

# DRAINAGE REPORT

## INTRODUCTION:

The purpose of this report is to outline the drainage management plan for the development of a 2.6 acre site on Lot 28 of the Airport Technical Center. The site is bounded on the north by the University Blvd., on the east by University Blvd., and on the south by undeveloped lots. The site is governed by a conceptual management plan submitted by Bohannon-Huston, Inc. and approved by the City in January, 1985. Other subsequent plans have also been submitted for this and adjacent sites within the Airport Technical Center.

Chapter 22 of the Development Process Manual (DPM) has been used as a guide in development of this plan. All discharge rates given in this report are for the 6-Hour, 100-Year storm.

## EXISTING:

The site was previously graded and a private storm drain system installed along the west boundary. A stand pipe was installed at the northwest corner to collect existing undeveloped drainage from the site, but a field investigation of the site indicates that it is plugged with soil and debris and no longer serves the site. The site slopes from east to west at approximately 8%, although actual slopes on the site vary. The existing site is not located within any Flood Zone (see Flood Map this sheet). The existing undeveloped runoff rate is calculated as follows:

$$Q = CIA = (0.40)(4.86)(2.6) = 5.1 \text{ CFS}$$

using  $T_c = 10 \text{ min}$ ,  $R = 2.3"$  from previous reports

The existing soil type is Cu (Cut and fill land) and Bkd (Bluepoint-Kokan association, hilly) as shown on the Soils Map this sheet.

## PROPOSED:

The proposed development will require fill throughout most of the site and will tie to the existing boundary via retaining walls and stabilized 1:1 slopes. Based on the previous drainage reports, the runoff created by the development will need to be ponded and released into the storm drain system at a controlled rate equal to or below the undeveloped rate. Surface flow will be collected at the northwest corner of the site where it will be ponded on the parking lot and discharged into the system at a controlled rate by an inlet.

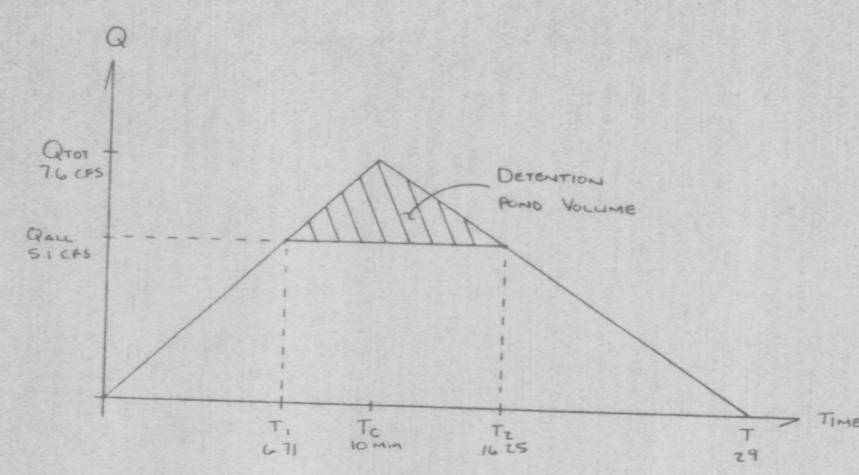
The proposed buildings are approximately 29,800 sq. ft. and shall be flat-roofed, guttered structures, which will effectively reduce runoff from the buildings to a negligible rate. The proposed runoff rates are calculated as follows:

$$Q = CIA; \text{ using } T_c = 10 \text{ min. and } R = 2.3"$$

- Buildings (Negligible)
- Parking and Sidewalk  
 $Q = (0.95)(4.86)(1.54) = 7.11 \text{ CFS}$
- Landscape  
 $Q = (0.25)(4.86)(0.36) = 0.44 \text{ CFS}$
- Total Runoff  
 $Q = 7.11 + 0.44 = 7.55$   
Use 7.6 CFS

The required ponding volume is calculated as follows:

- Runoff Volume =  $C \times A \times R$
- Building (Negligible)
  - Parking and Sidewalk  
 $V = (0.95)(67,025 \text{ SF})(2.3)/12 = 12,204 \text{ CF}$
  - Landscape  
 $V = (0.25)(15,623 \text{ SF})(2.3)/12 = 749 \text{ CF}$
  - Total Volume  
 $V = 12,204 + 749 = 12,953$   
Use 13,000 CF



$$\text{Pond Volume} = (16.25 - 6.71)(7.6 - 5.1)(60 \text{ sec/min}) = 1,431 \text{ CF}$$

