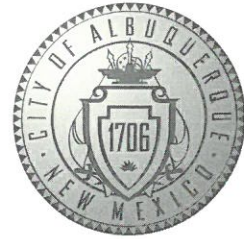


CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director



Mayor Timothy M. Keller

May 22, 2019

Richard Dourte, P.E.
RHD Engineering, LLC
4305 Purple Sage Ave NW
Albuquerque, NM 87120

RE: **8000 Kibo Dr. NW**
SAD 227 Lot 32 Block 6 Volcano Cliffs
Grading and Drainage Plan
Engineers Stamp Date; 2/26/19 (E10D058)
Pad Certification Date; 5/20/19

Dear Mr. Dourte,

Based upon the information provided in your submittal received 5/21/19, this plan is approved for Building Permit.

Please inform the builder/owner to attach a copy of this approved plan and this letter to the construction sets in the permitting process prior to sign-off by Hydrology.

Reiterate to the Owner/Contractor that a separate permit for a garden/retaining wall must be obtained, with the approved G&D plan dated 2/26/19.

Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist of this plan will be required.

If you have any questions, please contact me at 924-3999 or Rudy Rael at 924-3977.

Sincerely,

Renee Brissette, P.E.
Senior Engineer, Hydrology
Planning Department

RR/SB
C: File E10D058



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: 8000 Kibo dr. NW **Building Permit #:** _____ **Hydrology File #:** E10D058

DRB#: _____ **EPC#:** _____ **Work Order#:** _____

Legal Description: Lot 32, Block 6, Volcano Cliffs No. 2

City Address: 8000 Kibo Dr. NW

Applicant: RHD Engineering, LLC **Contact:** Richard Dourte

Address: 4305 Purple Sage Ave. NW, Alb. NM, 87120

Phone#: 505.288.1621 **Fax#:** _____ **E-mail:** rhengineering@outlook.com

Other Contact: Simons Architecture PC **Contact:** Joe Simons

Address: _____

Phone#: _____ **Fax#:** _____ **E-mail:** joe@simonsarchitecture.com

TYPE OF DEVELOPMENT: _____ PLAT (# of lots) ☒ RESIDENCE _____ DRB SITE _____ ADMIN SITE

IS THIS A RESUBMITTAL? _____ Yes ☒ No

DEPARTMENT _____ TRANSPORTATION ☒ HYDROLOGY/DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ARCHITECT CERTIFICATION
- ☒ PAD CERTIFICATION
- ☐ CONCEPTUAL G & D PLAN
- ☐ GRADING PLAN
- ☐ DRAINAGE REPORT
- ☐ DRAINAGE MASTER PLAN
- ☐ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
- ☐ ELEVATION CERTIFICATE
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ TRAFFIC IMPACT STUDY (TIS)
- ☐ STREET LIGHT LAYOUT
- ☐ OTHER (SPECIFY) _____
- ☒ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ SITE PLAN FOR SUB'D APPROVAL
- ☐ SITE PLAN FOR BLDG. PERMIT APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ SIA/ RELEASE OF FINANCIAL GUARANTEE
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ GRADING PERMIT APPROVAL
- ☐ SO-19 APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ GRADING/ PAD CERTIFICATION
- ☐ WORK ORDER APPROVAL
- ☐ CLOMR/LOMR
- ☐ FLOODPLAIN DEVELOPMENT PERMIT
- ☐ OTHER (SPECIFY) _____

DATE SUBMITTED: May 20, 2019 **By:** Richard Dourte

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

DRAINAGE NARRATIVE:

