

VICINITY MAP
SCALE: 1" = 750'

LEGAL DESCRIPTION:

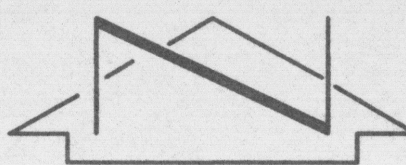
TRACT LETTERED "D-3-B" OF NORTH TOWNE PLAZA.

PROJECT BENCHMARK:

A.C.S. BENCHMARK "8-E19"
A SQUARE, "□", CHISELED ON TOP OF CONCRETE CURB
AT THE ESE CURB RETURN AT THE JUNCTION OF
LA MADEIRA ROAD AND QUEMADO DRIVE N.E.
ELEVATION = 5396.114 (M.S.L.D.)

T.B.M.

A "□" CHISELED IN TOP BACK CURB OPPOSITE N.W.
PROPERTY CORNER.
ELEVATION = 5400.94 (M.S.L.D.)



SCALE: 1" = 20'

△ DRAINAGE CERTIFICATION

As indicated by the as-built information shown hereon, the Academy Professional Building has been graded and drained in substantial compliance with the approved Grading and Drainage Plan. The as-constructed work satisfies the intent of the approved Plan. It is based upon the above that issuance of a Permanent Certificate of Occupancy is hereby recommended.

Jeffrey G. Mortensen, NMPE 8547
Date 11-05-96

DRAINAGE PLAN

The following items concerning the Academy Professional Building Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations

As shown by the Vicinity Map, the site is located on the east side of Cubero Drive N.E. between Academy Road N.E. and Wyoming Boulevard N.E. At present, the site is undeveloped. The site is part of the Northtowne Office Complex.

As shown by Panel 17 of 50 of the National Flood Insurance Program Flood Insurance Rate Maps published by F.E.M.A. for the City of Albuquerque, New Mexico dated October 14, 1983, this site does not lie within a designated flood hazard zone. Furthermore, the review of these maps indicate that this site does not drain to a designated flood hazard zone. The site slopes from east to west onto Cubero Drive N.E. Cubero Drive N.E. slopes in a southerly direction to Academy Road N.E. Once runoff reaches Academy Road N.E., it flows in a westerly direction to a point between McKinney Drive N.E. and Burlison Drive N.E. At this point, runoff is intercepted by existing storm inlets within Academy Road N.E. and then discharged to the Bear Arroyo which is an improved channel through the Arroyo del Oso Golf Course. From this point, the runoff flows within the improved public storm drain facility to discharge to the AMAFCA North Diversion Channel. The majority of the watershed is already developed, making this an infill site. The original drainage plan for the site, prepared in 1980 (E19/D16), showed ponding with no justification. Downstream analysis was not performed. Subsequent development in the watershed, however, has not relied upon ponding as adequate downstream capacity is now available (i.e., Bear Arroyo). One such example is the Academy Office Park (E18/D17), prepared in 1984 by DMJM. That project combines commercial development with a residential subdivision, all of which freely discharges its developed runoff to Academy Road N.E. That project lies immediately downstream of this site. It is based upon the precedent established by recent projects, the fact that this is an infill site, and the availability of downstream public drainage improvements, the absence of a downstream flood hazard zone, and the minor increase in runoff anticipated due to the development of this site, that the free discharge of runoff is appropriate.

The Grading Plan shows: 1) existing grades indicated by spot elevations and contours at 1'0" intervals, 2) proposed grades indicated by spot elevations and contours at 1'0" intervals, 3) the limit and character of the existing improvements, 4) the limit and character of the proposed improvements, and 5) continuity between existing and proposed grades. This plan further illustrates that the site currently drains from east to west onto Cubero Drive N.E. This pattern of drainage will be maintained by development. Developed runoff will be discharged to the street via two new driveway entrances onto Cubero Drive N.E.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Procedure for 40-acre and Smaller Basins, as set forth in the Revision of Section 22.2, Hydrology of the Development Process Manual, Volume 2, Design Criteria, dated January, 1993, has been used to quantify the peak rate of discharge and volume of runoff generated. As shown by these calculations, a minor increase in runoff is anticipated due to the proposed construction. The sites surrounding this project are all developed with the exception of the vacant parcel to the north. None of these parcels discharge runoff onto this site, hence there are no offsite flows.