Use 1,450 CF

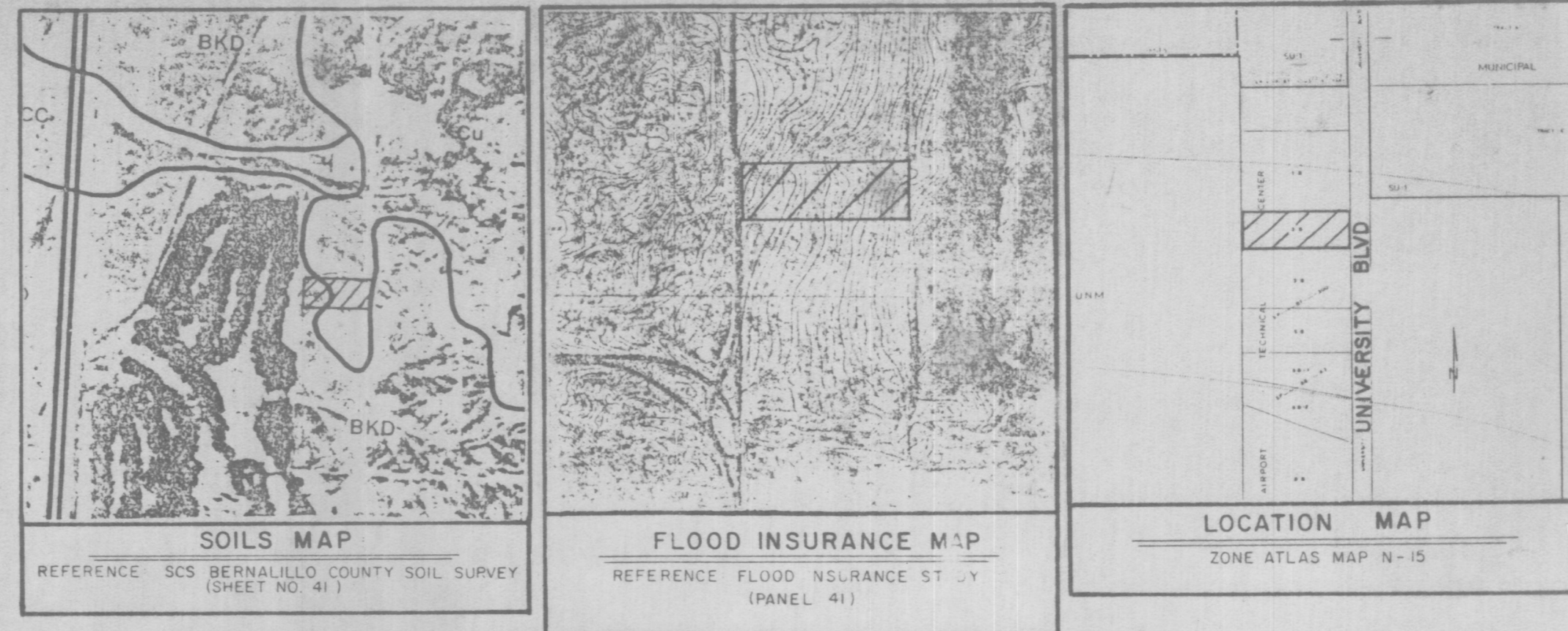
The runoff shall be controlled by the inlet based on the following computations:

$$Q = CA \cdot 2gh$$

where:  $Q = 5.1 \text{ CFS}$   
 $C = 0.60$   
 $A = 0.80 \text{ SF}$   
 $g = 32.2$   
 $n = 7$

