

CONTRACTOR OF SECURITIES AND ASSESSMENT OF SE

CITY OF ALBUQUERQUE MUNICIPAL DEVELOPMENT DEPARTMENT ENG!NEERING D!VISION



HYDROLOGY SECTION PROJ. NO. _____ DATE: 9/12/84

PLANNING DIVISION NO. _____

CONFERENCE RECAP

SUBJECT: 5 th & Marquotto	. Office Building
wно	REPRESENTING
ATTENDANCE: Lackie McTowell Billy Goolsky	Chavez-Grieves City
FINDINGS.	unage Plan par DPM
@ Discharge to	ba devarmined by
stormsquers are	traam capacity-
& the vacated allow.	
1 Lot for site - Oth	arwisa covenants or
across Lotlines	equired for drainage
+ Classa provida a cap	of rocass w/submittal
The undersigned agrees that the above findings are surr further investigation reveals that they are not reasonal	nmarized accurately and are only subject to change if
2.11 1 4 11	GNED: Jacker S. M. Davell
TITLE: CF/ Hydrology TI	TLE: lotera Chaver Greves
DATE: 9/12/84 DA	ATE: 9/12/84

PROJECT TITLE 5th & MARQUETTE OFFICE BUILDING TYPE OF SUBMITTAL DRAINAGE
ZONE ATLAS PAGE NO. 1-14-Z-D44 CITY ADDRESS 500 MARQUETTE
TRACT 9B-1, THE NORTHWEST PORTION OF THE TIJERAS URBAN RENEWAL DISPOSI- LEGAL DESCRIPTIONTION BLOCK 9 SITUATE WITHIN BLOCK 3 OF PERFECTO, MARIANO & JESUS ARMIJO
ADDITION, ALBUQUERQUE, NEW MEXICO ENGINEERING FIRM CHAVEZ-GRIEVES CONSUL. ENGRS.CONTACT VICTOR J. CHAVEZ
ADDRESS 4520 MONTGOMERY N.E., ABQ. 87109 PHONE (505) 881-7376
OWNER CAVAN ASSOCIATES, LTDCONTACTGEORGE ACKROYD
ADDRESS 3420 E. SHEA BLVD. #100, PHOENIX,AZ.PHONE (602) 996-0929
ARCHITECT DWAYNE G. LEWIS, ARCHITECTS, INC. CONTACT MIKE PICKARD
ADDRESS 4148 N. 48th ST., PHOENIX, AZ. 85018 PHONE (602) 840-4190
SURVEYOR MSM/SP GROUP CONTACT JERYL HART, JR.
ADDRESS 2601 WYOMING BLVD., ABQ. 87112 PHONE (505) 292-1936
CONTRACTOR AL COHEN CONSTRUCTION CO. CONTACT DALE MARSHALL
ADDRESS 2505 18th ST., DENVER, CO. 80211 PHONE (303) 455-8800
PRE-DESIGN MEETING:
X YES
NO
X COPY OF CONFERENCE RECAP SHEET PROVIDED
PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUMMITTAL
SKETCH PLAT APPROVAL PRELIMINARY PLAT APPROVAL SITE DEVELOPMENT PLAN APPROVAL FINAL PLAT APPROVAL BUILDING PERMIT APPROVAL CERTIFICATE OF OCCUPANCY APPROVAL
ROUGH GRADING PERMIT APPROVAL GRADING/PAVING PERMIT APPROVAL OTHER (SPECIFY)
DATE SUBMITTED OCTOBER 22, 1984 OCT 22 1984
BY: VICTOR J. CHAVEZ P.E. HYDROLOGY SECTION



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION 123 Central NW, Albuquerque, NM 87102 (505) 768-7644

submitted Oct 22, 1984

November 27, 1984

Mr. Victor Chavez Chavez-Grieves Consulting Engineers 4520 Mcatgomery NE Albu werque, NM 87109

REF: DRAINAGE PLAN FOR OFFICE BUILDING AT 5TH & MARQUETTE (J14-D44)
RECEIVED OCTOBER 22, 1984

Dear Vic:

I have reviewed the above referenced plan and forward the following comments:

- Please show how the off-site flows will be conveyed through the site.
- Please review the top of wall and asphalt designation east of the new parking structure and west of the new office building.
- 3. Please show the hydraulic analysis for the new storm drain.

