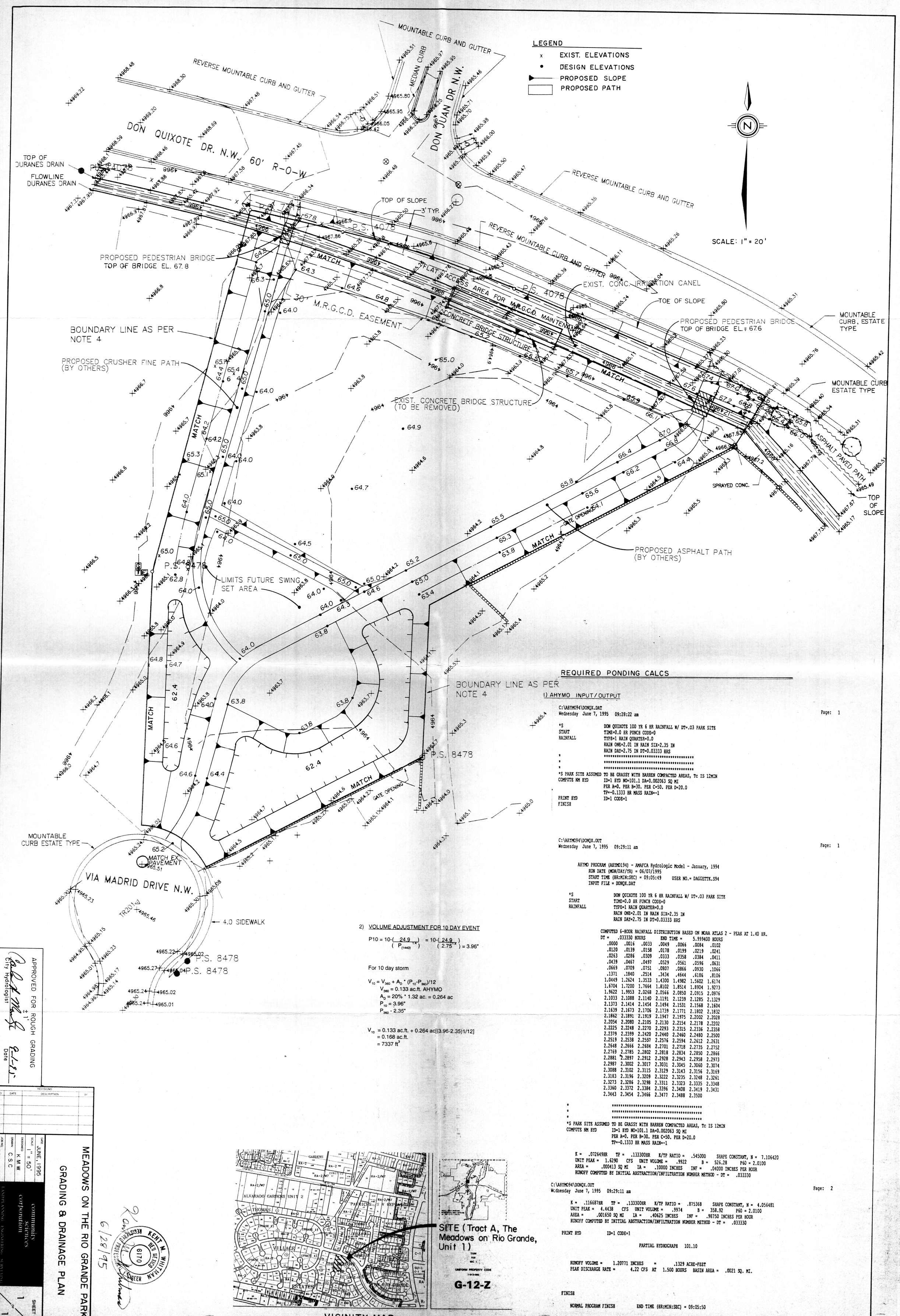


REQUIRED PONDING CALCS

1) AHYMO INPUT/OUTPUT

```
C:\AHYMO94\DONQX.DAT                                                    Page:  1
Wednesday  June 7, 1995   09:28:22 am

*S                DON QUIXOTE 100 YR 6 HR RAINFALL W/ DT=.03 PARK SITE
START             TIME=0.0 HR PUNCH CODE=0
RAINFALL          TYPE=1 RAIN QUARTER=0.0
                  RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                  RAIN DAY=2.75 IN DT=0.03333 HRS
*                 ****************************************
*                 ****************************************
*                 ****************************************
*S PARK SITE ASSUMED TO BE GRASSY WITH BARREN COMPACTED AREAS, Tc IS 12MIN
COMPUTE NM HYD    ID=1 HYD NO=101.1 DA=0.002063 SQ MI
                  PER A=0. PER B=30. PER C=50. PER D=20.0
                  TP=-0.1333 HR MASS RAIN=-1
PRINT HYD         ID=1 CODE=1
FINISH


C:\AHYMO94\DONQX.OUT                                                    Page:  1
Wednesday  June 7, 1995   09:29:11 am

     AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
          RUN DATE (MON/DAY/YR) = 06/07/1995
          START TIME (HR:MIN:SEC) = 09:05:49      USER NO.= DAGGETTK.S94
          INPUT FILE = DONQX.DAT

*S                DON QUIXOTE 100 YR 6 HR RAINFALL W/ DT=.03 PARK SITE
START             TIME=0.0 HR PUNCH CODE=0
RAINFALL          TYPE=1 RAIN QUARTER=0.0
                  RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                  RAIN DAY=2.75 IN DT=0.03333 HRS

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
DT =    .033330 HOURS       END TIME =     5.999400 HOURS
   .0000   .0016   .0033   .0049   .0066   .0084   .0102
   .0120   .0139   .0158   .0178   .0199   .0219   .0241
   .0263   .0286   .0309   .0333   .0358   .0384   .0411
   .0439   .0467   .0497   .0529   .0561   .0596   .0631
   .0669   .0709   .0751   .0807   .0866   .0930   .1066
   .1371   .1840   .2514   .3434   .4644   .6186   .8106
  1.0449  1.2624  1.3533  1.4300  1.4982  1.5602  1.6174
  1.6704  1.7200  1.7664  1.8102  1.8514  1.8904  1.9273
  1.9622  1.9953  2.0268  2.0566  2.0850  2.0915  2.0976
  2.1033  2.1088  2.1140  2.1191  2.1239  2.1285  2.1329
  2.1373  2.1414  2.1454  2.1494  2.1531  2.1568  2.1604
