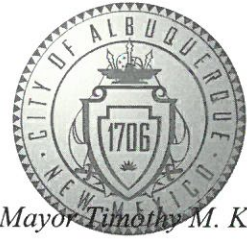


CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor ~~Timothy~~ M. Keller

September 9, 2019

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

**RE: Lot 6-A-1 & 7-A-1 Block 9 Unit 18 SAD 228
6536 Papagayo NW Volcano Cliffs Subdivision
Grading and Drainage Plan
Engineers Stamp Date; 7/25/18 (D10D003I7)
Pad Certification Date; 10/4/18
C.O. Certification Date; 9/5/19**

Dear Mr. Dourte,

Based upon the information provided in your submittal received 9/6/19, this plan is approved for Certificate of Occupancy release.

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

Sincerely,

Shahab Biazar, P.E.
City Engineer, Planning
Division Manager

RR/SB
C: File D10D003I7

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: 6536 Papagayo NW **Building Permit #:** _____ **Hydrology File #:** D10D00317
DRB#: _____ **EPC#:** _____ **Work Order#:** _____
Legal Description: Lot 7-A-1 & 6-A-1, Block 9, Unit 18, Volcano Cliffs Sub'd (SAD 228)
City Address: 6536 Papagayo NW

Applicant: RHD Engineering, LLC **Contact:** Richard Dourte
Address: 4305 Purple Sage Ave. NW
Phone#: 505.288.1621 **Fax#:** _____ **E-mail:** rhengineering@outlook.com

Other Contact: Candelaria Homes **Contact:** Diego Candelaria
Address: _____
Phone#: _____ **Fax#:** _____ **E-mail:** diego.candelariahomes@gmail.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: Sept. 6, 2019

By:

Richard Dourte

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

DRAINAGE NARRATIVE:

- THIS SITE IS LOCATED WITHIN THE SAD 228 DRAINAGE MASTER PLAN AREA.
- THIS SITE IS TO DRAIN IN A WESTERLY DIRECTION, PER THE SAD 228 DRAINAGE MASTER PLAN.
- THE ALLOWABLE 100YR, 6HR FLOWS FROM THIS SITE IS 3.84CFS, THE FLOWS GENERATED BY THIS SITE IS 3.45CFS.
- THE VOLUME OF THE FIRST FLUSH POND IS 690CF, THIS IS GREATER THAN THE REQUIRED PONDING OF 479CF.
- 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.
- THE OFFSITE FLOWS THAT THIS SITE IS REQUIRED TO ACCEPT IS FROM LOT 9, 0.36 AC AND THE PERMISSIBLE DEVELOPED FLOWS ARE 1.27 CFS, PER THE SAD 228 DRAINAGE PLAN. THE NUMBER OF CELLS NEEDED TO ALLOW THESE FLOWS TO PASS ARE $1.27/.72 = 1.76$ BLOCKS THUS 2 BLOCKS (1.44CSF) NEED TO BE TURNED.

Project: 6536 Papagayo					
Drainage Calculations - Zone 1					
		Total Lot Area (ac) = 1.0854			
		Total Offsite Flow Area (ac)= 0.36			
Depth (inches) at 100yr Storm					
Zone	P60	P360	P1440	P4days	P10days
1	1.87	2.20	2.66	3.12	3.67

Excess Precipitation, E(inches) - 6 HR				
Zone	Treatment			
	A	B	C	D
1	0.44	0.67	0.99	1.97

Peak Discharge (CFS/ACRE) 100 YR				
Zone	Treatment			
	A	B	C	D
1	1.29	2.03	2.87	4.37

Weighted E= ((Ea* A_a)+(Eb* A_b)+(Ec* A_c)+(Ed* A_d))/(A_a + A_b + A_c + A_d)

V_{360} =(Weighted E * P_{360})/12 in/ft

V_{1440} = V_{360} + A_o *(P_{1440} - P_{360})/12in/ft

V_{4days} = V_{360} + A_o *(P_{4days} - P_{360})/12in/ft

V_{10days} = V_{360} + A_o *(P_{10days} - P_{360})/12in/ft

UPSTREAM FLOWS= (10% B +40% C +50% D)x area= 1.27CFS

*****SAD 228 Permittable Design Conditions*****

Area		SQ. FT		Acres	
(0%)A=		0		0.000	
(10%)B=		4728		0.109	
(40%)C=		18912		0.434	
(50%)D=		23640		0.543	
Total		47280		1.085	
Weighted E=		1.448			