1. THIS SITE IS LOCATED WITHIN THE SAD 227 DRAINAGE MASTER PLAN AREA.
2. THIS SITE , AS IT EXISTS, DRAIN IN A NORTHLY DIRECTION.
3. THE ALLOWABLE 100YR, 6HR FLOWS FROM THIS SITE IS 0.98CFS, THE FLOWS GENERATED BY THIS SITE IS 1.04CFS.
THE VOLUME OF THE FIRST FLUSH POND IS 128CF.
THE REQUIRED PONDING IS THIS IS 100YR 24HR VOLUME FOR THE SAD ALLOWABLE DESIGN VOLUME SUBTRACTED FROM THE PROPOSED 100YR 24HR STORM EVENT VOLUME.
THUS, 1643CF-1484CF= 159CF, SINCE THIS IS GREATER THAN THE STORM WATER QUALITY PONDING REQUIREMENT, 159CF IS REQUIRED TO BE PONDED. PONDING PROVIDED IS 175CF.
4. WEIR EQUATION FOR EACH CELL OF A 8" CMU BLOCK:
 $Q=CL(H)^{1.5}$
 $C=3.21$
 $L=5"$
 $H=5"$
THUS $Q=0.36CFS$, OR .72CFS PER BLOCK.

GENERAL NOTES:

