

PROJECT TITLE: Grading & Drainage Plan
Sonic Drive-In ZONE ATLAS/DRNG. FILE #: K-11/D47
LEGAL DESCRIPTION: North Portion of Tract 67, Unit 6, Town of Atrisco Grant
CITY ADDRESS: 6420 Central Avenue, West

ENGINEERING FIRM: Marvin R Kortum CONTACT: Marvin R Kortum
1605 Speakman Drive SE
ADDRESS: Albuquerque, NM 87123 PHONE: (505) 299-0774

OWNER: Sonic Drive-In CONTACT:
Mr Bobby Merritt
750 North 17th St.
ADDRESS: Las Cruces, New Mexico 88005 PHONE:

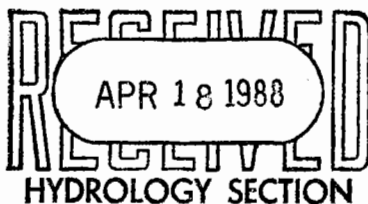
ARCHITECT: Jim Miller and Associates CONTACT: Jim Miller
2819 Richmond Drive NE
ADDRESS: Albuquerque, NM 87109 PHONE: 884-1255

SURVEYOR: Gary P Hugg CONTACT:
ADDRESS: PHONE:

CONTRACTOR: CONTACT:
ADDRESS: PHONE:

PRE-DESIGN MEETING:

☒ YES
☐ NO
☒ COPY OF CONFERENCE RECAP
SHEET PROVIDED



DRB NO.
EPC NO.
PROJ. NO.

TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT
☒ DRAINAGE PLAN
☐ CONCEPTUAL GRADING & DRAINAGE PLAN
☒ GRADING PLAN
☒ EROSION CONTROL PLAN
☐ ENGINEER'S CERTIFICATION
☒ Copy of Drainage Easement

CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL
☐ PRELIMINARY PLAT APPROVAL
☐ SITE DEVELOPMENT PLAN APPROVAL
☐ FINAL PLAT APPROVAL
☒ BUILDING PERMIT APPROVAL
☐ FOUNDATION PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY APPROVAL
☐ ROUGH GRADING PERMIT APPROVAL
☐ GRADING/PAVING PERMIT APPROVAL
☐ OTHER (SPECIFY)

DATE SUBMITTED: April 15, 1988

BY: Marvin R Kortum

Grading and Drainage Plan
Sonic Drive-In, 6420 Central Ave.

K-11

6420 Central Avenue West

North Portion of Tract 67, Unit 6
Town of Atrisco Grant

Marvin R Kortum
1605 Speakman Drive SE
Albuquerque New Mexico
NMPE 6519
(505) 299-0774

Sonic Drive-In
Mr. Bobby Merritt
750 North 17th St
Las Cruces, New Mexico 88005

Jim Miller and Associates
2819 Richmond Dr NE
Albuquerque, New Mexico 87109

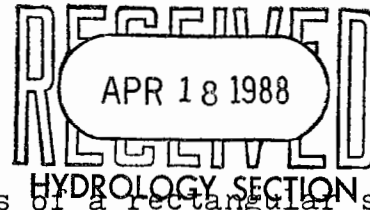
RECEIVED
APR 18 1988
HYDROLOGY SECTION

Gary P Hugg

April 15, 1988



GRADING AND DRAINAGE PLAN
SONIC DRIVE-IN RESTAURANT
6420 Central Avenue west .
Albuquerque, New Mexico



I. ON-SITE CHARACTERISTICS:

A. Description:

The Sonic Drive-In site consists of a rectangular shaped tract, 200 feet north to south, and 210 feet east to west. The north boundary is common with the south right of way line of Central Avenue. The north 100 feet of the west boundary abuts a 42 feet wide vacant lot. The south 100 feet of the west boundary is common with an earth surfaced storage area, presently being used to store tires. The south boundary line is common with three lots of the Ironwood Ridge Subdivision. Across the southwest corner is vacant residential land. Across the south east corner is a private alleyway, adjacent to developed residential property. Along the east boundary is vacant land, paved parking and office presently being used as a dental office. The Sonic Drive-In site itself is presently vacant, with no evidence that it has been developed in the past, or used as other than range land. The surface is now covered with a sparse growth of grass.