Area		SQ. FT		Acres	
A=		0		0.000	
B=		4728		0.109	
C=		18912		0.434	
D=		23640		0.543	
Total (CFS)		3.84			

Area		SQ. FT		Acres	
Cubic feet		5705.1		6611.3	
Acre-ft		0.13		0.15	

Area		SQ. FT		Acres	
A=		0		0.000	
B=		5000		0.115	
C=		29780		0.684	
D=		12500		0.287	
Total		47280		1.085	
Weighted E=		1.215			

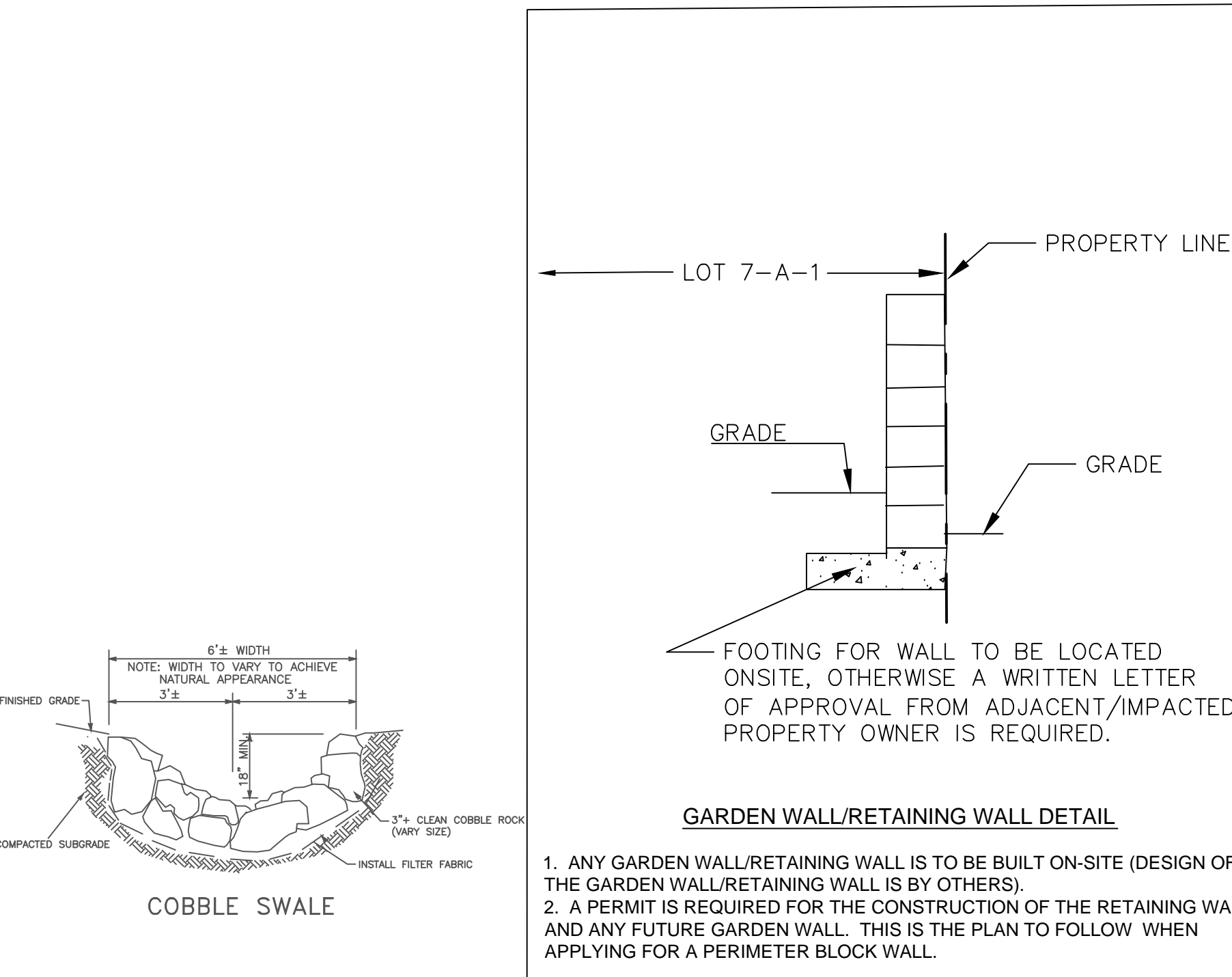
Area		SQ. FT		Acres	
Cubic feet		4788.1		5267.3	
Acre-ft		0.11		0.12	

