CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director

Mayor Timothy M. Keller

October 16, 2018

David Soule, P.E.
Rio Grande Engineering
PO Box 93924
Albuquerque, NM 87199

RE: **13424 Cedarbrook Ave NE**
Grading and Drainage Plan
Engineer's Stamp Date: 9/24/18
Drainage File: F23D013

Dear Mr. Soule:

Based on the submittal received on 10/9/18, the grading and drainage plan cannot be approved until the following are corrected and a complete resubmittal is made:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Prior to Grading Permit:

1. Please update the stamp date.
2. The 40-acres or less method is not reasonable for this watershed; provide subbasins and an AHYMO model or HEC-HMS model to determine Q_{100}.
3. Provide a profile of the arroyo, beginning at the upstream edge of Cedarbrook Place crossing. Include: bottom of arroyo, normal depth, critical depth, top of existing and proposed banks, the proposed building pad and freeboard.
4. Provide freeboard per DPM Ch22.C.4. Freeboard will need to be measured from the water surface on the road crossing to the top of the pad. If flows are calculated as supercritical; then the critical depth will need to be used as the controlling water surface.
5. Show the adjacent grades in N Glenwood Hills Arroyo; ensure that your grading ties-in at the ROW line.

Prior to Building Permit (For Information):

6. Engineer's Certification of the compacted pad and grading, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision* is required.

Prior to Certificate of Occupancy (For Information):

7. Engineer's Certification, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision* is required to ensure the site and the grades along the property lines were not disturbed during home construction.

If you have any questions, please contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services

PO Box 1293

Albuquerque

NM 87103

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City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: 13424 Cedarbrook Building Permit #:_____ Hydrology File #: _____

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

Legal Description: lot 15 block 14 Glenwood Hills unit 2

City Address: 13424 Cedarbrook

Applicant: Lowebo homes Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Other Contact: RIO GRANDE ENGINEERING Contact: DAVID SOULE

Address: PO BOX 93924 ALB NM 87199

Phone#: 505.321.9099 Fax#: 505.872.0999 E-mail: david@riograndeengineering.com

TYPE OF DEVELOPMENT: ___ PLAT ___ RESIDENCE ___ DRB SITE ___ ADMIN SITE

Check all that Apply:

DEPARTMENT:

X HYDROLOGY/ DRAINAGE

___ TRAFFIC/ TRANSPORTATION

TYPE OF SUBMITTAL:

___ ENGINEER/ARCHITECT CERTIFICATION

___ PAD CERTIFICATION

___ CONCEPTUAL G & D PLAN

X 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?

IS THIS A RESUBMITTAL?: ___ Yes X No

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

X 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: _____ By: _____

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED:_____

FEE PAID:_____

Weighted E Method

Existing Developed Basins

											100-Year, 6-hr.			10-day
Basin	Area (sf)	Area (acres)	Treatment A %	Treatment A (acres)	Treatment B %	Treatment B (acres)	Treatment C %	Treatment C (acres)	Treatment D %	Treatment D (acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Volume (ac-ft)
EXISTING	17820	0.409	0%	0	90.0%	0.368	10.0%	0.04091	0%	0.000	1.118	0.038	1.23	0.038
PROPOSED	14820	0.340	0%	0	34.0%	0.116	24.0%	0.08165	42%	0.143	1.826	0.052	1.39	0.071

Equations:

Weighted E = Ea*Aa + Eb*Ab + Ec*Ac + Ed*Ad / (Total Area)

