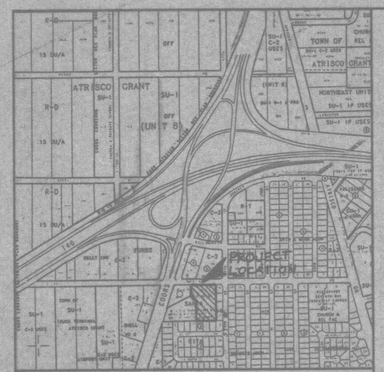


VICINITY MAP H-11-Z

Tie to ACS Brass Cap "2-H11"
New Mexico State Plane Coordinates
X=363,802.25 Y=1,493,065.22
Δ = -00° 15' 43"
Ground-to-Grid = 0.99967751
Trigonometric Elevation = 5095.653
Geographic Position (NAD 1927)
Spirit Level Elevation (SLD 1929)

NOTES:

1. Existing contours shown wherever feasible.
2. New 6" CMU wall to be constructed on south and east property lines.

PRINCIPAL SPILLWAY WEIR COMPUTATIONS

Q = 5.00 cfs
C = 2.70
H = 2.0 ft

Q = C * L * H ^ 1.5

L = 0.65 ft

EMERGENCY SPILLWAY WEIR COMPUTATIONS

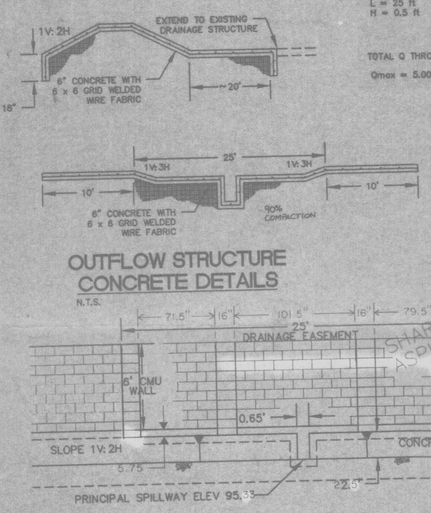
C = 2.70
L = 25 ft
H = 0.5 ft

Q = C * L * H ^ 1.5

Q = 24.0 cfs

TOTAL Q THROUGH BOTH WEIRS AT 2.5' OF DEPTH

Qmax = 5.00 cfs + 24.0 cfs = 29 cfs

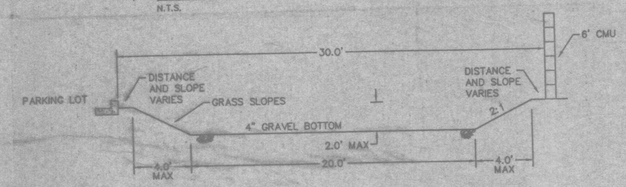


OUTFLOW STRUCTURE CONCRETE DETAILS

N.T.S.

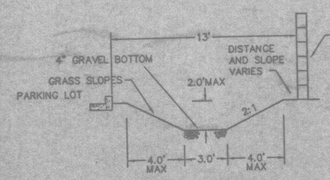
OUTFLOW STRUCTURE DETAIL

N.T.S.



