

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Vogt and Byrnes Building **ZONE ATLAS/DRAINAGE FILE #** J-15/2A

LEGAL DESCRIPTION: Land of Hughes

CITY ADDRESS: 1617 University Blvd., N.E.

ENGINEERING FIRM: Gardner, Mason and Associates, Inc. **CONTACT:** Adil Rizvi

ADDRESS: 2127 Menaul Blvd., N.E., Albuquerque, N.M. **PHONE:** 881-3846
87107

OWNER: _____ **CONTACT:** _____

ADDRESS: _____ **PHONE:** _____

ARCHITECT: Richard B. Moeller **CONTACT:** Richard Moeller

ADDRESS: 3737 Big Bend Rd. **PHONE:** 294-2891

SURVEYOR: Tom Mann & Associates **CONTACT:** Tom Mann

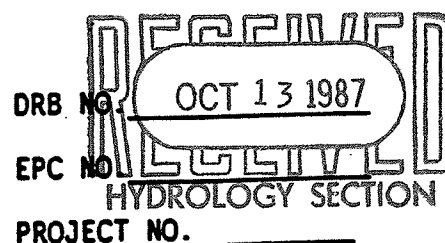
ADDRESS: 811 Dallas N.E., Albuquerque, NM 87110 **PHONE:** 265-5611

CONTRACTOR: _____ **CONTACT:** _____

ADDRESS: _____ **PHONE:** _____

PRE-DESIGN MEETING:

- _____ YES
- _____ NO
- _____ COPY OF CONFERENCE
RECAP SHEET PROVIDED



TYPE OF SUBMITTAL:

- _____ DRAINAGE REPORT
- _____ DRAINAGE PLAN
- x CONCEPTUAL GRADING & DRAIN PLAN
- _____ GRADING PLAN
- _____ EROSION CONTROL PLAN
- _____ ENGINEER'S CERTIFICATION
- x Re-Submittal

CHECK TYPE OF APPROVAL SOUGHT:

- _____ SECTOR PLAN APPROVAL
- _____ SKETCH PLAT APPROVAL
- _____ PRELIMINARY PLAT APPROVAL
- _____ SITE DEVELOPMENT PLAN APPROVAL
- _____ FINAL PLAT APPROVAL
- x BUILDING PERMIT APPROVAL
- _____ FOUNDATION PERMIT APPROVAL
- _____ CERTIFICATE OF OCCUPANCY
APPROVAL
- _____ ROUGH GRADING PERMIT APPROVAL
- _____ GRADING/PAVING PERMIT APPROVAL
- _____ OTHER _____ (SPECIFY).

DATE SUBMITTED: 10-12-87

BY: Adil Rizvi



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

October 15, 1987

Gilbert D. Gardner
Gardner, Mason and Associates, Inc.
2127 Menaul Boulevard NE
Albuquerque, New Mexico 87107

RE: REVISED DRAINAGE PLAN FOR VOGT AND BYRNES BUILDING
(J-15/D2A) REVISION DATED OCTOBER 12, 1987

Dear Mr. Gardner:

Based on the information provided on your October 13, 1987, the above referenced drainage plan is approved for Building Permit.

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

Also, a separate permit is required for construction within City right-of-way.

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

Sincerely,

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

BJM/lk

cc: Becky Sandoval

PUBLIC WORKS DEPARTMENT

Walter Nickerson, P.E., City Engineer

ENGINEERING GROUP

Telephone (505) 768-2500

AN EQUAL OPPORTUNITY EMPLOYER

DRAINAGE PLAN

The following items concerning the Hugh Property conceptual Drainage Plan are contained hereon:

1. Vicinity Map
2. Watershed Map
3. Conceptual Grading Plan
4. Calculations

As shown by the vicinity map, this site is located on the west side of University Boulevard between Indian School N.E. and Interstate 40. At present this site is partly developed. The parking area is not paved and there is no landscaping.

It is the intent of this plan to reevaluate the current drainage plan for this site and to establish a new drainage criteria for the fully developed site.