Volume = Weighted D * Total Area

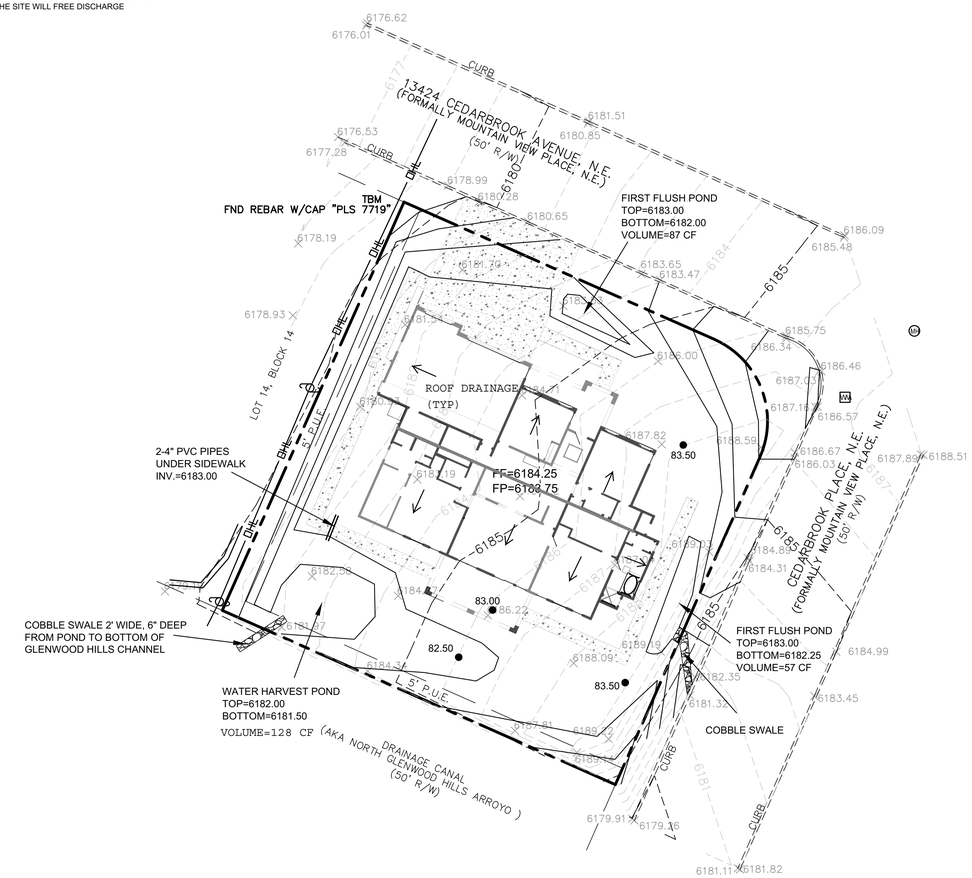
Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad

Where for 100-year, 6-hour storm (zone 4)

Ea= 0.8 Qa= 2.2
Eb= 1.08 Qb= 2.92
Ec= 1.46 Qc= 3.73
Ed= 2.64 Qd= 5.25

FIRST FLUSH VOLUME
REQUIRED 176.36 CF
PROVIDED 272 CF

DRAINAGE NARRATIVE
THIS SITE IS A LOT WITHIN A FULLY DEVELOPED RESIDENTIAL SUBDIVISION. THE SITE IS ADJACENT TO FULLY DEVELOPED ROADWAYS. GLEN WOOD HILLS ARROYO. ABUTS THIS SITE. THE DENSITY OF THIS DEVELOPMENT IS SIMILAR TO THE SURROUNDING FULLY DEVELOPED CONDITIONS. THE SITE WILL FREE DISCHARGE AFTER THE FIRST FLUSH VOLUMES ARE RETAINED ON SITE



EROSION CONTROL NOTES:

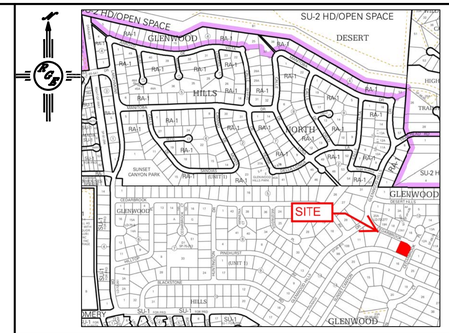
1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.

2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.

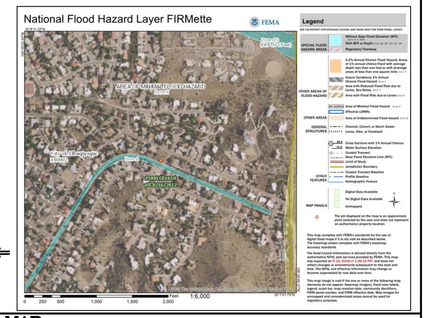
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.

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.



VICINITY MAP: F-23-Z



FIRM MAP:

LEGAL DESCRIPTION:

LOT 15, BLK 14 GLENWOOD HILLS UNIT 2
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

NOTES:

1. ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.

2. ANY PROPOSED FENCING NOT SHOWN ON THIS PLAN MUST ALLOW FOR UNIMPEDED FLOW TO PASS THRU. COURT YARD WALLS NEAR HOME MAY BE BLOCK WITH BLOCKS TURNED AT GARDE EVERY 20' TO ALLOW FOR FREE FLOW OF STORM WATER.

