

FEE PAID:

Location

This project is located at 6604 Cuervro Pl. NW and contains 0.57 acre. See attached portion of Vicinity Map D-10-Z for exact location.

Purpose

The purpose of this drainage report is to present a grading and drainage solution for the new residential building on this lot.

Existing Drainage Conditions

This project falls within SAD 228 master drainge plan. This site specifically falls within drainage Basin 201. This lot drains from north to south. No offsite runoff enters this site.

Proposed Conditions and On-Site Drainage Management Plan

The drainage patterns will remain the same. The entire runoff from the site will be retain on site along the south property line. The allowable discharge volume based on the 100-year/24-hour volume is 3,203.89 cf and 100-year/24-hour volume under the proposed conditins is 3,375.73 cfs. Therefore, the required ponding volume is 171.84 cf. But the first flush volume ponding requirement is 399.82 cf which exceeds the 171.84 cf. The actual ponding provided is 795.58 cf.

VOLUME CALCULATIONS FOR 10 DAY STORM

BASIN	AREA (SF)	AREA (AC)	AREA (MI ²)
ON-SITE	24,833.71	0.57010	0.000881

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

$$V-360 = E (AA + AB + AC + AD)/12$$

$$V-24 \text{ HOUR} = V-360 + AD (P-10 \text{ Day} - P-360) / 12$$

$$EA = 0.55$$

$$EB = 0.73$$

$$EC = 0.95$$

$$ED = 2.24$$

$$P-60 = 1.69$$

$$P-360 = 2.17$$

$$P-1440 = 2.49$$

$$P-10 \text{ Day} = 3.90$$

ALLOWABLE CONDITIONS

From SAD 228, Basin 201 M
 $Q = 10.17 \text{ CFS} / 5.17 \text{ AC} = 1.97 \text{ CFS/AC}$
 $Q = 1.97 * 0.5701 = 1.12 \text{ cfs}$

$V-24 \text{ HOUR} = 0.667/5.17 = 0.129 \text{ AC-FT/AC}$
 $V-24 \text{ HOUR} = 0.129 * .5701 = 0.07355 \text{ AC-FT}$
 $V-24 \text{ HOUR} = 3,203.89 \text{ CF}$

PROPOSED CONDITIONS

$AA = 0.00\%$
 $AB = 27.00\%$
 $AC = 27.00\%$
 $AD = 46.00\%$

$E = 1.48 \text{ IN}$
 $V-360 = 3,07.10 \text{ CF}$
 $AD = 0.28043 \text{ AC}$
 $V-24 \text{ HOUR} = 3,375.73 \text{ CF}$

$$V-24 \text{ HOUR (REQUIRED)} = 3,375.73 - 3,208.89 \text{ CF} = 171.74 \text{ CF}$$

FIRST FLIUSH PONDING REQUIREMENT

IMPERVIOUS AREA =11,423.51 SF

$$\text{FIRST FLUSH VOL. REQI.} = 0.42" \times 11,423.51 / 12 = 399.82 \text{ CF}$$