B. Surface Soils:

The soils, as identified on the Bernalillo County Soils Survey by the Soil Conservation Service, U. S. Department of Agriculture, are Madurez-Wink association, gently sloping (MWA). The Madurez series consists of deep, well drained soils that formed on piedmonts in old unconsolidated alluvium modified by winds. Runoff is slow, and the hazard of soil blowing is moderate to severe. The engineering characteristics of the MWA soils are satisfactory for the purpose of single story buildings and hardstand. The soils have moderate shrink swell potential and moderate plasticity. Care must be taken that soils supporting buildings and hardstand are properly consolidated and compacted, and protected from moisture intrusion after construction. The soils are classified as hydrologic soils group B, the soils which absorb more water than is typical.

C. Undeveloped Runoff:

Runoff and runoff accumulation from the tract in its undeveloped condition is computed as shown below. Presently the site is sloping, with a fairly steep slope along Central Avenue, and a gentle, almost flat slope through the center and south portions. The slope is generally from the north west toward the south and southeast.

D. Direct Runoff Volume, Undeveloped Land:

The six hour, 100 year frequency rainfall for the tract is 2.2 inches, per 1973 N. O. A. A. Atlas 2, Volume IV (Plate 22.2, D-1). The present surface is equivalent to range land in poor condition, for which CN=79 (Plate 22.2, C-2). For CN=79, the direct runoff volume is .7 inches (Plate 22.2, C-4), for a total volume of (.9617 acres x 43,560 ft.²/acre x .7 in. x 1 ft/12 in) = 2450 ft.³.

E. Peak Runoff, Undeveloped Land:

Peak runoff can be estimated by use of the rational formula $Q=CIA$, where C is a factor which incorporated surface characteristics of the drainage basin, I is the intensity of rainfall for a storm which is determined to give the maximum rate of runoff for the drainage basin, the basin characteristics being expressed as a time of concentration, TC. A is the area in acres.

From Kirpich:

$$TC = .0078 \frac{L^{0.77}}{S^{0.385}} \text{ . For the tract, } L=280 \text{ feet, and}$$

$$S = \frac{5}{280} = .025, \text{ for which } TC=2.5 \text{ minutes.}$$

Use the rainfall intensity factor of 2.15 for ten minutes (Plate 22.2, D-2) and a C=.34 (Plate 22.2, C-1) from the above, peak runoff is computed as $Q = (.34)(2.15)(2.2)(.9617) = 1.5 \text{ ft.}^3/\text{sec.}$

F. Developed Site Runoff:

In the developed state, it is proposed that the tract be developed as a drive-in resaurant, with surrounding paved parking area, and some area devoted to landscaping. The 65 feet wide strip along the east side of the property may eventually be developed, so estimate below will consider that this is 100% impervious in order that the drainage channel will be designed sufficiently large to accommodate this future growth without enlarging the ditch or channel. A composite CN is estimated as shown below:

	Area (ft. ²)	Percent	CN	CN
Roof and paved areas	21360	49	96	47
Future growth 65' x 200'	13000	31	96	29.8
Landscaped and native soil	7532	20	61	<u>12.2</u>
				89.0

For CN=89, the direct runoff is 1.1 inches (Plate 22.2, C-4), for a total volume of (.9617 acre x 43560 ft.²/acre x 1.1 inches x 1 ft./12 in.) = 3840 ft.³

G. Peak Runoff from Developed Property:

Peak runoff can be estimated as above. For the 80% impervious area, the C factor is .76 (Plate 22.2, C-1). The time of concentration will remain at or below 10 minutes, so use the intensity factor of 2.15, for a $Q = CIA = (.76 \times 2.15 \times 2.2 \times .9617) = 3.5 \text{ ft.}^3/\text{sec.}$

