

CALCULATIONS

HYDROLOGY

Rational Formula used to compute discharge & SCS procedure for volume
 Total area = 8,931 S.F. = 0.205 acres
 100 yr. 6 hr vol. rain = 2.2" (Plate 22.2 D-1) 10 yr. factor = 0.657
 $I = 2.15$ (Plate 22.2 D-2)
 Intensity $I = 4.73$ (6 hr. vol. * I)
 SCS CN = 79 (range poor condition B-soils group XVbA Vinton Sandy loam)

UNDEVELOPED

$C = 0.40$ $Q_{100} = C I A = 0.4 \times 4.73 \times 0.205 = 0.39$ cfs
 Runoff Volume = 0.70 " (Plate 22.2 C-4) CN = 79 and 2.2" rainfall
 Vol. 100 = $DA \times R / 12 = 8,931 \times 0.7" / 12 = 521$ cu.ft.

DEVELOPED

Composite $C = 0.73$ ($27\% \times .25 + 73\% \times .925$) 73% impervious area
 $Q_{100} = 0.73 \times 4.73 \times 0.205 = 0.71$ cfs
 Composite runoff CN = 0.92 (Plate 22.2 C-3) 73% impervious & CN=79
 Runoff $R_0 = 1.55$ " (Plate 22.2 C-4)
 Vol. 100 = $1.55/12 \times 8931 = 1,154$ cu.ft.

HYDRAULICS

Existing Storm Drain (along Mountain Rd.)
 Pipe = 18" RCP $S = 0.002$ $n = 0.013$
 $Q = 1.486/n \times d^{4.49} \times S^{0.54} = 4.75$ cfs

Parking Area

Av. top width = 40' Assume $d = 0.1'$ (Assume "V" shape) $A = 2.0'$
 $n = 0.017$ $S = 0.005$ $S_{\frac{1}{2}} = 0.00707$
 $r = 40'$ $r = 0.05$ $r^{2/3} = 0.1356$ ($r = A/P$)
 $V = 1.486/n \times s \times r^{2/3} = 0.838$
 $Q \cdot AV = 2.0 \times 0.838 = 1.68$ c.f.s. Exceeds Q_{100}

Legal Description: Tract 367 (0.0482 acres) Tract 27 (0.133 Acres) & Part of Tract A (0.0230 Ac)
 Replat to TRACT A-2 8,931.17 sq. ft.

Project Benchmark

Sta. 8-J13A

Elevation 4956.62

Grasscap in curb of NE. Corner

18th and Mountain NW

Legend

- Proposed spot Elevations
- Existing spot Elevations
- Existing contour
- Swale (proposed)
- Property Line
- Existing Curb & Gutter



VICINITY MAP
 ZONE ATLAS J-13-7

Tiguex Park

DRAINAGE PLAN

The following items concerning the Blankley Gallery and Sculpting garden Drainage Plan are as follows: 1. Vicinity Map
 2. Drainage Plan
 3. Grading Plan
 4. Erosion Control Plan
 5. Calculations

An art gallery and sculpting gardens are proposed on this tract, as shown on the plan. They are located on the south side of Mountain Road N.W. just east of Tiguex Park, close to the intersection of 18th Street N.W.

At present this site is undeveloped. The adjacent property to the south has an adobe house on it. The land is approximately the same elevation and it appears that no runoff enters from here, except about 2 feet next to and north of the house. To the west lies Tiguex Park and no runoff comes in from there because a 6" curb is built adjacent to this property. To the north is Mountain Road and no runoff comes in from there. To the east an office development has controlled runoff and no runoff comes in from there. Also to the east, about 35 feet about the same property that lies to the south. Both sides of the fence are about the same elevation and it appears that some ponding takes place. Flows from this property will not contribute to any future ponding.

