DRAINAGE INFORMATION SHEET

PROJECT TITLE: COORS PLAZA 2 ZONE ATLAS/DRNG. FILE #: G-11

LEGAL DESCRIPTION: TRACT C-1 of the Replat of Tract C Land of Coronado ~~Savings & Loan~~

CITY ADDRESS: Coors Road just North of Redlands

ENGINEERING FIRM: RHOMBUS P.A. CONTACT: CELIA TOMLINSON

ADDRESS: 10325 KAREN AVE. NE ALBQ 87111 PHONE: 293-4583

OWNER: BEN RUIZ CONTACT:

ADDRESS: PHONE:

ARCHITECT: CONTACT:

ADDRESS: PHONE:

SURVEYOR: CONTACT:

ADDRESS: PHONE:

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING: YES

X YES

___ NO

X COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO.

EPC NO.

PROJ. NO.

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

X DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

X 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: JULY 13, 1989

BY: Celia S. Tomlinson

~~CELIA S.~~ TOMLINSON

TABLE OF CONTENTS

DRAINAGE PLAN

FOR

COORS PLAZA 2

vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv

Legal Description

Tract C-1 of the Replat of Tract C of Land of Coronado Savings and Loan (except the west 140 feet)

Location

The property is a vacant 1.15-acre tract in a commercially zoned area in the northwest part of Albuquerque. It is bounded on the west by a vacant lot proposed for Captain D's restaurant, on the north by an alley 20 feet wide (existing asphaltic concrete pavement with inverted crown, cut-off concrete walls), on the east by a developed detached-housing subdivision, and on the south by Coors Plaza I (existing building, paved parking lot with inverted crown).

Terrain and Existing Drainage Pattern

The terrain is a natural depression on the west half and a man-made pond on the east half of the tract. Research during the pre-design meeting revealed that in 1979 when the first phase of Coors Plaza was developed, the man-made pond was provided to contain runoff that would be displaced by the development. Field observation, however, disclosed that the pond is not functional to Coors Plaza 1.

The drainage system for the exempted .63 acre on the west side is designed by Jeff Mortensen & Associates to berm off surface waters from Coors, with the runoff east of the berm designed in conjunction with this drainage plan. All the abutting properties on the north, east, and south drain away from the tract. The property on the north side drains from the alley into a collection point then through an underground four-inch pipe that spills out to a 30-inch storm drain pipe on the east end of the alley. (The runoff used to go to a retention pond before its interception by the storm drain system of SAD 198). The property on the south drains to a pond approximately 60 feet southeast. The drainage for the housing subdivision on the east is directed toward the streets that abut the houses.

Soil

The tract's soil is hydrologic type B and classified as MWA in the Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties New Mexico by the U.S. Soil Conservation Service June 1977.

Flood Zone

The majority of the tract does not fall within a designated flood zone. The easterly 1/4 of the property is located within the AH Flood Zone.

Proposed Development

The property is proposed as the site for Coors Plaza 2, a commercial development. It will have two buildings with a total roof area of approximately 16,900 square feet. One of the buildings will have a basement to make use of the existing man-made depression. The parking lot and driving areas around the buildings will be paved with asphaltic concrete. The balance of the tract will be landscaped.

The lot will be graded to maintain positive drainage south-southeast. A double "D" catch basin will be built at the southeast corner to intercept the tract's surface runoff and direct it to an 18-inch-diameter pipe which will carry the water southward to the existing 18-inch-diameter pipe stub at the southeast corner of the property (end of pipe is on the right of way of Redlands Road). This is part of the storm drain system which was built under Special Assessment District SAD 198 to resolve the drainage problem in the area. According to Andrews, Asbury, & Roberts, the engineering firm that designed the system, the stub was designed and built to pick up the flows of Coors Plaza 1 and 2. The drainage waters collected in a pond for Coors Plaza 1 will be directed through a catch basin then through an 18-inch-diameter pipe connected to the proposed storm drain. The aim is to eliminate the retention pond.

To address the concern of the floodwater encroachment into the basement in the AH Flood Zone, the architectural and structural design of Building C will be such that no doors, windows, etc. will be located within one foot of the flood plain elevation of 5,099 feet.

Hydrologic Analyses

The Rational Method as outlined in the City of Albuquerque's Development Process Manual was used to calculate the pre-development and post-development peak flows for a 100-year, six-hour rainfall event. (DPM Plate 22.2D-1).