H. Disposition of Developed Site Runoff:

It is proposed that the developed site runoff be channeled through a lined drainage ditch across the property adjacent to the east and onto the 64th Street right of way. Previously approved grading and drainage plan for the adjacent property indicated that the adjacent property would accept the runoff. An easement indicating the location of the cross drainage channel has been obtained and recorded, and is shown on the drawings. Minor flows may cross the unimproved area of the adjacent lot, but this is very small since it is only runoff from the landscaped areas, and small berms are required so that most runoff will be retained on the Sonic property. The natural soil is such that precipitation will be readily absorbed. The major threat would be accidental flooding of installed landscaping due to overflow of the watering system.

II. OFF SITE FLOWS:

A. Major Terrain Features:

The Sonic Drive-In site is located near the upper edge of the slope of the mesa that extends west of the Rio Grande flood plain. The site is approximately 100 feet above the 500 year flood elevation of the Rio Grande. About 500 feet west of the Sonic site the mesa becomes generally level, with many depressions and poorly defined drainage. The major features which define the drainage to the north and west of the Sonic site are the major streets, Coors Blvd., and Central Ave. The newly constructed intersection of these streets directs water away from the Sonic site. Runoff from the north along Coors Blvd. is directed east along the north gutter of Central Ave. and blocked from flow across Central Ave. by the 1.7 ft. high crest of the street. Flow from the west down Central Ave. is directed south along Coors Blvd. To the south of the site the natural terrain slopes away from the Sonic site at 2-5% slope, so there is no flooding hazard from that direction.

B. Minor Flooding and Nuisance Flows:

Presently there is minor inflow to the site from a part of the Central Ave. pavement adjacent to and west of the Sonic site. The absence of a curb and gutter along the south of Central Ave. permits runoff from about 3/4 acre to enter the site. The addition of permanent curb and gutter along the site and temporary curb and gutter along 42 ft. of adjacent property will stop this inflow, directing the runoff down Central Ave. to 64th St. There will also be minor inflow from the adjacent undeveloped 42 ft. by 100 ft. lot at the north-west corner of the Sonic site. The amount of runoff can be readily absorbed in the landscaped

areas or accepted onto the hardstand area, and then on to 64th St. as described above.

C. Downstream Flow:

The runoff from the Sonic site will not adversely impact on any downstream area. The flow that enters the 64th St. right of way proceeds south to Churchill Rd., then east along the north gutter of Churchill Rd. Near the intersection of Churchill Rd. with 61st St. the runoff crosses Churchill Rd., continuing south on 61st St. to its intersection with Gonzales Rd. Just west of this intersection the runoff enters the 42 in. storm drain in Gonzales Rd.

III. CONCLUSIONS AND RECOMMENDATIONS:

A. The Sonic Drive-In site is not within the 100 year floodway, as identified on the Albuquerque Flood Hazard Map.

B. The storm runoff from the site will not adversely affect adjacent or downstream property.

C. There is no threat to the property from minor or nuisance flows.

Reference: Albuquerque Public Works Department Development Process Manual.

8832058

DRAINAGE EASEMENT

434

ELIGIO CONTRERAS, JR. and CAROL ELEN CONTRERAS, husband and wife, hereinafter referred to as the Grantors, for consideration received, do hereby grant and convey unto BOBBY J. MERRITT and BETTY L. MERRITT, husband and wife, whose address is 750 N. 17th Street, Las Cruces, New Mexico 88001, hereinafter referred to as the Grantees, the following drainage easement and interest in real property in Bernalillo County, New Mexico: a non-exclusive five (5)-foot wide drainage easement across and through the Grantors' property hereinafter described, for the purposes of constructing, establishing and maintaining for use for surface water and other drainage from the Grantees' 0.9617-acre tract located at 6420 Central Avenue S.W., Albuquerque, New Mexico and being more particularly described in Exhibit A hereto ("Merritt Tract" hereinafter), for the benefit of which Merritt Tract this easement is granted.

