

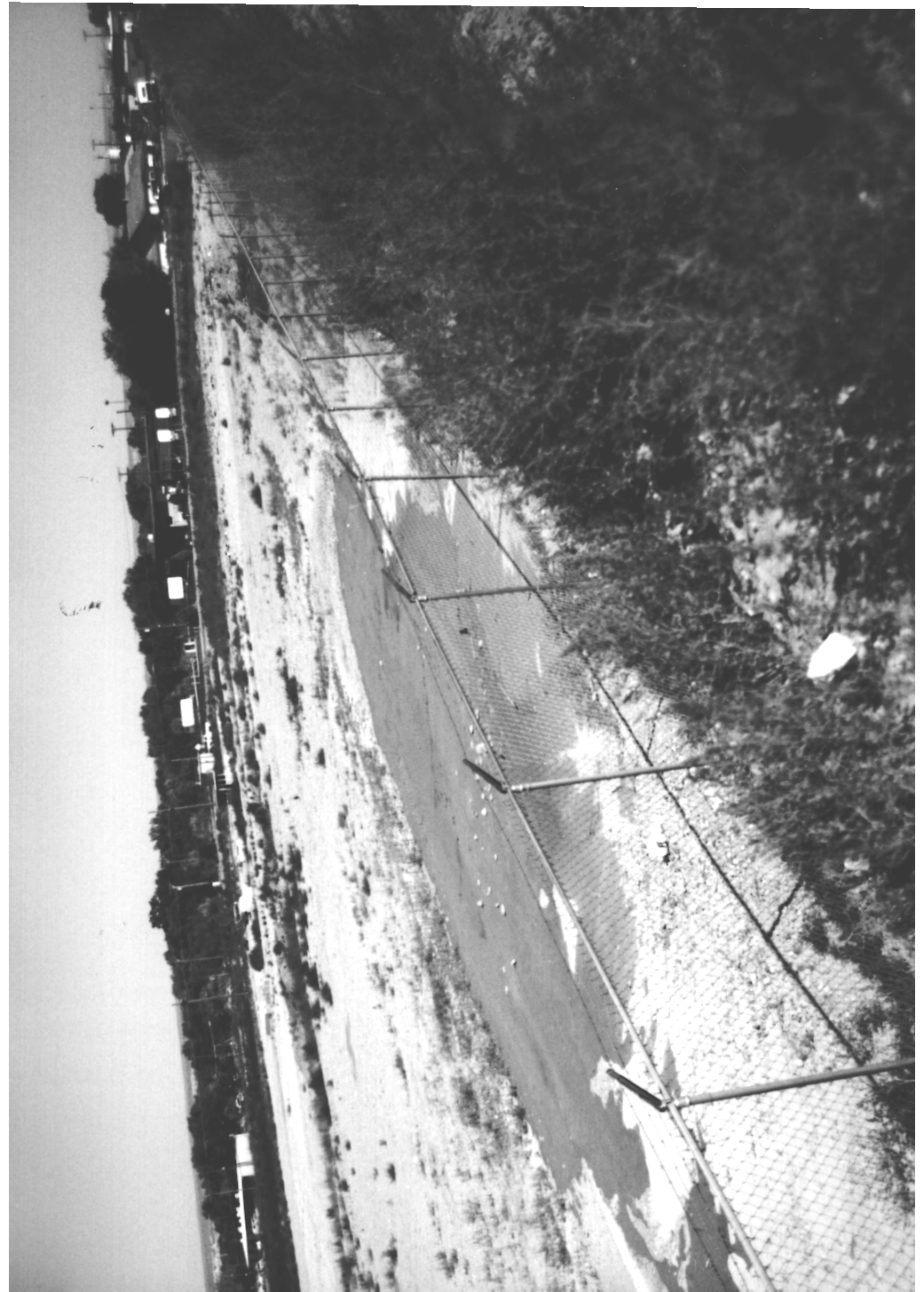
8-18-87



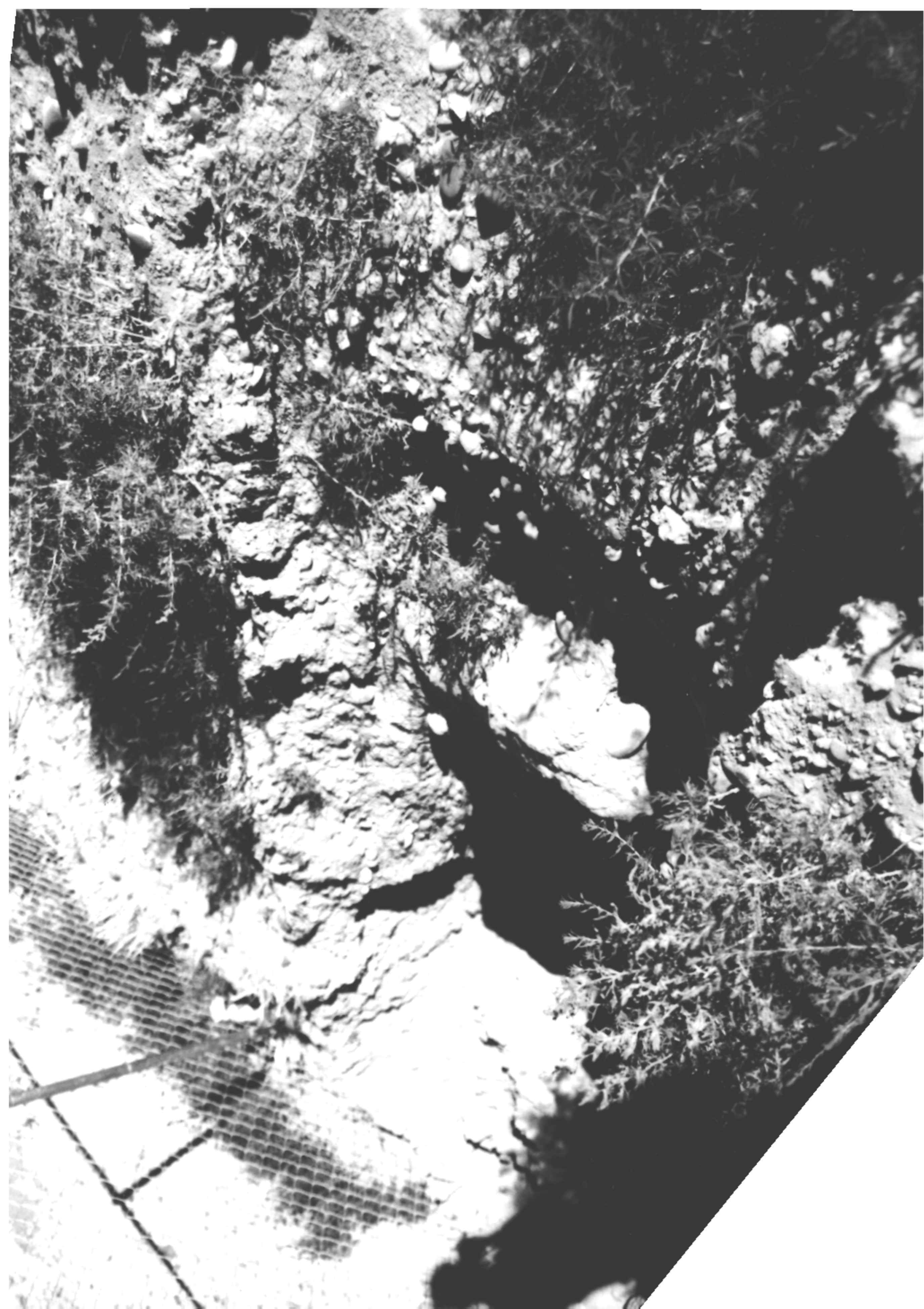
8-18-87



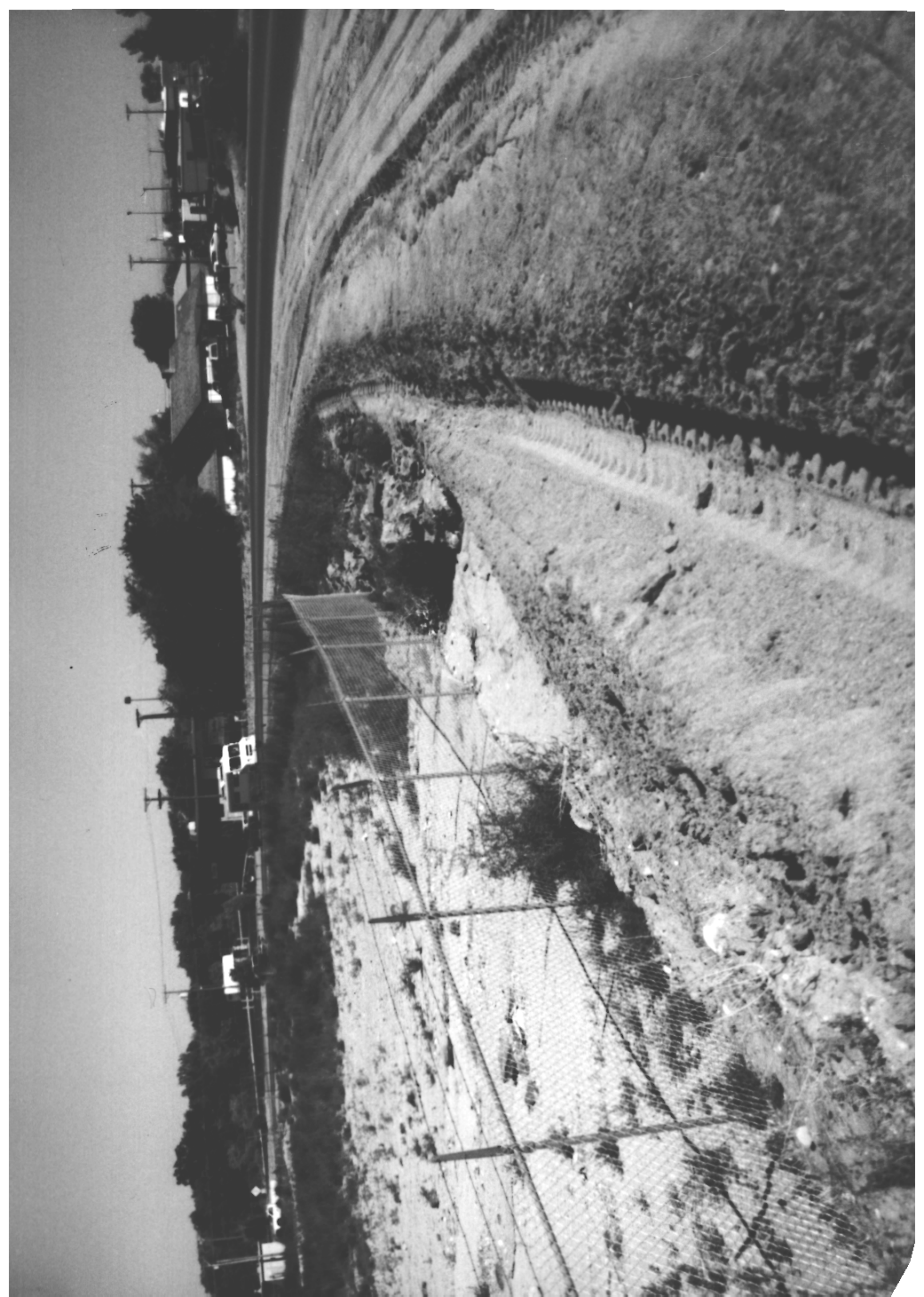
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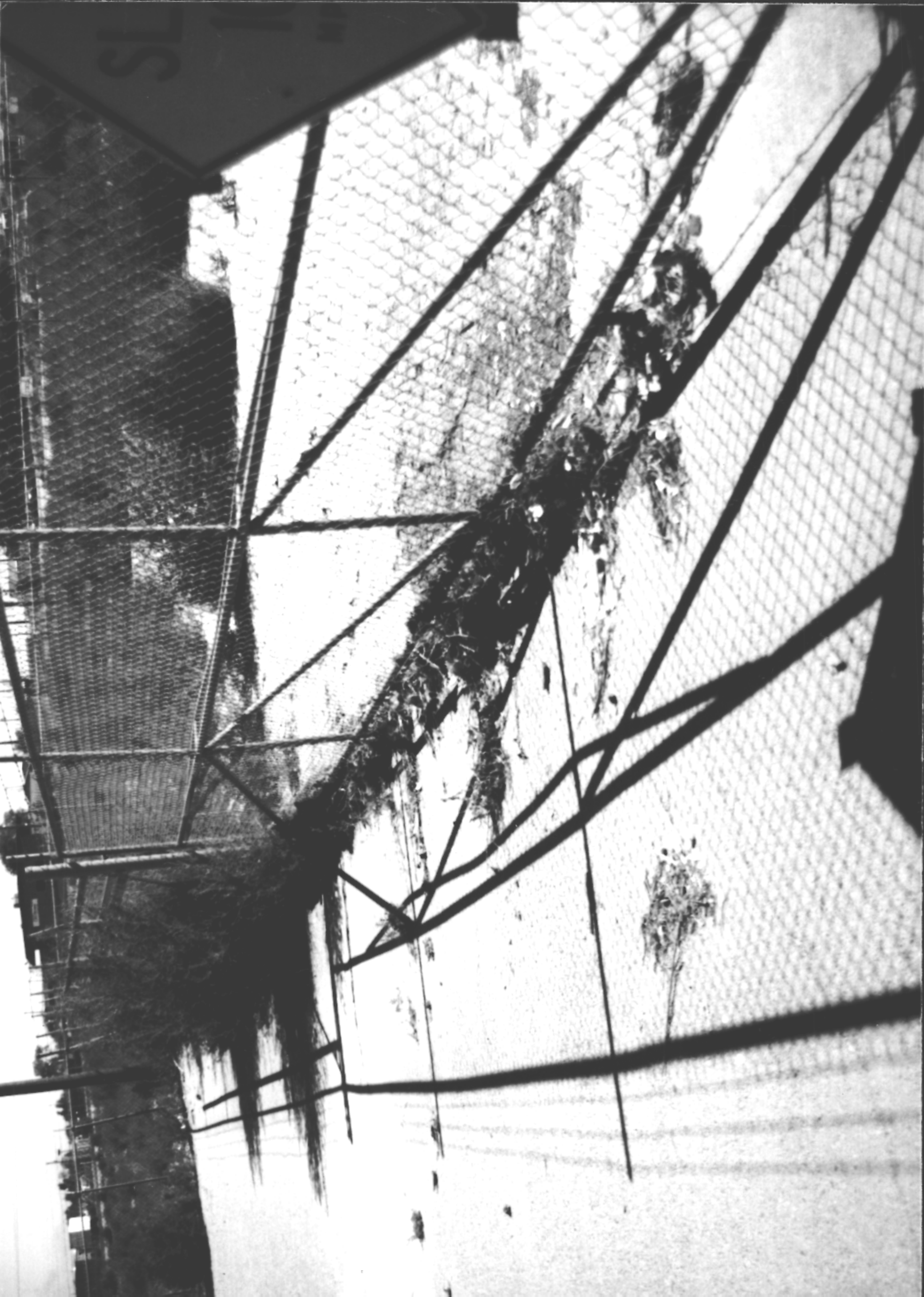
8-18-87



8-18-87



8-18-87



8-18-87

FINAL DRAINAGE REPORT

FOR

LIQUID WASTE FIELD
OPERATIONS BUILDINGS

FOR

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

PREPARED BY:

