HYDROLOGY

F21/D56
ONE PLAN

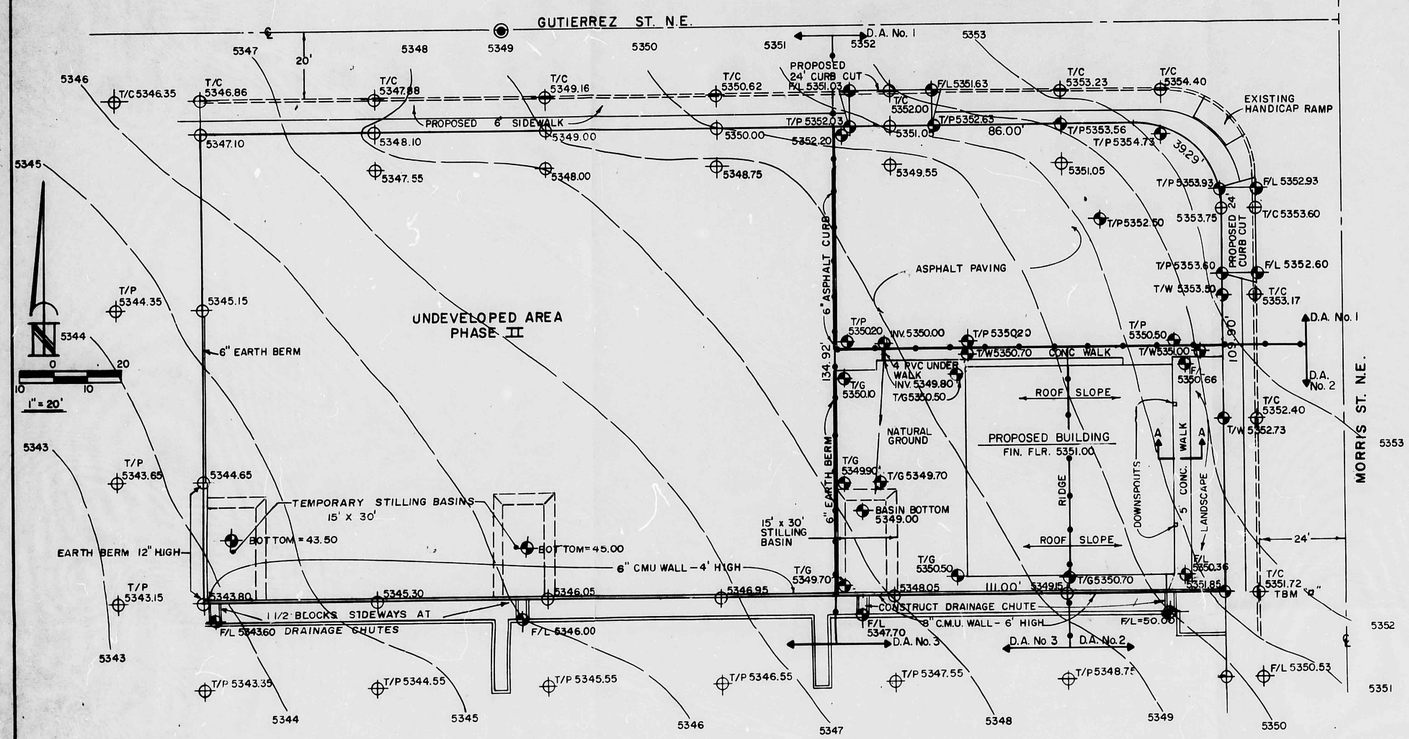
F 21-D56

1 PLAN

DRAINAGE PLAN

TRACT "A" OF DEL CHAPARRAL, PHASE I
(TRACT 24 OF THE 160 ASSOCIATION)
ALBUQUERQUE, N.M.

FLOOD MAP 18, BENCHMARK 12-F21, ELEV. 5640.67, SOIL TYPE "B"
TOTAL AREA PHASE I: 14,843 SQ. FT. = 0.341 ACRES
TOTAL AREA PHASE I ROOFED OR PAVED: 10,992 SQ. FT. = 74%
TOTAL AREA PHASE II: 24,840 SQ. FT. = 0.570 ACRES, ALL UNDEVELOPED
FILE # F21/D APPROVED: _____



HYDROLOGY AND HYDRAULICS

PHASE 1

NO OUTSIDE STORM WATER WILL ENTER THE TRACT DUE TO CURB AND GUTTERS AND SLOPES OF GUTIERREZ AND MORRIS.

