CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director

Mayor Timothy M. Keller

June 14, 2018

Diane Hoelzer, P.E.
Mark Goodwin & Associates
PO Box 90606
Albuquerque, NM, 87199

RE: Anasazi Ridge Unit 3
Drainage Report, Engineer's Stamp Date: 05/09/18
Supplemental Rundown Calculations, Engineer's Stamp Date: 05/09/18
Grading and Drainage Plan, Engineer's Stamp Date: 05/09/18
Hydrology File: A10D002G

Dear Ms. Hoelzer:

Based upon the information provided in your submittal received 05/14/18, the Drainage Report, Supplemental Rundown Calculations, and Grading and Drainage Plan which were originally approved on March 12, 2015 is re-approved for action by the DRB on the Preliminary Plat.

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

Renée C. Brissette

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

PO Box1293

Albuquerque

NM 87103

www.cabq.gov

Anasazi Ridge Unit 3 Subdivision

Supplemental Information
To
Drainage Management Plan (dated 1-12-15)

- Revised Spillway Design
- Revised Drainage Easements

Prepared by

Mark Goodwin & Associates, PA

February 2015

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539

~ 2012 ACEC/NM Award Winner for Engineering Excellence ~
~ 2008 ACEC/NM Award Winner for Engineering Excellence ~

February 3, 2015

Ms. Lynn Mazurl
AMAFCA
2600 Prospect NE
Albuquerque, NM 87107

Re: Anasazi Ridge Unit 3 – Revised Drainage Management Plan (2-2-15)

Dear Ms. Mazur:

A supplemental Information report and revised grading plan have been submitted to City hydrology. Accompanying this letter is a copy of what is being submitted to the City. Below is the response to your earlier comment letter dated October 28, 2014:

1. *Agreed. There is a triangular parcel of property at the southeast corner of McMahon Blvd. and Kayenta Bvld. that is owned by someone other than AMAFCA. The proposed rundown improvements will remain outside this parcel of property and remain within the public McMahon Blvd. right of way as shown on the revised grading plan.*
2. *The temporary 10' wide channel rundown has been added to the city infrastructure list. Whoever is maintaining the existing temporary asphalt rundown should maintain the concrete rundown. I assume this is and will be the City of Albuquerque.*
3. *The proposed channel is entirely within the McMahon Blvd right of way, so a license should not be necessary.*
4. *Ok.*
5. *Ok.*
6. *Ok. These details can be worked out during DRC approval process.*

Sincerely,
MARK GOODWIN & ASSOCIATES, PA

Diane Hoelzer, PE
Senior Project Engineer

DLH/dlh

F:\1-Projects\2013\A13039 - Anasazi Ridge, Unit 3\L.Mazur Letter.docx

Ronald D. Brown, Chair
Danny Hernandez, Vice Chair
Bruce M. Thomson P.E., Secretary-Treasurer
Tim Eichenberg, Assistant Secretary-Treasurer
Daniel F. Lyon, Director

Jerry M. Lovato, P.E.
Executive Engineer

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority
2600 Prospect N.E., Albuquerque, NM 87107
Phone: (505) 884-2215 Fax: (505) 884-0214
Website: www.amafca.org

October 28, 2014

Ms. Diane Hoelzer, P.E.
D. Mark Goodwin & Associates, P.A.
P.O. Box 90606
Albuquerque, NM 87199

Via: Electronic Mail

Re: Anasazi Ridge Unit 3 Drainage Report, Engineer's Stamp Dated 10/24/14

Dear Ms. Hoelzer:

I have reviewed the referenced report and approve the drainage concept. I have the following comments on the drainage rundown connection to the Calabacillas Arroyo.

1. The Bernalillo County Assessor's Office shows AMAFCA ownership of the tract at the southeast corner of McMahon and Kayenta. That is incorrect. The plat for Saltillo Unit 1 Subdivision granted a blanket drainage easement to AMAFCA with future dedication of fee right-of-way to City Open Space. I'm not sure who owns it.
2. I don't see the temporary 10-foot wide channel rundown connection from the McMahon/Kayenta intersection to the Calabacillas Arroyo on the Infrastructure List. Who will maintain the facility?
3. If the rundown is maintained by the City, AMAFCA will prepare a license with the City for the facility in AMAFCA's easement.
4. AMAFCA will require a Temporary Construction and Access License with the owner and the owner's contractor for work in AMAFCA's easement.
5. The expansion joint on the Drainage Channel Connection Detail is not approved by AMAFCA. The connection will be similar to AMAFCA's standard detail for a pipe penetration through a wall. See attached detail. The Plastazote filler will run the entire length of the connection with NP-1 sealant at both ends.
6. AMAFCA will require a removable trash screen close to the removable bollards to collect large debris before it flows into the arroyo. See attached detail.

If you have any questions, please call me at 884-2215.

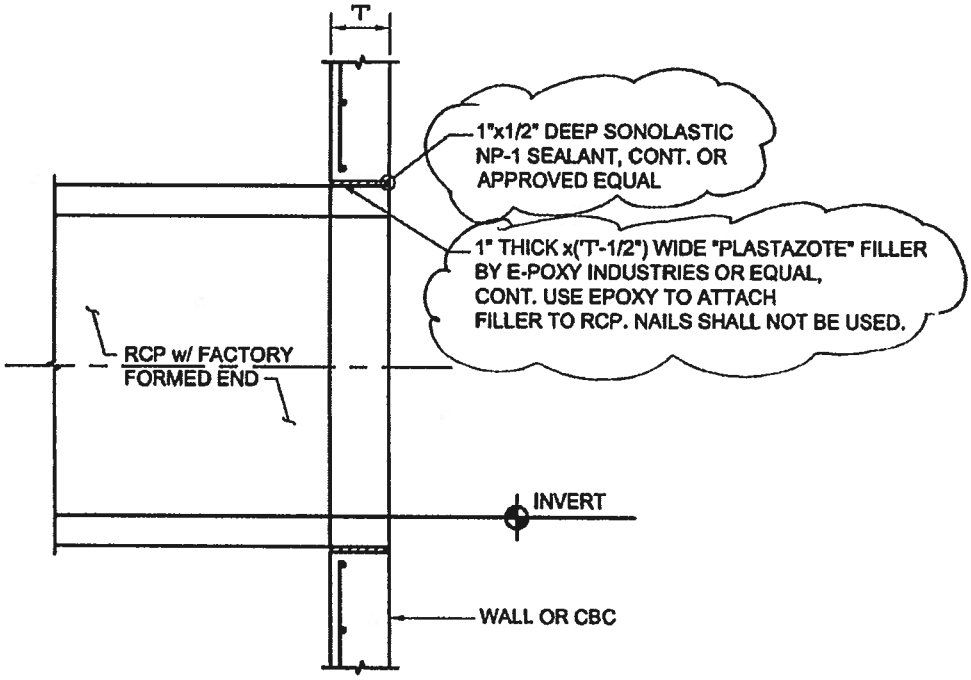
Sincerely,
AMAFCA

Lynn M. Mazur

Lynn M. Mazur, P.E., C.F.M.
Development Review Engineer

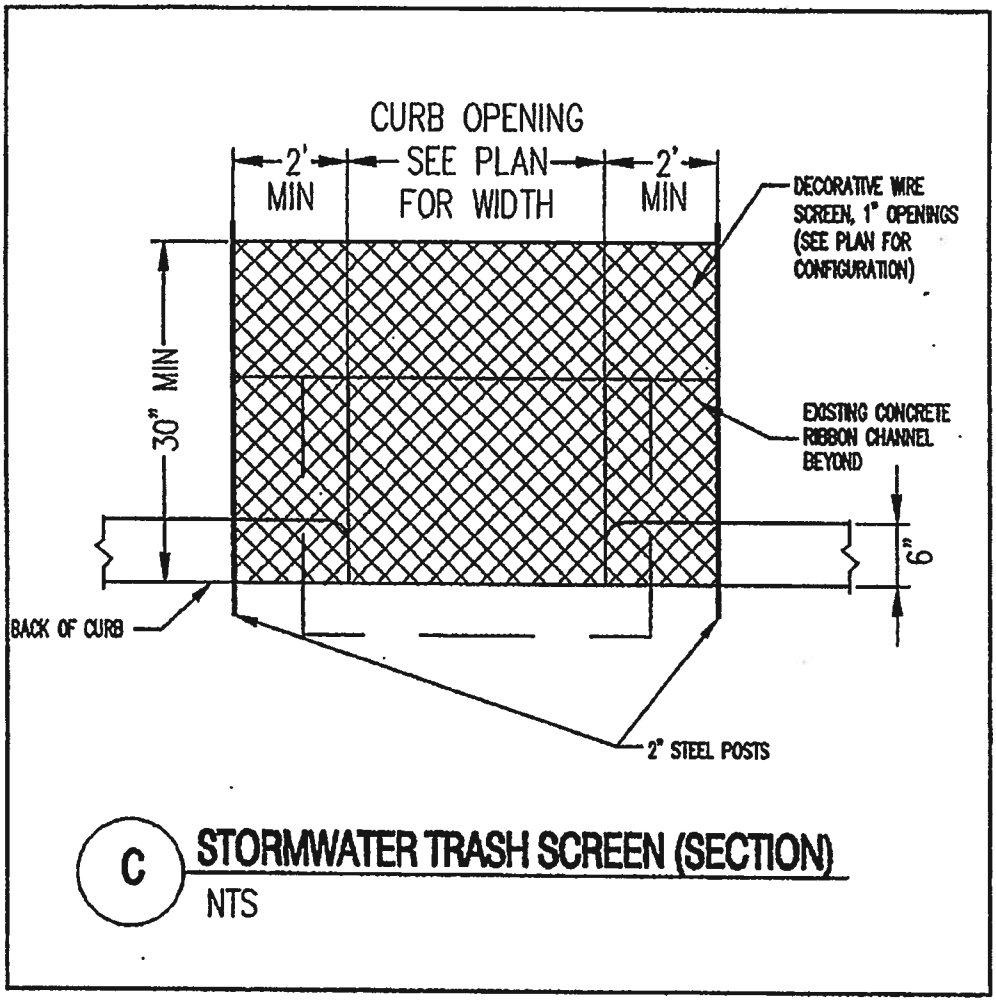
C: Rita Harmon, City Hydrology

; TO MATCH
UMBER OF
ED BARS 1/2
OF OPENING.



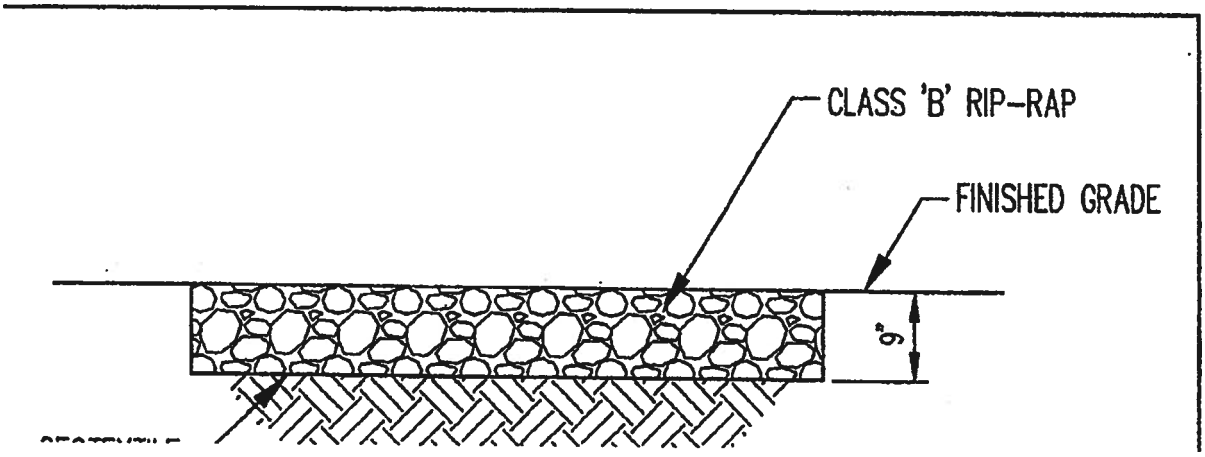
PTED BARS.
.EAR FROM

PIPE PENETRATION SECTION A-A



C **STORMWATER TRASH SCREEN (SECTION)**

NTS



Anasazi Ridge Unit 3

Hydraulic Analysis of the Spillway to Vizcaya Road Transition

A HEC-2 model was developed from the top of the overflow spillway to approximately 100 feet down Vizcaya Road. The 8 ft. wide channel spillway at a slope of 3:1 (0.3%) transitions to an 28' FF Vizcaya Road that is at an existing slope of 2.0%.

The flow regime in the spillway is supercritical and the flow regime in Vizcaya Road is also supercritical at a Q=10.87 cfs. Within the section of this analysis subcritical flow never occurs, so there should be no hydraulic jump.

The results of the HEC-2 analysis indicate that the WSEL in Vizcaya immediately downstream will be between 0.34' to 0.39'. While this is above the top of curb height for mountable curb. It is within the maximum 0.53' height that would typically exist at the property line.

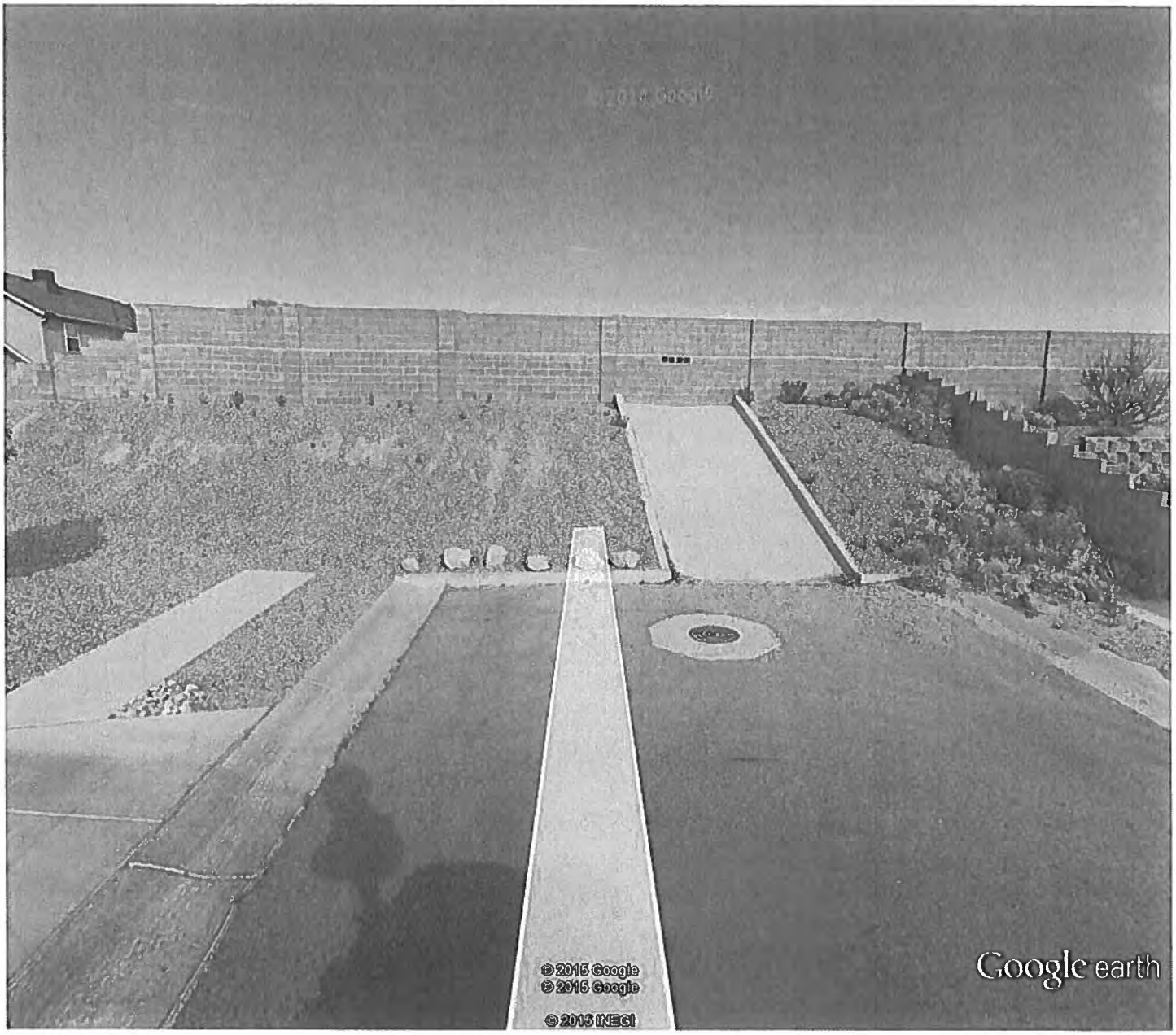
RECOMMENDATION:

It is proposed that the 8' wide channel be constructed to line up with the flow along the north side of Vizcaya Road and that the landscape rock along this side of the road be replaced with 4" concrete section from the spillway channel all the way to the intersection of Calle Gandia Road, which is a distance of approximately 80 lineal feet. This should provide adequate protection against any flow that may top the curb in this area.

Because the channel is being constructed away from the homes located on the south side of Vizcaya Road, and there will be some distance downstream before the spread of runoff would extend all the way to the south side of the road, it should not be necessary to replace the landscape rock on the south side.

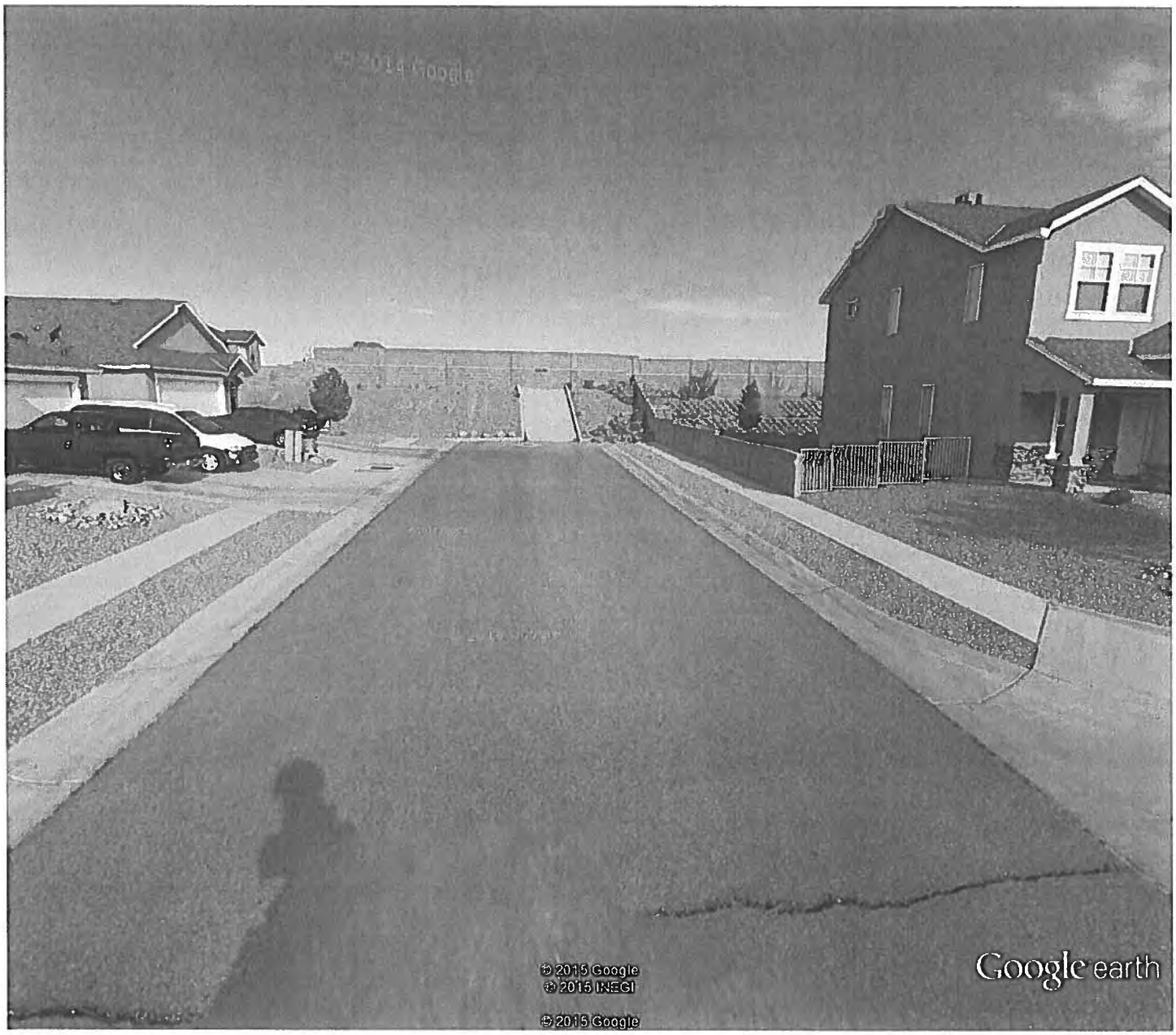
See attached HEC-2 output, plan and profile exhibit and google earth photos of the existing field conditions.

It is also recommended that the first flush ponds and swales on Lots 23 and 16 be lined with landscape rock.



Google earth

feet 9
meters 2



Google earth

feet 9
meters 2

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1*******************************************
 *  HEC-2 WATER SURFACE PROFILES           *
 *                                         *
 *  Version   4.6.2;  May 1991             *
 *                                         *
 *  RUN DATE    21JAN15    TIME   16:00:33  *
 *******************************************
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****************************************
*  U.S. ARMY CORPS OF ENGINEERS        *
*  HYDROLOGIC ENGINEERING CENTER       *
*  609 SECOND STREET, SUITE D          *
*  DAVIS, CALIFORNIA 95616-4687        *
*          (916) 756-1104              *
****************************************
```

```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                   X
X     X  X        X     X             X
```

```
THIS RUN EXECUTED 21JAN15    16:00:33
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************
```

Supercritical

Supercritical Flow Regime Q = 10.87cfs

```
 T1          SEVILLE UNIT 7 - STREET CAPACITY CALCULATIONS
 T2          49'ROW 28'F-F MTB CURB AND GUTTER WITH CROWN
 T3          VIZCAYA AVENUE

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         1         0         0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

      38        43         1         2        26         4        68         3

 NC     .017      .017      .017        .1        .3
 QT        1     10.87
 X1        1         4         0       8.2         0         0         0         0         0         0
 GR    90.25         0     89.25        .1     89.25       8.1     90.25       8.2

 X1        2         4         0       8.2        20        20        20         0         0         0
 GR    82.85         0     81.85        .1     81.85       8.1     82.85       8.2

 X1        3         4         0       8.2        25        25        25         0         0         0
 GR    82.75         0     81.75        .1     81.75       8.1     82.75       8.2

 X1        4         9      24.5        49        46        46        46         0         0         0
 X3       10         0         0         0         0         0         0         0         0
 GR    81.86         0     81.66      9.87     81.33     11.47    81.455      12.5    81.695      24.5
 GR   81.455      36.5     81.33     37.53     81.66     39.13     81.86        49

 X1        5         9      24.5        49        67        67        67         0         0         0
 X3       10         0         0         0         0         0         0         0         0
 GR    81.44         0     81.24      9.87     80.91     11.47    81.035      12.5    81.275      24.5
 GR   81.035      36.5     80.91     37.53     81.24     39.13     81.44        49

 X1        6         9      24.5        49        85        85        85         0         0         0
 X3       10         0         0         0         0         0         0         0         0
 GR    81.08         0     80.88      9.87     80.55     11.47    80.675      12.5    80.915      24.5
 GR   80.675      36.5     80.55     37.53     80.88     39.13     81.08        49

 X1        7         9      24.5        49       125       125       125         0         0         0
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X3       10          0          0          0          0          0          0          0          0
GR    80.28          0      80.08       9.87      79.75      11.47     79.875       12.5     80.115       24.5
GR   79.875       36.5      79.75      37.53      80.08      39.13      80.28         49
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

```
*PROF 1


CCHV=      .100 CEHV=      .300
*SECNO 1.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
3720 CRITICAL DEPTH ASSUMED
     1.000        .38      89.63      89.63        .00      89.83        .19        .00        .00      90.25
      10.9         .0       10.9         .0         .0        3.1         .0         .0         .0      90.25
       .00        .00       3.53        .00       .000       .017       .000       .000      89.25        .06
   .006556         0.         0.         0.          0         14          0        .00       8.08       8.14

*SECNO 2.000

3235 SLOPE TOO STEEP, EXCEEDS        .40


3301 HV CHANGED MORE THAN HVINS

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO = 19.45

     2.000        .07      81.92      82.23        .00      89.13       7.20        .00        .70      82.85
      10.9         .0       10.9         .0         .0         .5         .0         .0         .0      82.85
       .00        .00      21.55        .00       .000       .017       .000       .000      81.85        .09
  2.480134         0.         0.         0.          8          5          0        .00       8.01       8.11

*SECNO 3.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .18

     3.000        .18      81.93      82.13        .00      82.80        .87       4.42       1.90      82.75
      10.9         .0       10.9         .0         .0        1.4         .0         .0         .0      82.75
       .00        .00       7.50        .00       .000       .017       .000       .000      81.75        .08
   .076381         20.        20.        20.          6         23          0        .00       8.04       8.12
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

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*SECNO 4.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3710 WSEL ASSUMED BASED ON MIN DIFF
```

```
 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       81.69 ELREA=       81.86

      4.000       .37     81.70     81.72       .00     81.80       .10       .61       .20     81.69
       10.9       5.7       5.1        .0       2.1       2.1        .0        .0        .0     81.86
        .00      2.72      2.43       .00      .017      .017      .000      .000     81.33      8.12
    .011919       25.       25.       25.        20        20         0       .00     32.77     40.88

 *SECNO 5.000
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       81.28 ELREA=       81.44

      5.000       .39     81.30     81.30       .00     81.37       .08       .44       .72     81.28
       10.9       5.7       5.1        .0       2.5       2.5        .0        .0        .1     81.44
        .01      2.33      2.08       .00      .017      .017      .000      .000     80.91      7.09
    .007737       46.       46.       46.        20         8         0       .00     34.83     41.91

 *SECNO 6.000
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       80.92 ELREA=       81.08

      6.000       .39     80.94     80.94       .00     81.01       .07       .51       .78     80.92
       10.9       5.7       5.1        .0       2.5       2.5        .0        .0        .1     81.08
        .02      2.29      2.05       .00      .017      .017      .000      .000     80.55      6.97
    .007396       67.       67.       67.        20         5         0       .00     35.06     42.03


 *SECNO 7.000
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL

     SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
     Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
     TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
     SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

 3710 WSEL ASSUMED BASED ON MIN DIFF

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       80.11 ELREA=       80.28

      7.000       .37     80.12     80.14       .00     80.22       .10       .75       .63     80.11
       10.9       5.7       5.1        .0       2.2       2.2        .0        .0        .2     80.28
        .03      2.62      2.34       .00      .017      .017      .000      .000     79.75      7.87
    .010680       85.       85.       85.        20         5         0       .00     33.27     41.13

THIS RUN EXECUTED 21JAN15    16:00:33
 ************************************
  HEC-2 WATER SURFACE PROFILES

  Version   4.6.2;  May 1991
 ************************************


 NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST
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VIZCAYA AVENUE

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	CRIWS	VCH	TOPWID	FRCH	EG
*	1.000	10.87	89.63	89.63	3.53	8.08	1.01	89.83
*	2.000	10.87	81.92	82.23	21.55	8.01	15.15	89.13
*	3.000	10.87	81.93	82.13	7.50	8.04	3.12	82.80
*	4.000	10.87	81.70	81.72	2.43	32.77	1.19	81.80
*	5.000	10.87	81.30	81.30	2.08	34.83	.98	81.37
*	6.000	10.87	80.94	80.94	2.05	35.06	.96	81.01
*	7.000	10.87	80.12	80.14	2.34	33.27	1.13	80.22

Depth

0.38
0.07
0.18
0.37
0.39
0.39
0.37

Channel Spillway

81.86
81.44
81.08
80.28

ROW

1

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=      1.000  PROFILE=  1  CRITICAL DEPTH ASSUMED

CAUTION SECNO=      2.000  PROFILE=  1  SLOPE TOO STEEP
WARNING SECNO=      2.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      3.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      4.000  PROFILE=  1  WSEL ASSUMED BASED ON MIN DIFF
CAUTION SECNO=      4.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=      5.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      5.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      5.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=      6.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      6.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      6.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=      7.000  PROFILE=  1  WSEL ASSUMED BASED ON MIN DIFF
CAUTION SECNO=      7.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
```