The project site is located within basin 105 as defined in conjunction with the Albuquerque Master Drainage Study (AMDS). The site is one of the few remaining infill site within this basin. All other sites within 105 freely discharge of runoff from the project site would be consistent with the existing trend within the basin.

Basin 103 which is shown on the watershed map, contributes runoff to the intersection of Menaul Boulevard N.E. and Princeton Drive N.E.. At this point, all of the runoff generated by Basin 103 is intercepted by an existing storm drain system. This is verified by AP103 in the AMDS. Because of this, the runoff generated by Basin 103 does not contribute to the current flooding problem at the intersection of University Boulevard N.E. and Menaul Boulevard N.E. as identified on Plat H-15 of the AMDS. In addition, the majority of Basin 103 is developed with only one site ponding its runoff. Most of the other site within this basin freely discharge their runoff to Menaul Boulevard N.E.

Basin 102 contributes it's runoff to the intersection of Princeton Drive N.E. and Phoenix Avenue N.E. At this point runoff from the street is collected by a large cattle guard type inlet which connects to an existing 72 inch RCP storm drain which discharges ultimately to the Menaul School Detention Pond. Connecting to this 72-inch storm drain at the intersection of Princeton Drive N.E. and Phoenix Avenue N.E. are several branches of the existing public storm drain system. One branch enters from the south and carries that runoff which is intercepted at AP 103. Another line which has extensive catch basins within the street extends from this intersection east of Vassar Avenue N.E. The third branch of this system extends north in Princeton Drive N.E. to the intersection with Claremont Avenue N.E. Portions of this system have been previously analyzed by Mr. Richard Hall from Hall Engineering, and found to have sufficient capacity to remove the runoff from the streets. In addition, this system has been analyzed with respect to the capacity of the 72-inch RCP by this office in conjunction with the grading and drainage plan for Prime Rate Motel (H15-D30), and found to have adequate capacity to convey that runoff generated upstream. Because of this, it

appears that runoff generated by Basin 102 is intercepted by the subject storm drain system prior to reaching the intersection of Menaul Boulevard N.E. and University Boulevard N.E. It is also worthy to note that the subject storm drain maps, which were probably used to analyze the existing flooding condition. Because of this, the flooding condition at the intersection of Menaul Boulevard N.E. and University N.E. is not as severe as initially perceived by the AMDS.

Basin 104 lies partly to the south of Menaul Boulevard N.E. and partly to the north of Menaul Boulevard N.E. For the most part, Basin 104 is developed without the controlled discharge of runoff from the developed sites. The AMDS proposed a storm drain system, 121-02, to be constructed within this basin and which will extend further south in University Boulevard N.E. into Basin 105. This system will alleviate the flooding in University Boulevard in the vicinity of the Interstate Highway 40 underpass and the Hilton Inn, and in Menaul Boulevard N.E. from the intersection with University Boulevard west. The timing of this project is not known, however, imposing the requirement to pond on this site, in view of the information presented above, is inappropriate in that the existing problem is probably not as severe as believed and is only temporary in nature since a project is identified to correct this problem.

The increase in runoff generated by this site is negligible (2.88 cfs) compared with the existing runoff generated within those basins which contribute to the intersection of University Boulevard N.E. and Menaul Boulevard N.E. and will not serve to significantly alter the water surface level in the flooded area.

At present, the site discharges 10% of its runoff into the University Boulevard N.E., about 30% is retained on site and the remaining goes into the neighboring properties.

The calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used for this analysis in accordance with the City of Albuquerque Development Process Manual, Volume II. As shown by these calculations, the proposed improvements will result in an increase in peak runoff from the site. This increase will have negligible effect in the water surface elevation downstream.

Lastly, the runoff generated by the development portions of this site will be routed within the site and discharged via the drivepads shown.

