HYDROLOGY G15/D4 1 PLAN

G15/D4

1 Plans

G15/D4

1 Plan

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

July 21, 1987

Richard Hall
Hall Engineering
6840 Second Street, NW #306
Albuquerque, New Mexico 87107

RE: DRAINAGE PLAN FOR PETERSON SALES COMPANY (G-14/D4)
ENGINEER'S STAMP DATED JULY 20, 1987

Dear Mr. Hall:

Based on the information provided on your submittal of July 20, 1987, the above referenced plan is approved for Building Permit.

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

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj

DRAINAGE INFORMATION SHEET

PROJECT TITLE: PETERSON SALES CO. ZONE ATLAS/DRNG. FILE #: G-15/D4

LEGAL DESCRIPTION: LOT - 2 BLOCK - 2 COMAN INDUSTRIAL DISTRICT

CITY ADDRESS: 731 RANKIN ROAD, NE

ENGINEERING FIRM: HALL ENGINEERING CONTACT: ED KIESS

ADDRESS: 6840 2ND ST. NW #306 PHONE: 345-1064

OWNER: PETERSON SALES CO. CONTACT:

ADDRESS: 731 RANKIN RD PHONE: 345-3587

ARCHITECT: JESSE PACHECO CONTACT:

ADDRESS: PHONE:

SURVEYOR: CONTACT:

ADDRESS: PHONE:

CONTRACTOR: DURA-BILT CONTACT: JEFF FOSSE

ADDRESS: 4808 JEFFERSON, NE PHONE: 883-9100

PRE-DESIGN MEETING:

X YES

___ NO

X COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED JUL 20 1987 HYDROLOGY SECTION

DRB NO. ___

EPC NO. ___

PROJ. NO. ___

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE 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

X BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER ___ (SPECIFY)

DATE SUBMITTED: 07-20-87

BY: [signature]

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

CONFERENCE RECAP

DRAINAGE FILE/ZONE ATLAS PAGE NO.: G-15 DATE: 7/9/87 @10:30

PLANNING DIVISION NOS: EPC: _____ DRB: _____

SUBJECT: _____

STREET ADDRESS (IF KNOWN): Rankin Lane / Rankin Road, NE

SUBDIVISION NAME: Lot 2, Block 2, Comar Ind. District

APPROVAL REQUESTED:

____ PRELIMINARY PLAT	____ FINAL PLAT
____ SITE DEVELOPMENT PLAN	X BUILDING PERMIT
____ OTHER	____ ROUGH GRADING

ATTENDANCE:	WHO	REPRESENTING
	Ed Riess	Hall Engineering
	~~[illegible]~~ Montoya	Hydrology Section
	Carlos	

FINDINGS:

(1) Drainage plan Per DPM

(2) Need to address runoff from adjacent only

(3) Free discharge to Rankin Rd.
(A) Existing asphalt slopes to Rankin Rd
(B) No increase in runoff to Rankin Rd
(C) Minimal impact on downstream facilities

(4) No drainage plan found on file

(5) Not Site is not in a floodzone

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED: Carlos A. Montoya SIGNED: [illegible]

TITLE: _____ TITLE: _____

DATE: 7-9-87 DATE: 07 09 87

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL

HYDROLOGY G15/D4 TWO PLANS

G15-D4

2 PLANS

STORM DRAINAGE STUDY
RELATIVE TO
DEVELOPMENT OF
COMAN INDUSTRIAL DISTRICT
ALBUQUERQUE, NEW MEXICO

OCTOBER 1972

MAC CORNACK and BURNS
Consulting Engineers, Inc.
Albuquerque, New Mexico

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MacCORNACK & BURNS
CONSULTING ENGINEERS, INC.
1517 GIRARD BLVD., N.E. — SUITE D
ALBUQUERQUE, NEW MEXICO 87106

JAMES A. MacCORNACK, P.E.
FRED BURNS, P.E.

(505) 266-7789

October 25, 1972

Ralph K. Hicks and Associates, Inc.
1504 Wyoming Boulevard NE
Albuquerque, New Mexico 87112

Gentlemen:

Transmitted herewith is the "Storm Drainage Study Relative to Development of Coman Industrial District." This study comprises a comprehensive analysis of storm runoff drainage in accordance with the requirements of the City of Albuquerque and of Resolution No. 1972-2, Albuquerque Metropolitan Arroyo Flood Control Authority.