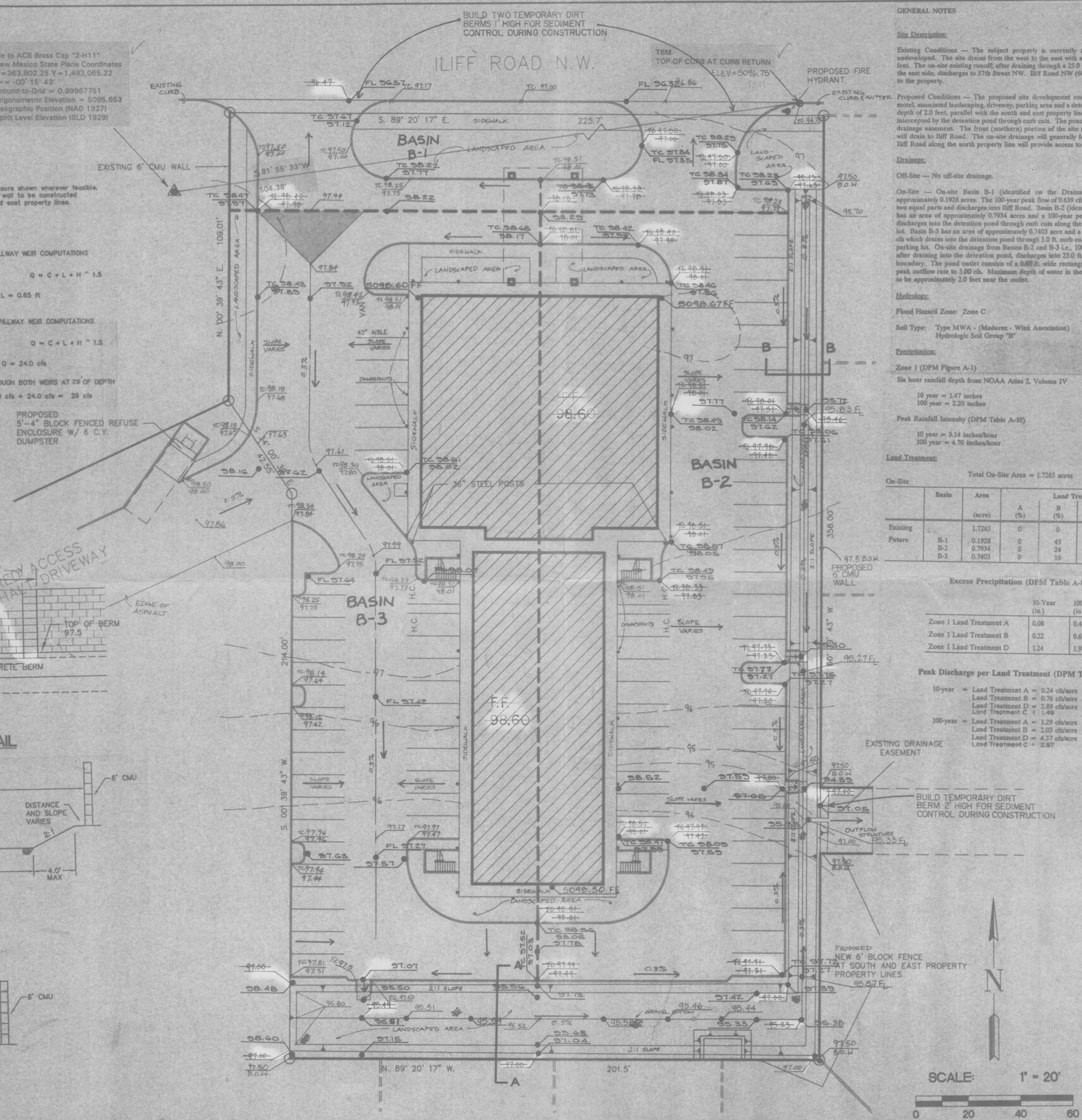
SECTION A - A

SCALE 1" = 5'



SECTION B - B

SCALE 1" = 5'



SCALE: 1" = 20'

0 20 40 60

GENERAL NOTES

Site Description:

Existing Conditions — The subject property is currently a 1.7265 acre lot which is undeveloped. The site drains from the west to the east with an overall relief of about 3.0 feet. The on-site existing runoff, after draining through a 25.0 ft. drainage easement, along the east side, discharges to 57th Street NW. Iliff Road NW (60 ft. R.O.W.) provides access to the property.

Proposed Conditions — The proposed site development consists of a centrally located motel, associated landscaping, driveway, parking area and a detention pond with a maximum depth of 2.0 feet, parallel with the south and east property lines. On-site drainage will be intercepted by the detention pond through curb cuts. The pond will drain into the 25.0-foot drainage easement. The front (northern) portion of the site (at the entrance, Basin B-1) will drain to Iliff Road. The on-site drainage will generally follow the historic flow path. Iliff Road along the north property line will provide access to the property.

Drainage:

Off-Site — No off-site drainage.

