

# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

September 16, 1992

Ronald R. Mosher  
Molzen-Corbin & Associates  
2701 Miles Road S.E.  
Albuquerque, NM 87106

RE: REVISED DRAINAGE PLAN FOR THOMAS WELL NO.8 (G20-D29)  
ENGINEER'S STAMP DATED 9/4/92.

Dear Mr. Mosher:

Based on the information provided on your September 4, 1992 resubmittal, the above referenced site is approved for Building Permit and Work Order.

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

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

*Bernie J. Montoya*

Bernie Montoya, C.E.  
Engineering Assistant

BM/d1/WPHYD/3599

xc: Alan Martinez  
File

PUBLIC WORKS DEPARTMENT

## DRAINAGE PLAN

### THOMAS WELL NO. 8 (MADISON SCHOOL)

#### LOCATION AND EXISTING CONDITION:

The site is located at the southeast corner of the Madison Junior High School site. The site is currently hard packed dirt and slopes to the west with at average slopes of 3 percent. Storm runoff from the site historically flows west to an existing subdivision where flows enter La Sala Del Sur Street and are transported via city streets and drainage easements to the Hahn Arroyo. The site is not located in a 100 year flood zone.

#### PROPOSED CONDITION:

Proposed development of the site includes a city water well with associated buildings and landscaping. A "wash-line" will be installed with this project. The purpose of this "wash-line" will be to intercept water from the well for a minimal amount of time while the well pumps are initially turned on to cleanse the well column line. This "wash-line" will be connected to existing city storm sewer facilities. Storm runoff due to development will be collected at a storm inlet located at the northwest corner of the site. The storm inlet will be connected to the "wash-line" which is tied to the city's storm sewer system.

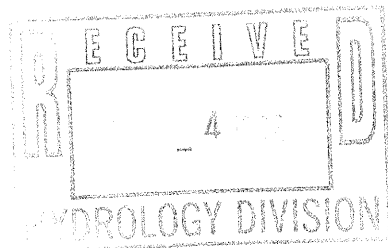
#### CALCULATIONS:

$$A = 0.27 \text{ acres}$$

$$I = 2.2 \text{ in./hr. Plate 22.2 D-2}$$

$$6\text{-hour, 100-year rainfall} = 2.4 \text{ in. Plate 22.2 D-1}$$

$$I = (2.2)(2.4) = 5.28 \text{ in./hr.}$$



#### EXISTING ON-SITE CONDITIONS:

Surface Type	"C" Value	A (Acres)	"C" X A	Composite = "C"XA/A
Streets, Drives, Walks	0.95	0	0.108	
Roofs	0.90	0	0	
Lawns & Landscaping	0.25	0	0	
Undeveloped	0.40	0.27	0	
TOTAL		0.27	0.108	0.40

$$Q(100) = C i A = (.40)(5.28)(0.27) = 0.57 \text{ cfs}$$

$$Q(10) = (0.657)(0.57) = .375 \text{ cfs}$$

$$CN = 80 \text{ Plate 22.2 C-4}$$

$$\text{Direct Runoff} = 0.85 \text{ in. Plate 22.2 C-4}$$

$$V(100) = (0.85)(0.27)(43560)/12 = 833 \text{ cu. ft.}$$

$$V(10) = (0.657)(833) = 547 \text{ cu. ft.}$$

**PROPOSED ON-SITE CONDITIONS:**

Surface Type	"C" Value	A (Acres)	"C" X A	Composite = "C"XA/A
Streets, Drives, Walks	0.95	0.20	0.19	
Roofs	0.90	0.03	0.03	
Lawns & Landscaping	0.25	0.04	0.01	
Undeveloped	0.40	0	0	
TOTAL		0.27	0.23	0.85

