City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

July 12, 1994

Larry Read
Chavez-Grieves
5639 Jefferson NE
Albuquerque, NM 87109

RE: ENGINEER CERTIFICATION FOR AN ADDITION TO BURGER KING/LADERA PLAZA (G11-D3D) CERTIFICATION STATEMENT DATED 6/30/94.

Dear Mr. Read:

Based on the information provided on your July 1, 1994 submittal, Engineer Certification for the above referenced site is acceptable.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya, CE
Engineering Associate

BJM/dl/WPHYD/8301

c: Andrew Garcia
File

DRAINAGE INFORMATION

PROJECT TITLE: Burger King/Ladera Plaza ZONE ATLAS/DRNG. FILE #: G-11-Z/D35

DRB#: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Drainage basin #4 @ Ladera Shopping Center

CITY ADDRESS: Ladera Shopping Center/ Coors NW

ENGINEERING FIRM: Chavez-Grieves CONTACT: Larry Read

ADDRESS: 5639 Jefferson NE PHONE: 344-4080

OWNER: Burger King Corp. CONTACT:

ADDRESS: P.O. Box 520783 Miami, FL PHONE: 305-596-7978

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: S & J Enterprises CONTACT: _____

ADDRESS: 3535 Princeton Dr. N.E. PHONE: 884-6234

CONTRACTOR: not known CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

_____ DRAINAGE REPORT
_____ DRAINAGE PLAN
_____ CONCEPTUAL GRADING & DRAINAGE PLAN
_____ GRADING PLAN
_____ EROSION CONTROL PLAN
_X_ ENGINEER'S CERTIFICATION
_____ OTHER

PRE-DESIGN MEETING:

_____ YES
_X_ NO
_____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

_____ SKETCH PLAT APPROVAL
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D. APPROVAL
_____ S. DEV. PLAN FOR BLDG. PRMT. APPROVAL
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
_____ BUILDING PERMIT APPROVAL
_X_ CERTIFICATE OF OCCUPANCY APPROVAL
_____ GRADING PERMIT APPROVAL
_____ PAVING PERMIT APPROVAL
_____ S.A.D. DRAINAGE REPORT
_____ DRAINAGE REQUIREMENTS
_____ OTHER _____ (SPECIFY)

DATE SUBMITTED: July 1, 1994

BY: Larry Read, P.E.

DRAINAGE REPORT

UPDATE OF DRAINAGE BASIN NUMBER 4

BURGER KING PAD SITE

AT LADERA SHOPPING CENTER

Description

The existing Drainage Basin Number 4 at the Ladera Shopping Center is the pad site for Burger King. This development, located at 5301 Coors Boulevard NW, is part of a drainage master plan for the shopping center. The master plan was completed and approved by the City of Albuquerque in 1985. The master plan has also been updated in 1992.

Existing Conditions

The existing basin incorporates approximately 1.08 acres of which all but about 30% is impervious roofs, sidewalks, or paved parking area. The basin (and Burger King Pad site) are graded such that no runoff enters from offsite.

The original development incorporated a retention pond along the north and east boundaries of the site. This pond was sized to retain all runoff from the basin from a 100-year, 6-hour storm event. The master plan indicated the required volume to be 5912 cubic feet. The 1985 as-built plans indicate the volume provided in the pond to be about 7200 cubic feet. At some time between 1985 and present, the pond was fitted with 24" diameter beehive storm inlet and storm drain lateral that connects into the storm drain in Coors Boulevard NW. This connection changed the status of the pond from retention to detention.

Proposed Development

The Owner proposed to construct an 1840 square foot, multi-level indoor play land south of the existing building. This addition will connect to the existing building. The surface where the addition is sited to be constructed is currently concrete sidewalk, asphalt paving, or hardscape. The proposed site is located such that the existing drainage pattern is away from the addition on the three exposed sides. The proposed addition will disturb only a few feet of existing sidewalk and asphalt pavement around the perimeter of the new building. This drainage plan update proposes to continue the existing patterns.