3. TOPOGRAPHY SHOWN WAS OBTAINED BY CONSTRUCTION SURVEY TECHNOLOGY ON 6/28/16. DATUM USED IS NAVD88.

LEGEND

- 5601 EXISTING CONTOUR
- 5600 EXISTING INDEX CONTOUR
- 5601 PROPOSED CONTOUR
- 5600 PROPOSED INDEX CONTOUR
- RIGHT-OF-WAY
- EXISTING CURB AND GUTTER
- 5657.58 EXISTING SPOT ELEVATION
- 5657.58 PROPOSED SPOT ELEVATION
- PROPOSED CONTOUR
- PROPOSED CONCRETE DRIVEWAY
- PROPOSED GRAVEL DRIVEWAY

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.

N

20 10 0 10 20

SCALE: 1"=20'

ENGINEER'S SEAL

DAVID SOULE NEW MEXICO 14522 REGISTERED PROFESSIONAL ENGINEER

9/24/18

DAVID SOULE
P.E. #14522

13424 CEDARBROOK AVE.

GRADING AND DRAINAGE PLAN

Rio Grande Engineering
1606 CENTRAL AVENUE
SUITE 201
ALBUQUERQUE, NM 87106
(505) 672-0999

DRAWN BY DEM

DATE 9-23-2018

13424 CEDARBROOK AVE NE BLK 14

SHEET # 1 OF 1

JOB # XXXXX

CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director

Mayor Timothy M. Keller

September 27, 2018

David Soule, P.E.
Rio Grande Engineering
PO Box 93924
Albuquerque, NM 87199

RE: **13424 Cedarbrook Ave NE**
Grading and Drainage Plan
Engineer's Stamp Date: 9/24/18
Drainage File: F23D013

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Prior to Grading Permit:

1. Show the adjacent grades in N Glenwood Hills Arroyo; ensure that your grading ties-in at the ROW line. Do not lower the grade adjacent to the arroyo.
2. Label the proposed contours.
3. First flush is not required on single residences; the ponds may be removed if desired.
4. Because N Glenwood Hills Arroyo is an unnumbered A-zone; make a reasonable assumption as to the 100-yr water surface elevation at the upstream edge of this lot and ensure the pad is elevated above it (+1ft freeboard recommended).
5. Do not regrade the ROW along Cedarbrook Place; it's keeping the water in the arroyo.

Prior to Building Permit (For Information):

6. Engineer's Certification of the compacted pad and grading, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision* is required.

Prior to Certificate of Occupancy (For Information):

7. Engineer's Certification, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision* is required to ensure the site and the grades along the property lines were not disturbed during home construction.

If you have any questions, please contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

October 9, 2018

Mr. Dana Peterson, PE
Senior Engineer
Hydrology Section
City of Albuquerque

RE: 13424 Cedarbrook Ave NE
Drainage file F23D013

Dear Mr. Peterson:

The purpose of this letter is to respond to your written comments dated September 27, 2018. The plans have been modified to address your comments. The following is a response to your comments with a summary as to how the plans were modified to address your comments:

1. The Topo did not extend into the arroyo. I have enclosed the city GIS 2' contours and a picture to show that the lot is significantly higher. The proposed regarding on the site does not change the top grade at the drainage right of way line. . As shown below the anticipated flow depth is 2.35' therefore the grading shown will not have impact on the arroyo.

2. We have added contour labels.

3. We try to incorporate LID where possible, we prefer to show the ponds and will be able to certify even if not constructed..

4. We have calculated the upland flow and utilized manning's equation to determine the flow rate of 565 cfs will provide a maximum water surface elevation of 2.35'. The existing channel is 6' deep near our site