Thank you for the opportunity of participating in your project.

Respectfully submitted,

MAC CORNACK and BURNS

Fred Burns

Fred Burns, P. E.
New Mexico Registration No. 4000

nt
enclosure

STORM DRAINAGE STUDY
RELATIVE TO
DEVELOPMENT OF
COMAN INDUSTRIAL DISTRICT
ALBUQUERQUE, NEW MEXICO

1. PURPOSE: This report is to present those data relative to estimation of quantity and proposed means of proper handling of storm runoff drainage as is related to the development of Coman Industrial District.

2. SCOPE: This report is presented only to establish criteria to be used in detailed engineering analyses and design of each phase of development as it may occur.

3. LOCATION: The Coman Industrial District, an Addition to the City of Albuquerque, New Mexico, located partly in the fractional Section 4, T10N, R3E, and partly in the Town of Albuquerque Grant. The tract is bounded on the east by State Road 422 (Interstate 25), Frontage Road right-of-way boundary, and on the north by the right-of-way of Comanche Boulevard, the east-west length being approximately 1,500 feet and the north-south length being about 970 feet. The area is roughly rectangular, comprising approximately 33.4 acres. The detailed boundary of the tract is shown on the map included in the appendix.

4. EXISTING DRAINAGE CONDITIONS:

A. General: The tract under consideration is presently undeveloped except for a warehouse building and paved parking area located on approximately 5.0 acres in the northwest corner of the addition. The entire area has previously been strip mined for concrete aggregates. The surface has been graded relatively level without vegetation. The tract is depressed below the surrounding surface at the southeast corner approximately 35 feet and

is approximately level with surrounding surface elevations along the north and west boundaries. The general area is located west (downslope) of the AMAFCA North Diversion Channel, being on the low edge of the Sandia Mesa clinoplain, but well above the Rio Grande Valley floor.

There are no existing drainage features on the tract under consideration.

B. Topography: The tract is bounded by sharply rising bluffs along the east and the south boundaries. These bluffs are at a slope of approximately 2-1/2 on 1, rising at a maximum of 35 feet in elevation. The major portion of the tract is generally level with some sinks and mounds left by previous strip mining operations. The surface soil is highly permeable sand and gravel.

C. Drainage Areas: The areas upslope of the tract (to the east) are intercepted by two major storm drainage facilities, namely, the North Diversion Channel of AMAFCA and State Road 422 with its related drainage facilities. Comanche Road NE runs east and west along the north boundary of the tract. Drainage along this road is intercepted by a dip and drainage ditch located between the diversion channel and State Road 422 draining northward to a major arroyo. Comanche drainage to the west is again intercepted east of the west Frontage Road by drop inlets into a culvert structure and drainage ditch leading northward to a major arroyo. The area north of the tract is generally at the same level, draining away to the north and west. The area south of the tract is atop the bluff described in the topography, but the natural drainage (except for the cut slope) is to the west. The area to the west of the tract slopes westward, away from the tract toward the Valley floor.

D. Proposed Development: The Coman Industrial District is proposed to be developed under the Zoning Ordinance Classification M-1; therefore, buildings, manufacturing facilities, equipment yards, and parking lots will comprise the area.

5. PROPOSED DRAINAGE PLANS:

A. Design Criteria:

(1) General: Resolution No. 1972-2, Albuquerque Metropolitan Arroyo Flood Control Authority.

(2) Project Storm: 100-year intensity; frequency-duration as shown on the curve of Chart 1, "1963 Master Plan of Drainage for the City of Albuquerque and Environs," as prepared by Gordon Herkenhoff and Associates, Inc., Consulting Engineers.

B. Protection from Upslope Drainage Areas: The areas eastward to the property are intercepted for the project storm at the North Diversion Channel. The area west of the channel, east of the property is intercepted for the 50-year frequency storm; however, flows greater than the 50-year storm will be intercepted by the high embankment of the roadway and diverted along the Comanche Road NE right-of-way at the grade separation. Since this flow does not flow directly onto the tract under consideration, it is proposed that a swale channel between the edge of paving and the property line be developed to carry this storm runoff past the property without flooding.