The calculations were based on the analysis of the whole tract, incorporating Captain D's, as one watershed.

Formulae used: Peak Discharge, Q = cIA
where Q = Peak rate of runoff, in cubic feet per second (cfs)
c = coefficient of runoff
I = Rainfall intensity in inches per hour
A = Area of watershed, in acres

Volume of discharge, V = RA
where R = value taken from DPM Plate 22.2C-4
A = Area of watershed, in acres

Q for 100-year frequency was calculated using "c" values from the 1/14/86 Mayor's Memo.

I was calculated from DPM Plate 22.2D-1 and 22.2D-2, for ten minutes time of concentration.

Pre-Development Condition

Composite "c" for the watershed's existing condition:

Undeveloped land	1.86/1.86 @ .40	= .40
TOTAL (Composite "c")		= .40

Q100 = .40 x 5.06 x 1.86 = 3.76 cfs

Volume calculation:

Curve number	asphalt road	.24/2.02 @ 98	= 11.64
	dirt	1.78/2.02 @ 81	= 71.37
	CN		= 83.01

From Plate 22.2C-4 R = .8

Volume = .8 x 2.02 x 43560/12 = 5866 cubic feet

Post-Development Condition

Composite "c" for the watershed's proposed development:

Asphalt paving	1.08/1.86 @ .95	= .55

Concrete walks	0.07/1.86 @ .95	= .03
Roofs	0.47/1.86 @ .90	= .23
Landscape	0.24/1.86 @ .25	= .03
TOTAL (Composite "c")		= .84

Q100 = .84 x 5.06 x 1.86 = 7.90 cfs

Volume calculation:

Curve number		
Roof, asphalt and concrete paving	1.62/1.86 @ 98	= 85.35
Landscape	0.24/1.86 @ 81	= 10.45
CN		= 95.80

From Plate 22.2C-4, R = 1.8

Volume = 1.8 x 1.86 x 43560/12 = 12153 cubic feet

COMPARISON BETWEEN EXISTING CONDITION AND PROPOSED DEVELOPMENT

Post-development runoff	Q = 7.90 cfs
Pre-development runoff	Q = 3.76 cfs
Difference	= 4.14 cfs (increase)

Hydraulic Analyses

CHECK CAPACITY OF PAVED DRAINAGEWAY

A section of the inverted-crown paving on the south side of the property just upstream from the proposed catch basin was analyzed for capacity as a V-section channel.

A = 34 x .5 / 2 = 8.50
P = = 34.00
R = A/p = .25

$V = 1.486/.017 \times (.25)^{2/3} \times (.0035)^{1/2} = 2.10$ fps

Qdes = 8.50 x 2.10 = 17.83 cfs

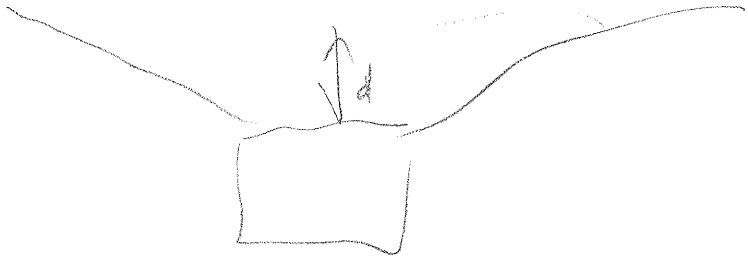
Q100 = 7.90 cfs

Qdes ¶ Q100 Paved inverted crown drainageway has capacity.

CHECK CAPACITY OF 18" DIAMETER CONNECTOR PIPE

A = 3.1416 X (1.5)(1.5)/4 = 1.76
P = 3.1416 X 1.5 = 4.71

$A = \pi r^2$
$(3.14)(9/12)^2$
$P = 2\pi D$



R = 1.76/4.71 = .37

Qdes = 1.486/.013 X $(.37)^{2/3}$ X $(.0264)^{1/2}$ = 9.47 cfs

Q100 = 7.90 cfs

An 18-inch diameter pipe at slope .0264 is sufficient to carry the Q100 runoff of the proposed development, with ample allowance for clogging.