  2.1639  2.1673  2.1706  2.1739  2.1771  2.1802  2.1832
  2.1862  2.1891  2.1919  2.1947  2.1975  2.2002  2.2028
  2.2054  2.2080  2.2105  2.2130  2.2154  2.2178  2.2202
  2.2225  2.2248  2.2270  2.2293  2.2315  2.2336  2.2358
  2.2379  2.2399  2.2420  2.2440  2.2460  2.2480  2.2500
  2.2519  2.2538  2.2557  2.2576  2.2594  2.2612  2.2631
  2.2648  2.2666  2.2684  2.2701  2.2718  2.2735  2.2752
  2.2769  2.2785  2.2802  2.2818  2.2834  2.2850  2.2866
  2.2881  2.2897  2.2912  2.2928  2.2943  2.2958  2.2973
  2.2987  2.3002  2.3017  2.3031  2.3045  2.3060  2.3074
  2.3088  2.3102  2.3115  2.3129  2.3143  2.3156  2.3169
  2.3183  2.3196  2.3209  2.3222  2.3235  2.3248  2.3261
  2.3273  2.3286  2.3298  2.3311  2.3323  2.3335  2.3348
  2.3360  2.3372  2.3384  2.3396  2.3408  2.3419  2.3431
  2.3443  2.3454  2.3466  2.3477  2.3488  2.3500

*                 ****************************************
*                 ****************************************
*                 ****************************************
*S PARK SITE ASSUMED TO BE GRASSY WITH BARREN COMPACTED AREAS, Tc IS 12MIN
COMPUTE NM HYD    ID=1 HYD NO=101.1 DA=0.002063 SQ MI
                  PER A=0. PER B=30. PER C=50. PER D=20.0
                  TP=-0.1333 HR MASS RAIN=-1

   K =  .072649HR   TP =  .133300HR   K/TP RATIO =  .545000    SHAPE CONSTANT, N =  7.106420
   UNIT PEAK =  1.6290   CFS   UNIT VOLUME =   .9922      B =   526.28      P60 = 2.0100
   AREA =     .000413 SQ MI   IA =   .10000 INCHES   INF =   .04000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

C:\AHYMO94\DONQX.OUT                                                    Page:  2
Wednesday  June 7, 1995   09:29:11 am

   K =  .116687HR   TP =  .133300HR   K/TP RATIO =  .875368    SHAPE CONSTANT, N =  4.056481
   UNIT PEAK =  4.4438   CFS   UNIT VOLUME =   .9974      B =   358.92      P60 = 2.0100
   AREA =     .001650 SQ MI   IA =   .40625 INCHES   INF =   .98750 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

PRINT HYD         ID=1 CODE=1

                    PARTIAL HYDROGRAPH   101.10

   RUNOFF VOLUME =    1.20771 INCHES     =       .1329 ACRE-FEET
   PEAK DISCHARGE RATE =      4.22 CFS  AT   1.500 HOURS   BASIN AREA =   .0021 SQ. MI.


FINISH

   NORMAL PROGRAM FINISH        END TIME (HR:MIN:SEC) = 09:05:50
```

