LINE	BEARING	DISTANCE
L1	N 8°09'28" E	17.54

PROJECT BENCHMARK

A.C.S. STATION 3-G8 A STAINLESS BRASS TABLET, STAMPED "3-G8 1974" SET IN TOP OF A SECTION POST PROJECTING 2' ABOVE GROUND. THE STATION IS LOCATED AT THE INTERSECTION OF MATTHEW AVE N.W. & RIO GRANDE BLVD N.W. 14.1' FRONT OF THE PROJECTING CONTROL OF MATTHEW AVE. 1.9' EAST OF THE CENTERLINE COVER ON RIO GRANDE BLVD.
ELEVATION = 4993.66 FEET (M.S.L.D.)

TEMPORARY BENCHMARK

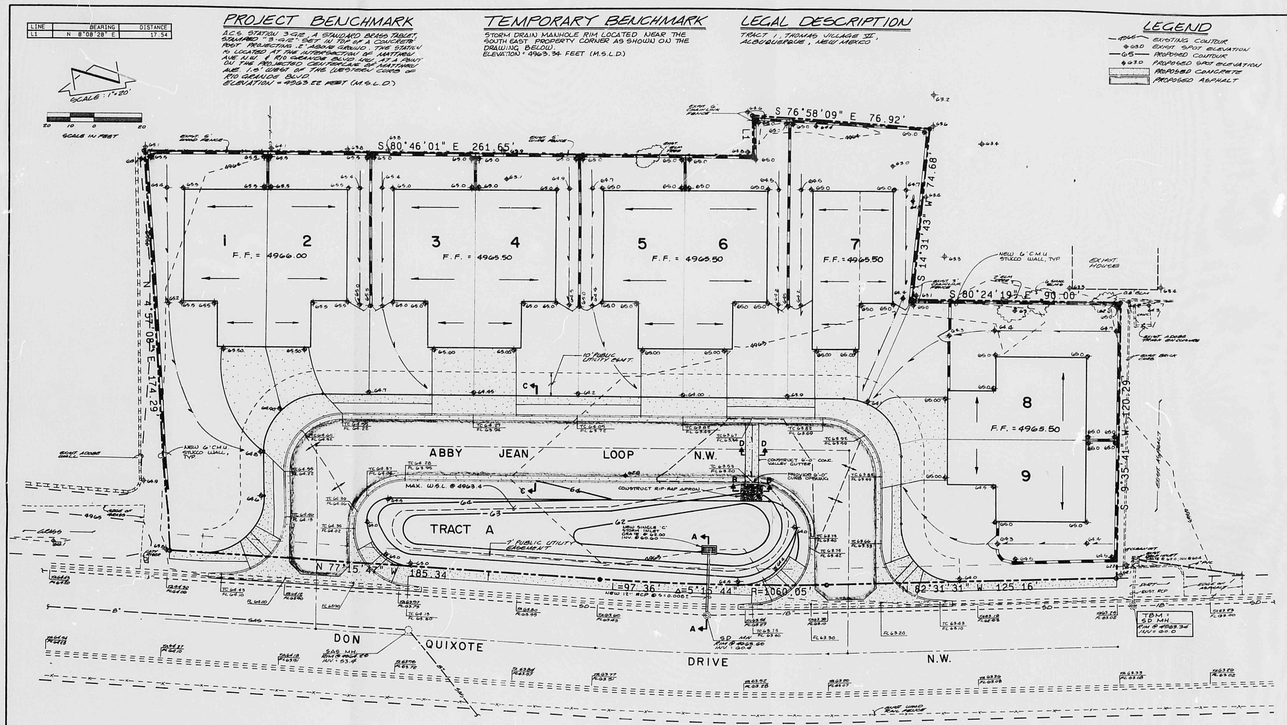
STORM DRAIN MANHOLE RIM LOCATED NEAR THE SOUTH EAST PROPERTY CORNER AS SHOWN ON THE DRAWING BELOW.
ELEVATION = 4965.34 FEET (M.S.L.D.)

