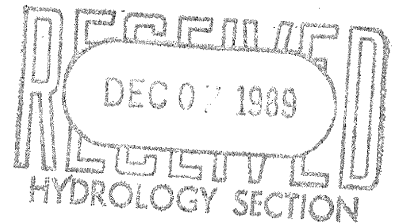


Marvin R Kortum
1605 Speakman Drive SE
Albuquerque, New Mexico 87123
NMPE 6519
(505) 299-0774

December 7, 1989



City of Albuquerque
Design Hydrology Section
Public Works Department
P. O. Box 1293
Albuquerque, New Mexico 87103

REFERENCE: DRAINAGE PLAN FOR CHECKER AUTOWORKS AT 5800 CENTRAL AVENUE, SE (K-18/D23)

Dear Mr Bernie J Montoya:

This letter is a request for an urgent review of proposed changes to the referenced drainage plan which you approved by letter dated September 28, 1989.

Construction is well underway on the proposed building. The finished floor elevation was erroneously set at 0.5 feet below the approved elevation. The proposed revisions show the present as-built elevation, and adjust the parking and other drainage and grading elevations.

I have reviewed pre-design criteria received from your office on Sept 8, 1989, which states, in part, "Set the finished floor elevation at the street gutter grade plus 2.0 feet." The elevation that I used for the September 18, 1989 plan was based on the valley gutter elevation on Valencia Drive, SE, directly east of the north-east corner of the property. Alternatively, if the gutter elevation is taken directly north of the building, along Central Avenue, the grade at that location is 5278.40, 2.1 feet below the now proposed building FFE of 5280.50. Continuing west along Central Avenue, the difference in grades becomes greater, being about 2.5 feet opposite the first door opening of the building. Along the east side of the building the difference in gutter elevation and the FFE varies from 1.5 to 2.2 feet for the presently proposed FFE. Again, there are no door openings along the east side, and the first opening along the south side of the building is 2.2 feet higher than the opposite gutter on Valencia Drive SE. In other words, a water surface two feet above the gutter flow lines could be expected to brush against the solid masonry walls along the north and east side of the building, but no flow into the building would occur.

I have not attempted to determine or recalculate the actual flow that could come down Central Avenue, rather relying on the official flood maps. If necessary, perhaps you can provide assistance or information concerning possible up-dating of the flood maps and derivative information which may be impacted by recent and proposed changes in the storm water drain system.

On behalf of the owner and contractor, I urgently request your review and comment on the proposed revisions as soon as possible. For your information, there is no overall change in the drainage pattern, mostly just a change in the degree of slope.

Thank you for your attention and assistance.

Sincerely,



Marvin R Kortum

FILE COPY



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Louis Saavedra
MAYOR

December 12, 1989

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

RE: REVISED DRAINAGE PLAN FOR CHECKER AUTOWORKS @
5800 CENTRAL AVENUE, SE (K-18/D28) REVISION DATED 12/7/89

Dear Mr. Kortum:

Based on the information provided on your resubmittal of December 17, 1989, revisions as indicated are acceptable.

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

Cordially,

Bernie J. Montoya
Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj
(WP+1313)

PUBLIC WORKS DEPARTMENT

Walter H. Nickerson, Jr., P.E.
Assistant Director Public Works

ENGINEERING GROUP

Telephone (505) 768-2500

AN EQUAL OPPORTUNITY EMPLOYER

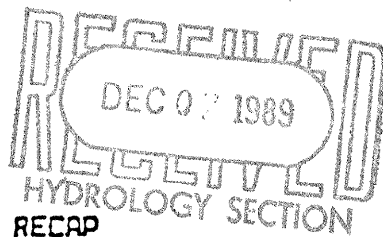
PROJECT TITLE: Checker Autoworks Store ZONE ATLAS/DRNG. FILE #: K-18 1023
LEGAL DESCRIPTION: Lots A & B, Block 37, TIJERAS PLACE ADDITION
CITY ADDRESS: 5800 Central Avenue, SE
ENGINEERING FIRM: Marvin R Kortum CONTACT: Marvin R Kortum
1605 Speakman Drive, SE
ADDRESS: Albuquerque, New Mexico 87123 PHONE: (505) 299-0774
OWNER: Checker Autoworks CONTACT: _____
P O Box 6030
ADDRESS: Phoenix, Arizona 85005 PHONE: (602) 265-8200
ARCHITECT: Cain Architectual Group CONTACT: _____
Long Beach, California
ADDRESS: _____ PHONE: (213) 427-6606
SURVEYOR: Hall Surveying Co. CONTACT: _____
12805 Menaul Blvd. NE
ADDRESS: Albuquerque, New Mexico 87112 PHONE: (505) 292-6727
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