If you should have any questions, please feel free to call me at 766-7644.

Sincerely yours,

Carlos A. Montoya

City/County Flood Plain Admin.

CAM:mrk

PROJECT TITLE FOR CAVAN ASSOCIATES, LTD.	TYPE OF SUBMITTAL DRAINAGE
ZONE ATLAS PAGE NO. J-14-Z /DYY CITY ADDRESS	500 MARQUETTE
TRACT 9B-1, THE NORTHWEST POLEGAL DESCRIPTION TION BLOCK 9 SITUATE WITHIN	RTION OF THE TIJERAS URBAN RENEWAL DISPOSI- BLOCK 3 OF PERFECTO, MARIANO & JESUS ARMIJO
ADDITION, ALBUQUERQUE, NEW M CHAVEZ-GRIEVES CONSUL. ENGRS	
ADDRESS 4520 MONTGOMERY N.E., ABQ. 87109	PHONE (505) 881-7376
OWNER CAVAN ASSOCIATES, LTD.	CONTACT GEORGE ACKROYD
ADDRESS 3420 E. SHEA BLVD. #100, PHOENIX,AZ	PHONE (602) 996-0929
ARCHITECT DWAYNE G. LEWIS, ARCHITECTS, INC.	CONTACT MIKE PICKARD
ADDRESS 4148 N. 48th ST., PHOENIX, AZ. 85012	PHONE (602) 840-4190
SURVEYOR MSM/SP GROUP	CONTACT JERYL HART, JR.
ADDRESS 2601 WYOMING BLVD., ABQ. 87112	PHONE (505) 292-1936
CONTRACTOR AL COHEN CONSTRUCTION CO.	CONTACT DALE MARSHALL
ADDRESS 2505 18th ST., DENVER, CO. 80211	PHONE (303) 455-8800
PRE-DESIGN MEETING:	
X . YES	
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DATE SUBMITTED	HYDROLOGY SECTION
BY: VICTOR 1 CHAVEZ P F	



GMAYEZ / CONSULTING ENGINEERS, INC.

4520 MONTGOMERY BLVD., SUITE 3 ALBUQUE RQUE, N.M. 87109 (505) 881-7376

November 30, 1984

Mr. Carlos A. Montoya The City of Albuquerque P. O. Box 1293 Albuquerque, N.M. 87103

RE: DRAINAGE PLAN FOR OFFICE BUILDING AT 5th AND MARQUETTE (J14-D44)

Dear Carlos:

In response to your letter dated November 27, 1984, I offer the following comments:

- Off-site flows will be conveyed through the site by the existing grades. I have added additional off-site spot elevations to show this will occur.
- The top of wall and asphalt elevations as shown are correct. The reason there are two top of wall elevations shown is that there are steps in the wall.
- Analysis of the new storm drain is in the report submitted which was discussed in our meeting on November 29, 1984.

Your timely assistance in this matter is appreciated.

Sincerely,

CHAVEZ-GRIEVES CONSULTING ENGINEERS, INC.

ackie S. M. Dowel

Jackie S. McDowell

JSM:mf

DEC 3 1984

DRAINAGE PLAN

5th & MARQUETTE OFFICE BUILDING

The study site is located south of Marquette Ave. between 5th Street and 6th Street N.W. containing approximately 1.3592 acres. The site is presently one hundred percent parking and slopes from north to south with an average slope of approximately 0.5 percent. Flows from the site discharge to 6th Street and to the property south of the site. Proposed development of the site includes a seven-level 198,921 sq. ft. parking structure and a 15-level 267,649 sq. ft. office tower with landscaping.

The capacity of the storm relief system in 6th Street (48" S.D.) is 82.6 cfs. The existing 100-year peak flow from the hydrograph is 56 cfs with a freeboard of approximately 6 1/2 ft. Flows from the study site are transported before the peak flow from the watershed area reaches the system. The area of the study site is almost completely developed, therefore, there will be no more extreme changes (increases) in peak flows. Due to these reasons, ponding will not be provided on the site.