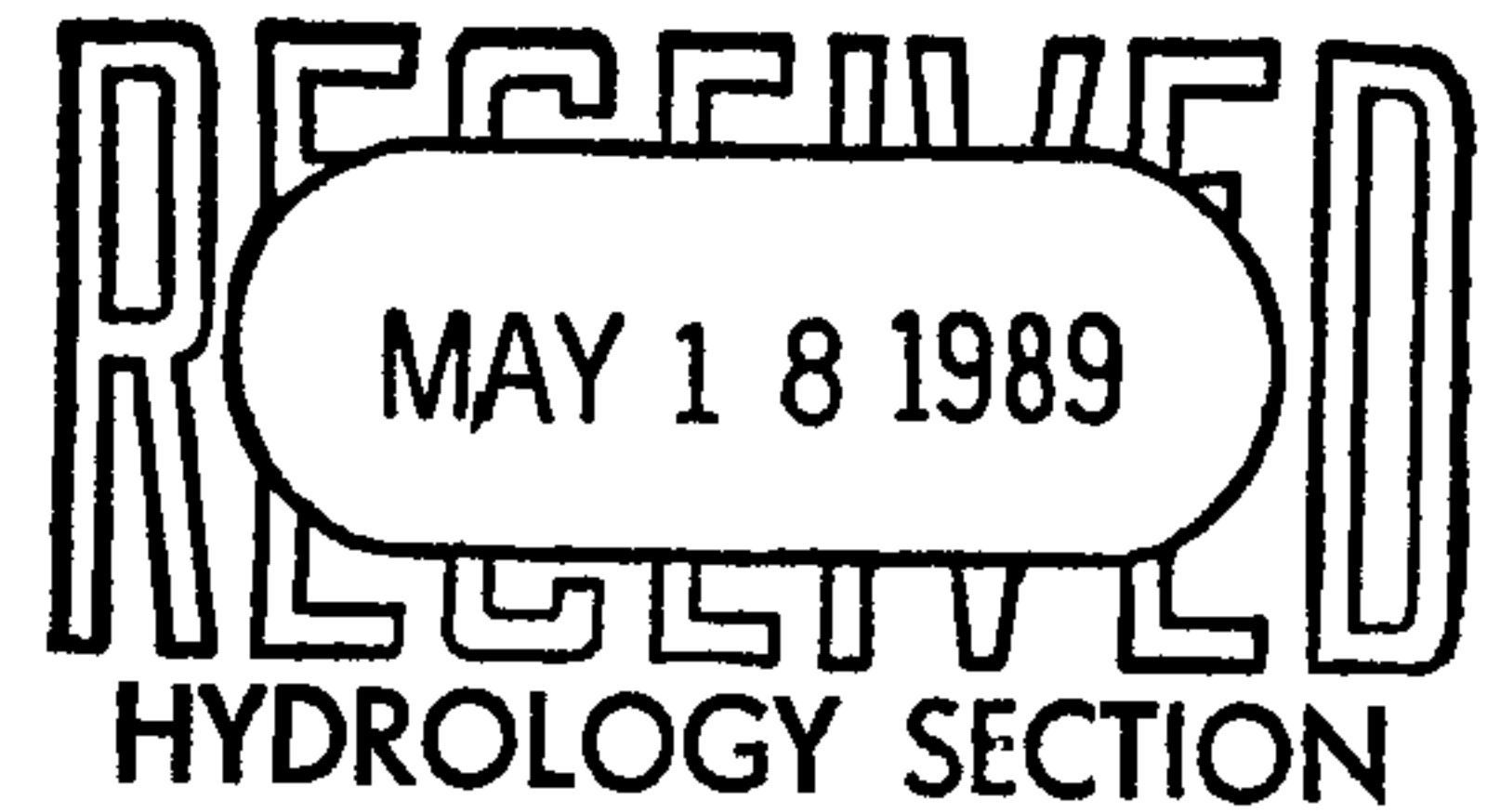
HN

HOLMES and NARVER
6501 AMERICAS PARKWAY NE.
SUITE 700
ALBUQUERQUE, NEW MEXICO

MAY 1989

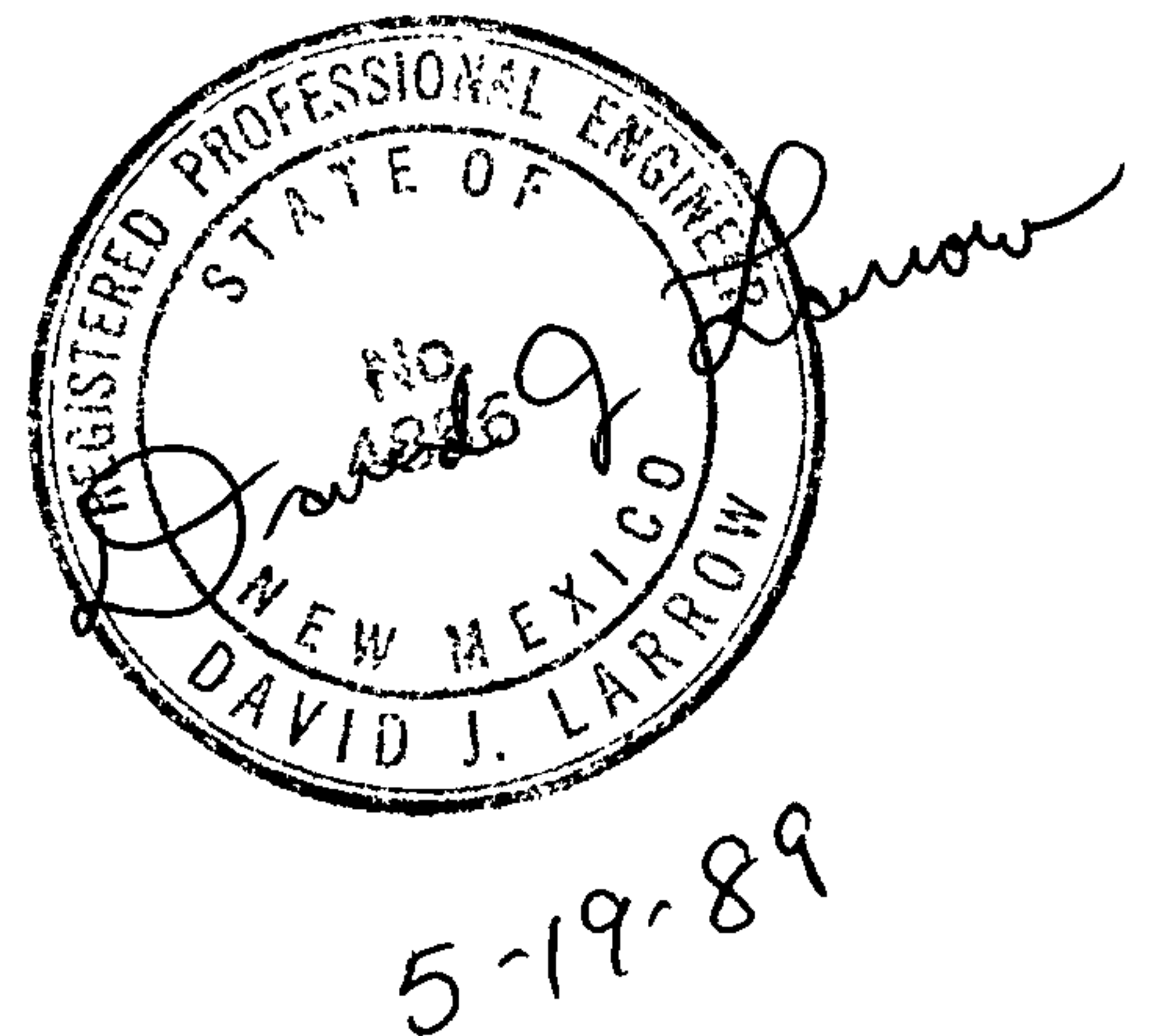
REPORT-COA FIELD OP. BLDG.
May, 1989

FINAL
DRAINAGE REPORT



FOR

THE CITY OF ALBUQUERQUE
LIQUID WASTE DIVISION'S
FIELD OPERATIONS BUILDING SITE



MAY, 1989

PREPARED BY

HOLMES & NARVER, INC.

DRAINAGE REPORT
FOR
THE CITY OF ALBUQUERQUE, LIQUID WASTE DIVISION'S
FIELD OPERATIONS BUILDING SITE

INTRODUCTION

The following report addresses the site development for the proposed City of Albuquerque Liquid Waste Division's Field Operations Building on the easterly portion of Tract 3b1, Middle Rio Grande Conservancy District Map 49, Zoned M-2, located on the west side of Second Street, S.W., between the San Jose Drain and North Street, S.W., and containing approximately 18.4 acres. (See Fig. 1) The site was formerly irrigated agricultural land. The soils are moderately well drained sandy silts and clay, SCS soil classification B. The site is connected to the City of Albuquerque Waste Water Treatment Plant to the west by a dirt road crossing the Barr Canal with a 72-inch CMP culvert.

EXISTING CONDITIONS

This area was covered by an AMAFCA commissioned study, "Southeast Valley Drainage Management Plan; San Jose Drain and Vicinity" by Wilson & Co., 1987. The Liquid Waste Division's Field Operations Building site is located in what the above report designates as Subarea F, Basin 504. (See Fig. 2) Under existing conditions, the report indicates that the Basin is perched with a portion of the proposed Field Operations site serving as a ponding area indicated as a 100 year flood hazard area in the Albuquerque Master Drainage Study", Vol. 1, 1981, P-13. (See Fig. 3) Field inspection and examination of the 1976 orthotopo maps supplied by the City of Albuquerque indicate that the portion of Basin 504 south of North Street drains into the Barr Canal and that only the portion north of North Street, which includes the Field Operations site, is presently perched. However, only minor alteration to the Barr Canal earthen berm would cause storm runoff to be diverted north to the ponding area as indicated in the AMAFCA report. (See Fig. 4)

Under existing conditions, additional off-site flows intrude on the Field Operations site from Basin 552, east of Second Street*. These pass under Second Street via 2-42" RCP's and pond in a ditch adjacent to the site. An earthen berm currently protects the site and the ditch is drained to the San Jose Drain by a 24" culvert pipe. The City has indicated that improvements to this ponding area will be addressed as Second St. and/or San Jose Drain projects. Table 1 gives the reported peak flows and runoff volumes for both Basin 504 (includes the Field Operations site) and Basin 552, as reported in the "Southeast Valley Drainage Management Plan".

* SEE APPENDIX A

TABLE 1

Basin	EXISTING		FUTURE	
	Vol. Ac-ft	Q-Peak cfs	Vol. Ac-ft	Q-Peak cfs
504	1.0	24	2.5	58
552	8.0	96	19.8	252

PROPOSED SITE DRAINAGE PLAN

The proposed site plan calls for the development of the southern portion of the site, approximately 11 of the 18.4 acres. Nine acres will be roads, paved parking, administration office, maintenance buildings and covered parking. The remainder of the developed area will be landscaped to take advantage of natural tree growth and terrain features. The northern portion of the site will be bisected by an access road connecting the vehicle maintenance yard to Reclamation Road. Drainage swales will be graded along the southern and eastern boarder of the developed facility. (See Enclosure A)

The western portion of both the administrative and vehicle maintenance areas will drain to a concrete lined V-ditch running from south to north between the paved parking areas and the Barr Canal berm. This lined ditch (S-.5%) will also intercept most of the off-site flows from the residential area between the Field Operations site and North Road. The ditch will discharge into an undeveloped ponding area west of the Access Road. The calculated developed peak 100-year runoff rate and total volume are 27.1 cfs and 0.65 Ac-ft. The eastern portion of the administration and vehicle maintenance areas will drain to a meandering swale between the site and Second Street. This swale (S-.7%) will also intercept minor off-site flows from the south and will discharge into another undeveloped ponding area east of the Access Road. The developed 100-year peak discharge is calculated to be 15.0 cfs and 100-year volume is 0.47 Ac-ft.

The two ponding areas will be connected by a culvert under the access road so that they will function as a single unit with a total volume of 13.4 Ac-ft. at the road over-topping elevation of 4929.4 feet. Table 2 gives the calculated total off-site and Field Operations site peak discharge and total runoff volumes under two different conditions. Alternate A is for the proposed development maintaining existing drainage patterns south of North Road. Alternate B is for the proposed development, assuming either planned or inadvertent diversion of the southern parcel runoff from the Barr Canal to the proposed drainage ditch along the Barr Canal.

TABLE 2

	<u>Area</u> (Acres)	<u>Qp</u> (cfs)	<u>Volume</u> (Ac-ft)	<u>Water Surface</u> <u>Elev (ft)</u>
A.	22.5	57.9	1.88	4927.1
B.	31.4	62.6	2.62	4927.5

The connected ponding areas will be drained by a 24" culvert to the ditch along Second Street. The maximum volume of the ponds (13.4 Acre-feet) was determined by the elevations of the adjacent roads, parking lots and Barr Canal berm. This is more than adequate to retain 100% of the 100-Year runoff from the site and Basin 504 (2.62 Acre-feet after development) as well as the existing runoff from Basin 552 (8.0 Acre-feet). Runoff from Basin 552 would enter the ponds through the 24" CMP that normally discharges into the existing ditch at the east side of the property. This back flow into the new ponds would take place in the event that the San Jose Drain was flowing full during major runoff from Basin 552. However, this excess capacity in the new ponding areas will not be adequate to store the combined fully developed Basin 552 and Basin 504 runoff volume of 22.4 acre-feet. As mentioned earlier, this problem will have to be addressed as part of San Jose Drain or Second Street improvement in the future.

In addition, the existing direct access from the Field Operations site to the Waste Water Facility, west of the Barr Canal will be relocated approximately 100 feet south. The existing 72" CMP culvert will be relocated or replaced, depending on assessment of its condition.