Site Characteristics

1. Precipitation Zone = 3
2. $P_{6,100} = P_{360} = 2.60$
3. Total Area (A_T) = 73,300 sf; 1.69 ac
4. Existing Land Treatment

Treatment	Area (sf/ac)	%
C	73,300/1.69	100

5. Developed Land Treatment

Treatment	Area (sf/ac)	%
B	14,230/0.33	19
D	59,070/1.36	81

Existing Condition

1. Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = (1.29)(1.69) / 1.69 = 1.29 \text{ in}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (1.29 / 12) 1.69 = 0.1817 \text{ ac.ft.} = 7,910 \text{ cf}$$

2. Peak Discharge

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$

$$Q_p = Q_{100} = (3.45)(1.69) = 5.8 \text{ cfs}$$

Developed Condition

1. Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = (0.92)(0.33) + (2.36)(1.36) / 1.69 = 2.08 \text{ in}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (2.08 / 12) 1.69 = 0.2929 \text{ ac.ft.} = 12,760 \text{ cf}$$

2. Peak Discharge

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$

$$Q_p = Q_{100} = (2.60)(0.33) + (5.02)(1.36) = 7.7 \text{ cfs}$$

Comparison

$$1. \Delta V_{100} = 12,760 - 7,910 = 4,850 \text{ cf (increase)}$$

$$2. \Delta Q_{100} = 7.7 - 5.8 = 1.9 \text{ cfs (increase)}$$

NOTE:

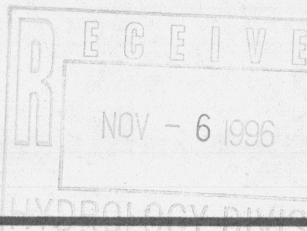
THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS ARE SHOWN FOR ORIENTATION PURPOSES ONLY. BOUNDARY DATA SHOWN HEREON HAS BEEN PREPARED BY SURV-TEK, INC. OCTOBER 7, 1993.

Construction Notes:

1. Two (2) working days prior to any excavation, contractor must contact New Mexico One Call System 260-1990 (Albuquerque Area), 1-800-321-ALERT(2537) (Statewide), for location of existing utilities.
2. Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all potential obstructions. Should a conflict exist, the contractor shall notify the engineer in writing so that the conflict can be resolved with a minimum amount of delay. The Contractor shall be responsible for all interpretations it makes without first contacting the Engineer as required above.
3. All work on this project shall be performed in accordance with applicable federal, state and local laws, rules and regulations concerning construction safety and health.
4. All construction within public right-of-way shall be performed in accordance with applicable City of Albuquerque Standards and Procedures.
5. If any utility lines, pipelines, or underground utility lines are shown on these drawings, they are shown in an approximate manner only, and such lines may exist where none are shown. If any such existing lines are shown, the location is based upon information provided by the owner of said utility, and the information may be incomplete, or may be obsolete by the time construction commences. The engineer has conducted only preliminary investigation of the location, depth, size, or type of existing utility lines, pipelines, or underground utility lines. This investigation is not conclusive, and may not be complete, therefore, makes no representation pertaining thereto, and assumes no responsibility or liability therefor. The contractor shall inform itself of the location of any utility line, pipeline, or underground utility line in or near the area of the work in advance of and during excavation work. The contractor is fully responsible for any and all damage caused by its failure to locate, identify and preserve any and all existing utilities, pipelines, and underground utility lines. In planning and conducting excavation, the contractor shall comply with state statutes, municipal and local ordinances, rules and regulations, if any, pertaining to the location of these lines and facilities.
6. The design of planters and landscaped areas is not part of this plan. All planters and landscaped areas adjacent to the building(s) shall be provided with positive drainage to avoid any ponding adjacent to the structure. For construction details, refer to landscaping plan.

Erosion Control Measures:

1. The contractor shall ensure that no soil erodes from the site into public right-of-way or onto private property.
2. The contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street.
3. The contractor shall secure "Topsoil Disturbance Permit" prior to beginning construction.



JEFF MORTENSEN & ASSOCIATES, INC.
6801-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, N.M. 87109
ENGINEERS SURVEYORS (SUS) 345-4250

GRADING AND DRAINAGE PLAN ACADEMY PROFESSIONAL BUILDING

DESIGNED BY J.G.M./G.M.

DRAWN BY E.M.S.

APPROVED BY J.G.M.

NO.	DATE	BY	REVISIONS
1	6/96	J.G.M.	ADD HC RAMP
2	11/96	J.G.M.	AS-BUILT AND CERTIFY

JOB NO. 960271

DATE 05-1996

SHEET C1.2