CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director

Mayor Timothy M. Keller

November 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: 11/5/18
Drainage File: F23D013

Dear Mr. Soule:

Based on the submittal received on 11/5/18, the grading and drainage plan cannot be approved until the following are corrected:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Prior to Grading Permit:

1. Show the freeboard wall in plan view and provide sections (east wall and south wall). Ensure the wall and footer do not encroach on either ROW. Any private encroachment into the public ROW will require a revocable permit.

Prior to Building Permit (For Information):

2. 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):

3. 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

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 #: F23d013

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 XX 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?: X Yes ___ 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:_____

November 5, 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 October 16, 2018. The plans have been modified to address your comments.

The upland basin was analyzed utilizing AYHMO. The flow rate was utilized to model the arroyo and road crossing at Cedar brook utilizing HEC-RAS. The corresponding information was added to the updated grading plan. We feel we have provided a plan that conforms to the DPM
Requirements, the grades at the property line provide almost 2' of free board above the Energy Grade Line and a solid CMU wall has been added for additional reinforcement

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

11/5/18

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. UPDATED
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}. AYHMO ATTACHED
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. PROVIDED HEC RAS /WITH CROSS-SECTIONS
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 surfac FLOOD WALL PROVIDES
5. Show the adjacent grades in N Glenwood Hills Arroyo; ensure that your grading ties-in at the ROW line. ADDED

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,

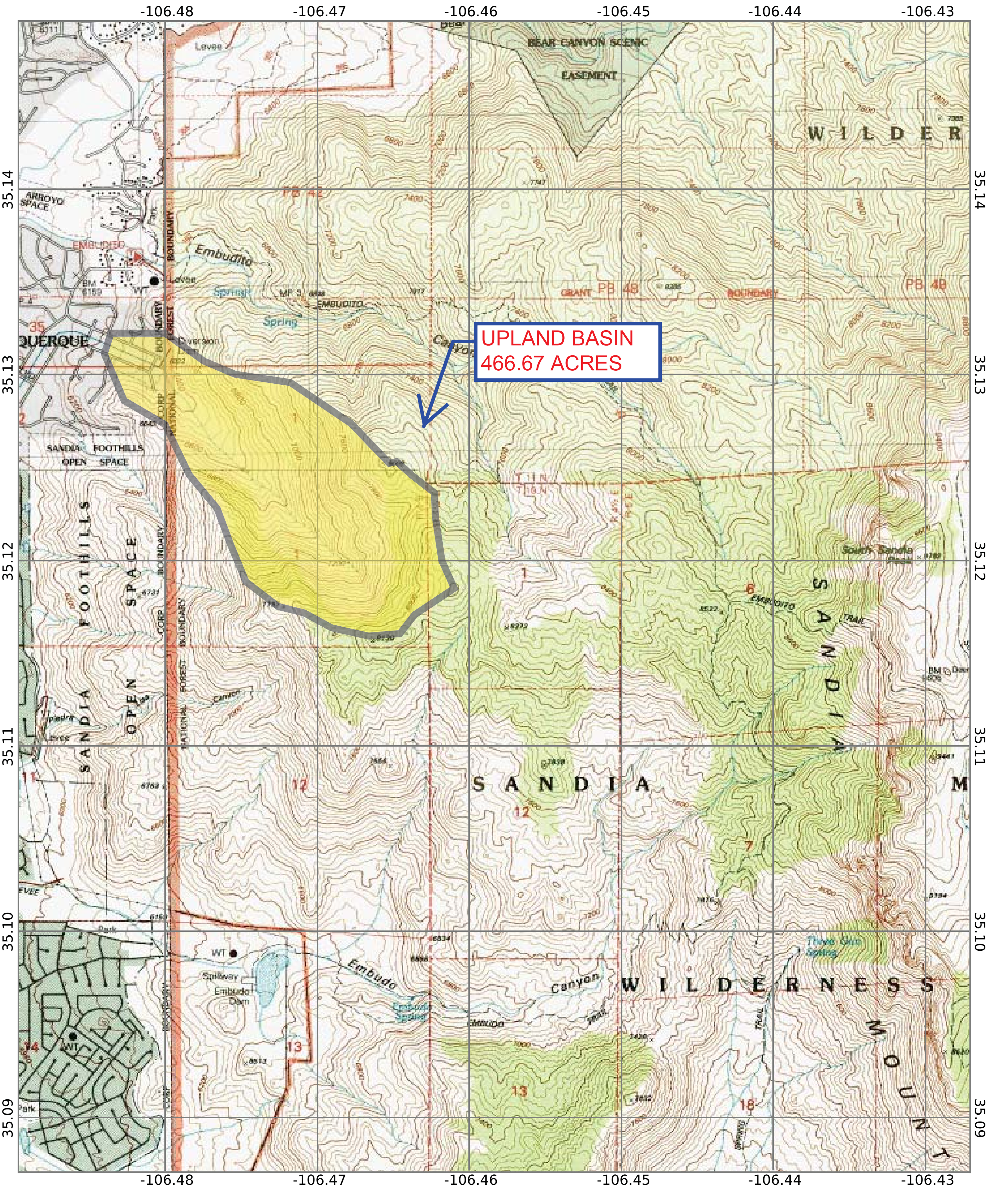
Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services