The five (5)-foot wide easement granted herein traverses the width of the Grantors' property, located at the southwest corner of the intersection of Central Avenue West and 64th Street (6400 Central, S.W.), Albuquerque, New Mexico and being more particularly described in Exhibit "B" hereto ("Contreras Tract" hereinafter), in an easterly and

westerly direction for the entire width of the Contreras Tract from the easterly and westerly borders thereof, said easement being more particularly described as follows:

BEGINNING at the Northwest corner of the Contreras Tract hereinafter described, a point on the Southeasterly right of way line of Central Avenue West, THENCE,

S. 15 deg. 06' 8" E., 153.00 feet along the westerly border of the Contreras Tract to the point of beginning of the easement herein described, being the northwest corner thereof; THENCE,

N. 74 deg. 54' E., 80,000 feet along the northerly line of said easement, to the northeast corner of said easement area; THENCE,

S. 15 deg. 06' E., five (5) feet along the easterly border of the Contreras Tract, to and being the southeast corner of the easement area; THENCE,

S. 74 deg. 54' W., 80,000 feet along the southerly line of said easement, to the southwest corner of the easement area; THENCE,

N. 15 deg. 06' W., five (5) feet along the westerly border of the Contreras Tract, for the northwest corner of said easement area and to the point of beginning thereof.

The easement granted herein shall be for the benefit of the owners of the Merritt Tract, and their heirs, devisees, assigns and successors in interest.

It shall be the obligation and responsibility of the owners of the Merritt Tract to install and to maintain such drainage easement.

Said drainage easement shall be perpetual.

Executed this 13TH day of April, 1988.

Eligio Contreras, Jr.
ELIGIO CONTRERAS, JR.

Carol Elen Contreras
CAROL ELEN CONTRERAS,
his wife

STATE OF NEW MEXICO
COUNTY OF BERNALILLO

)
) ss.
)

The foregoing instrument was acknowledged before me this 13 day of April, 1988 by Eligio Contreras, Jr. and Carol Elen Contreras, husband and wife.

[Signature]
(NOTARY PUBLIC)

My Commission Expires:

18 February, 1989

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD
88 APR 14 AM 10:26
Ms609A 434-438
GLADYS M. DAVIS
CLERK & RECORDER
Laura Sanchez



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
KEN SCHULTZ

CHIEF
ADMINISTRATIVE OFFICER

GENE ROMO

DEPUTY CAO
PUBLIC SERVICES

FRANK MARTINEZ

DEPUTY CAO
PLANNING/DEVELOPMENT

BILL MUELLER

May 6, 1988

Marvin R. Kortum
1605 Speakman Drive, SE
Albuquerque, New Mexico 87123

RE: REVISED DRAINAGE PLAN FOR SONIC DRIVE-IN
6420 CENTRL AVENUE, NW (K-11/D47
REVISION DAATED APRIL 27, 1988

Dear Mr. Kortum:

Based on the information provided on your resubmittal of April 27, 1988,
revisions as indicated are acceptable.

Please attach a copy of this plan to the construction sets prior to
sign-off by Hydrology.

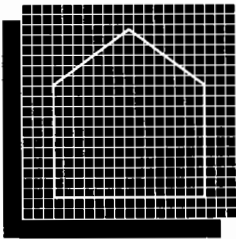
If I can be of further assistance, please feel free to call me at
768-2650.

Cordially,

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj

xc: Becky Sandoval



Browne-Dazlyl, Inc.
General Contractors

K11-D47

20 July 1988

Rick Duran
Dept. of Hydrology
City of Albuquerque

RE: Sonic #102, 6420 Central Ave., SW

Rick,

This is to inform you that BROWNE-DAZLYL, INC. will backfill affected area (North side of rundown, East of drainage inlet), to a sufficient level as to permit positive drainage into the inlet, but not to allow the flow of water into the affected area mentioned above.