On-Site — On-site Basin B-1 (identified on the Drainage Plan) has an area of approximately 0.1928 acres. The 100-year peak flow of 0.639 cfs from Basin B-1 divides into two equal parts and discharges into Iliff Road. Basin B-2 (identified on the Drainage Plan) has an area of approximately 0.7934 acres and a 100-year peak flow of 3.022 cfs, which discharges into the detention pond through curb cuts along the eastern edge of the parking lot. Basin B-3 has an area of approximately 0.7403 acre and a 100-year peak flow of 2.958 cfs which drains into the detention pond through 5.0 ft. curb cut along southern edge of the parking lot. On-site drainage from Basins B-2 and B-3 i.e., 100-year peak flow of 5.80 cfs; after draining into the detention pond, discharges into 25.0 ft. drainage easement at east boundary. The pond outlet consists of a 0.65 ft. wide rectangular weir which controls the peak outflow rate to 5.00 cfs. Maximum depth of water in the detention pond is designed to be approximately 2.0 feet near the outlet.

Hydrology:

Flood Hazard Zone: Zone C

Soil Type: Type MWA - (Madurez - Wink Association)
Hydrologic Soil Group "B"

Precipitation:

Zone 1 (DPM Figure A-1)

Six hour rainfall depth from NOAA Atlas 2, Volume IV

10 year = 1.47 inches
100 year = 2.20 inches

Peak Rainfall Intensity (DPM Table A-10)

10 year = 3.14 inches/hour
100 year = 4.70 inches/hour

Land Treatment:

Total On-Site Area = 1.7265 acres

On-Site

	Basin	Area (acre)	Land Treatment A (%)	B (%)	C (%)	D (%)
Existing		1.7265	0	0	100	0
Future	B-1	0.1928	0	45	0	55
	B-2	0.7934	0	24	0	76
	B-3	0.7403	0	16	0	84

Excess Precipitation (DPM Table A-8)

	10-Year (in.)	100-Year (in.)
Zone 1 Land Treatment A	0.08	0.44
Zone 1 Land Treatment B	0.22	0.67
Zone 1 Land Treatment D	1.24	1.97

Peak Discharge per Land Treatment (DPM Table A-9)

10-year = Land Treatment A = 0.24 cfs/acre
Land Treatment B = 0.76 cfs/acre
Land Treatment D = 2.89 cfs/acre
Land Treatment C = 1.49

100-year = Land Treatment A = 1.29 cfs/acre
Land Treatment B = 2.03 cfs/acre
Land Treatment D = 4.37 cfs/acre
Land Treatment C = 2.97

Results:

Condition	Basin	Frequency	Peak Discharge (cfs)	Volume (cu ft)
Existing		10-yr	2.572	2758
		100-yr	4.960	6206
Future	B-1	10-yr	0.372	566
		100-yr	0.639	958
	B-2	10-yr	1.887	2866
		100-yr	3.022	4774
	B-3	10-yr	1.887	2875
		100-yr	2.958	4748

Detention Pond:

Stone surfacing trapezoidal section detention pond with 1:2(V:H) side slope; which is parallel to east and south property lines. The pond is designed to control the 100-year runoff volume from Basins B-2 and B-3 ($V_{100-100y}$ = 9522 cu. ft.). Storm water drains in through curbcuts and drains out through 0.65 ft. wide rectangular weir provided at the 25-foot drainage easement (SE).

$V_{100-100y}$ = 9522 cu.ft. (from Basins B-2 and B-3)

Designed Capacity = 9904 cu.ft.

Water Surface Level = 97.0 feet MAXIMUM ASSUMING NO OUTLET

Invert Level = 95.0 feet

Location	Length (ft)	Bottom Width (ft)	Side Slope	Slope (%)	Depth (ft)	Maximum Depth of Ponding (ft)	Storage Capacity (cu ft)
D.P. Part along south boundary	180	20	2ft:1V	0.30	2.0	1.83	6519
D.P. Part along east boundary	65	3	2ft:1V	0.30	2.0	2.0	851
D.P. Part along east boundary	240	3	2ft:1V	0.30	2.0	2.0	2534
						Total Storage	9904

The width of the detention pond outlet was calculated by using the weir equation $Q = C L H^{3/2}$, where: C = 2.70 and H = 2.0 ft; therefore L = 0.65 ft.