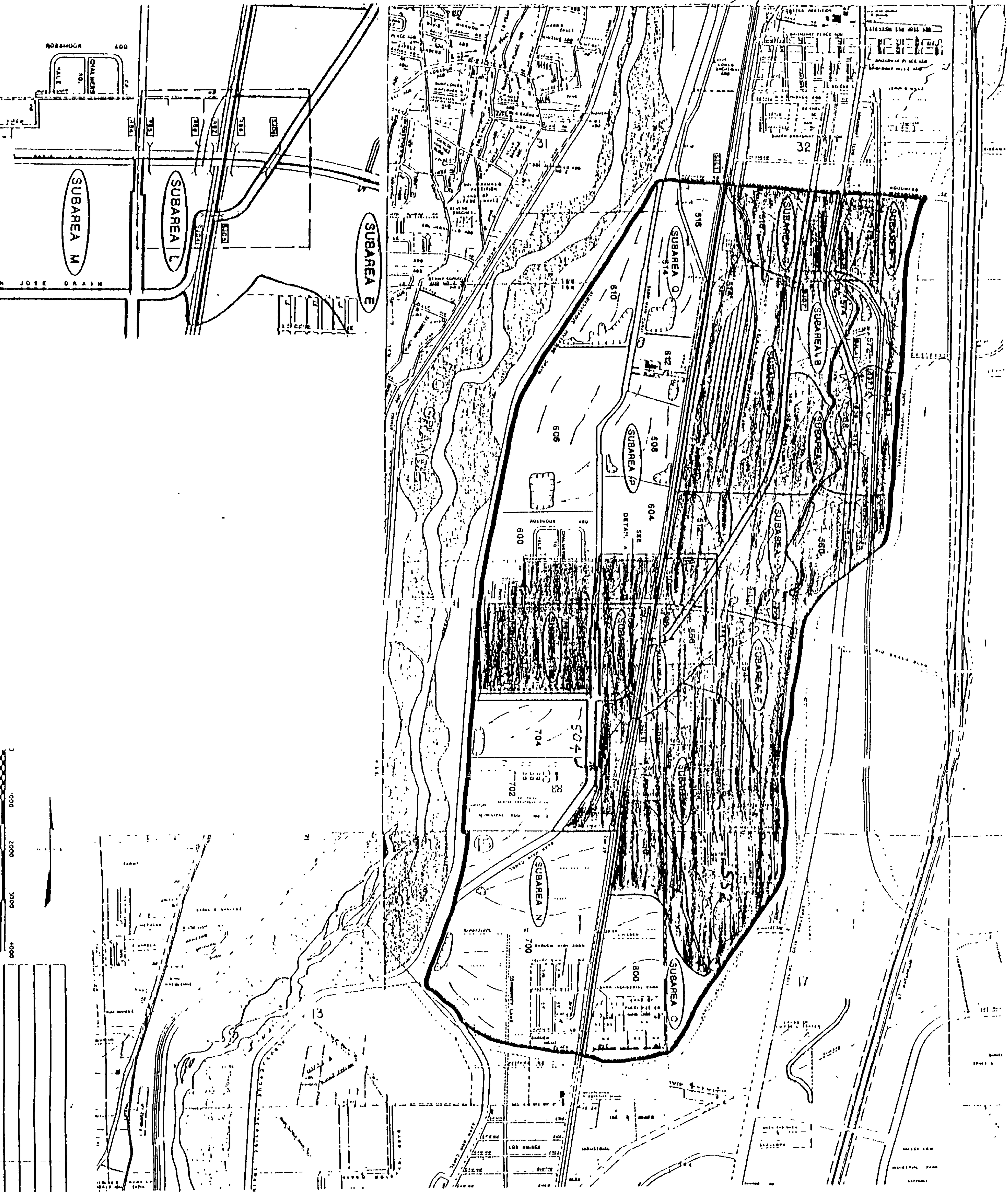


FIG. 2

DRAINAGE AREA MAP

ALBUQUERQUE METROPOLITAN AREA FLOOD CONTROL AUTHORITY
SOUTHWEST VALLEY DRAINAGE - PHASE 1

DESIGN DRAWING

DATE

WILSON
& COMPANY
ENGINEERS-
ARCHITECTS

FILE NO.

SHEET NO.

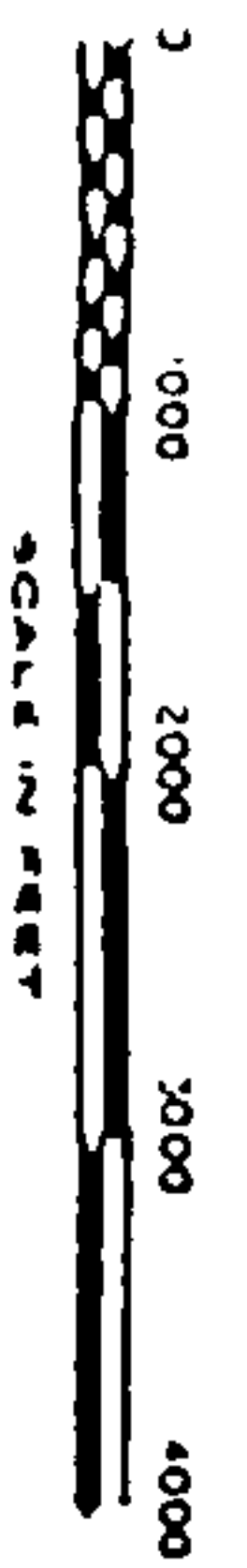
ALBUQUERQUE, NEW MEXICO

DATE

REVISION

DATE

BY



SCALE IN FEET

DETAIL A



P-13

FIG. 3

ALBUQUERQUE WASTEWATER DRAINAGE STUDY

LEGEND
100 YEAR FLOOD HAZARD AREA
10 YEAR FLOOD HAZARD AREA
PROPOSED STORM DRAINAGE IMPROVEMENTS

COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHS
TAKEN MARCH 1976 BY KOOGLE & POULS ENGINEERING, ALBUQUERQUE
NEW MEXICO

A



KEN SCHULTZ
MAYOR

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 7, 1988

Joseph F. Almers, A.I.A.
Holmes & Narver, Inc.
Ameriwest Financial Center
6501 Americas Parkway NE, Suite 70
Albuquerque, NM 87110

RE: Public Works Department Field Operations Buildings
Segment 1/Liquid Waste Centralized Facilities
- Authorization for Design Development Phase

Dear Sir:

Programming and Schematic Design having been satisfactorily completed for the subject project, per terms and conditions of A&E agreement 88-PWD-21 you are herein authorized to proceed with the Design Development Phase effective this date.

Please advise Dave Larrow that the City has elected to address our potential off site drainage problem under a separate contract. For our on site drainage I suggest we provide attenuating storage with an 18" drain conduit to the ditch at the northeast corner of the site.

If I can be of any assistance please contact me at 768-2773.

Sincerely,

Alex Garnand, P.E.
Project Manager
Public Works Department

xc: Dave Brosman
Jim Hicks
Joe Dellalonga
Don Miller
Gene Leyendecker
f3410.3/147.3
WP+495

PUBLIC WORKS DEPARTMENT

Walter H. Nickerson, Jr., P.E.
Assistant Director Public Works

ENGINEERING GROUP

Telephone (505) 768-2500

AN EQUAL OPPORTUNITY EMPLOYER

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT



INTER-OFFICE CORRESPONDENCE
October 31, 1988

ENGINEERING GROUP

TO: Distribution

FROM: Alex Garnand P.E./Project Manager

SUBJECT: PWD Field Operations Buildings
LW Centralized Facilities - Offsite Drainage

According to the Southeast Valley Drainage Management Plan San Jose Drain And Vicinity, the ultimate storm water runoff assuming developed conditions for the contributing basins would be 23.580 Ac-ft with a peak discharge of 299.4 cfs beneath the railroad trestle just east of our project site across 2nd Street. This flow routed across our site and combined with our site runoff as well as the Mountain View area as far south as Prosperity would yield runoff to the San Jose Drain of 26.049 Ac-ft with a peak discharge of 310.2 cfs.

The point that needs to be emphasized is that these flows are in accordance with a Drainage Management Plan performed for AMAFCA in anticipation of a probable transfer of jurisdiction of the San Jose Drain from the MRGCD to AMAFCA. Implementation of this Plan will require extensive drainage infrastructure improvements for both the collection and conveyance of storm water runoff watershed wide and construction of major diversion facilities will more than likely be AMAFCA's responsibility.

The first priority for AMAFCA is the improvement of the San Jose Drain to increase its capacity sufficiently to accept these and other flows. However, neither the design nor construction of the drain improvements is anticipated in the near future. As for watershed wide improvements, it is my considered opinion they will not be accomplished in this generation.

The existing ditch at the northeast corner of our site is the historic conveyance for the San Jose Lateral Wasteway of excess irrigation waters to the San Jose Drain from the outlet of two (2) 42" RCP culverts under 2nd Street. Interestingly enough, I'm informed by Subhas Shah that the MRGCD does not hold an easement for or any interest in the existing ditch on our property and that the San Jose Lateral Wasteway has been abandoned to the property owner east of the Railroad Right-Of-Way. Inquiry with AMAFCA and the County yields similar results. No government entity claims jurisdiction (and maintenance responsibility) for the existing ditch on our property.

Under existing conditions a significant storm event will result in some flooding in the vicinity. The general contour of the land east of the railroad right-of-way slopes to the northwest at about 1%. The railroad embankment will intercept and channel the flow north to the

trestle east of our site and spill into the 2nd Street right-of-way. Realistically the San Jose Drain would be full to capacity and actually back up water into our ditch further reducing the capacity of the two 42" culverts crossing 2nd Street (actually only one of the culverts conveys flow. The other is completely plugged and will remain so without a substantial maintenance effort). The majority of the flow will fill the depression between the roadway and the railroad embankment (as it does now) until it spills over the relatively flat portion of the road from the Plant main entrance to the San Jose Drain crossing approximately 1000' north and into the drain right-of-way for the most part. The drain will over flow into the fields north of the plant site and there may be some overflow from our ditch on to the Project site but not nearly a magnitude or volume that in my opinion would present a hazard. It is significant to note that no flooding of our project site has been observed in the 20+ years that the City has maintained facilities at the Southside Water Reclamation Plant location.

RECOMMENDATIONS: It is my considered recommendation that improvements to the culvert beneath the Plant main entrance road be deferred. Should AMAFCA elect to utilize this alignment for future diversion it will require substantial crossing structures both at 2nd Street and beneath the main entrance road as well as the granting of an easement or right-of-way from the City to AMAFCA. Alternatively, AMAFCA may elect to divert the anticipated 23.58 Ac-ft of runoff north along the east side of the railroad embankment depending on whether right-of-way and diversion channel costs prove more cost effective than the two crossing structures without adding significant costs to the improvement of the San Jose Drain crossing structures currently anticipated. Furthermore, the MRGCD will not currently permit any expansion of the capacity of conveyances into the San Jose Drain.

It is my further recommendation that we provide sufficient detention storage for 100% of our on site runoff with the minimum sized outlet conduit appropriate for storm drainage to our ditch to allow eventual drainage of onsite runoff and preclude possible public health hazards associated with nuisance ponding.

If I can be of any assistance please contact me at 768-2773.

Distribution:

Dave Brosman
Gene Leyendecker
Joe Almers/Holmes & Narver
Cliff Anderson/AMAFCA
Subhas Shah/MRGCD
Tucker Green/BCPWD

cc:file 3410.5/147.5

Jim Hicks
Mike Mendoza
WP+489

B

HOLMES & NARVER, INC.

CHECKED _____ DATE _____

ENGINEERS-CONSTRUCTORS

JOB NO. 2304.00

APPROVED _____ DATE _____

Ameriwest Financial Center
6501 Americas Parkway, NE, Suite 700
Albuquerque, NM 87110

SHEET _____ OF _____

TITLE Volume & Op Calc.