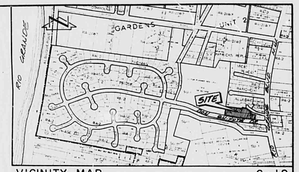
LEGAL DESCRIPTION

TRACT 1, THOMAS VILLAGE II, ALBUQUERQUE, NEW MEXICO

LEGEND

- 4965 — EXISTING CONTOUR
- 4930 — EXIST SPOT ELEVATION
- 65 — PROPOSED CONTOUR
- 4930 — PROPOSED SPOT ELEVATION
- PROPOSED CONCRETE
- PROPOSED ASPHALT





VICINITY MAP G-12
SCALE 1" = 800'

Construction Notes:

1. Two (2) working days prior to any excavation, contractor must contact line locating service, 765-1234, for location of existing utilities.
2. Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all potential obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
3. All work on this project shall be performed in accordance with applicable federal, state and local laws, rules and regulations concerning safety and health.
4. All construction within public right-of-way shall be performed in accordance with applicable city of Albuquerque Standards and Procedures.
5. If any utility lines, pipelines, or underground utility lines are shown on these drawings, they are shown in an approximate manner only, and such lines may exist where none are shown. If any such existing lines are shown, the location is based upon information provided by the owner of said utility, and the information may be incomplete, or may be obsolete by the time construction commences. The engineer has undertaken no field verification of the location, depth, size, or type of existing utility lines, pipelines, or underground utility lines, makes no representation pertaining thereto, and assumes no responsibility or liability therefor. The contractor shall inform itself of the location of any utility line, pipeline, or underground utility line in or near the area of the work in advance of and during excavation work. The contractor is fully responsible for any and all damage caused by its failure to locate, identify and preserve any and all existing utilities, pipelines, and underground utility lines. In planning and conducting excavation, the contractor shall comply with state statutes, municipal and local ordinances, rules and regulations, if any, pertaining to the location of these lines and facilities.

Erosion Control Measures

1. The contractor shall ensure that no soil erodes from the site into public right-of-way or onto private property. This can be achieved by constructing temporary berms at the property lines and wetting the soil to keep it from blowing.
2. The contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street.
3. The contractor shall secure "topsoil disturbance permit" prior to beginning construction.

JEFFREY G. MORTENSEN NEW MEXICO 8542 REGISTERED PROFESSIONAL ENGINEER
07-14-89
09-12-89

APPROVAL FOR ROUGH GRADING
G. Sloan, P.E. 9/20/89
C.E. HYDROLOGY SECTION DATE

JMA JEFF MORTENSEN & ASSOCIATES, INC.
8711 DALLAS, N.E. ALBUQUERQUE, NM 87109
CIVIL ENGINEERS TELEPHONE (505) 265-3417

GRADING PLAN
ALYSSE PLACE

DESIGN BY	J.G.M.	No.	DATE	BY	REVISION
DRAWN BY	J.M.A.				
APPROVED BY	J.G.M.				

JOB NO. 890381
DATE 6-1989
GRADING & DRAINAGE SHEET 1 OF 2

SHEET 3 OF 9
3911

G-12/D018

REF. 21 DATE 2-24-93 OP. ESP.
CITY OF ALBUQUERQUE
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PLANS/PLATS ON FILE

FILE DESC. G-12/D018

PLANS/PLATS 3

F 30 D 24 C 20 B 16 A 12 CITY OF ALBUQUERQUE C D F

LINE	BEARING	DISTANCE
L1	N 8°08'28" E	17.54

PROJECT BENCHMARK

A.C.S. STATION 3-I-28 A STANDARD BRASS TABLET, STAMPED "3-I-28 1934" IN TOP OF CONCRETE POST PROJECTING 2' ABOVE GROUND. STATION IS LOCATED AT THE INTERSECTION OF NATIONAL AVE. N.W. & RIO GRANDE BLVD. N.W., APPROX. ON THE PROJECTED CENTERLINE OF NATIONAL AVE. 1.5' SOUTH OF THE WESTERN CURB OF RIO GRANDE BLVD.
ELEVATION = 4963.22 FEET (M.S.L.D.)