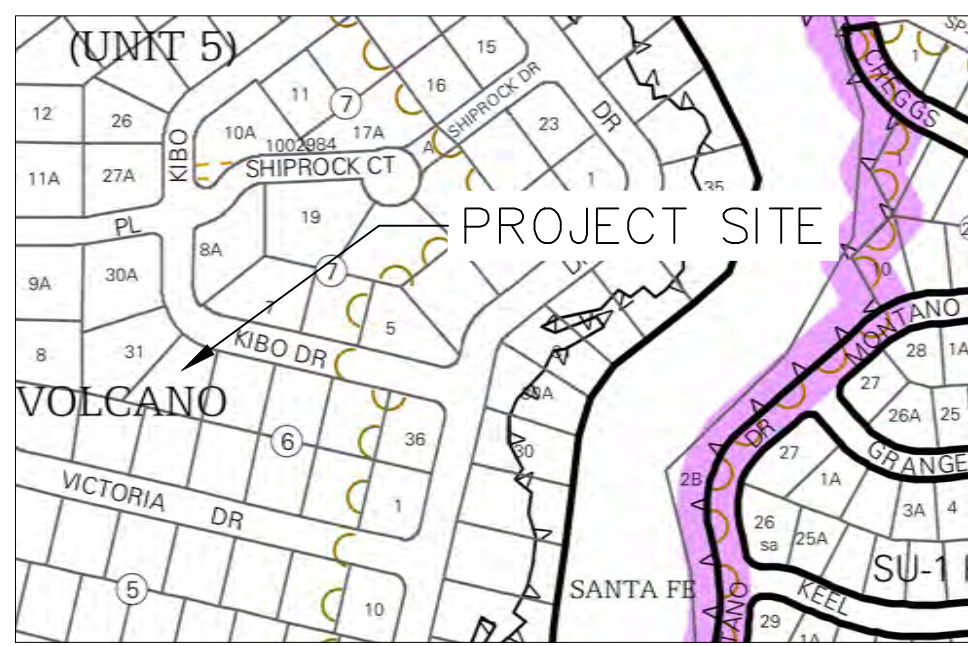
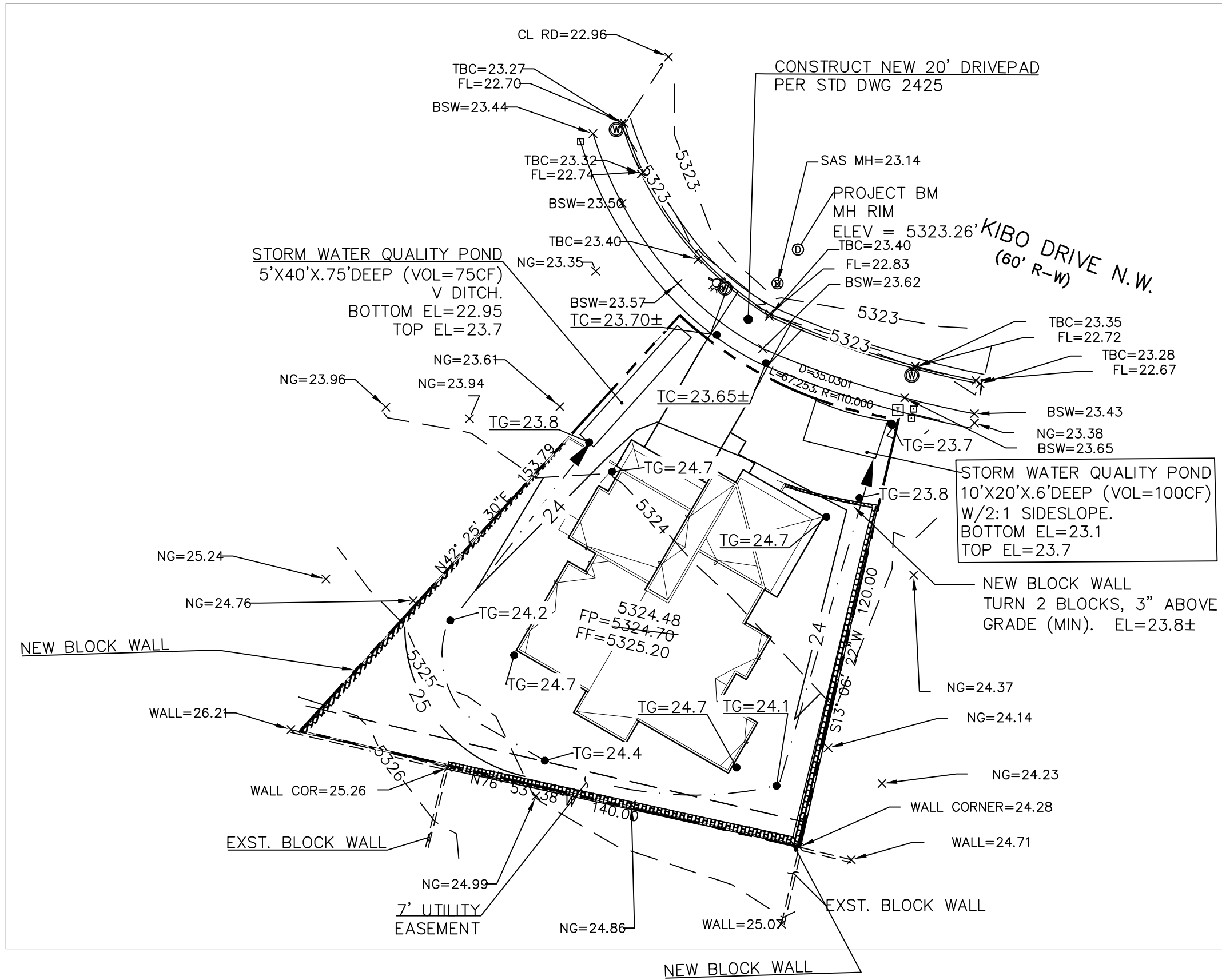
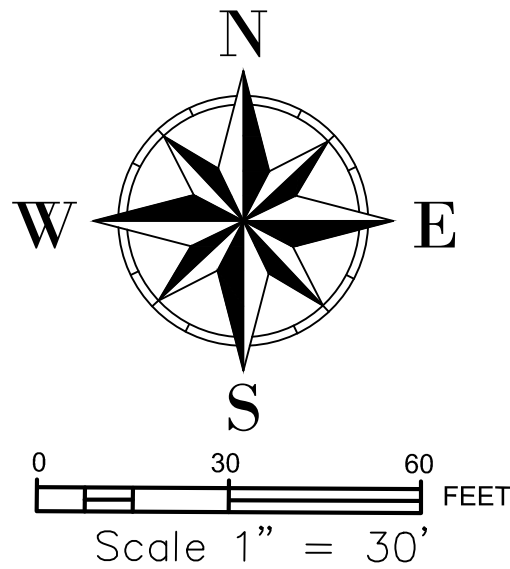
1. THIS SITE IS NOT LOCATED IN A FEMA FLOOD HAZARD ZONE (REFER TO THE FIRM MAP 35001C0113G, EFFECTIVE DATE 9-26-2008, EXCERPT ATTACHED).
2. RHD ENGINEERING, LLC RECOMMENDS THAT THE OWNER OBTAIN A GEOTECHNICAL REPORT PRIOR TO DESIGN OF BUILDING FOOTING/FOUNDATION.
3. SLOPE STABILAZATION SHALL BE USED ON SLOPES GREATER THAN A 3:1 SLOPE, PER MANUFACTURER RECOMMENDATIONS.
4. MODIFICATIONS OR ADJUSTMENTS TO EXISTING DRAINAGE STRUCTURES/EROSION MITIGATION IMPROVEMENTS SHALL BE DONE IN THE SAME MANNER AS THE ORIGINAL IMPROVEMENT.
5. ALL SWPPP REQUIREMENTS SHALL BE ADHERED TO.
6. ALL WORK ON THIS PLAN SHALL BE DONE IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARDS. ALL APPLICABLE PERMITS SHALL BE OBTAINED PRIOR TO WORK COMMENCING.
7. ALL WORK IN THE RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARDS.
8. THIS GRADING PLAN IS TO BE UTILIZED AND A COPY PROVIDED TO THE CITY WHEN APPLYING FOR THE CONSTRUCTION OF ANY GARDEN OR RETAINING WALLS, WITH RESPECT TO THIS SITE.
9. THE SURVEY INFORMATION WAS PROVIDED BY CONSTRUCTION SURVEYS TECHNOLOGIES, INC.
10. FOR SITE DIMENSIONS, BUILDING AND INFRASTRUCTURE LOCATION REFER TO THE SITE PLAN.
11. DO NOT PLACE ADDITIONAL FILL OR LOADING ON ADJACENT WALLS WITHOUT APPROVAL OF A STRUCTURAL ENGINEER. CONTACT A STRUCTURAL ENGINEER FOR ADEQUACY OF THE EXISTING PERIMETER WALLS W/RESPECT TO THIS GRADING PLAN.