$$Q(100) = C i A = (0.85)(5.28)(0.27) = 1.21 \text{ cfs}$$

$$Q(10) = (0.657)(1.21) = 0.80 \text{ cfs}$$

$$CN = 92 \text{ Plate 22.2 C-4}$$

$$\text{Direct Runoff} = 1.6 \text{ in. Plate 22.2 C-4}$$

$$V(100) = (1.6)(0.27)(43560)/12 = 1,568 \text{ cu. ft.}$$

$$V(10) = (0.657)(1,568) = 1,030 \text{ cu. ft.}$$

**STORM INLET CPACITY:**

$$Q = Ca (2gh)^{1/2}$$

$$C = 0.6$$

$$a = 2.0 \text{ sq. ft.}$$

$$g = 32.2 \text{ ft/sec}^2$$

$$h = 0.5 \text{ ft.}$$

$$Q = 6.8 \text{ cfs}$$

**STORM DRAIN LINE CAPACITY:**

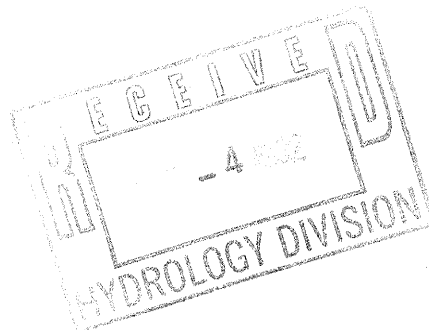
$$Q = 0.463 D^{8/3} S^{1/2} / n$$

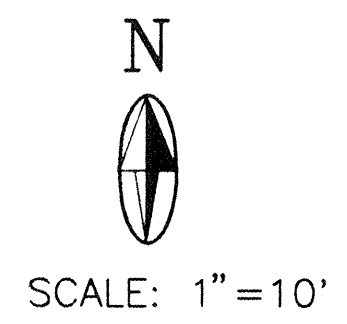
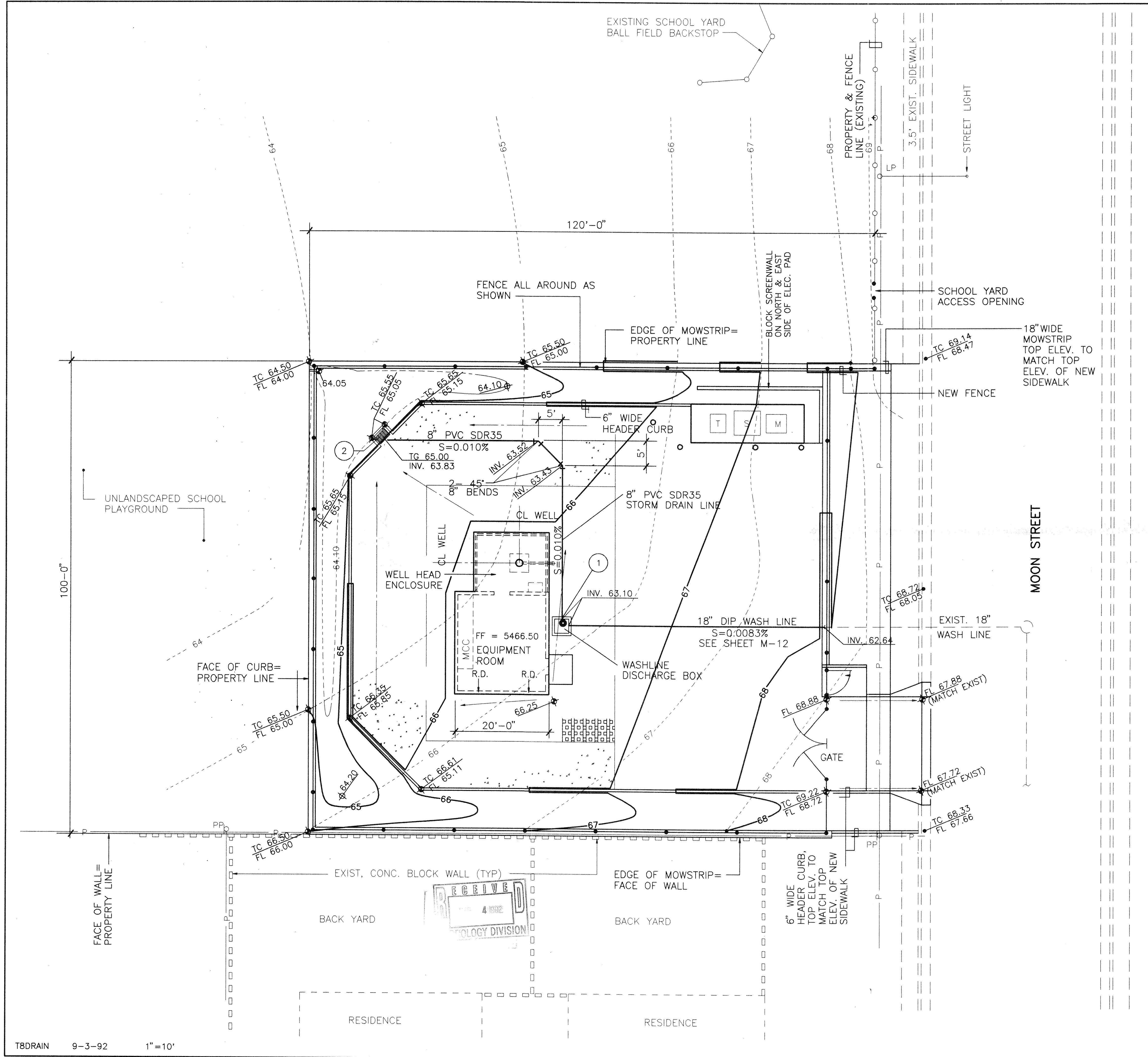
$$D = 8/12 = 0.67 \text{ ft.}$$