CHECK CAPACITY OF DOUBLE "D" GRATE

From DESIGN OF URBAN DRAINAGE SYSTEMS material by Stormwater Consultants, the capacity of a double "D" grate in a sump condition was calculated. It has capacity to hold the runoff of the 100-year storm of the site, with ample allowance for clogging.

Formulae used: $Q/A = 1.486/n\ R^{2/3}\ S^{1/2}$

$Q = \frac{1.486}{.017}\left(\frac{A}{P}\right)^{2/3}(S)^{1/2}$ $Q = CPH^{3/2}$

$7.90 = (3)(17)(H)^{3/2}$

$\frac{7.90}{(3)(17)} = (H)^{3/2}$

Where Q = Q100 = 7.9 cfs
A = 34d/2
n = .017
R = A/P A = 34d/2 $P = 2\sqrt{17^2 + d^2}$
S = .0035

Solving for d: d = .32

$Q = CPH^{3/2}$

$\left(\frac{7.90}{(3)(17)}\right)^{2/3} = H$

.2884 = H

Where C = 3
P = 17
H = .32

P = 17

Solving for Q: Q = 9.23 cfs Double D is sufficient.

Conclusion

The proposed development of Tract C-1, the replat of tract C Land of Coronado Savings and Loan, into Coors Plaza 2 will increase the runoff on the property but will not adversely affect the surrounding environment because of two reasons: one, it is an in-fill area, and two, its development had been figured in the design of the storm drain system which was built under SAD 198.

$\left(\frac{7.90}{(3)(11.27)}\right)^{2/3} = H$

Celia J. Faulkner
10/8/89

.37

G11/D6

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 24, 1990

CERTIFICATE OF COMPLETION AND ACCEPTANCE

Mr. Ben Ruiz
6625 Coors N.W.
Albuquerque, NM 87120

RE: PROJECT NO. 4026.80, CORONADO SAVINGS & LOAN, TRACT C-1A & C-1B, (MAP NO. G-11)

Dear Mr. Ruiz:

This is to certify that the City of Albuquerque accepts Project No. 4026.80 as being completed according to approved plans and construction specifications. The City of Albuquerque will accept for continuous maintenance all public infrastructure improvements constructed as part of Project No. 4026.80.

The project is described as follows:

- Installed 6" PVC main in alley east of Coors Rd. to serve Tract C-1A and C-1B of Coronado Savings Addition. Also installed 4' bury fire hydrant 150' east of Coors with one (1) 2" water service for Tract C-1B and one (1) 1" water service for Tract C-1A.

- The contractor's correction period begins the date of this letter and will be effective for a period of one (1) year.

Sincerely,

Brian L. Speicher, P.E.
Chief Construction Engineer
Design/Construction Division
Engineering Group
Public Works Department

BLS:kt

xc: Oliver Trujillo
Sunshine Plumbing
Fred Aguirre, Engineering Group, PWD
Phil Fischer, Engineering Group, PWD
Terri Martin, Engineering Group, PWD
Steve Gonzales, Special Assessments
Sam Hall, Operations Group, PWD
A. N. Gaume, Operations Group, PWD
Jim Fink, Operations Group, PWD
Ray Chavez, Engineering Group, PWD
Jon Ertsgaard, Water/Wastewater Group, PWD
Dave Parks, Engineering Group, PWD
Tom Kennerly, Engineering Group, PWD
Josie Gutierrez, New Meter Sales, Finance Group, PWD
Claudia Gallegos, Standby Clerk, Finance Group, PWD
Linda Michelle Devanti, Engineering Group, PWD
Richard Zamora, Engineering Group, PWD
Kelly Trujillo, Engineering Group, PWD
f/Project 4026.80
f/Warranty
f/Readers

(INP 139133)

GRANT OF EASEMENT AND DRAINAGE COVENANT

THIS GRANT OF EASEMENT AND DRAINAGE COVENANT made this 30 day of August, 1989, by and between

BEN RUIZ, OWNER of Coors Plaza 1, OWNER of Tract C-1 of Replat of Tract "C" of Land of Coronado Savings and Loan, as the same is shown and designated on the Replat thereof, filed in the office of the County Clerk of Bernalillo County, New Mexico on April 21, 1981 in Book B18, Page 172

AND

BEN RUIZ, OWNER of Coors Plaza 2, OWNER of Tract C-2 of Replat of Tract "C" of Land of Coronado Savings and Loan, as the same is shown and designated on the Replat thereof, filed in the office of the County Clerk of Bernalillo County, New Mexico on April 21, 1981 in Book B18 Page 172.