$$h = [(5.1)/(0.60)(0.80)] / (2(32.2)) = 1.75 \text{ FT}$$

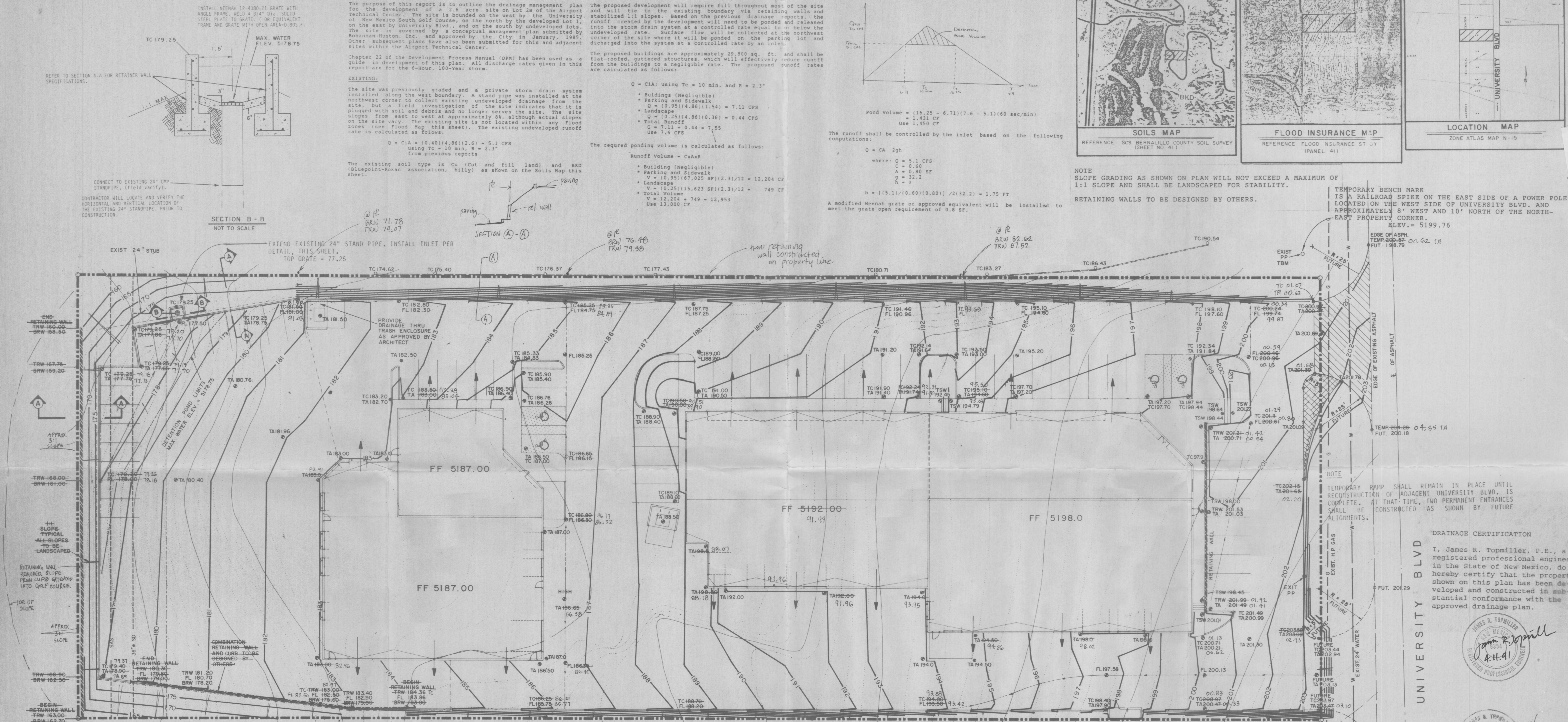
A modified Neenah grate or approved equivalent will be installed to meet the grate open requirement of 0.8 SF.



NOTE  
SLOPE GRADING AS SHOWN ON PLAN WILL NOT EXCEED A MAXIMUM OF 1:1 SLOPE AND SHALL BE LANDSCAPED FOR STABILITY.

RETAINING WALLS TO BE DESIGNED BY OTHERS.

TEMPORARY BENCH MARK  
IS A RAILROAD SPIKE ON THE EAST SIDE OF A POWER POLE LOCATED ON THE WEST SIDE OF UNIVERSITY BLVD. AND APPROXIMATELY 8' WEST AND 10' NORTH OF THE NORTH-EAST PROPERTY CORNER.  
ELEV. = 5199.76  
EDGE OF ASPH.  
TEMP. 200-27  
FUT. 198.79



## GENERAL NOTES

THE CONTRACTOR SHALL OBTAIN THE SOILS REPORT FROM THE ARCHITECT PRIOR TO CONSTRUCTION AND SHALL REFER TO IT FOR INFORMATION RELATED TO GRADING, EXISTING SITE CONDITIONS, SUBSURFACE SOILS, AND CONSTRUCTION CONSIDERATIONS. ALL SCARIFYING, EXCAVATION, COMPACTION AND REPLANTED SOILS WORK SHALL BE DONE UNDER SUPERVISION OF THE SOILS ENGINEER AND IN ACCORDANCE WITH THE ABOVE REFERENCED SITE SOILS REPORT.