Concrete swales are proposed in Basins B-2 and B-3 at 0.3% slope to drain water into detention ponds.

LEGEND

- PROPOSED BUILDING
- TRANSITION AREA
- FLOW DIRECTION
- 57.50 EXISTING ELEVATION
- 50.00 / 49.50 PROPOSED ELEVATIONS
- DRAINAGE DIVIDE
- EXISTING CONTOURS
- SLOPE INDICATOR
- PROPOSED CURB
- ROOF DOWNSPOUT
- "AS-BUILT" ELEVATIONS

I, Elvidio V. Diniz, Registered Professional Engineer - No. 7111, do hereby certify that the as-built elevations have been surveyed under my direction and this drainage plan is in substantial compliance with the approved drainage plan.

SVD 2/2/96
Rev. 3/6/96

~~I, Elvidio V. Diniz, Registered Professional Engineer No. 7111, do hereby certify that the as-built elevations, exclusive of landscaping, have been surveyed under my direction and this drainage plan is in general compliance with the approved drainage plan.~~ ~~SVD 2/29/95~~

Rev. 4/9/96

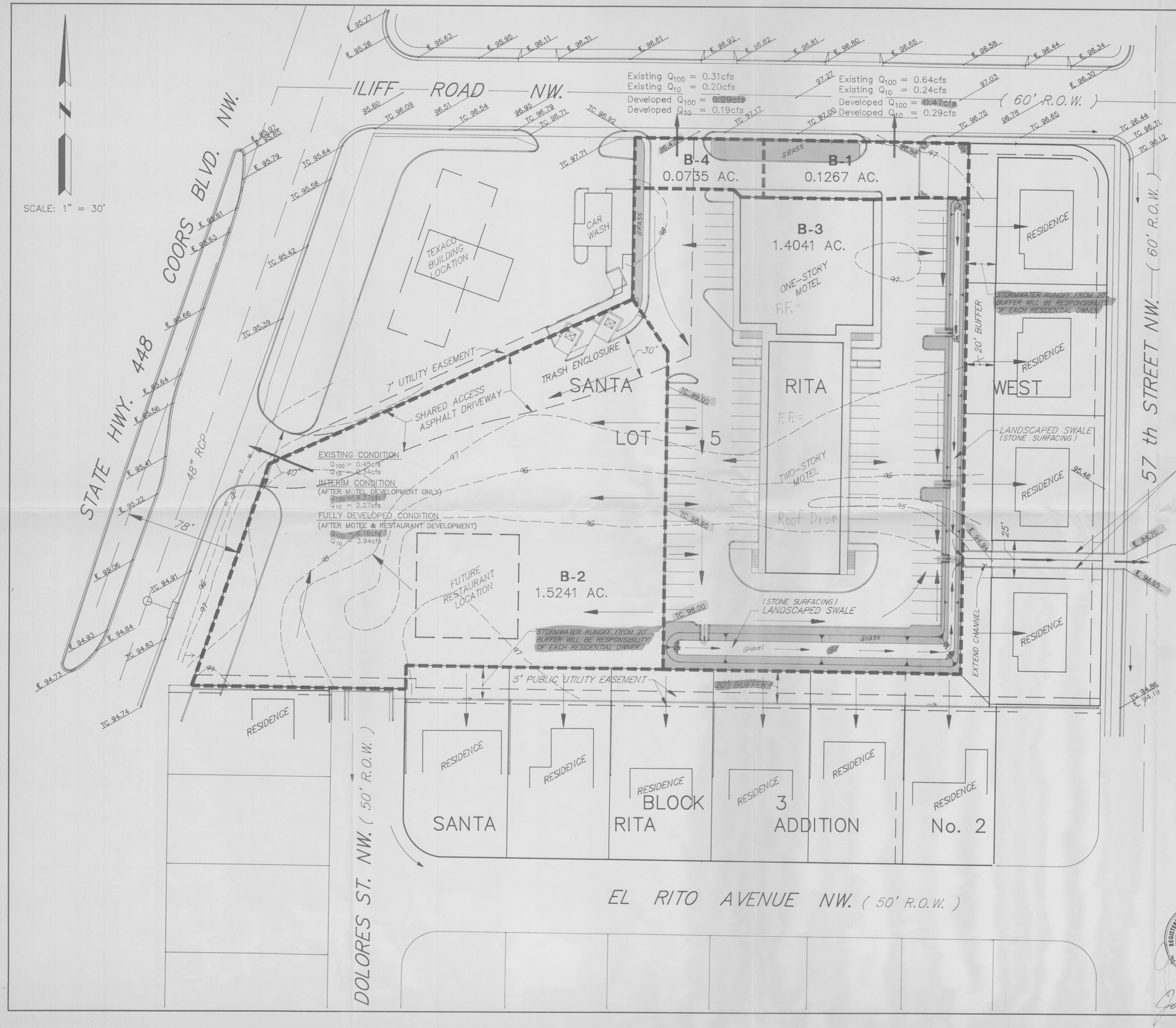
NO.	DATE	REVISIONS	BY	CHKD

COMFORT INN MOTEL
LOT 2 SANTA RITA WEST SUBDIVISION
GRADING and DRAINAGE PLAN

Resource Technology, Inc.
ENGINEERS & ENVIRONMENTAL SCIENTISTS
2129 OSUNA NE - SUITE 200, ALBUQUERQUE, NEW MEXICO 87113
TELEPHONE - (505) 345 - 3115

JOB NO. 94 - 230
SHEET NO. 1 of 1

DESIGNED BY: R.K. DRAWN BY: B.G. CHECKED BY: E.D. DATE: JULY 1994



VICINITY MAP

ZONE ATLAS MAP H-11
SCALE: 1" = 1000'

LEGEND

- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- DRAINAGE AREA BOUNDARY
- CURB & GUTTER
- SURFACE FLOW DIRECTION