BY DR DATE 1/15

Total Area under consideration less than
40 Acres - \therefore use Rational Method

Residential/Farm: $C = .25-.30$

COA DPM Vol 2

22-2 p.17

Paved Area + Roofs $C = .95$

from Wilson & Co. report $CN = 70$ (exist)

$CN = 84$ (future)

100-yr 6 hr rainfall 2.3"

$$T_c = \frac{.0078(L)^{.77}}{S^{.385}}$$

COA DPM Vol 2
22-2 p.3

$L = 1000'$ for existing drainage pattern $S = .009$

$L = 1300'$ for possible alternate drainage pattern
 $S = .0081$

exist $T_c = 9.76$ min

alternate $T_c = 12.5$ min

exist $i = 2.3(6.84)(10)^{-.51} = 4.86$ in/hr COA DPM
Vol 2.

alternate $i = 2.3(6.84)(12)^{-.51} = 4.43$ in/hr 22-2 p.17

8-HOUR RAINFALL VOLUMES-100 YEAR FREQUENCY

Use 2.2 for all locations
west of 2.2 line

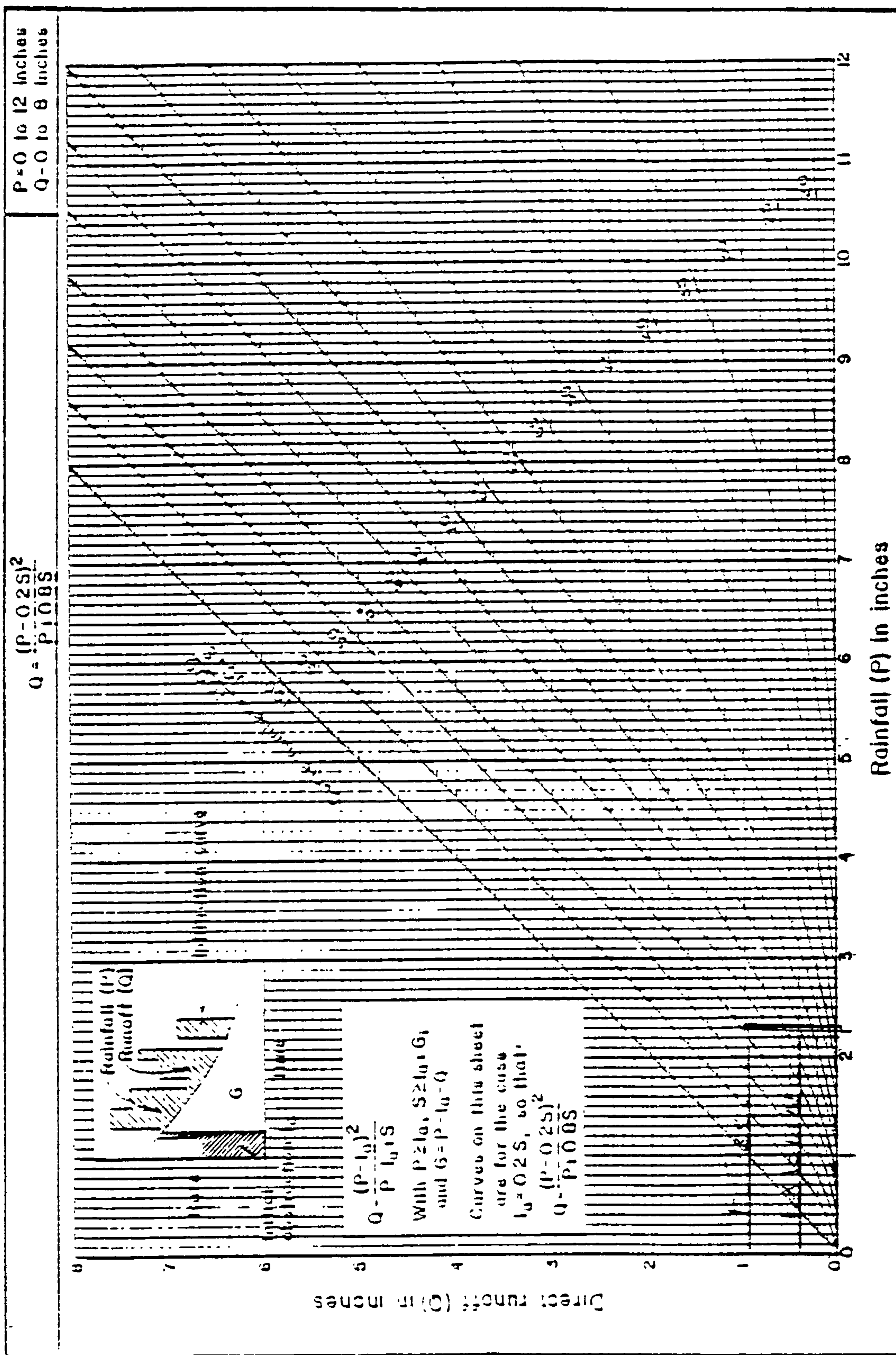
1" = 3.3 MILES

Note: to obtain 2, 5, 10, and 50
year values, multiply the 100
year amount by the following
factors:

Year	2	5	10	50
Factor	.445	.541	.657	.920

Source: 1973 NOAA Atlas 2, Volume IV

HYDROLOGY: SOLUTION OF RUNOFF EQUATION



REFERENCE
Mockus, Victor, Estimating direct runoff amounts from
storm rainfall. Central Technical Unit, October 1955.

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ENGINEERING DIVISION - CENTRAL TECHNICAL UNIT

HOLMES & NARVER, INC.

CHECKED _____ DATE _____

ENGINEERS-CONSTRUCTORS

JOB NO. 2304.00

APPROVED _____ DATE _____

Ameriwest Financial Center
6501 Americas Parkway, NE, Suite 700
Albuquerque, NM 87110

SHEET _____ OF _____

TITLE Vol + Qp Calc.

BY *DA* DATE 1/17

East Area (up to ponding Area)

$$A_T = 1.3 + 2.2 + 1.5 + .6 = 5.60 A_c$$

$$2.2 @ .95$$

$$2.8 @ .30$$

$$.6 @ .25$$

$$\bar{C} = .55$$

$$Q_{100} = .55 (5.60) (4.86) = 15.0 \text{ cfs}$$

$$V_{100} = 1'' \times 1\frac{1}{12}'' \times 5.6 A_c = .47 A_c - F_T$$

West Area (up to ponding Area)

$$5.25 @ .95$$

$$2.50 @ .25$$

$$A_T = 7.75 A_c$$

$$\bar{C} = .72$$

$$Q_{100} = .72 (7.75) (4.86) = 27.12 \text{ cfs}$$

$$V_{100} = 1'' \times 1\frac{1}{12}'' \times 7.75 A_c = .646 A_c - F_T$$

HOLMES & NARVER, INC.

CHECKED _____ DATE _____

ENGINEERS-CONSTRUCTORS

JOB NO. 220400

APPROVED _____ DATE _____

Ameriwest Financial Center
6501 Americas Parkway, NE, Suite 700
Albuquerque, NM 87110

SHEET _____ OF _____

TITLE Vol - Op Calc

BY AD DATE 1/17

Total Vol + Runoff assuming existing
drainage pattern - East + West Area + Ponding Area

$$A_T = 22.5 \text{ Acres}$$

$$9 \text{ @ } .95$$

$$2.8 \text{ @ } .30$$

$$\bar{C} = .54$$

$$T_c = 10$$

$$i = 4.86 \text{ "/h}$$

$$10.7 \text{ @ } .25$$

$$\text{Total } Q_{100} = .54(4.86)(22.5) = 59.0 \text{ cfs}$$

$$\text{Total } V = 1" \times \frac{1}{12}" \times 22.5 = 1.88 \text{ Ac-ft}$$

alternate drainage pattern

$$A_T = 31.4 \text{ Acres}$$

$$9 \text{ @ } .95$$

$$2.8 \text{ @ } .30$$

$$\bar{C} = .46$$

$$T_c = 12$$

$$i = 4.43 \text{ "/h}$$

$$19.6 \text{ @ } .25$$

$$\text{Total } Q_{100} = .46(4.43)(31.4) = 64.0 \text{ cfs}$$

$$\text{Total } V = 1" \times \frac{1}{12}" \times 31.4 = 2.62 \text{ Ac-ft}$$

*** OPEN CHANNEL CALCULATIONS ***

HOLMES & HARVEY, INC.

PROJECT NO.: CITY OPS

TYPE OF CHANNEL: TRAPEZOIDAL

BOTTOM WIDTH (ft) : 0.10

LEFT SIDE SLOPE (ft/ft) : 3.00

RIGHT SIDE SLOPE (ft/ft) : 3.00

MAXIMUM DEPTH (ft) : 2.00

STATION	Q (cfs)	b (ft)	V (fps)	MP (ft)	A sq. ft)	HR (ft)	SLOPE (ft/ft)	
CHAN	0.04	0.10	1.01	0.73	0.04	0.05	0.00500	0.0150
CHAN	0.21	0.20	1.53	1.36	0.14	0.10	0.00500	0.0150
CHAN	0.59	0.30	1.98	2.00	0.30	0.15	0.00500	0.0150
CHAN	1.24	0.40	2.38	2.63	0.52	0.20	0.00500	0.0150
CHAN	2.20	0.50	2.74	3.26	0.60	0.25	0.00500	0.0150
CHAN	3.52	0.60	3.09	3.89	1.14	0.29	0.00500	0.0150
CHAN	5.26	0.70	3.41	4.53	1.54	0.34	0.00500	0.0150
CHAN	7.45	0.80	3.72	5.16	2.00	0.39	0.00500	0.0150
CHAN	10.14	0.90	4.02	5.79	2.52	0.44	0.00500	0.0150
CHAN	13.36	1.00	4.31	6.42	3.10	0.48	0.00500	0.0150
CHAN	17.18	1.10	4.59	7.06	3.74	0.53	0.00500	0.0150
CHAN	21.57	1.20	4.86	7.69	4.44	0.58	0.00500	0.0150
CHAN	26.62	1.30	5.12	8.32	5.20	0.62	0.00500	0.0150
CHAN	32.36	1.40	5.33	8.95	6.02	0.67	0.00500	0.0150
CHAN	38.82	1.50	5.63	9.59	6.90	0.72	0.00500	0.0150
CHAN	46.02	1.60	5.87	10.22	7.84	0.77	0.00500	0.0150
CHAN	54.01	1.70	6.11	10.85	8.84	0.81	0.00500	0.0150
CHAN	62.82	1.80	6.35	11.48	9.90	0.86	0.00500	0.0150
CHAN	72.46	1.90	6.58	12.12	11.02	0.91	0.00500	0.0150

for Concrete Lined "V"-ditch Along west side
of Site.