The OWNER (which term includes successors and assigns) of Tract C-2 conveys to the OWNER of Tract C-1 the right to convey storm runoff, any drainage from watering landscaping, or any other use across the boundary lines through a drainage easement described as follows:

> An easement 50 feet wide, being the East 50 feet of Tract C-2 of Replat of Tract "C" of Lands of Coronado Davings and Loan, as the same is shown and designated on the Replat thereof, filed in the office of the County Clerk of Bernalillo County, New Mexico, on April 21, 1981 in Book B18 Page 172.

THIS GRANT OF EASEMENT AND DRAINAGE COVENANT are binding upon the OWNER(s), his heir(s) and assign(s) and will continue to run with the property until an alternate drainage plan has been approved by the City Hydrology Department and this document is released by a recorded document by the Owner(s) of the above-described real estate properties.

OWNER, Tract C-1 Ben Ruiz Margaret J Ruiz DATE 8/30/89

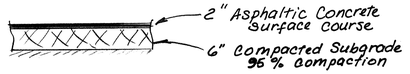
OWNER, Tract C-2 Ben Ruiz Margaret J Ruiz DATE 8/30/89

ACKNOWLEDGEMENTS

STATE OF NEW MEXICO)
)SS.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 30th day of August 1989 by BEN RUIZ, OWNER of Coors Plaza 1 and Coors Plaza 2.

Notary Public
My commission expires: 10/27/92

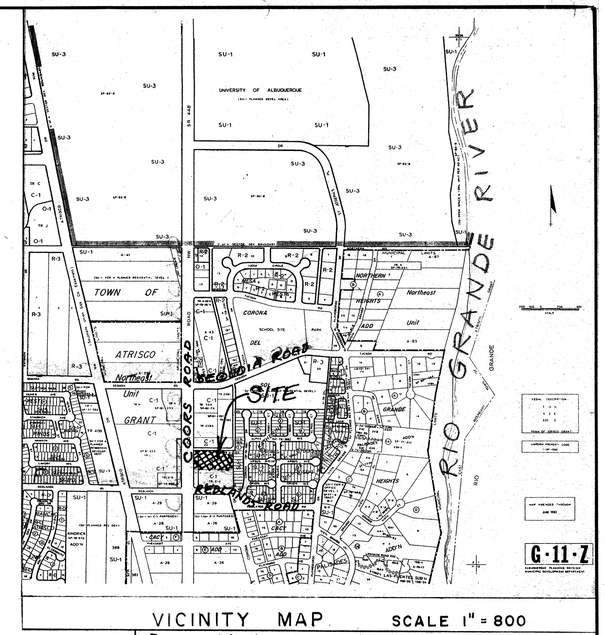


Typical Paving Section
Scale 1" = 2'

TRACT C-1
OF
REPLAT OF
TRACT "C" OF
LAND OF
CORONADO SAVINGS & LOAN
ALBUQUERQUE, NEW MEXICO

N

SCALE 1" = 20'



VICINITY MAP SCALE 1" = 800

SEQUOIA SQUARE (DEVELOPED)

Existing 4" storm sewer pipe that drained into retention pond was intercepted by SAD 198 storm drain system.

EXISTING SAS MANHOLE RIM = 5101.83 INV. = 5093.84

381.3' MH TO MH

FOUND REBAR AND CAP LS 4078

EXISTING WHITE STRIPE

EXISTING EDGE OF ASPHALT AND PE

S 89°55'30" E 140.00'

MATCH EXIST GRADE

PROPOSED BUILDING F.F. = 5102.70

XMFR PAD

ROOF DRAINAGE, TYP.

20' SAS EASEMENT

4" PAINTED STRIPE

WHEEL STOP, TYP.

NEW ASPHALT PAVING

RAMP

REFUSE PAD

CONSTRUCT 1'-0" CURB OPENING

CONSTRUCT INVERT

NEW CURB

GRADE INVERT, TYP.

TOP OF BERM @ ELEV. = 103.5

COORS BOULEVARD — N.W. — C.I.