PONDING VOLUME CALCULATION

POND A:
BOTTOM AREA(@ 5324)=577.75 SF, TOP AREA(@ 5323.50)=379.63 SF
POND VOLUME=(577.75+379.63)/2*0.50 = 239.35 CF

POND B:
BOTTOM AREA(@ 5324)=634.49 SF, TOP AREA(@ 5323.50)=258.48 SF
POND VOLUME=(634.49+258.48)/2*0.50 = 223.24 CF

POND C:
BOTTOM AREA(@ 5324)=908.26 SF, TOP AREA(@ 5323.50)=423.69 SF
POND VOLUME=(908.26+423.69)/2*0.50 = 332.99 CF

$$\text{TOTAL PONDING PROVIDED} = 239.35+223.24+332.99 \text{ 795.58 CF}$$

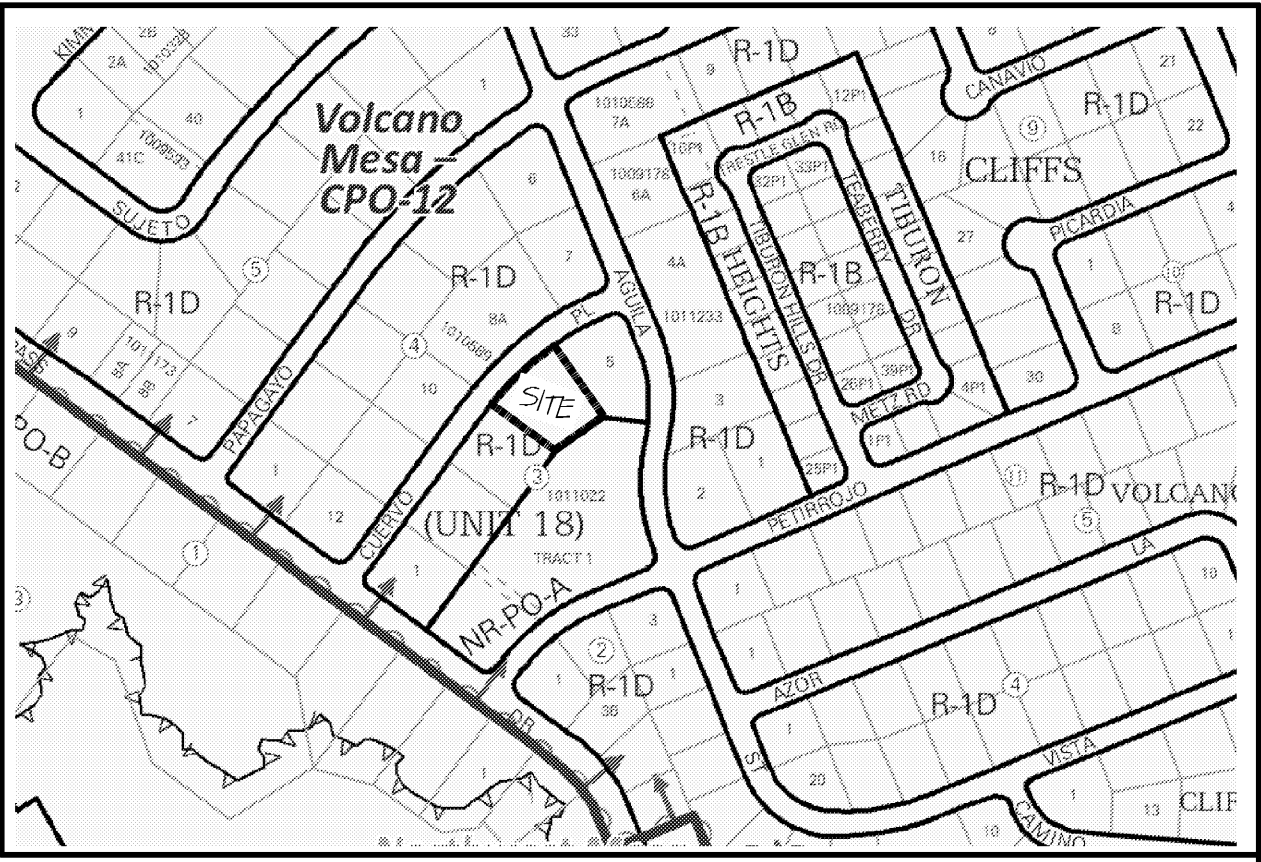
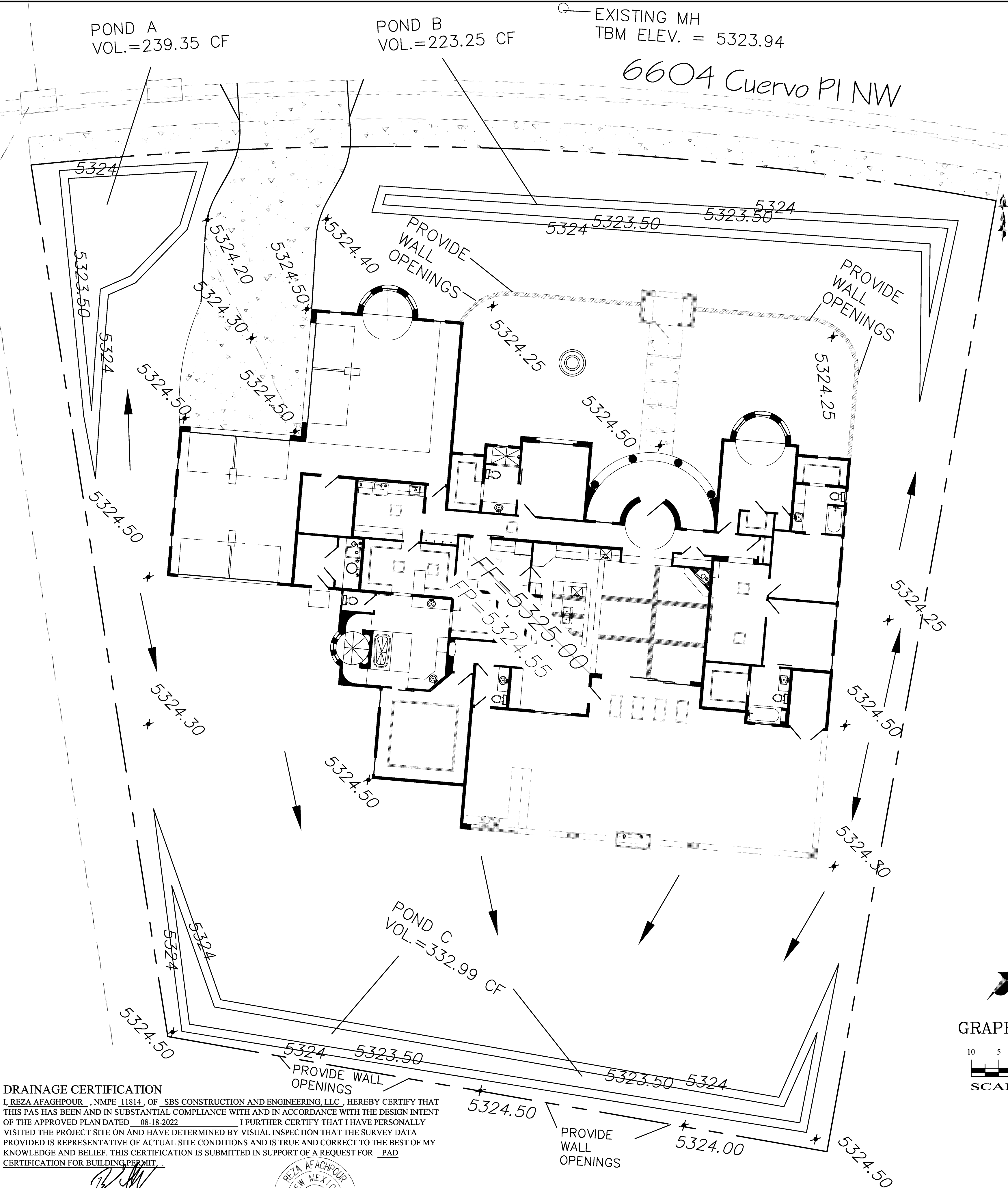
DRAINAGE CERTIFICATION

