



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 30, 1995

Gregory J. Krenik
Mark Goodwin & Associates
P.O. Box 90606
Albuquerque, NM 87199

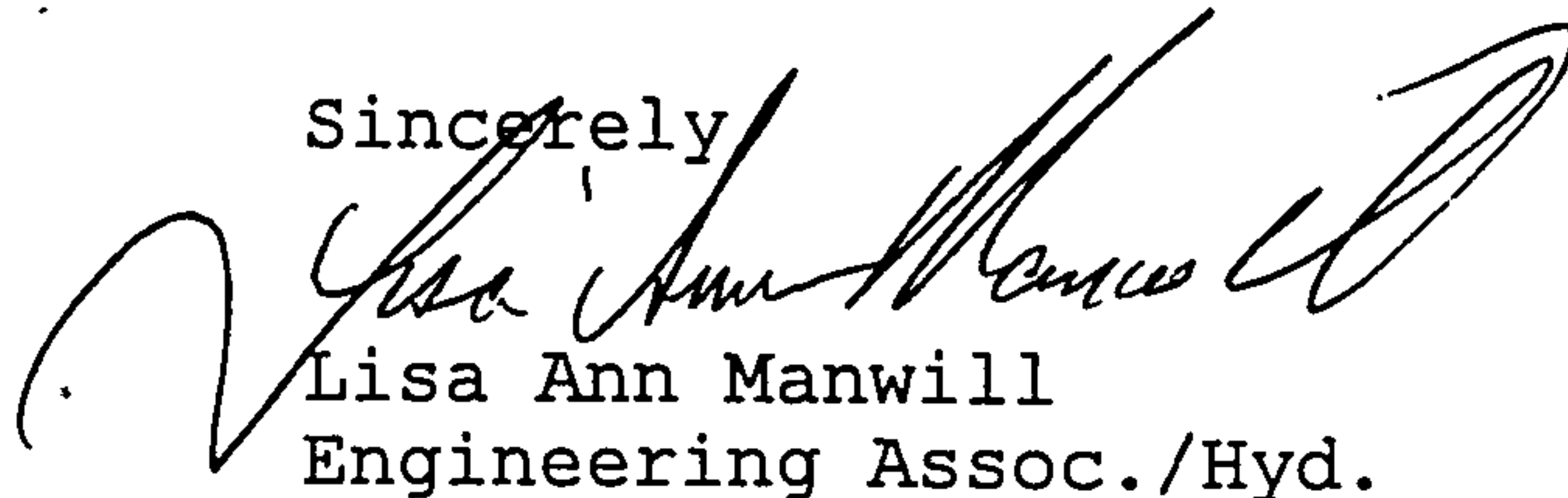
**RE: FIRST SECURITY CASH VAULT (D17-D71) ENGINEER'S CERTIFICATION
FOR CERTIFICATION OF OCCUPANCY APPROVAL. ENGINEER'S
CERTIFICATION DATED OCTOBER 26, 1995.**

Dear Mr. Krenik:

Based on the information provided on your October 25, 1995
submittal, the above referenced project is approved for
Certificate of Occupancy.

If I can be of further assistance, please feel free to contact me
at 768-3622.

