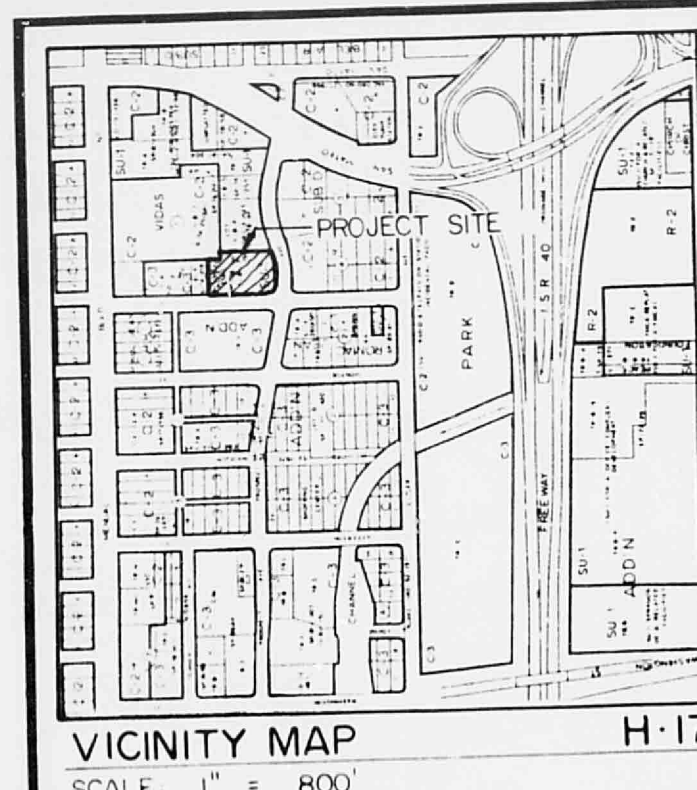


SECTION AA
SCALE: 1" = 10'

RECEIVED
DEC 10 1986
HYDROLOGY SECTION

APPROVED FOR DRAINAGE
1-6-87
Roger A. Green, PE Hydrology



LEGEND

	PROPOSED SPOT ELEVATION
	EXISTING SPOT ELEVATION
	PROPOSED CONTOUR
	EXISTING CONTOUR
	SWALE
	PROPERTY LINE
	CONCRETE
	PROPOSED ASPHALT
	PROPOSED FENCE
	EXISTING FENCE
	TOP OF CURB
	FLOW LINE
	PROPOSED RETAINING WALL

PROJECT BENCHMARK
A 60.0' NAIL IN EXPANSION JOINT OF SIDEWALK
N.E. CORNER OF INTERSECTION OF QUINCY ST. N.E.
N.E. - 1922 ELEVATION = 5184.4 FEET

T.B.M.
TOP OF CONCRETE CURB LOCATED @ THE ENE
RETURN OF THE INTERSECTION OF PROSPECT
AVE. N.E. & QUINCY ST. N.E.
ELEVATION = 5184.4 FEET (MOLD)