The minor upslope drainage areas immediately along the east and south boundaries of the property are proposed to be intercepted by a low profile berm to maintain the natural drainage pattern and to protect the bluff slopes from erosion due to minor runoff.

C. Internal Tract Drainage: It is proposed that the existing topography be utilized to develop storm runoff retention ponds for those storm waters precipitating directly on the tract. Such ponding areas can be utilized for those facilities and activities commensurate with the proposed zoning which would

not be damaged by retention of storm waters. The retention ponds are proposed to be drained by percolation into the permeable soils, evaporation and by controlled outlet small bore drain lines for dry weather drainage to the right-of-way ditch proposed for Comanche Boulevard contiguous to the property.

6. CONCLUSIONS AND RECOMMENDATIONS: On the basis of the study of this report, it is concluded that the area under consideration can successfully be developed as an industrial area under the proposed zoning classification M-1 without creating a flood threat to lower-lying properties if the following recommendations are implemented:

A. Provide roadside drainage ditches along Comanche Boulevard NE contiguous to the property. See Exhibit A of the Appendix.

B. Provide low profile berms along the top of the bluffs at the east and south property lines. See Exhibit B of the Appendix.

C. Provide storm runoff retention ponding areas within the tract for internal drainage. See Exhibit C of the Appendix.

Provided the above-listed recommendations are implemented prior to or concurrent with development of Coman Industrial District, it is concluded that the existing flow patterns of the area will not be altered or will be improved in such a way that lower-lying properties will not be threatened with storm runoff drainage eminating from the tract under consideration.

Respectfully submitted,

MAC CORNACK and BURNS
Consulting Engineers, Inc.

Fred Burns

Fred Burns, P. E.
New Mexico Registration No. 4000

STORM RUNOFF DRAINAGE STUDY
COMAN INDUSTRIAL DISTRICT

Burns
10/25/72

EXHIBIT A

Drainage "Runby" Along Comanche Blvd. NE.

Area : 11.06 ac.

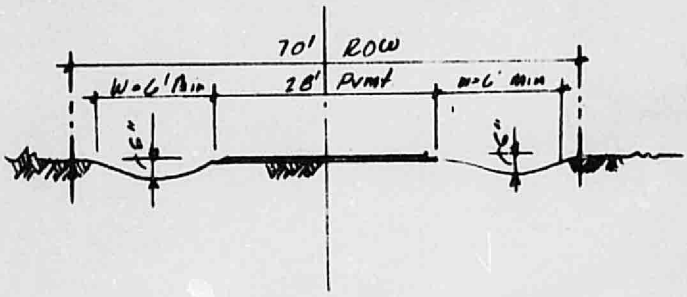
Concentration time - 26 min

50yr i - 3.2

100yr i - 3.7 Δi = 0.5 in/hr

C=0.95 $Q = (0.5)(0.95)(11.06) = 5.31$ cfs.

$S = \frac{12}{700} = 0.01714$ $S^{1/2} = 0.131$



Each ditch Capacity:

n=0.02

$a = 1.84$ ft^2
$P = 5.16$
$R = 0.356$

$V = \frac{1.486}{0.02} \times (0.356)^{2/3} \times (.131) = 4.89$ ft/sec

$Q = aV = 1.84 \times 4.89 = 9.00$ cfs/ea.

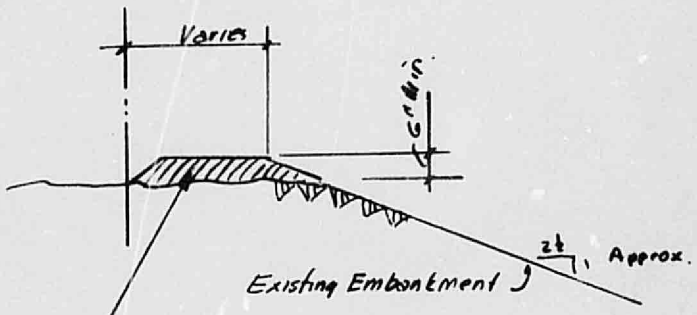
>> than reqd. OK.