PO Box 1293

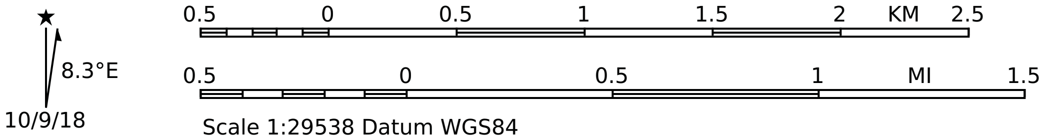
Albuquerque

NM 87103

www.cabq.gov



UPLAND BASIN
466.67 ACRES
BEAR CANYON SCENIC EASEMENT
WILDER
SANDIA FOOTHILLS OPEN SPACE
SANDIA
WILDERNESS
SANDIA MOUNT
Embudito
Embudo
Canyon
-106.48
-106.47
-106.46
-106.45
-106.44
-106.43
35.14
35.13
35.12
35.11
35.10
35.09



8.3°E
10/9/18
0.5 0 0.5 1 1.5 2 KM 2.5
0.5 0 0.5 1 MI 1.5
Scale 1:29538 Datum WGS84

AllTrails

```
*S     AHYMO -  CEDAR BROOK-UPLAND FLOW
*S

START               TIME=0.0  PUNCH CODE=0


RAINFALL            TYPE=2
                    QUARTER=0.0    ONE= 2.23 IN
                    SIX=2.90 IN   DAY= 3.65 IN   DT = 0.05 HR

COMPUTE LT TP       LCODE=1  NK=0  ISLOPE=0
                    LENGTH=8000 FT  SLOPE=.19   K=.7
                    KN=.042    CENTROID RATIO=.62


COMPUTE NM HYD      ID=1  HYD NO=101  DA= .728 SQ MI
                    PER A=50  PER B=40 PER C=5  PER D=5
                    TP=0.00  MASSRAIN=-1


PRINT HYD           ID=1  CODE=3







FINISH
```

```
        AHYMO PROGRAM (AHYMO-S4)                    - Version: S4.01a - Rel: 01a
             RUN DATE (MON/DAY/YR) = 11/05/2018
             START TIME (HR:MIN:SEC) = 11:26:23     USER NO.=
RioGrandeSingleA41963517
             INPUT FILE = Documents and Settings\Owner\Desktop\2018
JOBS\18209-cedarbrook\UPLAND BASIN.txt


    *S     AHYMO -  CEDAR BROOK-UPLAND FLOW
    *S

    START               TIME=0.0  PUNCH CODE=0


    RAINFALL            TYPE=2
                        QUARTER=0.0    ONE= 2.23 IN
                        SIX=2.90 IN   DAY= 3.65 IN   DT = 0.05 HR


                      24-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE
AREAS (NM & AZ) - D1
                      DT =   0.050000 HOURS       END TIME =    24.000002 HOURS
                        0.0000  0.0045  0.0091  0.0140  0.0193  0.0248  0.0310
                        0.0398  0.0537  0.0687  0.0842  0.1010  0.1181  0.1356
                        0.1538  0.1722  0.1925  0.2138  0.2367  0.2658  0.2980
                        0.3412  0.3902  0.4507  0.5314  0.6221  0.7789  1.0225
                        1.4400  1.7335  1.9649  2.0812  2.1831  2.2564  2.3147
                        2.3654  2.4026  2.4368  2.4649  2.4887  2.5102  2.5296
                        2.5478  2.5640  2.5793  2.5942  2.6086  2.6205  2.6271
                        2.6337  2.6401  2.6461  2.6521  2.6579  2.6636  2.6693
                        2.6746  2.6799  2.6851  2.6902  2.6952  2.7000  2.7048
                        2.7095  2.7141  2.7186  2.7230  2.7273  2.7316  2.7358
                        2.7399  2.7440  2.7481  2.7521  2.7560  2.7599  2.7638
                        2.7676  2.7713  2.7751  2.7787  2.7824  2.7860  2.7895
                        2.7931  2.7965  2.8000  2.8034  2.8068  2.8101  2.8134
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                        2.8388  2.8418  2.8448  2.8478  2.8508  2.8537  2.8566
                        2.8595  2.8623  2.8652  2.8680  2.8708  2.8735  2.8763