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1*******************************************
 *  HEC-2 WATER SURFACE PROFILES           *
 *                                         *
 *  Version   4.6.2;  May 1991             *
 *                                         *
 *  RUN DATE    20JAN15    TIME   13:52:12  *
 *******************************************

                                          X     X  XXXXXXX   XXXXX              XXXXX
                                          X     X  X        X     X            X     X
                                          X     X  X        X                        X
                                          XXXXXXX  XXXX     X          XXXXX    XXXXX
                                          X     X  X        X                   X
                                          X     X  X        X     X             X
                                          X     X  XXXXXXX   XXXXX              XXXXXXX

THIS RUN EXECUTED 20JAN15    13:52:12
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 T1          SEVILLE UNIT 7 - STREET CAPACITY CALCULATIONS
 T2          49'ROW 28'F-F MTB CURB AND GUTTER WITH CROWN
 T3          VIZCAYA AVENUE

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         1       .02         0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

      38        43         1         2        26         4        68         3

 NC     .017      .017      .017        .1        .3
 QT       1     10.87
 X1       1         9         0        49         0         0         0         0         0         0
 GR     .53         0       .33      9.87         0     11.47      .125      12.5      .365      24.5
 GR    .125      36.5         0     37.53       .33     39.13       .53        49

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

 *PROF 1

 CCHV=      .100 CEHV=      .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

 3265 DIVIDED FLOW

      1.000      .34       .34       .39       .00       .49       .15       .00       .00       .53
       10.9       .0      10.9        .0        .0       3.5        .0        .0        .0       .53
        .00      .00      3.08       .00      .000      .017      .000      .000       .00      9.24
    .020084       0.        0.        0.         0        14         7       .00     28.29     39.76
```