ALL GRADING AND CONSTRUCTION UNDER THIS PLAN SHALL BE IN ACCORDANCE WITH THE "NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", LATEST EDITION, EXCEPT AS MODIFIED BY THE ABOVE REFERENCED SITE SOILS REPORT.

CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. THE CONTRACTOR SHALL NOT DISTURB THE AREAS IN WHICH NO GRADING IS INDICATED. ANY DAMAGE TO ADJACENT PROPERTIES RESULTING FROM THE CONSTRUCTION PROCESS IS THE RESPONSIBILITY OF THE CONTRACTOR. ANY COSTS INCURRED FOR REPAIRS SHALL BE THE COST OF THE CONTRACTOR.

EXCEPT AS PROVIDED HEREIN, GRADING SHALL BE PERFORMED TO THE ELEVATIONS AND IN ACCORDANCE WITH THE TYPICAL SECTIONS SHOWN ON THIS PLAN WITHIN +/- 0.2 FT.

PADS SHALL NOT VARY FROM A TRUE HORIZONTAL PLANE BY MORE THAN +/- 0.1 FT AT ANY POINT. THIS TRUE PLANE SHALL NOT VARY FROM THE SHOWN PAD ELEVATION BY +/- 0.2 FT, UNLESS PERMITTED BY THE OWNER.

THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS AND GRADING OPERATIONS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL CONSTRUCTION PERMITS AND INSPECTION APPROVALS NECESSARY FOR THE CONSTRUCTION OF THESE FACILITIES AND ALL GRADING OPERATIONS.

THE CONTRACTOR SHALL SECURE A "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION. THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT COST.

THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS MAY BE ACHIEVED BY CONSTRUCTION OF TEMPORARY BERM AT THE PROPERTY LINES. WETTING THE SOIL TO KEEP IT FROM BLOWING, AND OTHER ACCEPTABLE METHODS.

MANHOLE STEPS SHALL BE INSTALLED IN ALL STORM DRAIN MANHOLES, AND CATCH BASINS AS PER ACCEPTABLE SPECIFICATIONS. THERE WILL BE NO SEPARATE MEASUREMENT OR PAYMENT AND THE MANHOLE STEPS WILL BE CONSIDERED INCIDENTAL TO OTHER CONTRACT ITEMS.

THE CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF THE EXISTING WATERLINE AND GAS LINE WITHIN THE UNIVERSITY BOULEVARD RIGHT-OF-WAY AND CONTACT THE OWNER PRIOR TO ANY FURTHER WORK IF THEY CONFLICT WITH THESE CONSTRUCTION PLANS.

## LEGAL DESCRIPTION

### LOT 28 AIRPORT TECHNICAL CENTER

BENCH  
STATION IS A STANDARD ACS BRASS CAP STAMPED "1-N 16" SET IN CONCRETE MONUMENT PROJECTING 0.1 FT. ABOVE GROUND. STATION IS LOCATED 4.5 MILES S.E. OF DOWNTOWN ALBUQUERQUE, NEAR THE S.W. CORNER OF ALBUQUERQUE INTERNATIONAL AIRPORT. BEGIN AT INTERSECTION OF CENTRAL AVENUE AND YALE BLVD., PROCEED SOUTH ON YALE BLVD. 2.2 MILES TO VIEW POINT ROAD, THEN WEST ON VIEW POINT ROAD, 0.4 MILES TO MAPLE AVENUE, THEN SOUTH ON MAPLE AVE. 0.7 MILES TO JUNCTION WITH EAST-WEST ROAD, THEN EAST 0.4 MILES SOUTH 0.21 MILES STATION IS 75 FEET EAST OF FENCELINE RUNNING ON EAST SIDE OF ROAD.  
ELEVATION = 5309.19 FEET

## Grading and Drainage Plan



**BOHANNAN-HUSTON, INC.**

7500 JEFFERSON NE  
ALBUQUERQUE, NM 87109

## DRAINAGE CERTIFICATION

I, James R. Topmiller, P.E., a registered professional engineer in the State of New Mexico, do hereby certify that the property shown on this plan has been developed and constructed in substantial conformance with the approved drainage plan.