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                        2.9682  2.9707  2.9732  2.9757  2.9781  2.9806  2.9831
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                        3.0028  3.0053  3.0077  3.0102  3.0126  3.0151  3.0175
                        3.0199  3.0224  3.0248  3.0272  3.0297  3.0321  3.0345
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                        3.1199  3.1222  3.1246  3.1269  3.1292  3.1315  3.1338
                        3.1361  3.1384  3.1407  3.1430  3.1453  3.1476  3.1499
                        3.1522  3.1545  3.1568  3.1591  3.1613  3.1636  3.1659
                        3.1682  3.1704  3.1727  3.1749  3.1772  3.1795  3.1817
                        3.1840  3.1862  3.1885  3.1907  3.1930  3.1952  3.1974
                        3.1997  3.2019  3.2041  3.2063  3.2086  3.2108  3.2130
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```

3.3205 3.3225 3.3246 3.3267 3.3288 3.3308 3.3329
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3.3636 3.3656 3.3676 3.3696 3.3717 3.3737 3.3757
3.3777 3.3797 3.3817 3.3837 3.3857 3.3877 3.3897
3.3917 3.3937 3.3957 3.3976 3.3996 3.4016 3.4036
3.4055 3.4075 3.4095 3.4114 3.4134 3.4153 3.4173
3.4192 3.4212 3.4231 3.4251 3.4270 3.4290 3.4309
3.4328 3.4348 3.4367 3.4386 3.4405 3.4425 3.4444
3.4463 3.4482 3.4501 3.4520 3.4539 3.4558 3.4577
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3.4859 3.4877 3.4896 3.4914 3.4933 3.4951 3.4970
3.4988 3.5006 3.5025 3.5043 3.5061 3.5079 3.5098
3.5116 3.5134 3.5152 3.5170 3.5188 3.5206 3.5224
3.5242 3.5260 3.5278 3.5296 3.5314 3.5332 3.5350
3.5368 3.5386 3.5403 3.5421 3.5439 3.5456 3.5474
3.5492 3.5509 3.5527 3.5544 3.5562 3.5579 3.5597
3.5614 3.5632 3.5649 3.5667 3.5684 3.5701 3.5718
3.5736 3.5753 3.5770 3.5787 3.5804 3.5822 3.5839
3.5856 3.5873 3.5890 3.5907 3.5924 3.5941 3.5958
3.5974 3.5991 3.6008 3.6025 3.6042 3.6058 3.6075
3.6092 3.6108 3.6125 3.6142 3.6158 3.6175 3.6191
3.6208 3.6224 3.6241 3.6257 3.6273 3.6290 3.6306
3.6322 3.6339 3.6355 3.6371 3.6387 3.6404 3.6420
3.6436 3.6452 3.6468 3.6484 3.6500

COMPUTE LT TP LCODE=1 NK=0 ISLOPE=0
LENGTH=8000 FT SLOPE=.19 K=.7

KN=.042 CENTROID RATIO=.62

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS
NOTE: Upland factor input values have been adjusted to meet Upland/Lag Time requirements.

	LENGTH (FT)	ADJUSTED SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	400.0	0.064555	0.7000
SHALLOW FLOW PORTION	1600.0	0.064555	2.0000
CHANNEL FLOW PORTION	6000.0	0.064555	3.0000
TOTAL BASIN	8000.0	0.064555	2.3729

LAG EQUATION FACTORS: Kn= 0.0420 TOTAL BASIN LENGTH (FT)= 8000.0
TOTAL BASIN SLOPE (FT/FT)= 0.064555 CENTROUD LENGTH (FT)= 4960.0

TIME OF CONCENTRATION (HRS)= 0.5005 TIME TO PEAK (HRS)= 0.3337 LAG TIME (HRS)= 0.3754

COMPUTE NM HYD ID=1 HYD NO=101 DA= .728 SQ MI
PER A=50 PER B=40 PER C=5 PER D=5
TP=0.00 MASSRAIN=-1

TIME TO PEAK (hrs)= 0.3337

K = 0.185477HR TP = 0.333685HR K/TP RATIO = 0.555844 SHAPE CONSTANT, N = 6.929759
UNIT PEAK = 56.497 CFS UNIT VOLUME = 0.9998 B = 517.92