STORM RUNOFF DRAINAGE STUDY
COMAN INDUSTRIAL DISTRICT

Burns
10/23/72

EXHIBIT B

Low Profile Berms

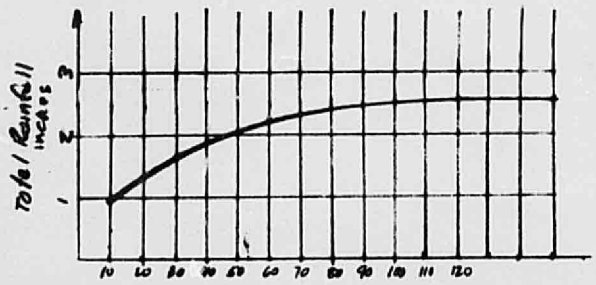


Berm - Earth fill compact
to 95% Maximum Density @
Optimum Moisture (Modified Proctor)

STORM RUNOFF DRAINAGE STUDY
COMAN INDUSTRIAL DISTRICT

EXHIBIT C

Rention Ponds



Duration - Mins

Data from Curve of 100 year storm Chart 1 Master Plan of Drainage - City of Albuq. NEH.

Max Rainfall = 2.6 inches in 2 hrs

Percolation Rate 1"/5 min / 50% eff.

Total Capacity Req'd

$33.5\ ac \times \frac{2.6}{12}\ in \times 43560 = 316173\ cf.$

$\frac{60}{5} = 12"/hr$ percolation

Area Req'd w/ 6" depth

$316173 \div 2.5 = 126469.2\ ft^2 \rightarrow 2.9\ ac.$

∴ Provide 2.9 ac of Retention Ponds @ 6" Min Depth

RALPH K. HICKS and Associates, Inc.
REGISTERED LAND SURVEYORS
1504-B WYOMING BLVD., N.E. • PHONE (505) 296-0739 • ALBUQUERQUE, NEW MEXICO 87112

STORM DRAINAGE STUDY

RE - PLAT

COMAN INDUSTRIAL DISTRICT

APRIL 1973

STORM DRAINAGE STUDY

RE - PLAT

COMAN INDUSTRIAL DISTRICT
ALBUQUERQUE, NEW MEXICO

1. PURPOSE: This report is to present those data relative to estimation of quantity and proposed means of proper handling of storm runoff drainage as is related to the development of Coman Industrail District.

2. SCOPE: This report is presented only to establish criteria to be used in detailed engineering analyses and design of each phase of development as it may occur.

3. LOCATION: The Coman Industrail District, an Addition to the City of Albuquerque, New Mexico, located partly in the fractional Section 4, T10N, R3E, and partly in the Town of Albuquerque Grant. The tract is bounded on the east by State Road 422 (Interstate 25), Frontage Road right-of-way boundary, and on the north by the right-of-way of Comanche Boulevard, the east-west length being apporximately 1,500 feet and the north-south length being about 970 feet. The area is roughly retangular, comprising approximately 33.4 acres. The detailed boundary of the tract is shown on the map included in the appendix.

4. EXISTING DRAINAGE CONDITIONS:

A. GENERAL: The tract under consideration is presently undeveloped except for a warehouse building and paved parking area located on approximately 5.0 acres in the northwest corner of the addition. The entire area has previously been strip mined ofr concrete aggregates. The surface has been graded relatively level without vegetation. The tract is depressed below the surrounding surface at the southeast corner approximately 35 feet and is approximately level with surrounding elevations along the north and west boundaries. The general area is located west (downslope) of the AMAFCA North Diversion Channel, being on the low edge of Sandia Mesa clinoplain, but well above the Rio Grande Valley floor.

There are no existing drainage features on the tract under consideration.

B. TOPOGRAPHY: The tract is bounded by sharply rising bluffs along the east and south boundaries. These bluffs are at a slope of approximately 2-1/2 on 1, rising at a maximum of 35 feet in elevation. The major portion of the tract is generally level with some sinks and mounds left by previous strip mining operations. The surface soil is highly permeable sand and gravel.