JAMES R. TOPMILLER  
P.E.  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF NEW MEXICO  
No. 8354  
Exp. 12-31-90

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Exp. 12-31-90

RECEIVED  
APR 11 1991  
HYDROLOGY DIVISION

16 APRIL 1990

**KNIGHT SEAVEY DESIGN, P.C.**  
AIA, ACP

1600 University Blvd. NE  
P.O. Box 14887 Station G.  
(505) 242-9800

Land Use Analysis  
Site Planning  
Architecture  
Interior Space Planning  
Development Services

Albuquerque, NM 87191

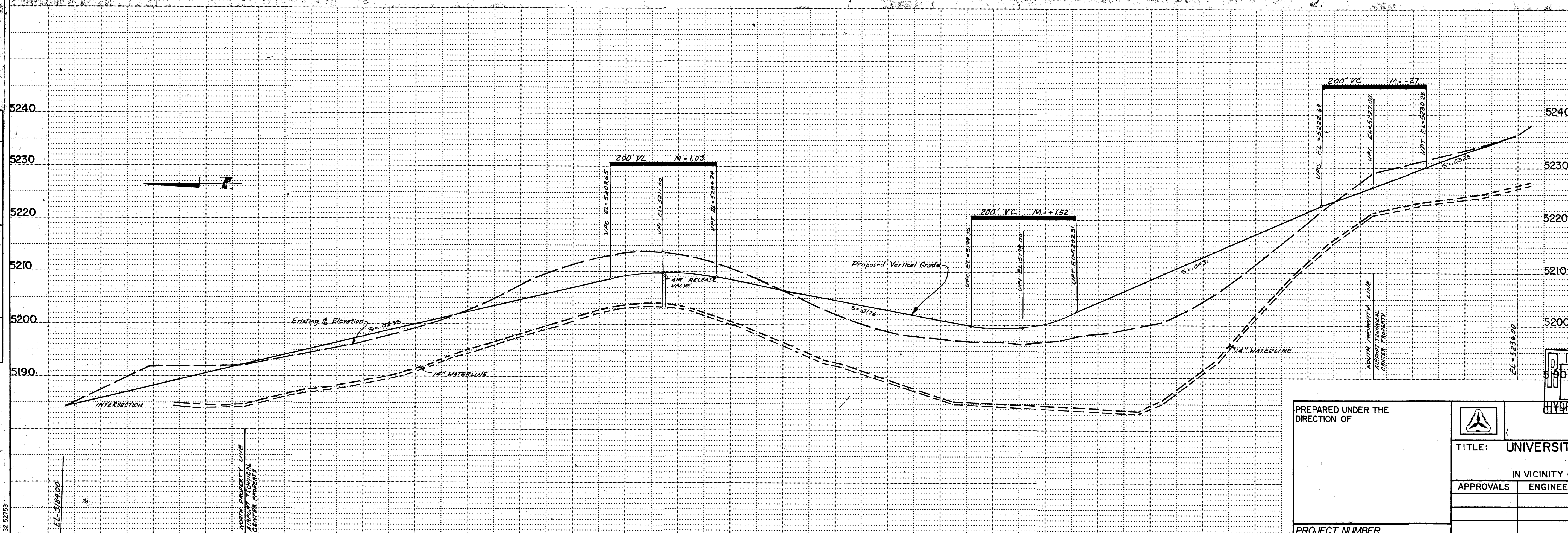
**Williams Glass/Emery Worldwide**  
A DEVELOPMENT OF WILLIAMS INVESTMENTS  
AT AIRPORT INDUSTRIAL PARK - LOT 2

**GRADING & DRAINAGE**

PROJECT NO.  
WG-90  
SHEET NO.  
C2



PROFILE	SURVEYED _____	BY _____	DATE _____
NOTE BOOK	PLOTTED _____		
NO. _____	GRADES CHECKED _____		
	B. M. s NOTED _____		
	STRUCTURE NOTAT'NS CH'KD _____		

