

Location
Lot 20, Block 4, Sunset Terrace Addition is located at 1128 Stanford NE. See attached portion of Vicinity Map J-16-Z for exact location.

Purpose
The purpose of this as-built drawing to demonstrate that adequate ponding was provided at the rear of the lot for the contributing Basin A. We are requesting approval of the as-built drawing.

Existing Drainage Conditions
This site is fully developed. All the roof drains to the front through roof drain system. Basin A drains to the back. A retention pond is built for the area that drains to the back. The retention pond is designed based on the 100-year/10-day volume. Since the top of the retention pond is lower than the finished floor elevation of the house there is more ponding volume available if the ponding volume ever exceeded the 100-year/10-day volume.

Calculations
City of Albuquerque, Development Process Manual, Section 22.2, Hydrology Section, was used for ponding calculations. See this plan for calculations.

LEGEND

- EXISTING CURB & GUTTER
===== PROPOSED CURB & GUTTER
---5100--- EXISTING CONTOUR (MAJOR)
---5102--- EXISTING CONTOUR (MINOR)
----- BOUNDARY LINE
----- EASEMENT
x 94.65 PROPOSED SPOT ELEVATION
• 93.65 EXISTING GRADE

VOLUME CALCULATIONS FOR 10-DAY STORM
(UNDER PROPOSED CONDITIONS)

BASIN	AREA (SF)	AREA (AC)	AREA (MI ²)
BASIN A	2,358.40	0.0541	0.000085

$$E = \frac{EA(AA) + EB(AB) + EC(AC) + ED(AD)}{AA + AB + AC + AD}$$

$$V-360 = E (AA + AB + AC + AD)$$

$$V-10 \text{ Day} = V-360 + AD (P-10 \text{ Day} - P-360) / 12 \text{ in/ft}$$

$$\begin{aligned} EA &= 0.53 \\ EB &= 0.78 \\ EC &= 1.13 \\ ED &= 2.12 \end{aligned}$$

$$\begin{aligned} AA &= 0.00\% \\ AB &= 60.00\% \\ AC &= 20.00\% \\ AD &= 20.00\% \end{aligned}$$

$$\begin{aligned} P-60 &= 2.01 \\ P-360 &= 2.35 \\ P-1440 &= 2.75 \\ P-10 \text{ Day} &= 3.95 \end{aligned}$$

$$\begin{aligned} E &= 1.1180 \text{ IN} \\ V-360 &= 0.0050 \text{ AC-FT} \\ AD &= 0.0108 \text{ AC} \\ V-10 \text{ Day} &= 0.0065 \text{ AC-FT} \\ V-10 \text{ DAY} &= 282.62 \text{ CF} \end{aligned}$$