☒ REVISION TO APPROVED PLAN

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: December 7, 1989

LEGEND

	EXISTING	NEW
CONTOUR LINE	---	---
SPOT ELEVATION	X 76.21	6 78.63
TOP OF SIDEWALK	TS	TS
TOP OF CURB	TC	TC
FLOW LINE	FL	FL
FINISHED GRADE	FG	FG
FINISHED FLOOR ELEV.	FFE	FFE
CURB & GUTTER	=====	=====
BUILDING	-----	-----
SWALE	-----	-----
SLOPE	-----	-----

DRAINAGE CONSIDERATIONS AND CALCULATIONS

- I DISCUSSION:**
The purpose of this grading and drainage plan is to obtain a building permit for a new building. An existing building will be removed, and minor grading is required on the tract to comply with this plan.
- II SOILS:**
The soils are identified as Wink-Embudo complex (wE8) by ref. D. The soils are well suited for the intended purpose. The Wink soils may contain exchangeable sodium to 15%, so deep wetting of soils is not desirable. The proposed drainage plan diverts all water from impervious surfaces into the public right of way for disposition. The soils are classified as Hydrological Soils Group B.
- III DESIGN CRITERIA:**
The site is within a flood zone as shown on the City of Albuquerque Flood Insurance Rate Map (FIRM), revised to December 4, 1978, panel 30 of 50. The zone AO, generally along the north part of the site, is an area of 100 year shallow flooding to a depth designated as one (1) foot. Zone B is an area between limits of the 100 and 500 year floods or certain areas subject to 100 year flooding with an average depth of less than one foot or contributing areas of less than one square mile. The proposed building elevation (finished floor) is above the zone AO depth.
The design review conference with the city Hydrology Dept. approves free discharge to the public right of way based on drainage improvement downstream.
- IV RAINFALL:**
The 6-hour rainfall volume, 100 year frequency storm, is 2.3 inches (Plate 22.2 D-1, ref A). For the rational formula, the rainfall intensity will be $(2.3 \times 2.3) = 4.95$ inches for a time of concentration of 10 minutes or less.

EXISTING DEVELOPMENT:

All run off presently flows from the northeast, leaving the property at the southwest corner onto Alvarado Dr. SE

Land Use	Area (ft ²)	%	C	C%	CN	CN%
Undeveloped	12,835	45	.4	.18	82	36.9
Roof	3,097	11	.9	.099	96	10.56
Hardstand	12,992	44	.95	.418	96	42.2
Total	28,924	65	.77	.77	89.79	R=1.35 in.

Peak flow $Q=CIA=.77 \times 4.95 \times .65 = 2.25 \text{ ft}^3/\text{sec.}$
Total flow $V=RA=1.35 \text{ in.} \times 28,924 \text{ ft}^2 \times 1 \text{ ft}/12 \text{ in.} = 3210 \text{ ft}^3$

NEW DEVELOPMENT:

A. Run off to Valencia Dr SE at sidewalk culvert.
Roof area = 3030 ft.² = .07 acre, $C=.9$, $CN=96$, $R=1.8 \text{ in.}$
Peak flow $Q=CIA=.9 \times 4.95 \times .07 = .3 \text{ ft}^3/\text{sec.}$
Total flow $V=RA=3030 \times 1.8 \times 1/12 = 450 \text{ ft}^3$

B. Other run off to Valencia Dr SE
Land use Area (ft.²) % C C% CN CN%
Roof 3,030 47 .9 .423 96 45.12
Hardstand 1,900 30 .95 .285 96 28.8
Planter 1,100 23 .25 .0572 69 15.87
Total 6,030 .15 acre .77
Peak flow $Q=CIA=.77 \times 4.95 \times .15 = .57 \text{ ft}^3/\text{sec.}$
Total flow $V=RA=6,030 \times 1.35 \times 1/12 = 725 \text{ ft}^3$