Hydrological Soil Group A

IV. TOTAL AREA

Total Track Area =	0.67 Acres
Area of proposed streets, drives, and walks =	0.513 Acres
Area of proposed roof =	0.134 Acres
Proposed Lawn and Landscaping =	0.023 Acres

Hydrology:

(From the City of Albuquerque, D.P.M., Chapter 22)

V. TIME OF CONCENTRATION

Flow Length	400 Feet
Elevation Difference	1.0 Feet
Slope	0.3%
Time of Concentration	10.0 minutes

$$T_c = 0.0078 L^{0.77} / S^{0.385} = 7.36 \text{ minutes}$$

(use 10 minutes)

VI. 6-HOUR RAINFALL DEPTH

100-year storm	2.20 inches
10-year storm	1.45 inches

VII. RUNOFF COEFFICIENTS

Existing Conditions:

	Area	% of Total
Streets, drives, and walks	0.230 Ac.	33
Roofs	0.046 Ac.	6.68
Landscape	0.00646 Ac.	0.94
Undeveloped	0.40680	59.38
Composite 'C' Value = 0.60		

Proposed Conditions:

	Area	% of Total
Streets, drives, and walks	0.53 Ac.	77.14
Roofs	0.134 Ac.	19.50
Landscaping	0.023 Ac.	3.36
Composite 'C' Value = 0.90		

IX. RUNOFF RATES

Existing Conditions:

$$Q_{(100)} = C_i A = (0.6) (4.65) (0.688) = 1.919 \text{ cfs}$$

Volume:

$$V_{100} = C P_6 A = (0.6) (2.2/12) (30,000) = 3300 \text{ cf}$$

Developed:

$$Q_{100} = C_i A = (0.9) (4.65) (0.688) = 2.88 \text{ cfs}$$

$$V_{100} = C P_6 A = (0.9) (2.2/12) (30,000) = \underline{4950 \text{ cf}}$$

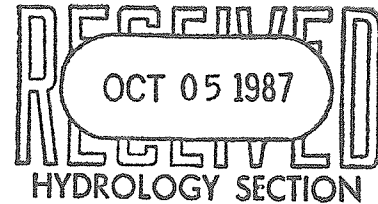
X. GENERAL RECOMMENDATIONS AND SUMMARY

- A. A slope of 0.3% is used in order to accommodate the offsite runoff from the neighboring property.
- B. In order to retain the runoff from entering the neighboring property a retaining wall is proposed on the North and West side of the existing property.
- C. Due to the small area of the existing property, onsite ponding will not be provided.
- D. Finished floor elevation of the building will be 5080.
- E. The foundations of the proposed buildings should be damp-proofed.
- F. The developed runoff will be diverted into University Ave. through two (2) No. 4 inch diameter pipes and a 12 inch sidewalk culvert.

The capacity of the two (2) No. 4 inch diameter pipes is 0.55 cfs at 2% slope. The expected runoff through the two pipes is 0.4 cfs. The depth of flow in each pipe is 2.52 inches.

The capacity of the 12 inches x 7 1/2 inches sidewalk channel is about 5.2 cfs at 2% slope. The expected runoff in the channel is about 2.5 cfs and the flow depth in the channel is about 4 inches.

DRAINAGE STUDY



I. GENERAL

Albuquerque Zone Atlas Map: J-15

The existing plats is about 0.46 acre and currently there exists an office building. The parking areas are not paved and an offsite runoff from the southern side of the property flows into the existing property.

Flood Hazard:

According to the City of Albuquerque F.E.M.A. Maps, the proposed area does not lie within a 100-year storm flood hazard area.

Offsite Drainage:

Offsite runoff from the south side of the property is being considered in the drainage calculations. An area of about 0.23 acres is being considered for calculations.

Drainage Recommendations:

Currently 60% of the runoff from the existing property and the offsite runoff from the southern side of the property, flow into the neighboring property. 30% is ponded onsite and 10% flows into the University Ave.

In order to retain the runoff from entering the neighboring property, a retaining wall is proposed to be built at the northern and western side of the property. Due to the small size of the existing property, onsite ponding would be very difficult. Therefore, it is recommended that the runoff be directed into University Ave.