```
1*******************************************
 *  U.S. ARMY CORPS OF ENGINEERS           *
 *  HYDROLOGIC ENGINEERING CENTER          *
 *  609 SECOND STREET, SUITE D             *
 *  DAVIS, CALIFORNIA 95616-4687           *
 *           (916) 756-1104                *
 *******************************************
```

Supercritical Flow
Vizcaya Road
Q = 11.87 cfs
S = 2.0%

THIS RUN EXECUTED 20JAN15 13:52:12

****
HEC-2 WATER SURFACE PROFILES
Version 4.6.2; May 1991
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

VIZCAYA AVENUE

SUMMARY PRINTOUT

SECNO	Q	CWSEL	CRIWS	VCH	TOPWID	FRCH	EG
1.000	10.87	.34	.39	3.08	28.29	1.60	.49

RESULTS:
WSEL = 0.34'
V = 3.08 fps
EG = 0.49'

SUMMARY OF ERRORS AND SPECIAL NOTES

CONCLUSION: The water surface .01' above top of curb.
The energy grade line below 0.53' at property line

Project Number:

Date Site Plan Approved:
Date Preliminary Plat Approved:
Date Preliminary Plat Expires:
DRB Project No.: 1004245
DRB Application No.:

INFRASTRUCTURE LIST

EXHIBIT "A"

TO SUBDIVISION IMPROVEMENTS AGREEMENT

DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LIST

Anasazi Ridge Unit 3

PROPOSED NAME OF PLAT AND/OR SITE DEVELOPMENT PLAN

Portions of Lot 3, 4-9, Blk 7, Lots 9-13 Blk 8, Lot 12, Block 9, and Lots 2-10, Blk 14

EXISTING LEGAL DESCRIPTION PRIOR TO PLATTING ACTION

Following is a summary of PUBLIC/PRIVATE Infrastructure required to be constructed or financially guaranteed for the above development. This Listing is not necessarily a complete listing. During the SIA process and/or in the review of the construction drawings, if the DRC Chair determines that appurtenant items and/or unforeseen items have not been included in the infrastructure listing, the DRC Chair may include those items in the listing and related financial guarantee. Likewise, if the DRC Chair determines that appurtenant or non-essential items can be deleted from the listing, those items may be deleted as well as the related portions of the financial guarantees. All such revisions require approval by the DRC Chair, the User Department and agent/owner. If such approvals are obtained, these revisions to the listing will be incorporated administratively. In addition, any unforeseen items which arise during construction which are necessary to complete the project and which normally are the Subdivider's responsibility will be required as a condition of project acceptance and close out by the City.

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
			PAVING						
		32' FF	Perm Pvmt	Atlatl Drive NW	Westside Blvd	McMahon Blvd	/	/	/
			C&G (both sides)						
		4'	Sidewalk (both sides)				/	/	/
		28' FF	Perm Pvmt	Westside Blvd	End culdesac	Sipapu Drive NW	/	/	/
			C&G (both sides)		(Tract C)				
		4'	Sidewalk (North Side) (1)				/	/	/
		28' FF	Perm Pvmt	Sipapu Drive NW	Westside Blvd	End Culdesac	/	/	/
			C&G (both sides)			(Lot 16)			
		4'	Sidewalk (both sides) (1)				/	/	/
		4'	Sidewalk Connection	McMahon Blvd ROW	Sipapu culdesac sidewalk	McMahon sidewalk	/	/	/
		28' FF	Perm Pvmt	Canty Ct.	End culdesac	Sipapu Drive NW	/	/	/
			C&G (both sides)		(Lot 10)				
		4'	Sidewalk (both side) (1)				/	/	/
		32' FF	Perm Pvmt	McMahon Blvd.	West prop. Line	East Prop.Line	/	/	/
			C&G (Southside)		(Tract C)	(Lot 16)			
			Median C&G						
			6' Sidewalk (Southside)				/	/	/

WATER					
8"	Waterline	Atlatl Drive NW	Westside Blvd	Exist. 12" WL McMahon Blvd	/ / /
8"	Waterline	Westside Blvd	South P.L. Parsons Row	Sipapu Drive NW	/ / /
6"	Waterline	Sipapu Drive NW	Westside Blvd	Exist. 12" WL McMahon Blvd	/ / /
6"	Waterline	Canty Ct.	Cul-de-Sac	Sipapu Drive NW	/ / /
12"	Waterline	McMahon Blvd	Atlatl Drive NW	East P.L. (Lot 16)	/ / /
SANITARY SEWER					
8"	Sanitary Sewer	Westside Blvd	Lot 24 /Parson Blvd	Sipapu Drive NW	/ / /
8"	Sanitary Sewer	Sipapu Drive NW	Westside Blvd	End culdesac (Lot 16)	/ / /
6"	Sanitary Sewer	Canty Ct.	End Culdesac (Lot 10)	Sipapu Drive NW	/ / /
8"	Sanitary Sewer	20 ft. Public sanitary sewer easement	Sipapu Drive NW	Exist. 8" SAS Calle Vizcaya	/ / /
DRAINAGE					
Per design	Channel / swales & ponds	Tract A	Sipapu Dr. NW	Calle Vizcaya ROW	/ / /
Per design	Sidewalk culverts / channel / shallow pond	Lot 16	Sipapu Dr. NW	McMahan	/ / /
Per design	Concrete rundow / spillway	Calle Vizcaya ROW	Tract A	Calle Vizcaya Ave.	/ / /
Per design	Concrete rundown	McMahon Blvd ROW	Kayenta Blvd.	AMAFCA ROW Calabacillas Arroyo	/ / /

The items listed below are on the CCIP and approved for Impact Fee credits. Signatures from the Impact Fee Administrator and the City User Department is required prior to DRB approval of

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector P.E.	Construction Certification: City Cnst Engineer
							/ /	/ /
							/ /	/ /

Approval of Creditable Items:

Impact Fee Admistrator Signature Date

Approval of Creditable Items:

City User Dept. Signature Date

1 Deferred sidewalk to comply with approved sidewalk exhibit
2 Waterline Infrastructure to include valves, fittings, service connections and fire hydrants
3 Storm Drain Infrastructure to include manholes and inlets
4 Grading & Drainage Certification required per DPM (Prior to release of Financial Guaranty) to includeretaining walls as defined on the approved Grading Plan
5 SAS Infrastructure include manholes and service connections.
6

AGENT / OWNER

Diane Hoelzer, PE
NAME (print)

MARK GOODWIN & ASSOCIATES
FIRM

Diane Hoelzer 2/2/15
SIGNATURE - date

MAXIMUM TIME ALLOWED TO CONSTRUCT THE IMPROVEMENTS WITHOUT A DRB EXTENSION: N/A

DEVELOPMENT REVIEW BOARD MEMBER APPROVALS

DRB CHAIR - date

PARKS & GENERAL SERVICES - date

TRANSPORTATION DEVELOPMENT - date

AMAFCA - date

UTILITY DEVELOPMENT - date

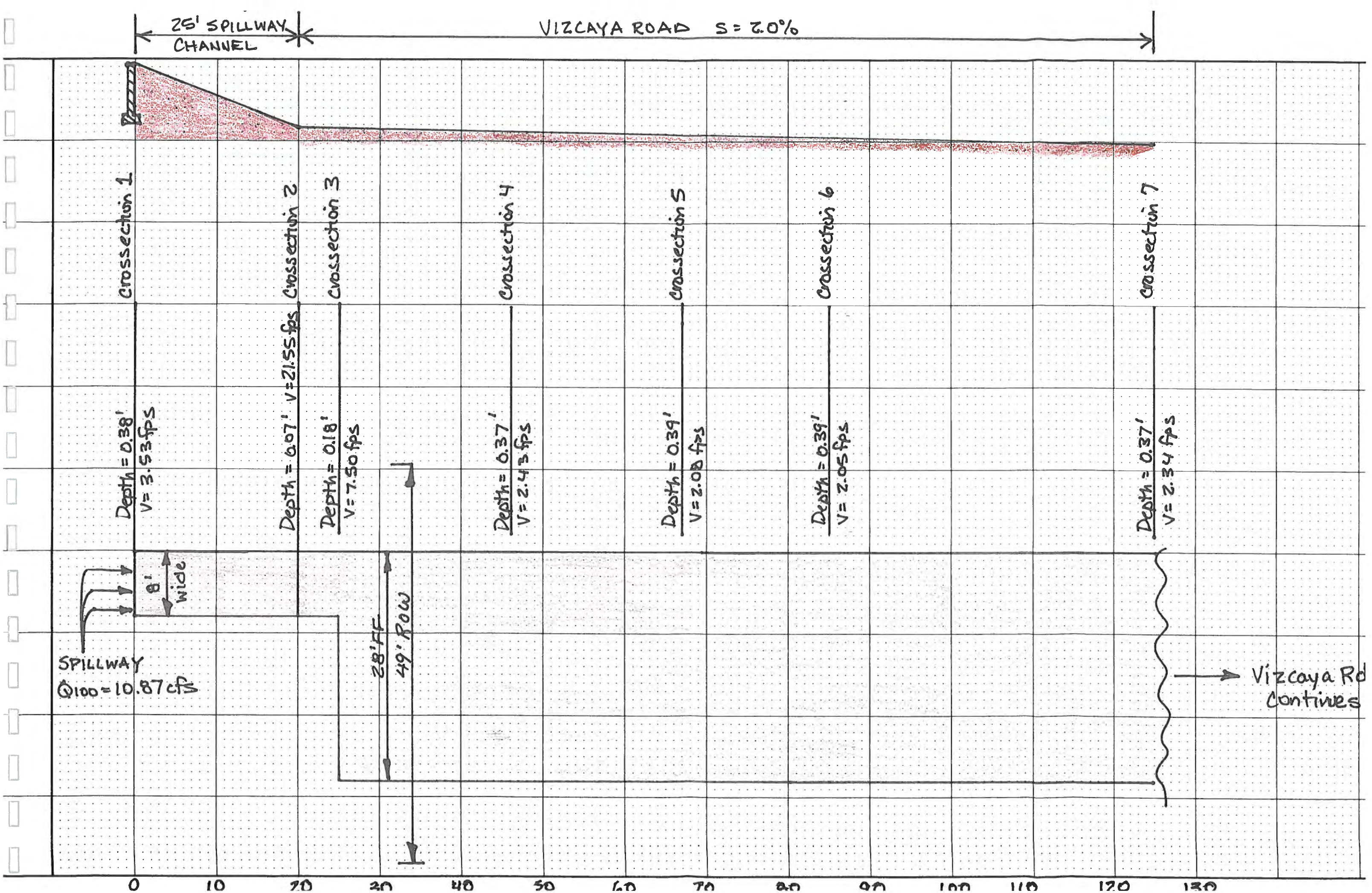
_____ - date

CITY ENGINEER - date

_____ - date

DESIGN REVIEW COMMITTEE REVISIONS

REVISION	DATE	DRC CHAIR	USER DEPARTMENT	AGENT /OWNER


25' SPILLWAY CHANNEL
VIZCAYA ROAD S = 2.0%
Crossection 1
Depth = 0.38'
V = 3.53 fps
Crossection 2
Depth = 0.07'
V = 21.55 fps
Crossection 3
Depth = 0.18'
V = 7.50 fps
Crossection 4
Depth = 0.37'
V = 2.43 fps
Crossection 5
Depth = 0.39'
V = 2.08 fps
Crossection 6
Depth = 0.39'
V = 2.05 fps
Crossection 7
Depth = 0.37'
V = 2.34 fps
8' wide
SPILLWAY
Q100 = 10.87 cfs
28' FF
49' ROW
Vizcaya Rd Continues
0
10
20
30
40
50
60
70
80
90
100
110
120
130

Anasazi Ridge Unit 3
Subdivision

Drainage Management Plan

Prepared by
Mark Goodwin & Associates, P.A.

January 2015

1-12-15 5-9-18

Anasazi Ridge Unit 3

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Sub Basin Boundary Exhibit
AHYMO output file 10 year storm
AHYMO output file 100 year storm

APPENDIX B *HYDRAULICS*
Summary of channels, swales, spillway
HEC-2 printouts

APPENDIX C *FIRST FLUSH PONDS*

APPENDIX D *Approved Seville Unit 7 Drainage Plan (Wilson & Co.)*

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POCKET 2 *PRELIMINARY PLAT*

I. PROJECT DESCRIPTION

Anasazi Ridge Unit 3 covers an area of approximately 6.76 acres. This project involves the construction of supporting infrastructure to develop 24 single family residential lots. The project site is bounded by McMahon Blvd. to the north, Seville Unit 7 subdivision to the east and an open tract of land to the south and west. The north half of McMahon Blvd. is complete. This project will construct the south half of McMahon Blvd. connecting to the existing pavement at the east end and ending at the west property line, thus covering their frontage.

II. DESIGN CRITERIA AND PREVIOUS REPORTS AND DEVELOPMENT

The design criteria used in this report was in accordance with Section 22.2 Hydrology of the Development Process Manual, Volume 2, Design Criteria, January 1993 edition. The 100-year 24-hour storm event was analyzed to determine street capacities and sizing of the storm drain system using P(1 hr)=1.72", P(6 hr)=2.25" and P (24 hr)=2.59". The onsite Land Treatment values used were based on Table A-5, in the DPM.

A previous approved drainage plan was prepared for the adjacent Seville Unit 7 subdivision (Wilson & Co.). Appendix D shows the existing conditions sub basin boundary map and the proposed sub basin boundary map from the Seville Unit 7 drainage report. As indicated on these exhibits, a portion of this project site drains to the north towards McMahon Blvd. and the southern portion flows to the east towards Seville Unit 7 subdivision. The developed conditions map indicates that Seville Unit 7 was designed to accept an allowable peak discharge (100 year) of 10.87 cfs from our project site. This project was graded so that this allowable discharge would spill to the east into Calle Vizcaya Avenue. The remainder of the site will drain north and into McMahon Blvd.(Q(design)=6.57 cfs, from the Wilson Report). Thus, the Anasazi Ridge Unit 3 drainage management plan will be in substantial conformance with the previously approved Seville Unit 7 drainage management plan.

III. EXISTING DRAINAGE CONDITIONS

Under existing drainage conditions, most of the project site drains towards McMahon Blvd. to the north. There is a 3 to 6 foot bluff along the south to southwest boundary of the project site that prevents any cross boundary drainage onto or from our site. The vacant land to the south drains primarily in an east to southeast direction. Along the northern boundary is the McMahon Blvd. and the drainage in this area continues eastward crossing through Kayenta Blvd. intersection to a temporary asphalt rundown that spills into the Calabacillas Arroyo. Appendix E has aerial photos of the Kayenta / McMahon intersection that shows the existing asphalt rundown. From these photos it is evident that the rundown is only a temporary drainage solution until the east side of Kayenta and the south side of McMahon Blvd. are widened.

IV. DEVELOPED DRAINAGE CONDITIONS

A. Onsite Drainage

Under developed conditions, the majority of the site (Q=10.80 cfs) drains to Tract A via a series of (4) 24" wide sidewalk culverts (@ 1% slope) and then passes through a meandering channel / shallow pond area before spilling over a vertical drop into an 8' wide concrete channel in the Seville Unit 7 subdivision and then eastward into Calle Vizcaya Avenue. The intent of the shallow ponding area will be to capture the first flush up to 6-8 inches deep as shown on the grading plan and shown in more detail in Appendix C. The velocities through this area are low so only minor landscape rock protection is being proposed.

Much of the kinetic velocity energy from the vertical drop spillway will be dissipated once the runoff hits the 8' wide concrete channel below and is redirected to the east into Calle Vizcaya Avenue. The high retaining sidewalls along the channel adjacent to the spillway drop will contain splash and facilitate in the transition back to normal depth flow when it reaches Calle Vizcaya Avenue. Refer to the conceptual design of this structure in Appendix C.

As previously discussed in the approved Seville Unit 7 drainage management plan, the allowable discharge from our project site is 10.87 cfs for the 100 year storm event.

B. McMahon Blvd. Drainage

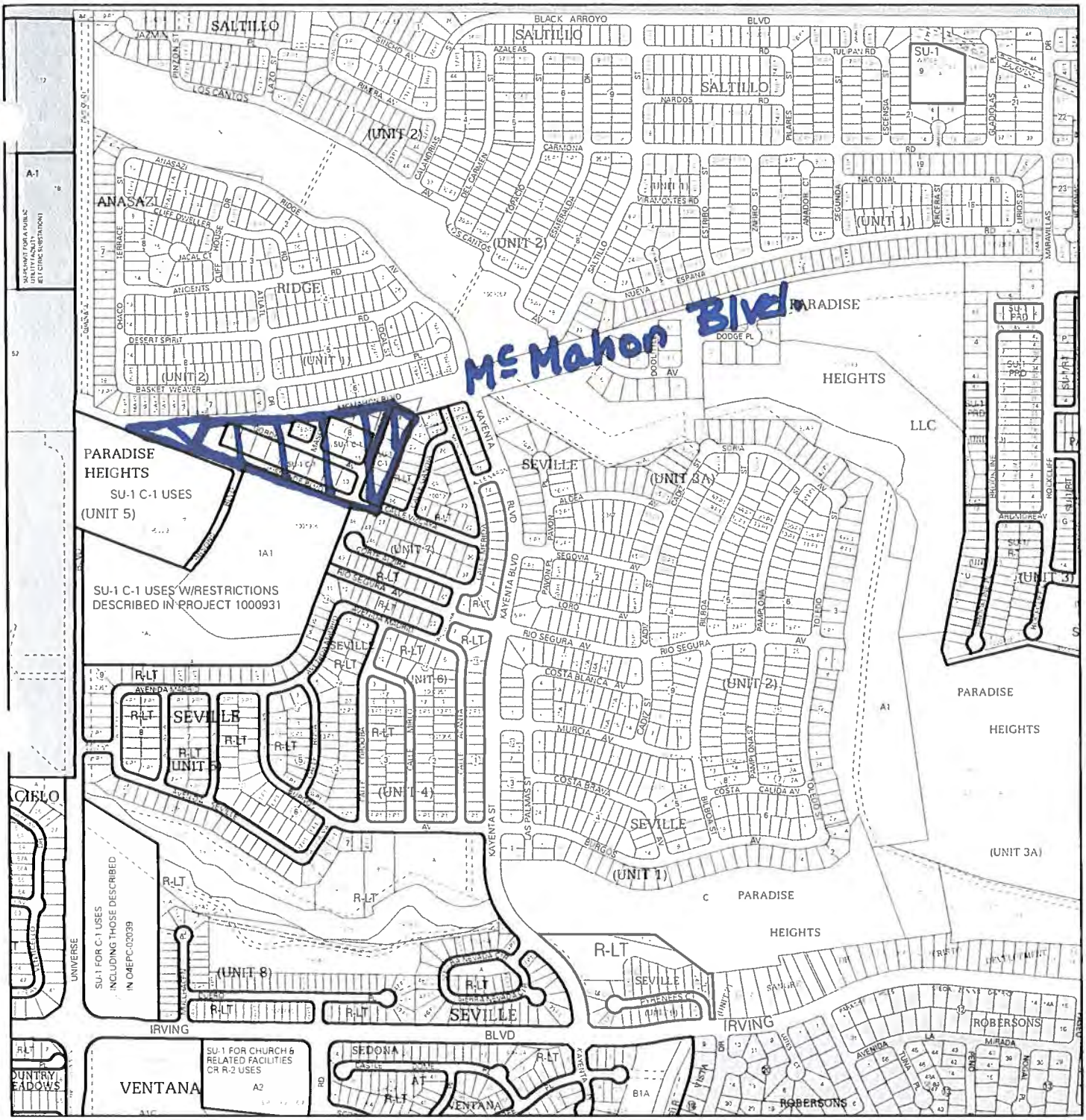
A total of 7.19 cfs will flow from the project site into McMahon Blvd. At the west end, 1.02 cfs will flow from Atlatl Drive and through a couple of wall blocks turned on their side to allow a small amount of discharge to flow into the landscape ROW area from the back yards. At the east end, 5.69 cfs will be conveyed down Canty Court to Sipapu Drive to a drainage swale adjacent to McMahon Blvd and into a shallow pond that will serve to intercept the first flush of runoff before spilling through a couple of sidewalk culverts into McMahon Blvd. This shallow pond is designed to retain no more than 6 inches of runoff before spilling into the sidewalk culverts. A 24" wide sidewalk culvert at a 1.4% slope will carry 5.69 cfs at a depth of 0.55'. It is proposed to add an additional 12" wide sidewalk culvert as a safety factor. A drainage easement will be dedicated on the plat and will be maintained by the H.O.A for Tracts A, B and C . It is proposed that Tract A and C will be protected with landscape rock and or seeded.

Developed conditions runoff within the future fully developed McMahon Blvd., were taken from the McMahon Boulevard Extension Drainage Report, July 2009, prepared by URS Corporation. Their calculated runoff flow rates within the future McMahon Blvd. is 48.32 cfs (Q100) and 29.95 cfs (Q10) for the combined north and south lanes. These flow rates have been reduced and incorporated into the current analysis to determine the McMahon Blvd. street flow capacity so the dry lane width for the 10 year storm event could be determined. The calculations, assumptions and results of this analysis are in Appendix E. For the worst case scenario; with a calculated discharge of 10.83 cfs (10 year storm) at a slope of 0.50% at the flattest section, resulted in dry lane width of10.12 feet assuming a 32' FF half section roadway width.

The off-site runoff is conveyed via surface flow on McMahon Blvd. to the southeast corner of the McMahon Blvd. and Kayenta Blvd. intersection. It is propose that the existing curb cut be widened to 26 ft. with removable bollards in place and connected to a temporary 10' wide asphalt channel. The proposed channel conveys runoff towards the Calabacillas Arroyo and is proposed to end at the right of way line where the channel will end at a wired enclosed rip rap blanket.

As shown and calculated in Figure 4 (Appendix E) the 100-year flow rate at the McMahon Blvd. / Kayenta Blvd. intersection is 18.13 cfs. This flow is for the south half of McMahon Blvd. only and the valley gutter in this section is at 0.45% slope. Because this area from survey information indicates such a flat longitudinal slope as well as as a cross section slope, the runoff spread may be up to 55' wide as indicated on the HEC-2 output analysis. The spread has been sketched on the topographic survey exhibit in Appendix E.

According to the URS McMahon Blvd. Extension Report the flow from McMahon Blvd ultimate section is supposed to be intercepted by inlets located east of Calabacillas Arroyo bridge as indicated in excerpts from the report in Appendix E.



For more current information and details visit: http://www.cabq.gov/gis

Albuquerque Geographic Information System

Map amended through: 4/2/2012

Zone Atlas Page:

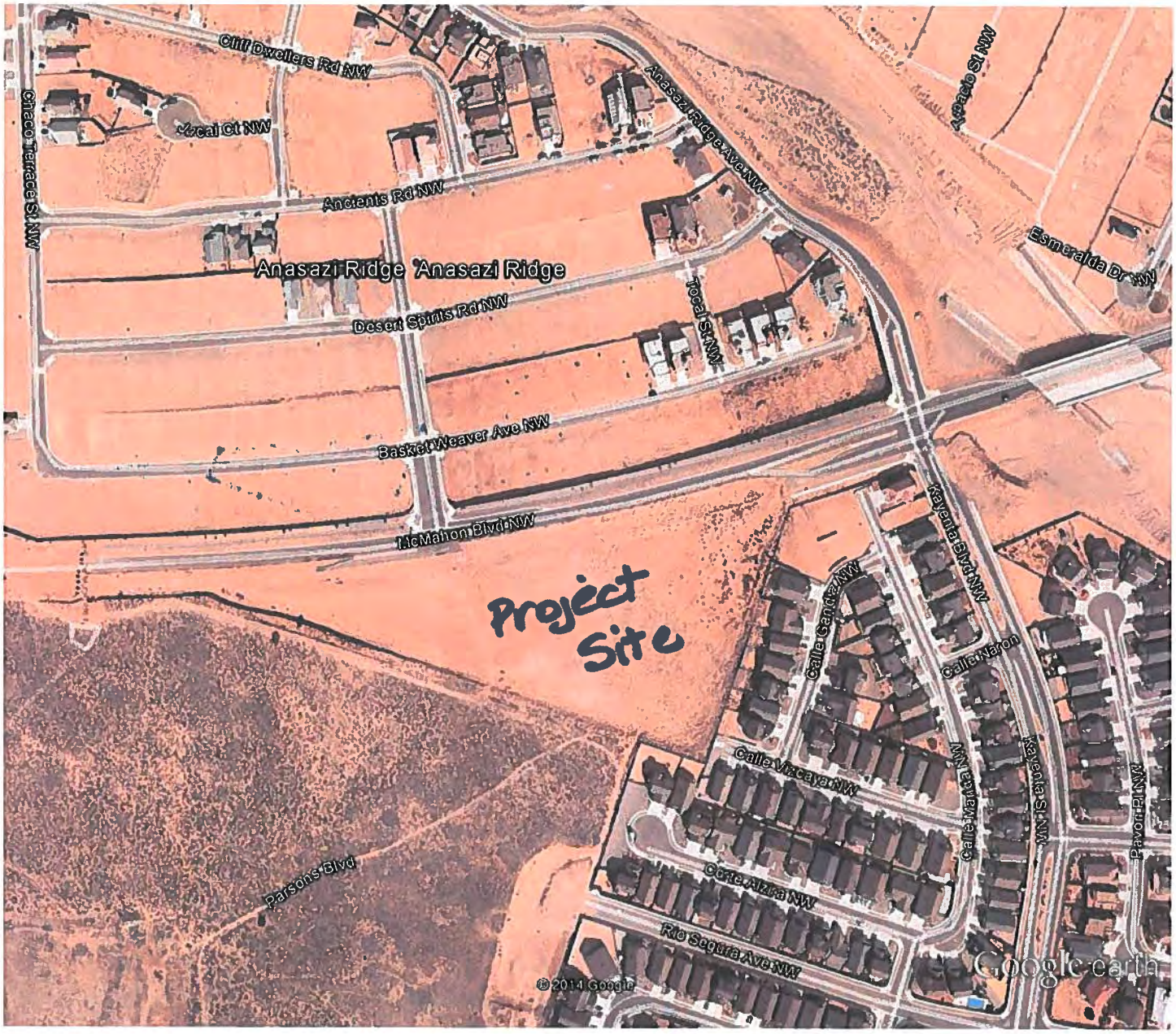
A-10-Z

Selected Symbols

- SECTOR PLANS
- Design Overlay Zones
- City Historic Zones
- H-1 Buffer Zone
- Petroglyph Mon.
- Escarpment
- 2 Mile Airport Zone
- Airport Noise Contours
- Wall Overlay Zone

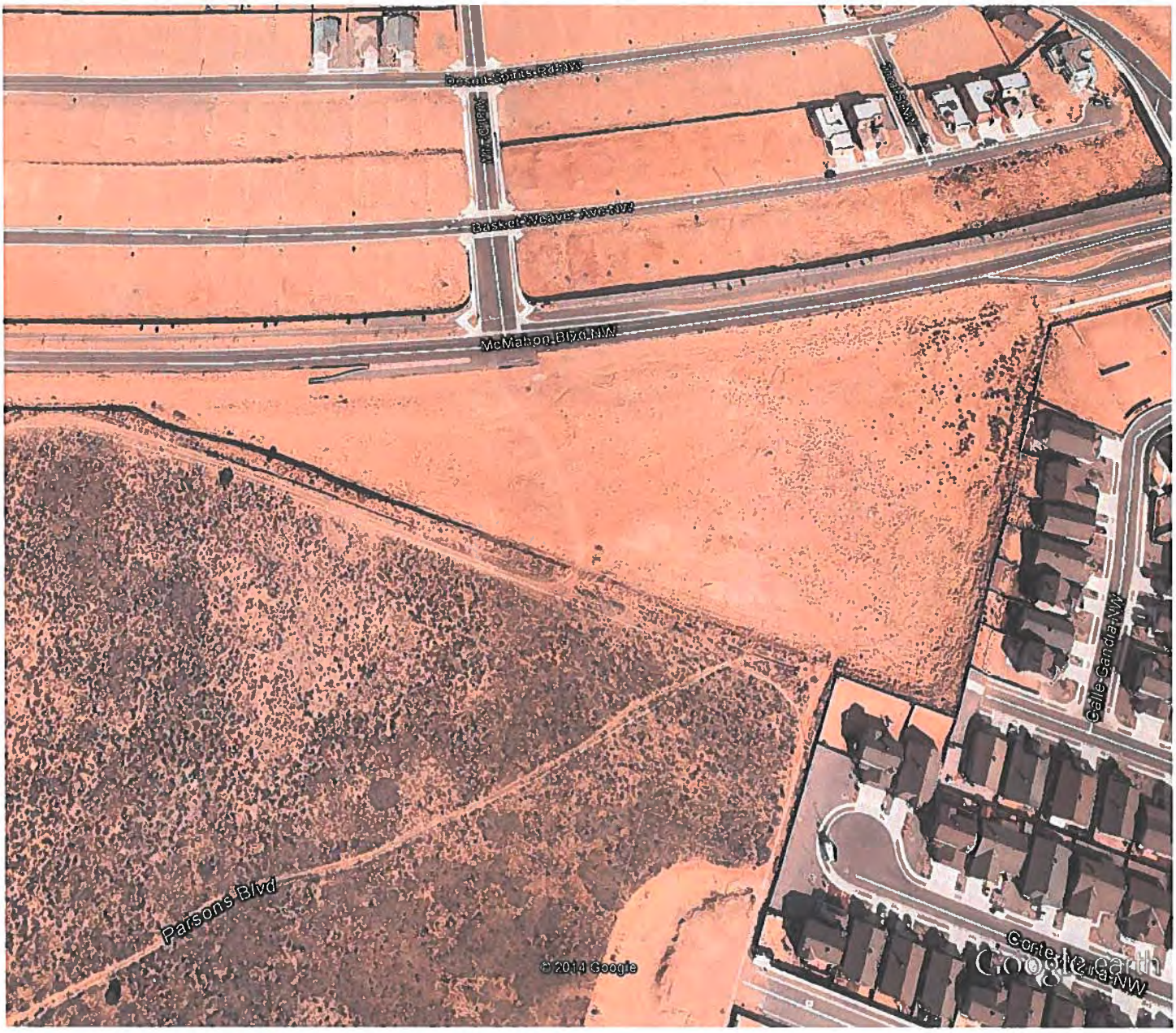
0 750 1,500 Feet

VICINITY MAP



Google earth

feet 1000
meters 300

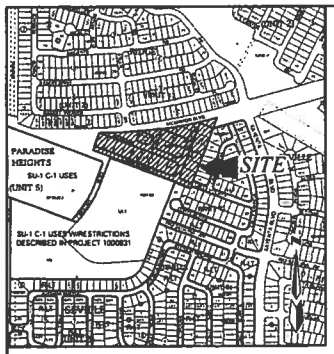


Google earth

feet 600
meters 100

PRELIMINARY PLAT FOR ANASAZI RIDGE UNIT 3

WITHIN THE
TOWN OF ALAMEDA GRANT
PROJECTED SECTION 3
TOWNSHIP 11 NORTH, RANGE 2 EAST, NMPM
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
JANUARY, 2015



ZONE ATLAS MAP A-10-Z VICINITY MAP SCALE: NTS

LEGAL DESCRIPTION

A tract of land situate within the Town of Alameda Grant, projected Section 3, Township 11 North, Range 2 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being a portion of LOT 3 and all of LOTS 4 thru 9, BLOCK 7, a portion of LOTS 9 and 12, BLOCK 8, and all of LOTS 10, 11 & 13, BLOCK 8, all of LOT 12, BLOCK 9, all of LOTS 2 thru 10, BLOCK 14 and portions of NAVAJO DRIVE NW, GORDON AVENUE NW,MASON DRIVE NW, WESTSIDE BOULEVARD NW and McMAHON BOULEVARD NW, PARADISE HEIGHTS UNIT 5, as the same is shown and designated on said plat filed for record in the office of the County Clerkof Bernalillo County, New Mexico on March 12, 1973 in Volume D5, Folio 111 and 112, and containing 6.8042 acres more or less.

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	127.99'	5078.00'	01°26'39"	N 87°57'55" E	127.99'
C2	108.50'	5078.00'	01°13'27"	N 83°21'42" E	108.50'
C3	57.43'	5078.00'	00°38'53"	S 81°22'26" W	57.43'
C4	59.81'	5078.00'	00°40'29"	S 77°32'34" W	59.81'
C5	1.23'	5078.00'	00°00'50"	S 75°33'58" W	1.23'
C6	155.09'	5078.00'	01°44'59"	N79°47'05"E	155.08'

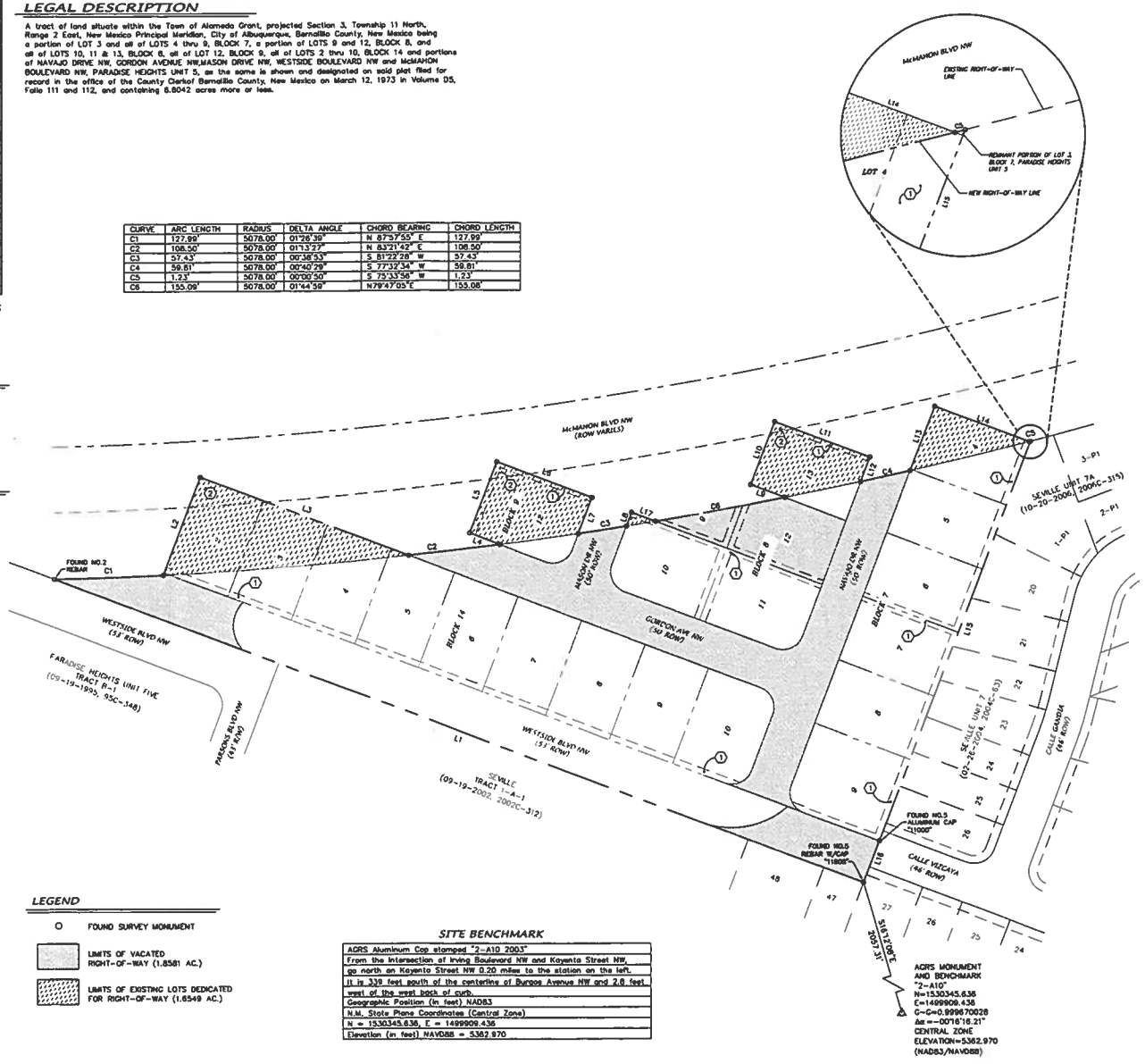
EXISTING EASEMENTS

① EXISTING 7' ELECTRIC AND TELEPHONE EASEMENT (03-12-1973, D5-111 & 112) TO BE VACATED (BOCP TYPE) V=_____

② EXISTING PUBLIC ROADWAY EASEMENT (07-18-2006, Bk. A120, Pg. 6715)

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 69°11'54" W	1018.47'
	(N69°09'39"W)	
L2	N 20°48'06" E	123.33'
	(N20°33'20"E)	
L3	S 69°11'54" E	262.17'
	(S69°26'40"E)	
L4	N 69°11'54" W	38.15'
	(N69°26'40"W)	
L5	N 20°50'24" E	90.00'
	(N20°33'20"E)	(90.00')
L6	S 69°09'36" E	119.82'
	(S69°26'40"E)	(120.00')
L7	S 20°50'24" W	45.36'
	(S20°33'20"W)	
L8	S 20°50'24" W	17.30'
	(N20°33'20"E)	
L9	S 69°09'36" E	42.86'
L10	N 20°50'24" E	80.00'
	(N20°33'20"E)	
L11	S 69°09'36" E	119.87'
	(S69°26'40"E)	(120.00')
L12	S 20°49'18" W	31.04'
	(S20°33'20"W)	
L13	N 20°49'18" E	81.84'
	(N20°33'20"E)	
L14	S 69°10'24" E	118.36'
	(S69°26'40"E)	
L15	S 20°49'18" W	504.18'
	(S20°49'18"W)	(504.24')
L16	S 20°45'12" W	53.00'
	(S20°50'22"W)	(53.00')
L17	S 69°09'36" E	29.99'
	(S69°26'40"E)	



LEGEND

O FOUND SURVEY MONUMENT

LIMITS OF VACATED RIGHT-OF-WAY (1.8581 AC.)

LIMITS OF EXISTING LOTS DEDICATED FOR RIGHT-OF-WAY (1.6549 AC.)

SITE BENCHMARK

ACRS Aluminum Cap stamped "2-A10 2003"
From the intersection of Irving Boulevard NW and Kayenta Street NW, go north on Kayenta Street NW 0.20 miles to the station on the left.
It is 339 feet south of the centerline of Burgos Avenue NW and 2.8 feet west of the west back of curb.
Geographic Position (in feet) NAD83
N.M. State Plane Coordinates (Central Zone)
N = 1530345.636, E = 1499909.436
Elevation (in feet) NAVD88 = 5382.970

SUBDIVISION DATA

GROSS ACREAGE	6.8042 Ac.
ZONE ATLAS NO.	A-10-Z
NO. OF LOTS CREATED	24 LOTS
NO. OF TRACTS CREATED	3 TRACTS
RIGHT-OF-WAY AREA DEDICATED TO CITY	1.8581 AC
RIGHT-OF-WAY AREA VACATED	1.6549 AC
ZONING	R-1
DATE OF SURVEY	NOVEMBER, 2013

PURPOSE OF PLAT

1. SUBDIVIDE TRACT INTO 24 RESIDENTIAL LOTS AND 3 TRACTS.
2. DEDICATE RIGHT-OF-WAY AS SHOWN.
3. GRANT NEW EASEMENTS AS SHOWN.
4. VACATE EASEMENTS AND R/W AS SHOWN.

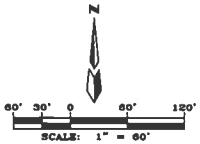
NOTES

1. Bearings are New Mexico State Plane Grid Bearings (Central Zone).
2. Distances are ground distances.
3. Bearings and distances in parenthesis are record.
4. Basis of boundary are the following plats and documents of record entitled:
   PLAT OF "ANASAZI RIDGE, UNIT 1", (06-29-2006, 2006C-207)
   PLAT OF "ANASAZI RIDGE, UNIT 2", (03-16-2007, 2007C-67)
   PLAT OF "PARADISE HEIGHTS, UNIT FIVE", (03-12-1973, D5-111 & 112)
   PLAT OF "PARADISE HEIGHTS, UNIT FIVE, TRACT B-1", (09-19-1995, 95C-348)
   PLAT OF "SEVILLE", (09-19-2002, 2002C-312)
   PLAT OF "SEVILLE, UNIT 7" (02-26-2004, 2004C-63)
   PLAT OF "SEVILLE, UNIT 7A", (10-20-2006, 2006C-315)
   records of Bernalillo County, New Mexico.
5. Date of Survey: November, 2013.
6. Title Report(s): provided by LandAmerica Albuquerque Title File No.: 2377777D (Effective Date: 01-15-04)

APPROVED

City Surveyor, City of Albuquerque, N.M. Date

ANASAZI RIDGE LLC
Michael Pickard, Managing Member 1/8/2015
Date



OWNERS

ANASAZI RIDGE, LLC
P.O. BOX 1237
ALBUQUERQUE, NEW MEXICO 87195
(505) 822-9582

ENGINEERS

D. MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90808
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200

SURVEYOR

ALDRICH LAND SURVEYING
P.O. BOX 3001
ALBUQUERQUE, NEW MEXICO 87190
(505) 884-1990

F:\A13JOBS\A13039 ? ANASAZI RIDGE, UNIT 3\PLATS\PRELIMINARY PLATS\A13039 PPLAT_01-05-15_PG1.DWG Dwayne 1/7/2015

SHEET 1 OF 2

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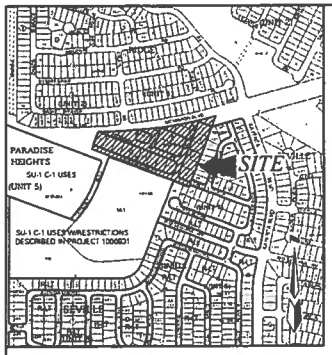
PRELIMINARY PLAT FOR
ANASAZI RIDGE UNIT 3
WITHIN THE
TOWN OF ALAMEDA GRANT
PROJECTED SECTION 3
TOWNSHIP 11 NORTH, RANGE 2 EAST, NMPM
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
JANUARY, 2015



ZONE ATLAS MAP A-10-Z VICINITY MAP SCALE: NTS

Curve Table					
Curve #	Length	Radius	Delta	Chord B.	Chord L.
C1	1183.57'	5078.00'	13°07'44"	N82°07'33"E	1181.03'
C2	51.85'	273.50'	10°53'02"	S8°34'48"W	51.78'
C3	42.99'	25.00'	98°31'56"	S61°32'07"W	37.88'
C4	36.56'	25.00'	83°47'16"	S27°18'18"E	33.38'
C5	50.55'	30.00'	96°32'35"	S47°08'36"E	44.78'
C6	22.64'	25.00'	50°36'37"	S43°36'25"E	21.33'
C7	57.92'	40.00'	82°57'46"	S80°16'11"E	52.99'
C8	80.41'	40.00'	115°10'35"	N20°45'38"E	67.54'
C9	4.58'	20.00'	13°08'13"	S30°15'02"E	4.58'
C10	112.52'	5078.00'	1°16'10"	N86°38'36"E	112.52'
C11	123.08'	5078.00'	1°23'19"	N85°16'45"E	123.07'
C12	89.68'	328.50'	15°44'17"	S8°43'14"W	89.40'
C13	44.21'	30.00'	84°26'26"	S41°05'18"W	40.33'
C14	80.21'	5078.00'	0°48'46"	N82°58'15"E	80.21'
C15	78.17'	48.50'	89°58'49"	N85°48'41"E	68.58'
C16	117.78'	75.00'	89°58'49"	N85°48'42"E	106.05'

Curve Table					
Curve #	Length	Radius	Delta	Chord B.	Chord L.
C17	140.70'	300.00'	26°52'19"	N72°21'36"E	139.43'
C18	125.81'	98.50'	73°10'56"	N74°13'30"E	117.43'
C19	68.80'	25.00'	157°13'07"	N32°48'18"W	49.28'
C20	23.58'	98.50'	14°00'11"	N88°34'05"E	23.53'
C21	18.24'	25.00'	41°48'48"	S57°31'05"W	18.77'
C22	52.56'	40.00'	75°19'36"	N73°08'08"E	48.88'
C23	56.26'	40.00'	80°35'24"	S28°54'12"E	51.74'
C24	26.43'	40.00'	37°51'27"	S30°16'14"W	25.95'
C25	43.61'	40.00'	83°39'46"	S81°54'51"W	43.18'
C26	2.97'	40.00'	4°15'37"	N63°17'28"W	2.97'
C27	17.14'	25.00'	39°16'21"	S80°47'50"E	16.80'
C28	17.54'	143.50'	7°00'05"	N83°39'02"E	17.53'
C29	41.85'	143.50'	16°42'53"	S84°46'35"E	41.80'
C30	65.38'	120.00'	31°13'02"	N84°48'29"W	64.58'
C31	26.24'	25.00'	63°02'36"	N62°04'13"E	25.15'
C32	27.46'	25.00'	62°47'50"	N10°34'37"W	26.05'

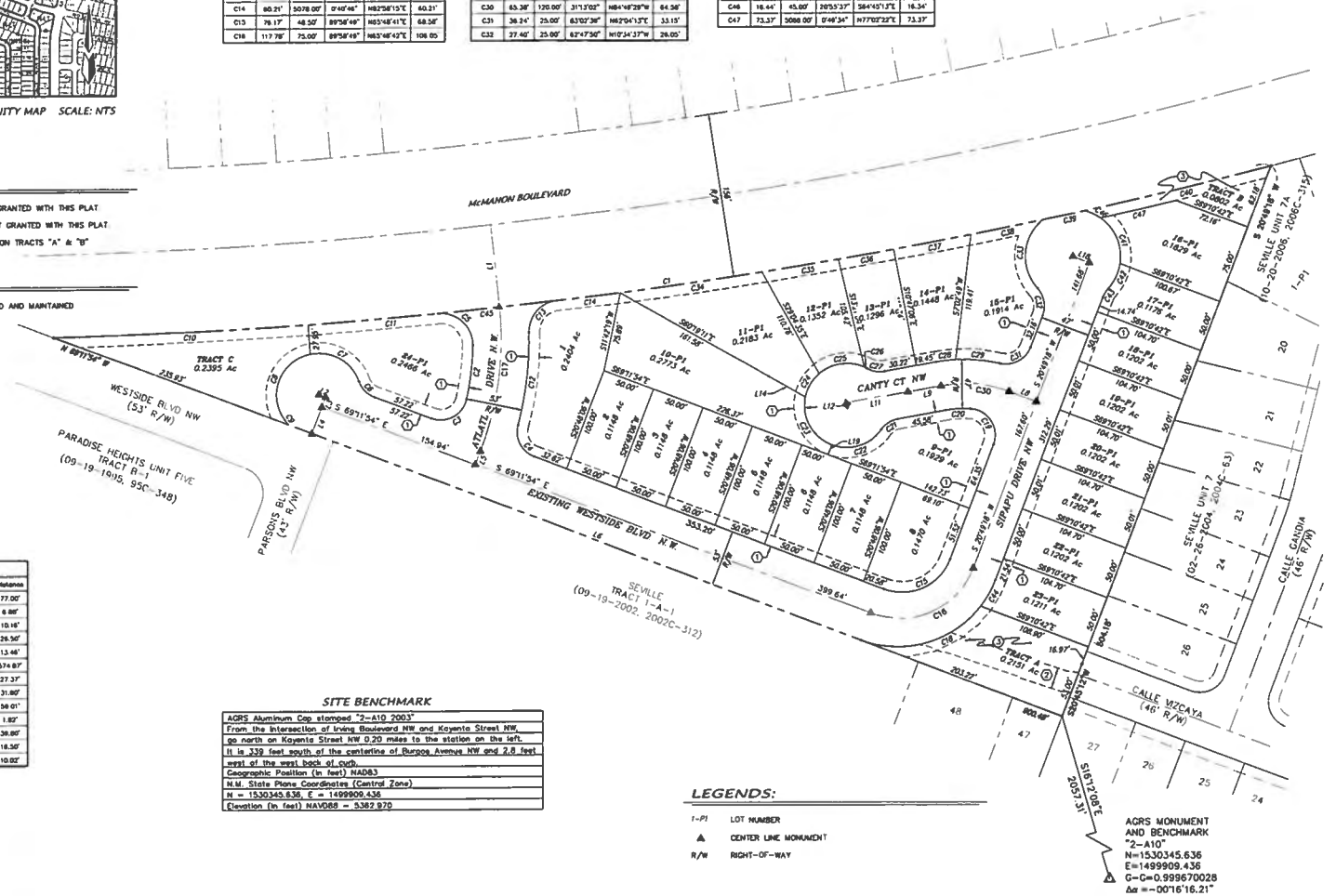
Curve Table					
Curve #	Length	Radius	Delta	Chord B.	Chord L.
C33	72.93'	45.00'	92°50'58"	N4°26'57"E	65.20'
C34	135.41'	5078.00'	1°31'40"	N81°52'02"E	135.41'
C35	73.20'	5078.00'	0°49'33"	N80°41'25"E	73.20'
C36	53.08'	5078.00'	0°35'56"	N79°58'40"E	53.08'
C37	74.19'	5078.00'	0°50'13"	N79°15'36"E	74.19'
C38	69.37'	5078.00'	0°46'58"	N78°27'00"E	69.37'
C39	40.80'	5078.00'	0°27'37"	N77°48'43"E	40.80'
C40	180.78'	5078.00'	2°02'23"	N79°34'42"E	180.77'
C41	48.64'	45.00'	83°00'16"	S32°41'18"E	47.16'
C42	28.46'	45.00'	33°41'38"	S25°45'41"W	28.08'
C43	9.31'	25.00'	21°43'12"	S31°42'34"W	9.45'
C44	28.87'	98.50'	16°47'44"	N29°13'10"E	28.77'
C45	112.84'	5078.00'	1°16'28"	N83°56'53"E	112.84'
C46	16.44'	45.00'	20°55'37"	S84°45'13"E	16.34'
C47	73.37'	5088.00'	0°49'34"	N77°05'22"E	73.37'

NEW EASEMENTS:

1. NEW 10' PUBLIC UTILITY EASEMENT GRANTED WITH THIS PLAT.
2. NEW 20' SANITARY SEWER EASEMENT GRANTED WITH THIS PLAT.
3. NEW BLANKET DRAINAGE EASEMENT ON TRACTS "A" & "B" GRANTED WITH THIS PLAT.

NOTES:

1. TRACTS "A", "B" & "C" TO BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION.



Line Table		
Line #	Bearing	Distance
L1	N6°04'18"W	77.00'
L2	S89°11'34"E	6.88'
L3	S20°48'08"W	10.16'
L4	S20°48'08"W	26.50'
L5	S20°48'08"W	13.46'
L8	N89°11'34"W	574.87'
L9	S69°12'38"E	27.37'
L9	S78°34'00"W	31.80'
L11	S78°34'00"W	58.01'
L12	S10°35'21"E	1.82'
L14	S39°46'26"E	38.80'
L16	N89°10'43"W	18.50'
L19	S20°48'08"W	10.02'

SITE BENCHMARK

AGRS Aluminum Cap stamped "2-A10 2003"
From the intersection of Irving Boulevard NW and Kayenta Street NW, go north on Kayenta Street NW 0.20 miles to the station on the left.
It is 339 feet south of the centerline of Burgos Avenue NW and 2.8 feet west of the west back of curb.
Geographic Position (in feet) NAD83
N.M. State Plane Coordinates (Central Zone)
N = 1530345.636, E = 1499909.436
Elevation (in feet) NAVD88 = 5382.970

LEGENDS:

1-P1	LOT NUMBER
▲	CENTER LINE MONUMENT
R/W	RIGHT-OF-WAY

AGRS MONUMENT AND BENCHMARK "2-A10" N=1530345.636 E=1499909.436 G-C=0.999670028 Δα =-00°16'16.21" CENTRAL ZONE

SCALE: 1" = 50'

OWNERS
ANASAZI RIDGE, LLC
P.O. BOX 12317
ALBUQUERQUE, NEW MEXICO 87195
(505) 822-5362

ENGINEERS
D. MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200

SURVEYOR
ALDRICH LAND SURVEYING
P.O. BOX 3001
ALBUQUERQUE, NEW MEXICO 87190
(505) 884-1990

F:\A13.3085\A13.3039 ? ANASAZI RIDGE, UNIT 3\PLATS\PRELIMINARY PLATS\A13.3039 PPLAT_01-05-15_PG2.DWG Dwayne 1/7/2015

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Current DRC
Project Number:_____

FIGURE 12

INFRASTRUCTURE LIST

Date Submitted: 16-Dec-14
Date Site Plan Approved:_____
Date Preliminary Plat Approved:_____
Date Preliminary Plat Expires:_____
DRB Project No.: 1004245
DRB Application No.:_____

EXHIBIT "A"

TO SUBDIVISION IMPROVEMENTS AGREEMENT

DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LIST

Anasazi Ridge Unit 3

PROPOSED NAME OF PLAT AND/OR SITE DEVELOPMENT PLAN

Portions of Lot 3, 4-9, Blk 7, Lots 9-13 Blk 8, Lot 12, Block 9, and Lots 2-10, Blk 14

EXISTING LEGAL DESCRIPTION PRIOR TO PLATTING ACTION

Following is a summary of PUBLIC/PRIVATE Infrastructure required to be constructed or financially guaranteed for the above development. This Listing is not necessarily a complete listing. During the SIA process and/or in the review of the construction drawings, if the DRC Chair determines that appurtenant items and/or unforeseen items have not been included in the infrastructure listing, the DRC Chair may include those items in the listing and related financial guarantee. Likewise, if the DRC Chair determines that appurtenant or non-essential items can be deleted from the listing, those items may be deleted as well as the related portions of the financial guarantees. All such revisions require approval by the DRC Chair, the User Department and agent/owner. If such approvals are obtained, these revisions to the listing will be incorporated administratively. In addition, any unforeseen items which arise during construction which are necessary to complete the project and which normally are the Subdivider's responsibility will be required as a condition of project acceptance and close out by the City.

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
			PAVING						
		32' FF	Perm Pvmt	Atlatl Drive NW	Westside Blvd	McMahon Blvd	/	/	/
			C&G (both sides)						
		4'	Sidewalk (both sides)				/	/	/
		28' FF	Perm Pvmt	Westside Blvd	End culdesac	Sipapu Drive NW	/	/	/
			C&G (both sides)		(Tract E)				
		4'	Sidewalk (North Side) (1)				/	/	/
		28' FF	Perm Pvmt	Sipapu Drive NW	Westside Blvd	End Culdesac	/	/	/
			C&G (both sides)			(Lot 16)			
		4'	Sidewalk (both sides) (1)				/	/	/
		28' FF	Perm Pvmt	Canty Ct.	End culdesac	Sipapu Drive NW	/	/	/
			C&G (both sides)		(Lot 10)				
		4'	Sidewalk (both side) (1)				/	/	/
		32' FF	Perm Pvmt	McMahon Blvd.	West prop. Line	East Prop.Line	/	/	/
			C&G (Southside)		(Tract E)	(Lot 16)			
			Median C&G						
			6' Sidewalk (Southside)				/	/	/

		WATER						
		8"	Waterline	Atlatl Drive NW	Westside Blvd	Exist. 12" WL McMahon Blvd	/	/ /
		8"	Waterline	Westside Blvd	South P.L. Parsons Row	Sipapu Drive NW	/	/ /
		6"	Waterline	Sipapu Drive NW	Westside Blvd	Exist. 12" WL McMahon Blvd	/	/ /
		6"	Waterline	Canty Ct.	Cul-de-Sac	Sipapu Drive NW	/	/ /
		12"	Waterline	McMahon Blvd	Atlatl Drive NW	East P.L. (Lot 16)	/	/ /
			SANITARY SEWER					
		8"	Sanitary Sewer	Westside Blvd	South P.L.	Sipapu Drive NW	/	/ /
		8"	Sanitary Sewer	Sipapu Drive NW	Westside Blvd	End culdesac (Lot 16)	/	/ /
		6"	Sanitary Sewer	Canty Ct.	End Culdesac (Lot 10)	Sipapu Drive NW	/	/ /
		8"	Sanitary Sewer	20 ft. Public sanitary sewer easement	Sipapu Drive NW	Exist. 8" SAS Calle Vizcaya	/	/ /
			DRAINAGE					
		Per design	Sidewalk culverts / meadering channel	Tract A	Sipapu Dr. NW	Calle Vizcaya Spillway	/	/ /
		Per design	Sidewalk culverts / channel / shallow pond	Lot 16	Sipapu Dr. NW	McMahan	/	/ /
		Per design	Concrete rundow / spillway	Calle Vizcaya			/	/ /

The items listed below are on the CCIP and approved for Impact Fee credits. Signatures from the Impact Fee Administrator and the City User Department is required prior to DRB approval of

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector P.E. / City Cnst Engineer
							/ / /
							/ / /

Approval of Creditable Items:

Impact Fee Admistrator Signature **Date**

Approval of Creditable Items:

City User Dept. Signature **Date**

1 Deferred sidewalk to comply with approved sidewalk exhibit

2 Waterline Infrastructure to include valves, fittings, service connections and fire hydrants

3 Storm Drain Infrastructure to include manholes and inlets

4 Grading & Drainage Certification required per DPM (Prior to release of Financial Guaranty) to includeretaining walls as defined on the approved Grading Plan

5 SAS Infrastructure include manholes and service connections.

6

AGENT / OWNER

Diane Hoelzer, PE
NAME (print)

MARK GOODWIN & ASSOCIATES
FIRM

Diane Hoelzer 12-16-14
SIGNATURE - date

MAXIMUM TIME ALLOWED TO CONSTRUCT THE IMPROVEMENTS WITHOUT A DRB EXTENSION: N/A

DEVELOPMENT REVIEW BOARD MEMBER APPROVALS

DRB CHAIR - date

PARKS & GENERAL SERVICES - date

TRANSPORTATION DEVELOPMENT - date

AMAFCA - date

UTILITY DEVELOPMENT - date

_____ **- date**

CITY ENGINEER - date

_____ **- date**

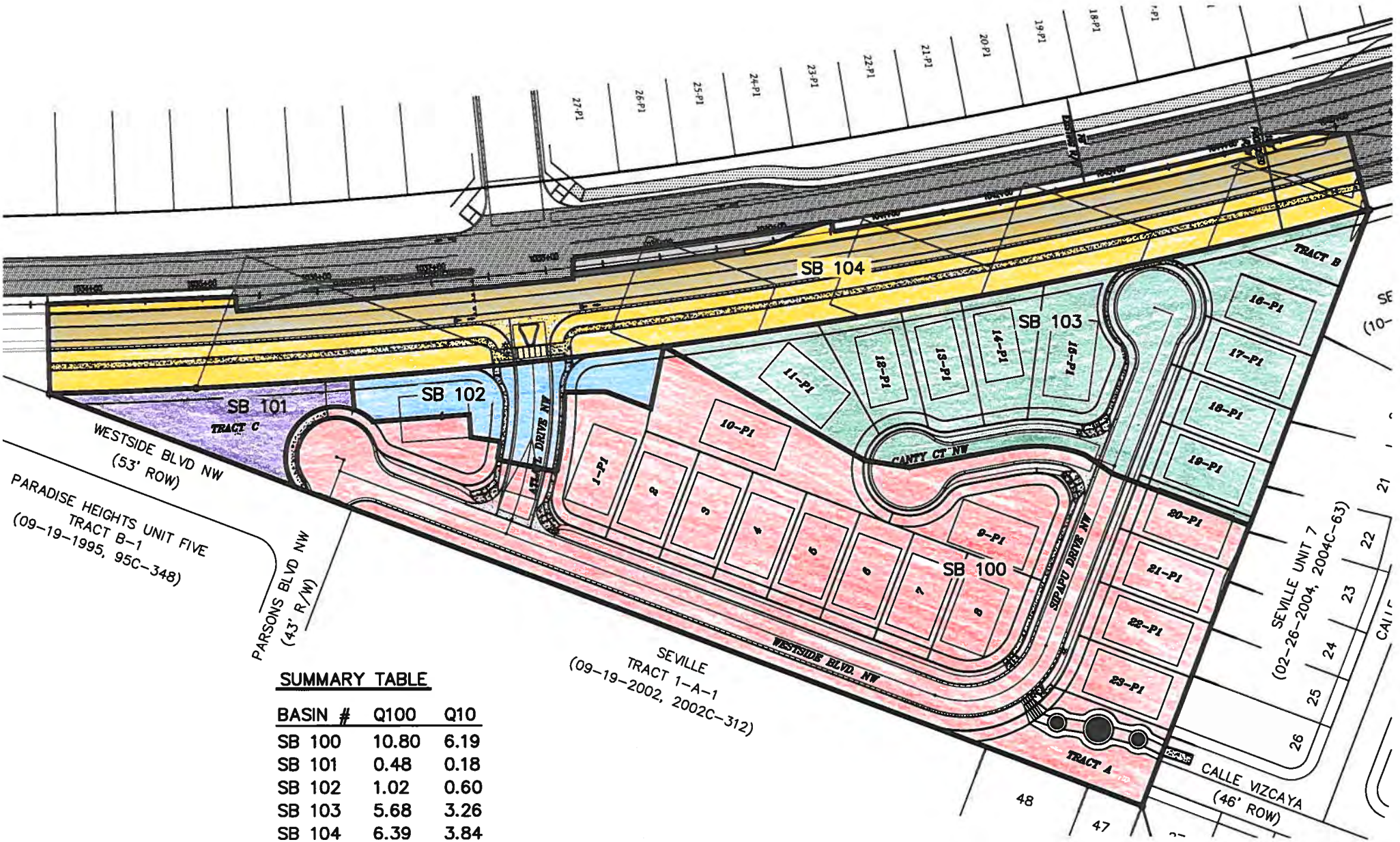
DESIGN REVIEW COMMITTEE REVISIONS

REVISION	DATE	DRC CHAIR	USER DEPARTMENT	AGENT /OWNER

APPENDIX A - HYDROLOGY

Sub Basin Boundary Exhibit

AHYMO Output



SUMMARY TABLE

BASIN #	Q100	Q10
SB 100	10.80	6.19
SB 101	0.48	0.18
SB 102	1.02	0.60
SB 103	5.68	3.26
SB 104	6.39	3.84

ANASAZI RIDGE UNIT 3
SUB BASIN BOUNDARY EXHIBIT

100 YEAR STORM