N 00°06'30" E 140.00'

TBM
TOP OF NORTH BONNET BOLT EXIST. FIRE HYDRANT
ELEV. = 5102.28

MATCH EXIST. GRADE

FOUND REBAR & CAP LS No. 4078

N 89°54'00" W 140.00'

EDGE OF EXIST. ASPHALT MATCH EXIST GRADE

FLOWLINE

PAVED ACCESS DRIVE

SITE PLAN FOR WEST 140'
ENGINEERED BY JEFF MORTENSON & ASSOCIATES

EXISTING CURB

ALLEY

SAS 8" PVC SAS 100.85 SAS 100.75 SAS 100.65 SAS

EXISTING DOUBLE "D" CATCH BASIN (25.2 cfs CAPACITY)
TOP OF GRATE 100.4
INVERT 95.81

EXIST. 44' 30" RCP SLOPE = .002

20.0'

EXIST. Dry Pond
¥ 95.79

FIN. FLR. EL. 5101.8

B

BASEMENT FIN. FLR. EL. 5092.0

C

GROUND FLOOR FIN. FLR. 5102.67

108.00'

65.0'

EXISTING WOOD FENCE

SU-1 (DEVELOPED)

BUILD 210' 18" RCP SLOPE .0264

BUILD DOUBLE "D" CATCH BASIN
TOP OF GRATE ELEV. 99.72
CONNECTOR PIPE INV. 96.08

Existing Tel. Box 100.98

MATCH LINE SEE SHEET 2

CURB

MATCH EXISTING PAVING

COORS PLAZA 1 (DEVELOPED)

SEE SHEET 2 of 2

Bench Mark: STA NM 448-N4A 3¼" aluminum tablet set in a drilled hole flush with the concrete median nose. North side of intersection of Coors with Sequoia. Elev. 5104.408

TBM: Top of north bonnet bolt of existing fire hydrant as shown hereon. Elevation: 5102.28 ft (M.S.L.D.)

NOTE:
1. Build double "D" Catch Basin per City of Albuquerque Std. Dwg. 2206.
2. Build concrete sidewalk per City Std. Dwg. 2430.
3. Prior to any excavation, verify all underground utilities.
4. Construction shall be in accordance with City of Albuquerque Standards.
5. No doors, windows etc. may be located with in one foot (1') above the flood plain elevation of 5,099.

Legend

	Existing
100.0 / 101.01 / x 97.8	Contour Line Elevation Spot Elevation
SAS 8" VCP / W 12"	Sanitary Sewer Water line
	Manhole
FH	Fire Hydrant
	Asphalt Paving
	Proposed
100.0	Contour Line
TP 101.21	Top of Pavement Elevation
	Invert of Pavement
	Concrete Walk
	Roof Drain
	Limits of Asphalt Paving

RECEIVED OCT 11 1989 HYDROLOGY SECTION

NO.	DATE	REVISION	ENGR.

