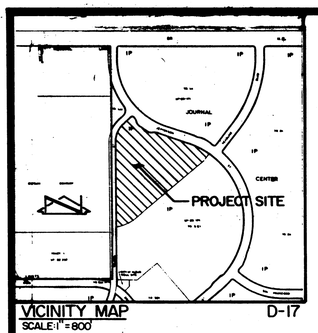

VICINITY MAP D-17

SCALE: 1" = 800'

2 DRAINAGE PLAN UPDATE

This Conceptual Grading and Drainage Plan for Tracts 5-B-1-a and 5-B-1-b, Journal Center, is hereby updated to reflect platting which occurred after the previous approval and to update the plan for the development on Tract 5-B-1-a. The update coincides with a proposed renovation project. The development previously proposed has been completed and is now "existing". The modifications to the site, which constitute renovations to the building, are minor, hence the calculations, as previously prepared for this site, have not been altered. The changes to the site are minimal and will have negligible, if any, impact on the hydrologic characteristics. The building was previously occupied by Hewlett Packard and will now be renovated to serve as the Lovelace Neuro-Behavioral Hospital.

CALCULATIONS

Ground Cover Information
From SCS Bernalillo County Soil Survey, Plate 11:
EmB Embudo Gravelly Fine Sandy Loam
Hydrologic Soil Group B

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 22.2D-1)
$T_c = 10$ min (minimum)
A = area, acres
Volume: $V = CP_6A(1/12)$
where C varies
$P_6 = 2.2$ in (DPM Plate 22.2D-1)
A = area, sf

Existing Condition
$A_{total} = 624{,}170$ sf = 14.33 Ac
$A_{imp} = 0$ sf; % impervious = 0%
'C' = 0.34 (DPM Plate 22.2C-1)
$Q_{100} = CiA = 0.34(4.65)(14.33) = 22.7$ cfs
$V_{100} = CP_6A = 0.34(2.2/12)(624{,}170) = 38{,}910$ cf

Developed Condition
1. Phase I
$A_{total} = 624{,}170$ sf = 14.33 Ac
$A_{imp} = 172{,}300$ sf; % impervious = 28%
'C' = 0.47 (DPM Plate 22.2C-1)
$Q_{100} = CiA = 0.47(4.65)(14.33) = 31.3$ cfs
$V_{100} = CP_6A = 0.47(2.2/12)(624{,}170) = 53{,}780$ cf
2. Full Development
Phase I corresponds to 65% impervious @ 70% impervious, C = 0.69
$Q_{100} = 0.69(4.65)(14.33) = 46.0$ cfs
$V_{100} = 0.69(2.2/12)(624{,}170) = 78{,}960$ cf

Comparison
1. Phase I
$\Delta Q_{100} = 31.3 - 22.7 = 8.6$ cfs (increase)
$\Delta V_{100} = 53{,}780 - 38{,}910 = 14{,}870$ cf (increase)
2. Full Development
$\Delta Q_{100} = 46.0 - 22.7 = 23.3$ cfs (increase)
$\Delta V_{100} = 78{,}960 - 38{,}910 = 40{,}050$ cf (Increase)

DRAINAGE PLAN

The following items concerning the Hewlett Packard Journal Center Conceptual 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 southeast corner of the intersection of Tiburon Street N.E. and Jefferson N.E. At present, the site is undeveloped.

As shown by Panel 9 of the National Flood Insurance Program, Flood Boundary and Floodway Maps, City of Albuquerque, New Mexico, this site does not lie within a designated Flood Hazard Zone. Furthermore, the Journal Center Drainage Report prepared by Bohannan-Huston, Inc. demonstrates that the free discharge of runoff from the site is permissible provided that the storm drainage improvements in the adjacent streets are constructed. As shown by the adjacent plan, and as verified by field inspection, the storm drainage improvements are in place. It is based upon the presence of these facilities that downstream capacity exists and that free discharge is appropriate.

The Grading Plan shows 1) existing and proposed grades indicated by contours at 1' 0" intervals, 2) the limit and character of the Phase I improvements, 3) continuity between existing and proposed grades, and 4) the limit and character of the existing adjacent improvements. As shown by this plan, the proposed improvements include the construction of a building along with adjacent paving and landscaping. At present, the site drains from east to west and discharges to an existing desilting basin. As a result of development, developed runoff will be directed to Tiburon Street N.E. Tiburon Street drains to two existing catch basins which are connected to the existing storm drain system previously discussed. This discharge of runoff will be via paved surfaces. The proposed construction will tend to decrease the amount of runoff which enters the existing desilting basin in the present condition.

Future development is planned for this site, however, the exact nature of this development is not known at this time. It anticipated that the future development will resemble that of the currently proposed phase of construction. Calculations have been prepared based upon this preliminary knowledge. Lastly, no offsite flows impact this site as evidenced by the existing topography supplemented by field investigation.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used for this analysis in accordance with the City of Albuquerque Development Process Manual, Volume II. As shown by these calculations, the proposed improvements will increase the peak runoff from the site. This increase which is estimated to be 46 cfs under full development is substantially less than the 83 cfs analyzed for AP-4 under Area D by Bohannan-Huston, Inc. The Bohannan-Huston plan does indicate some offsite flows, however, the review of the topographic survey and field visits indicate that this offsite flow is collected at the east property line of the site and conveyed in a southwesterly direction to Tiburon Street N.E. At this point, the runoff will drain in a southerly direction in Tiburon away from the aforementioned catch basins adjacent to the subject project site.

JEFF MORTENSEN & ASSOCIATES, INC.
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ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (505)345-4250

NO.	DATE	BY	REVISIONS
1	7/22/96	J.M.	LOWER FF & ELIMINATE DOCK AREA
2	9/27/91	JGM	UPDATE FOR HOSPITAL RENOVATION & REPLAT

DESIGNED BY: J.G.M.
DRAWN BY: jmc
APPROVED: J.G.M.

JOB NO. 910801
DATE 10/91

CONCEPTUAL GRADING & DRAINAGE PLAN UPDATE
LOVELACE NEURO-BEHAVIORAL HOSPITAL

FILE NO.
SHEET 1 OF 1