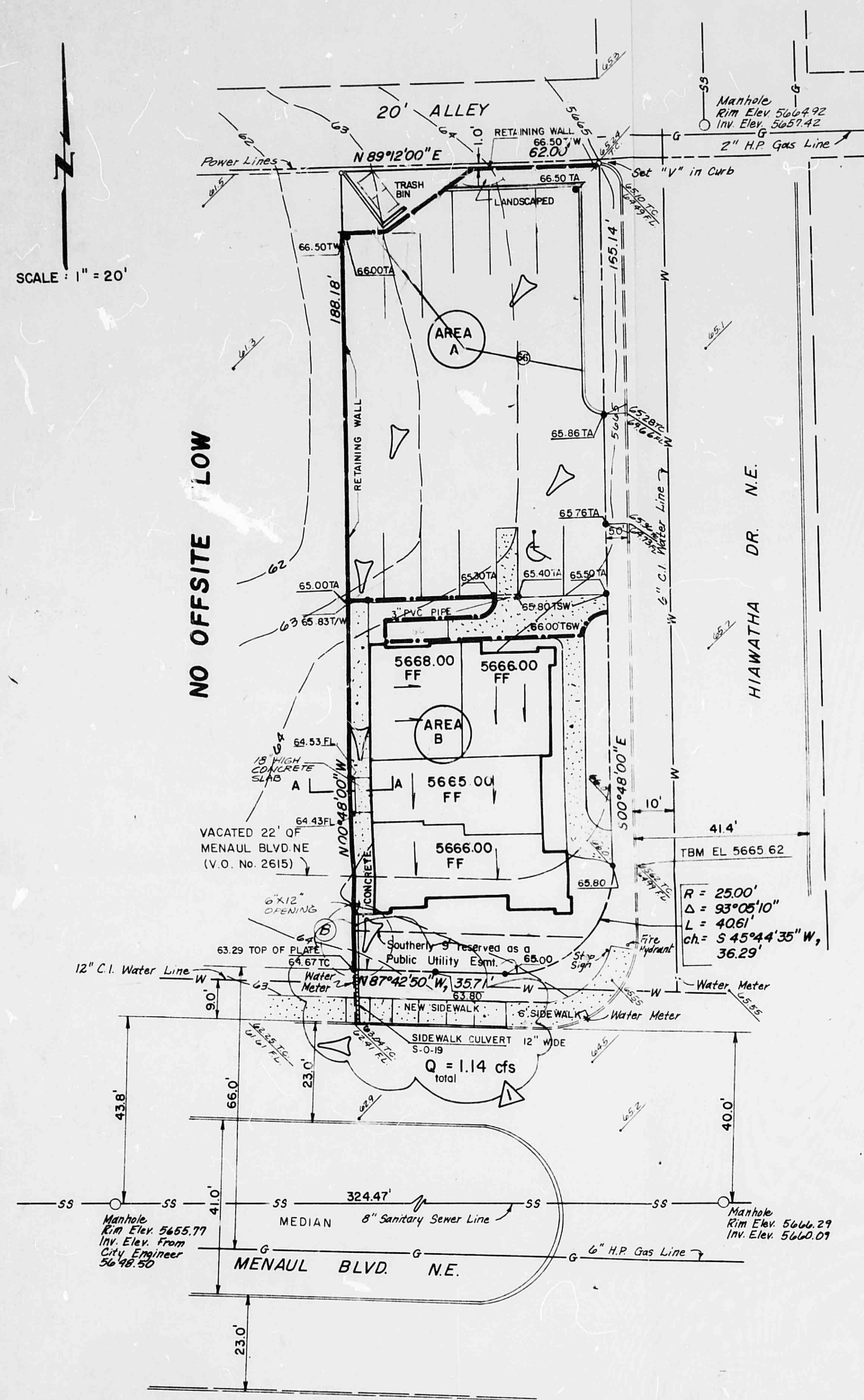
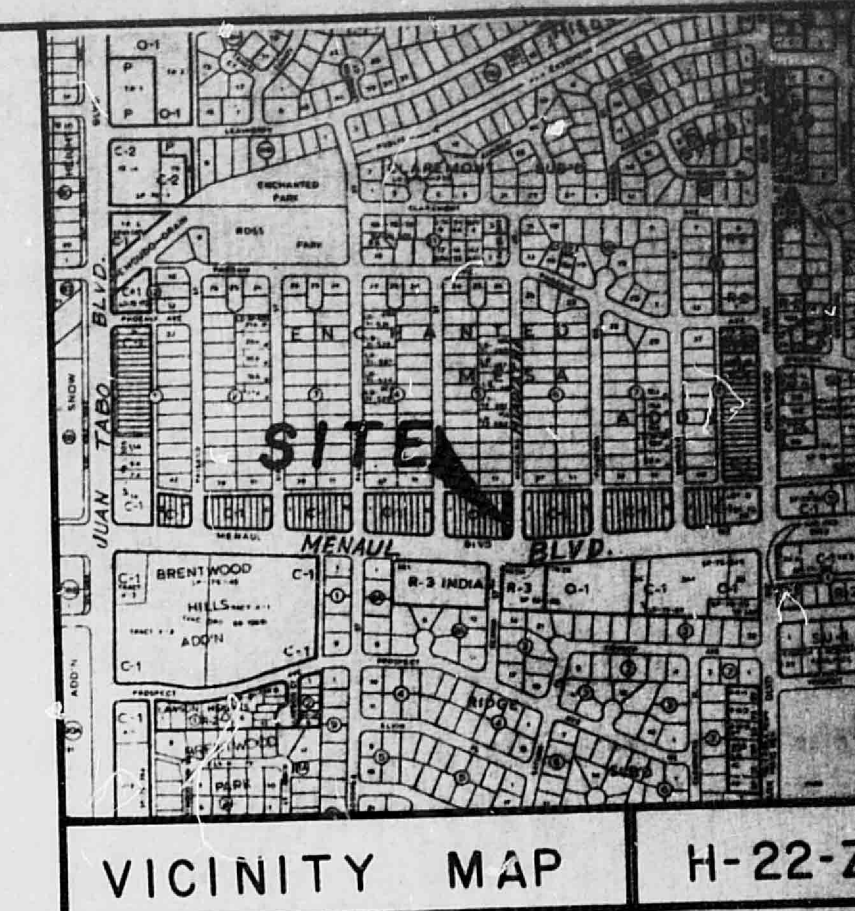