TEMPORARY BENCHMARK

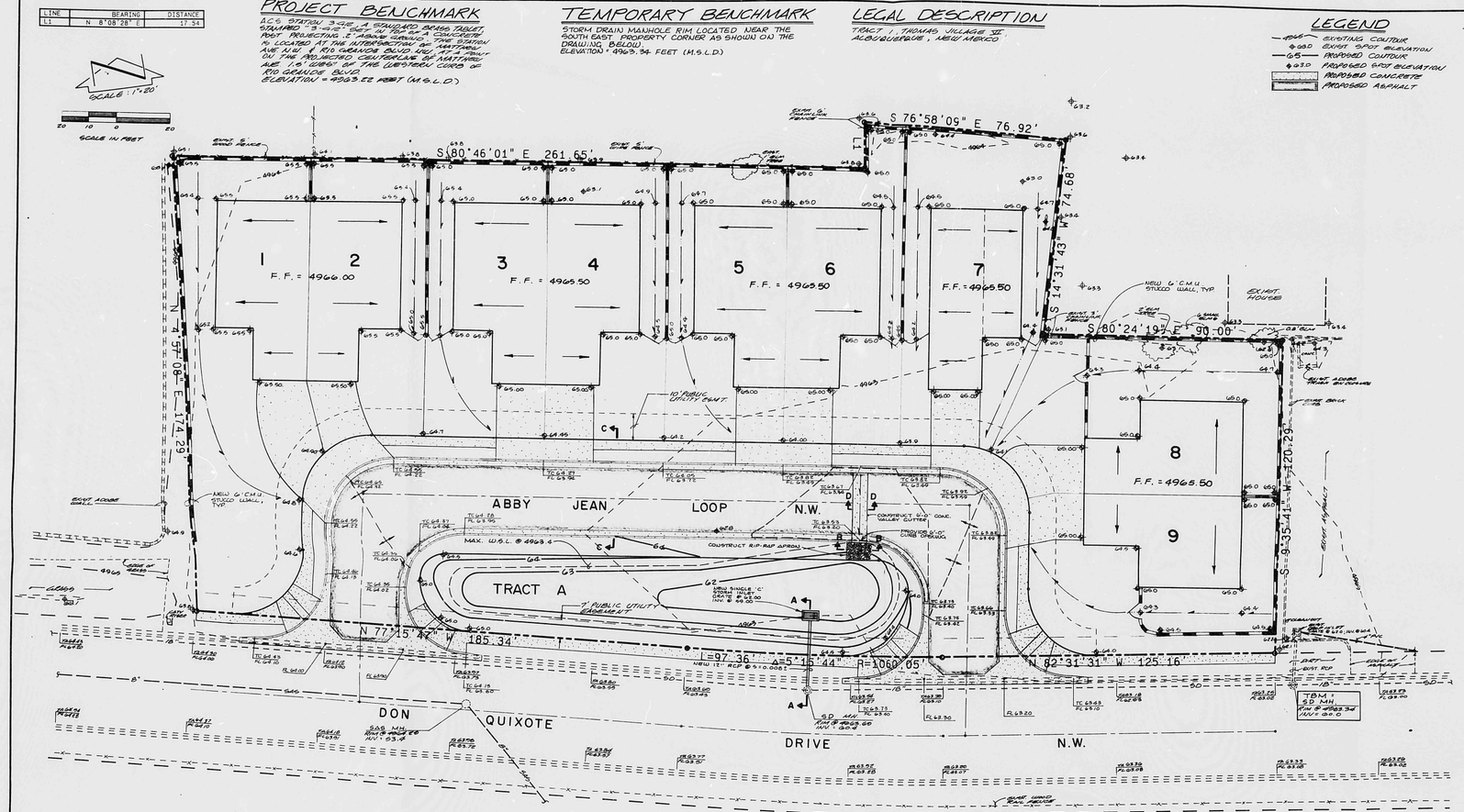
STORM DRAIN MANHOLE RIM LOCATED NEAR THE SOUTH EAST PROPERTY CORNER AS SHOWN ON THE DRAWING BELOW.
ELEVATION = 4963.34 FEET (M.S.L.D.)