Sincerely

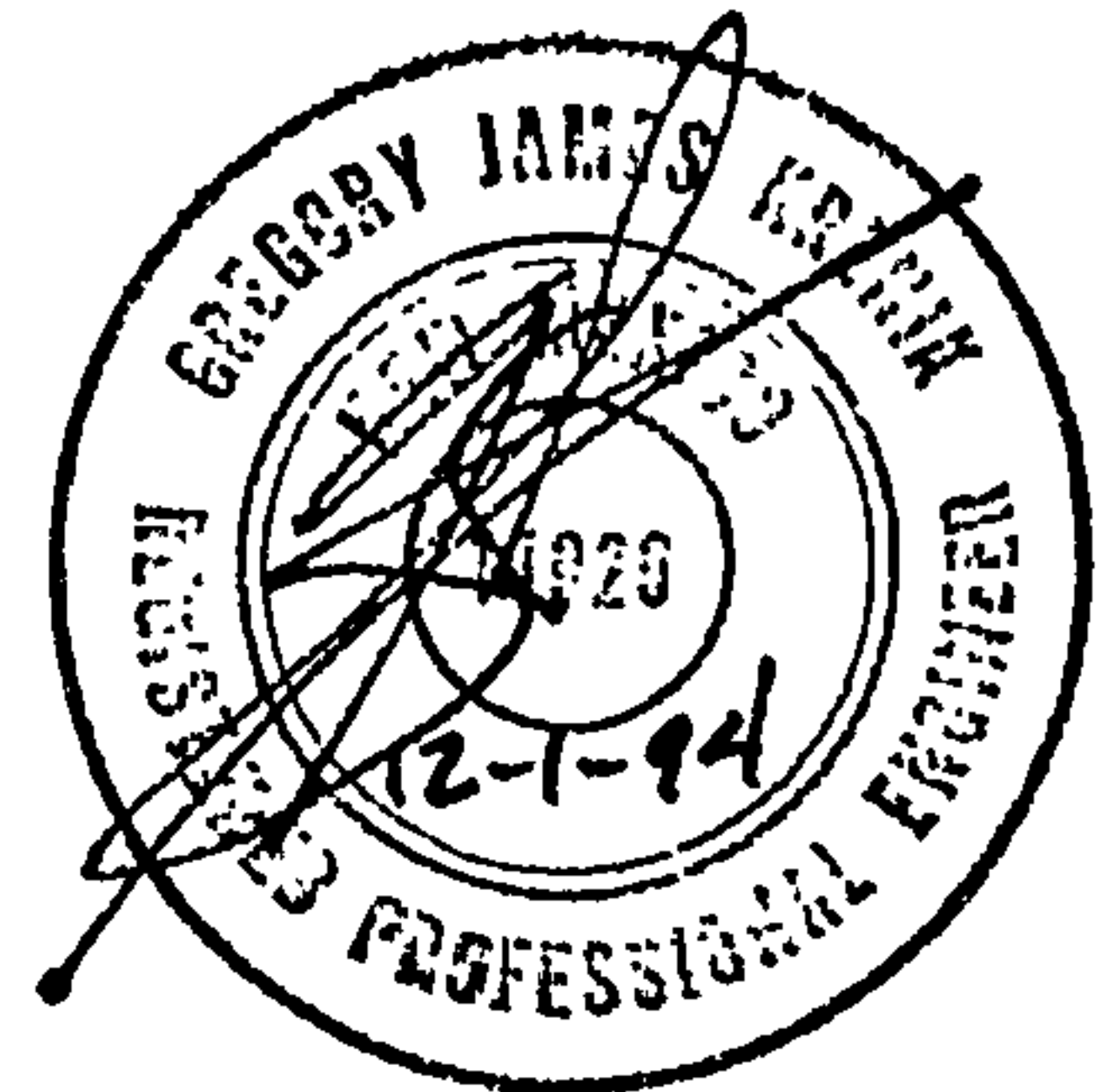