```
 P60 = 2.2300
         AREA =     0.036400 SQ MI    IA =   0.10000 INCHES    INF =   0.04000
INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000


         K =  0.296077HR    TP =  0.333685HR    K/TP RATIO =  0.887294     SHAPE
CONSTANT, N =  3.997872
         UNIT PEAK =   735.85    CFS   UNIT VOLUME =    1.000       B =   355.03
 P60 = 2.2300
         AREA =     0.691600 SQ MI    IA =   0.57105 INCHES    INF =   1.44895
INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

    PRINT HYD           ID=1  CODE=3

                                        PARTIAL HYDROGRAPH   101.00

         TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
          HRS       CFS             HRS       CFS             HRS       CFS
HRS       CFS             HRS       CFS
         0.000       0.0           5.550       3.5          11.100       1.1
16.650       1.0          22.200       0.8
         0.150       0.0           5.700       3.2          11.250       1.1
16.800       0.9          22.350       0.8
         0.300       0.0           5.850       2.8          11.400       1.1
16.950       0.9          22.500       0.8
         0.450       0.0           6.000       2.6          11.550       1.1
17.100       0.9          22.650       0.8
         0.600       0.0           6.150       2.4          11.700       1.1
17.250       0.9          22.800       0.8
         0.750       0.7           6.300       2.2          11.850       1.1
17.400       0.9          22.950       0.8
         0.900       3.2           6.450       2.0          12.000       1.1
17.550       0.9          23.100       0.8
         1.050       5.8           6.600       1.9          12.150       1.1
17.700       0.9          23.250       0.8
         1.200       9.2           6.750       1.8          12.300       1.1
17.850       0.9          23.400       0.8
         1.350      39.0           6.900       1.7          12.450       1.1
18.000       0.9          23.550       0.8
         1.500     352.3           7.050       1.6          12.600       1.1
18.150       0.9          23.700       0.8
         1.650     765.9           7.200       1.5          12.750       1.0
18.300       0.9          23.850       0.8
         1.800     755.7           7.350       1.5          12.900       1.0
18.450       0.9          24.000       0.8
         1.950     514.0           7.500       1.4          13.050       1.0
18.600       0.9          24.150       0.7
         2.100     313.4           7.650       1.4          13.200       1.0
18.750       0.9          24.300       0.5
         2.250     190.5           7.800       1.4          13.350       1.0
18.900       0.9          24.450       0.3
         2.400     118.1           7.950       1.3          13.500       1.0
19.050       0.9          24.600       0.2
         2.550      82.5           8.100       1.3          13.650       1.0
19.200       0.9          24.750       0.1
         2.700      66.9           8.250       1.3          13.800       1.0
19.350       0.9          24.900       0.1
         2.850      55.7           8.400       1.3          13.950       1.0
19.500       0.9          25.050       0.1
         3.000      46.6           8.550       1.2          14.100       1.0
19.650       0.9          25.200       0.0
```