# GRADING & DRAINAGE PLAN FOR

LOT 10-A, BLOCK 5  
ENCHANTED MESA  
ALBUQUERQUE, NEW MEXICO

JULY, 1985



## BENCHMARK INFORMATION

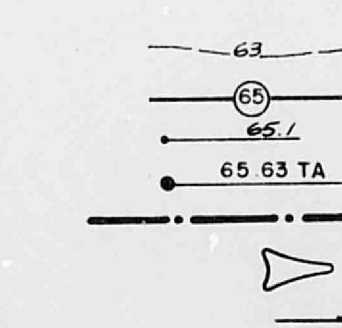
BM. 6-H22 A SQUARE CHISEL ON TOP OF CONCRETE CURB AT THE NNE CURB RETURN LOCATED AT THE INTERSECTION OF MENAUL BLVD., AND CHELWOOD DR., N.E.  
ELEVATION 5705.285

## NOTE TO CONTRACTOR:

THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.

## LEGEND

EXIST. GRADE  
PROPOSED GRADE  
EXIST. SPOT EL.  
FINISHED EL.  
DRAINAGE AREA SUBDIVIDE  
FLOW DIRECTION  
DIRECTION OF ROOF DRAIN



## DRAINAGE INFORMATION

### I. References

- City of Albuquerque, Development Process Manual (DPM), Volume 2, Design Criteria
- Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico, U.S. Soil Conservation Service, Sheet
- Flood Insurance Rate Map, City of Albuquerque, New Mexico Panel

### II. General Information

- Site Location and Elevation Data
  - Legal Description: Lot 10-A, Block 5, Enchanted Mesa
  - Total Site Area: 0.2667 ac.
  - City Address: 1719 Menaul Blvd. N.E.
  - City Bench Mark: 5705.285
  - County Zone Atlas: H-22
- Soil Type (Reference) III: Hydrologic Soils Group: B
- 6-hour, 100-year rain,  $R = 2.5$  inches Reference, Plate 22.2 D-1
- Runoff Coefficient ("C" Factor) Reference, Plate 22.2 D-1