```
    AHYMO PROGRAM (AHYMO_97) -                        - Version:  1997.02d
         RUN DATE (MON/DAY/YR) = 01/09/2015
         START TIME (HR:MIN:SEC) = 09:22:04     USER NO.= AHYMO-I-9702dGoodwinM-AH
         INPUT FILE = AR3_R3.DAT

*S*********************************************************
*S
*S                   ANASAZI RIDGE UNIT 3
*S                   100 YEAR 24 HOUR STORM EVENT
*S
*S                   FILE: AR3_R3.DAT
*S                   LAST REVISED: 1-8-15
*S                   NOAA ATLAS 2, VOL IV ZONE: A 10
START               TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
LOCATION            NEW MEXICO
     State of New Mexico soil infiltration values (LAND FACTORS) used for computations.
     Land Treatment     Initial Abstr.(in)    Unif. Infilt.(in/hour)
          A             0.65                  1.67
          B             0.50                  1.25
          C             0.35                  0.83
          D             0.10                  0.04

RAINFALL            TYPE=2 RAIN QUARTER=0.0
                    RAIN ONE=1.72 IN RAIN SIX=2.25 IN
                    RAIN DAY=2.59 IN DT=0.0333 HRS

               COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
               DT =     .033300 HOURS       END TIME =    19.946700 HOURS
                  .0000   .0044   .0089   .0135   .0182   .0230   .0279
                  .0329   .0380   .0432   .0485   .0540   .0597   .0654
                  .0713   .0774   .0837   .0901   .0968   .1036   .1107
                  .1181   .1257   .1335   .1417   .1503   .1592   .1685
                  .1782   .1885   .1993   .2042   .2093   .2147   .2259
                  .2516   .2912   .3482   .4261   .5286   .6594   .8223
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                1.5628  1.6053  1.6451  1.6826  1.7180  1.7514  1.7830
                1.8130  1.8414  1.8683  1.8939  1.9182  1.9255  1.9315
                1.9372  1.9428  1.9481  1.9533  1.9584  1.9633  1.9680
                1.9727  1.9772  1.9816  1.9859  1.9901  1.9943  1.9983
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2.4960	2.4965	2.4971	2.4976	2.4981	2.4987	2.4992
2.4997	2.5003	2.5008	2.5013	2.5019	2.5024	2.5029
2.5035	2.5040	2.5045	2.5050	2.5056	2.5061	2.5066
2.5071	2.5077	2.5082	2.5087	2.5092	2.5097	2.5103
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                2.5320  2.5325  2.5330  2.5335  2.5340

*S**********************************************************
*** ********************
*S  TOTAL SITE
*S  DEVELOPED CONDITIONS
*** ********************
*** **********************
*** SUB BASIN 100
*** AREA = 3.522 ACRES
*** PROJECT SITE
*** **********************
COMPUTE NM HYD       ID=1  HYD NO=100. AREA= 0.00550 SQ MI
                     PER A=0  PER B=28.5 PER C=28.5 PER D=43.
                     TP=-.1333 HR  MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   9.3371    CFS   UNIT VOLUME =    .9982       B =   526.28      P60 = 1.7200
     AREA =      .002365 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300


     K =   .118903HR    TP =   .133300HR    K/TP RATIO =   .891996     SHAPE CONSTANT, N =  3.975497
     UNIT PEAK =   8.3145    CFS   UNIT VOLUME =    .9989       B =   353.53      P60 = 1.7200
     AREA =      .003135 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=1 CODE=1

                                   PARTIAL HYDROGRAPH   100.00


    RUNOFF VOLUME =     1.41951 INCHES     =        .4164 ACRE-FEET
    PEAK DISCHARGE RATE =      10.80 CFS  AT   1.499 HOURS   BASIN AREA =   .0055 SQ. MI.



*s*******************
*s* ROUTE THRU FIRST FLUSH POND
*s*********************************************************************
ROUTE RESERVOIR      ID=12  HYD=POND.12   INFLOW=1   CODE=5
                     OUTFLOW(CFS)   STORAGE(ACFT)     ELEV(FT)
                     0.00               0.000000        89.00
                     0.01        0.010023       89.25
                     2.15        0.010170       89.45
                     6.07        0.010501       89.65
                     11.15              0.011015       89.85

  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

    TIME       INFLOW     ELEV       VOLUME     OUTFLOW
    (HRS)      (CFS)      (FEET)     (AC-FT)    (CFS)
```

.00	.00	89.00	.000	.00
.17	.00	89.00	.000	.00
.33	.00	89.00	.000	.00
.50	.00	89.00	.000	.00
.67	.01	89.00	.000	.00
.83	.22	89.04	.002	.00
1.00	.32	89.13	.005	.01
1.17	.26	89.24	.009	.01
1.33	2.36	89.45	.010	2.22
1.50	10.80	89.84	.011	10.84
1.67	5.52	89.62	.010	5.52
1.83	2.92	89.49	.010	2.95
2.00	1.92	89.43	.010	1.92
2.16	.95	89.34	.010	.96
2.33	.50	89.30	.010	.50
2.50	.32	89.28	.010	.33
2.66	.22	89.27	.010	.22
2.83	.16	89.26	.010	.16
3.00	.13	89.26	.010	.13
3.16	.10	89.26	.010	.11
3.33	.09	89.26	.010	.09
3.50	.08	89.26	.010	.08
3.66	.07	89.26	.010	.07
3.83	.07	89.26	.010	.07
4.00	.07	89.26	.010	.07
4.16	.07	89.26	.010	.07
4.33	.07	89.26	.010	.07
4.50	.07	89.26	.010	.07
4.66	.07	89.26	.010	.07
4.83	.07	89.26	.010	.07
5.00	.07	89.26	.010	.07
5.16	.07	89.26	.010	.07
5.33	.07	89.26	.010	.07
5.49	.07	89.26	.010	.07
5.66	.07	89.26	.010	.07
5.83	.07	89.26	.010	.07
5.99	.08	89.26	.010	.08
6.16	.06	89.25	.010	.06
6.33	.05	89.25	.010	.05
6.49	.05	89.25	.010	.05
6.66	.04	89.25	.010	.04
6.83	.04	89.25	.010	.04
6.99	.04	89.25	.010	.04
7.16	.04	89.25	.010	.04
7.33	.04	89.25	.010	.04
7.49	.04	89.25	.010	.04
7.66	.04	89.25	.010	.04
7.83	.04	89.25	.010	.04
7.99	.04	89.25	.010	.04
8.16	.04	89.25	.010	.04
8.33	.04	89.25	.010	.04
8.49	.04	89.25	.010	.04
8.66	.04	89.25	.010	.04
8.82	.04	89.25	.010	.04

8.99	.04	89.25	.010	.04
9.16	.04	89.25	.010	.04

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
9.32	.04	89.25	.010	.04
9.49	.04	89.25	.010	.04
9.66	.04	89.25	.010	.04
9.82	.04	89.25	.010	.04
9.99	.04	89.25	.010	.04
10.16	.03	89.25	.010	.03
10.32	.03	89.25	.010	.03
10.49	.03	89.25	.010	.03
10.66	.03	89.25	.010	.03
10.82	.03	89.25	.010	.03
10.99	.03	89.25	.010	.03
11.16	.03	89.25	.010	.03
11.32	.03	89.25	.010	.03
11.49	.03	89.25	.010	.03
11.66	.03	89.25	.010	.03
11.82	.03	89.25	.010	.03
11.99	.03	89.25	.010	.03
12.15	.03	89.25	.010	.03
12.32	.03	89.25	.010	.03
12.49	.03	89.25	.010	.03
12.65	.03	89.25	.010	.03
12.82	.03	89.25	.010	.03
12.99	.03	89.25	.010	.03
13.15	.03	89.25	.010	.03
13.32	.03	89.25	.010	.03
13.49	.03	89.25	.010	.03
13.65	.03	89.25	.010	.03
13.82	.03	89.25	.010	.03
13.99	.03	89.25	.010	.03
14.15	.03	89.25	.010	.03
14.32	.03	89.25	.010	.03
14.49	.03	89.25	.010	.03
14.65	.03	89.25	.010	.03
14.82	.03	89.25	.010	.03
14.99	.03	89.25	.010	.03
15.15	.03	89.25	.010	.03
15.32	.03	89.25	.010	.03
15.48	.03	89.25	.010	.03
15.65	.03	89.25	.010	.03
15.82	.03	89.25	.010	.03
15.98	.03	89.25	.010	.03
16.15	.03	89.25	.010	.03
16.32	.03	89.25	.010	.03
16.48	.03	89.25	.010	.03
16.65	.03	89.25	.010	.03
16.82	.03	89.25	.010	.03
16.98	.03	89.25	.010	.03
17.15	.02	89.25	.010	.02
17.32	.03	89.25	.010	.03

```
    17.48         .02      89.25        .010        .02
    17.65         .02      89.25        .010        .02
    17.82         .02      89.25        .010        .02
    17.98         .02      89.25        .010        .02
    18.15         .02      89.25        .010        .02
    18.32         .02      89.25        .010        .02
    18.48         .02      89.25        .010        .02

    TIME       INFLOW     ELEV       VOLUME     OUTFLOW
    (HRS)      (CFS)      (FEET)     (AC-FT)    (CFS)

    18.65         .02      89.25        .010        .02
    18.81         .02      89.25        .010        .02
    18.98         .02      89.25        .010        .02
    19.15         .02      89.25        .010        .02
    19.31         .02      89.25        .010        .02
    19.48         .02      89.25        .010        .02
    19.65         .02      89.25        .010        .02
    19.81         .02      89.25        .010        .02
 PEAK DISCHARGE =        10.845 CFS - PEAK OCCURS AT HOUR    1.50
 MAXIMUM WATER SURFACE ELEVATION =        89.838
 MAXIMUM STORAGE =          .0110 AC-FT       INCREMENTAL TIME=      .033300HRS

PRINT HYD             ID=12 CODE=50

                                        HYDROGRAPH FROM AREA POND.12

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000       .0          3.996        .1          7.992        .0         11.988        .0         15.984        .0
      .666       .0          4.662        .1          8.658        .0         12.654        .0         16.650        .0
     1.332      2.2          5.328        .1          9.324        .0         13.320        .0         17.316        .0
     1.998      1.9          5.994        .1          9.990        .0         13.986        .0         17.982        .0
     2.664       .2          6.660        .0         10.656        .0         14.652        .0         18.648        .0
     3.330       .1          7.326        .0         11.322        .0         15.318        .0         19.314        .0

    RUNOFF VOLUME =      1.38534 INCHES      =         .4064 ACRE-FEET
    PEAK DISCHARGE RATE =       10.84 CFS  AT    1.499 HOURS    BASIN AREA =    .0055 SQ. MI.


*** ****************************************************************
*** ********************
*** SUB BASIN 101
*** AREA = .24367 ACRES
*** TRACT E
*** ********************
COMPUTE NM HYD        ID=1  HYD NO=101. AREA= 0.0003807 SQ MI
                      PER A=0  PER B=100  PER C=0  PER D=0
                      TP=-.1333 HR  MASS RAIN=-1

     K =    .133631HR     TP =    .133300HR     K/TP RATIO =  1.002485      SHAPE CONSTANT, N =  3.521459
     UNIT PEAK =    .91931     CFS    UNIT VOLUME =     .9852        B =    321.89       P60 = 1.7200
     AREA =       .000381 SQ MI     IA =     .50000 INCHES     INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300
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```
PRINT HYD            ID=1 CODE=1

                                  PARTIAL HYDROGRAPH   101.00

    RUNOFF VOLUME =      .63581 INCHES     =        .0129 ACRE-FEET
    PEAK DISCHARGE RATE =        .48 CFS  AT   1.499 HOURS   BASIN AREA =   .0004 SQ. MI.


*** *********************
*** SUB BASIN 102
*** AREA = 0.3162 ACRES
*** PROJECT SITE ENTRANCE ROAD
*** *********************
COMPUTE NM HYD       ID=1  HYD NO=102 AREA= 0.000494 SQ MI
                     PER A=0  PER B=25 PER C=25 PER D=50
                     TP=-.1333 HR  MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   .97517    CFS   UNIT VOLUME =    .9880       B =   526.28      P60 = 1.7200
     AREA =      .000247 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300


     K =   .118903HR    TP =   .133300HR    K/TP RATIO =   .891996     SHAPE CONSTANT, N =  3.975497
     UNIT PEAK =   .65508    CFS   UNIT VOLUME =    .9792       B =   353.53      P60 = 1.7200
     AREA =      .000247 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=1 CODE=1

                                  PARTIAL HYDROGRAPH   102.00

    RUNOFF VOLUME =     1.52481 INCHES     =        .0402 ACRE-FEET
    PEAK DISCHARGE RATE =       1.02 CFS  AT   1.499 HOURS   BASIN AREA =   .0005 SQ. MI.


*** *********************
*** SUB BASIN 103
*** AREA = 1.8420 ACRES
*** PROJECT SITE
*** *********************
COMPUTE NM HYD       ID=1  HYD NO=103. AREA= 0.002878 SQ MI
                     PER A=0  PER B=28.15 PER C=28.15 PER D=43.7
                     TP=-.1333 HR  MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   4.9654    CFS   UNIT VOLUME =    .9969       B =   526.28      P60 = 1.7200
     AREA =      .001258 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300
```

```
     K =   .118903HR    TP =   .133300HR    K/TP RATIO =   .891996     SHAPE CONSTANT, N =  3.975497
     UNIT PEAK =   4.2973    CFS   UNIT VOLUME =    .9975       B =   353.53      P60 = 1.7200
     AREA =      .001620 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=1 CODE=1

                                  PARTIAL HYDROGRAPH   103.00


    RUNOFF VOLUME =     1.43004 INCHES     =        .2195 ACRE-FEET
    PEAK DISCHARGE RATE =       5.68 CFS  AT   1.499 HOURS   BASIN AREA =   .0029 SQ. MI.


*s*******************
*s* ROUTE THRU FIRST FLUSH POND
*s*********************************************************************
ROUTE RESERVOIR      ID=13  HYD=POND.13   INFLOW=1   CODE=5
                     OUTFLOW(CFS)   STORAGE(ACFT)     ELEV(FT)
                       0.00           .000000          85.5
                       0.01           .009617          86.0
                       5.69           .022792          86.5
                       5.70           .040087          87.0

  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

    TIME       INFLOW     ELEV       VOLUME     OUTFLOW
    (HRS)      (CFS)      (FEET)     (AC-FT)    (CFS)

      .00         .00      85.50        .000        .00
      .17         .00      85.50        .000        .00
      .33         .00      85.50        .000        .00
      .50         .00      85.50        .000        .00
      .67         .01      85.50        .000        .00
      .83         .12      85.54        .001        .00
     1.00         .17      85.65        .003        .00
     1.17         .14      85.76        .005        .01
     1.33        1.25      86.04        .011        .50
     1.50        5.68      86.45        .021       5.13
     1.67        2.90      86.30        .017       3.36
     1.83        1.54      86.15        .014       1.70
     2.00        1.02      86.09        .012       1.09
     2.16         .50      86.05        .011        .60
     2.33         .26      86.02        .010        .29
     2.50         .17      86.02        .010        .18
     2.66         .11      86.01        .010        .12
     2.83         .08      86.01        .010        .09
     3.00         .07      86.01        .010        .07
     3.16         .05      86.00        .010        .05
     3.33         .04      86.00        .010        .05
     3.50         .04      86.00        .010        .04
     3.66         .04      86.00        .010        .04
     3.83         .04      86.00        .010        .04
```

4.00	.04	86.00	.010	.04
4.16	.04	86.00	.010	.04
4.33	.04	86.00	.010	.04
4.50	.04	86.00	.010	.04
4.66	.04	86.00	.010	.04
4.83	.04	86.00	.010	.04
5.00	.04	86.00	.010	.04
5.16	.04	86.00	.010	.04
5.33	.04	86.00	.010	.04
5.49	.04	86.00	.010	.04
5.66	.04	86.00	.010	.04
5.83	.04	86.00	.010	.04
5.99	.04	86.00	.010	.04
6.16	.03	86.00	.010	.03
6.33	.03	86.00	.010	.03
6.49	.02	86.00	.010	.02
6.66	.02	86.00	.010	.02
6.83	.02	86.00	.010	.02
6.99	.02	86.00	.010	.02
7.16	.02	86.00	.010	.02
7.33	.02	86.00	.010	.02
7.49	.02	86.00	.010	.02
7.66	.02	86.00	.010	.02
7.83	.02	86.00	.010	.02
7.99	.02	86.00	.010	.02
8.16	.02	86.00	.010	.02
8.33	.02	86.00	.010	.02
8.49	.02	86.00	.010	.02
8.66	.02	86.00	.010	.02
8.82	.02	86.00	.010	.02
8.99	.02	86.00	.010	.02
9.16	.02	86.00	.010	.02

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
9.32	.02	86.00	.010	.02
9.49	.02	86.00	.010	.02
9.66	.02	86.00	.010	.02
9.82	.02	86.00	.010	.02
9.99	.02	86.00	.010	.02
10.16	.02	86.00	.010	.02
10.32	.02	86.00	.010	.02
10.49	.02	86.00	.010	.02
10.66	.02	86.00	.010	.02
10.82	.02	86.00	.010	.02
10.99	.02	86.00	.010	.02
11.16	.02	86.00	.010	.02
11.32	.02	86.00	.010	.02
11.49	.02	86.00	.010	.02
11.66	.02	86.00	.010	.02
11.82	.02	86.00	.010	.02
11.99	.02	86.00	.010	.02
12.15	.02	86.00	.010	.02
12.32	.02	86.00	.010	.02

```
    12.49        .02     86.00       .010       .02
    12.65        .02     86.00       .010       .02
    12.82        .02     86.00       .010       .02
    12.99        .02     86.00       .010       .02
    13.15        .02     86.00       .010       .02
    13.32        .02     86.00       .010       .02
    13.49        .02     86.00       .010       .02
    13.65        .02     86.00       .010       .02
    13.82        .02     86.00       .010       .02
    13.99        .02     86.00       .010       .02
    14.15        .02     86.00       .010       .02
    14.32        .01     86.00       .010       .01
    14.49        .02     86.00       .010       .02
    14.65        .01     86.00       .010       .01
    14.82        .01     86.00       .010       .01
    14.99        .01     86.00       .010       .01
    15.15        .01     86.00       .010       .01
    15.32        .01     86.00       .010       .01
    15.48        .01     86.00       .010       .01
    15.65        .01     86.00       .010       .01
    15.82        .01     86.00       .010       .01
    15.98        .01     86.00       .010       .01
    16.15        .01     86.00       .010       .01
    16.32        .01     86.00       .010       .01
    16.48        .01     86.00       .010       .01
    16.65        .01     86.00       .010       .01
    16.82        .01     86.00       .010       .01
    16.98        .01     86.00       .010       .01
    17.15        .01     86.00       .010       .01
    17.32        .01     86.00       .010       .01
    17.48        .01     86.00       .010       .01
    17.65        .01     86.00       .010       .01
    17.82        .01     86.00       .010       .01
    17.98        .01     86.00       .010       .01
    18.15        .01     86.00       .010       .01
    18.32        .01     86.00       .010       .01
    18.48        .01     86.00       .010       .01

    TIME      INFLOW    ELEV      VOLUME    OUTFLOW
    (HRS)     (CFS)     (FEET)    (AC-FT)   (CFS)

    18.65        .01     86.00       .010       .01
    18.81        .01     86.00       .010       .01
    18.98        .01     86.00       .010       .01
    19.15        .01     86.00       .010       .01
    19.31        .01     86.00       .010       .01
    19.48        .01     86.00       .010       .01
    19.65        .01     86.00       .010       .01
    19.81        .01     86.00       .010       .01
 PEAK DISCHARGE =         5.465 CFS - PEAK OCCURS AT HOUR    1.53
 MAXIMUM WATER SURFACE ELEVATION =       86.480
 MAXIMUM STORAGE =          .0223 AC-FT      INCREMENTAL TIME=     .033300HRS

PRINT HYD            ID=13 CODE=50
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HYDROGRAPH FROM AREA POND.13

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.996	.0	7.992	.0	11.988	.0	15.984	.0
.666	.0	4.662	.0	8.658	.0	12.654	.0	16.650	.0
1.332	.5	5.328	.0	9.324	.0	13.320	.0	17.316	.0
1.998	1.1	5.994	.0	9.990	.0	13.986	.0	17.982	.0
2.664	.1	6.660	.0	10.656	.0	14.652	.0	18.648	.0
3.330	.0	7.326	.0	11.322	.0	15.318	.0	19.314	.0

RUNOFF VOLUME = 1.36736 INCHES = .2099 ACRE-FEET
PEAK DISCHARGE RATE = 5.47 CFS AT 1.532 HOURS BASIN AREA = .0029 SQ. MI.