```
         3.150       39.2           8.700        1.2          14.250        1.0
19.800        0.9           25.350        0.0
         3.300       33.1           8.850        1.2          14.400        1.0
19.950        0.9           25.500        0.0
         3.450       27.9           9.000        1.2          14.550        1.0
20.100        0.9           25.650        0.0
         3.600       23.6           9.150        1.2          14.700        1.0
20.250        0.9           25.800        0.0
         3.750       20.0           9.300        1.2          14.850        1.0
20.400        0.9           25.950        0.0
         3.900       17.0           9.450        1.2          15.000        1.0
20.550        0.8           26.100        0.0
         4.050       14.4           9.600        1.1          15.150        1.0
20.700        0.8           26.250        0.0
         4.200       12.3           9.750        1.1          15.300        1.0
20.850        0.8           26.400        0.0
         4.350       10.5           9.900        1.1          15.450        1.0
21.000        0.8           26.550        0.0
         4.500        9.0          10.050        1.1          15.600        1.0
21.150        0.8           26.700        0.0
         4.650        7.8          10.200        1.1          15.750        1.0
21.300        0.8           26.850        0.0
         4.800        6.7          10.350        1.1          15.900        1.0
21.450        0.8           27.000        0.0
         4.950        5.8          10.500        1.1          16.050        1.0
21.600        0.8           27.150        0.0
         5.100        5.1          10.650        1.1          16.200        1.0
21.750        0.8
         5.250        4.5          10.800        1.1          16.350        1.0
21.900        0.8
         5.400        4.0          10.950        1.1          16.500        1.0
22.050        0.8

        RUNOFF VOLUME =     1.18147 INCHES     =      45.8723 ACRE-FEET
        PEAK DISCHARGE RATE =     810.93 CFS  AT   1.700 HOURS   BASIN AREA =
0.7280 SQ. MI.