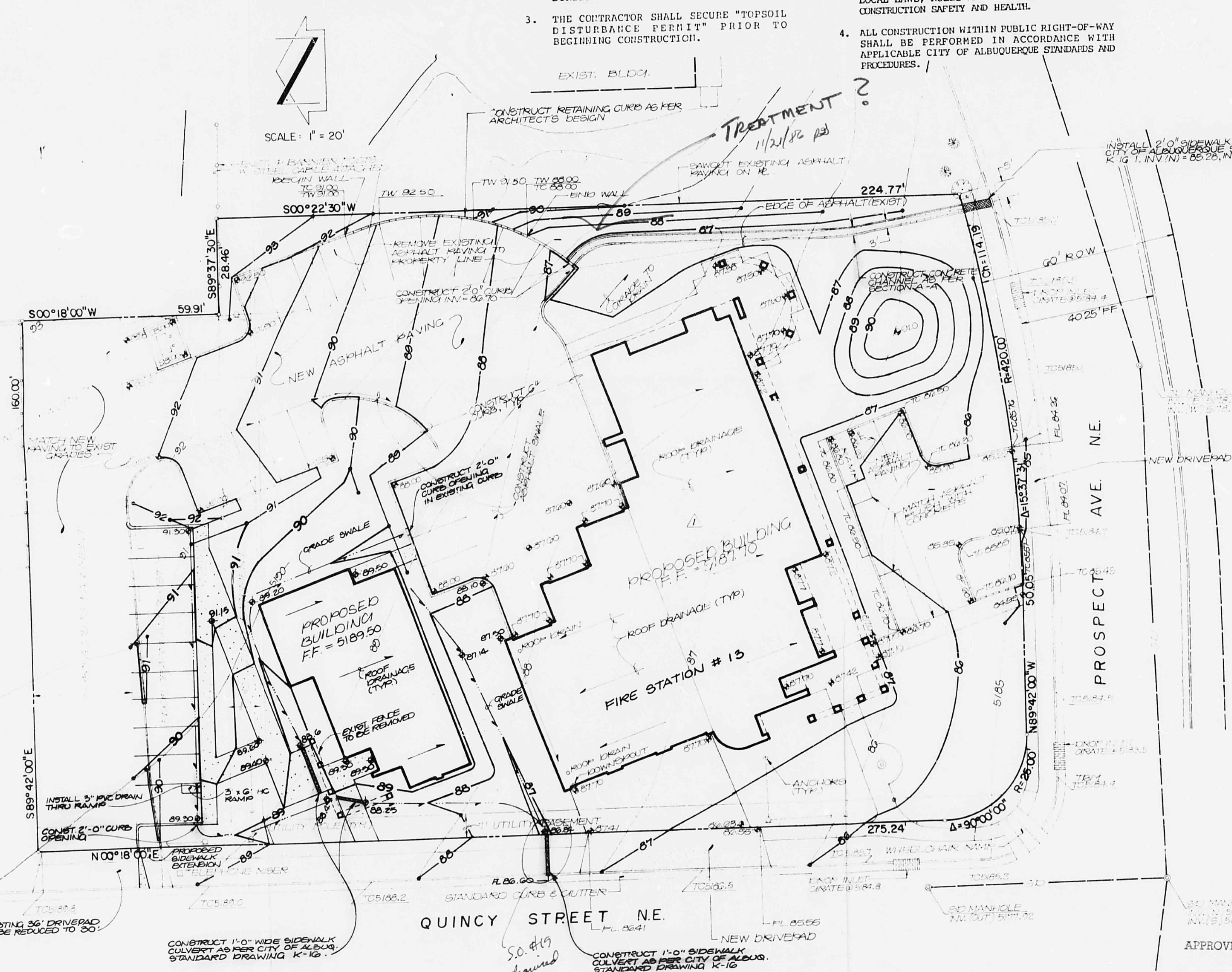
NOTE:
PROJECT BENCHMARK & T.B.M. DATA OBTAINED
FROM THE FIRE STATION #13 SURVEY PREPARED
BY CITY OF ALBUQUERQUE SURVEY SECTION (1-30-88)

LEGAL DESCRIPTION
LOT 1-B-7, BLOCK 1, VIDAS SUBDIVISION.

- EROSION CONTROL MEASURES**
1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
 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.

CONSTRUCTION NOTES

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 765-1234, 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 SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
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.



DRAINAGE PLAN

The following items concerning the new City Fire Marshall's Office Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations

As shown by the Vicinity Map, this site is located at the northeast corner of the intersection of Prospect Avenue N.E. and Quincy Street N.E. At present, the site is developed. The original drainage plan (Hydrology File #H17-D3a) was prepared by this office. The surrounding sites are developed, essentially making this an infill site.

As shown by Plate H-17 of the Albuquerque Master Drainage Study, this site does not lie within a designated Flood Hazard Zone. In addition, this site does not appear to contribute runoff to an existing downstream flooding condition. This is probably due to the fact that the adjacent streets contain a public storm drain system with numerous catch basins which appear to adequately accept and convey the runoff carried within the streets. To enhance the ability of the existing catch basins to intercept runoff, the intersection of Quincy Street N.E. and Prospect Avenue N.E. have been depressed slightly to create a sump situation. Field observation has revealed a catch basin at the PC and PT of every return. It is assumed that the design of this system has accounted for the fully developed condition. This statement is made in view of the fact that this is a relatively new system and not an older, obsolete facility.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) the limit and character of the existing improvements, 3) the limit and character of the proposed improvements, and 4) continuity between existing and proposed grades. As shown by this plan, the proposed improvements consist of the construction of an office building along with adjacent paving and landscaping. At present, runoff flows from northeast to southwest to accumulate at the intersection of Prospect Avenue N.E. and Quincy Street N.E. This pattern of runoff will be maintained by the proposed construction. Existing drainage facilities are located within the existing adjacent streets as previously discussed. Due to the presence of these facilities, developed runoff will be freely discharged from this site to the public right-of-way.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The SCS Method has been chosen for volume analysis and the Rational Method has been chosen for discharge rate analysis in accordance with the City of Albuquerque Development Process Manual, Volume II. As shown by these calculations, the proposed improvements will result in slightly more discharge from the site. There was no pre-design conference since the improvements do not constitute a substantial change from the existing improvements.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate: 31
Hydrologic Soil Group: B
Existing Pervious CN = 69 (DPM Plate 22.2 C-2)
Lawn: fair condition
Developed Pervious CN = 69 (DPM Plate 22.2 C-2)