D.A. NO. 1

A= 7097 SF. = 0.163 ACRE

C= 0.95 FOR PAVEMENT I= 2.15 x 2.48 = 5.33

Q= 0.163 x 5.33 x 0.95 = 0.825 CFS

4" PIPE

$Q = CA\,(2GH)^{0.5}$

C= 0.60 A= 0.43 H= 0.53

$Q = 0.60 \times 0.43\,(2 \times 32.2 \times 0.53)^{0.5}$

Q= 1.50 CFS 4" PIPE UNDER WALK - OK

D.A. NO. 3

A= 4738 SF = 0.108 ACRE

ROOFED AREA	= 0.90 x 1800	=	1620
WALKS	= 0.95 x 204	=	194
NATURAL GROUND	= 0.40 x 2734	=	1094
			4738 2908

C = 2908 / 4738 = 0.61

Q= 0.108 x 5.33 x 0.61 = 0.351 CFS

Q TO LINCOLN MEADOWS = 0.825 + 0.351 = 1.18 CFS

CELL OF CMU = 5 1/8" x 6" = 30.75 SQ. IN. = 0.21 S.F.

$Q = C\,A\,(2\,x\,32.2\,x\,0.25)^{0.5}$ = 0.51 CFS

TURN 1 1/2 BLOCKS SIDEWAYS Q=3 x 0.51 CFS = 1.53 CFS OK

D. A. NO. 2

ROOFED AREA	= 1800 SF	x 0.95	= 1710
LANDSCAPED	= 789 SF	x 0.25	= 197
SIDEWALK	= 360 SF	x 0.95	= 342
	2949 SF		2249

C = 2249 / 2949 = 0.76

A = 0.068 ac

Q = 0.76 x 5.33 x 0.068 = 0.275 cfs

SIDEWALK SWALE

A = 0.36 P = 3.00

.667

R = 0.167 R = 0.30

.5

S = 0.005 S = 0.077

Q = 0.50 x 1.486 / 0.013 x 0.30 x 0.077 = 1.33 cfs OK

TURN ONE BLOCK SIDEWAYS Q = 2 x 0.51 = 1.02 cfs OK

TOTAT Q TO LINCOLN MEADOWS = 1.49 cfs

PHASE II

6" CMU WALL AND 2 DRAINAGE CHUTES ALONG SOUTH BOUNDARY AND 12" BERM ALONG PORTION OF WEST BOUNDARY TO BE CONSTRUCTED WITH PHASE I.

AREA TOTAL PHASE II = 0.57 ACRES

ESTIMATED DEVELOPED C = 0.65

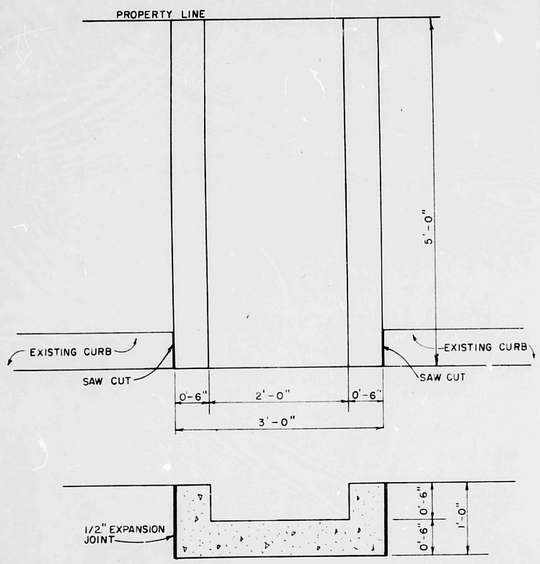
Q = 0.57 x 5.33 x 0.65 = 2.58 CFS

1/2 Q AT EACH DRAINAGE CHUTE = 1.29 CFS

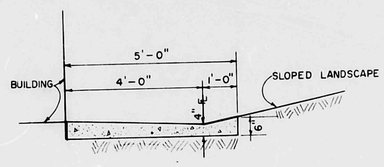
TURN 1 1/2 BLOCKS SIDEWAYS Q=3 x 0.51 CFS = 1.53 CFS OK