Area		SQ. FT		Acres	
A=		0		0.000	
B=		5000		0.115	
C=		29780		0.684	
D=		12500		0.287	
Total (CFS)		3.45			

Area		SQ. FT		Acres	
Cubic feet		4788.1		5267.3	
Acre-ft		0.11		0.12	

The 100 year peak flows for this developed site is 3.45 CFS and the SAD 228 permissible design flows are 3.84 CFS for an increase of -0.39 CFS.				
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First Flush Ponding Requirement = A_o *0.46 in/12in/ft = 479 CF



CAUTION:

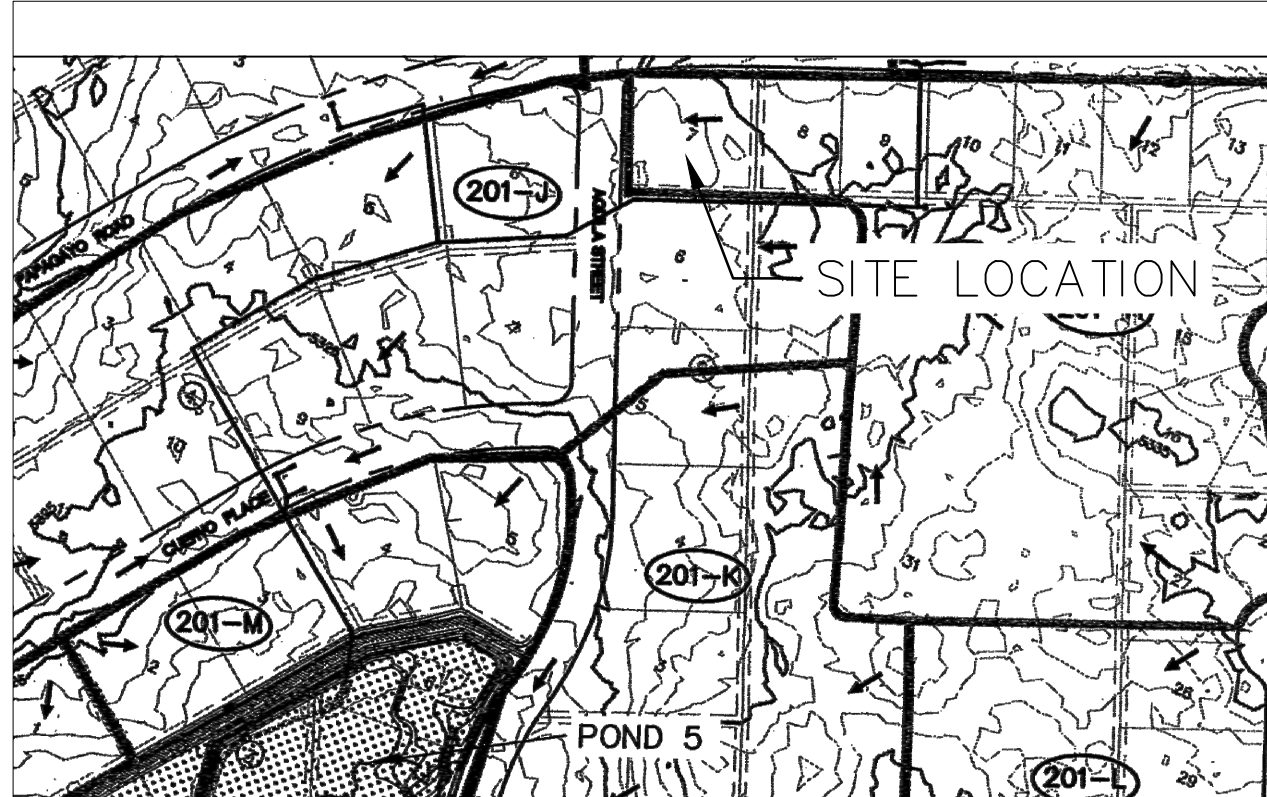
EXISTING UTILITIES ARE NOT SHOWN. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATION TO DETERMINE THE ACTUAL LOCATION OF UTILITIES & OTHER IMPROVEMENTS.