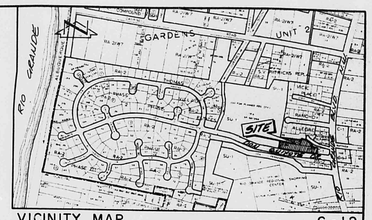
LEGAL DESCRIPTION

TRACT 1, THOMAS VILLAGE II
ALBUQUERQUE, NEW MEXICO

LEGEND

- 4965 EXISTING CONTOUR
- 65.0 EXIST SPOT ELEVATION
- 65 PROPOSED CONTOUR
- 65.0 PROPOSED SPOT ELEVATION
- PROPOSED CONCRETE
- PROPOSED ASPHALT





VICINITY MAP

SCALE: 1" = 800'

G-12

Construction Notes:

1. Two (2) working days prior to any excavation, contractor must contact line locating service, 765-1234, for location of existing utilities.
2. Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all potential obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
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Erosion Control Measures

1. The contractor shall ensure that no soil erodes from the site into public right-of-way or onto private property. This can be achieved by constructing temporary berms at the property lines and wetting the soil to keep it from blowing.
2. The contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street.
3. The contractor shall secure "topsoil disturbance permit" prior to beginning construction.

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER
07-14-89
09-12-89

APPROVAL FOR ROUGH GRADING

C.E. HYDROLOGY SECTION DATE

JMA JEFF MORTENSEN & ASSOCIATES, INC.
811 DALLAS, N.E. □ ALBUQUERQUE, NM 87110
□ ENGINEERS □ TELEPHONE (505) 265-5611 □

GRADING PLAN
ALYSSE PLACE

DESIGN BY	J.G.M.	NO.	DATE	BY	Revision
DRAWN BY	J.M.A.				
APPROVED BY	J.G.M.				

JOB NO. 890381
DATE 6-1989
GRADING & DRAINAGE SHEET 1 OF 2

SHEET 3 OF 9
3911

CITY OF ALBUQUERQUE
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D 24 C 20 B 16 A 12 CITY OF ALBUQUERQUE C D

DRAINAGE PLAN

The following items concerning the Alysse Place Drainage Plan are included with this submittal:

1. Vicinity Map
2. Grading Plan
3. Calculations
4. Details

As shown by the Vicinity Map, the site is located on the north side of Don Quixote Drive N.W. just west of its intersection with Rio Grande Boulevard N.W. At present, the site is undeveloped with adjacent properties being developed both residentially and commercially. Based upon the nature of the surrounding development, this is an infill site.