    FINISH

        NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 11:26:23
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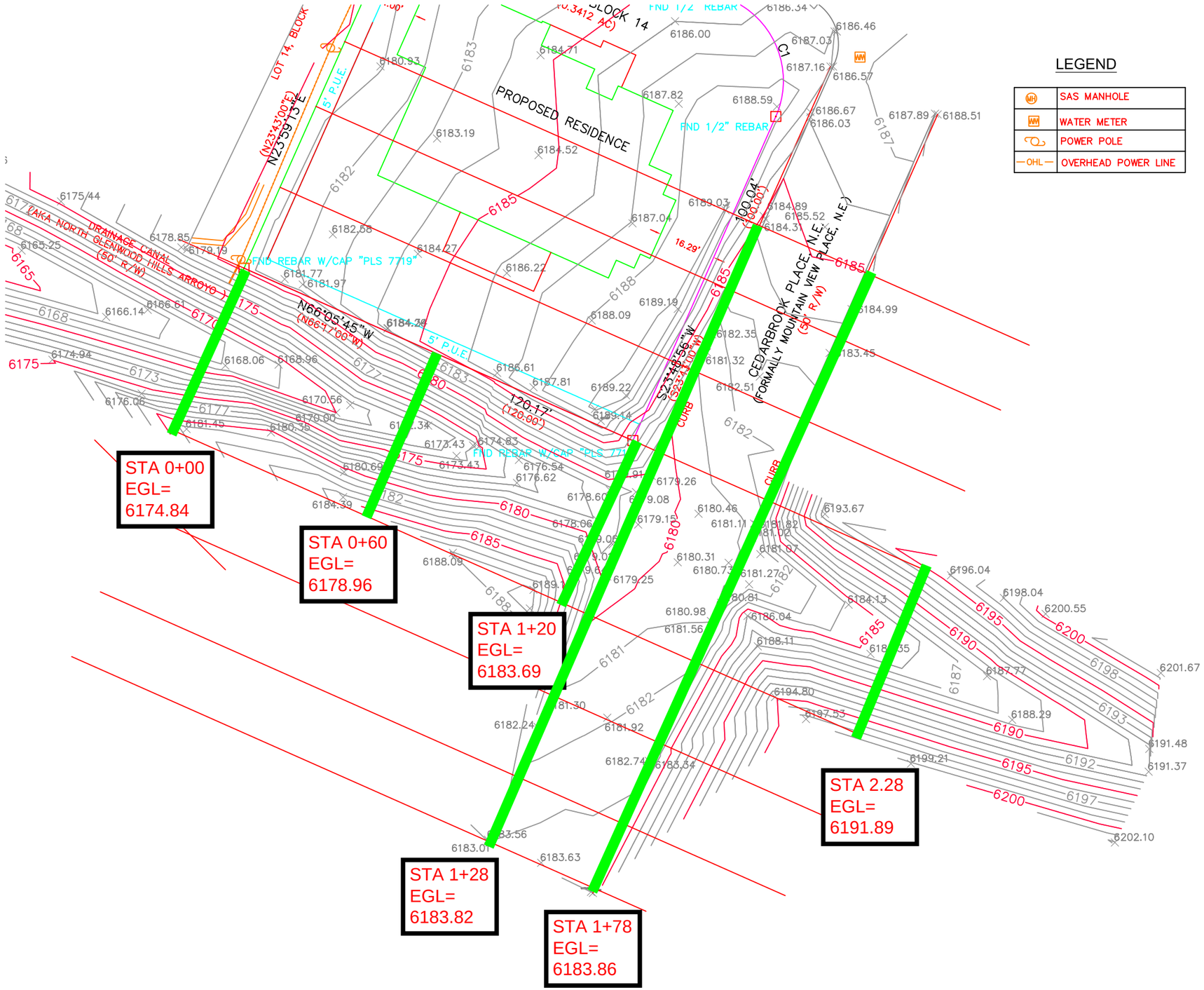
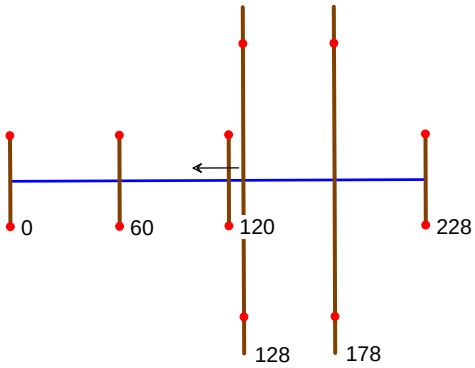
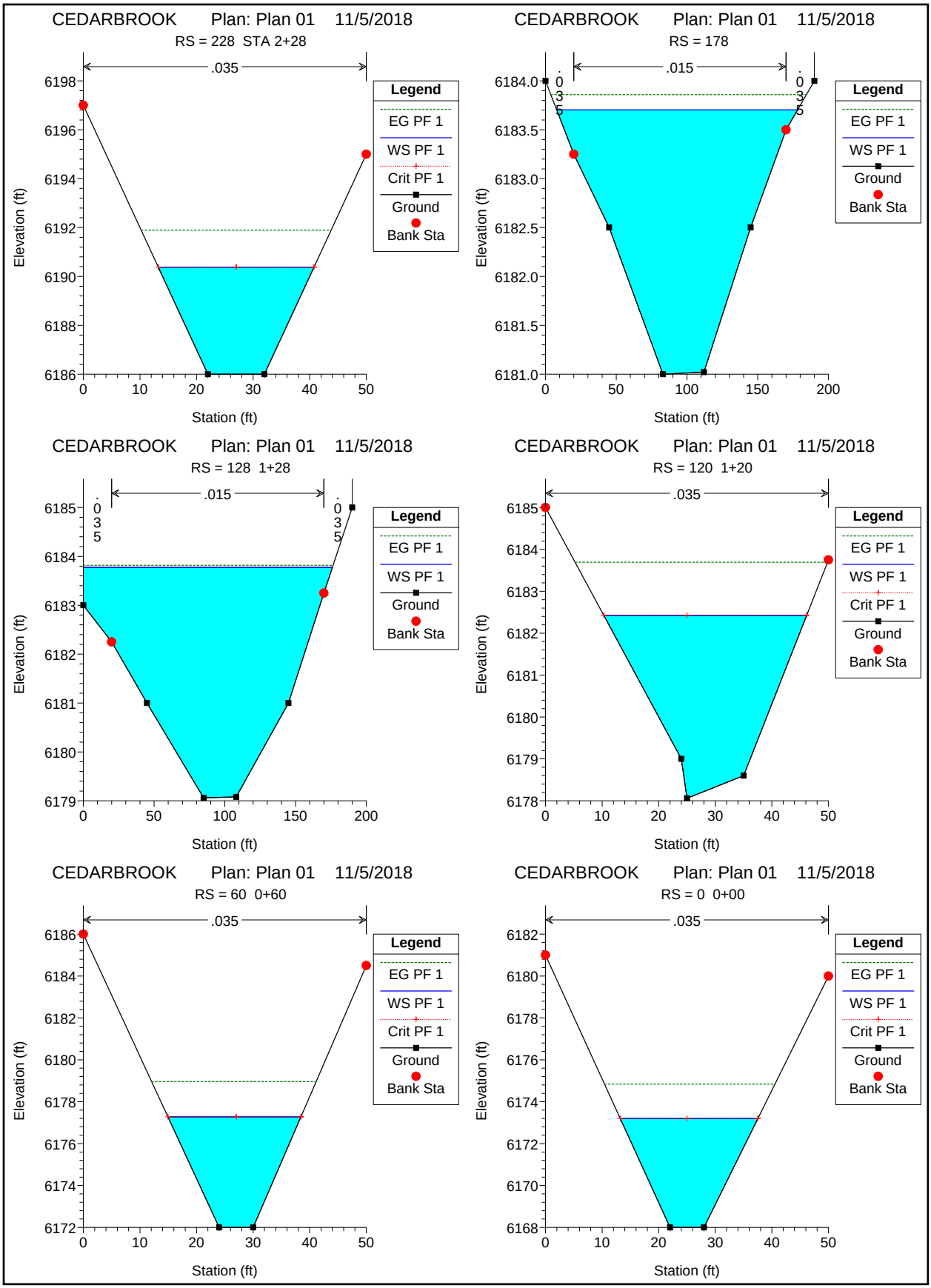