$$Q_{100}(\text{max}) = 27.12 \text{ cfs}$$

*** OPEN CHANNEL CALCULATIONS ***

HOLMES & NARVER, INC.
PROJECT NO.: CITY OPS

TYPE OF CHANNEL: TRAPEZOIDAL

BOTTOM WIDTH (ft) : 0.10
LEFT SIDE SLOPE (ft/ft) : 10.00
RIGHT SIDE SLOPE (ft/ft) : 20.00

MAXIMUM DEPTH (ft) : 1.50

STATION	Q (cfs)	D (ft)	V (fps)	WF (ft)	A (sq.ft)	HR (ft)	SLOPE (ft/ft)	N
EAST DITCH	0.14	0.10	0.86	3.11	0.16	0.05	0.00700	0.0200
EAST DITCH	0.84	0.20	1.35	6.11	0.62	0.10	0.00700	0.0200
EAST DITCH	2.44	0.30	1.76	9.12	1.38	0.15	0.00700	0.0200
EAST DITCH	5.21	0.40	2.13	12.13	2.44	0.20	0.00700	0.0200
EAST DITCH	9.40	0.50	2.47	15.14	3.80	0.25	0.00700	0.0200
EAST DITCH	15.24	0.60	2.79	18.14	5.46	0.30	0.00700	0.0200
EAST DITCH	22.94	0.70	3.09	21.15	7.42	0.35	0.00700	0.0200
EAST DITCH	32.70	0.80	3.38	24.16	9.68	0.40	0.00700	0.0200
EAST DITCH	44.72	0.90	3.65	27.17	12.24	0.45	0.00700	0.0200
EAST DITCH	59.17	1.00	3.92	30.17	15.10	0.50	0.00700	0.0200
EAST DITCH	76.23	1.10	4.17	33.18	18.26	0.55	0.00700	0.0200
EAST DITCH	96.07	1.20	4.42	36.19	21.72	0.60	0.00700	0.0200
EAST DITCH	118.86	1.30	4.66	39.20	25.48	0.65	0.00700	0.0200
EAST DITCH	144.76	1.40	4.90	42.20	29.54	0.70	0.00700	0.0200

channel downstream from 24" CULVERT
Adj. to 2nd ST.

4/28/89

FILE COPY



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

KEN SCHULTZ
MAYOR

CLARENCE V. LITHGOW
CHIEF
ADMINISTRATIVE OFFICER

DAN WEAKS
DEPUTY CAO
PUBLIC SERVICES

FRED E. MONDRAGON
DEPUTY CAO
DEVELOPMENT & ENTERPRISE SERVICES

RAY R. BACA
DEPUTY CAO
PUBLIC SAFETY

July 6, 1989

Dave Larrow, P.E.
Holmes & Narver, Inc.
6501 Americas Parkway, NE #700
Albuquerque, New Mexico 87109

RE: GRADING PLAN AND DRAINAGE REPORT FOR THE LIQUID WASTE
OPERATIONS BUILDINGS, SUBMITTED MAY 19, 1989, FOR BUILDING
PERMIT APPROVAL (P-13/D1)

Dear Mr. Larrow,

Your submittal, referred to above, revision 1, dated 5/15/89, is approved for
Building Permit sign-off by the Hydrology Section.

Thank you for your help, and if you have any questions, please call me at
768-2650.

Cordially,

G. Stuart Reeder, P.E.
C.E./Hydrology Section

xc: Alex Garnand, Project Manager, COA

GSR
(WP+1068)

FILE COPY



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 11, 1989

Dave Larrow, P.E.
Holmes & Narver, Inc.
6501 Americas Parkway, NE #700
Albuquerque, New Mexico 87109

RE: GRADING PLAN AND DRAINAGE REPORT FOR THE LIQUID WASTE
OPERATIONS BUILDINGS, SUBMITTED MARCH 2, 1989, FOR BUILDING
PERMIT APPROVAL (P-13/D1)

Dear Mr. Larrow,

I have reviewed your submittal, referred to above, and have the following
comments concerning it:

Conceptual:

1. I didn't understand from reading the report the reason for sizing the ponds to hold a maximum of 13.4 acre feet, when by calculation, the site should generate only 2.5 acre-feet. It appears that the ponds could hold the site's runoff plus the existing runoff from Basin 552 (8.0 acre feet), but I'm not sure I understand how much area you intend to drain to them.
2. The wisdom of having a sumped drainage inlet in the refueling area isn't entirely clear to me. Fuel spills and other contaminants will have free access to the ponds and the water table.
3. Please provide storage routing calculations for the existing pond at the east side of the property to insure that your plan will not exceed its capacity.
4. Please define the drainage basins on the plan.
5. Please show the offsite basin(s) on the drainage plan, and quantify the peaks and volumes.

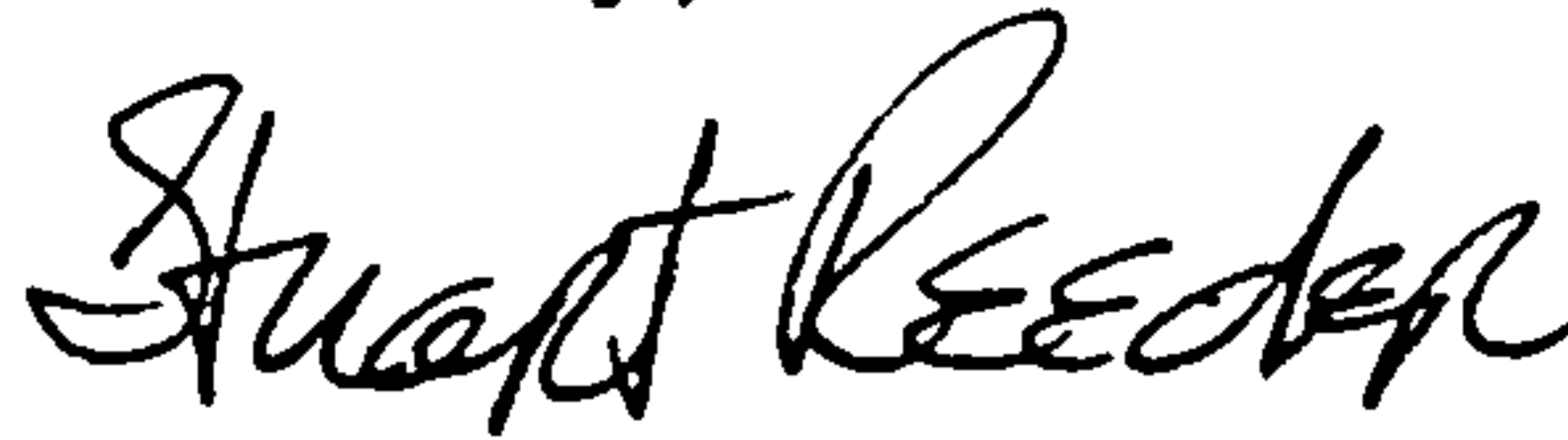
Specifics for Building Permit: Your submittal should be the plan sheet from which the contractor will build the project. It should be completely detailed and, among other things, include the following:

1. The lengths of RCP or the slopes at which they will be laid;
2. details of the concrete rundowns and pipe outlets into the ponds;
3. calculations for, and details of the erosion protection necessary throughout the site;
4. the detail of the southwest corner of the site at the line where water leaves the paving and enters the concrete 'V' ditch;
5. a detail of the curb break along the west side, and the same for the area just east of the maintenance building, for which the curb break is not shown;
6. the surface treatment for the ponds, their grading to provide positive drainage, and a low flow channel for minor flows.

Finally, please sign and date the mylar(s) before producing the blue-line drawings for your submittal.

If you have any questions, feel free to call me at 768-2650.

Cordially,



G. Stuart Reeder, P.E.
C.E./Hydrology Section

xc: Alex Garnand, Project Manager, COA

GSR
(WP+1068)

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LIQUID WASTE FIELD OPERATIONS BLDGS ZONE ATLAS/DRNG. FILE P-13/D1

LEGAL DESCRIPTION TRACT 38 - 1B, MRGCD

CITY ADDRESS: ADJACENT TO SOUTH SIDE WATER RECLAMATION PLANT ON 2ND ST.
SOUTH OF RIO BRAVO

ENGINEERING FIRM: HOLMES & NARVER, INC.

CONTACT: DAVE LARROW

ADDRESS: 6501 AMERICAS PKWY. NE, SUITE 700
ALBUQUERQUE, NM 87110

PHONE: 889-4100

OWNER: CITY OF ALBUQUERQUE

CONTACT: ALEX GARNAND

ADDRESS: P.O. BOX 1293, ALBUQUERQUE, NM 87103

PHONE: 768-2773

ARCHITECT: HOLMES & NARVER, INC.

CONTACT: JOE ALMERS

ADDRESS: 6501 AMERICAS PKWY. NE, SUITE 700
ALBUQUERQUE, NM 87110

PHONE: 889-4100

SURVEYOR: SANTIAGO ROMERO & ASSOCIATES, INC.