II. LAND USE

Present:

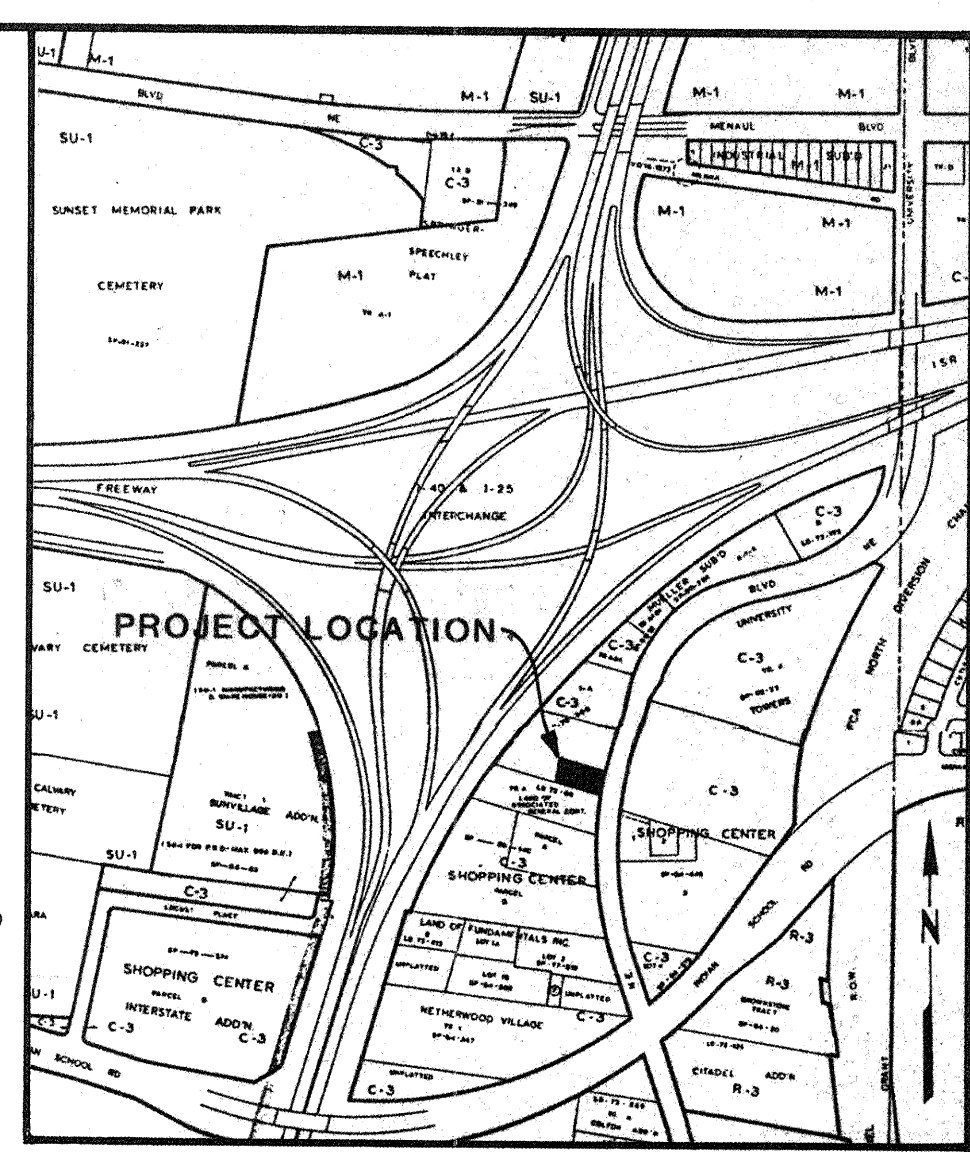
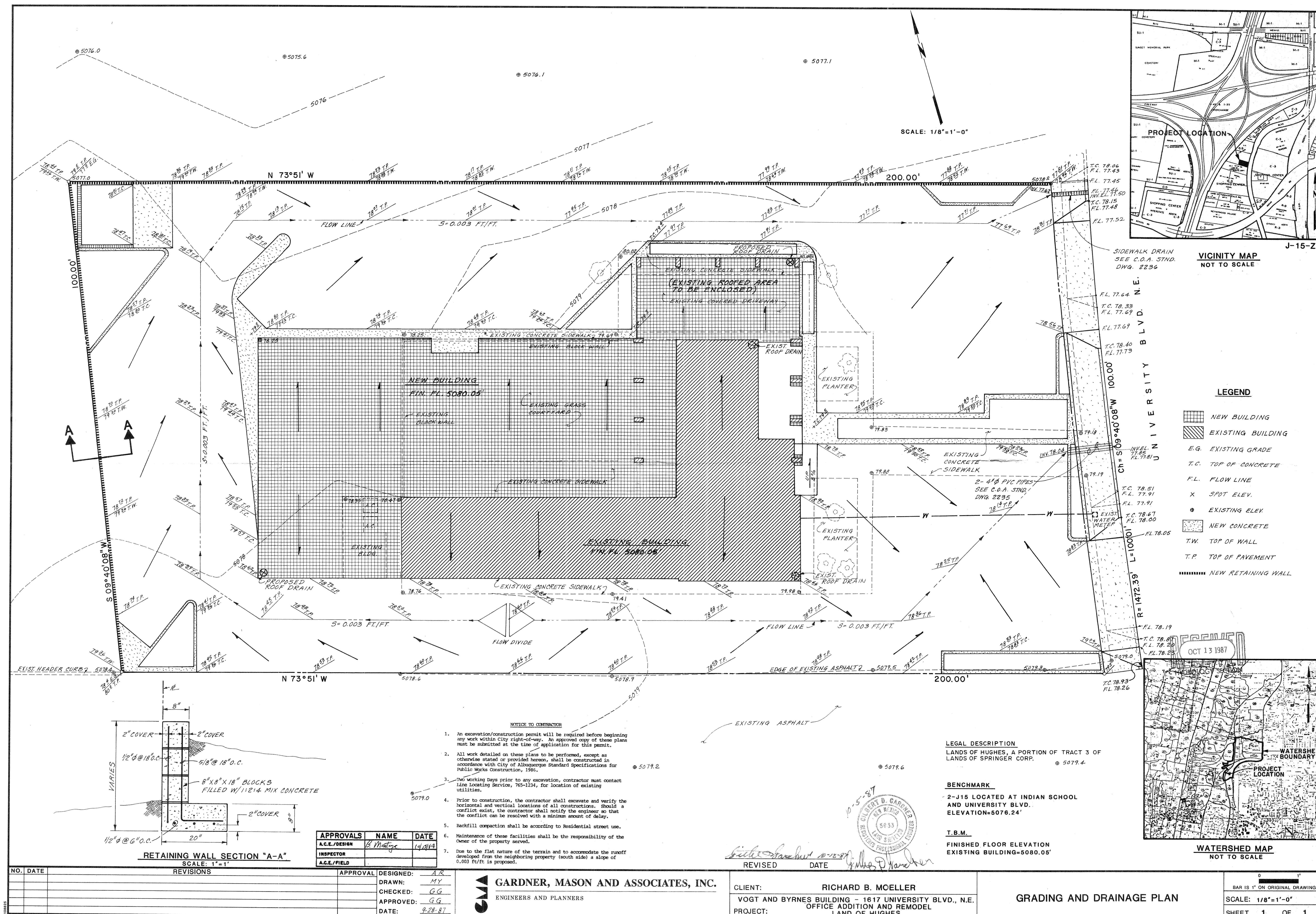
Currently there is an existing office building. There is ponding on the north side of the property. Due to the sloping nature of the terrain there is considerable erosion of the soil on the west side of the property. This is mainly due to the offsite runoff.