C. DRAINAGE AREAS: The areas upslope of the tract (to the east) are intercepted by two major storm drainage facilities, namely, the North Diversion Channel of AMAFCA and State Road 422 with its related drainage facilities. Comanche Road N.E. runs east and west along the north boundary of the tract. Drainage along this road is intercepted by a dip and drainage ditch located between the diversion channel and State Road 422 draining northward to a major arroyo. Comanche drainage to the west is again intercepted east of the west Frontage Road by drop inlets into a culvert structure and drainage ditch leading northward to a major arroyo. The area north of the tract is generally at the same level, draining away to the north and west. The area south of the tract is atop the bluff described in the topography, but the natural drainage (except for the cut slope) is to the west. The area to the west of the tract slopes westward, awary from the tract toward the Valley floor.

D. PROPOSED DEVELOPMENT: The Coman Industrial District is proposed to be developed under the Zoning Ordinance Classification M-1; therefore, buildings, manufacturing facilities, equipment yards, and parking lots will comprise the area.

5 PROPOSED DRAINAGE PLANS:

A. Design Criteria:

1. Project Storm: 100 - year intensity; frequency- duration as shown on the curve of Chart 1, "1963 Master Plan of Drainage for the City of Albuquerque and Environs," as prepared by Gordon Herkenoff and Associates, Inc. Consulting Engineers.

B. PROTECTION FROM UPSLOPE DRAINAGE AREAS: The areas eastward to the property are intercepted for the project storm at the North Diversion Channel. The area west of the channel, east of the property is intercepted for the 50-year frequency storm; however, flows greater than the 50-year storm will be intercepted by the high embankment of the roadway and diverted along the Comanche Road N.E. right-of-way at the grade seperation.

Since this flow does not flow directly onto the tract under consideration, it is proposed that a swale channel between the edge of paving and the property line be developed to carry this storm runoff past the property without flooding.

The minor upslope drainage areas immediately along the east and south boundaries of the property are proposed to be intercepted by alow profile berm to maintain the natural drainage pattern and to protect the bluff slopes from erosion due to minor runoff.

C. INTERNAL TRACT DRAINAGE: The estimated street and interior storm runoff is based on an average lot coverage with 25% ± open area. The east-west street will be used as a collector and carried to Comanche Road N.E. thence alongComanche Road N.E. in roadside ditches until such time as curbs and gutters are installed.

6. CONCLUSION: This report is a revision of the Storm Drainage Study for Coman Industrial District, prepared by McCornack & Burns, October 1972.

Because of individual lot size and unpredictiable use, ponding has been deleted. The present report is based on estimated probable runoff.

Wm. J. McDermott

Wm. J. McDermott

P.E. & L.S. no. 1855

INFORMATION SHEET

PROJECT TITLE Storage Bldg. TYPE OF SUBMITTAL

ZONE ATLAS PAGE NO. 615-D4 CITY ADDRESS 701 Rankin Rd NE.

LEGAL DESCRIPTION Lot 2 Block 2 of the Replat of Coman Industries Dist.

ENGINEERING FIRM CONTACT

ADDRESS PHONE

OWNER Peterson Sales. CONTACT

ADDRESS 701 Rankin Rd NE. PHONE

ARCHITECT CONTACT

ADDRESS PHONE

SURVEYOR Hill Bldg Co. CONTACT Chuck Bentley

ADDRESS 834 Griegos NW. PHONE 345-7808

CONTRACTOR Hill Bldg Co CONTACT Larry Hill

ADDRESS 834 Griegos NW. PHONE 345-7808

PRE-DESIGN MEETING:

___ YES
___ NO
___ COPY OF CONFERENCE RECAP SHEET PROVIDED

PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL:

___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
___ SITE DEVELOPMENT PLAN APPROVAL
___ FINAL PLAT APPROVAL
X BUILDING PERMIT APPROVAL For 1800# Addition. (Storage Bldg)
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ ROUGH GRADING PERMIT APPROVAL
___ GRADING/PAVING PERMIT APPROVAL
___ OTHER _____ (SPECIFY)