EROSION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL ACCEPTANCE OF ANY PROJECT.

CAUTION:

EXISTING UTILITIES ARE NOT SHOWN. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATION TO DETERMINE THE ACTUAL LOCATION OF UTILITIES & OTHER IMPROVEMENTS.



VICINITY MAP: E-10-Z



FIRM MAP: 35001C0113G

LEGAL DESCRIPTION:

LOT 32, BLOCK 6, VOCANO CLIFFS NO. 2
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

NOTES:

1. ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.
2. RETAIN THE FIRST .34' OF STORM RUNOFF FROM ENTIRE DEVELOPMENT TO CONFORM TO THE WATER QUALITY REQUIREMENTS

LEGEND

- 46.00
TW=44.00
PROPOSED SPOT ELEVATION
TOP OF WALL ELEVATION
BOTTOM OF WALL ELEVATION
EXISTING CONTOUR
EXISTING INDEX CONTOUR
PROPOSED CONTOUR
PROPOSED INDEX CONTOUR
LOT LINE
RIGHT-OF-WAY
PROPOSED GARDEN/RETAINING WALL
PROPOSED WALL
EXISTING CURB AND GUTTER
PROPOSED EDGE OF CONCRETE
PROPOSED FLOWLINE
EXISTING WALL
PROPOSED BASIN BOUNDARY
PROPOSED FLOWLINE/SWALE

Project: Lot 32, Block 6, Vocano Cliffs no. 2 (8000 Kibo Dr. NW)

Drainage Calculations - Zone 1

Depth (inches) at 100yr Storm					
Zone	P ₆₀	P ₈₀	P ₁₄₄₀	P _{4days}	P _{10days}
1	1.87	2.20	2.66	3.12	3.67
2	2.01	2.35	2.75	3.30	3.95
3	2.14	2.60	3.10	3.95	4.90
4	2.23	2.90	3.65	4.70	5.95