Off-site flows have an impact on the proposed development. Immediately south of the site there is a contributing flow area of approximately 0.3674 acres. Peak discharge from this are is 1.64 cfs. On-site grading will direct off-site flows to the proposed inlet at the east side of the proposed building. On-site flows will be directed around the proposed structure and transported either as surface flows to Marquette Ave. and 6th Street or to the proposed inlet. Other adjacent areas north, south, east, and west of the site are prevented from contributing flows to the site by existing grades.

If constructed as proposed, the new development will not be susceptible to flooding nor increase the threat of flooding in downstream areas in the event of a 100-year storm.

DOWNSTREAM REQUIREMENTS

Watershed Area = 41 acres (Albuq. Master Drainage - Cell Map) Soil Type = Gk, Hydrologic Soil Group L = 3200 ft. Slope = (62-54)/3200 = DEC 3 1984
Assume 85% impervious C = 0.8i Plate 22.2 C-1
T = 0.0078(3200)^{0.77}/(0.0025)^{0.385} = 3 HYDROLOGY SECTION 6-Hr. Rainfall = 2.2 in. Plate 22.2 D-1 i = 2.2 (1.05) = 2.31 in./hr. Q = (0.81)(2.31)(41) = 76.72 cfs V = 2.0 (41)(43560)/12 = 297660 cu. ft.

DOWNSTREAM CAPACITY:

48" Storm Sewer in 6th Street Capacity = 82.6 cfs (Albuq. Master Drainage)

EXISTING ON-SITE CONDITIONS:

Area = 1.3592 acres L = 210 ft. S = 0.005 % impervious area = 37282/59208 = 0.63 T = $0.0078(210)^{0.77}/(0.005)^{0.385} = 3.6$ min. Use T = 10 min. I = 2.2 (T = 10 min.) Plate 22.2 D-2 i = 2.2 (2.2) = 4.84 in./hr. C = 0.65 Plate 22.2 C-1 Q(100) = (0.65)(4.84)(1.3592) = 4.28 cfs Q(10) = 4.28 (0.657) = 2.81 cfs CN = 83 Plate 22.2 C-2 Direct Runoff = 2.0 in. Plate 22.2 C-4 V(100) = 2.0 (59208)/12 = 9868 cu. ft. V(10) = 9868 (0.657) = 6483 cu. ft.

PROPOSED ON-SITE CONDITIONS:

CONTRIBUTING OFF-SITE FLOWS:

Area = 16005 sq. ft. = 0.3674 acres % impervious area = 95% C'= 0.92 Plate 22.2 C-1 Q(100) = (0.92)(4.84)(0.3674) = 1.64 cfs Q(10) = 1.64 (0.657) = 1.07 cfs

DEPTH OF 12" STORM PIPE:

 $\begin{array}{l} Q = (1.486 \ R \ 2/3 \ S \ 1/2)/n \\ Q = 0.90 \ (4.84)(0.437) = 1.9 \ cfs; \quad n = 0.013 \\ S = 0.0022 \\ Solving \ for \ R: \quad R = 0.211 \quad D/d = 0.4 \\ D = depth = 12 \ (0.4) = 4.8 \end{array}$



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION 123 Central NW, Albuquerque, NM 87102 (505) 766-7644

December 6, 1984

Mr. Victor Chavez Chavez-Grieves 4520 Montgomery NE Albuquerque, NM 87109

REF: DRAINAGE REPORT FOR 5TH & MARQUETTE OFFICE BUILDING (J14-D44) RECEIVED

DECEMBER 3, 1984

Dear Vic:

The above referenced plan, received December 3, 1984, is approved.

Please attach a copy of this approved plan along with the appropriately approved "Drainage Facilities Within City Right-of-Way" document to the construction set prior to Hydrology sign-off.

If I can be of further assistance, please contact me at 766-76*4.

Sincerely yours,

Carlos A. Montoya, PE City/County Flood Plain Admin.

CAM:mrk

I ARE SELLY SEELS

McGrat One

CO and a son

Dyvayne gilewis... Architects

HYDROLOGY SECTION

March 15, 1985

Victor Chavez Chavez/Grieves 4520 Montgomery Boulevard Suite 3 Albuquerque, NM 87109

RE: 50h & Marquette DGL #8310

Vic:

Upon application for the building permit of the above referenced project, it was brought to my attention by the City of Albuquerque Hydrology Department, that they have not received for their file prints of sheets C-1 through C-3 with revisions dated January 7 and 28, 1985. If you could please forward to them these prints I would appreciate it very much.