This work will be completed in thirty (30) days.

We appreciated your cooperation in this matter.

Sincerely,

BROWNE-DAZLYL, INC.

W. Brooke Bergland
Superintendent

WBB:bk

**CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT**



INTER-OFFICE CORRESPONDENCE

May 6, 1988

ENGINEERING GROUP

TO: Tom Aragon, Transportation System Division

FROM: Fred J. Aguirre, Hydrologist; Engineering Group/PWD

SUBJECT: PRIVATE DRAINAGE FACILITIES WITHIN PUBLIC RIGHTS-OF-WAY/EASEMENT
SONIC DRIVE-IN - 6420 CENTRAL AVENUE, SW - (K-11/D47)

Transmitted herewith, is a copy of the approved drainage plan for the referenced project incorporating the S.O. #19 design.

In accordance with the new process, this plan is being submitted to you for permitting and inspection. Please provide this section with a signed-off copy per the signature block upon construction and acceptance by your office.

As you are aware, the signed-off S.O. #19 is required by this office for Certificate of Occupancy release; hence your expeditious processing of this plan would be greatly appreciated and would avoid any unnecessary delay in the release of the Certificate of Occupancy.

Thank you for your cooperation, and if you should have any questions and/or comments regarding the process, please feel free to call me at 768-2650.

FJA/bsj

Attachment

FILE COPY



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
KEN SCHULTZ

CHIEF
ADMINISTRATIVE OFFICER

GENE ROMO

DEPUTY CAO
PUBLIC SERVICES

FRANK MARTINEZ

DEPUTY CAO
PLANNING/DEVELOPMENT

BILL MUELLER

May 6, 1988

Marvin R. Kortum
1605 Speakman Drive, SE
Albuquerque, New Mexico 87123

RE: REVISED DRAINAGE PLAN FOR SONIC DRIVE-IN
6420 CENTRL AVENUE, NW (K-11/D47
REVISION DAATED APRIL 27, 1988

Dear Mr. Kortum:

Based on the information provided on your resubmittal of April 27, 1988, revisions as indicated are acceptable.

Please attach a copy of this plan to the construction sets prior to sign-off by Hydrology.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

Bernie J. Montoya, C.E.
Engineering Assistant

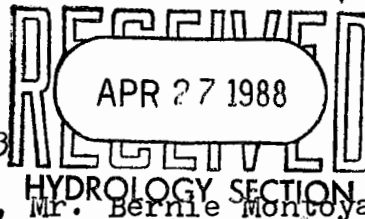
BJM/bsj

xc: Becky Sandoval

Marvin R Kortum
1605 Speakman Drive, SE
Albuquerque, New Mexico 87123
NMPE 6519
(505) 299-0774

April 27, 1988

City of Albuquerque
P. O. Box 1293
Albuquerque, New Mexico 87103



APR 27 1988
BERNIE
CORRECTS DRAWING
IS ADDED
(WITH ROCK R.I.P. R.P.
AT 10161)
MR Kortum

ATTENTION: Design Hydrology, Mr. Bernie Montoya

REFERENCE: Drainage Plan for Sonic Drive-In, 6420 Central
Ave. West (K-11/D47).

Dear Mr. Montoya:

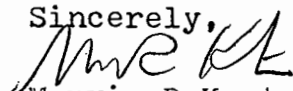
This letter is in reply to comments provided in your letter of April 25, 1988 on the above subject. Below are responses to your letter.

1. The roof runoff is now indicated.
2. A note and clarification are now shown on the drawings indicating that off-site flows from the west will be accepted and routed towards the proposed channel.
3. Flows from the undeveloped northeast corner of the tract are now clearly indicated to flow into the new concrete channel.
4. The notes portion and signature blocks from S. O. #19 are now included on the drawings. Two copies of the drawings are included with this submittal.
5. The typographical error on the easement is in the process of being corrected. The original of the easement is in Las Cruces, and will be returned, resigned and re-recorded. You will be provided a copy of the corrected easement.
6. A note is now on the plans identifying that no public runoff is to enter the site.

