HYDROLOGY G16/D35 1 PLAN

G16/D35

1 Plan

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

G16 - D25

December 23, 1981

Mr. Jake Bordenave
Adams, Hamlyn, Anderson
4055 Montgomery N.E.
Albuquerque, NM 87109

RE: KELLY'S REFINISHING DRAINAGE REPORT - WAREHOUSE ADDITION AT 3216 VASSAR

Dear Jake:

The referenced drainage report is approved based on your submittal of December 22, 1981. Please see that the revised plans are placed in the construction sets.

Very truly yours,

Brian G. Burnett
Civil Engineer/Hydrology

BGB/tsl

cc: Jerry Kelly
Ken Hovey

Drainage Report For:
Kelly's Refinishing shop
3216 Vassar N.E.
Albuquerque, New Mexico

LOCATION & LEGAL DESCRIPTION:

The contract property is located on the east side of Vassar Rd. just north of the intersection of Vassar Rd. & Candelaria Rd. N.E. It is 0.3 ± acres in area. This lot is more particularly described as parcel 9, tract J, Coles Industrial Subdivision #2, Albuquerque, New Mexico.

SOILS SURVEY:

Wink-Embudo Complex - 65% wink fine sandy loam & 25% Embudo gravelly fine sandy loam. Runoff is medium; Hazard of water erosion is moderate. Soil is alkaline.

PROPOSED DEVELOPMENT & DRAINAGE PLANS:

A new 1000 sq. ft. addition will be made to the existing 2750 sq. ft. facility. No additional paving will be required for the new building.

There is an existing pond. Runoff from the existing development is distributed as follows:

770 cubic feet of water is allowed to drain onto Vassar Rd; the balance is directed to a retention pond at the rear North-East Quadrant of the property.

The runoff generated by the new building will be directed to the existing pond. The existing pond will be upgraded, and the existing grading reworked to insure positive flow to the pond at a 1% average gradient.

METHOD:

The amount of stormwater is calculated using a 50-year six hour precepitation factor of 2.2 inches.

The volume of flow is calculated using a runoff factor of 0.4 for pervious surfaces and a runoff factor of 0.9 for impervious surfaces.

Store 2 year storm in rock storage. The volume of rock storage is calculated using a 1" precipitation factor.

OFFSITE FLOWS:

THERE ARE NO OFFSITE FLOWS

STORMWATER CALCULATIONS:

RUNOFF BEFORE DEVELOPMENT:

75' x 175' x 2.2 | 12 x 0.9 = 962 CU.FT. = 962 CU.FT.
OF WATER MAX. ALLOWABLE WATER
TO STREET.

RUNOFF AFTER DEVELOPMENT:

AREA "A"

IMPERVIOUS SURFACES:
5235 SQ.FT. x 2.2 | 12 x 0.9 = 864 CU.FT.

PERVIOUS SURFACES:
266 SQ.FT. x 2.2 | 12 x 0.4 = 20 CU.FT

TOTAL AREA "A" = 884 CU.FT.
884 CU.FT. OF RUNOFF TO
STREET; WITHIN ALLOWABLE LIMITS.

AREA "B"

IMPERVIOUS SURFACES:
3173 SQ.FT. x 2.2 | 12 x 0.9 = 524 CU.FT.

PERVIOUS SURFACES:
5139 SQ.FT x 2.2 | 12 x 0.4 = 377 CU.FT.
= 911 CU.FT.

TOTAL AREA "B" = 911 CU.FT.
911 CU.FT. TO BE RETAINED IN POND.
OF THIS 911 CU.FT, A ROCK STORAGE VOLUME
EQUAL TO A 2-YEAR STORM W/ A PRECIP-
ITATION FACTOR OF 1" IS ALLOWED.

ROCK STORAGE CALCULATIONS:

IMPERVIOUS SURFACES:
3173 SQ.FT. x 1.0 | 12 x 0.9 = 238 CU.FT

PERVIOUS SURFACES:
5139 SQ.FT x 1.0 | 12 x 0.4 = 171 CU.FT.

AREA "B" - TOTAL CU. FT. TO BE RETAINED IN ROCK STORAGE:

238 CU. FT
+ 171 CU. FT.
= 409 CU. FT.

ASSUME 1/3 OF ROCK STORAGE VOLUME IS WATER:

409 CU. FT. x 3 = 1227 CU. FT ROCK STORAGE

AREA IS 18.67 FT x 21.17 FT = 395 SQ. FT.

1227 ÷ 395 = 3.106 = 3 FEET - 2 INCHES DEEP

POND TOTALS: (REQUIREMENTS)

ROCK STGE REQ'D = 409 CU. FT.
"OPEN" POND STGE REQ'D = 502 CU. FT
911 CU. FT = 911 CU. FT TOTAL.
− 409 CU. FT
= 502 CU. FT

POND TOTALS (PROVIDED)

ROCK STORAGE = 418 CU. FT
"OPEN" POND STGE = 540 CU. FT

TOTAL VOLUME AVAILABLE FOR WATER STORAGE = 958 CU. FT