Methodology

Since this report is an update of the 1985 master drainage plan, the hydrology methods and coefficients have been used. The peak runoff is estimated using the Rational Method. The volume of runoff generated is estimated using the SCS Method as modified in the City of Albuquerque DPM.

CALCULATIONS:

Area = 1.08 acres
Precipitation = 2.2 inches (100 year, 6 hour)
i = 2.2 x 2.0 = 4.4 in./hr. (tc = 12 min)

EXISTING ON-SITE CONDITIONS:

LAND Treatment	"C" Value	AREA "A" (acres)	"C"x"A"	"C"= CXA/A
Pavement	0.95	0.704	0.6688	
Roofs	0.90	0.069	0.0621	
Turf	0.25	0.280	0.0700	
Gravel	0.40	0.027	0.0108	
	A_t =	1.08	0.8117	"C_t"= 0.75

Q_{100} = 0.75 cfs x 4.4 x 1.08 = 3.6 cfs
Q_{10} = 3.6 cfs x 0.657 = 2.4 cfs
Composite CN = 93 (Plate 22.2 C-3) 72% Impervious Use CN = 74 (Pervious) Per Plate 22.2 C-2

Direct Runoff = 1.42"/sf (Plate 22.2 C-4)

V_{100} = $\frac{1.42 \times 1.08 \times 43560}{12}$ = 5567 cf
V_{10} = 5567 cf x 0.657 = 3657 cf

PROPOSED ON-SITE CONDITIONS:

LAND Treatment	"C" Value	AREA "A" (acres)	"C"x"A"	"C"= CXA/A
Pavement	0.95	0.672	0.6384	
Roofs	0.90	0.119	0.1071	
Turf	0.25	0.289	0.0723	
	A_t =1.08		0.8178	"C_t"= 0.76

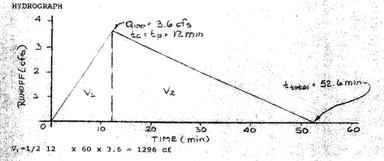
Q_{100} = 0.76 cfs x 4.4 x 1.08 = 3.6 cfs
Q_{10} = 3.6 cfs x 0.657 = 2.4 cfs

Composite CN = 94 (Plate 22.2 C-3) 73% Impervious Use CN=74(Pervious) Per Plate 22.2 C-2

Direct Runoff = 1.45"/sf (Plate 22.2 C-4)

V_{100} = $\frac{1.45 \times 1.08 \times 43560}{12}$ = 5685 cf
V_{10} = 5685 cf x 0.657 = 3735 cf

HYDROGRAPH

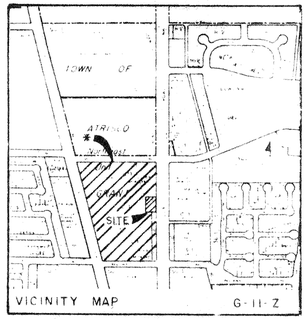


V_1=1/2 12 x 60 x 3.6 = 1296 cf
V_2=1/2 40.6 x 60 x 3.6 = 4385 cf
V_{TOTAL} = 5681 cf = V_{100} (Proposed)

