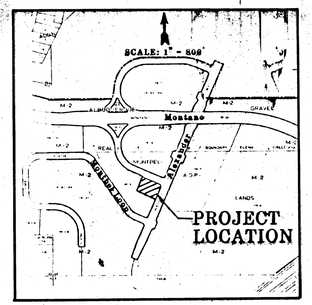


VICINITY MAP F-16

LEGEND

EXISTING	NEW	DESCRIPTION
		CURB & GUTTER
		CURB
4955	4948	SPOT ELEVATION
	45	CONTOUR
		BUILDING
		DRAINAGE PIPE
		PROPERTY LINE
		BASIN DIVISION LINE
		ROOF DRAINS
		RUNDOWN

LEGAL DESCRIPTION

Tract 14-A-2 Renaissance Center II

BENCHMARK

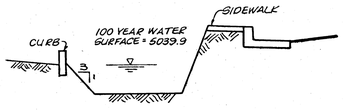
ACS Station 2-F16 located 0.4 mile west of I-25 in the median of Montano Road N.E. Elevation = 5062.08

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 A "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

NOTICE TO CONTRACTOR

1. 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.
2. All work detailed on these plans to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with City of Albuquerque Standard Specifications for Public Works Construction, 1986.
3. Two working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for location of existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations 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.
5. Backfill compaction shall be according to ARTERIAL street use.
6. Maintenance of these facilities shall be the responsibility of the Owner of the property served.



SECTION A-A
NTS

DRAINAGE PLAN

The following items concerning the Gerhard Motors Drainage Plan are contained hereon:

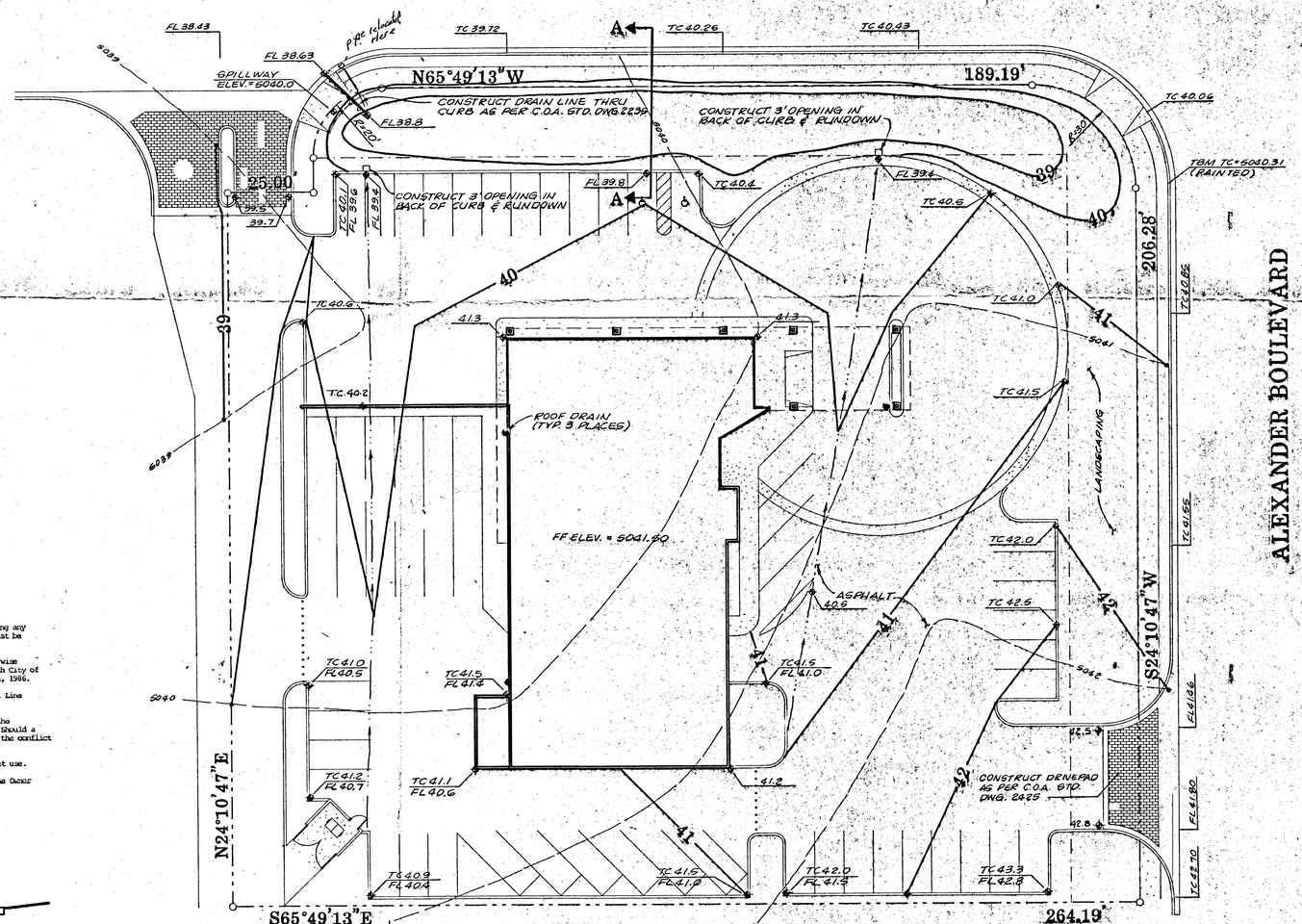
1. Vicinity Map
2. Grading Plan
3. Calculations