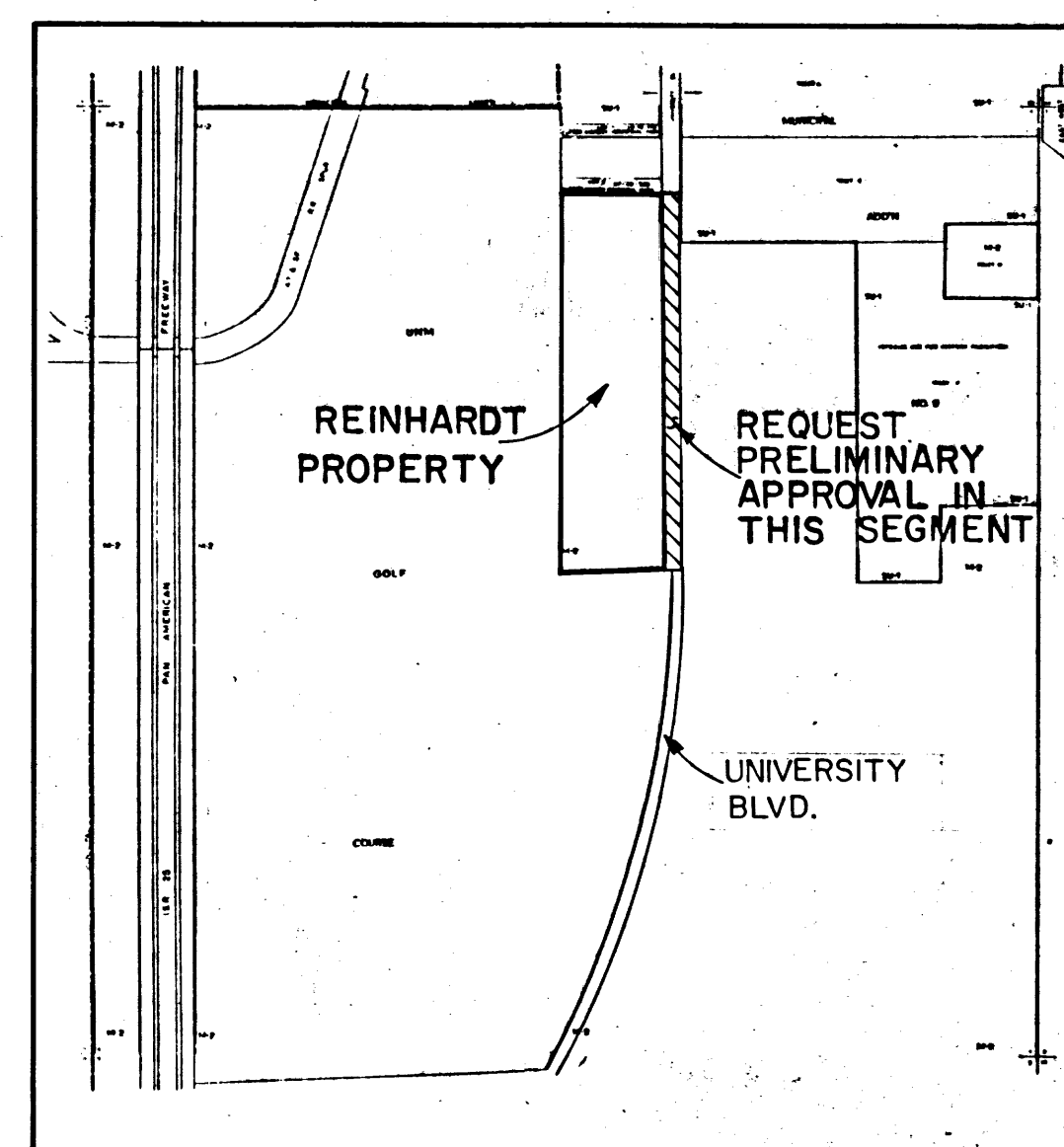


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PLATE 1 SINGLE PLAN - PROFILE - DOTTED  
CHARLES BRUNING COMPANY  
MADE IN U.S.A.

Job No. 86404

SCALE:  
1" = 100' HORIZ.  
1" = 10' VERT.



LOCATION MAP  
ZONE ATLAS PG. N-15

F.H.W.A. Region No.			SHEET NO.	TOTAL SHEET:
6	NEW MEXICO			

[illegible]

PREPARED UNDER THE DIRECTION OF		HYDROLOGIC DIVISION CITY OF LOS ANGELES																															
TITLE: UNIVERSITY BLVD. PRELIMINARY PROFILE IN VICINITY OF AIRPORT TECHNICAL CENTER																																	
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