### DRAINAGE CALCULATION:

|                             |           |      |     |
|-----------------------------|-----------|------|-----|
| Area A 6843 SF = 0.1571 ac. |           |      |     |
| Type of Building            | Area (SF) | Cs   |     |
| Building & Concrete         | 1,000     | 0.90 | 285 |
| Asphalt                     | 0.90      | 0.90 | 285 |
| Landscaping                 | 0.34      | 0.34 | 285 |

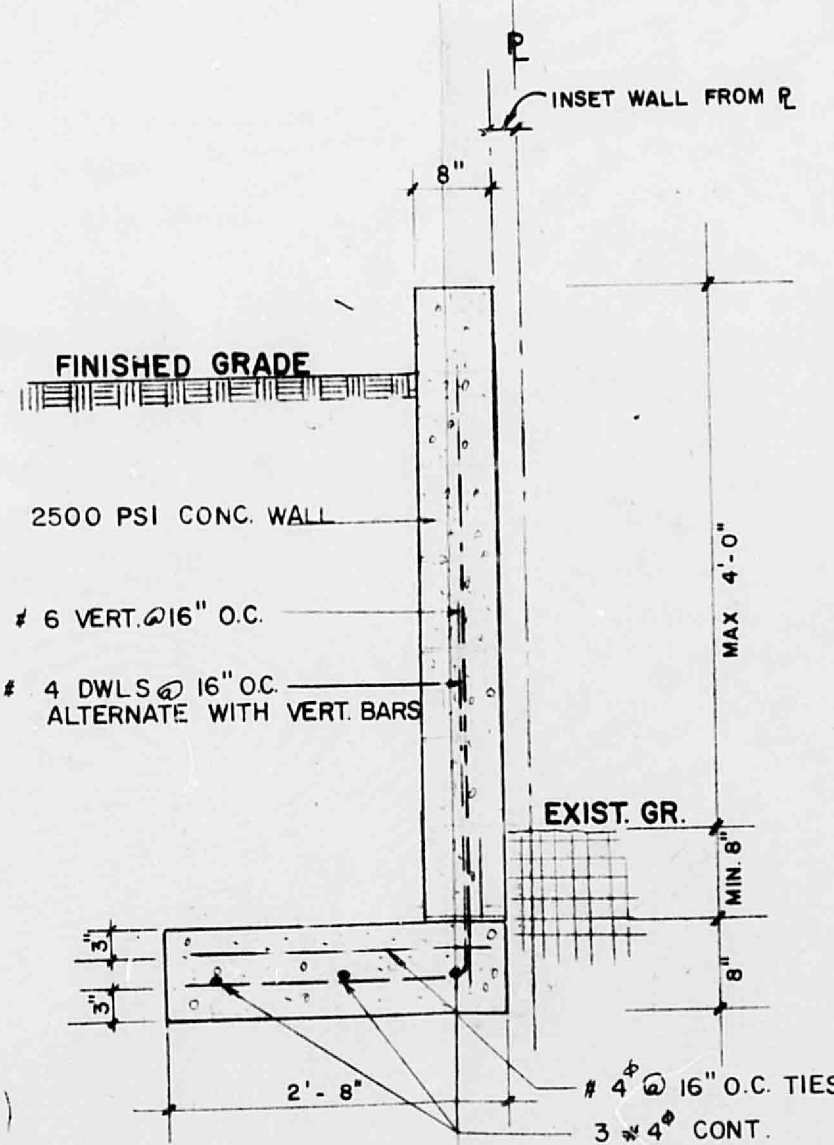
Weighted "C" =  $5893/6843 = 0.86$   
Time of Concentration:  $L = 122$  FT  
Watershed length:  $L = 122$  FT  
Watershed change in elevation:  $h = 3.5$  FT  
Watershed slope:  $S = 0.0287$  FT/FT  
By Kirpich Equation:  $T_c = 0.0078(10.77/0.385) = 1.23$  min.  
Intensity:  $I = R_p \times 6.84 \times T_c^{-0.51}$   
 $I = (2.50)(6.84)(1.23)^{-0.51} = 5.28$  in/hr

Peak Discharge:  
Developed:  $Q = CFA = (0.86)(5.28)(0.1571) = 0.71$  cfs  
Undeveloped:  $Q = (0.34)(5.28)(0.1571) = 0.28$  cfs