The proposed improvements, as shown by the Vicinity Map, are located at the southwest corner of the intersection of Alexander Boulevard N.E. and South Renaissance Boulevard N.E. The site is undeveloped. Some of the surrounding sites are developed. The site does not lie within a designated Flood Hazard Zone. A "Master Plan of Drainage for Albuquerque Gravel Products Company, Montiel Inc and Montano Venture" was prepared in December 1981 by Andrew, Asbury and Robert Inc. for this subdivision.

The project site is higher than the streets on the north and east sides and higher than the land on the west side. The land to the south has just recently been developed and the controled runoff from that site does not enter the project site. Therefore, offsite flows are negligible.

The Grading Plan shows 1) the existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) continuity between existing and proposed elevations, 3) the limit and character of existing improvements and 4) the limit and character of proposed improvements. As shown by this plan, the proposed improvements consist of a building, display areas, parking and landscaping. All runoff will be routed through a pond adjacent to South Renaissance Boulevard. The pond will have a positive discharge and will contain twice the required volume of storage.

The calculations, which appear below, analyze both the existing and developed conditions for the 100 year, 6-hour rainfall event. The Rational and SCS Methods have been used for the 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 the runoff discharged from the site. The runoff rate is in accordance with previously established criteria. All additional volumes are contained on the site in a pond until released.



CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate: 21
Hydrologic Soil Group: B
Existing Pervious CN = 79 (DPM Plate 22.2 C-2 Pasture or Range Land: poor condition)
Developed Pervious CN = 61 (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 = 2.2in. (DPM Plate 22.2 D-1)

Rational Method

Discharge: Q = CiA

where C varies
$i = P_6\ (6.84)\ T_c^{-0.51} = 4.65$ in/hr
P_6 = 2.2 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

A_{total} =	61394	sf =	1.41 ac
Roof area =		sf =	ac
Paved area =		sf =	ac
Landscaped area =	61394	sf =	1.41 ac

C = 0.40 (Weighted average per Emergency Rule, 01/14/86)

Q_{100} = CiA = 0.40(4.65)1.41 = 2.6 cfs
A_{IMP} = 0 sf; % impervious = 0 %
Composite CN = 79 (DPM Plate 22.2 C-3)
DRO = 0.7 in (DPM Plate 22.2 C-4)
V_{100} = 3630(DRO) A = 3583 cf

Developed Condition

A_{total} =	61394	sf =	1.41 ac
Roof area =	9600	sf =	0.23 ac
Paved area =	37894	sf =	0.87 ac
Landscaped area =	13700	sf =	0.31 ac

C = 0.79 (Weighted average per Emergency Rule, 01/14/86)

Q_{100} = CiA = 0.79(4.65)1.41 = 5.2 cfs
A_{IMP} = 47694 sf; % impervious = 78 %
Composite CN = 90 (DPM Plate 22.2 C-3)
DRO = 1.3 in (DPM Plate 22.2 C-4)
V_{100} = 3630(DRO) A = 6654 cf

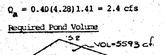
Comparison

Q_{100} = 5.2-2.6 = 2.6 cfs increase
V_{100} = 6654- 3583 = 3071 cf increase

$Q_{allowable} = Ci_{50}A$ from "Master Plan of Drainage for Albuquerque Gravel Products Co., Montiel Inc and Montano Venture" by Andrew, Asbury & Roberts Inc, December 1981.

Q_a = 0.40(4.28)1.41 = 2.4 cfs

Required Pond Volume



Actual Pond Volume @ ELEV. 5040.0

$\frac{(338+891)}{2}(900) = 548400\ cf > 6338\ cf.$

4" OUTLET CAPACITY = 0.42 CFS

GRADING & DRAINAGE PLAN

NORTH

APRIL 7, 1989 SCALE: 1" = 20'

GERHARD MOTORS

1234 SOUTH RENAISSANCE N.E.
ALBUQUERQUE, NEW MEXICO

F16/D3J

APPROVALS	NAME	DATE
A.C.E. /DESIGN	B. Montiel	4/4/89
INSPECTOR		
A.C.E. /FIELD		