CONTACT: TOM ROMERO

ADDRESS: 6139 EDITH BLVD NE, ALBQ., NM

PHONE: 345-2733

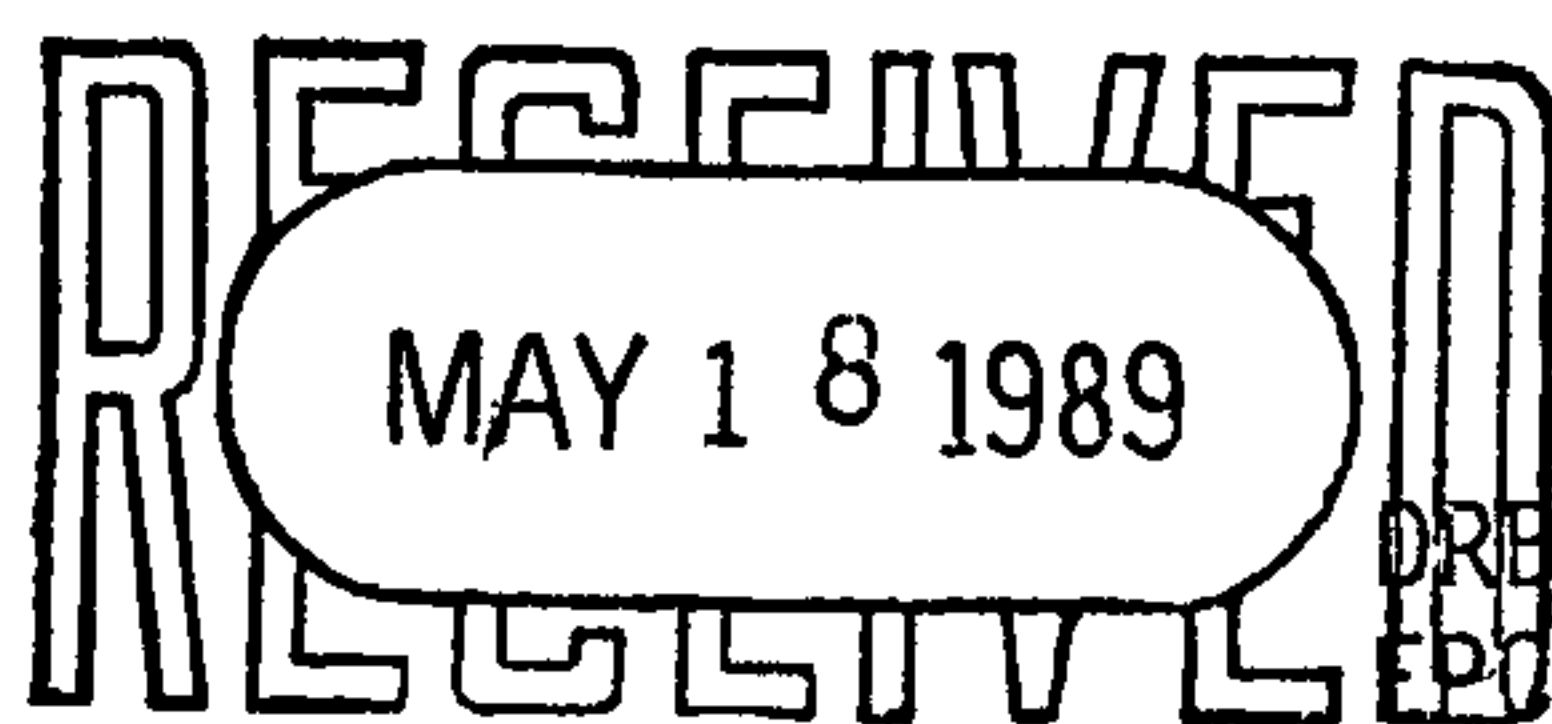
CONTRACTOR: NOT OUT TO BID

CONTACT: _____

ADDRESS: _____

PHONE: _____

PRE-DESIGN MEETING:



☐ YES
☒ NO

DRE NO. _____
EPC NO. _____

7-89-12

☐ COPY OF CONFERENCE RECORD SHEET PROVIDED

PROJECT NO. 3687

TYPE OF SUBMITTAL:

CHECK TYPE OF APPROVAL SOUGHT:

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

☐ SKETCH PLAT APPROVAL
☐ PRELIMINARY PLAT APPROVAL
☐ SITE DEVELOPMENT PLAN APPROVAL
☐ FINAL PLAT APPROVAL
☒ BUILDING PERMIT APPROVAL
☐ FOUNDATION PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY APPROVAL
☐ ROUGH GRADING PERMIT APPROVAL
☐ GRADING/PAVING PERMIT APPROVAL

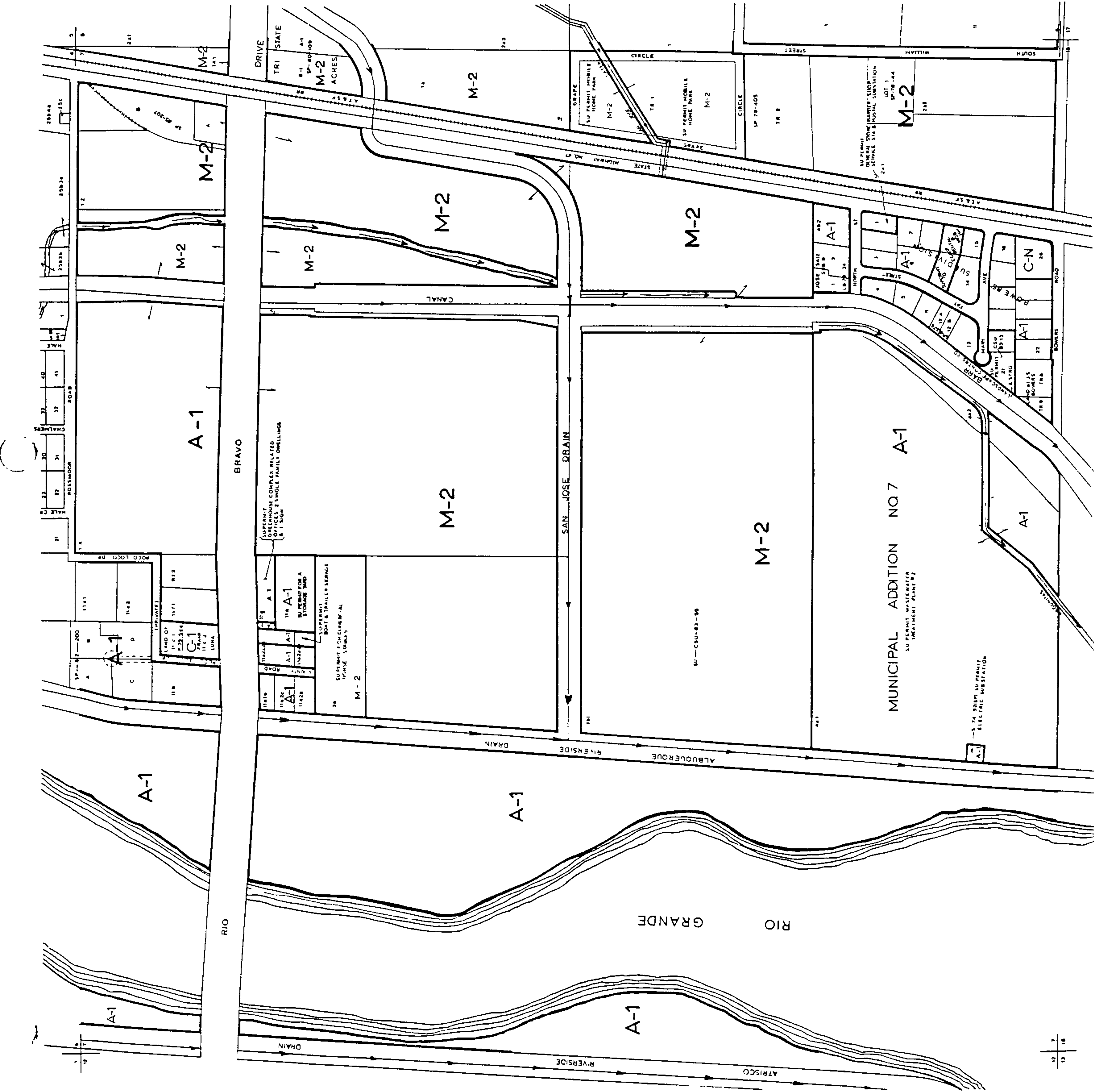
DATE SUBMITTED: 5-18-89
2-28-89 DGL

BY: DAVID J. LARROW

OTHER _____ (SPECIFY)

1114P

David J. Larrow



LEGAL DESCRIPTION
T 9 N
R 3 E
SEC 7
MRGCD MAP 49

UNIFORM PROPERTY CODE
1 053-033

ORD NO
213

COUNTY ZONING MAP
ADOPTED 4.12.71

by *John R. B. B. B.*
CONTRA COSTA COUNTY

MAP AMENDED THROUGH
JANUARY 1966

P-13-Z

60E

DRAINAGE INFORMATION SHEET

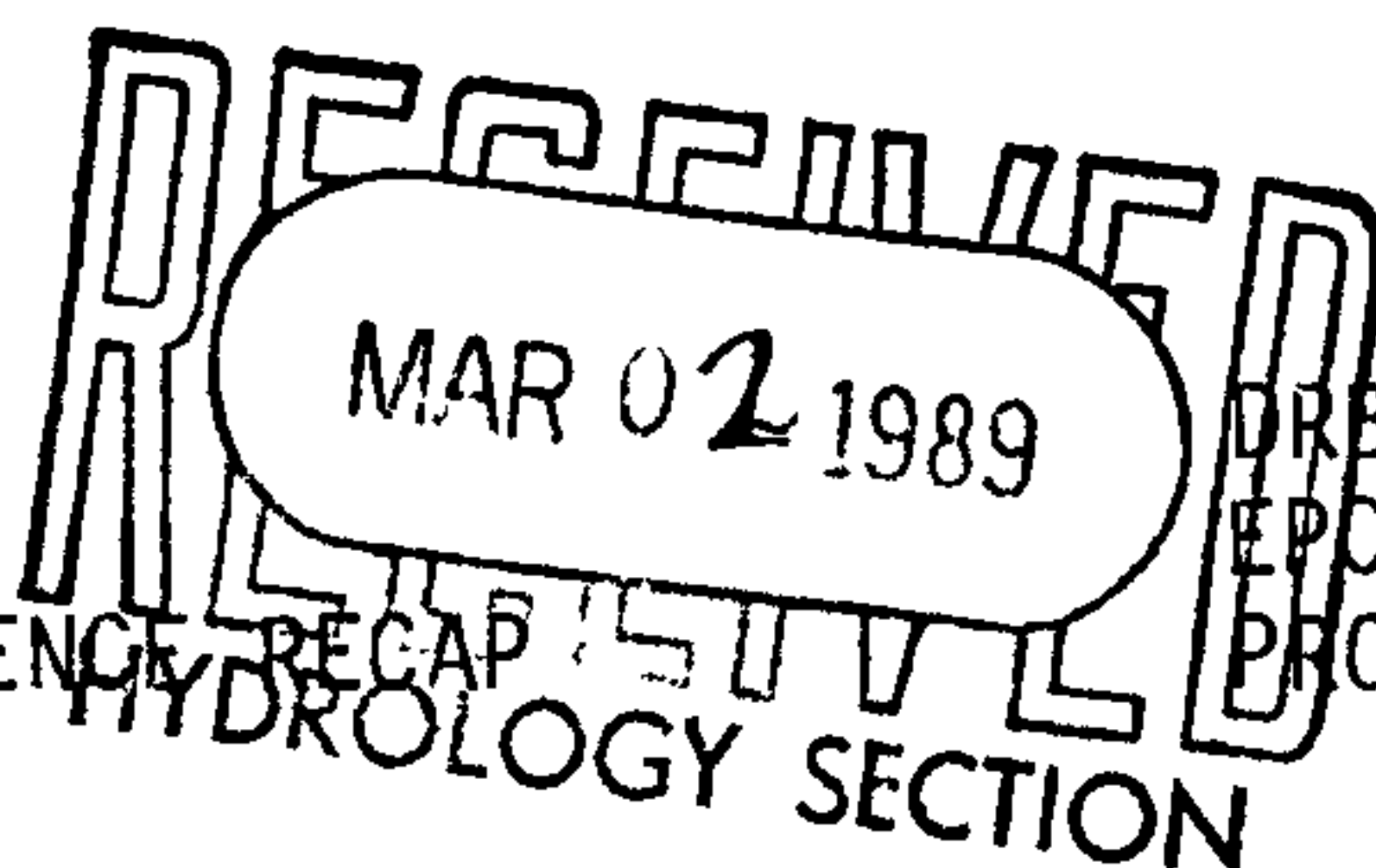
PROJECT TITLE: LIQUID WASTE FIELD OPERATIONS BLDGS ZONE ATLAS/DRNG. FILE P-13 / D1LEGAL DESCRIPTION TRACT 3B - 1B, MRGCDCITY ADDRESS: ADJACENT TO SOUTH SIDE WATER RECLAMATION PLANT ON 2ND ST.
SOUTH OF RIO BRAVOENGINEERING FIRM: HOLMES & NARVER, INC.CONTACT: DAVE LARROWADDRESS: 6501 AMERICAS PKWY. NE, SUITE 700
ALBUQUERQUE, NM 87110PHONE: 889-4100OWNER: CITY OF ALBUQUERQUECONTACT: ALEX GARNANDADDRESS: P.O. BOX 1293, ALBUQUERQUE, NM 87103PHONE: 768-2773ARCHITECT: HOLMES & NARVER, INC.CONTACT: JOE ALMERSADDRESS: 6501 AMERICAS PKWY. NE, SUITE 700
ALBUQUERQUE, NM 87110PHONE: 889-4100SURVEYOR: SANTIAGO ROMERO & ASSOCIATES, INC.CONTACT: TOM ROMEROADDRESS: 6139 EDITH BLVD NE, ALBQ., NMPHONE: 345-2733CONTRACTOR: NOT OUT TO BID