Because it will take several days to correct the easement, I request that you review the remaining corrections and approve the drainage plan for release of the building permit. The corrected easement will be provided you as soon as it is ready, at any rate prior to occupancy.

Thank you for your prompt attention.

Sincerely,


Marvin R Kortum

FILE COPY



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
KEN SCHULTZ

CHIEF
ADMINISTRATIVE OFFICER
GENE ROMO

DEPUTY CAO
PUBLIC SERVICES
FRANK MARTINEZ

DEPUTY CAO
PLANNING/DEVELOPMENT
BILL MUELLER

April 25, 1988

Marvin R. Kortum
1605 Speakman Drive, SE
Albuquerque, New Mexico 87123

RE: DRAINAGE PLAN FOR SONIC DRIVE-IN
6420 CENTRAL AVENUE, NW (K-11/D47)
RECEIVED APRIL 18, 1988

Dear Mr. Kortum:

Based on the information provided on your submittal of April 18, 1988, listed are some concerns that will need to be addressed prior to final approval:

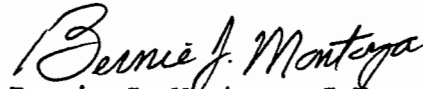
1. Location and direction of roof drains.
2. Off-site flows from the west must be accepted and routed around towards the proposed channel.
3. Flows from the northeast corner of Tract 67 cannot be ponded, they also must be routed into the channel.
4. You will need to include the "Notes" portion of the S.O. #19 format along with the sign-off blocks on your plan drawing (two copies required with resubmittal).
5. Drainage Easement, copy shows 80,000 ft. instead of 80.00 ft., please change and provide a copy with resubmittal.

Marvin R. Kortum
Page 2
April 25, 1988

6. Note on plan identifying that no public runoff is to enter the site.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

A handwritten signature in cursive script that reads "Bernie J. Montoya".