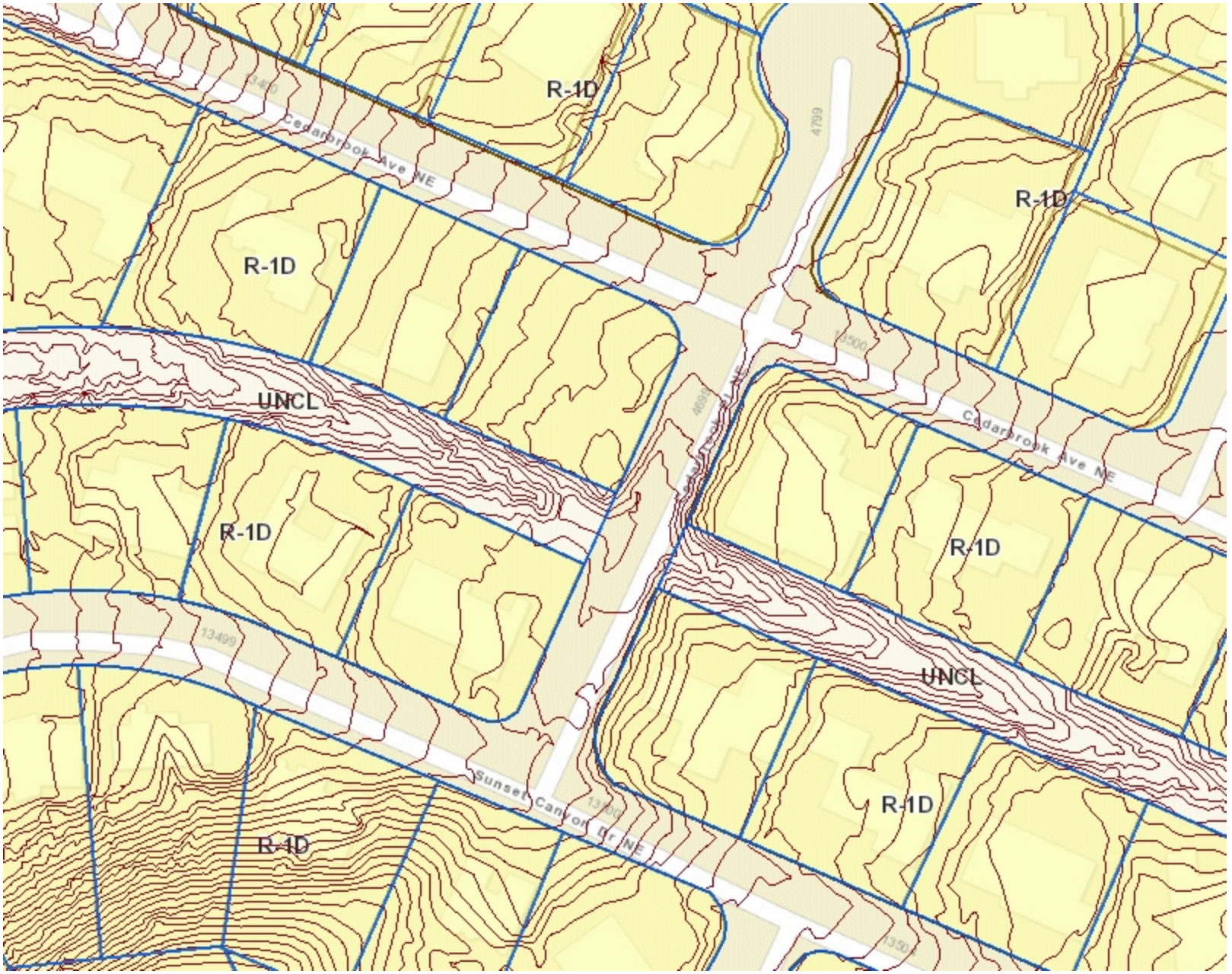
5. As shown from the estimated flow depth and area of re-grading, the grading will not impact the flow and will eliminate the need for retaining walls

It was our intent to adequately address your comments. Should you have any questions regarding this matter, please do not hesitate to call me.

Sincerely,

David Soule, PE

City of Albuquerque



Legend

- City Parcels
- Contour 2ft - 2010

IDO Zoning

- R-A
- R-1A
- R-1B
- R-1C
- R-1D
- R-T
- R-MC
- R-ML
- R-MH
- MX-T
- MX-L
- MX-M
- MX-H
- MX-FB-ID
- MX-FB-FX
- MX-FB-UD
- NR-C
- NR-BP
- NR-LM
- NR-GM
- NR-SU
- NR-PO-A
- NR-PO-B
- NR-PO-C
- NR-PO-D
- PD
- PC
- UNCL