CONTACT: _____

ADDRESS: _____

PHONE: _____

PRE-DESIGN MEETING:

☐ YES
☒ NO☐ COPY OF CONFERENCE RECAP
SHEET PROVIDED

DRB NO. _____

EPC NO. _____

PROJECT NO. _____

Z-89-123687

TYPE OF SUBMITTAL:

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

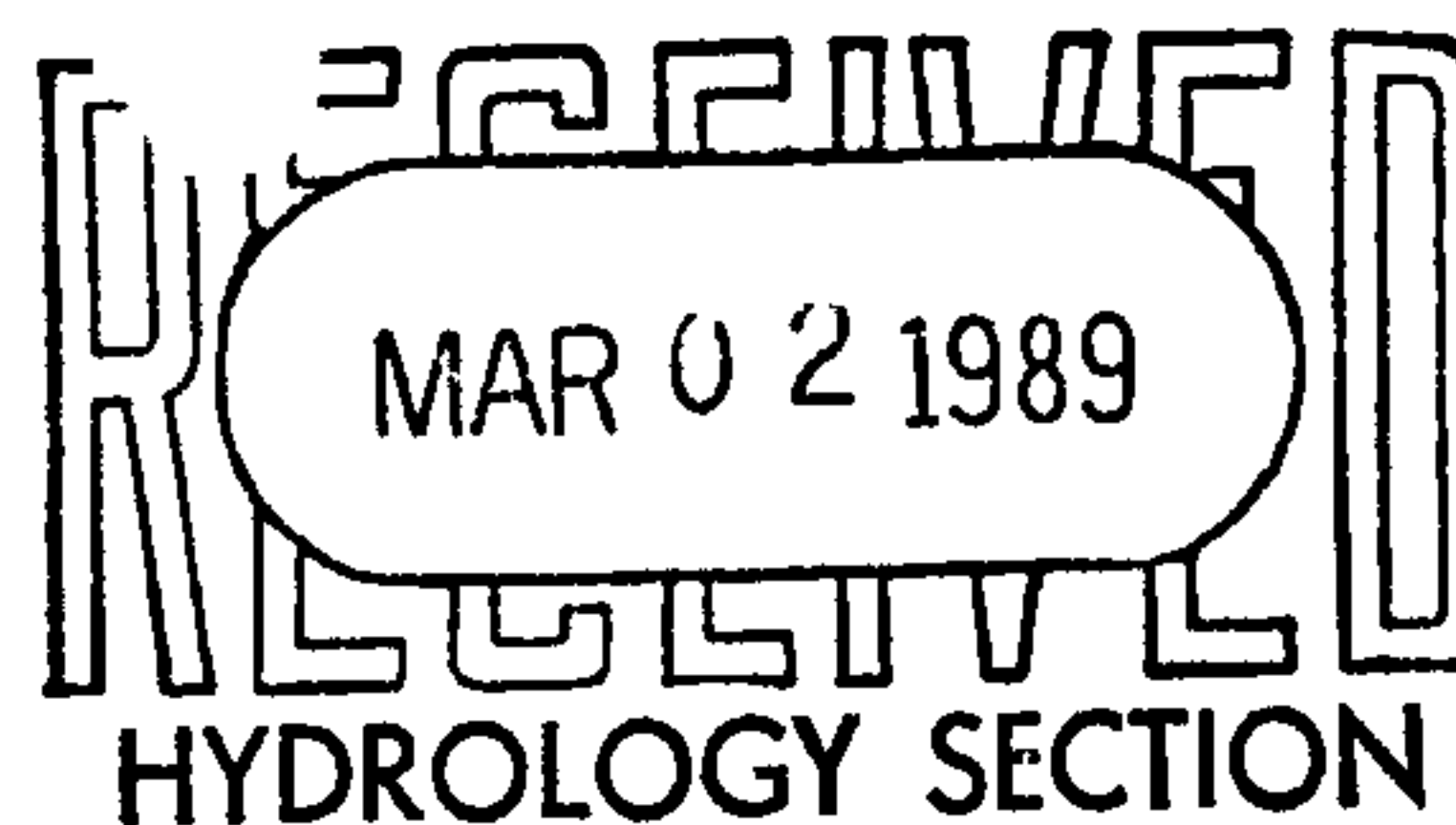
CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL
☐ PRELIMINARY PLAT APPROVAL
☐ SITE DEVELOPMENT PLAN APPROVAL
☐ FINAL PLAT APPROVAL
☒ BUILDING PERMIT APPROVAL
☐ FOUNDATION PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY APPROVAL
☐ ROUGH GRADING PERMIT APPROVAL
☐ GRADING/PAVING PERMIT APPROVAL
DATE SUBMITTED: 2-28-89BY: DAVID J. LARROW

OTHER _____ (SPECIFY)

1114P

COUNTY OF BERNALILLO
APPLICATION FOR CASE REVIEW



TYPE OR PRINT IN INK ONLY.

Please complete the following application for review of your case. Submit four blueines of plat, drawings, or information. Submit a County Zone Atlas Map with subject property marked on the map. If a grading and drainage plan is not included with a land division, subdivision, replat, conceptual, or excavation permit submittal, please submit one 8.5" x 11" photocopy of a USGS quad map with the subject property superimposed. Incomplete or inaccurate applications may delay the review. DO NOT USE THIS FORM FOR RESUBMITTALS FOR WHICH PUBLIC WORKS HAS ALREADY OR IS IN THE PROCESS OF PROVIDING COMMENTS ON. PLEASE INFORM THE RECEPTIONIST OF A RESUBMITTAL IN ORDER THAT YOU FILL OUT THE "RESUBMITTAL FOR CASE REVIEW" FORM. IF THE CASE HAS AN EXISTING CASE NUMBER, THE SUBMITTAL IS CONSIDERED A RESUBMITTAL.

1. APPLICANT INFORMATION:

a. APPLICANT IS (CHECK ONE):

☐ Owner

☐ Contractor

☐ Surveyor

☐ Agent

☒ Architect/Engineer

☐ Drainage Engineer

b. Date of this application: FEB. 20, 1989

c. SIGNATURE OF APPLICANT:

(PRINT): JOE ALMERS

(SIGN): [Signature]

d. OWNER CITY OF ALBUQUERQUE

PHONE _____

ADDRESS _____ ZIP CODE _____

e. AGENT _____

PHONE _____

ADDRESS _____ ZIP CODE _____

f. CONTRACTOR _____

PHONE _____

ADDRESS _____ ZIP CODE _____

g. ARCHITECT/ENGINEER HOLMES & NARVER

PHONE 889.4100

ADDRESS 6501 AMERICAS PKWY - SUITE 700 ZIP CODE 87110

h. SURVEYOR _____

PHONE _____

ADDRESS _____ ZIP CODE _____

i. DRAINAGE ENGINEER DON DIXON

PHONE 889.4100

ADDRESS 6501 AMERICAS PKWY SUITE 700 ZIP CODE 87110

2. TYPE OF REVIEW (CHECK ONE):

☐ Replat

☐ Excavation Permit

☐ Other (Specify): _____

☐ Minor Subdivision

☐ Construction Drawing _____

(Land Division)

☐ Conceptual Review _____

☐ Subdivision

☐ Grading/Drainage

☒ Building Permit

Preliminary

3. LOCATION OF REQUEST:

a. Site Address: ADJACENT TO SOUTHSIDE WATER RECLAMATION PLANT ON 2ND STREET SOUTH OF RIO BRAVO

b. Legal Description: TRACT 3B-1B MRGCD

c. County Zone Map No.: 49

4. If this case has or is being reviewed by another agency, please write case number(s): COUNTY P:Z - CSU-89-8; DRC-CITY PROJ. NO. 3687; EPC-Z-89-12

CASE NO.:

Public Works Intended Use Only

REP _____

LDR _____

SUB _____

BPP _____

PER _____

CON _____

PWD _____

GDR _____

cc. Roger Green, City Hydrology (2)

Alex Garnand, Public Works (2)

Subhas Shah, MRGCD (1)