*** **
*** ********************
*** SUB BASIN 104
*** AREA = 5.6738 ACRES
*** MCMAHON BLVD NEW PAVEMENT
*** ******************
COMPUTE NM HYD ID=1 HYD NO=104. AREA= 0.003012 SQ MI
PER A=0 PER B=20 PER C=023.5 PER D=56.5
TP=-.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 6.7187 CFS UNIT VOLUME = .9975 B = 526.28 P60 = 1.7200
AREA = .001702 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .117718HR TP = .133300HR K/TP RATIO = .883106 SHAPE CONSTANT, N = 4.018318
UNIT PEAK = 3.5030 CFS UNIT VOLUME = .9967 B = 356.39 P60 = 1.7200
AREA = .001310 SQ MI IA = .41897 INCHES INF = 1.02310 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 104.00

RUNOFF VOLUME = 1.62763 INCHES = .2615 ACRE-FEET
PEAK DISCHARGE RATE = 6.39 CFS AT 1.499 HOURS BASIN AREA = .0030 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 09:22:04

```
     AHYMO PROGRAM (AHYMO_97) -                          - Version:  1997.02d
         RUN DATE (MON/DAY/YR) = 01/09/2015
         START TIME (HR:MIN:SEC) = 09:32:17     USER NO.= AHYMO-I-9702dGoodwinM-AH
         INPUT FILE = AR3_R10.DAT

*S*********************************************************
*S
*S                   ANASAZI RIDGE UNIT 3
*S                   10 YEAR 6 HOUR STORM EVENT
*S
*S                   FILE: AR3_R1.DAT
*S                   LAST REVISED: 1-8-15
*S                   NOAA ATLAS 2, VOL IV ZONE: A 10
START               TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
LOCATION            NEW MEXICO
     State of New Mexico soil infiltration values (LAND FACTORS) used for computations.
     Land Treatment     Initial Abstr.(in)    Unif. Infilt.(in/hour)
           A            0.65                  1.67
           B            0.50                  1.25
           C            0.35                  0.83
           D            0.10                  0.04

RAINFALL            TYPE=1 RAIN QUARTER=0.0
                    RAIN ONE=1.147 IN RAIN SIX=1.500 IN
                    RAIN DAY=1.728 IN DT=0.0333 HRS

               COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
               DT =     .033300 HOURS       END TIME =     5.994000 HOURS
                  .0000   .0029   .0059   .0090   .0121   .0153   .0185
                  .0219   .0253   .0287   .0323   .0359   .0397   .0435
                  .0475   .0515   .0557   .0600   .0644   .0690   .0737
                  .0785   .0836   .0888   .0943   .1000   .1059   .1121
                  .1186   .1254   .1326   .1359   .1393   .1429   .1503
                  .1675   .1939   .2319   .2839   .3522   .4394   .5480
                  .6807   .8081   .8603   .9043   .9433   .9788  1.0115
                 1.0419  1.0702  1.0968  1.1218  1.1453  1.1676  1.1887
                 1.2087  1.2276  1.2456  1.2627  1.2789  1.2837  1.2877
                 1.2916  1.2953  1.2988  1.3023  1.3057  1.3089  1.3121
                 1.3152  1.3182  1.3211  1.3240  1.3268  1.3296  1.3323
                 1.3349  1.3375  1.3401  1.3426  1.3450  1.3474  1.3498
                 1.3522  1.3545  1.3567  1.3590  1.3612  1.3634  1.3655
                 1.3676  1.3697  1.3718  1.3739  1.3759  1.3779  1.3798
                 1.3818  1.3837  1.3856  1.3875  1.3894  1.3912  1.3931
                 1.3949  1.3967  1.3985  1.4002  1.4020  1.4037  1.4054
                 1.4071  1.4088  1.4105  1.4121  1.4138  1.4154  1.4170
                 1.4186  1.4202  1.4218  1.4234  1.4249  1.4265  1.4280
                 1.4295  1.4310  1.4325  1.4340  1.4355  1.4370  1.4384
                 1.4399  1.4413  1.4428  1.4442  1.4456  1.4470  1.4484
                 1.4498  1.4512  1.4526  1.4539  1.4553  1.4566  1.4580
                 1.4593  1.4607  1.4620  1.4633  1.4646  1.4659  1.4672
                 1.4685  1.4697  1.4710  1.4723  1.4735  1.4748  1.4760
                 1.4773  1.4785  1.4797  1.4810  1.4822  1.4834  1.4846
                 1.4858  1.4870  1.4882  1.4894  1.4905  1.4917  1.4929
                 1.4941  1.4952  1.4964  1.4975  1.4987  1.4998
```

10 YEAR STORM

```
*S************************************************************
*** ********************
*S  TOTAL SITE
*S  DEVELOPED CONDITIONS
*** ********************
*** **********************
*** SUB BASIN 100
*** AREA = 3.522 ACRES
*** PROJECT SITE
*** **********************
COMPUTE NM HYD       ID=1  HYD NO=100. AREA= 0.00550 SQ MI
                     PER A=0  PER B=28.5 PER C=28.5 PER D=43.
                     TP=-.1333 HR  MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   9.3371    CFS   UNIT VOLUME =    .9982       B =   526.28      P60 = 1.1470
     AREA =      .002365 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300


     K =   .126379HR    TP =   .133300HR    K/TP RATIO =   .948077     SHAPE CONSTANT, N =  3.728417
     UNIT PEAK =   7.9172    CFS   UNIT VOLUME =    .9985       B =   336.64      P60 = 1.1470
     AREA =      .003135 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=1 CODE=1

                                  PARTIAL HYDROGRAPH   100.00


    RUNOFF VOLUME =      .71342 INCHES     =        .2093 ACRE-FEET
    PEAK DISCHARGE RATE =       6.19 CFS  AT   1.499 HOURS   BASIN AREA =   .0055 SQ. MI.



*s********************
*s* ROUTE THRU FIRST FLUSH POND
*s********************************************************************
ROUTE RESERVOIR      ID=12  HYD=POND.12   INFLOW=1   CODE=5
                     OUTFLOW(CFS)   STORAGE(ACFT)     ELEV(FT)
                     0.00              0.000000        89.00
                     0.01       0.010023       89.25
                     2.15       0.010170       89.45
                     6.07       0.010501       89.65
                     11.15             0.011015       89.85

  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

    TIME      INFLOW    ELEV      VOLUME    OUTFLOW
    (HRS)     (CFS)     (FEET)    (AC-FT)   (CFS)

      .00        .00     89.00       .000       .00
      .17        .00     89.00       .000       .00
      .33        .00     89.00       .000       .00
      .50        .00     89.00       .000       .00
```

.67	.00	89.00	.000	.00
.83	.00	89.00	.000	.00
1.00	.14	89.02	.001	.00
1.17	.14	89.07	.003	.00
1.33	1.27	89.25	.010	.01
1.50	6.19	89.68	.011	6.83
1.67	3.01	89.48	.010	2.68
1.83	1.62	89.42	.010	1.82
2.00	1.14	89.34	.010	1.02
2.16	.55	89.31	.010	.63
2.33	.27	89.27	.010	.23
2.50	.17	89.27	.010	.20
2.66	.12	89.26	.010	.10
2.83	.08	89.26	.010	.09
3.00	.06	89.25	.010	.05
3.16	.05	89.25	.010	.05
3.33	.04	89.25	.010	.04
3.50	.04	89.25	.010	.04
3.66	.03	89.25	.010	.03
3.83	.03	89.25	.010	.03
4.00	.03	89.25	.010	.03
4.16	.03	89.25	.010	.03
4.33	.03	89.25	.010	.03
4.50	.03	89.25	.010	.03
4.66	.04	89.25	.010	.04
4.83	.04	89.25	.010	.04
5.00	.04	89.25	.010	.04
5.16	.04	89.25	.010	.04
5.33	.04	89.25	.010	.04
5.49	.04	89.25	.010	.04
5.66	.05	89.25	.010	.05
5.83	.05	89.25	.010	.05
5.99	.05	89.25	.010	.05
6.16	.02	89.25	.010	.02
6.33	.01	89.25	.010	.01
6.49	.00	89.25	.010	.01
6.66	.00	89.24	.010	.01
6.83	.00	89.24	.010	.01
6.99	.00	89.24	.010	.01
7.16	.00	89.23	.009	.01
7.33	.00	89.23	.009	.01
7.49	.00	89.23	.009	.01
7.66	.00	89.23	.009	.01
7.83	.00	89.22	.009	.01
7.99	.00	89.22	.009	.01
8.16	.00	89.22	.009	.01
8.33	.00	89.21	.009	.01
8.49	.00	89.21	.008	.01
8.66	.00	89.21	.008	.01
8.82	.00	89.20	.008	.01
8.99	.00	89.20	.008	.01
9.16	.00	89.20	.008	.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)

9.32	.00	89.20	.008	.01
9.49	.00	89.19	.008	.01
9.66	.00	89.19	.008	.01
9.82	.00	89.19	.008	.01
9.99	.00	89.19	.007	.01
10.16	.00	89.18	.007	.01
10.32	.00	89.18	.007	.01
10.49	.00	89.18	.007	.01
10.66	.00	89.18	.007	.01
10.82	.00	89.17	.007	.01
10.99	.00	89.17	.007	.01
11.16	.00	89.17	.007	.01
11.32	.00	89.17	.007	.01
11.49	.00	89.16	.007	.01
11.66	.00	89.16	.006	.01
11.82	.00	89.16	.006	.01
11.99	.00	89.16	.006	.01
12.15	.00	89.16	.006	.01
12.32	.00	89.15	.006	.01
12.49	.00	89.15	.006	.01
12.65	.00	89.15	.006	.01
12.82	.00	89.15	.006	.01
12.99	.00	89.15	.006	.01
13.15	.00	89.14	.006	.01
13.32	.00	89.14	.006	.01
13.49	.00	89.14	.006	.01
13.65	.00	89.14	.006	.01
13.82	.00	89.14	.005	.01
13.99	.00	89.13	.005	.01
14.15	.00	89.13	.005	.01
14.32	.00	89.13	.005	.01
14.49	.00	89.13	.005	.01
14.65	.00	89.13	.005	.01
14.82	.00	89.12	.005	.00

PEAK DISCHARGE = 6.835 CFS - PEAK OCCURS AT HOUR 1.50
MAXIMUM WATER SURFACE ELEVATION = 89.680
MAXIMUM STORAGE = .0106 AC-FT INCREMENTAL TIME= .033300HRS

PRINT HYD ID=12 CODE=50

HYDROGRAPH FROM AREA POND.12

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.996	.0	7.992	.0	11.988	.0	15.984	.0
.666	.0	4.662	.0	8.658	.0	12.654	.0	16.650	.0
1.332	.0	5.328	.0	9.324	.0	13.320	.0	17.316	.0
1.998	1.0	5.994	.0	9.990	.0	13.986	.0	17.982	.0
2.664	.1	6.660	.0	10.656	.0	14.652	.0	18.648	.0
3.330	.0	7.326	.0	11.322	.0	15.318	.0	19.314	.0

RUNOFF VOLUME = .70220 INCHES = .2060 ACRE-FEET
PEAK DISCHARGE RATE = 6.83 CFS AT 1.499 HOURS BASIN AREA = .0055 SQ. MI.

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*** ****************************************************************
*** ********************
*** SUB BASIN 101
*** AREA = .24367 ACRES
*** TRACT E
*** ********************
COMPUTE NM HYD       ID=1  HYD NO=101. AREA= 0.0003807 SQ MI
                     PER A=0  PER B=100  PER C=0  PER D=0
                     TP=-.1333 HR  MASS RAIN=-1

     K =   .143714HR    TP =   .133300HR    K/TP RATIO =  1.078121     SHAPE CONSTANT, N =  3.276560
     UNIT PEAK =   .86720    CFS   UNIT VOLUME =    .9837       B =   303.64       P60 = 1.1470
     AREA =      .000381 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=1 CODE=1

                                  PARTIAL HYDROGRAPH   101.00


    RUNOFF VOLUME =      .21940 INCHES     =        .0045 ACRE-FEET
    PEAK DISCHARGE RATE =        .18 CFS  AT   1.532 HOURS   BASIN AREA =   .0004 SQ. MI.



*** **********************
*** SUB BASIN 102
*** AREA = 0.3162 ACRES
*** PROJECT SITE ENTRANCE ROAD
*** **********************
COMPUTE NM HYD       ID=1  HYD NO=102 AREA= 0.000494 SQ MI
                     PER A=0  PER B=25 PER C=25 PER D=50
                     TP=-.1333 HR  MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   .97517    CFS   UNIT VOLUME =    .9880       B =   526.28       P60 = 1.1470
     AREA =      .000247 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300


     K =   .126379HR    TP =   .133300HR    K/TP RATIO =   .948077     SHAPE CONSTANT, N =  3.728417
     UNIT PEAK =   .62378    CFS   UNIT VOLUME =    .9789       B =   336.64       P60 = 1.1470
     AREA =      .000247 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=1 CODE=1

                                  PARTIAL HYDROGRAPH   102.00


    RUNOFF VOLUME =      .77980 INCHES     =        .0205 ACRE-FEET
    PEAK DISCHARGE RATE =        .60 CFS  AT   1.499 HOURS   BASIN AREA =   .0005 SQ. MI.
```

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*** *********************
*** SUB BASIN 103
*** AREA = 1.8420 ACRES
*** PROJECT SITE
*** *********************
COMPUTE NM HYD       ID=1  HYD NO=103. AREA= 0.002878 SQ MI
                     PER A=0  PER B=28.15 PER C=28.15 PER D=43.7
                     TP=-.1333 HR  MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   4.9654    CFS   UNIT VOLUME =    .9969       B =   526.28      P60 = 1.1470
     AREA =      .001258 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300


     K =   .126379HR    TP =   .133300HR    K/TP RATIO =   .948077     SHAPE CONSTANT, N =  3.728417
     UNIT PEAK =   4.0920    CFS   UNIT VOLUME =    .9968       B =   336.64      P60 = 1.1470
     AREA =      .001620 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=1 CODE=1

                                  PARTIAL HYDROGRAPH   103.00


    RUNOFF VOLUME =      .72006 INCHES     =        .1105 ACRE-FEET
    PEAK DISCHARGE RATE =       3.26 CFS  AT   1.499 HOURS   BASIN AREA =   .0029 SQ. MI.


*s*******************
*s* ROUTE THRU FIRST FLUSH POND
*s*****************************************************************
ROUTE RESERVOIR      ID=13  HYD=POND.13   INFLOW=1   CODE=5
                     OUTFLOW(CFS)   STORAGE(ACFT)     ELEV(FT)
                       0.00           .000000          85.5
                       0.01           .009617          86.0
                       5.69           .022792          86.5
                       5.70           .040087          87.0

  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

    TIME      INFLOW    ELEV      VOLUME    OUTFLOW
    (HRS)     (CFS)     (FEET)    (AC-FT)   (CFS)

      .00        .00     85.50       .000       .00
      .17        .00     85.50       .000       .00
      .33        .00     85.50       .000       .00
      .50        .00     85.50       .000       .00
      .67        .00     85.50       .000       .00
      .83        .00     85.50       .000       .00
     1.00        .07     85.52       .000       .00
     1.17        .08     85.58       .002       .00
```

1.33	.67	85.78	.005	.01
1.50	3.26	86.25	.016	2.88
1.67	1.59	86.16	.014	1.87
1.83	.86	86.08	.012	.94
2.00	.61	86.06	.011	.64
2.16	.29	86.03	.010	.35
2.33	.14	86.01	.010	.16
2.50	.09	86.01	.010	.10
2.66	.06	86.00	.010	.06
2.83	.04	86.00	.010	.04
3.00	.03	86.00	.010	.03
3.16	.02	86.00	.010	.03
3.33	.02	86.00	.010	.02
3.50	.02	86.00	.010	.02
3.66	.02	86.00	.010	.02
3.83	.02	86.00	.010	.02
4.00	.02	86.00	.010	.02
4.16	.02	86.00	.010	.02
4.33	.02	86.00	.010	.02
4.50	.02	86.00	.010	.02
4.66	.02	86.00	.010	.02
4.83	.02	86.00	.010	.02
5.00	.02	86.00	.010	.02
5.16	.02	86.00	.010	.02
5.33	.02	86.00	.010	.02
5.49	.02	86.00	.010	.02
5.66	.02	86.00	.010	.02
5.83	.03	86.00	.010	.03
5.99	.03	86.00	.010	.03
6.16	.01	86.00	.010	.01
6.33	.00	86.00	.010	.01
6.49	.00	85.99	.009	.01
6.66	.00	85.98	.009	.01
6.83	.00	85.98	.009	.01
6.99	.00	85.97	.009	.01
7.16	.00	85.96	.009	.01
7.33	.00	85.96	.009	.01
7.49	.00	85.95	.009	.01
7.66	.00	85.94	.009	.01
7.83	.00	85.94	.008	.01
7.99	.00	85.93	.008	.01
8.16	.00	85.93	.008	.01
8.33	.00	85.92	.008	.01
8.49	.00	85.91	.008	.01
8.66	.00	85.91	.008	.01
8.82	.00	85.90	.008	.01
8.99	.00	85.90	.008	.01
9.16	.00	85.89	.008	.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
9.32	.00	85.89	.007	.01
9.49	.00	85.88	.007	.01
9.66	.00	85.87	.007	.01

```
     9.82        .00      85.87        .007        .01
     9.99        .00      85.86        .007        .01
    10.16        .00      85.86        .007        .01
    10.32        .00      85.85        .007        .01
    10.49        .00      85.85        .007        .01
    10.66        .00      85.84        .007        .01
    10.82        .00      85.84        .007        .01
    10.99        .00      85.83        .006        .01
    11.16        .00      85.83        .006        .01
    11.32        .00      85.82        .006        .01
    11.49        .00      85.82        .006        .01
    11.66        .00      85.82        .006        .01
    11.82        .00      85.81        .006        .01
    11.99        .00      85.81        .006        .01
    12.15        .00      85.80        .006        .01
    12.32        .00      85.80        .006        .01
    12.49        .00      85.79        .006        .01
    12.65        .00      85.79        .006        .01
    12.82        .00      85.79        .005        .01
    12.99        .00      85.78        .005        .01
    13.15        .00      85.78        .005        .01
    13.32        .00      85.77        .005        .01
    13.49        .00      85.77        .005        .01
    13.65        .00      85.77        .005        .01
    13.82        .00      85.76        .005        .01
    13.99        .00      85.76        .005        .01
    14.15        .00      85.75        .005        .01
    14.32        .00      85.75        .005        .01
    14.49        .00      85.75        .005        .00
 PEAK DISCHARGE =         3.128 CFS - PEAK OCCURS AT HOUR    1.53
 MAXIMUM WATER SURFACE ELEVATION =       86.274
 MAXIMUM STORAGE =          .0168 AC-FT      INCREMENTAL TIME=     .033300HRS

PRINT HYD            ID=13 CODE=50

                                   HYDROGRAPH FROM AREA POND.13

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0          3.996       .0          7.992       .0         11.988       .0         15.984       .0
      .666        .0          4.662       .0          8.658       .0         12.654       .0         16.650       .0
     1.332        .0          5.328       .0          9.324       .0         13.320       .0         17.316       .0
     1.998        .6          5.994       .0          9.990       .0         13.986       .0         17.982       .0
     2.664        .1          6.660       .0         10.656       .0         14.652       .0         18.648       .0
     3.330        .0          7.326       .0         11.322       .0         15.318       .0         19.314       .0

    RUNOFF VOLUME =       .70060 INCHES     =        .1075 ACRE-FEET
    PEAK DISCHARGE RATE =       3.13 CFS  AT   1.532 HOURS   BASIN AREA =    .0029 SQ. MI.


*** ****************************************************************
*** ********************
*** SUB BASIN 104
*** AREA = 5.6738 ACRES
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```
*** MCMAHON BLVD NEW PAVEMENT
*** ******************
COMPUTE NM HYD       ID=1  HYD NO=104. AREA= 0.003012 SQ MI
                     PER A=0  PER B=20  PER C=023.5  PER D=56.5
                     TP=-.1333 HR  MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   6.7187    CFS   UNIT VOLUME =    .9975       B =   526.28      P60 = 1.1470
     AREA =      .001702 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300


     K =   .124984HR    TP =   .133300HR    K/TP RATIO =   .937613     SHAPE CONSTANT, N =  3.771697
     UNIT PEAK =   3.3385    CFS   UNIT VOLUME =    .9961       B =   339.65      P60 = 1.1470
     AREA =      .001310 SQ MI    IA =    .41897 INCHES    INF =   1.02310 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=1 CODE=1

                                  PARTIAL HYDROGRAPH   104.00


    RUNOFF VOLUME =      .84479 INCHES     =        .1357 ACRE-FEET
    PEAK DISCHARGE RATE =       3.84 CFS  AT   1.499 HOURS   BASIN AREA =   .0030 SQ. MI.


FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 09:32:17
```

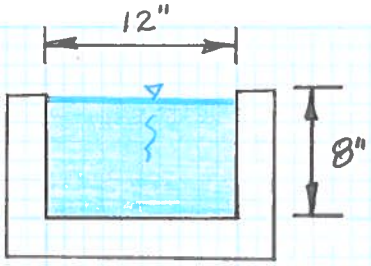
APPENDIX B – HYDRAULICS

Channel Summary Exhibit

HEC-2 Printouts

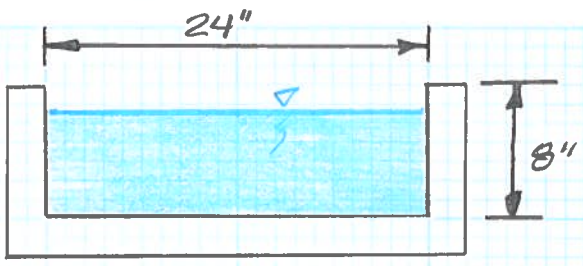
D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539

PROJECT ANASAZI RIDGE
SUBJECT Channel - Summary
BY DLH DATE 1-7-15
CHECKED _____ DATE _____
SHEET ____ OF ____



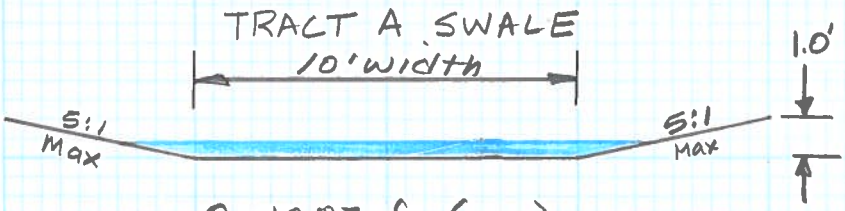
Q = 2.7 cfs
S = 1.4 %
WSEL = 0.61'
V = 4.46 fps

12" SIDEWALK CULVERT (TRACT B)



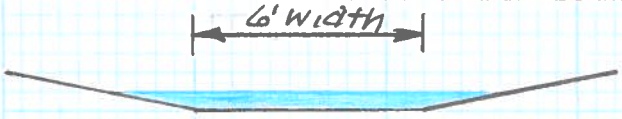
Q = 5.69 cfs
S = 1.4%
WSEL = 0.55'
V = 5.24 fps

24" SIDEWALK CULVERT (TRACT B)



Q = 10.87 cfs (Max)
S = 1.0%
WSEL = 0.39'
V = 2.36 fps

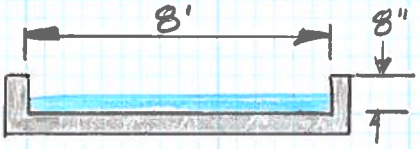
(n = .03 ⇒ USE LANDSCAPE GRAVEL)



TRACT A SWALE

Q = 10.87 cfs (Max)
S = 1.0%
WSEL = 0.5'
V = 2.58 fps

(n = .03 ⇒ USE LANDSCAPE GRAVEL)



SPILLWAY CHANNEL

Concrete channel.

Q = 10.87 cfs (Max)
S = 1.0%
WSEL = 0.34'
V = 4.03 fps

```
1*****************************************                    ***************************************
 *  HEC-2 WATER SURFACE PROFILES             *                *  U.S. ARMY CORPS OF ENGINEERS         *
 *                                           *                *  HYDROLOGIC ENGINEERING CENTER        *
 *  Version   4.6.2;  May 1991               *                *  609 SECOND STREET, SUITE D           *
 *                                           *                *  DAVIS, CALIFORNIA 95616-4687         *
 *  RUN DATE    15DEC14    TIME   15:46:07   *                *           (916) 756-1104              *
 *****************************************                    ***************************************

                                        X     X  XXXXXXX   XXXXX              XXXXX
                                        X     X  X        X     X            X     X
                                        X     X  X        X                        X
                                        XXXXXXX  XXXX     X          XXXXX    XXXXX
                                        X     X  X        X                  X
                                        X     X  X        X     X            X
                                        X     X  XXXXXXX   XXXXX            XXXXXXX
THIS RUN EXECUTED 15DEC14    15:46:07
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 T1          CHANNEL CAPACITY CALCULATIONS
 T2          ANASAZI RIDGE
 T3          1 FOOT WIDE SHALLOW CHANNEL - FIRST FLUSH CAPTURE

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         1      .014         0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38        43         1         2        26         4        68         3

 NC     .017      .017      .017        .1         .3
 QT        1      2.70
 X1        1         4         0       1.1         0         0         0         0         0         0
 GR      .67         0         0        .1         0        1.        .67       1.1

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


 *PROF 1

 CCHV=     .100 CEHV=     .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
      1.000      .61       .61       .63       .00       .92       .31       .00       .00       .67
```

2.7	.0	2.7	.0	.0	.6	.0	.0	.0	.67
.00	.00	4.46	.00	.000	.017	.000	.000	.00	.01
.013992	0.	0.	0.	0	14	5	.00	1.08	1.09

THIS RUN EXECUTED 15DEC14 15:46:07

****
HEC-2 WATER SURFACE PROFILES
Version 4.6.2; May 1991
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

1 FOOT WIDE SHALLOW

SUMMARY PRINTOUT

SECNO	Q	CWSEL	CRIWS	VCH	TOPWID	FRCH	EG
1.000	2.70	.61	.63	4.46	1.08	1.05	.92

SUMMARY OF ERRORS AND SPECIAL NOTES

```
1*******************************************                    ***************************************
 *  HEC-2 WATER SURFACE PROFILES           *                    *  U.S. ARMY CORPS OF ENGINEERS       *
 *                                         *                    *  HYDROLOGIC ENGINEERING CENTER      *
 *  Version   4.6.2;  May 1991             *                    *  609 SECOND STREET, SUITE D         *
 *                                         *                    *  DAVIS, CALIFORNIA 95616-4687       *
 *  RUN DATE    15DEC14    TIME   15:47:31  *                    *           (916) 756-1104            *
 *******************************************                    ***************************************

                                        X     X  XXXXXXX   XXXXX              XXXXX
                                        X     X  X        X     X            X     X
                                        X     X  X        X                        X
                                        XXXXXXX  XXXX     X          XXXXX    XXXXX
                                        X     X  X        X                  X
                                        X     X  X        X     X            X
                                        X     X  XXXXXXX   XXXXX             XXXXXXX

THIS RUN EXECUTED 15DEC14    15:47:31
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 T1          CHANNEL CAPACITY CALCULATIONS
 T2          ANASAZI RIDGE
 T3          2 FOOT WIDE SHALLOW CHANNEL - FIRST FLUSH CAPTURE

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         1      .014         0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38         43          1          2         26          4         68          3

 NC     .017       .017       .017         .1          .3
 QT       1       5.69
 X1       1          4          0        2.1           0          0          0          0          0          0
 GR      .67          0          0         .1           0         2.        .67        2.1

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

 *PROF 1

 CCHV=     .100 CEHV=     .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
      1.000       .55       .55       .64       .00       .97       .43       .00       .00       .67
        5.7        .0       5.7        .0        .0       1.1        .0        .0        .0       .67
```

.00	.00	5.24	.00	.000	.017	.000	.000	.00	.02
.013978	0.	0.	0.	0	14	5	.00	2.06	2.08

THIS RUN EXECUTED 15DEC14 15:47:31

****
HEC-2 WATER SURFACE PROFILES
Version 4.6.2; May 1991
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

2 FOOT WIDE SHALLOW

SUMMARY PRINTOUT

SECNO	Q	CWSEL	CRIWS	VCH	TOPWID	FRCH	EG
1.000	5.69	.55	.64	5.24	2.06	1.27	.97

SUMMARY OF ERRORS AND SPECIAL NOTES

```
1*****************************************
 *  HEC-2 WATER SURFACE PROFILES           *
 *                                         *
 *  Version   4.6.2;  May 1991             *
 *                                         *
 *  RUN DATE    15DEC14    TIME   16:38:40  *
 *****************************************
```

```
*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  HYDROLOGIC ENGINEERING CENTER    *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616-4687     *
*           (916) 756-1104          *
*************************************
```

```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                   X
X     X  X        X     X             X
X     X  XXXXXXX   XXXXX              XXXXXXX
```

```
THIS RUN EXECUTED 15DEC14    16:38:40
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 T1          CHANNEL CAPACITY CALCULATIONS
 T2          ANASAZI RIDGE
 T3          10 FOOT WIDE SHALLOW CHANNEL - FIRST FLUSH CAPTURE

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         0       .01         0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38         43          1          2         26          4         68          3

 NC      .03        .03        .03         .1          .3
 QT        1      10.87
 X1        1          4          0        20.           0          0          0          0          0          0
 GR       1.          0          0         5.           0         15.         1.        20.

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

 *PROF 1

 CCHV=     .100 CEHV=     .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
      1.000       .39       .39       .00       .00       .47       .09       .00       .00      1.00
       10.9        .0      10.9        .0        .0       4.6        .0        .0        .0      1.00
```

```
       .00        .00       2.36        .00       .000       .030       .000       .000        .00       3.07
    .009939         0.         0.         0.          0          0          5        .00      13.86      16.93

THIS RUN EXECUTED 15DEC14    16:38:40
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

     10 FOOT WIDE SHALLOW

 SUMMARY PRINTOUT

      SECNO         Q        CWSEL      CRIWS       VCH      TOPWID      FRCH        EG

       1.000      10.87         .39        .00       2.36      13.86         .72         .47

  SUMMARY OF ERRORS AND SPECIAL NOTES
```

```
1*****************************************
 *  HEC-2 WATER SURFACE PROFILES           *
 *                                         *
 *  Version   4.6.2;  May 1991             *
 *                                         *
 *  RUN DATE    15DEC14    TIME   16:38:25  *
 *****************************************
```

```
****************************************
*  U.S. ARMY CORPS OF ENGINEERS        *
*  HYDROLOGIC ENGINEERING CENTER       *
*  609 SECOND STREET, SUITE D          *
*  DAVIS, CALIFORNIA 95616-4687        *
*           (916) 756-1104             *
****************************************
```

```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                   X
X     X  X        X     X             X
```

```
THIS RUN EXECUTED 15DEC14    16:38:25
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 T1           CHANNEL CAPACITY CALCULATIONS
 T2           ANASAZI RIDGE
 T3           6 FOOT WIDE SHALLOW CHANNEL - FIRST FLUSH CAPTURE

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         0       .01         0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38         43          1          2         26          4         68          3

 NC      .03        .03        .03         .1          .3
 QT        1      10.87
 X1        1          4          0        16.          0          0          0          0          0          0
 GR       1.          0          0         5.          0        11.          1.        16.

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

 *PROF 1

 CCHV=     .100 CEHV=     .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
      1.000       .50       .50       .00       .00       .60       .10       .00       .00      1.00
       10.9        .0      10.9        .0        .0       4.2        .0        .0        .0      1.00
        .00       .00      2.58       .00      .000      .030      .000      .000       .00      2.52
```