If there are any questions, please do not hesitate to call.

Cordially,

DWAYNE G LEWIS .. ARCHITEGTS INC

Michael J. Pickard, AIA

Associate

M'P/db

cc Tim Huff, Cavan Associates Steve Strasser, Cavan Associates Dale Marshall, Al Cohen Const. Co. Lissa Kelchner, Al Cohen Const. Co.

J14-D44

500 MARQUETTE

November 15, 1985

City of Albuquerque Hydrology Division 123 Central, NE Albuquerque, New Mexico 87102

Attention: Mr. Rick Duran

RE: 500 Marquette

Dear Mr. Duran:

This letter is to assure you that Cavan Associates, Ltd., owner of the above project, will have a registered engineer supply a certified survey of the drainage for the 500 Marquette building at the completion of the job.

Sincerely,

Steve Strasser Project Manager

Cavan Associates, Ltd.

SLS:sdb

Leasing Office Western Bank Building Suite 1010 505 Marquette NW Albuquerque, NM 87102 (505) 242-0500

MADHIL

PROJECT TITLE 5th & MARQUETTE OFFICE BUILDING TYPE OF SUBMITTAL DRAINAGE
ZONE ATLAS PAGE NO. J-14-Z CITY ADDRESS 500 MARQUETTE TRACT 9B-1, THE NORTHWEST PORTION OF THE TIJERAS URBAN RENEWAL DISPOSI- LEGAL DESCRIPTION TION BLOCK 9 SITUATE WITHIN BLOCK 3 OF PERFECTO, MARIANO & JESUS ARMIJO ADDITION, ALBUQUERQUE, NEW MEXICO ENGINEERING FIRM CHAVFZ-GRIEVES CONSUL. ENGRS. CONTACT VICTOR J. CHAVEZ
ADDRESS 4520 MONTGOMERY N.E., ABQ. 87109 PHONE (505) 881-7376
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CONTRACTOR AL COHEN CONSTRUCTION CO. CONTACT DALE MARSHALL
ADDRESS 2505 18th ST., DENVER, CO. 80211 PHONE (303) 455-8800 PRE-DESIGN MEETING: X YES NO HYDROLOGY SECTION COPY OF CONFERENCE RECAP SHEET PROVIDED
PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL
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DATE SUBMITTED 20-86
BY: VICTOR J. CHAVEZ, P.E.

PROJECT TITLE 5th & MARQUETTE OFFICE BUILDING FOR CAVAN ASSOCIATES, LTD. TYPE OF SUBMITTAL DRAINAGE
ZONE ATLAS PAGE NO. J-14-Z CITY ADDRESS 500 MARQUETTE
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CERTIFICATE OF OCCUPANCY APPROVAL ROUGH GRADING PERMIT APPROVAL
GRADING/PAVING PERMIT APPROVAL
OTHER(SPECIFY)
DATE SUBMITTED 12386
BY: VICTOR J. CHAVEZ, P.E.



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION 123 Central NW, Albuquerque, NM 87102 (505) 766-7644

January 28, 1986

Victor Chavez Chavez-Grieves Consulting Engineers . 4520 Montgomery Blvd., NE Albuquerque, New Mexico 87109

> RE: CERTIFICATION FOR 5TH & MARQUETTE OFFICE BUILDING RECEIVED JANUARY 21, 1986 (J-14/D44)

Dear Mr. Chavez:

Based on the information provided on your January 21, 1986 submittal, certification for the referenced drainage plan is not acceptable.