GENERAL NOTES:

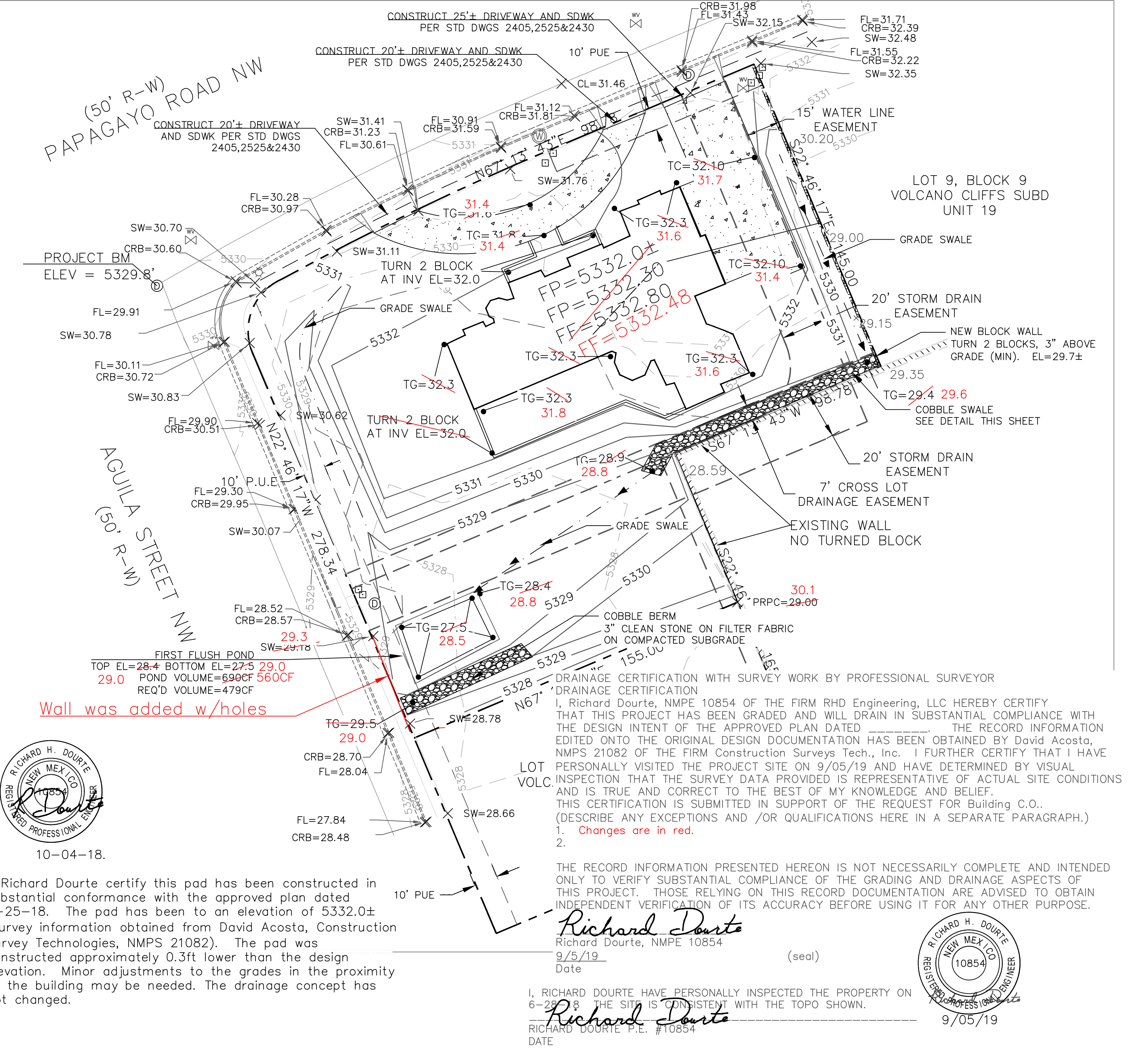
- THIS SITE IS NOT LOCATED IN A FEMA FLOOD HAZARD ZONE (REFER TO THE FIRM MAP 35001C0111G, EXCERPT ATTACHED).
- RHD ENGINEERING, LLC RECOMMENDS THAT THE OWNER OBTAIN A GEOTECHNICAL REPORT PRIOR TO DESIGN OF BUILDING FOOTING/FOUNDATION.
- SLOPE STABILIZATION SHALL BE USED ON SLOPES GREATER THAN A 3:1 SLOPE, PER MANUFACTURER RECOMMENDATIONS.
- MODIFICATIONS OR ADJUSTMENTS TO EXISTING DRAINAGE STRUCTURES/EROSION MITIGATION IMPROVEMENTS SHALL BE DONE IN THE SAME MANNER AS THE ORIGINAL IMPROVEMENT.
- ALL SWPPP REQUIREMENTS SHALL BE ADHERED TO.
- 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.
- ALL WORK IN THE RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARDS.
- 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.
- THE SURVEY INFORMATION WAS PROVIDED BY CONSTRUCTION SURVEYS TECHNOLOGIES, INC.
- FOR SITE DIMENSIONS, BUILDING AND INFRASTRUCTURE LOCATION REFER TO THE SITE PLAN.