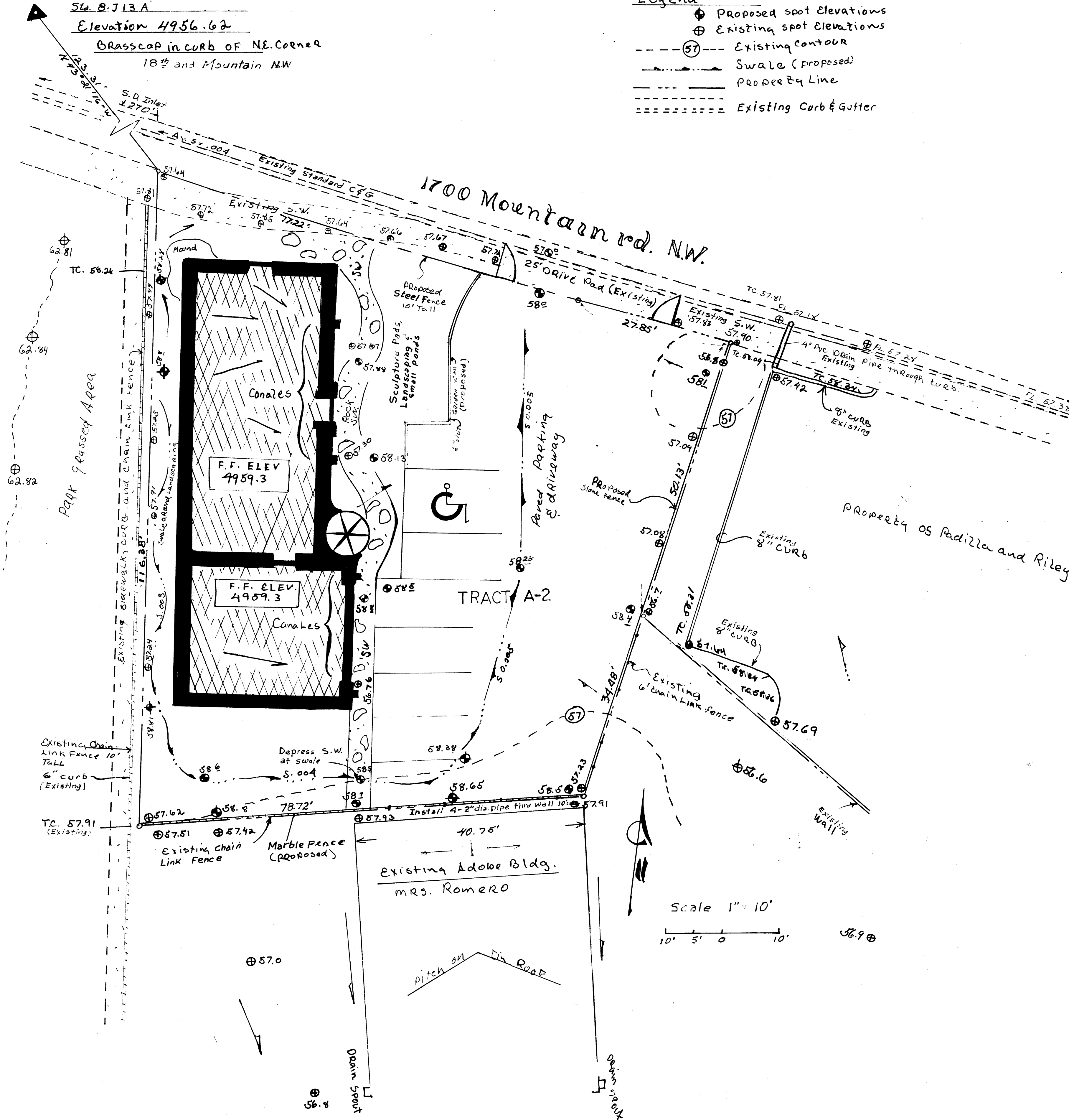
When developed, the impervious area will include the paved parking-driveway area, the roof and the sidewalks. The sculpting garden areas will include pervious landscaped areas and also small ponds. Runoff from this area is expected to be minimal.

Runoff from the roof, sidewalks and all other areas on the westerly portion of the tract will flow in an easterly direction toward the parking-driveway area where a paved swale is planned to carry flows north toward Mountain Road. At the Road, runoff will flow toward a storm drain inlet located about 270 feet west of the northwest corner of this tract.

- Free discharge is planned for the following reasons:
- The Tract is small, only about 0.205 acres.
 - Runoff impact to the downstream storm drain system will be minimal. Estimated peak discharge from the 100-year storm is only 0.71 cfs.
 - There is a storm drain inlet and system a short distance from the site.

The grading plan consists of the existing contours and existing spot elevations, proposed grades as shown by the proposed spot elevations, location and slopes of proposed swales with direction of flow. Retaining walls are not required. A marble fence is planned along the south boundary.

Sediment deposition due to erosion during construction will not be a problem. Site elevations will remain basically the same as they are now until the parking areas are paved. If needed small earth dikes will be constructed at site to keep sediment within the site.