.009857	0.	0.	0.	0	0	3	.00	10.96	13.48

THIS RUN EXECUTED 15DEC14 16:38:25

****
HEC-2 WATER SURFACE PROFILES
Version 4.6.2; May 1991
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

6 FOOT WIDE SHALLOW

SUMMARY PRINTOUT

SECNO	Q	CWSEL	CRIWS	VCH	TOPWID	FRCH	EG
1.000	10.87	.50	.00	2.58	10.96	.73	.60

SUMMARY OF ERRORS AND SPECIAL NOTES

```
1*****************************************
 *  HEC-2 WATER SURFACE PROFILES           *
 *                                         *
 *  Version   4.6.2;  May 1991             *
 *                                         *
 *  RUN DATE    10DEC14    TIME   15:15:57  *
 *****************************************
```

```
*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  HYDROLOGIC ENGINEERING CENTER    *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616-4687     *
*          (916) 756-1104           *
*************************************
```

```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                   X
X     X  X        X     X             X
X     X  XXXXXXX   XXXXX              XXXXXXX
```

```
THIS RUN EXECUTED 10DEC14    15:15:57
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 T1          CHANNEL CAPACITY CALCULATIONS
 T2          ANASAZI RIDGE
 T3          6 FOOT WIDE SHALLOW CHANNEL - FIRST FLUSH CAPTURE

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         0       .01         0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38         43          1          2         26          4         68          3

 NC      .03       .03       .03        .1         .3
 QT        2     11.87     11.87
 X1        1         4         0       16.         0         0         0         0         0         0
 GR       1.         0         0        5.         0       11.         1.       16.

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

 *PROF 1

 CCHV=     .100 CEHV=     .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
      1.000      .52       .52       .00       .00       .63       .11       .00       .00      1.00
       11.9       .0      11.9       .0        .0       4.5        .0        .0        .0      1.00
```

```
      .00       .00      2.66       .00      .000      .030      .000      .000       .00      2.41
   .009993        0.        0.        0.         0         0         5       .00     11.18     13.59

T1
T2
T3

J1   ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         3         0         1       .01

J2   NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      2          0        -1         0         0         0         0         0         0         0

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*PROF 2

CCHV=     .100 CEHV=     .300
*SECNO 1.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
3720 CRITICAL DEPTH ASSUMED
     1.000       .43       .43       .43       .00       .61       .17       .00       .00      1.00
      11.9        .0      11.9        .0        .0       3.6        .0        .0        .0      1.00
       .00       .00      3.34       .00      .000      .030      .000      .000       .00      2.83
   .019115        0.        0.        0.         0        11         5       .00     10.35     13.17

                                                                    THIS RUN EXECUTED 10DEC14     15:15:57

************************************
 HEC-2 WATER SURFACE PROFILES
 Version   4.6.2;  May 1991
************************************
NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

    6 FOOT WIDE SHALLOW

SUMMARY PRINTOUT

      SECNO        Q       CWSEL     CRIWS      VCH      TOPWID     FRCH       EG

       1.000     11.87        .52       .00      2.66     11.18        .74       .63
*      1.000     11.87        .43       .43      3.34     10.35       1.00       .61

 SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO=      1.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
```

```
1*****************************************                    ***************************************
 *  HEC-2 WATER SURFACE PROFILES             *                *  U.S. ARMY CORPS OF ENGINEERS         *
 *                                           *                *  HYDROLOGIC ENGINEERING CENTER        *
 *  Version   4.6.2;  May 1991               *                *  609 SECOND STREET, SUITE D           *
 *                                           *                *  DAVIS, CALIFORNIA 95616-4687         *
 *  RUN DATE    10DEC14    TIME   15:14:11   *                *          (916) 756-1104               *
 *****************************************                    ***************************************

                                        X     X  XXXXXXX   XXXXX              XXXXX
                                        X     X  X        X     X            X     X
                                        X     X  X        X                        X
                                        XXXXXXX  XXXX     X          XXXXX    XXXXX
                                        X     X  X        X                X
                                        X     X  X        X     X          X
THIS RUN EXECUTED 10DEC14    15:14:11
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 T1          CHANNEL CAPACITY CALCULATIONS
 T2          ANASAZI RIDGE
 T3          10 FOOT WIDE SHALLOW CHANNEL - FIRST FLUSH CAPTURE

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         0       .01         0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38         43          1          2         26          4         68          3

 NC      .03       .03       .03        .1         .3
 QT        2     11.87     11.87
 X1        1         4         0       20.         0         0         0         0         0         0
 GR       1.         0         0        5.         0        15.        1.       20.

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

 *PROF 1

 CCHV=     .100 CEHV=     .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
      1.000      .41       .41       .00       .00       .50       .09       .00       .00      1.00
       11.9       .0      11.9        .0        .0       4.9        .0        .0        .0      1.00
        .00       .00      2.43       .00      .000      .030      .000      .000       .00      2.97
```

```
   .009965        0.        0.        0.         0         0         5       .00     14.06     17.03

T1
T2
T3

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0         3         0         1        .01

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     2          0        -1         0         0         0         0         0         0         0

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*PROF 2

CCHV=     .100 CEHV=     .300
*SECNO 1.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
3720 CRITICAL DEPTH ASSUMED
     1.000       .33       .33       .33       .00       .48       .15       .00       .00      1.00
      11.9        .0      11.9        .0        .0       3.9        .0        .0        .0      1.00
       .00       .00      3.07       .00      .000      .030      .000      .000       .00      3.34
   .020179        0.        0.        0.         0        14         5       .00     13.31     16.66
                                                                                 THIS RUN EXECUTED 10DEC14    15:14:11
************************************
 HEC-2 WATER SURFACE PROFILES
 Version   4.6.2;  May 1991
************************************
NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST
    10 FOOT WIDE SHALLOW
SUMMARY PRINTOUT

      SECNO       Q       CWSEL     CRIWS      VCH     TOPWID     FRCH       EG

       1.000     11.87       .41       .00      2.43     14.06       .73       .50
*      1.000     11.87       .33       .33      3.07     13.31      1.01       .48

 SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO=      1.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
```

```
1*****************************************                    ***************************************
 *  HEC-2 WATER SURFACE PROFILES             *                *  U.S. ARMY CORPS OF ENGINEERS         *
 *                                           *                *  HYDROLOGIC ENGINEERING CENTER        *
 *  Version   4.6.2;  May 1991               *                *  609 SECOND STREET, SUITE D           *
 *                                           *                *  DAVIS, CALIFORNIA 95616-4687         *
 *  RUN DATE    06JAN15    TIME   09:34:49   *                *          (916) 756-1104               *
 *****************************************                    ***************************************

                                        X     X  XXXXXXX   XXXXX             XXXXX
                                        X     X  X        X     X           X     X
                                        X     X  X        X                       X
                                        XXXXXXX  XXXX     X          XXXXX    XXXXX
                                        X     X  X        X                X
                                        X     X  X        X     X          X
THIS RUN EXECUTED 06JAN15    09:34:49
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 T1          SEVILLE UNIT 7 - STREET CAPACITY CALCULATIONS
 T2          49'ROW 28'F-F MTB CURB AND GUTTER WITH CROWN
 T3          VIZCAYA AVENUE

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         1       .02         0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

      38        43         1         2        26         4        68         3

 NC     .017      .017      .017        .1         .3
 QT       1      11.9
 X1       1         9         0        49          0         0         0         0         0         0
 GR     .53         0       .33      9.87          0     11.47      .125      12.5      .365      24.5
 GR    .125      36.5         0     37.53        .33     39.13       .53        49

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

 *PROF 1

 CCHV=     .100 CEHV=     .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

 3265 DIVIDED FLOW
```

```
     1.000       .35       .35       .40       .00       .50       .15       .00       .00       .53
      11.9        .0      11.9        .0        .0       3.8        .0        .0        .0       .53
       .00       .00      3.13       .00      .000      .017      .000      .000       .00      8.77
   .020385        0.        0.        0.         0        14         7       .00     30.17     40.23
                                                                                 THIS RUN EXECUTED 06JAN15    09:34:49

************************************
 HEC-2 WATER SURFACE PROFILES
 Version   4.6.2;  May 1991
************************************

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

    VIZCAYA AVENUE

SUMMARY PRINTOUT

      SECNO         Q        CWSEL      CRIWS       VCH      TOPWID      FRCH        EG

       1.000      11.90         .35        .40       3.13      30.17       1.59        .50

 SUMMARY OF ERRORS AND SPECIAL NOTES
```

```
1*****************************************                    ***************************************
 *  HEC-2 WATER SURFACE PROFILES             *                *  U.S. ARMY CORPS OF ENGINEERS         *
 *                                           *                *  HYDROLOGIC ENGINEERING CENTER        *
 *  Version   4.6.2;  May 1991               *                *  609 SECOND STREET, SUITE D           *
 *                                           *                *  DAVIS, CALIFORNIA 95616-4687         *
 *  RUN DATE    09JAN15    TIME   14:14:24   *                *           (916) 756-1104              *
 *****************************************                    ***************************************

                                        X     X  XXXXXXX   XXXXX              XXXXX
                                        X     X  X        X     X            X     X
                                        X     X  X        X                        X
                                        XXXXXXX  XXXX     X          XXXXX    XXXXX
                                        X     X  X        X                   X
                                        X     X  X        X     X             X
                                        X     X  XXXXXXX   XXXXX             XXXXXXX
THIS RUN EXECUTED 09JAN15    14:14:24
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 T1          Anasazi Ridge Subdivision - STREET CAPACITY CALCULATIONS 10YR-6HR ST
 T2          32' HALF SECTION
 T3          MCMAHON BLVD.

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         0      .005         0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38        43         1         2        26         4        68         3

 NC     .017      .017      .017        .1         .3
 QT        2     12.64     16.37
 X1        1         6         0      68.1          0         0         0         0         0         0
 GR     1.39         0       .67      35.9          0      36.0     0.125      38.0     0.725      68.
 GR    1.395      68.1

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

 *PROF 1

 CCHV=     .100 CEHV=     .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
      1.000      .55       .55       .00       .00       .63       .08       .00       .00      1.39
```

```
      12.6        .0       12.6        .0        .0       5.5        .0        .0        .0      1.39
       .00        .00       2.32        .00      .000      .017      .000      .000       .00     35.92
   .004986         0.         0.         0.         0         0         6       .00     23.20     59.12

T1
T2
T3

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0         3         0         0      .005

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     2          0        -1         0         0         0         0         0         0         0

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*PROF 2

CCHV=     .100 CEHV=     .300
*SECNO 1.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
     1.000       .60       .60       .00       .00       .69       .09       .00       .00      1.39
      16.4        .0      16.4        .0        .0       6.7        .0        .0        .0      1.39
       .00        .00      2.46        .00      .000      .017      .000      .000       .00     35.91
   .004926         0.         0.         0.         0         0         5       .00     25.66     61.57
 THIS RUN EXECUTED 09JAN15    14:14:24
************************************
 HEC-2 WATER SURFACE PROFILES
 Version   4.6.2;  May 1991
************************************

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

    MCMAHON BLVD.

SUMMARY PRINTOUT

      SECNO       Q       CWSEL     CRIWS      VCH      TOPWID     FRCH       EG

       1.000     12.64       .55       .00      2.32     23.20       .84       .63
       1.000     16.37       .60       .00      2.46     25.66       .85       .69

 SUMMARY OF ERRORS AND SPECIAL NOTES
```

```
1*****************************************
 *  HEC-2 WATER SURFACE PROFILES           *
 *                                         *
 *  Version   4.6.2;  May 1991             *
 *                                         *
 *  RUN DATE    09JAN15    TIME   13:56:21  *
 *****************************************
```

```
*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  HYDROLOGIC ENGINEERING CENTER    *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616-4687     *
*          (916) 756-1104           *
*************************************
```

```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                  X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                 X
X     X  X        X     X           X
```

```
THIS RUN EXECUTED 09JAN15    13:56:21
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 T1          Anasazi Ridge Subdivision - STREET CAPACITY CALCULATIONS 10YR-6HR ST
 T2          32' HALF SECTION
 T3          MCMAHON BLVD.

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         0      .0054        0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38        43         1         2        26         4        68         3

 NC     .017      .017      .017        .1         .3
 QT        2     12.64     16.37
 X1        1         6         0      68.1          0         0         0         0         0         0
 GR     1.39         0       .67      35.9          0      36.0     0.125      38.0     0.725      68.
 GR    1.395      68.1

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

 *PROF 1

 CCHV=     .100 CEHV=     .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
      1.000       .54       .54       .00       .00       .63       .09       .00       .00      1.39
       12.6        .0      12.6        .0        .0       5.3        .0        .0        .0      1.39
```

```
      .00       .00      2.39       .00      .000      .017      .000      .000       .00     35.92
   .005381       0.        0.        0.         0         0         6       .00     22.86     58.78

T1
T2
T3

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0         3         0         0      .0054

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     2          0        -1         0         0         0         0         0         0         0

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*PROF 2

CCHV=     .100 CEHV=     .300
*SECNO 1.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
     1.000       .59       .59       .00       .00       .69       .10       .00       .00      1.39
      16.4        .0      16.4        .0        .0       6.5        .0        .0        .0      1.39
       .00       .00      2.53       .00      .000      .017      .000      .000       .00     35.91
   .005303       0.        0.        0.         0         0         5       .00     25.31     61.22
THIS RUN EXECUTED 09JAN15    13:56:21
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

    MCMAHON BLVD.

SUMMARY PRINTOUT


      SECNO        Q        CWSEL     CRIWS      VCH      TOPWID     FRCH       EG

      1.000     12.64         .54       .00      2.39      22.86        .87       .63
      1.000     16.37         .59       .00      2.53      25.31        .88       .69

 SUMMARY OF ERRORS AND SPECIAL NOTES
```

```
1*********************************************                                                  ****************************************
 *  HEC-2 WATER SURFACE PROFILES            *                                                  *  U.S. ARMY CORPS OF ENGINEERS        *
 *                                          *                                                  *  HYDROLOGIC ENGINEERING CENTER       *
 *  Version   4.6.2;  May 1991              *                                                  *  609 SECOND STREET, SUITE D          *
 *                                          *                                                  *  DAVIS, CALIFORNIA 95616-4687        *
 *  RUN DATE    09JAN15    TIME   14:09:33  *                                                  *          (916) 756-1104              *
 *********************************************                                                  ****************************************
                                             X     X  XXXXXXX   XXXXX              XXXXX
                                             X     X  X        X     X            X     X
                                             X     X  X        X                        X
                                             XXXXXXX  XXXX     X          XXXXX    XXXXX
                                             X     X  X        X                  X
                                             X     X  X        X     X            X
THIS RUN EXECUTED 09JAN15    14:09:33
 ***************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ***************************************

 T1          Anasazi Ridge Subdivision - STREET CAPACITY CALCULATIONS 10YR-6HR ST
 T2          32' HALF SECTION
 T3          MCMAHON BLVD.

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

        0         2         0         0     .0065         0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

      38         43          1          2         26          4         68          3

 NC     .017       .017       .017         .1          .3
 QT        2      12.64      16.37
 X1        1          6          0       68.1           0          0          0          0          0          0
 GR     1.39          0        .67       35.9           0       36.0      0.125       38.0      0.725        68.
 GR    1.395       68.1

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

 *PROF 1

 CCHV=     .100 CEHV=     .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
      1.000       .52       .52       .00       .00       .63       .10       .00       .00      1.39
       12.6        .0      12.6        .0        .0       4.9        .0        .0        .0      1.39
        .00       .00      2.56       .00      .000      .017      .000      .000       .00     35.92
```

```
    .006463        0.        0.        0.         0         0         6       .00     22.08     58.00

T1
T2
T3

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0         3         0         0      .0065

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     2          0        -1         0         0         0         0         0         0         0

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*PROF 2

CCHV=     .100 CEHV=     .300
*SECNO 1.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
     1.000       .57       .57       .00       .00       .69       .12       .00       .00      1.39
      16.4        .0      16.4        .0        .0       6.0        .0        .0        .0      1.39
       .00       .00      2.73       .00      .000      .017      .000      .000       .00     35.91
   .006492        0.        0.         0         0         6       .00     24.35     60.26
THIS RUN EXECUTED 09JAN15    14:09:33
 ************************************
 HEC-2 WATER SURFACE PROFILES
 Version   4.6.2;  May 1991
 ************************************

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

    MCMAHON BLVD.

SUMMARY PRINTOUT

      SECNO        Q        CWSEL     CRIWS      VCH      TOPWID     FRCH       EG

      1.000      12.64        .52       .00      2.56      22.08       .95       .63
      1.000      16.37        .57       .00      2.73      24.35       .97       .69

 SUMMARY OF ERRORS AND SPECIAL NOTES
```

```
1*****************************************                    ***************************************
 *  HEC-2 WATER SURFACE PROFILES             *                *  U.S. ARMY CORPS OF ENGINEERS         *
 *                                           *                *  HYDROLOGIC ENGINEERING CENTER        *
 *  Version   4.6.2;  May 1991               *                *  609 SECOND STREET, SUITE D           *
 *                                           *                *  DAVIS, CALIFORNIA 95616-4687         *
 *  RUN DATE    06JAN15    TIME   14:07:08   *                *           (916) 756-1104              *
 *****************************************                    ***************************************

                                        X     X  XXXXXXX   XXXXX              XXXXX
                                        X     X  X        X     X            X     X
                                        X     X  X        X                        X
                                        XXXXXXX  XXXX     X          XXXXX    XXXXX
                                        X     X  X        X                  X
                                        X     X  X        X     X            X
                                        X     X  XXXXXXX   XXXXX             XXXXXXX

THIS RUN EXECUTED 06JAN15    14:07:08
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 T1           CHANNEL CAPACITY CALCULATIONS
 T2           ANASAZI RIDGE
 T3           8 FOOT WIDE SHALLOW CHANNEL - SPILLWAY

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         0       .01         0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

      38        43         1         2        26         4        68         3

 NC     .017      .017      .017        .1        .3
 QT        2    10.87     10.87
 X1        1         4         0       8.2         0         0         0         0         0         0
 GR      .67         0         0        .1         0       8.1       .67       8.2

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

 *PROF 1

 CCHV=     .100 CEHV=     .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
 3720 CRITICAL DEPTH ASSUMED
      1.000      .38       .38       .38       .00       .58       .19       .00       .00       .67
```

```
      10.9        .0       10.9        .0         .0        3.1        .0        .0        .0        .67
       .00        .00       3.51       .00       .000       .017       .000      .000       .00       .04
    .006474        0.         0.         0.          0         7          0       .00      8.11      8.16

T1
T2 SPILLWAY
T3 8' WIDE

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0         3         0         1        .01

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     2          0        -1         0         0         0         0         0         0         0

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*PROF 2

CCHV=     .100 CEHV=     .300
*SECNO 1.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
     1.000       .34       .34       .38       .00       .59       .25       .00       .00       .67
      10.9        .0      10.9        .0        .0       2.7        .0        .0        .0       .67
       .00       .00      4.03       .00       .000      .017       .000      .000       .00       .05
   .010100        0.         0.         0.          0         7          0       .00      8.10      8.15
THIS RUN EXECUTED 06JAN15    14:07:08
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

    8 FOOT WIDE SHALLOW

SUMMARY PRINTOUT

      SECNO        Q        CWSEL     CRIWS      VCH      TOPWID     FRCH       EG

*      1.000     10.87        .38       .38      3.51       8.11      1.00       .58
       1.000     10.87        .34       .38      4.03       8.10      1.23       .59


 SUMMARY OF ERRORS AND SPECIAL NOTES
```

APPENDIX C – STORMWATER MANAGEMENT DESIGN

Tract A Pond / Channel
Spillway /Channel Vizcaya Avenue

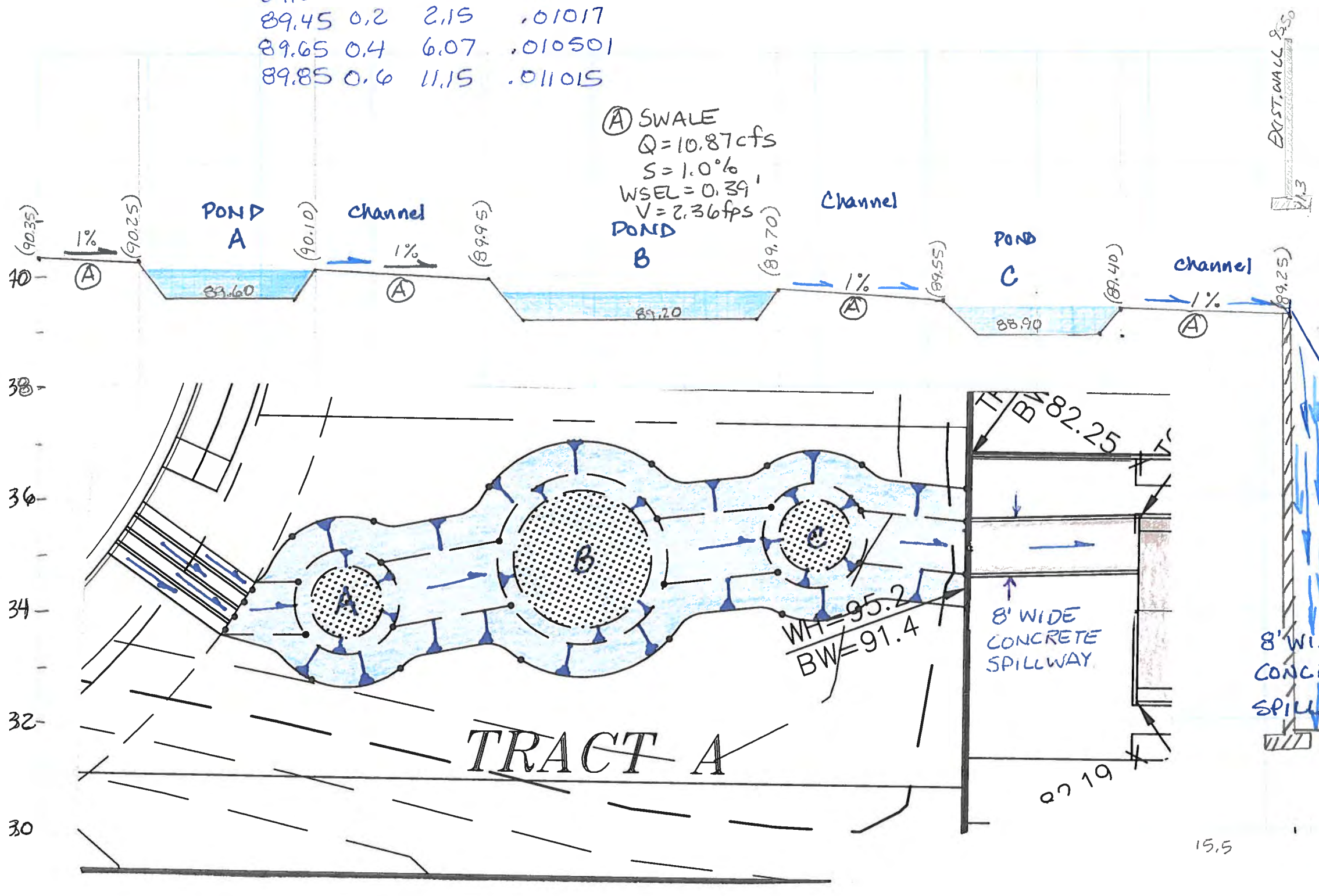
Tract A - Spillway Rating Table (for AHYMO routing)

Spillway crest = 89.25

Spillway crest Length = 8'

$Q = C \cdot L \cdot H^{3/2} = 3(8)H^{3/2}$

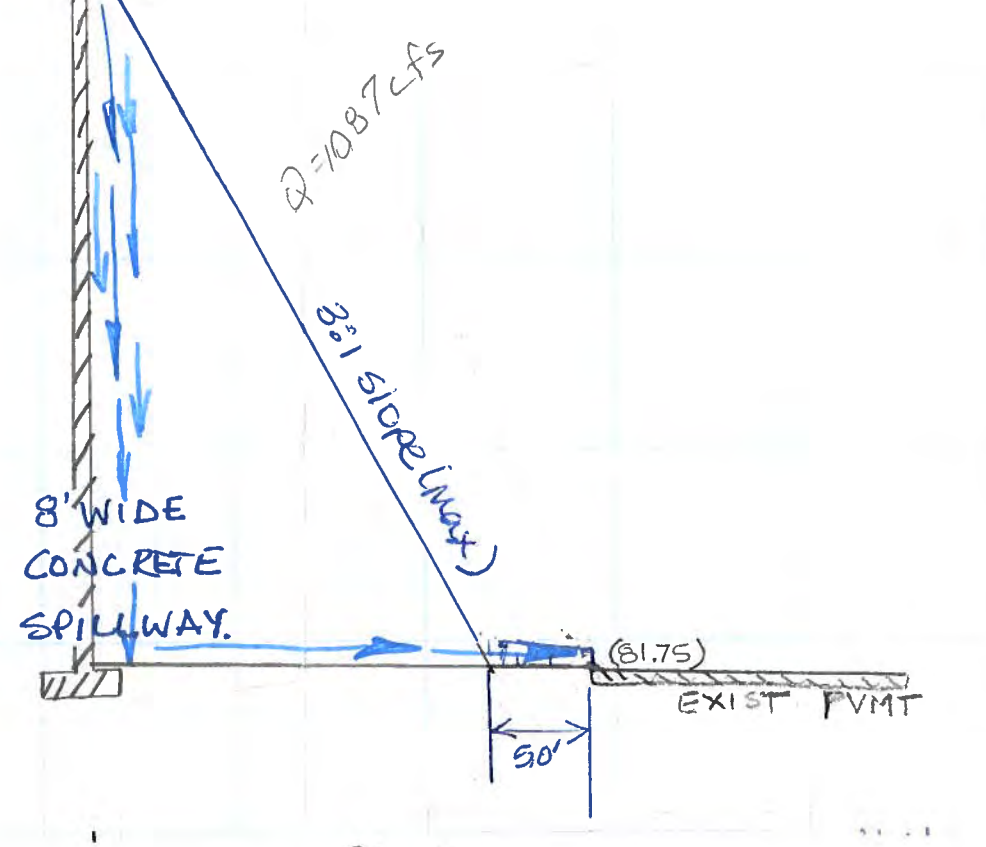
Elev.	H	Q	Storage Vol. (A.F.)
89.25	0	0	0
89.45	0.2	2.15	.01017
89.65	0.4	6.07	.010501
89.85	0.6	11.15	.011015



SPILLWAY ELEV = 89.25

Q_{100} = 10.60 cfs

@Elev. = 89.83'