CITY OF ALBUQUERQUE
DEPARTMENT OF PUBLIC WORKS
ENGINEERING GROUP

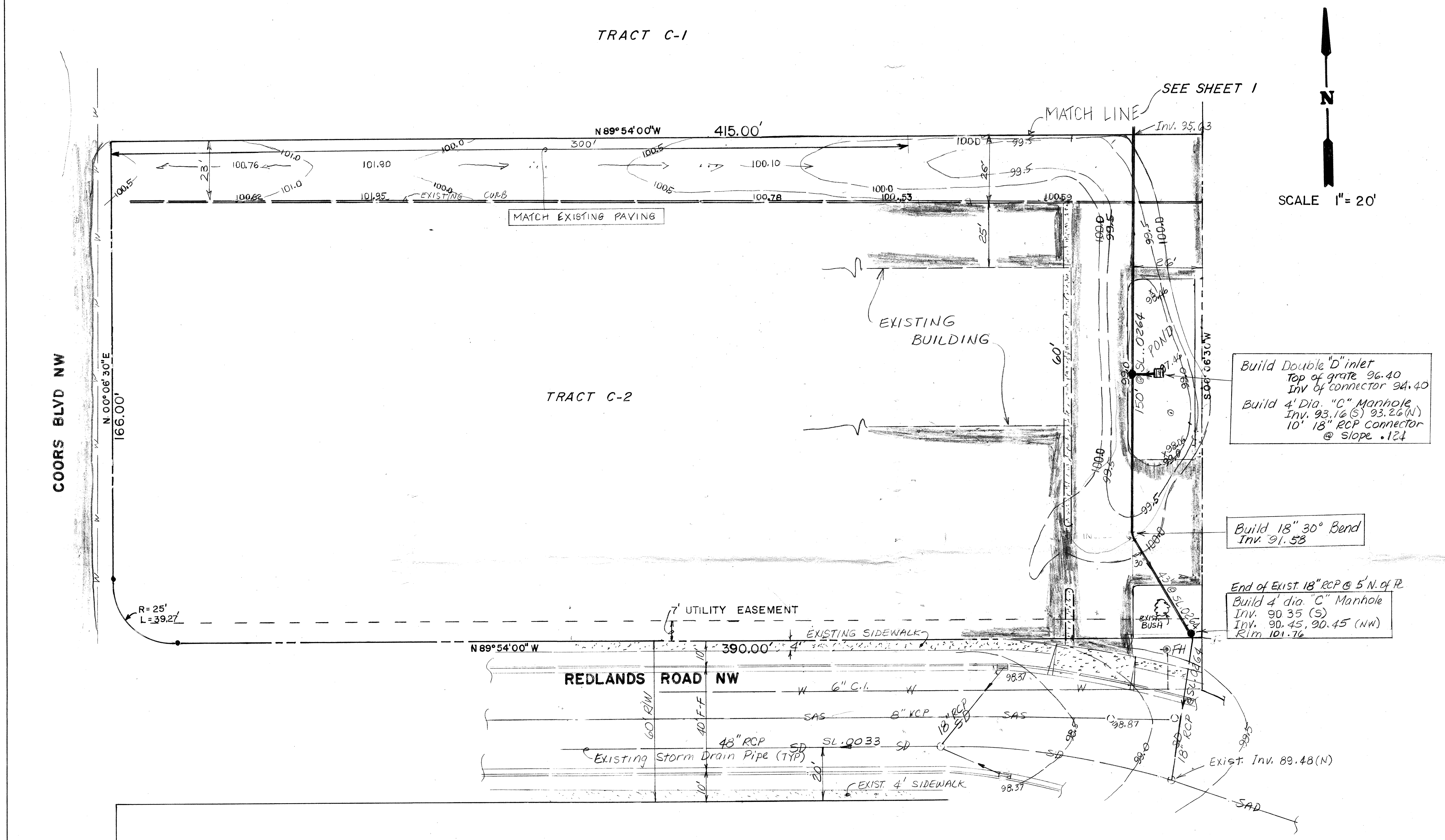
COORS PLAZA 2 DRAINAGE PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
CITY ENGINEER			LIQUID WASTE		
A.C.E. DESIGN			TRAFFIC		
A.C.E. HYDROLOGY			WATER		

DRAWING NO. | MAP NO. G-11 | SHEET OF 1 2

REGISTERED PROFESSIONAL ENGINEER STATE OF NEW MEXICO No. 4895 JEFF MORTENSON
7/4/89
8/26/89
10/10/89

RHOMBUS, P.A.
Civil Engineers & Construction Consultants
N.M. Professional Engineer #4895
N.M. Licensed Contractor #10131
10325 Karen NE
Albuquerque, New Mexico 87111
Tel. 293-4585



RHOMBUS, P.A.
Civil Engineers & Construction Consultants
N.M. Professional Engineer #4895
N.M. Licensed Contractor #10131
10325 Karen NE
Albuquerque, New Mexico 87111

AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY — DATE
INSPECTORS ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS
STA NM 448-N4A 3 1/4" aluminum tablet set in a drilled hole flush with the concrete median nose north side of intersection of Coors with Sequoia. Elev. 5104.408
TBM: Top of North Barrel Bolt of existing Fire Hydrant on Coors at SW corner of tract
ELEV. 5102.28

SURVEY INFORMATION
FIELD NOTES
NO.	BY	DATE

ENGINEER'S SEAL
7/4/89

NO.	DATE	REMARKS	BY

REVISIONS
DESIGN
DESIGNED BY — DATE
DRAWN BY — DATE
CHECKED BY — DATE

RECEIVED OCT 11 1989 HYDROLOGY SECTION

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: **COORS PLAZA 2 DRAINAGE PLAN**

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

DRAWING NO.	MAP NO.	SHEET	OF
	G-11	2	2