$$S = 0.010 \text{ ft/ft}$$

$$n = 0.010$$

$$Q = 1.59 \text{ cfs}$$

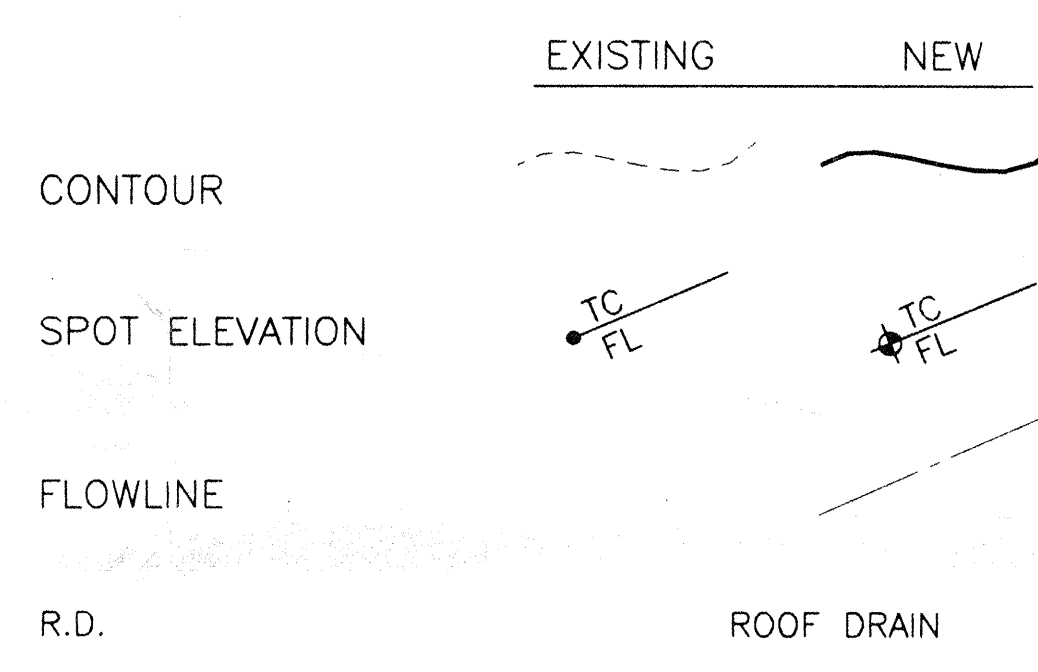




KEYED NOTES

- 1. CONNECT NEW 8" DRAIN LINE TO DISCHARGE BOX, INSTALL NEW 8" DIA. NEENAH TYPE SF, R-5050 AUTOMATIC DRAINAGE GRATE (O.A.E.) TO WALL OF DISCHARGE BOX AT OUTLET OF 8" STORM DRAIN LINE, (VERTICAL CLOSURE).
- 2. CONSTRUCT 1- SINGLE TYPE "D" STORM DRAIN INLET.

LEGEND



AS BUILT INFORMATION			BENCH MARKS			SURVEY INFORMATION			ENGINEER'S SEAL		
CONTRACTOR	DATE	NO.	ACS B.M. 7-G20, ELEV. = 5470.49 FEET	DATE	NO.	NO.	BY	DATE			
INSPECTOR'S NAME	DATE	NO.	The station is located at the intersection of Comanche Rd. and Moon St. N.E.	DATE	NO.	NO.	BY	DATE			
FIELD VERIFICATION BY	DATE	NO.	The station mark is a standard ACS brass tablet stamped "7-G20 1978", set in top of a concrete post flush with curb.	DATE	NO.	NO.	REMARKS	DATE	DESIGNED BY RM/CS/JSM DRAWN BY CS/STAFF CHECKED BY RM/RHC/JSM		
CORRECTED BY	DATE	NO.		DATE	NO.	NO.	REVISIONS	DATE			
	DATE	NO.		DATE	NO.	NO.	DESIGN	DATE			

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP					
TITLE: THOMAS WELL NO.8 - EQUIPMENT GRADING PLAN					
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. CHAIR			WATER		
TRANSPORT.			WASTEWATER		
HYDROLOGY					
PROJECT NO. 3617.91		MAP NO. G-20		SHEET C-08 OF	