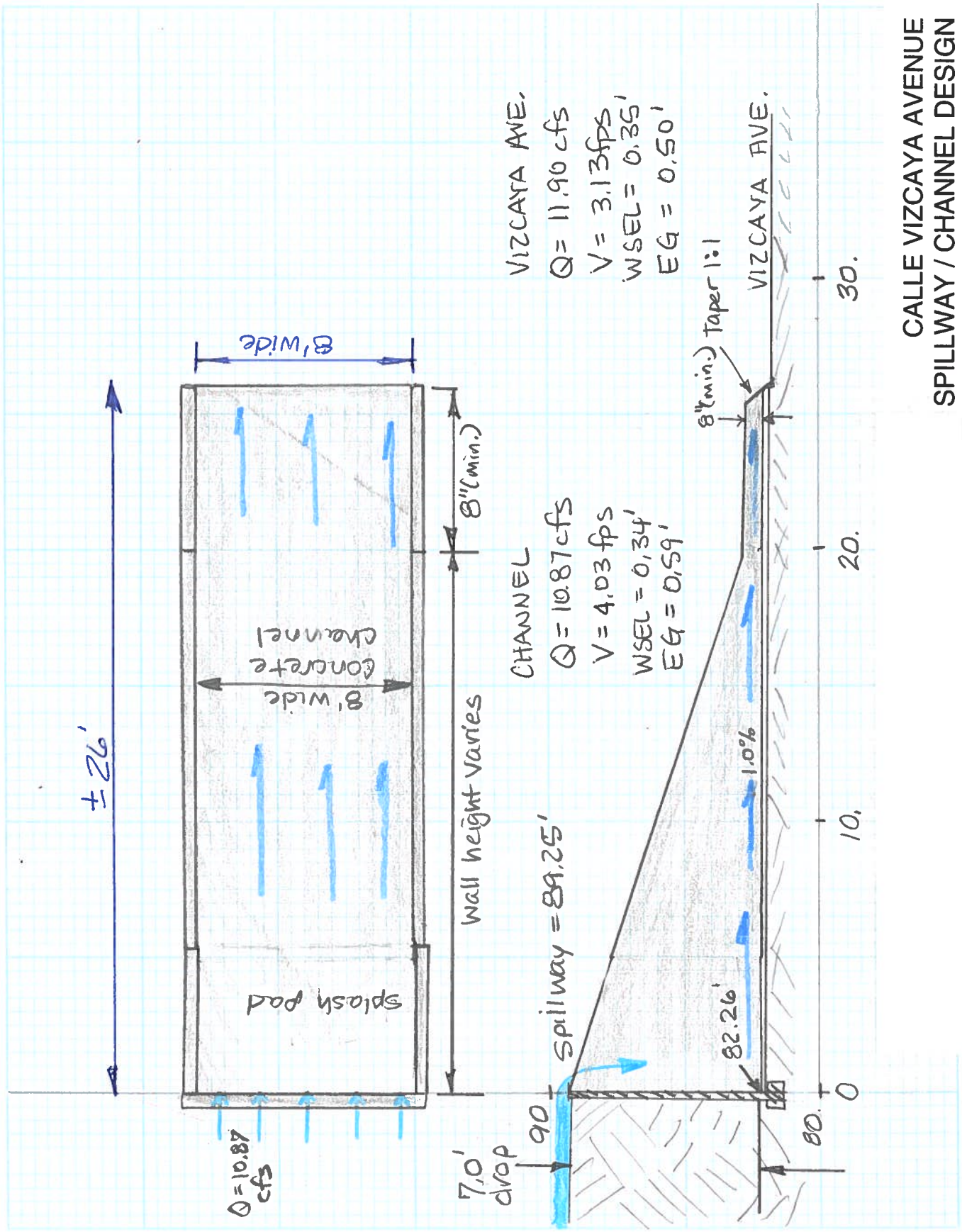


TRACT A
CHANNEL / POND DESIGN

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539

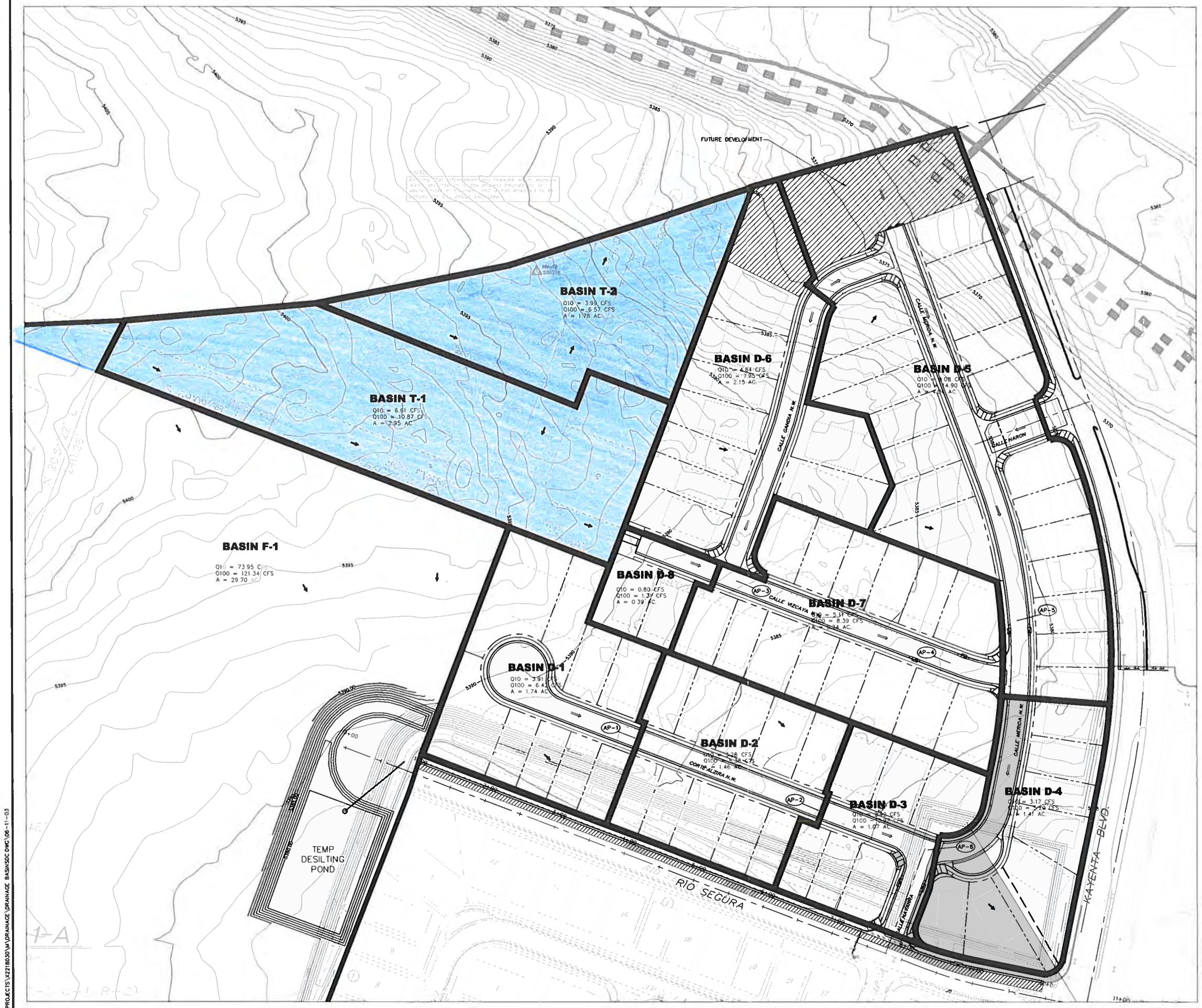
PROJECT Anasazi Ridge
SUBJECT Spillway Design
BY DLH DATE 1-6-15
CHECKED _____ DATE _____
SHEET ____ OF ____

CALLE VIZCAYA AVENUE
SPILLWAY / CHANNEL DESIGN



APPENDIX D

Seville Unit 7 Drainage Plan (Wilson & Co.)
- *Existing Sub Basin exhibit*
- *Developed Sub Basin exhibit*



HYDROLOGIC DATA - DEVELOPED

BASIN	AREA (acres)	LAND TREATMENT PERCENTAGES BY TYPE				YIELD (cfs/ac)	Q_{100} (cfs)	V_{100-24} (ac-ft)
		A	B	C	D			
D-1	1.74	0	10	30	60	3.69	6.42	0.22
D-2	1.46	0	10	30	60	3.68	5.38	0.19
D-3	1.07	0	10	30	60	3.71	3.97	0.14
D-4	1.41	0	10	30	60	3.69	5.20	0.18
D-5	4.04	0	10	30	60	3.69	14.90	0.52
D-6	2.15	0	10	30	60	3.69	7.95	0.28
D-7	2.24	0	10	30	60	3.69	8.39	0.29
D-8	0.39	0	10	30	60	3.36	1.31	0.05
T-1	2.95	0	10	30	60	3.69	10.87	0.37
T-2	1.78	0	10	30	60	3.69	6.57	0.22

STREET HYDRAULIC DATA

AP	⌀ INLET (⌀)	SLOPE (%)	Q_{100} (cfs)	Q_{INT} (cfs)	Q_{BYP} (cfs)	D_{100} (ft)	V_{100} (ft/sec)	D*V	Y_2 (ft)
AP-1	-	0.68	6.42	-	-	0.34	1.87	0.64	0.38
AP-2	-	1.60	11.80	-	-	0.36	2.99	1.07	0.47
AP-3	-	0.61	10.99	-	-	0.40	2.15	0.86	0.46
AP-4	1A & 1B	0.61	28.52	28.52	0.00	0.54	3.14	1.69	0.69
AP-5	2A & 2B	0.65	14.90	14.90	0.00	0.44	2.47	1.09	0.52
AP-6	3A & 3B	2.02	20.97	20.97	0.00	0.41	3.99	1.64	0.61

$$Y_2 = \left[\frac{V^2}{2g}\right] \times 0.8 + D_{100}$$

WILSON & COMPANY
2600 THE AMERICAN ROAD S.E.
SUITE 100
RIO RANCHO, NEW MEXICO
87124
(505) 898-8021

SEVILLE SUBDIVISION UNIT 7

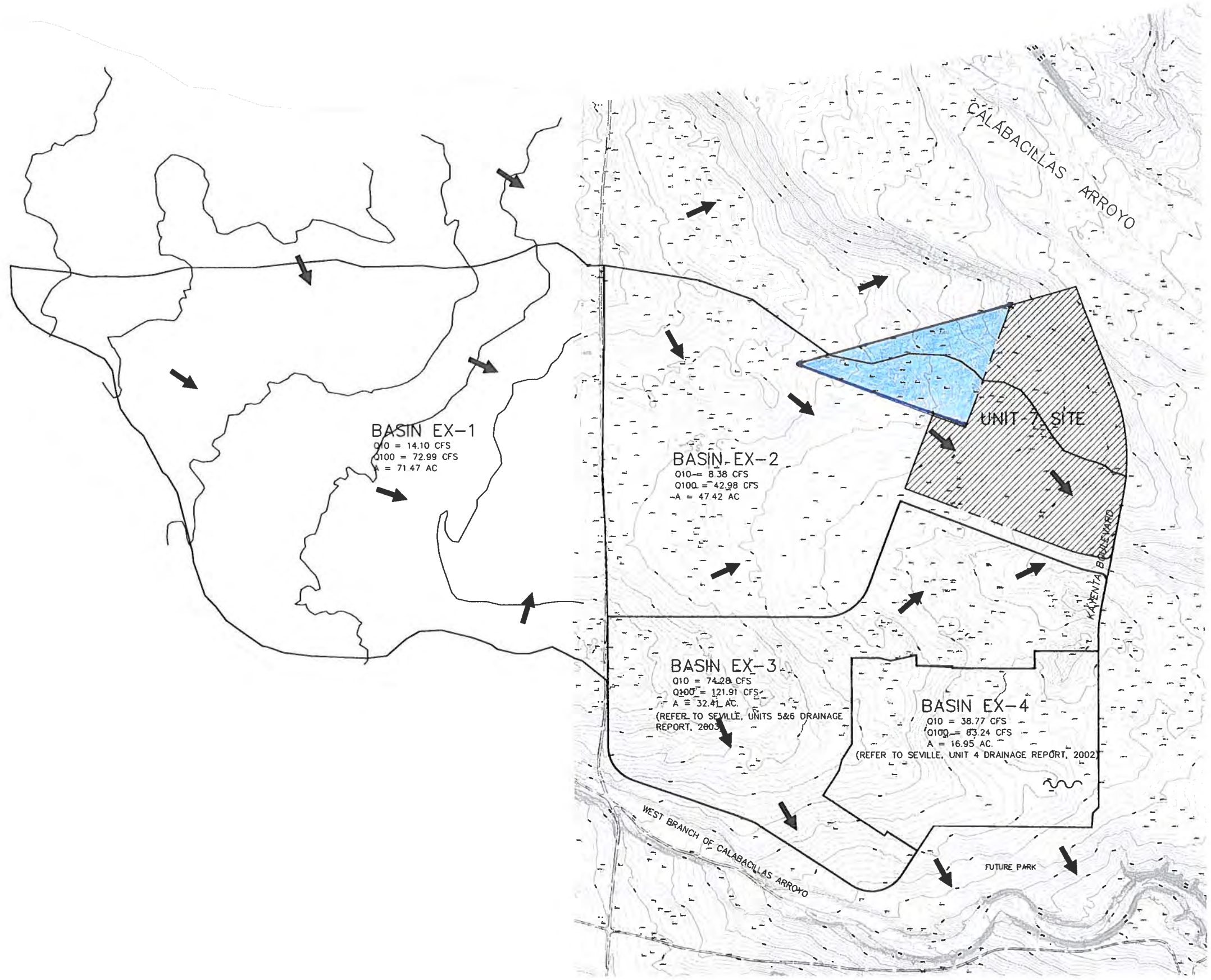
BASIN BOUNDARY MAP DEVELOPED CONDITIONS

REVISIONS	NO.	DATE	REMARKS	BY

DESIGN	JRW	WCEA NO. X2218030	DATE JULY 2003
DRAWN	JRW	PROJECT NO. N/A	SHEET NO 1 OF 1
CHECK	DSA		

T:\PROJECTS\X2218030\VA\DRAINAGE\DRAINAGE BASIN3DC.DWG 08-11-03

PLATE 2B



N

200 0 100 200 400
SCALE 1 INCH = 200 FT

LEGEND

- DRAINAGE FLOW ARROW
- BASIN BOUNDARY
- HIGH POINT IN EXISTING ROADWAY

HYDROLOGIC DATA – EXISTING

BASIN	DESCRIPTION	AREA (acres)	LAND TREATMENT PERCENTAGES BY TYPE				YIELD (cfs/ac)	Q_{100} (cfs)	V_{100-6} (ac-ft)
			A	B	C	D			
EX-1	UNDEVELOPED	71.47	95	0	5	0	1.02	72.99	2.93
EX-2	UNDEVELOPED	47.42	95	0	5	0	0.92	42.98	0.91
EX-3	SEVILLE UNIT 5 & 6	32.41	0	10	30	60	3.76	121.91	4.24
EX-4	SEVILLE UNIT 4	16.95	0	10	30	60	3.73	63.24	2.21

WILSON & COMPANY
2600 THE AMERICAN ROAD S.E
SUITE 100
RIO RANCHO, NEW MEXICO
87124
(505) 896-8021

SEVILLE SUBDIVISION UNIT 7

BASIN BOUNDARY MAP EXISTING CONDITIONS

REVISIONS NO.	DATE	REMARKS	BY

DESIGN	JRW	WCEA NO. X2218030	DATE JULY 2003
DRAWN	JRW	PROJECT NO. N/A	SHEET NO. 1 OF 1
CHECK	DSA		

PLATE 1

T:\PROJECTS\X2218009\W\DRAINAGE\EXIST DRAINAGE.DWG\11-19-02 JRW

APPENDIX E

McMahon Blvd. Extension Report Excerpts

McMahon Blvd. Hydrology

Calculations and Analysis

Google Earth Photos

MCMAHON BOULEVARD EXTENSION

PRELIMINARY DRAINAGE REPORT

July 2009

Prepared for:
City of Albuquerque
Department of Municipal Development
Transportation Division
One Civic Plaza
Albuquerque, New Mexico 87102

Prepared by:
URS Corporation
One Park Square
6501 Americas Parkway NE, Suite 900
Albuquerque, NM 87110

URS Project Number: 24343019

URS

1. INTRODUCTION

This drainage report is for the two lane extension of McMahon Boulevard to Universe Boulevard and the extension of Universe Boulevard to McMahon Boulevard. Both streets will eventually be median-divided, four lane roads with two lanes in each direction. However, this project is providing construction plans for just the west half of Universe Boulevard and the north half of McMahon Boulevard. The purpose of this drainage report is to allow phased construction to proceed. This project is located on City of Albuquerque Zone Atlas page A-10. The project limits are shown on Figure 1 below.

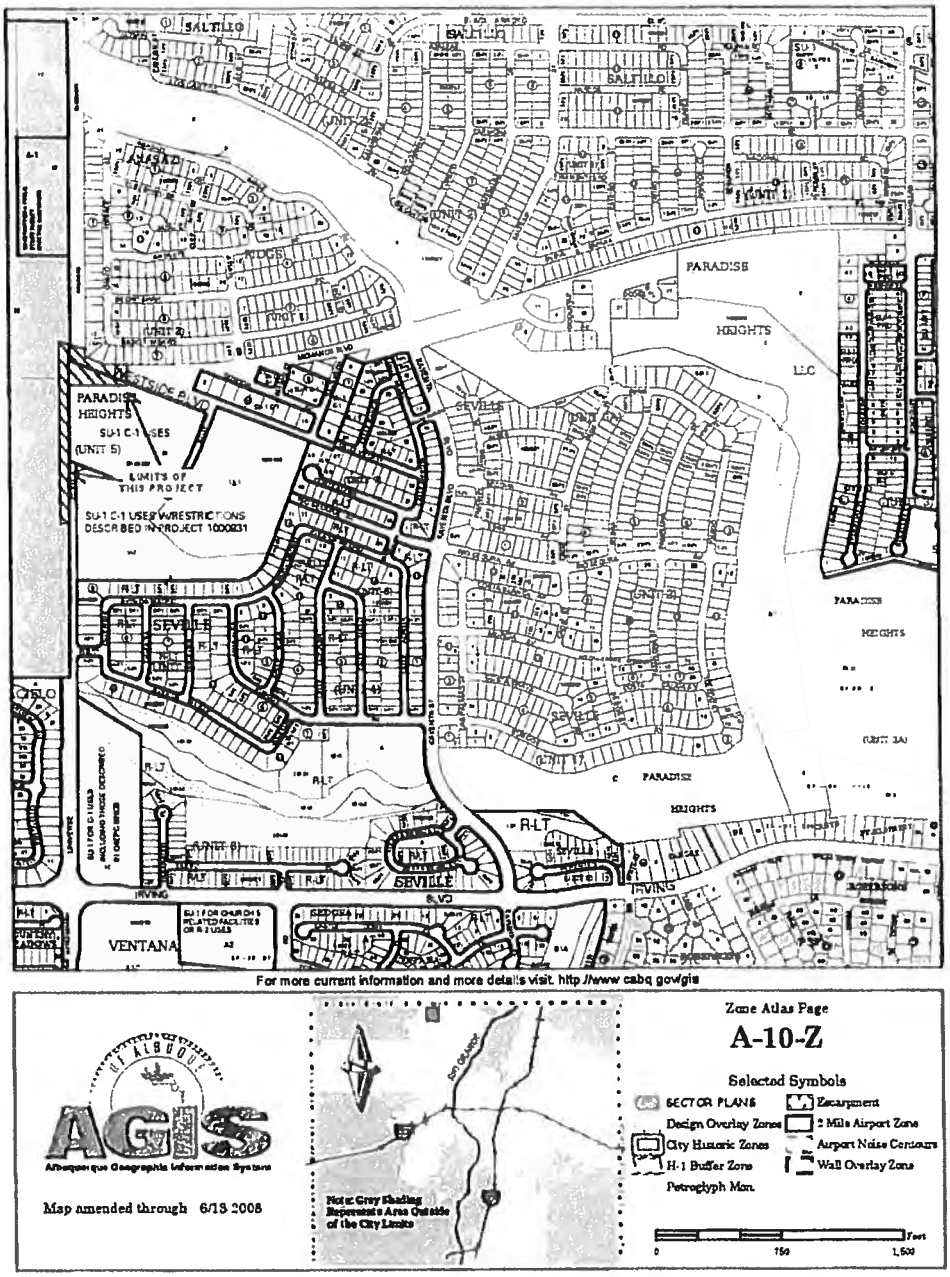


Figure 1 - Vicinity Map

Table 1 - Summary of Hydrology

BASIN ID	AREA		LAND TREATMENT (%)				t_p	PEAK 100-YR FLOW[2]		PEAK 10-YR FLOW[2]	
	(AC)	(SQ MI)	A	B	C	D	(HR)	Inc. (cfs)	Cum (cfs)	Inc. (cfs)	Cum (cfs)
EXISTING CONDITIONS (See Figure 2)											
RW-1	3.7	0.0058	25	0	75	0	0.13	10.15	199.80	4.62	102.32
OS-1	29.9	0.0467	100	0	0	0	0.22	28.90		5.58	
RW-2	5.0	0.0078	85	0	15	0	0.13	8.50	35.67	2.13	7.32
B-3	47.7	0.0745	25	5	30	40	0.13	159.12	189.65	86.79	92.80
OS-1A	12.1	0.0189	90	0	10	0	0.13	19.72		4.61	
OS-1B	3.8	0.0059	90	0	10	0	0.13	6.16		1.44	
RW-1C	11.6	0.0181	20	0	55	25	0.13	37.42	43.58	19.80	21.24
Subtotal	**113.8**	**0.1777**									
DEVELOPED CONDITIONS (See Figure 3)											
RW-1	3.7	0.0058	0	0	87	13	0.13	12.71	202.36	7.00	99.80
OS-1	29.9	0.0467	100	0	0	0	0.22	28.90		5.58	
RW-2	5.0	0.0078	85	0	15	0	0.13	8.50	35.67	2.13	7.32
B-3	47.7	0.0745	25	5	30	40	0.13	159.12	189.65	86.79	92.80
OS-1A	12.1	0.0189	90	0	10	0	0.13	19.72		4.61	
OS-1B	3.8	0.0059	90	0	10	0	0.13	6.16		1.44	
RW-1C	11.6	0.0181	20	0	50	30	0.13	38.36	44.52	20.70	22.14
Subtotal	**113.8**	**0.1777**									
FUTURE CONDITIONS (See Figure 5)											
RW-1.1	0.38	0.0005	0	0	33	67	0.13	1.39		0.87	
RW-1.2	0.38	0.0005	0	0	33	67	0.13	1.39		0.87	
RW-1.3A	1.64	0.0027	0	0	100	0	0.13	5.56		2.92	
RW-1.3B	0.51	0.0011	0	0	33	67	0.13	2.89		1.82	
RW-1.4	0.50	0.0011	0	0	33	67	0.13	2.89		1.82	
FUTURE CONDITIONS (See Figure 4)											
RW-1	3.7	0.0058	0	0	74	26	0.13	13.48	163.97	7.72	101.62
OS-1	29.9	0.0467	100[1]	0	0	0	0.22	28.90		5.58	
RW-2	5.0	0.0078	0	0	40	60	0.13	20.83	45.64	12.91	16.80
B-3	35.5	0.0555	0	10	20	70	0.13	150.49	163.97	93.90	101.62
OS-1A	12.1	0.0189	75	0	20	5	0.13	23.49		7.54	
OS-1B	3.8	0.0059	75	0	20	5	0.13	7.35		2.36	
RW-1C	11.6	0.0181	0	0	40	60	0.13	48.32	55.67	29.95	32.31
Subtotal	**113.8**	**0.1777**									

Notes:
(1) Future conditions OS-1 will be limited to historic runoff rate. Thus Group A is appropriate for Existing, Developed, and Future Conditions.
(2) All flow rates are bulked by a factor of 1.10 for 10% sediment by volume.

7. HYDRAULIC CALCULATION PROCEDURES

The City's DPM Section 22 is used to establish the drainage design criteria for this project. It requires that the 10-YR water spread will allow for one lane to remain open in both directions. In order to keep one lane open, the allowable depths may not exceed 0.33 foot for 10-YR flows on

OS-1 to the existing historic rate. Since the Rio Rancho annexation, increased flows from the TVI MDP offsite basins are no longer expected.

The *Albuquerque Technical Vocational Institute West Side Campus Phase 2* construction plans, dated 11-17-2005, were prepared by Van H. Gilbert Architect, and the associated Drainage Report, dated 11-18-2005, was prepared by Jeff Mulberry, PE, of Bohannan Huston, Inc. (see Appendix E). The report deviated significantly from the 2001 TVI MDP in that it did not include the second entrance on McMahon Boulevard and it did not provide for construction of any of the frontage improvements.

The *McMahon Blvd Inlet Calculations Affecting both Saltillo and Anasazi Subdivisions,* dated April 21, 2006, prepared by James D. Hughes, PE of Mark Goodwin and Associates, showed a high spot on McMahon Boulevard about 800 feet west of Universe Boulevard (see Appendix F). This implied that Basin OS-1 from the TVI MDP would drain along its historic path through the TVI campus instead of the Master Planned route east in McMahon Boulevard to Universe Boulevard and south in Universe Boulevard to the West Branch of the Calabacillas Arroyo. These calculations served as the basis for constructing the north half of McMahon Boulevard from the current west end of the pavement to the next high point which is located about 4,700 feet east of Universe Boulevard at Rockcliff Drive with very little storm sewer in McMahon Boulevard. The calculations demonstrated that McMahon Boulevard has adequate street drainage capacity in accordance with Section 22 of the City of Albuquerque Development Process Manual (DPM). These calculations have been verified as accurate for this design.

Additional planning history references are located in Appendix A.

3. EXISTING DRAINAGE CONDITIONS

Existing Watershed Boundaries are shown on Figure 2. Four existing drainage outfalls were constructed by previous projects.