TOTAL Q FROM PHASE I AND II TO LINCOLN MEADOWS

= 1.49 CFS + 2.58 CFS = 4.03 CFS

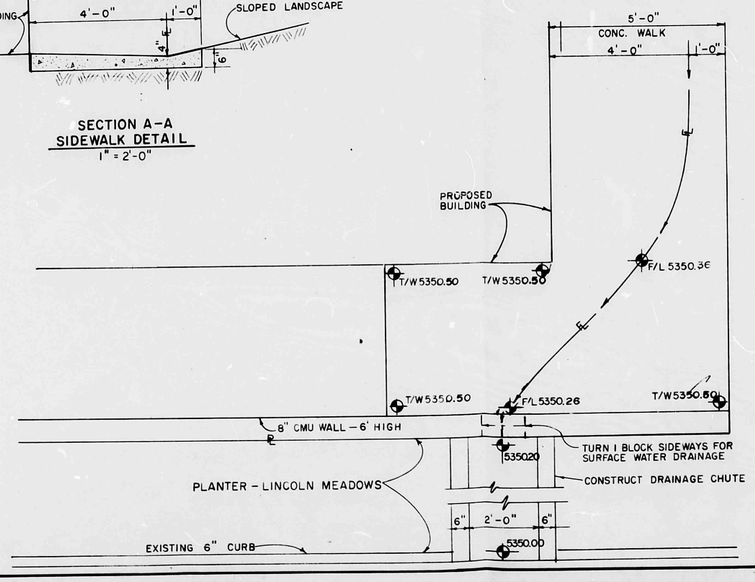


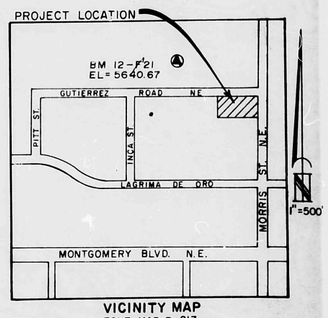
DRAINAGE CHUTE DETAIL
1" = 1'-0"



SECTION A-A
SIDEWALK DETAIL
1" = 2'-0"

S.E. BUILDING CORNER DETAIL
1" = 2'-0"





VICINITY MAP
ZONE MAP F-21Z

GENERAL NOTES

1. ALL CURBS ARE 8" HIGH CITY STANDARDS. TO OBTAIN FLOW LINE ELEVATIONS DEDUCT 0.67' FROM TOP OF CURB ELEVATIONS.

DOWNSTREAM FACILITIES: ALL FLOW GOES TO LINCOLN MEADOWS APARTMENT SITE. THE FACILITIES WITHIN THE APARTMENT SITE CONVEYS THE WATER TO THE INTERSECTION OF LAGRIMA DE ORO ROAD AND INCA STREET WHERE IT IS PICKED UP BY INLETS AND AN UNDERGROUND SYSTEM.

LEGEND

PROPERTY LINE	
EXISTING CONTOUR	5000
PROPOSED CONTOUR	5000
EXISTING SPOT ELEVATION	
PROPOSED SPOT ELEVATION	
EXISTING CURB	
FLOW DIRECTION	
DRAINAGE AREA BOUNDARIES	

RECEIVED
SEP 24 1986
HYDROLOGY SECTION

LOUIS W. GROSS NEW MEXICO LICENSED LAND SURVEYOR PROFESSIONAL ENGINEER
9/23/86

LOGAN/GROSS & ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS
1925 5TH ST. NW SUITE 3 243-2533
ALBUQUERQUE, NEW MEXICO 87102

DRAINAGE PLAN	SCALE: H-1" V-1"
FOR: BRYANT DAY CARE CENTER	DATE: 9-23-86
AT: 10400 GUTIERREZ ST. N.E.	DRAWN BY:
ALBUQUERQUE, N.M.	SHEET 1 OF 1