Notes

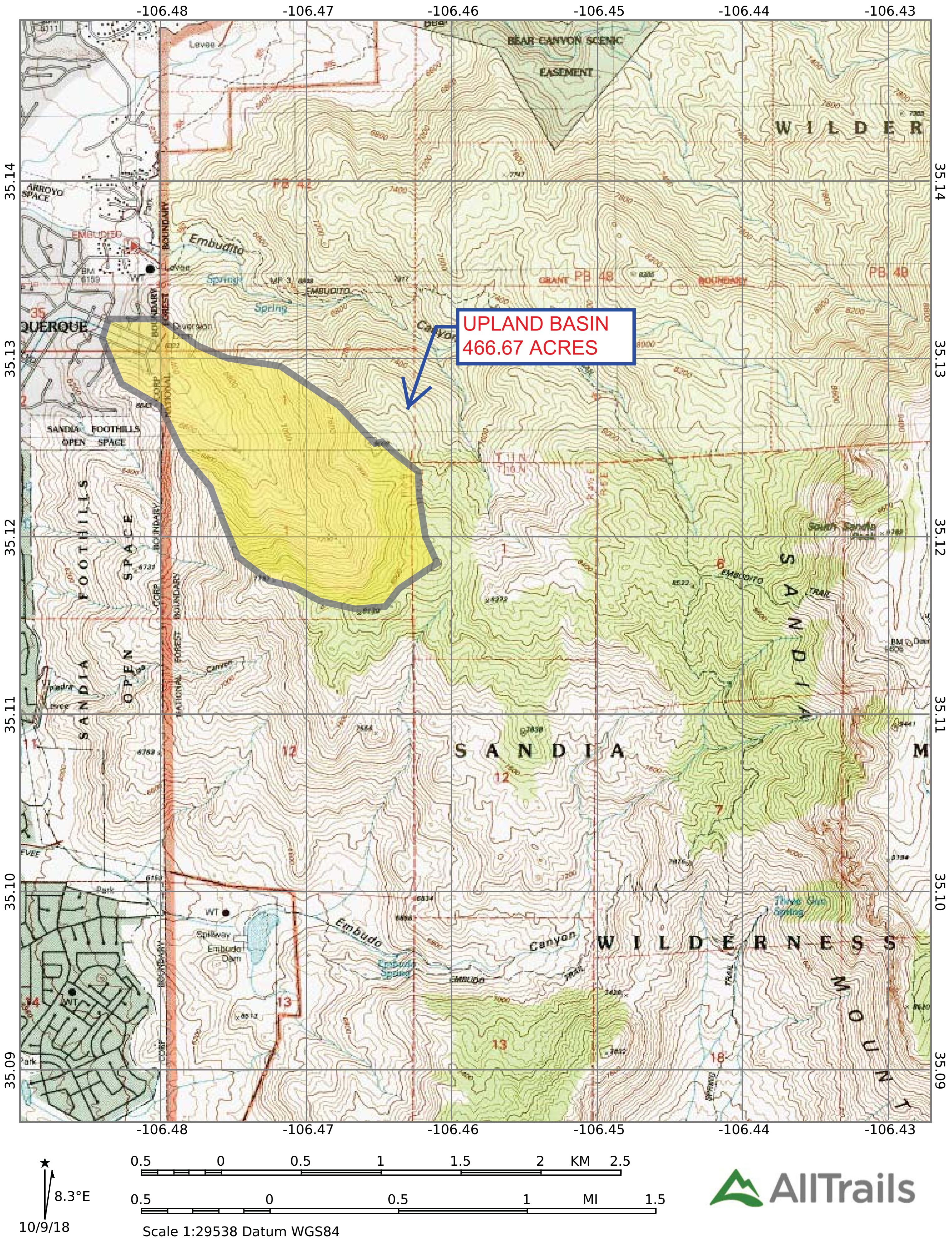
193 0 97 193 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere

10/9/2018

1: 1,160

Image capture: Jun 2014 © 2018 Google



Scale 1:29538 Datum WGS84

AllTrails

Weighted E Method

Existing Developed Basins

											100-Year, 6-hr.			10-day
Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Volume (ac-ft)
			%	(acres)	%	(acres)	%	(acres)	%	(acres)				
UPLAND	20328145.2	466.670	50%	233.335	40.0%	186.668	5.0%	23.3335	5%	23.334	0.447	17.383	565.84	20.495
EXISTING	17820	0.409	0%	0	90.0%	0.368	10.0%	0.04091	0%	0.000	1.118	0.038	1.23	0.038
PROPOSED	14820	0.340	0%	0	34.0%	0.116	24.0%	0.08165	42%	0.143	1.826	0.052	1.39	0.071

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FIRST FLUSH VOLUME

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DRAINAGE NARRATIVE

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Channel Capacity

	Top Width	Bottom Width	Depth	Area	WP	R	Slope	Q Provided	Q Required	Velocity
	(ft)	(ft)	(ft)	(ft^2)	(ft)		(%)	(cfs)	(cfs)	(ft/s)
Beginning	24	10	2.35	39.95	24.77	1.6129768	6	572.97	565.00	14.14

Manning's Equation:

Q = 1.49/n * A * R^(2/3) * S^(1/2)

A = Area

R = D/4

S = Slope

n = 0.035