HEC RAS MAP
1"=30'



None of the XS's are Geo-Referenced (Geo-Ref user entered XS Geo-Ref interpolated XS Non Geo-Ref user entered XS Non Geo-Ref interpolated XS)


CEDARBROOK Plan: Plan 01 11/5/2018
RS = 228 STA 2+28
.035
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
CEDARBROOK Plan: Plan 01 11/5/2018
RS = 178
.035
.015
.035
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
CEDARBROOK Plan: Plan 01 11/5/2018
RS = 128 1+28
.035
.015
.035
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
CEDARBROOK Plan: Plan 01 11/5/2018
RS = 120 1+20
.035
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
CEDARBROOK Plan: Plan 01 11/5/2018
RS = 60 0+60
.035
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
CEDARBROOK Plan: Plan 01 11/5/2018
RS = 0 0+00
.035
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)

HEC-RAS Plan: Plan 01 River: GLENWOOD HILLS Reach: CEDARBROOK CROSS Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CEDARBROOK CROSS	228	PF 1	810.00	6186.00	6190.38	6190.38	6191.89	0.013813	9.86	82.17	27.52	1.01
CEDARBROOK CROSS	178	PF 1	810.00	6181.00	6183.70		6183.86	0.000508	3.18	258.29	170.21	0.43
CEDARBROOK CROSS	128	PF 1	810.00	6179.06	6183.78		6183.82	0.000056	1.63	516.11	176.02	0.16
CEDARBROOK CROSS	120	PF 1	810.00	6178.06	6182.43	6182.43	6183.69	0.014055	9.03	89.67	35.85	1.01
CEDARBROOK CROSS	60	PF 1	810.00	6172.00	6177.28	6177.28	6178.96	0.014246	10.41	77.82	23.49	1.01
CEDARBROOK CROSS	0	PF 1	810.00	6168.00	6173.20	6173.20	6174.84	0.014098	10.28	78.81	24.33	1.01