EROSION CONTROL NOTES:

- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
- REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.



EXCERPT FROM SAD 228 DRAINAGE REPORT



LEGAL DESCRIPTION:

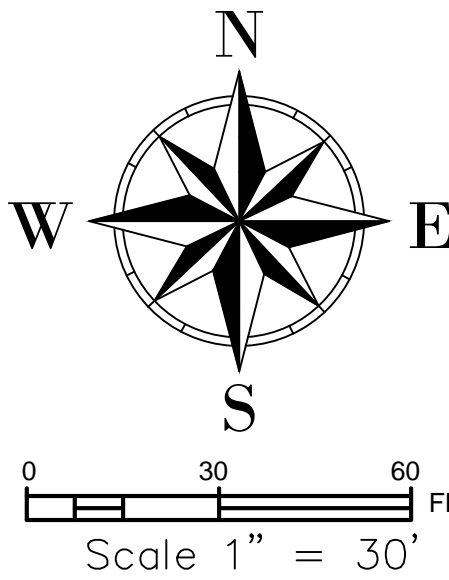
LOT 7-A-1, BLK 9, VOLCANO CLIFFS SUB D, UNIT 19
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

NOTES:

- ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.
- RETAIN THE FIRST .46" OF STORM RUNOFF FROM ENTIRE DEVELOPMENT TO CONFORM TO THE WATER QUALITY REQUIREMENTS

LEGEND

- 46.00 PROPOSED SPOT ELEVATION
- TW=44.00 TOP OF WALL ELEVATION
- 5601 EXISTING CONTOUR
- 5600 EXISTING INDEX CONTOUR
- 5601 PROPOSED CONTOUR
- 5600 PROPOSED INDEX CONTOUR
- LOT LINE
- RIGHT-OF-WAY
- PROPOSED RETAINING WALL
- PROPOSED WALL
- EXISTING CURB AND GUTTER
- PROPOSED EDGE OF CONCRETE
- PROPOSED FLOWLINE
- EXISTING WALL
- PROPOSED BASIN BOUNDARY



ENGINEER'S SEAL	Title	DRAWN BY
	6536 PAPAGAYO NW	DATE
	GRADING AND DRAINAGE PLAN	Day
	RHD Engineering, LLC 4305 Purple Sage Ave. NW ALBUQUERQUE, NM 87120 (505) 288-1621	SHEET # 1 of 1
	Richard Dourte P.E. #10854	JOB #