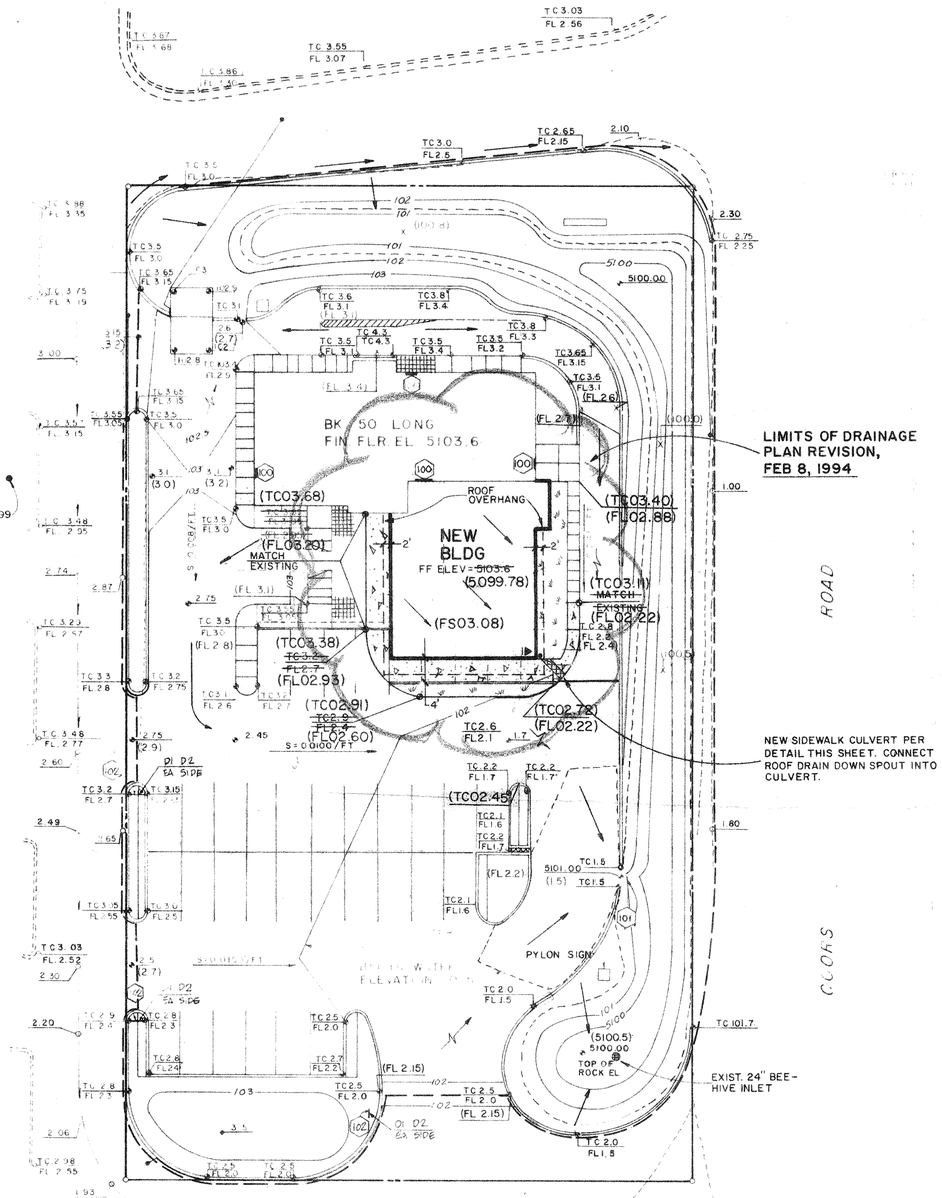
POND VOLUME PROVIDED = 7144 cf (Per 1985 Master Plan by Chavez-Grieves)
POND VOLUME REQUIRED = 5685 cf
EXCESS CAPACITY = 1459 cf

Therefore, no modifications to the existing pond or inlet is required.

Larry Read 3/8/94

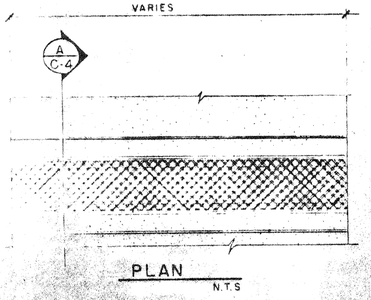


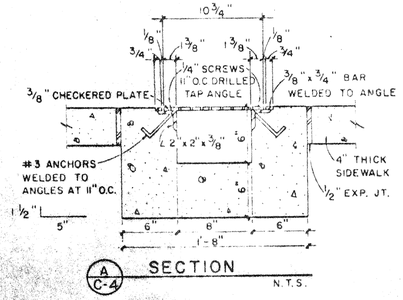
* AREA OF MASTER DRAINAGE PLAN



* AS-BUILT SURVEY PROVIDE BY S&J ENTERPRISES JUNE 21, 1994

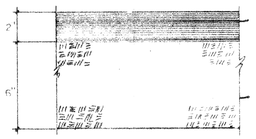
AS BUILT DRAINAGE PLAN
GRADING AND DRAINAGE PLAN