Proposed:

It is proposed to put an addition office building to the existing building. Pave the parking lots with asphalt and to build a retaining wall on the north and west side of the property. Provide adequate drainage by diverting the runoff into University Ave.

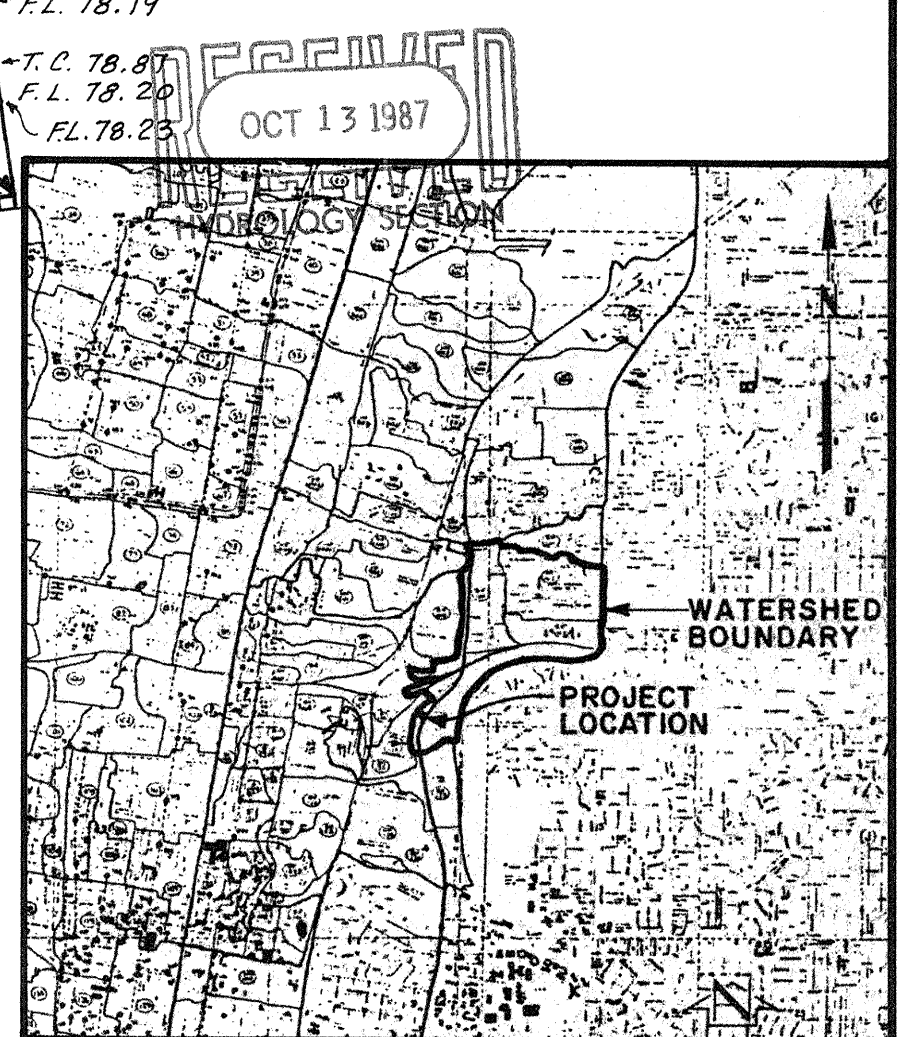
III. SOIL TYPE

(SCS, Soil Survey of Bernalillo County) Plate 31:
CU Cut and Fill Land

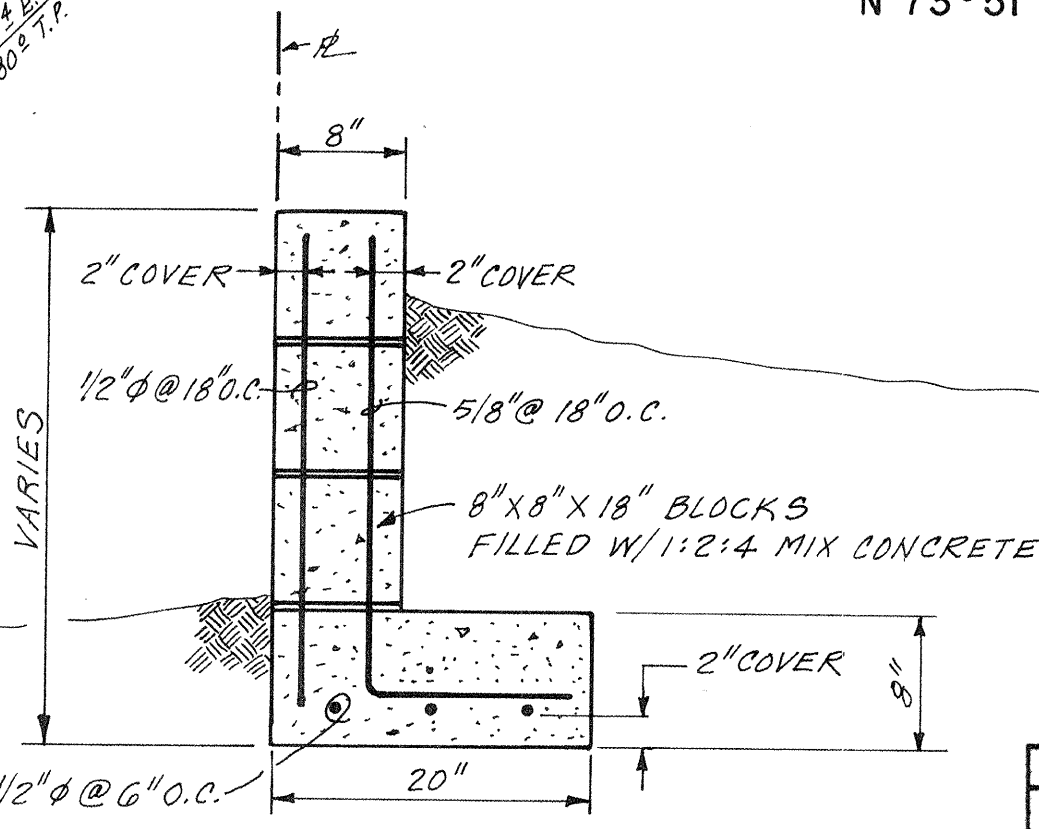


VICINITY MAP
NOT TO SCALE

- LEGEND**
- NEW BUILDING
 - EXISTING BUILDING
 - E.G. EXISTING GRADE
 - T.C. TOP OF CONCRETE
 - FL. FLOW LINE
 - X SPOT ELEV.
 - EXISTING ELEV.
 - NEW CONCRETE
 - T.W. TOP OF WALL
 - T.P. TOP OF PAVEMENT
 - NEW RETAINING WALL



WATERSHED MAP
NOT TO SCALE



RETAINING WALL SECTION "A-A"
SCALE: 1"=1'

- 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.
 - Two working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for location of existing utilities.
 - Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all constructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
 - Backfill compaction shall be according to Residential street use.
 - Maintenance of these facilities shall be the responsibility of the Owner of the property served.
 - Due to the flat nature of the terrain and to accommodate the runoff developed from the neighboring property (south side) a slope of 0.003 ft/ft is proposed.

APPROVALS	NAME	DATE
A.C.E./DESIGN	B. Matlock	10/18/87
INSPECTOR		
A.C.E./FIELD		

GARDNER, MASON AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS

CLIENT: RICHARD B. MOELLER
VOGT AND BYRNES BUILDING - 1617 UNIVERSITY BLVD., N.E.
PROJECT: OFFICE ADDITION AND REMODEL
LAND OF HUGHES

GRADING AND DRAINAGE PLAN

LEGAL DESCRIPTION
LANDS OF HUGHES, A PORTION OF TRACT 3 OF
LANDS OF SPRINGER CORP.

BENCHMARK
2-J15 LOCATED AT INDIAN SCHOOL
AND UNIVERSITY BLVD.
ELEVATION=5076.24'

T.B.M.
FINISHED FLOOR ELEVATION
EXISTING BUILDING=5080.05'