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj

EXISTING CONDITION OFF SITE FLOWS WHICH ENTER TRACT 67

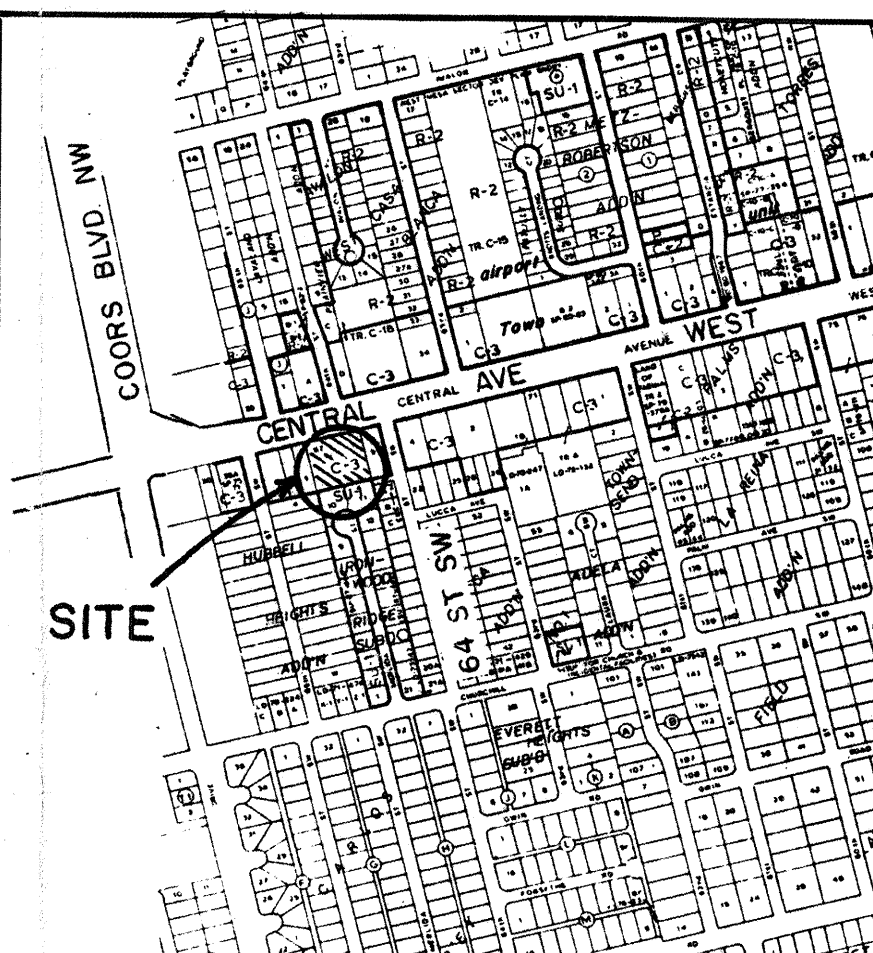
AREA = .75 acre

LEGEND

SPOT ELEVATION	EXISTING	NEW
SWALE	X 77.62	83.24
CONTOUR LINE	5076	77
TEMPORARY BENCHMARK		☆

LEGAL DESCRIPTION

THE NORTH PORTION OF TRACT 67,
UNIT 6, TOWN OF ATRISCO GRANT
MARCH 1988
AREA = .9617 acre



K-117

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

NOTICE TO CONTRACTOR

1. An excavation construction permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.
2. All work detailed on these plans to be performed, except as otherwise stated or provided herein, shall be constructed in accordance with City of Albuquerque Standard Specifications for Public Works Construction, 1986, as amended to Dec. 1, 1987.
3. Two working days prior to any excavation, contractor must contact Line Locating Service 765-1234, for location of existing utilities.
4. Backfill compaction shall be according to residential street use.
5. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.

APPROVALS	NAME	DATE
A.C.E. / DESIGN	<i>[Signature]</i>	5/31/88
INSPECTOR	<i>[Signature]</i>	6-17-88
A.C.E. / FIELD		

NOTES

- (A) REMOVE EXISTING DETERIORATED STD. CURB & GUTTER (55')
- (B) PLACE NEW C & G, DRIVEPADS, AND SIDEWALKS BY SEPARATE PERMIT
- (C) PLACE BERM AND TEMPORARY C & G TO CHANNEL STREET RUNOFF TO NEW C & G
- (D) PLACE .5" EXPANSION JOINT AT 64TH ST R.O.W., AND AT 40' INTERVALS
- (E) INLETS, SEE-DETAIL
- (F) NO RUNOFF FROM PUBLIC R.O.W. IS TO ENTER THE SITE
- (G) RUNOFF FROM LOT TO WEST IS TO BE ACCEPTED AND DISCHARGED TO 64TH ST.

EROSION CONTROL

PLACE TEMPORARY BERM DOWNSTREAM OF EARTH WORK TO POND RUNOFF DURING CONSTRUCTION.

RUNOFF

	UNDEVELOPED	DEVELOPED
FROM OFF SITE		
STREET	3.5	0
V	4900	0
VACANT LOT	0.15	0.15
V	245	245
ON SITE	1.5	3.5
V	2450	3840
TOTAL THROUGH NEW CHANNEL		
V	3.65	4085

Q = PEAK FLOW (ft³/sec.)
V = TOTAL VOLUME (ft³)
① STREET RUNOFF IS DIVERTED BY NEW C & G ALONG CENTRAL AVE. TO 64TH ST. SW

MARVIN R. KORTUM, P.E.
Civil Engineering
1605 Speakman Drive, SE.
Albuquerque, New Mexico 87123
(505) 299-0774