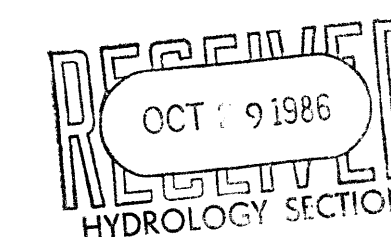


PROJECT BENCH MARK
 City of Albuquerque BM# 8-J13A
 Elev. 4956.62. A standard ACS brass
 Tablet stamped "8-J13A" set flush with
 the curb, Northeast corner of Mountain
 Rd. N.W. and 18th St. intersection.

Raul A. Rivera 10-10-86



RIVERA ENGINEERING
 2624 Valencia Dr. N.E.
 Albuquerque, NM 87110



Rev. 1 10-27-86 - Added "existing" to in-place improvements, describe
 BM and clarify Legal, to show replat to one tract. RAR

CITY OF ALBUQUERQUE MUNICIPAL DEVELOPMENT DEPARTMENT ENGINEERING DIVISION					
DRAINAGE PLAN					
BLANKLEY - ART GALLERY-SCULPTING GARDEN					
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E.-Design			Traffic		
A.C.E.-Hydrology			Water		
DRAWING	MAP NO.		SHEET 1 OF 1		

CALCULATIONS

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UNDEVELOPED

$C = 0.40$ $C1A = 0.4 \times 4.73 \times 0.205 = 0.39$ cfs
 Runoff Volume = 0.70 " (Plate 22.2 C-4) CN = 79 and 2.2" rainfall
 Vol. 100 = $DA \times RO/12 = 8,931 \times 0.7 / 12 = 521$ cu.ft.

DEVELOPED

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 Runoff RO = 1.55" (Plate 22.2 C-4)
 Vol. 100 = $1.55/12 \times 8931 = 1,194$ cu.ft.

HYDRAULICS

Existing Storm Drain (along Mountain Rd.)
 Pipe = 18" RCP $S = 0.002$ ' / ' $n = 0.013$
 $Q = 1.486/n \times d \times 8/3 \times S^{1/2} = 4.75$ cfs

Parking Area

Av. top width = 40' Assume $d = 0.1'$ (Assume "V" shape) $A = 2.0'$
 $n = 0.017$ $S = 0.005$ $S^{1/2} = 0.0707$
 $Q = 40' \times r = 0.05$ $r^{2/3} = 0.1356$ ($r = A/n \times P$)
 $V = 1.486/n \times s^{1/2} \times r^{2/3} = 0.839$
 $Q \times AV = 2.0 \times 0.839 = 1.68$ c.f.s. Exceeds Q_{100}

Sigüex Park

DRAINAGE PLAN

The following items concerning the Blankley Gallery and Sculpting garden Drainage Plan are as follows: 1. Vicinity Map
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 5. Calculations

An art gallery and sculpting gardens are proposed on this tract, as shown on the plan. They are located on the south side of Mountain Road N.W. just east of Sigüex Park, close to the intersection of 18th Street N.W.

At present this site is undeveloped. The adjacent property to the south has an adobe house on it. The land is approximately the same elevation and it appears that no runoff enters from here, except about 2 feet next to and north of the house. To the west lies Sigüex Park and no runoff comes in from there because a 6' curb is built adjacent to this property. To the north is Mountain Road and no runoff from there. To the east an office development has controlled runoff and no runoff comes in from there. Also to the east, about 35 feet about the same property that lies to the south. Both sides of the fence are about the same elevation and it appears that some ponding takes place. Flows from this property will not contribute to any future ponding.

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Legal Description: Tract 36.7 (0.0482 acres) Tract 27 (0.133 Acres) & Part of Tract A (0.0230 Ac)
 Replat to TRACT A-2 8,931.17 sq. ft.

PROJECT BENCHMARK

Sta. 8-J13A

Elevation 4956.62

BRASS COP IN CURB OF NE CORNER

18th and Mountain NW

Legend

- Proposed spot Elevations
- Existing spot Elevations
- Existing contour
- Swale (proposed)
- Property Line
- Existing Curb & Gutter



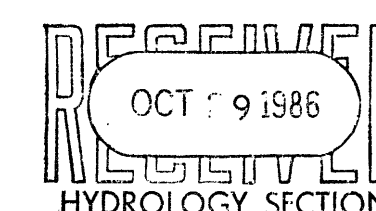
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