Time of Concentration/Time to Peak

$T_c = 0.0078 L^{0.77} / S^{0.385}$ (Kirpich Equation)
 $T_p = T_c = 10$ min.

Point Rainfall

$P_6 = 2.45$ in. (DPM Plate 22.2 D-1)

Rational Method

Discharge: $Q = C i A$
where C varies
 $i = P_6 (6.84) T_c^{-0.51} = 4.76$ in/hr
 $P_6 = 2.25$ in (DPM Plate 22.2 D-1)
 $T_c = 10$ min (minimum)
A = area, acres

SCS Method

Volume: $V = 3630 (DRO) A$
Where DRO = Direct runoff in inches
A = area, acres

Existing Condition

Atotal = 54,102 sf = 1.2 Ac
Roof area = 8,200 sf (0.90)
Paved area = 20,936 sf (0.90)
Landscaped area = 25,366 sf (0.40)
 $C = 0.66$ (Weighted average per Emergency Rule, 1/14/86)

$Q_{100} = C i A = 0.66 (4.76) 1.2 = 3.8$ cfs
 $A_{imp} = 28,736$ sf; % impervious = 53 %
Composite CN = 84 (DPM Plate 22.2 C-3)
DRO = 1.0 in (DPM Plate 22.2 C-4)
 $V_{100} = 3630 (DRO) A = 4350$ cf

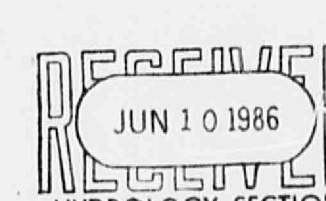
Developed Condition

Atotal = 54,102 sf = 1.2 Ac
Roof area = 10,505 sf = (0.90)
Paved area = 23,235 sf = (0.90)
Landscaped area = 20,362 sf = (0.40)
 $C = 0.71$ (Weighted average per Emergency Rule, 1/14/86)

$Q_{100} = C i A = 4.0$ cfs
 $A_{imp} = 31,740$ sf; % impervious = 62 %
Composite CN = 87 (DPM Plate 22.2 C-3)
DRO = 1.15 in (DPM Plate 22.2 C-4)
 $V_{100} = 3630 (DRO) A = 5,000$ cf

Comparison

$\Delta Q_{100} = 4.0 - 3.8 = +0.2$ cfs
 $\Delta V_{100} = 5000 - 4350 = +650$ cf



**HOLMES
SABATINI
SMITH
EEDS**

ARCHITECTURE PLANNING
PROGRAMMING RESEARCH
GRAPHIC DESIGN

215 GOLD AVENUE S.W.
ALBUQUERQUE, NEW MEXICO
505 247-3705 87102



Architect

Engineer

Project

Sheet Title

Revisions

Date

Project No.

Sheet No.

NOTE: ITEMS PROPOSED FOR CONSTRUCTION FOR FIRE STATION #13 ARE CONSIDERED EXISTING FOR THIS PROJECT.
FIRE STATION #13 DATA HAS BEEN SCREENED AND SHALL BE INTERPRETED AS EXISTING.



811 DALLAS N.E. - ALBUQUERQUE - NEW MEXICO - 87102
ENGINEERS

NO.	DATE	BY	REVISIONS

DESIGNED BY: SKS
DRAWN BY: SGH
APPROVED: JGM

JOB NO.
50303
DATE
6-86

GRADING AND DRAINAGE PLAN
FIRE MARSHALL'S OFFICE