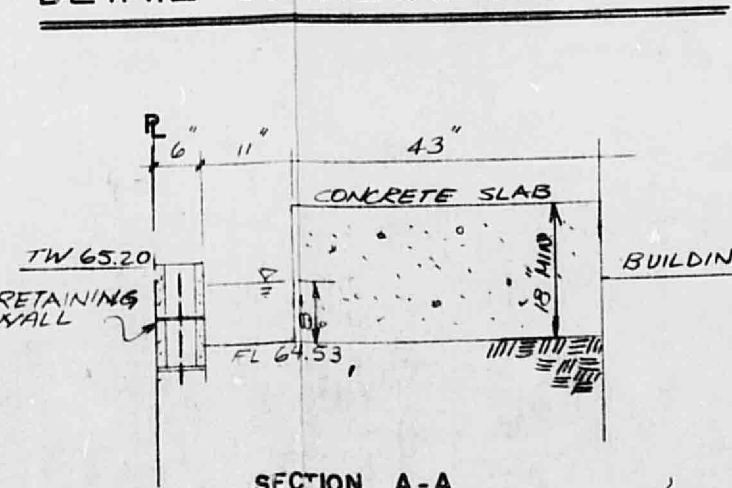
|                             |           |      |     |
|-----------------------------|-----------|------|-----|
| Area B 4774 SF = 0.1096 ac. |           |      |     |
| Type of Building            | Area (SF) | Cs   |     |
| Building & Concrete         | 1,000     | 0.90 | 297 |
| Asphalt                     | 0.90      | 0.90 | 297 |
| Landscaping                 | 0.34      | 0.34 | 297 |

Weighted "C" =  $3588/4774 = 0.75$   
Time of Concentration:  $L = 105$  FT  
Watershed length:  $L = 105$  FT  
Watershed change in elevation:  $h = 1.8$  FT  
Watershed slope:  $S = 0.0095$  FT/FT  
By Kirpich Equation:  $T_c = 0.0078(10.77/0.385) = 1.68$  min.  
Intensity:  $I = R_p \times 6.84 \times T_c^{-0.51}$   
 $I = (2.50)(6.84)(1.68)^{-0.51} = 5.28$  in/hr

Peak Discharge:  
Developed:  $Q = CFA = (0.75)(5.28)(0.1096) = 0.43$  cfs  
Undeveloped:  $Q = (0.34)(5.28)(0.1096) = 0.20$  cfs