POND CALCULATIONS

POND CALCULATION A

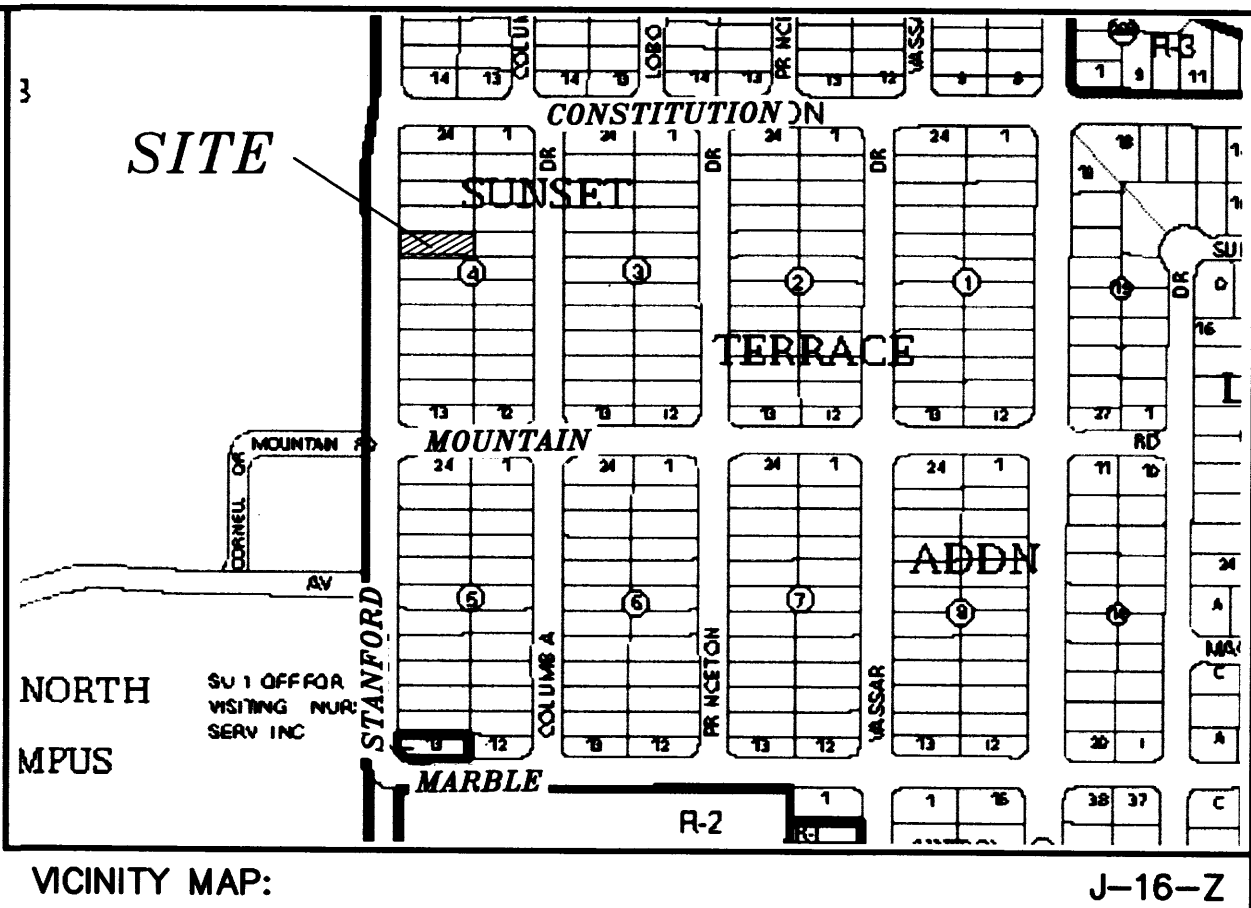
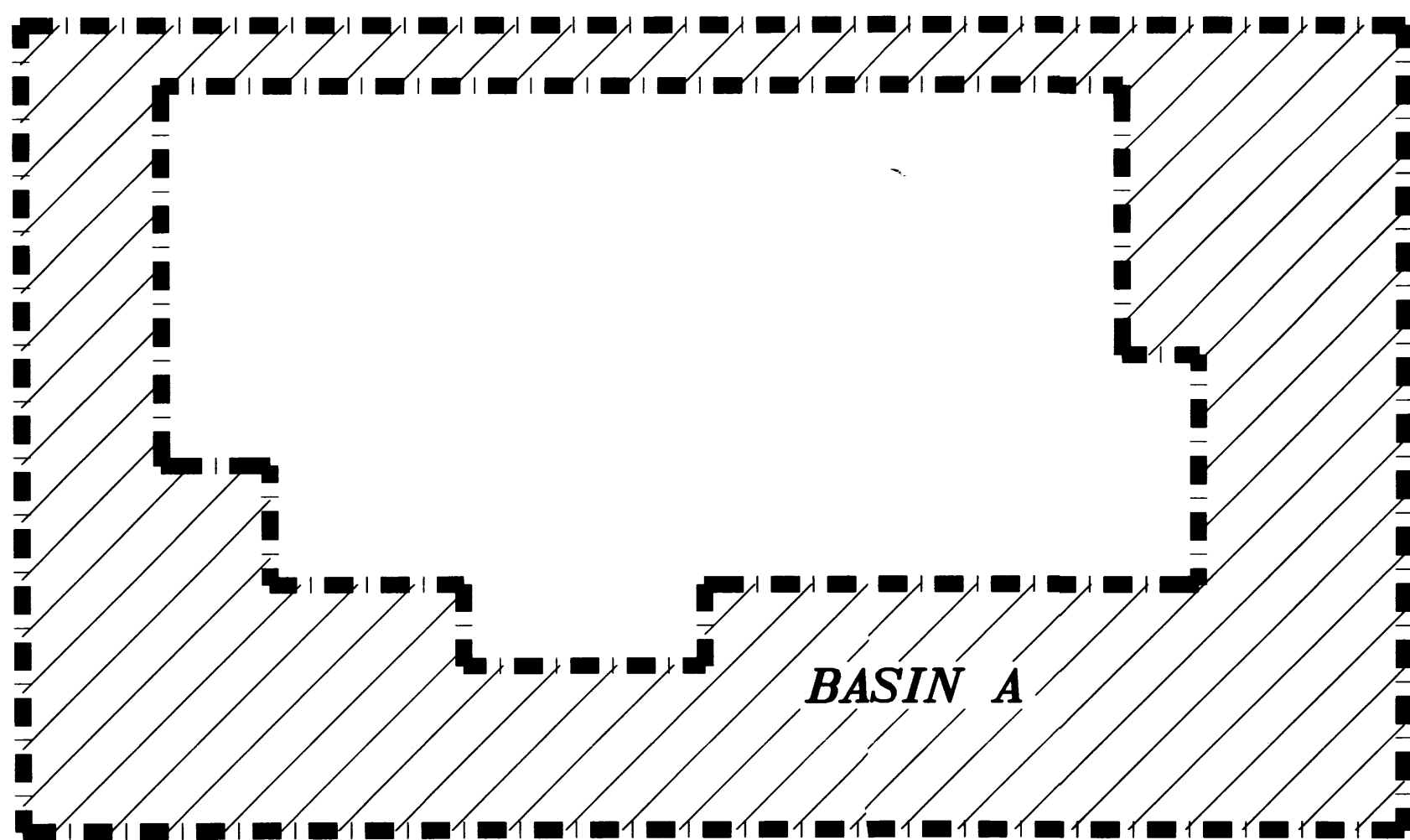
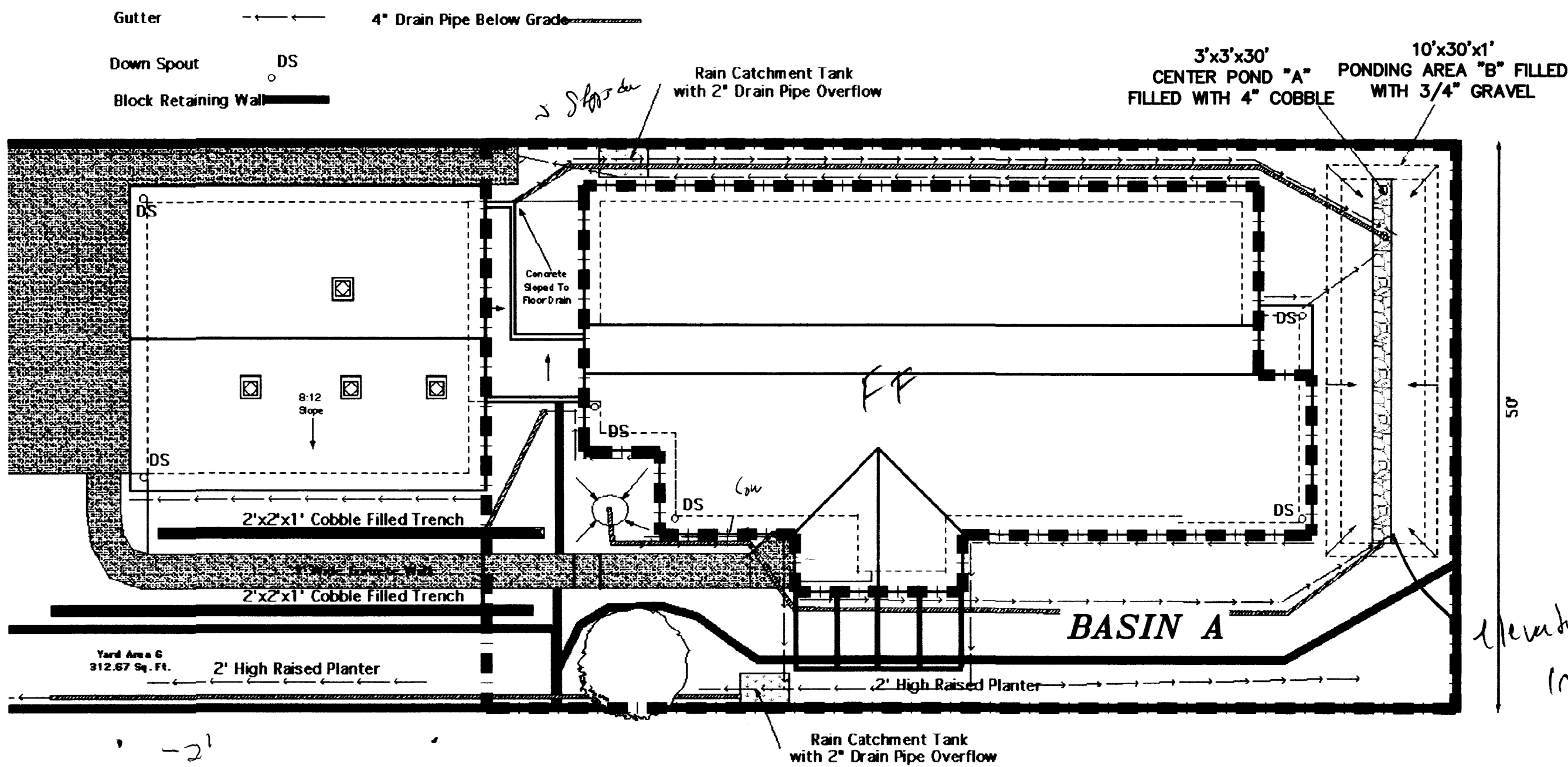
$$\begin{aligned} \text{BOTTOM AREA} &= 30 \times 3 = 90 \text{ SF, TOP AREA} = 30 \times 3 = 90 \text{ SF, DEPTH} = 3.0' \\ \text{VOLUME PROVIDED} &= (90 + 90)/2 \times 3 = 270 \text{ CF} \end{aligned}$$