SIDEWALK DRAIN DETAILS

I HEREBY CERTIFY THIS DRAINAGE PLAN IS IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED DRAINAGE PLAN.
SIGNED: Larry Read
DATE: 6/30/94



PAVING SECTION

POND VOLUME CALCULATIONS

Volume Required=6142 c.f. (From Approved Drainage Report Prepared By Fred Denny and Associates - Area 4)

Elev. 101.5 - Area = 8264 s.f.
Elev. 101.0 - Area = 5240 s.f. Volume = 3376 c.f.
Elev. 100.0 - Area = 2296 s.f. Volume = 3768 c.f.

Total Pond Volume Provided = 7144 c.f.

RECEIVED JUN - 1 1994 HYDROLOGY DIVISION

(1) 6" CONCRETE CURB
(3) STANDARD CURB NOSING
(4) 9" BARRIER CURB
(7) TILE PAVER WALK
(8) BRUSHED CONCRETE WALK
(9) CONCRETE RAMP EXTERNAL
(11) HANDICAP PARKING STALL SIGN
(13) CEDAR TRASH ENCLOSURE SEE ELEVATIONS
(20) PAINTED TRAFFIC ARROW
(30) ROOF DRAIN SCUPPER
(32) HANDRAIL 5'-1"
(40) ROOF DRAIN LEADER THRU CURB
(45) 4" WIDE PAINTED STRIPE (TYP.)
(46) 4" WIDE PAINTED STRIPES AT 45°
(K) BIKE RACK FOR 4 BIKES
(L) NEW PAVING TO MATCH EXISTING
(N) EXISTING PAVING TO REMAIN
(R) EDGE OF EXISTING PAVING
(S) TRANSFORMER PAD & PEDESTAL
(S.S) CONCRETE DRIVE THRU LANE
(T) LANDSCAPED AREA
(W) WALK IN BOXES SEE ARCH.
(X) GUARD POST AT DRIVE THRU
(Y) 4" CONCRETE SIDEWALK
(W) DOOR OPENING

* SEE SHT C-5 THRU C-9 FOR DETAILS
NOTE ALL DIMENSIONS FOR PARKING SPACES ARE TO FACE OF CURB

(C.1) CONSTRUCT RIP RAP IRON DOWN
(L) BURGER KING LOGO
(H) CLEARANCE SIGN 13'-6"
(C) ORDER STATION
(D) DIRECTIONAL SIGN SEE

LEGEND

(4) SITE NOTE
BUILDING
NEW CURB
NEW SIDEWALK
EXISTING CONTOUR
3.40 EXISTING SPOT ELE.
3.45 NEW SPOT ELE.
EXISTING CONTOUR
NEW CONTOUR
X 103.5 AS BUILT ELEVATIONS
NEW LANDSCAPING
DRAINAGE BOUNDARY BASIN 4
(TC02.60) AS-BUILT ELEVATIONS (NEW BLDG)

DRAWN BY | CHECKED BY | DATE
NO. | DATE | REVISION | BY

RESTAURANT FOR:

BURGER KING CORPORATION

P.O. BOX 520783
GENERAL MAIL FACILITY
MIAMI, FL 33152
PHONE 305-596-7978

VICTOR J. CHAVEZ JR. STATE OF NEW MEXICO 6-22-94 REGISTERED PROFESSIONAL ENGINEER

PARKING
CIVIL ENGINEERING PLANS
GRADING PLAN

C-4