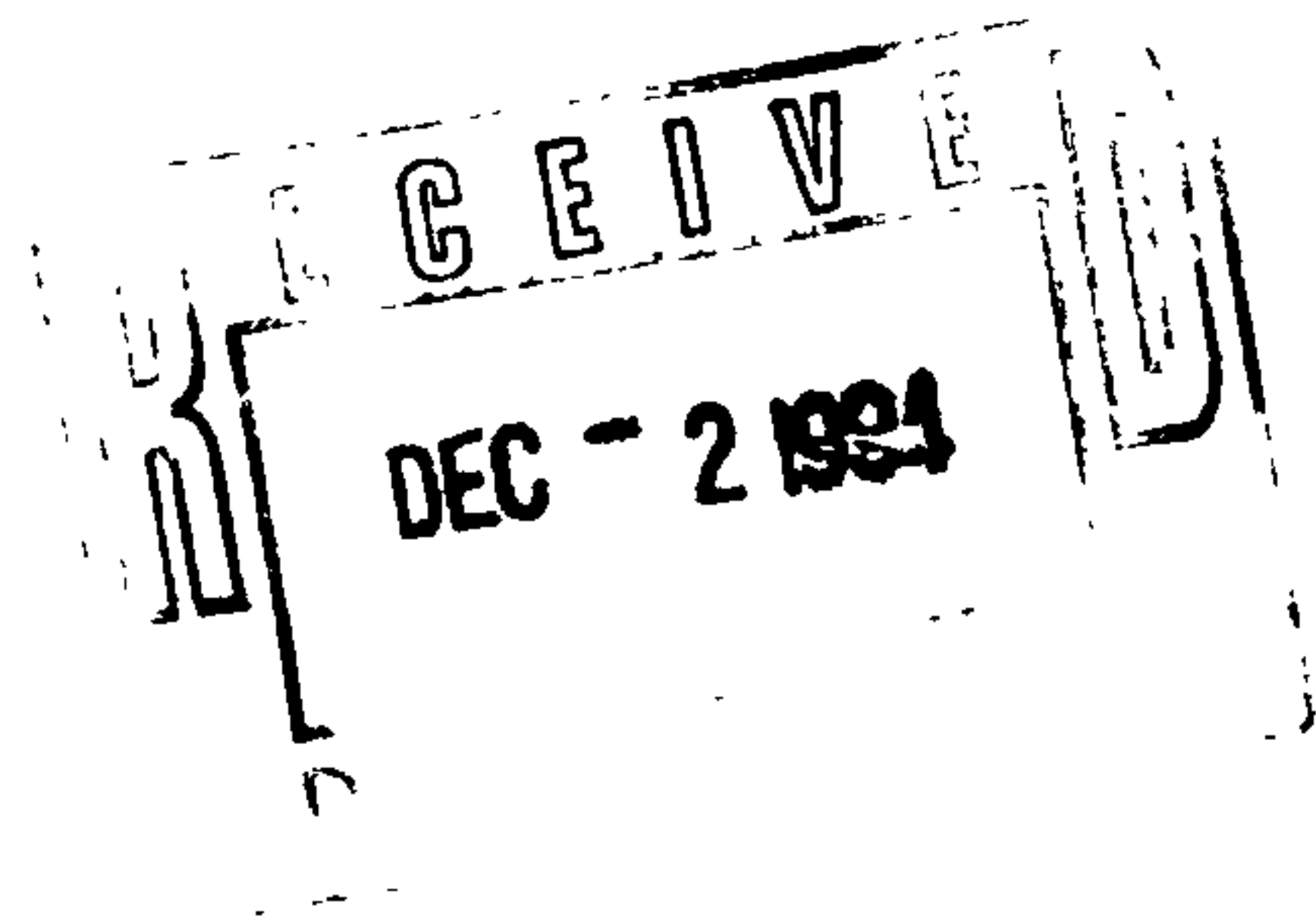