Review of Panel 22 of the National Flood Insurance Program Floodway Boundary and Floodway Maps for the City of Albuquerque, New Mexico, indicates that this site does not lie within a designated 100-year flood zone. The site does, however, lie within a 500-year flood zone. This site is extremely flat, has no predominant trend in drainage. Adjacent parcels appear to have been "built up" due to the fact that this is previously cultivated land. Offsite flows are not anticipated from the adjacent lots due to the fact that it appears that the development of those lands has directed runoff away from the project site. Don Quixote Drive N.W. has no hydraulic capacity, therefore, it is questionable as to whether or not street runoff will be conveyed by the street to the property.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) the limit and character of the existing improvements, 3) the limit and character of the proposed improvements, and 4) continuity between existing and proposed grades. As shown by this plan, the proposed improvements consist of the construction of a new public roadway along with nine residential lots. The public roadway will be constructed by City Work Order along with the drainage improvements shown on this plan. This plan calls for the free discharge of runoff from the residential lots onto Abby Jean Loop N.W. From this point, the majority of the runoff will drain via the street to a proposed opening in the curb which drains onto a rip-rap apron. The runoff then enters a detention pond within Tract A. Runoff will be detained within Tract A and released via a 12" RCP public storm drain to the existing 18" public storm drain which lies within Don Quixote Drive N.W. The existing 18" public storm drain line has questionable capacity, therefore, detention ponding is being utilized in the event that the existing 18" line has insufficient capacity for the free discharge of runoff from Tract A. Tract A will be held in common ownership by the Homeowners Association and will be granted as a public drainage easement and shall serve as described above. It should be emphasized that Tract A will be landscaped and maintained by the Homeowners Association.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used to calculate the peak rate of discharge from the site while the SCS Method has been used to quantify the volume of runoff generated. Both Methods have been used in accordance with the City of Albuquerque Development Process Manual, Volume II, coupled with the Mayor's Emergency Rule adopted January 14, 1986. As shown by these calculations, the proposed development will result in a minor increase in runoff. The calculations also estimate the volume of ponding provided which is approximately equal to the 100-year runoff volume under fully developed conditions. Due to the fact that this is a detention pond and not a retention pond, the volume of ponding provided is adequate.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate 20: Ge - Gila Clay Loam
Hydrologic Soil Group: B
Existing Pervious CN = 70 (DPM Plate 22.2 C-2
Pasture or Range Land: fair condition)
Developed Pervious CN = 61 (DPM Plate 22.2 C-2
Open Space: good condition)

Time of Concentration/Time to Peak

$T_C = 0.0078\ l^{0.77}/s^{0.385}$ (Kirpich Equation)

$T_p = T_C = 10$ min.

Point Rainfall

$P_6 = 2.2$ in. (DPM Plate 22.2 D-1)

Rational Method

Discharge: $Q = CiA$

where C varies
$i = P_6\ (6.84)\ T_C^{-0.51} = 4.65$ in/hr
$P_6 = 2.2$ in (DPM Plate 22.2D-1)
$T_C = 10$ min (minimum)
A = area, acres

SCS Method

Volume: $V = 3630(DRO)\ A$

Where DRO = Direct runoff in inches
A = area, acres

Existing Condition

$A_{total} = 71,410$ sf = 1.64 Ac
C = 0.40 (Weighted average per Emergency Rule, 1/14/86)
$Q_{100} = CiA = 0.40(4.65)(1.64) = 3.1$ cfs
% Impervious = 0 %
Composite CN = 70 (DPM Plate 22.2 C-3)
DRO = 0.37 in (DPM Plate 22.2 C-4)
$V_{100} = 3630\ (DRO)A = 2200$ cf

Developed Condition

$A_{total} = 71,410$ sf = 1.64 Ac
Roof area = 18,200 sf (0.25)
Paved area = 18,700 sf (0.26)
Landscaped area = 34,510 sf (0.49)
C = 0.60 (Weighted average per Emergency Rule, 1/14/86)
$Q_{100} = CiA = 0.60(4.65)(1.64) = 4.6$ cfs
$A_{imp} = 36,900$ sf; % impervious = 51 %
Composite CN = 80 (DPM Plate 22.2 C-3)
DRO = 0.68 in (DPM Plate 22.2 C-4)
$V_{100} = 3630\ (DRO)A = 4050$ cf

$V_{pond} = 1/2[(A_{G2}+A_{G2})(63-62) + (A_{G3}+A_{G3.4})(63.4-63.0)]$
$= 1/2[(1320+3400)(1) + (3400+4500)(0.4)]$
$= 1/2(4600+3160)$
$= 3880$ CF $= V_{100}$

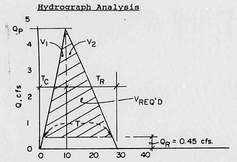
Comparison

$\Delta Q_{100} = 4.6 - 3.1 = 1.5$ cfs (increase)
$\Delta V_{100} = 4050 - 2200 = 1850$ cf (increase)

Orifice Capacity

$Q = CA\sqrt{2gh}$
C = 0.8
g = 32.2 ft/sec^2
h = (63.4 - 60.60) - 0.17 = 2.6'
$Q = 0.8(0.0873)\sqrt{2(32.2)(2.6)}$
= 0.45 cfs