Excess Precipitation, E(inches) - 6 HR Treatment				
Zone	A	B	C	D
1	0.44	0.67	0.99	1.97
2	0.53	0.78	1.13	2.12
3	0.66	0.92	1.29	2.36
4	0.80	1.08	1.46	2.64

Peak Discharge (CFS/ACRE) 100 YR Treatment				
Zone	A	B	C	D
1	1.29	2.03	2.87	4.37
2	1.56	2.28	3.14	4.70
3	1.87	2.60	3.45	5.02
4	2.20	2.92	3.73	5.25

Weighted E = ((Ea* A_a)+(Eb* A_b)+(Ec* A_c)+(Ed* A_d))/(A_a + A_b + A_c + A_d)				
$V_{360} = \text{Weighted E} * P_{360} / 12 \text{ in/ft}$				
$V_{1440} = V_{360} + A_d * (P_{1440} - P_{360}) / 12 \text{ in/ft}$				
$V_{4days} = V_{360} + A_d * (P_{4days} - P_{360}) / 12 \text{ in/ft}$				
$V_{10days} = V_{360} + A_d * (P_{10days} - P_{360}) / 12 \text{ in/ft}$				

*****ALLOWABLE SAD 227 DESIGN FLOW*****

Area	SQ. FT	Acres	% Total
A=	0	0.000	0%
B=	0	0.000	0%
C=	9642	0.221	74%
D=	3400	0.078	26%
Total	13042	0.299	100%
Weighted E=		1.245	

Design Flows (CFS)				
Area	SQ. FT	Acres	Peak Discharge (100 YR)	
A=	0	0.000	0.00	
B=	0	0.000	0.00	
C=	9642	0.221	0.64	
D=	3400	0.078	0.34	
Total (CFS)			0.98	

*****PROPOSED CONDITIONS*****

Area	SQ. FT	Acres	% Total
A=	0	0.000	0%
B=	500	0.011	4%
C=	7706	0.177	59%
D=	4836	0.111	37%
Total	13042	0.299	100%
Weighted E=		1.341	

Design Flows (CFS)				
Area	SQ. FT	Acres	Peak Discharge (100 YR)	
A=	0	0.000	0.00	
B=	500	0.011	0.02	
C=	7706	0.177	0.51	
D=	4836	0.111	0.49	
Total (CFS)			1.02	

Design Flows (CFS)				
Area	SQ. FT	Acres	Peak Discharge (100 YR)	
A=	0	0.000	0.00	
B=	500	0.011	0.02	
C=	7706	0.177	0.51	
D=	4836	0.111	0.49	
Total (CFS)			1.02	

Design Flows (CFS)				
Area	SQ. FT	Acres	Peak Discharge (100 YR)	
A=	0	0.000	0.00	
B=	500	0.011	0.02	
C=	7706	0.177	0.51	
D=	4836	0.111	0.49	
Total (CFS)			1.02	

Design Flows (CFS)				
Area	SQ. FT	Acres	Peak Discharge (100 YR)	
A=	0	0.000	0.00	
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C=	7706	0.177	0.51	
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Total (CFS)			1.02	

Design Flows (CFS)				
Area	SQ. FT	Acres	Peak Discharge (100 YR)	
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Total (CFS)			1.02	

Design Flows (CFS)				
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B=	500	0.011	0.02	
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D=	4836	0.111	0.49	
Total (CFS)			1.02	

Design Flows (CFS)				
Area	SQ. FT	Acres	Peak Discharge (100 YR)	
A=	0	0.000	0.00	
B=	500	0.011	0.02	
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Total (CFS)			1.02	

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Total (CFS)			1.02	

Design Flows (CFS)				
Area	SQ. FT	Acres	Peak Discharge (100 YR)	
A=	0	0.000	0.00	
B=	500	0.011		