Lisa Ann Manwill
Engineering Assoc./Hyd.

c: Andrew Garcia
File

DRAINAGE CALCULATIONS
for
FIRST SECURITY BANK CASH VAULT

December 1994





D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT FIRST SEC. VAULT
SUBJECT DRAINAGE CALCS
BY GJK DATE 11-11-94
CHECKED _____ DATE _____
SHEET 1 OF _____

TOTAL SITE: 2,2003 AC = 0.0034 SQ MI

LANDSCAPE: 0.7592 AC 34.51% B

ARE/ROOF: 1,4411 AC 65.49% D

$$P_1 = 2.05 \text{ in}$$

$$P_6 = 2.36 \text{ in}$$

$$P_{24} = 2.70 \text{ in}$$

$$DT = 0.03333 \text{ HR}$$

$$TP = 0.1333 \text{ HR}$$

FROM HYMO SHEETS 2+3

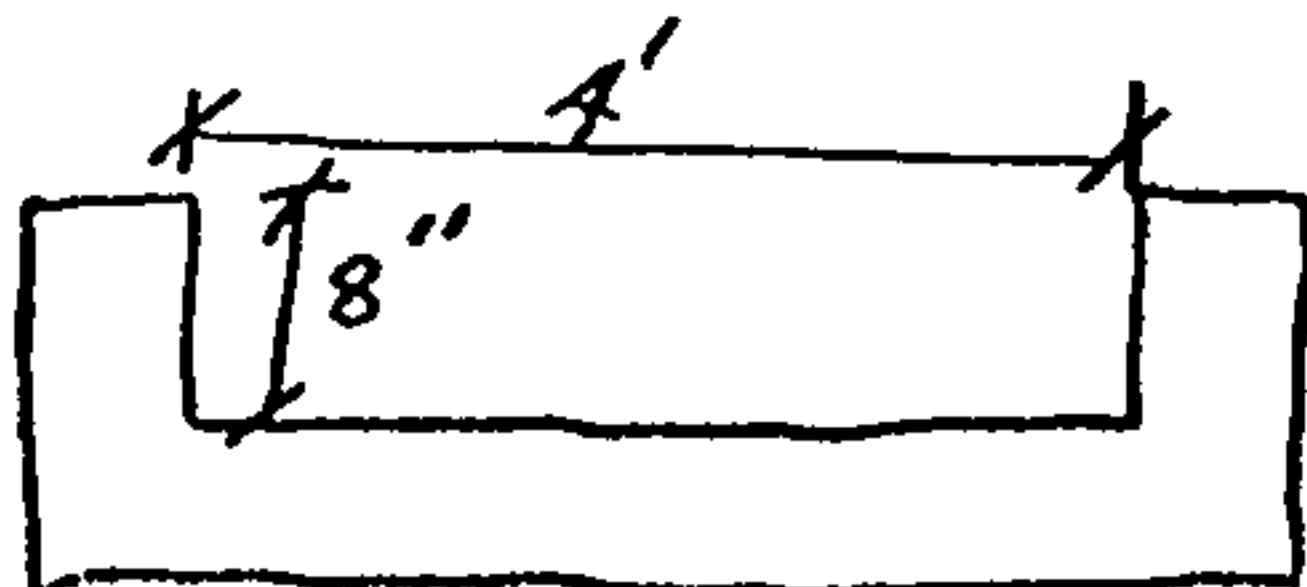
$$Q = 8.58 \text{ CFS}$$

$$V = 0.3026 \text{ AC-FT}$$

- AREA DRAINING TO CHANNEL

$$1,358 \text{ AC} = 61.72\% \text{ OF SITE}$$

$$Q = 8.58 \times 0.6172 \\ = 5.30 \text{ CFS}$$



$$\text{SLOPE} = 1\%$$

$$d = 0.29$$

$$w_p = 4.58$$

$$A = 1.16$$

$$V = 4.58 \text{ F/S}$$

$$Q = 5.31 \text{ CFS} \approx 5.30 \text{ CFS} \text{ OK}$$

$$d + \frac{V^2}{2g} = 0.62 < 0.67 \text{ OK}$$

- VERIFY OPENING

$$Q = 2.95 < 4^{1.5}$$

$$= 2.95(4)(.67)^{1.5}$$

$$= 6.47 \text{ CFS} > 5.30 \text{ CFS} \text{ OK}$$

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

December 14, 1994

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PROGRAM INPUT DATA:

DESCRIPTION **FIRST SECURITY VAULT** ~~D17-D41~~ **D17-D41** VALUE

Channel Bottom Slope (feet per foot).....	0.0100
Manning's Roughness Coefficient (n-value).....	0.0140
Channel Side Slope - Left Side (horizontal/vertical)....	0.00
Channel Side Slope - Right Side (horizontal/vertical)...	0.00
Channel Bottom Width (feet).....	4.0

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PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)

0.1	0.9	2.21	1.234	0.076	0.176	0.4	4.0
0.2	2.7	3.41	1.342	0.180	0.380	0.8	4.0
0.3	5.2	4.33	1.394	0.292	0.592	1.2	4.0
0.4	8.2	5.10	1.422	0.404	0.804	1.6	4.0
0.5	11.5	5.76	1.436	0.516	1.016	2.0	4.0
0.7	17.8	6.69	1.443	0.695	1.362	2.7	4.0

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TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.3 (c) 1986
Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092
(713) 895-8322. A manual with equations & flow chart is available.



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December 14, 1994

Gregory J. Krenik
Mark Goodwin & Associates
P.O. Box 90606
Albuquerque, NM 87199

RE: REVISED DRAINAGE PLAN FOR FIRST SECURITY CASH VAULT
(D17-D71) REVISION DATED 12/1/94.

Dear Mr. Krenik:

Based on the information provided on your December 2, 1994 resubmittal, the above referenced site is approved for Building Permit.

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

Prior to Certificate of Occupancy release, Engineer Certification per the D.P.M. checklist will be required.

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

Sincerely,

Bernie J. Montoya
Bernie J. Montoya, CE
Engineering Associate

BJM/dl

c: Andrew Garcia
Rich Brown
File