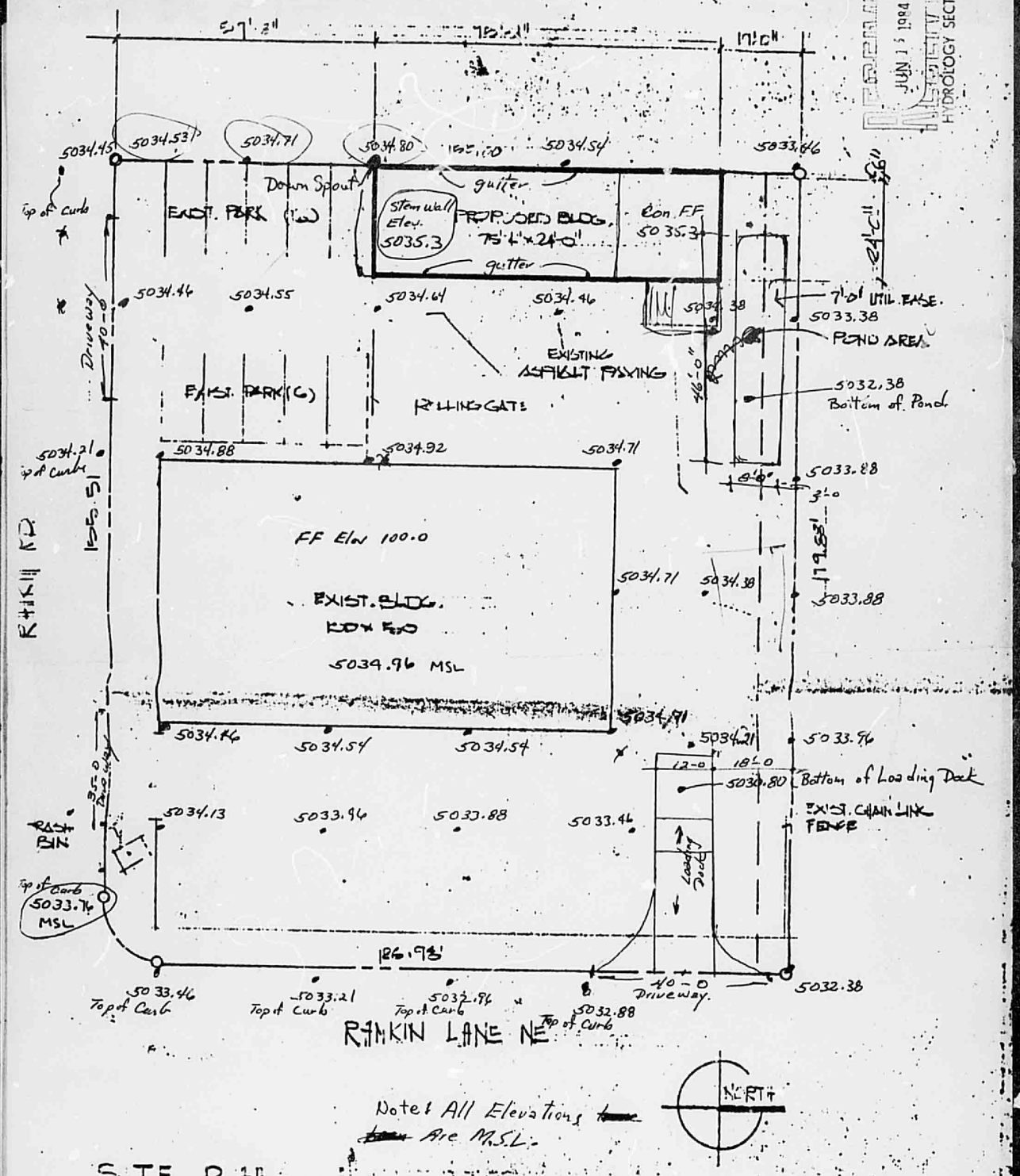
DATE SUBMITTED:

BY:

RECEIVED
JUN 13 1984
HYDROLOGY SECTION

approved
6-15-84

Attn: Bernie
Steve
Field Check



SITE PLAN
1" = 20'-0"

LEGAL DESCRIPTION
LOT (2) IN BLOCK (2) OF THE REPLAT OF
COMAN INDUSTRIAL DISTRICT
ALBUQUERQUE NEW MEXICO

G15/D4

Peterson Sales
701 Rankin Rd N.E.
Albuq. N.mex.