C. Run off to Central Avenue
Land use Area (ft.²) % C C% CN CN%
Hardstand 1200 35 .95 .33 96 33.6
Landscape 2200 65 .25 .0625 69 36.58
Total 3400 .08 acre .49
Peak flow $Q=CIA=.49 \times 4.95 \times .08 = .2 \text{ ft}^3/\text{sec.}$
Total flow $V=RA=3400 \times .7 \times 1/12 = 200 \text{ ft}^3$

D. Runoff to Alvarado Dr SE
Land use Area (ft.²) % C C% CN CN%
Hardstand 14,450 95 .95 .9025 96 91.2
Landscape 15,250 5 .25 .0125 69 3.45
Total 29,700 .915 acre .915
Peak flow $Q=CIA=.915 \times 4.95 \times .35 = 1.6 \text{ ft}^3/\text{sec.}$
Total flow $V=RA=15,250 \times 1.75 \times 1/12 = 2225 \text{ ft}^3$

E. Summary of runoff

	Peak flow (ft. ³ /sec.)	Total flow (ft. ³)
From presents development	2.25	3210
From new development	2.67	3600
Increase	.42	390

OFF SITE FLOW:

During non-flood conditions, there is no off site flow that will enter the site. Upstream flow comes from the east, along Central Avenue. The 10' center line crest and the median curbing keep the run off along the north gutter from crossing to the south. Off flow from Central Avenue to the north is also provided at San Pedro Blvd. Cardenas Valencia and Alvarado Drives. Flow along the south gutter of Central Ave is intercepted at the drain basins at the San Pedro Blvd-Central Ave intersection, and flow is diverted off Central Ave at the shopping center entrance opposite Cagua Jr. At Valencia and Alvarado Drives, water blocks keep the flow in the Central Avenue gutter so no flow comes down Valencia or Alvarado Drives.

During the 100 year flood, estimates are that the water level along Central Avenue may rise to a depth of about one foot. At that level water will enter along the north edge of the property, then is blocked by elevated building pad and the entry way elevation and the parking lot curbing. The floor of the building itself is one foot above the estimated high water mark (two feet above the gutter flow line adjacent), so splash or wave action should not cause water to enter the building.

CONCLUSIONS:

The site is within or adjacent to a flood plain. The building elevation is high enough to prevent flow into the building. Flow over the landscaping and parking lot will not cause serious damage. The increase in flow downstream is not significant.

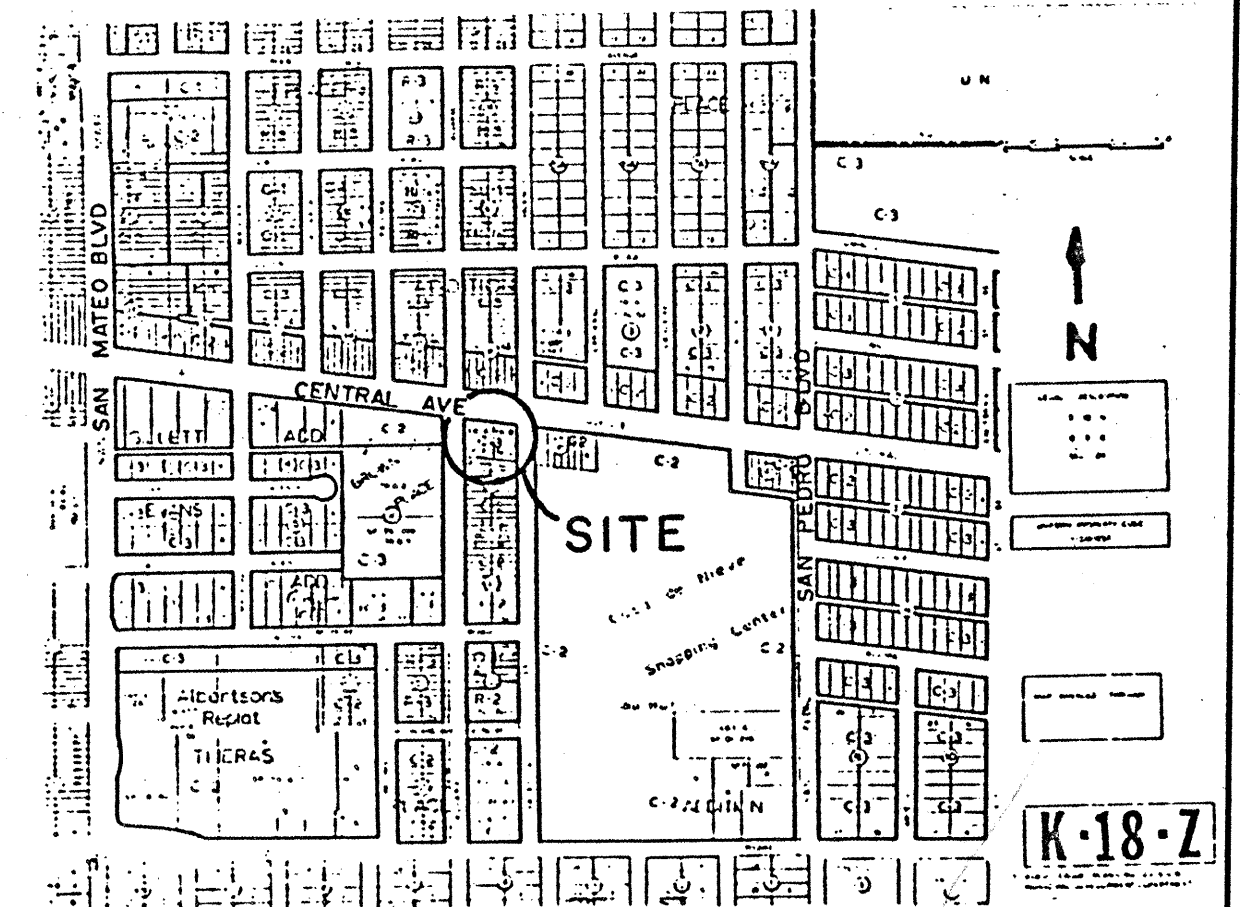
REFERENCES:

