10)} = 30.8 \text{ cf}$$

⇒ DEVELOPED:

⇒ LAND TREATMENT ALLOCATIONS: $D = 100\%$

$$\Rightarrow Q_{\text{PEAK},100} = 0.08 \text{ cfs}$$

$$\Rightarrow V_{(100-10)} = 240.8 \text{ cf}$$

⇒ BASIN C2:

⇒ EXISTING: ($A_T = 170 \text{ sf}$)

$$\Rightarrow Q_{\text{PEAK},100} = 0.01 \text{ cfs}$$

$$\Rightarrow V_{(100-10)} = 4.2 \text{ cf}$$

⇒ DEVELOPED:

⇒ LAND TREATMENT ALLOCATIONS: $D = 100\%$

$$\Rightarrow Q_{\text{PEAK},100} = 0.02 \text{ cfs}$$

$$\Rightarrow V_{(100-10)} = 48.7 \text{ cf}$$

⇒ BASIN C3:

⇒ RAINFALL IS SELF CONTAINED

⇒ RUNOFF IS NEGLIGIBLE

□ = .25 inch²

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Calculated By A. MONTROYA Date 12/16/98
Checked By _____ Date _____
Sheet No. 6 Of 6

Client COA Project No. _____
Project LIFT STATION 20
Subject HYDROLOGY

⇒ Basin B1:

⇒ EXISTING: ($A_T = 11,830 \text{ sf}$)

⇒ $Q_{\text{PEAK},100} = 0.35 \text{ cfs}$

⇒ $V_{(100-10)} = 433.8 \text{ cf}$

⇒ DEVELOPED:

⇒ LAND TREATMENT ALLOCATIONS: $C = 60\%$, $D = 40\%$

⇒ $Q_{\text{PEAK},100} = 0.94 \text{ cfs}$

⇒ $V_{(100-10)} = 1,742.1 \text{ cf}$

□ = 25 inch²

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Appendix B

Pond Calculations

Calculated By A. MONTUÑA Date 12/16/98
 Checked By _____ Date _____
 Sheet No. 1 Of _____

Client COA Project No. _____
 Project LIFT STATION 20
 Subject REQ'D POND VOLUME

⇒ ONSITE RUNOFF:

BASIN	$Q_{PEAK,100}$ (DEV.)	$Q_{PEAK,100}$ (EXIST.)
A1	0.26 cfs	0.10 cfs
A2	0.07 cfs	0.04 cfs
A3	0.16 cfs	0.07 cfs
A4	0.11 cfs	0.03 cfs
A5	0.12 cfs	0.05 cfs
B1	0.94 cfs	0.35 cfs

⇒ BASINS A1-A5: RUNOFF AMOUNTS CAN BE CONSIDERED NEGLIGIBLE.

⇒ BASINS C1-C3: RUNOFF IS SELF CONTAINED.

⇒ BASIN B1:

⇒ PROPOSE TO MITIGATE DEVELOPED FLOW FROM BASIN B1 TO COMPLY WITH COUNTY ORDINANCE 96-5.

⇒ DEVELOPED - HISTORICAL = REQUIRED PONDING VOLUME

$$\Rightarrow Q_{PEAK,100} = 0.69 \text{ cfs}$$

$$\Rightarrow V_{(100-10)} = 1,509 \text{ cf.}$$

⇒ PROPOSED POND VOLUME:

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

$$= 1,845 \text{ cf} \quad \Rightarrow \text{ok.}$$

□ = 25 inch²

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Calculated By Rick L. Date 7/24/98
Checked By _____ Date _____
Sheet No. 1 Of 1

Client COA Project No. _____
Project COA Lft Sts 20
Subject Overflow Spillway

⇒ Overflow spillway must convey 100 year - 6 hour storm event discharge of 2.94 cfs (Basin 31)

⇒ Use weir equation to find L required (assume 0.25' of head.)

$$Q = CLH^{3/2} \Rightarrow L = \frac{Q}{CH^{3/2}} = \frac{2.94}{(2.67)(0.25)^{3/2}}$$

$$L = 2.8 \text{ ft (say } 3.0 \text{ ft)}$$

⇒ In cma block will be turned on side in 40 ft every 5 ft o.c.

$$\Rightarrow 40/5 = 9 \text{ (cma's on side)}$$

⇒ cma block on side has opening of about 12 inches

$$\Rightarrow 9 \left(\frac{12}{12} \right) = 9.0 \text{ ft}$$

⇒ o.k.

$$\Rightarrow Q_{\text{spillway}} = CLH^{3/2} = 2.67(9)(0.25)^{3/2} = 3 \text{ cfs}$$

□ = 25 inch²



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