- SIGN
- LITE POLE
- TRAFFIC PULLBOX
- GUY WIRE
- HIGHWAY SIGN
- EXISTING MANHOLE

EXISTING 25' DRAINAGE EASEMENT
EXISTING 10' CONCRETE CHANNEL
CAPACITY = 48cfs

EXISTING Q_{100} = 5.30cfs
EXISTING Q_{10} = 3.49cfs
DEVELOPED Q_{100} = 5.30cfs
DEVELOPED Q_{10} = 3.29cfs

NOTES:

1. AN EXISTING GRADING AND DRAINAGE PLAN FOR THE SITE IS ON FILE AT THE CITY OF ALBUQUERQUE'S HYDROLOGY SECTION. THE PLAN WAS PREPARED BY ANDREWS, ASBURY & ROBERT, INC. AND APPROVED BY THE CITY OF ALBUQUERQUE IN 1987/88. H-11/D29
2. NO OFF-SITE STORM WATER RUNOFF CURRENTLY ENTERS THE SITE.
3. DOWNSTREAM CAPACITY

   SOUTHEAST (57th Street)

   ON-SITE STORM WATER RUNOFF DISCHARGING TO CITY PUBLIC RIGHT OF WAY WILL REMAIN THE SAME DUE TO THE MOTEL SITE DEVELOPMENT. THUS, THERE WILL BE NO INCREASED IMPACT ON THE DOWNSTREAM STORM DRAIN CAPACITY.

   NORTHWEST (Coors Road)

   THE RESTAURANT SITE WILL BE ALLOWED TO DISCHARGE FREELY ONTO COORS RD. AND INTO THE 48"RCP STORM DRAIN IN COORS RD. DUE TO THE SHORT TIME OF CONCENTRATION (T$_c$ < 12min).

LEGAL DESCRIPTION

LOT 5, SANTA RITA WEST; FILED 3/31/88, Bk. C 36, Pg. 143

RECEIVED JUL 15 1993 HYDROLOGY DIVISION

REGISTERED PROFESSIONAL ENGINEER STATE OF NEW MEXICO No. 3980 JOHN A. ANDREWS

4-30-93
7-15-93

REVISED: JULY 15, 1993

LOT 5
SANTA RITA WEST
CONCEPTUAL DRAINAGE PLAN

ANDREWS, ASBURY & ROBERT, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

FILE No.	DRAWN	CHECKED	DATE	
93-663	DV	DA, JA	APRIL 1993	SHEET 1 OF 1