Hydrograph Analysis

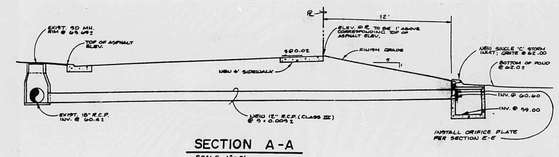


$V_1 = 1/2(T_C)(Q_p)$ (60 sec/min)
$V_1 = 1/2(10)(4.6)(60) = 1380$ cf
$V_2 = V_{100} - V_1 = 4050 - 1380$
$V_2 = 2670$ cf
$T_R = 2V_2/(Q_p)(60)$
$= 2(2670)/(4.6)(60) = 19$ min.

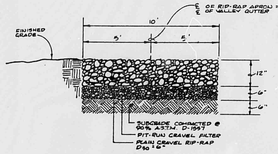
$V_{req'd} = 1/2(T)(Q_p - Q_R)(60)$
$= 1/2(26.5)(4.6 - 0.45)(60)$
$= 3300$ cf $< V_{pond}$

Detention Time

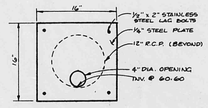
$Q_R = 0.45$ cfs
Let $Q_d = Q_R/2 = 0.2$ cfs
$T_D = V_{100}/Q_d = 4050/0.2 = 20,250$ sec
$T_D = 5.6$ hrs



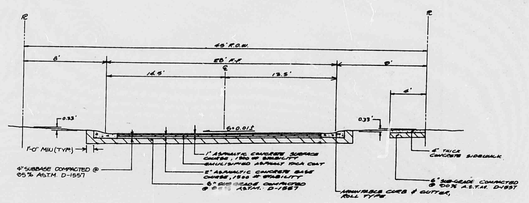
SECTION A-A
SCALE: 1"=5'



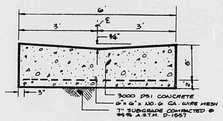
SECTION B-B
SCALE: 1"= 4' HORIZONTAL
1"= 2' VERTICAL



SECTION E-E
SCALE: 1"=1'



SECTION C-C
SCALE: 1"=6'



SECTION D-D
SCALE: 1"= 2' HORIZONTAL
1"= 1' VERTICAL

GRADING & DRAINAGE SHEET 2 OF 2

J.M.A. JOB NO. 890381

AS BUILT INFORMATION
CONTRACTOR DATE
WORK STAKED BY
STAKING CHECKED BY
ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE
MICRO-FILM INFORMATION
RECEIVED BY DATE
NO.

BENCH MARKS
A C.S. SECTION 3-C16, A STANDARD BRASS TOILET STAMPED "3-C16" SET IN TOP OF A CONCRETE POST PROJECTING 2' ABOVE GROUND. THE STATION IS LOCATED AT THE INTERSECTION OF MATTHEW AVE. N.W. & RIO GRANDE BLVD. N.W. AT A POINT ON THE PROJECTED CENTERLINE OF MATTHEW AVE. 1.5' WEST OF THE WESTERN CURB OF RIO GRANDE BLVD.
ELEVATION = 4945.22 FEET (N.G.V.D.)

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
STATE OF NEW MEXICO
JAMES A. MONTOYA
NEW MEXICO REGISTERED PROFESSIONAL ENGINEER
8854
07-12-89
07-14-89

NO.	DATE	REMARKS	BY
		REVISIONS	

DESIGNED BY J.G.M. DATE 8-89
DRAWN BY S.G.M. DATE 8-89
CHECKED BY J.G.M. DATE 8-89

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: ALYSSE PLACE
DRAINAGE PLAN & CALCULATIONS; SECTIONS & DETAILS

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair					
Trans. Dev.					
Utility Dev.					

DRAWING NO.	MAP NO.	SHEET	OF
3911	G-12	4	9

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CITY OF ALBUQUERQUE

C D