- Development Process Manual, Volume 2, Design Criteria. City of Albuquerque, New Mexico.
- Notice of Emergency Rule, concerning DPH revisions on drainage, signed by Mayor Ken Schultz January 14, 1986.
- City of Albuquerque Standard Specifications for Public Works Construction.
- Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico. USDA Soil Conservation Service and Forest Service.

HYDROLOGY INSPECTION & SURVEY

INSPECTION REQUESTED DATE: 2-26-90
APPROVED DATE: 2-27-90 REJECTED DATE:
S.O. APPROVAL DATE:
SURVEY DATE:
HYDROLOGY BOOK NO. / PAGE NO.
SURVEYED BY:
COMMENTS: PLANS REFLECT AS-BUILT ELEVATIONS PER LETTER DATED 12-7-89

REVISION I LOWER FFE 0.5' ADJUST PAVING
DECEMBER 7, 1989 BY M.R. KORTUM



LEGAL DESCRIPTION

LOT A & B, BLOCK 37, TIJERAS PLACE ADDITION
FILED AUGUST 31, 1977, BERNALILLO COUNTY NEW MEXICO

SURVEY BY HALL SURVEYING CO. 1989

NOTES

- 6"x 24" curb
- New p.c. concrete driveway per city standards
- Planter
- Trash enclosure
- Existing p. c. concrete sidewalk
- Existing driveway to be removed and replaced by new standard curb, gutter and sidewalk per city standards
- 4"x 6" p.c. concrete mowing strip.
- 3" thick gravel over 6 mil plastic membrane over compacted earth
- 12" wide concrete splash block, length to fit from downspout out to concrete mow strip
- 12" wide concrete splash block, length to fit from downspout out to sidewalk culvert
- 12" wide cut in curb height to permit outflow of roof run off from planter onto driveway

EROSION CONTROL PLAN

Erosion on the site during construction is not considered to be a major problem. To minimize downstream damage, grade a 1.5 ft. high berm along the downslope of any surface work to pond run off during the construction period, or until final grading and surface preparation.

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

NOTICE TO CONTRACTOR

- 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.
- 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.
- Two working days prior to any excavation, contractor must contact Line Locating Service 765-1234, for location of existing utilities.
- Backfill compaction shall be according to street use.
- 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.
- Maintenance of these facilities within the city right-of-way shall be the responsibility of the owner served.

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

GRADING AND DRAINAGE PLAN
CHECKER AUTOWORKS STORE
5800 CENTRAL AVE SE
(CORNER OF ALVARADO DR AND CENTRAL AVE SE)

MAP SHEET OF
K-18 1 1

APPROVALS	NAME	DATE
A.C.E./DESIGN		
INSPECTOR		
A.C.E./FIELD		