## DETAIL OF RETAINING WALL



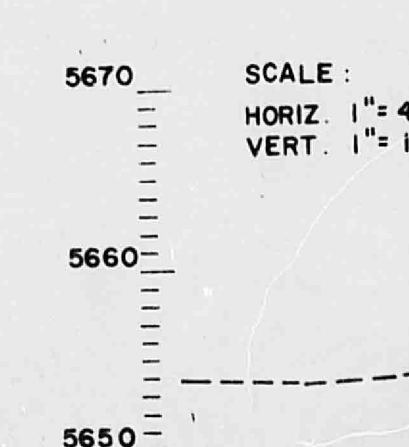
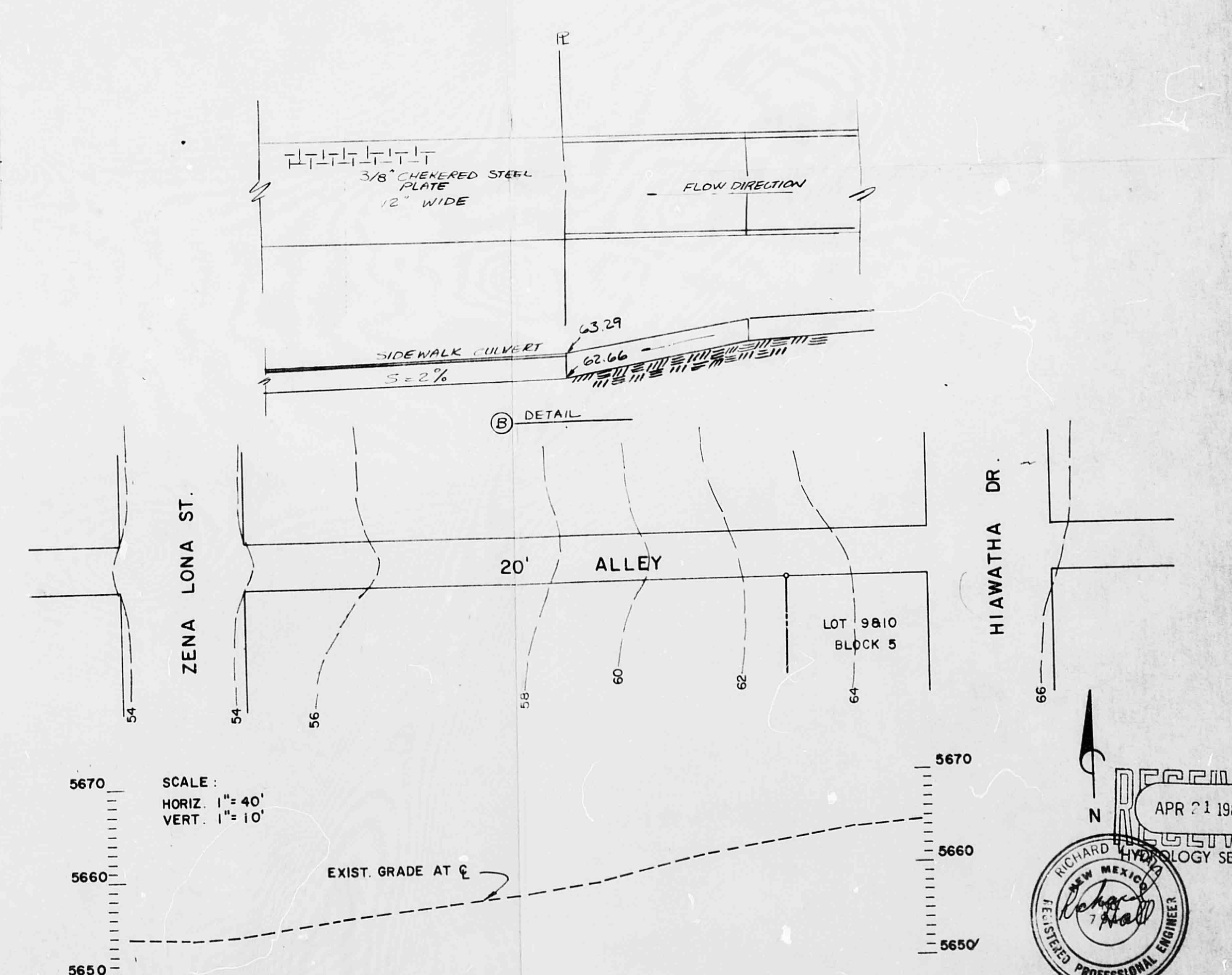
## WEIR ANALYSIS

$$Q = CLH^{3/2} \quad L = 1' \quad H = 7/2" \text{ (MIN.)}$$

$$C = 3.27 + 0.40 \sqrt{P} \quad C \text{ (MIN.)} = 3.27$$

$$Q = (3.27)(1)(0.625)^{3/2}$$

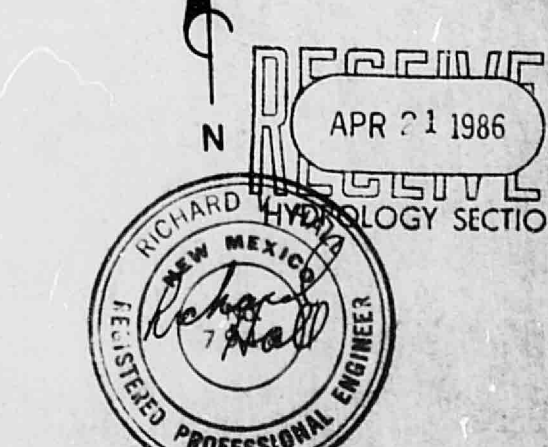
$$Q = 1.62 \text{ ft}^3/\text{s} > 1.14 \text{ ft}^3/\text{s}$$



## EVALUATION OF ALLEY GRADE

$S = 0.015$  FOR CONCRETE  
 $n = 0.013$   
 $A = 0.61$  SF  
 $R = A/P = 0.2711$   
 $Q = \frac{1.486}{0.013} (0.61)(0.2711)^{2/3} (0.015)^{1/2}$   
 $Q = 3.12 \text{ cfs} > 1.14 \text{ cfs (total flow)}$

H22/D51



July 19, 1985  
Revised Sept 27, 1985  
REVISOR MARCH 19, 1986  
REVISOR APRIL 15, 1986

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