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

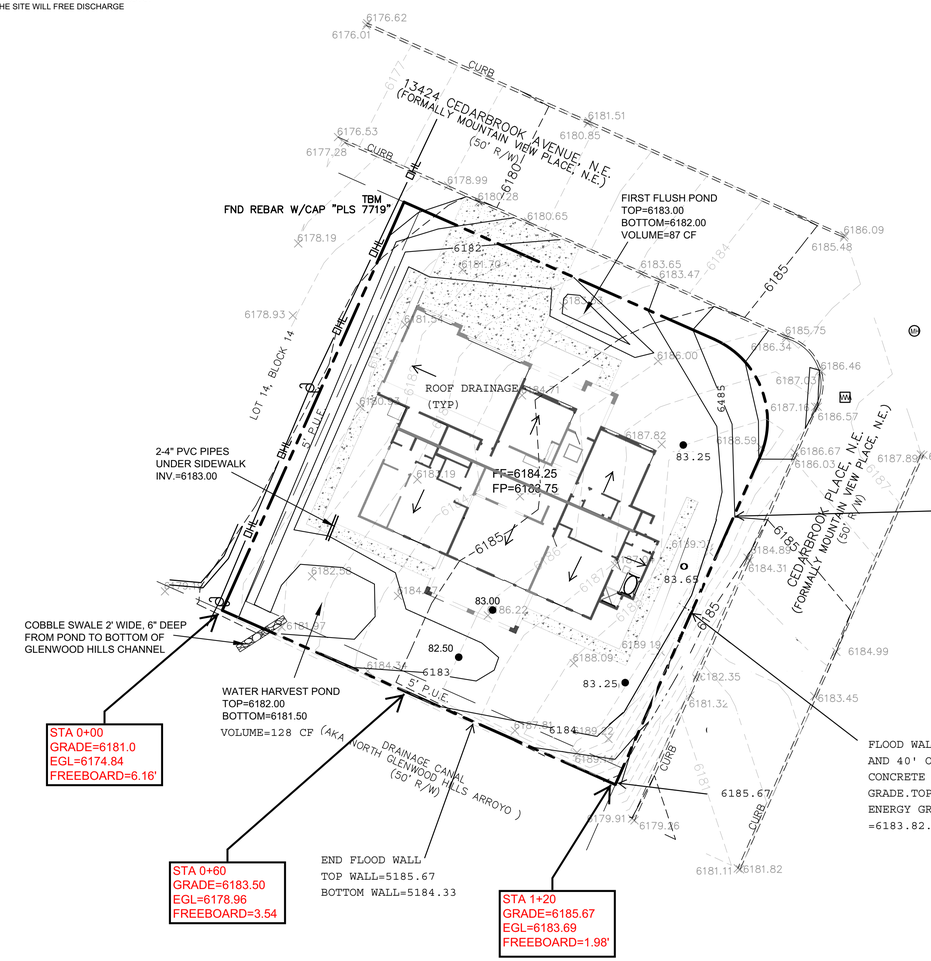
Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad

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:

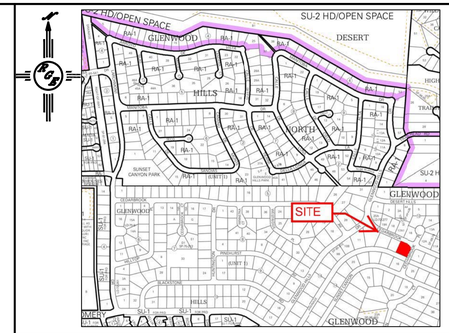
1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.

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

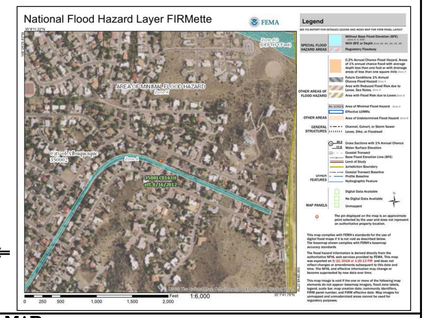
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT–OF–WAY.

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

- EXISTING CONTOUR (5601)
- EXISTING INDEX CONTOUR (5600)
- PROPOSED CONTOUR (5601)
- PROPOSED INDEX CONTOUR (5600)
- RIGHT-OF-WAY
- EXISTING CURB AND GUTTER
- EXISTING SPOT ELEVATION (5657.58)
- PROPOSED SPOT ELEVATION (5657.58)
- 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
11/5/18
DAVID SOULE P.E. #14522

13424 CEDARBROOK AVE.

GRADING AND DRAINAGE PLAN

Rio Grande Engineering
1606 CENTRAL AVENUE SUITE 201
ALBUQUERQUE, NM 87106
(505) 872-0999

DRAWN BY DEM
DATE 9-23-2018
LOT 15 BLK 14
SHEET # 1 OF 1
JOB # XXXXX