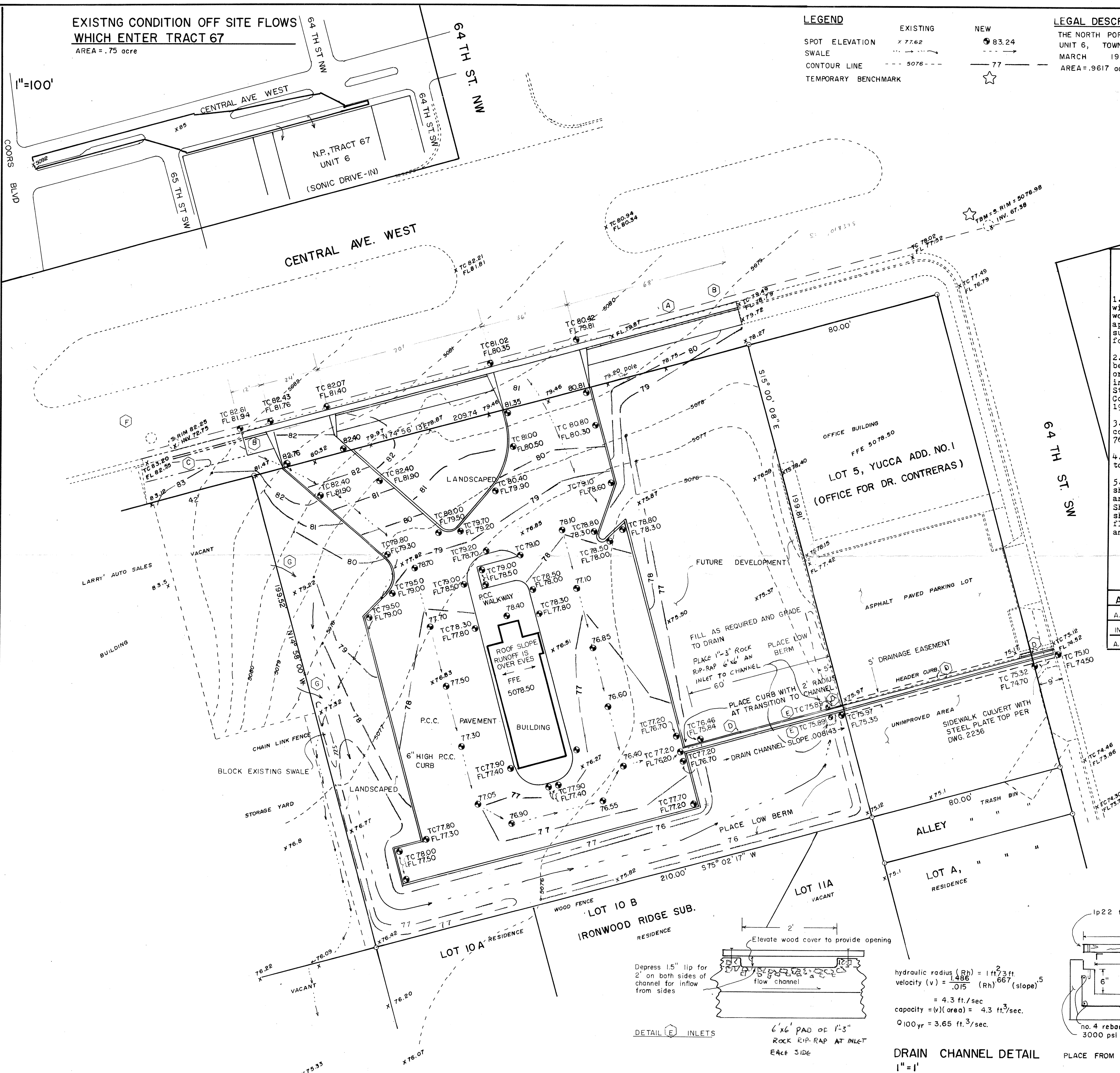
GRADING AND DRAINAGE PLAN
SONIC DRIVE-IN
6420 CENTRAL AVENUE WEST

K11/D47

K-117/D47

K 11

SHEET OF 1



DRAIN CHANNEL DETAIL
1"=1'

PLACE FROM P.C.C. PAVEMENT TO R.O.W. OF 64TH ST.