POND CALCULATION B

$$\begin{aligned} \text{BOTTOM AREA} &= 30 \times 10 = 300 \text{ SF, TOP AREA} = 30 \times 10 = 300 \text{ SF, DEPTH} = 1.0' \\ \text{VOLUME PROVIDED} &= (300 + 300)/2 \times 2 = 300 \text{ CF} \end{aligned}$$

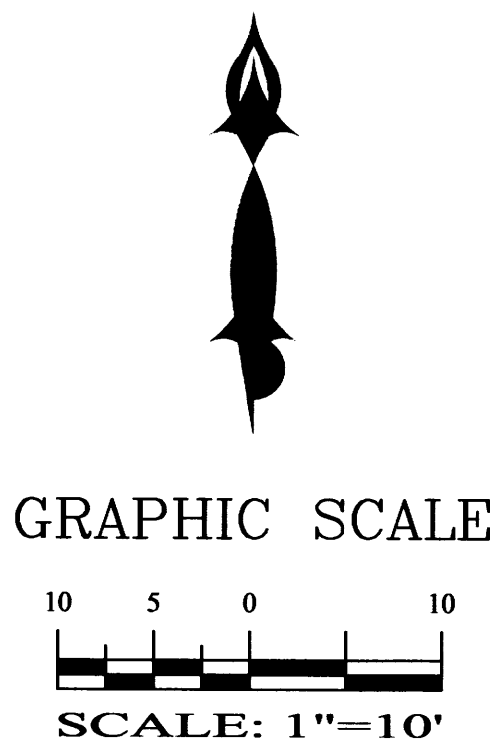
TOTAL VOLUME (POND A + B)

$$\begin{aligned} \text{VOLUME PROVIDED} &= 270 + 300 = 570 \text{ CF} \\ \text{ASSUMING } 50\% \text{ VOID WITH THE ROCKS} &= 570 \times 50\% = 285 \text{ CF} \\ \text{10-DAY OFFSITE/ON-SITE VOLUME REQUIRED} &= 282.62 \text{ CF} \end{aligned}$$



LEGAL DESCRIPTION:
LOT 20, BLOCK 4, SUNSET TERRACE ADDITION

SITE ADDRESS:
1128 STANFORD DR NE



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JUL 06 2010
HYDROLOGY SECTION

ADVANCED ENGINEERING and CONSULTING, LLC

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LOT 20, BLOCK 4, SUNSET TERRACE ADDITION ASBUILT DRAINAGE PLAN			
DRAWING:	DRAWN BY:	DATE:	SHEET #
2010-RNLD5.dwg	SBB	07-02-2010	1 OF 1