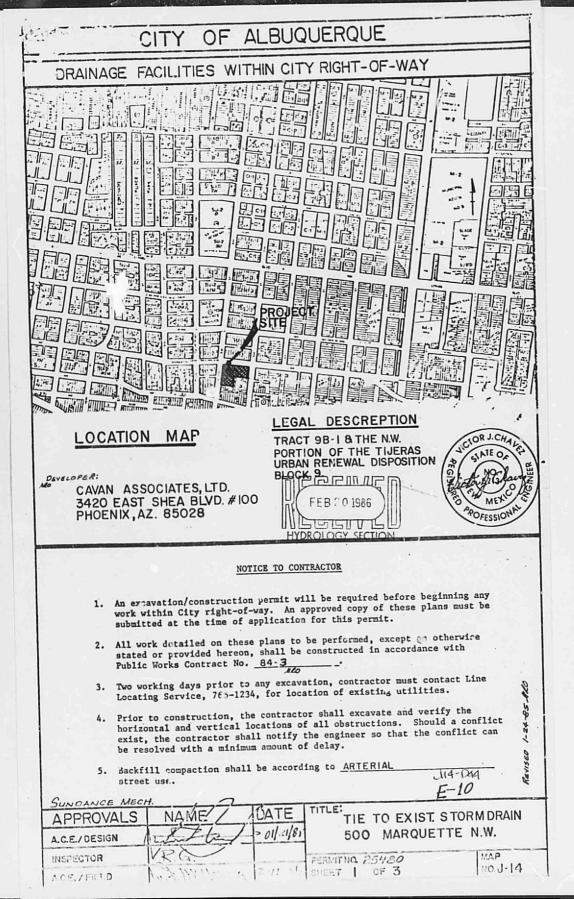
I have been informed by City Inspection Section that no inspection has been requested for the Drainage Facilities within City Right-of-Way. Certificate of Occupancy will not be released until an approved copy of the Special Order #19 has been submitted to our office.

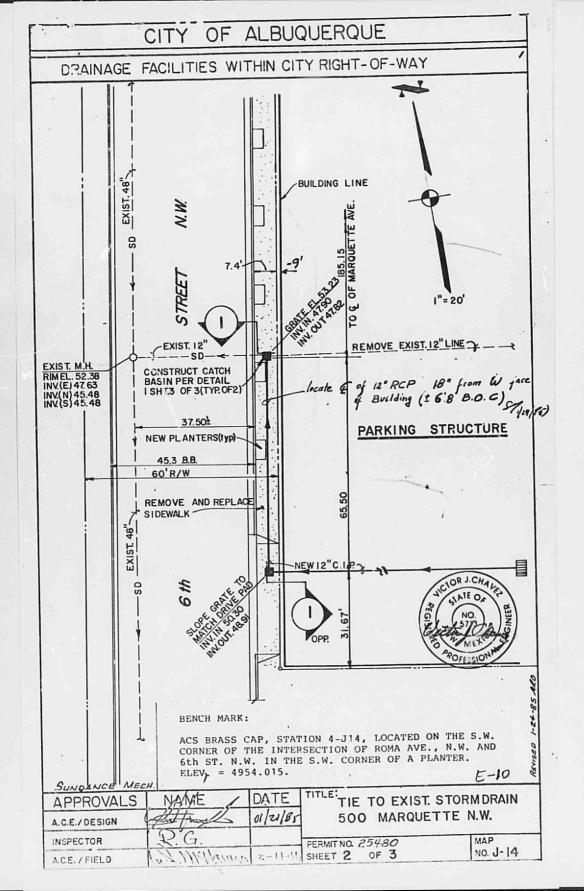
If I can be of further assistance, please call me at 766-7644.

Cordially,

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

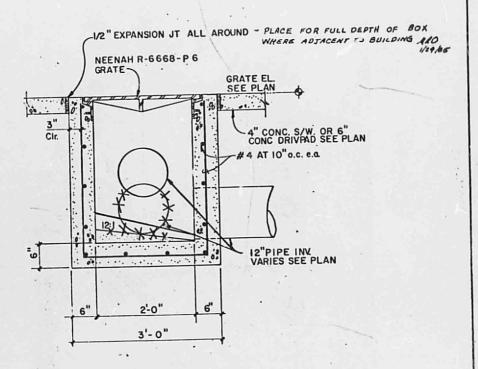
BJM/bsj





CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



CATCH BASIN SECTION

3/4"=1'-0"



SUNDANCE MECH		
A PROVALS	NAME/ /	DATE
A.C.E./ DESIGN	Wall of	01/4/85
INSPECTOR	IR.G.	
ACE. / F.ELD	16.7.11.1 Gara	2-11-11

TITLE: TIE TO EXIST STORM DRAIN 500 MARQUETTE N.W.

4	PERMIT	10.	2548	30	MAP NO. J-14
, 1	SHEET	3	OF	3	 NO. J-14