I, REZA AFAGHPOUR, NMPE 11814, OF SBS CONSTRUCTION AND ENGINEERING, LLC, HEREBY CERTIFY THAT THIS PAS HAS BEEN AND IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 08-18-2022. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR PAD CERTIFICATION FOR BUILDING PERMIT.

REZA AFAGHPOUR, NMPE 11814

4-28-2023

DATE



VICINITY MAP:

D-10-Z



FIRM MAP:

35001C0111G

LEGAL DESCRIPTION:

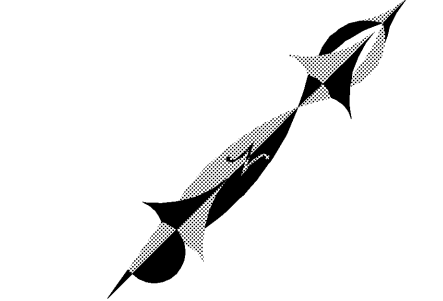
LOT 4, BLOCK 3, VOLCANO CLIFFS UNIT 18

BENCHMARK

CITY BNCHMARK 17_D10, ELEEATION OF 5325.068 FEET ABOVE SEA LEVEL.

LEGEND

- EXISTING CONTOUR (MAJOR)
- EXISTING CONTOUR (MINOR)
- BOUNDARY LINE
- PROPOSED SPOT ELEVATION
- EXISTING GRADE
- EXISTING FLOWLINE ELEVATION
- PROPOSED RETAINING WALL
- BOTTOM OF CHANEL
- TOP OF FOOTING
- TOP OF RETAINING WALL
- HIGH POINT
- AS-BUILT GRADES
- AS-BUILT SPOT ELEVATIONS



GRAPHIC SCALE



SCALE: 1"=10'



REZA AFAGHPOUR
P.E. #11814

SBS CONSTRUCTION
AND ENGINEERING, LLC

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ALBUQUERQUE, NEW MEXICO 87114
(505)899-5570

6604 CUERVO PL NW
GRADING PLAN

DRAWING:	DRAWN BY:	DATE:	SHEET #
6604 Cuervo.DWG	SH-B	8-18-2022	1

LAST REVISION: 8/18/2022