1. Surface drainage in McMahon Boulevard, including runoff from Basins OS-1B and RW-1C (see Figure 3-2 for Existing Drainage Basins), flows east to existing storm inlets **located east of the Calabacillas Arroyo, which discharge into the arroyo through a 120 inch storm sewer below the bridge.**
2. Runoff from the Central New Mexico Community College (CNM) Westside Campus basin B-3 and upstream offsite basins OS-1 and RW-2, drain into **an existing 60 inch storm sewer located in Universe Boulevard about 150 feet north of the campus entrance which flows south and discharges into the West Branch of the Calabacillas Arroyo just below the bridge.** This pipe was constructed by CNM as part of the Phase 1 infrastructure as identified in their 2001 Master Drainage Plan. However, when CNM built Phase 2 in 2005 they did not construct any of the Master Planned infrastructure in Universe Boulevard or McMahon Boulevard. Phase 2 provided an onsite conveyance system rather than the Master Planned offsite conveyance system for runoff from offsite Basins OS-1 and RW-2.
3. Runoff from basin RW-1 drains east through the undeveloped property in the southeast corner of the intersection of McMahon Boulevard and Universe Boulevard and flows into **an 18 inch storm sewer at the west end of Rio Segura Avenue.**

Tocal St NW
Basket Weaver Ave NW
Nisbet Ridge Ave NW
McMahon Blvd NW
Kaybrook Park
Kaybrook Park Trail
Kaybrook Park Trail
Kaybrook Park Trail

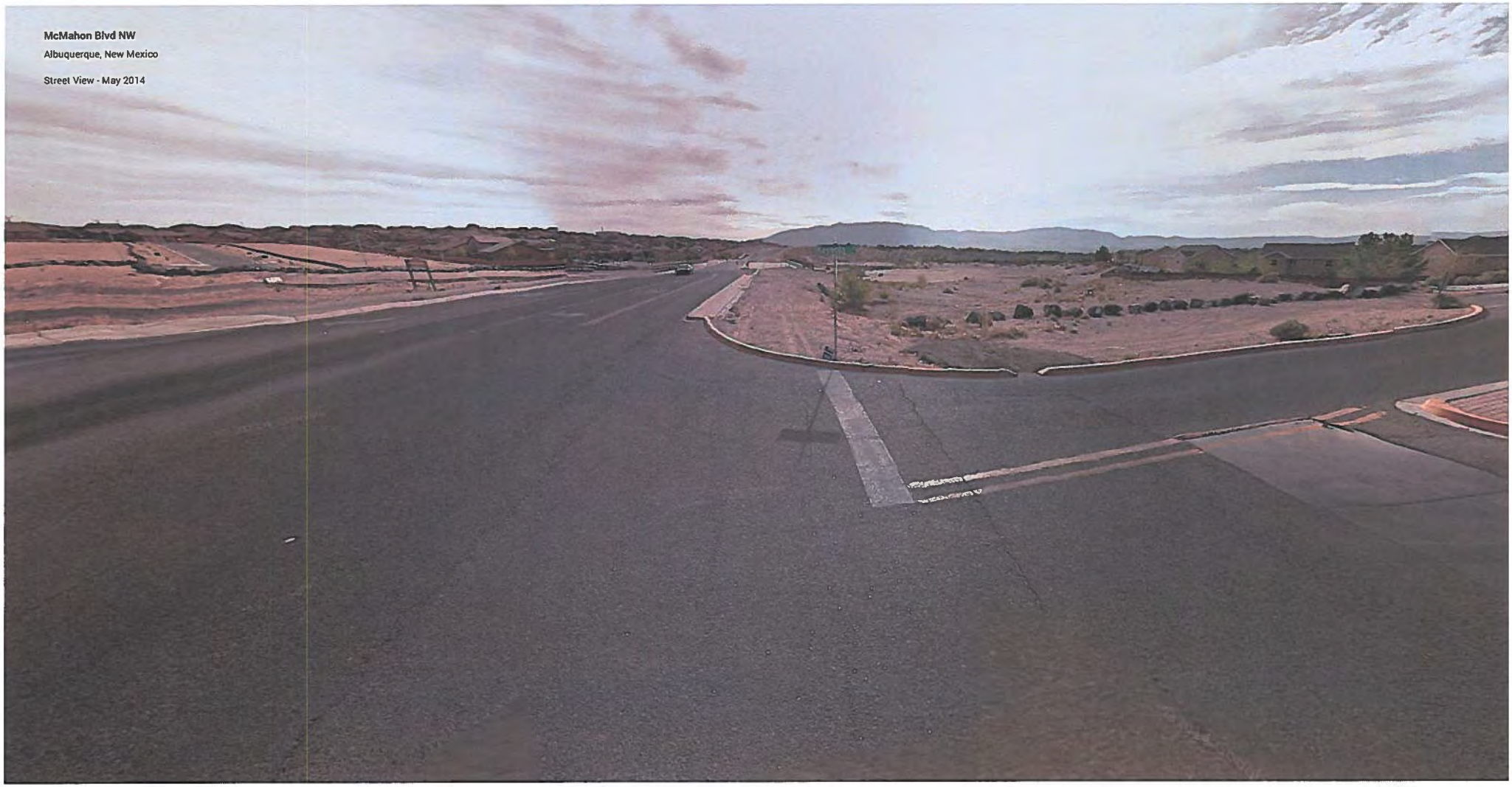
Google earth

feet 700
meters 200

Imagery ©2015 U S Geological Survey, Map data ©2015 Google 20 ft

Google earth

feet 7
meters 2

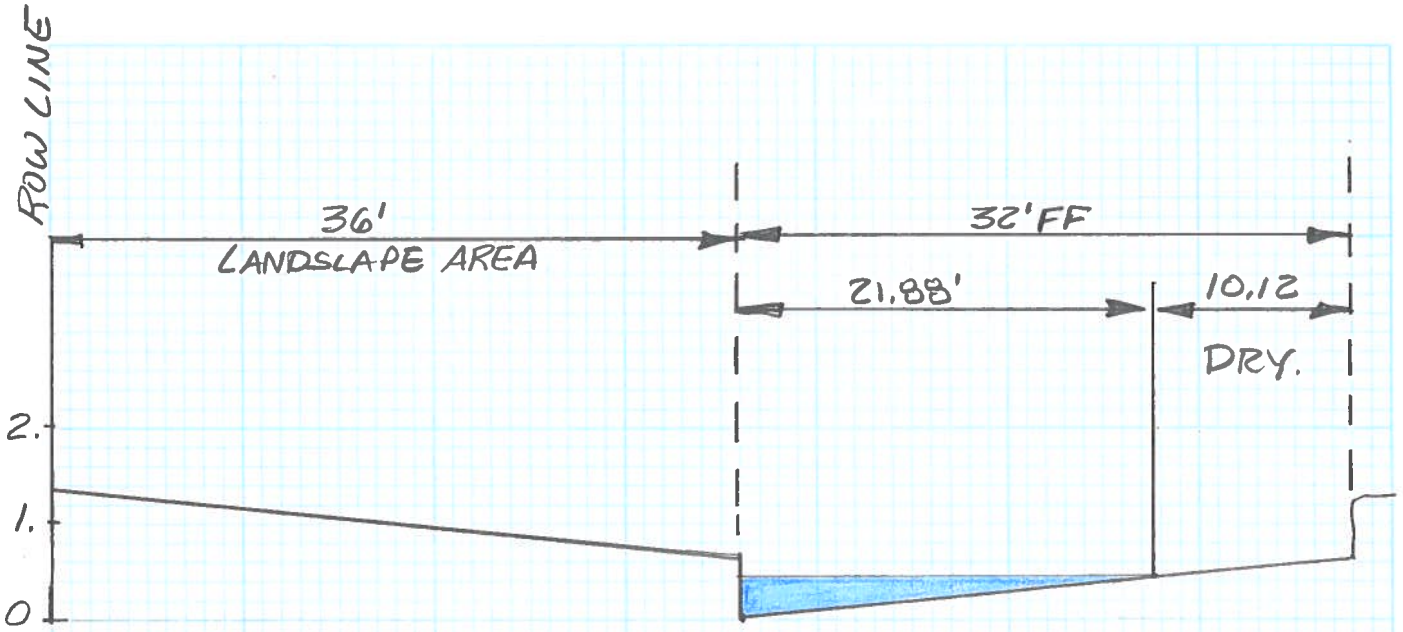


43 12 30 32

Image capture: May 2014 © 2015 Google

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539

PROJECT Anasazi Ridge
SUBJECT McMahon Blvd.
BY DLH DATE 1-12-15
CHECKED ____ DATE ____
SHEET ____ OF ____



FLAT SECTION
WORST CASE SCENARIO
SLOPE = 0.5%
Q(10 YEAR) = 10.83cfs (REFER TO FIGURE 4)
WSEL = 0.52'
V = 2.23 fps
TOPW = 21.88

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 *                                         *
 *  Version   4.6.2;  May 1991             *
 *                                         *
 *  RUN DATE    12JAN15    TIME   09:14:52  *
 *****************************************
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*****************************************
*  U.S. ARMY CORPS OF ENGINEERS         *
*  HYDROLOGIC ENGINEERING CENTER        *
*  609 SECOND STREET, SUITE D           *
*  DAVIS, CALIFORNIA 95616-4687         *
*           (916) 756-1104              *
*****************************************
```

```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
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THIS RUN EXECUTED 12JAN15    09:14:52
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  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 T1          Anasazi Ridge Subdivision - STREET CAPACITY CALCULATIONS 10YR-6HR ST
 T2          32' HALF SECTION
 T3          MCMAHON BLVD.

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         0      .005         0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38        43         1         2        26         4        68         3

 NC     .017      .017      .017        .1        .3
 QT        3    10.83     10.83     10.83
 X1        1        6         0      68.1         0         0         0         0         0         0
 GR     1.39        0       .67      35.9         0      36.0     0.125      38.0     0.725       68.
 GR    1.395     68.1

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

 *PROF 1

 CCHV=     .100 CEHV=     .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
      1.000       .52       .52       .00       .00       .60       .08       .00       .00      1.39
       10.8        .0      10.8        .0        .0       4.9        .0        .0        .0      1.39
        .00       .00      2.23       .00      .000      .017      .000      .000       .00     35.92
    .004968        0.        0.        0.         0         0         6       .00     21.88     57.80


 T1
 T2
 T3
```

```
J1   ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         3         0         0      .0054

J2   NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      2          0        -1         0         0         0         0         0         0         0

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*PROF 2

CCHV=     .100 CEHV=     .300
*SECNO 1.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
     1.000       .51       .51       .00       .00       .60       .08       .00       .00      1.39
      10.8        .0      10.8        .0        .0       4.7        .0        .0        .0      1.39
       .00       .00      2.29       .00      .000      .017      .000      .000       .00     35.92
   .005359         0.        0.        0.         0         0         6       .00     21.57     57.49

T1
T2
T3

J1   ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         3         0         0      .0065

J2   NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      2          0        -1         0         0         0         0         0         0         0

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*PROF 3

CCHV=     .100 CEHV=     .300
*SECNO 1.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
     1.000       .50       .50       .00       .00       .59       .09       .00       .00      1.39
      10.8        .0      10.8        .0        .0       4.4        .0        .0        .0      1.39
       .00       .00      2.45       .00      .000      .017      .000      .000       .00     35.93
   .006425         0.        0.        0.         0         0         6       .00     20.83     56.75
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 HEC-2 WATER SURFACE PROFILES
 Version   4.6.2;  May 1991
************************************
```

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

MCMAHON BLVD.

SUMMARY PRINTOUT

SECNO	Q	CWSEL	CRIWS	VCH	TOPWID	FRCH	EG
1.000	10.83	.52	.00	2.23	21.88	.83	.60
1.000	10.83	.51	.00	2.29	21.57	.86	.60
1.000	10.83	.50	.00	2.45	20.83	.94	.59

10 YR STORM
0.5% slope

SUMMARY OF ERRORS AND SPECIAL NOTES

McMahon Blvd. - west of Kayenta along flat area of Road.

```
1*****************************************
 *  HEC-2 WATER SURFACE PROFILES           *
 *                                         *
 *  Version   4.6.2;  May 1991             *
 *                                         *
 *  RUN DATE    12JAN15    TIME   09:56:34  *
 *****************************************
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```
*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  HYDROLOGIC ENGINEERING CENTER    *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616-4687     *
*           (916) 756-1104          *
*************************************
```

```
X     X  XXXXXXX   XXXXX             XXXXX
X     X  X        X     X           X     X
X     X  X        X                       X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
```

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THIS RUN EXECUTED 12JAN15    09:56:34
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 T1          CHANNEL CAPACITY CALCULATIONS
 T2          ANASAZI RIDGE at Kayenta Blvd.
 T3          VALLEY GUTTER TO 10' WIDE CHANNEL Calabacillas Arroyo

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         0      .0045        0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

      38        43         1         2        26         4        68         3

 NC     .017      .017      .017       .1        .3
 QT        1     18.13
 X1        1         3         0       100         0         0         0         0         0         0
 GR      .45         0         0        40       .30        65       .35       100

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

 *PROF 1

 CCHV=     .100 CEHV=     .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
 3280 CROSS SECTION      1.00 EXTENDED       .04 FEET

      1.000      .34       .34       .00       .00       .39       .05       .00       .00       .45
```

```
      18.1         .0       18.1         .0         .0        9.8         .0         .0         .0        .30
       .00         .00       1.85        .00       .000       .017       .000       .000        .00       9.89
   .004454          0.         0.         0.          0          0          8        .00      55.11      65.00
                                                                                          THIS RUN EXECUTED 12JAN15    09:56:34

************************************
 HEC-2 WATER SURFACE PROFILES
 Version   4.6.2;  May 1991
************************************

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

    VALLEY GUTTER TO 10'

SUMMARY PRINTOUT

      SECNO         Q        CWSEL      CRIWS       VCH      TOPWID      FRCH        EG

      1.000     18.13          .34        .00       1.85      55.11        .77        .39

 SUMMARY OF ERRORS AND SPECIAL NOTES
```

McMahon @ Kayenta
Valley Gutter - Low Area

KEYED NOTES:

(A) CONSTRUCT HEADER CURB AT EDGE OF NEW PAVEMENT AND C&G, INSTALL TYPE-III BARRICADE

(B) TIE TO EXISTING GROUND, 4:1 MAX. SLOPE

(C) 4:1 SIDE SLOPE (MAX), TURN 2 BLOCKS ON SIDE TO ALLOW SMALL DRAINAGE TO PASS FOR TRACT C AND A PORTION OF LOT 1. CREATE 2.0' WIDE GRAVEL PROTECTED RUNDOWN

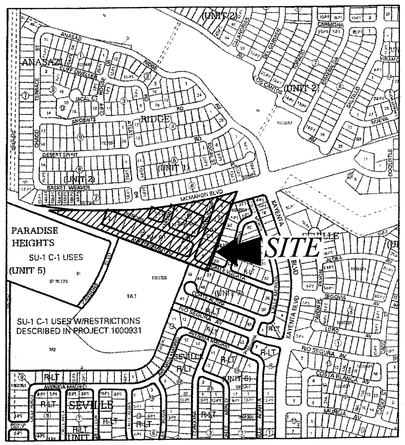
(D) TURN 1 BLOCK SIDEWAYS FOR DRAINAGE OUTLET

(E) CONSTRUCT 8' WIDE CHANNEL SECTION TO BE DESIGNED AT DRC

(F) CONSTRUCT HEADER CURB AT EDGE OF NEW PAVEMENT AND C&G

(G) 24" & 12" SIDEWALK CULVERT PER C.O.A. STD. DWG #2236 (DESIGN AT DRC-SEE DRAINAGE REPORT FOR HYDRAULIC CALCULATIONS)

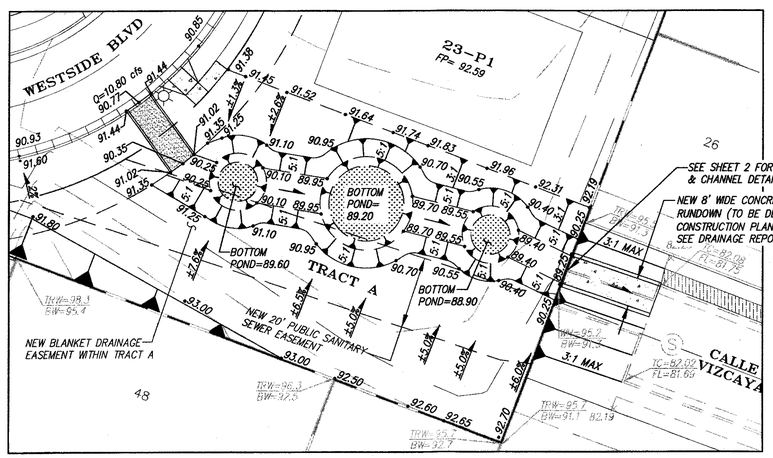
(H) 24" SIDEWALK CULVERT PER C.O.A. STD. DWG #2236



VICINITY MAP — ZONE MAP: A-10-Z

LEGAL DESCRIPTION

A tract of land situate within the Town of Alameda Grant, projected Section 3, Township 11 North, Range 2 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being a portion of LOT 3 and all of LOTS 4 thru 9, BLOCK 7, all of LOTS 9 thru 13, BLOCK 8, all of LOT 12, BLOCK 9, all of LOTS 2 thru 10, BLOCK 14 and portions of NAVAJO DRIVE NW, GORDON AVENUE NW, MASON DRIVE NW, WESTSIDE BOULEVARD NW and McMAHON BOULEVARD NW, PARADISE HEIGHTS UNIT 5, as the same is shown and designated on said plat filed for record in the office of the County Clerk of Bernalillo County, New Mexico on March 12, 1973 in Volume D5, Folio 111 and 112, and containing 6.9826 acres more or less.



TRACT A POND DETAIL
SCALE: 1"=20'

NOTES

1. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
2. CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION SHALL GOVERN ALL WORK.
3. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
4. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
5. THE EARTHWORK CONTRACTOR SHALL STOCKPILE ENOUGH MATERIAL ADJACENT TO RETAINING WALL LOCATIONS TO BE UTILIZED FOR WALL BACKFILL.
6. SITE DOES NOT LIE IN A 100 YEAR FLOOD ZONE.
7. SIDEWALK CULVERTS ARE PER C.O.A. STANDARD DWG #2236.
8. ALL SITE WALLS SHALL CONFORM TO THE GENERAL HEIGHT AND DESIGN REGULATIONS CONTAINED IN SECTION 14-16-3-19 OF THE CITY ZONING CODE.

LEGEND

5330	EXISTING CONTOUR – MAJOR
5332	EXISTING CONTOUR – MINOR
X5326.17	EXISTING SPOT ELEVATION
	EXISTING ADJOINER LINE
	NEW BOUNDARY LINE
	NEW LOT LINES
	NEW SIDEWALK
	NEW STANDARD CURB & GUTTER
	NEW MOUNTABLE CURB & GUTTER
	NEW RETAINING WALL – TO BE CONSTRUCTED AT THE TIME OF ROUGH GRADING
	FLOW DIRECTION ARROW
	NEW SIDEWALK CULVERT
FP=34.15	FINISHED PAD ELEVATION
89.10 •	NEW SPOT ELEVATION
90.00TW	NEW TOP OF WALL ELEVATION
90.00BW	NEW BOTTOM OF WALL ELEVATION
90.00BG	NEW BOTTOM GROUND ELEVATION
	EXISTING ROADWAY
	NEW CONCRETE IN LANDSCAPE STRIP

CERTIFICATE OF SUBSTANTIAL COMPLIANCE

MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
OFFICE (505) 828-2200, FAX (505) 797-9539

AS BUILT INFORMATION

CONTRACTOR		DATE
WORK STARTED BY		
INSPECTORS		
ACCEPTANCE BY		DATE
FIELD VERIFICATION BY		DATE
DRAWINGS CORRECTED BY		DATE

MICRO-FILM INFORMATION

RECORDED BY	DATE
NO.	

BENCH MARKS

AGRS Aluminum Cap stamped "2-A10 2003" From the intersection of Irving Boulevard NW and Koyenta Street NW, go north on Koyenta Street NW 0.20 miles to the station on the left, it is 339 feet south of the centerline of Burgos Avenue NW & 2.8 feet west of the west back of curb.
Geographic Position (in feet) NAD83
N.M. State Plane Coordinates (Central Zone)
N = 1530345.636, E = 1499909.436
Elevation (in feet) NAVD88 = 5362.970

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

DUANE THUELER — NEW MEXICO — 11969 — REGISTERED PROFESSIONAL ENGINEER — LICENSED LAND SURVEYOR

3-4-15

NO.	DATE	REMARKS	BY	
		REVISIONS		
		DESIGN	DLH	01/15
		DESIGNED BY	DLH	01/15
		DRAWN BY	DLH	01/15
		CHECKED BY	DMG	01/15

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

TITLE:
ANASAZI RIDGE UNIT 3
GRADING AND DRAINAGE PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.

CITY PROJECT NO.	ZONE MAP NO.	SHEET	OF
	A-10-Z	3.1	

F:\A13J0BS\A13039 ? Anasazi Ridge, Unit 3\GRADE & DRAIN\A13039-GD50-6.dwg, Last saved by: Dwayne, 3/4/2015

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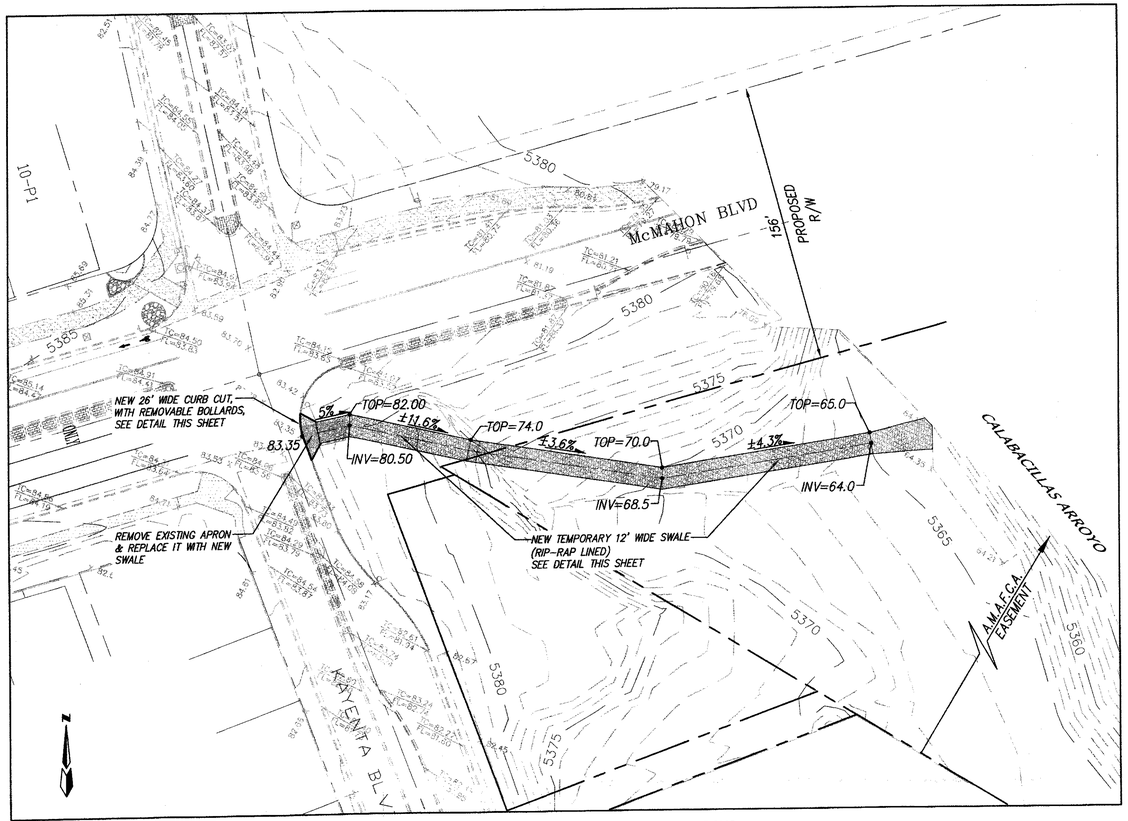
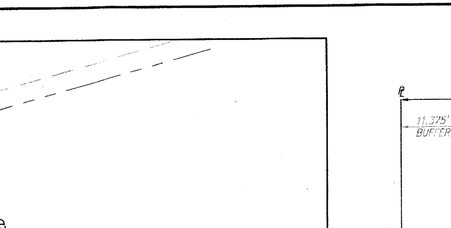


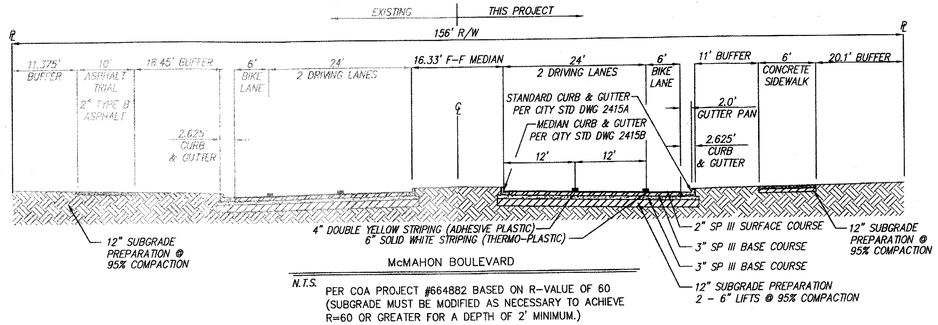
TEMPORARY SWALE OUTFALL TO CALABACILLAS ARROYO

SCALE: 1" =40'



TEMPORARY 12' SWALE DETAIL

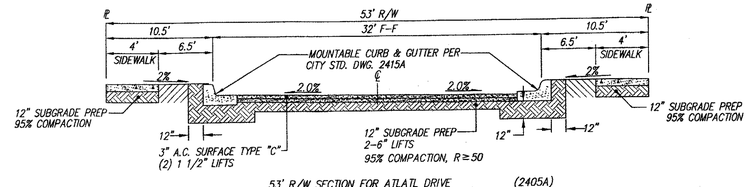
SCALE: 1"=5'



McMAHON BOULEVARD

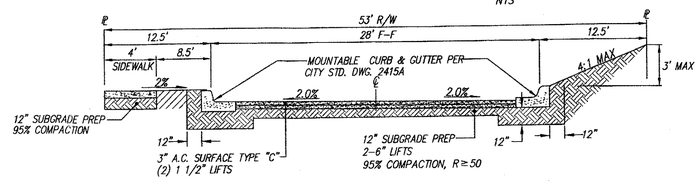
N.T.S.

PER COA PROJECT #664882 BASED ON R-VALUE OF 60 (SUBGRADE MUST BE MODIFIED AS NECESSARY TO ACHIEVE R=60 OR GREATER FOR A DEPTH OF 2' MINIMUM.)



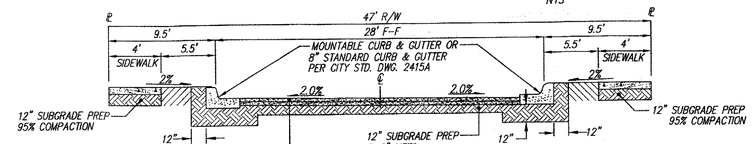
53' R/W SECTION FOR ATLATL DRIVE (2405A)

NTS



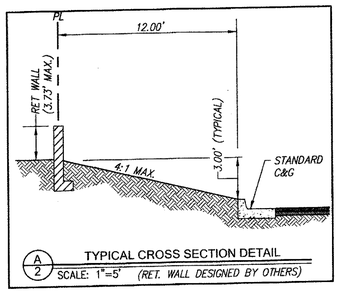
53' R/W SECTION FOR WESTSIDE BLVD. (2405A)

NTS



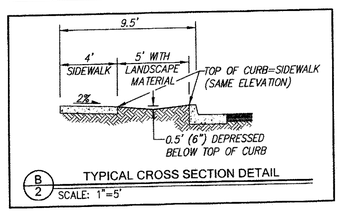
47' R/W SECTION FOR SIPAPU DRIVE & CANTY COURT (2405A)

NTS



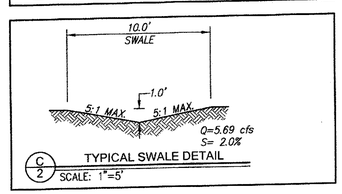
A 2 TYPICAL CROSS SECTION DETAIL

SCALE: 1"=5' (RET. WALL DESIGNED BY OTHERS)



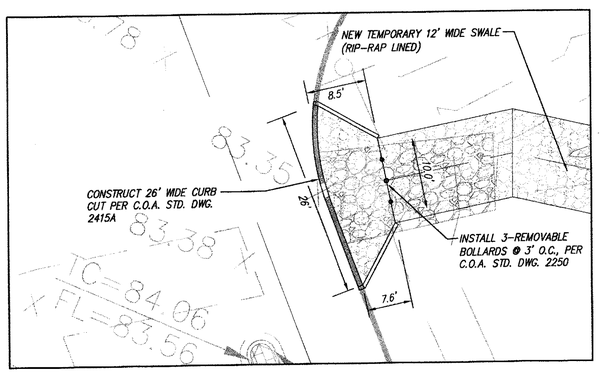
B 2 TYPICAL CROSS SECTION DETAIL

SCALE: 1"=5'



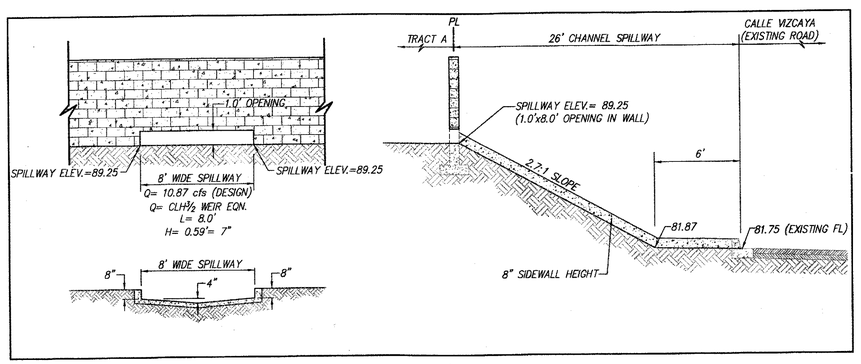
C 2 TYPICAL SWALE DETAIL

SCALE: 1"=5'



26' CURB CUT & SWALE ENTRANCE DETAIL

SCALE: 1" =10'



SPILLWAY & CONCRETE CHANNEL DETAIL - TRACT A

SCALE: 1" =5'

(CHANNEL CONSTRUCTION AT DRC PER C.O.A. STD. DWG #2260)

CERTIFICATE OF SUBSTANTIAL COMPLIANCE

dmg MARK GOODWIN & ASSOCIATES, P.A.
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P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
OFFICE (505) 828-2200, FAX (505) 797-9539

CITY OF ALBUQUERQUE
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CITY PROJECT NO.	ZONE MAP NO.	SHEET	OF
	A-10-Z	3.2	

F:\A13JOBS\A13039 ? Anasazi Ridge, Unit 3\GRADE & DRAIN\A13039-GD50-6.dwg, Last saved by: Dwayne, 3/4/2015

SURVEY INFORMATION

FIELD NOTES

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AS BUILT INFORMATION

CONTRACTOR

	DATE
WORK STARTED BY:	
ACCEPTANCE BY	
VERIFICATION BY	
DRAWINGS CORRECTED BY	

MICRO-FILM INFORMATION

RECORDED BY

NO.

ENGINEER'S SEAL

DWAYNE HOELZER NEW MEXICO 17981 REGISTERED PROFESSIONAL ENGINEER

3/4/15 6/9/15

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	DLH 01/15
			DLH 01/15
			DMG 01/15

DESIGNED BY DLH DATE 01/15

DRAWN BY DLH DATE 01/15

CHECKED BY DMG DATE 01/15

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