2) VOLUME ADJUSTMENT FOR 10 DAY EVENT

$$P10 = 10-\left(\frac{24.9}{P_{(1440)}^{1.4}}\right) = 10-\left(\frac{24.9}{2.75^{1.4}}\right) = 3.96"$$

For 10 day storm

$V_{10} = V_{360} + A_D * (P_{10}-P_{360})/12$

V_{360} = 0.133 ac.ft. AHYMO

A_D = 20% * 1.32 ac. = 0.264 ac

P_{10} = 3.96"

P_{360} - 2.35"

V_{10} = 0.133 ac.ft. + 0.264 ac[(3.96-2.35)1/12]

= 0.168 ac.ft.

= 7337 ft^3

VICINITY MAP
N.T.S.

APPROVED FOR ROUGH GRADING
± 1'
City Hydrologist
Date 6-7-95

REVISIONS			
NO	DATE	DESCRIPTION	BY
1			
2			
3			
4			

MEADOWS ON THE RIO GRANDE PARK

GRADING & DRAINAGE PLAN

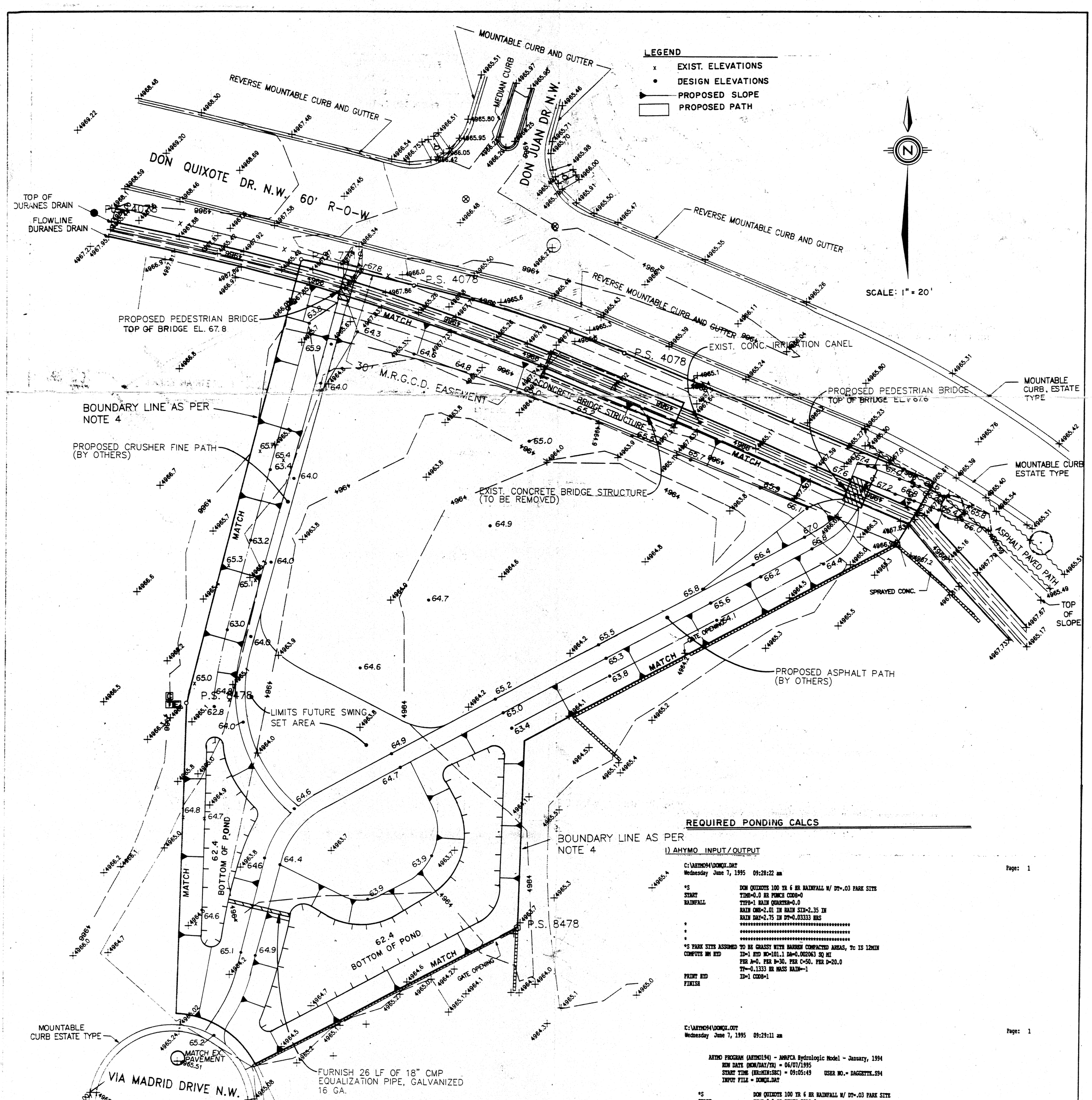
community sciences corporation

LAND PLANNING · ENGINEERING · SURVEYING
PO Box 1486 Corrales NM 87048 (505) 897-8833

DATE	JUNE, 1995
SCALE	1" = 50'
DESIGNED	K.M.W.
DRAWN	C.S.C.
JOB NO.	10506-605
SHEET	1 OF 1

KENT M. WHITMAN NEW MEXICO 6170 REGISTERED PROFESSIONAL ENGINEER

6/28/95



REQUIRED PONDING CALCS

1) AHYMO INPUT/OUTPUT

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C:\AHYMO94\DONQX.DAT                                                    Page:  1
Wednesday  June 7, 1995   09:28:22 am

*S              DON QUIXOTE 100 YR 6 HR RAINFALL W/ DT=.03 PARK SITE
START           TIME=0.0 HR PUNCH CODE=0
RAINFALL        TYPE=1 RAIN QUARTER=0.0
                RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                RAIN DAY=2.75 IN DT=0.03333 HRS
*               ****************************************
*               ****************************************
*               ****************************************
*S PARK SITE ASSUMED TO BE GRASSY WITH BARREN COMPACTED AREAS, Tc IS 12MIN
COMPUTE NM HYD  ID=1 HYD NO=101.1 DA=0.002063 SQ MI
                PER A=0. PER B=30. PER C=50. PER D=20.0
                TP=-0.1333 HR MASS RAIN=-1
PRINT HYD       ID=1 CODE=1
FINISH
```

```
C:\AHYMO94\DONQX.OUT                                                    Page:  1
Wednesday  June 7, 1995   09:29:11 am

     AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
          RUN DATE (MON/DAY/YR) = 06/07/1995
          START TIME (HR:MIN:SEC) = 09:05:49      USER NO.= DAGGETTK.S94
          INPUT FILE = DONQX.DAT

*S              DON QUIXOTE 100 YR 6 HR RAINFALL W/ DT=.03 PARK SITE
START           TIME=0.0 HR PUNCH CODE=0
RAINFALL        TYPE=1 RAIN QUARTER=0.0
                RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                RAIN DAY=2.75 IN DT=0.03333 HRS

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
DT =    .033330 HOURS       END TIME =     5.999400 HOURS
   .0000   .0016   .0033   .0049   .0066   .0084   .0102
   .0120   .0139   .0158   .0178   .0199   .0219   .0241
   .0263   .0286   .0309   .0333   .0358   .0384   .0411
   .0439   .0467   .0497   .0529   .0561   .0596   .0631
   .0669   .0709   .0751   .0807   .0866   .0930   .1066
   .1371   .1840   .2514   .3434   .4644   .6186   .8106
  1.0449  1.2624  1.3533  1.4300  1.4982  1.5602  1.6174
  1.6704  1.7200  1.7664  1.8102  1.8514  1.8904  1.9273
  1.9622  1.9953  2.0268  2.0566  2.0850  2.0915  2.0976
  2.1033  2.1088  2.1140  2.1191  2.1239  2.1285  2.1329
  2.1373  2.1414  2.1454  2.1494  2.1531  2.1568  2.1604
  2.1639  2.1673  2.1706  2.1739  2.1771  2.1802  2.1832
  2.1862  2.1891  2.1919  2.1947  2.1975  2.2002  2.2028
  2.2054  2.2080  2.2105  2.2130  2.2154  2.2178  2.2202
  2.2225  2.2248  2.2270  2.2293  2.2315  2.2336  2.2358
  2.2379  2.2399  2.2420  2.2440  2.2460  2.2480  2.2500
  2.2519  2.2538  2.2557  2.2576  2.2594  2.2612  2.2631
  2.2648  2.2666  2.2684  2.2701  2.2718  2.2735  2.2752
  2.2769  2.2785  2.2802  2.2818  2.2834  2.2850  2.2866
  2.2881  2.2897  2.2912  2.2928  2.2943  2.2958  2.2973
  2.2987  2.3002  2.3017  2.3031  2.3045  2.3060  2.3074
  2.3088  2.3102  2.3115  2.3129  2.3143  2.3156  2.3169
  2.3183  2.3196  2.3209  2.3222  2.3235  2.3248  2.3261
  2.3273  2.3286  2.3298  2.3311  2.3323  2.3335  2.3348
  2.3360  2.3372  2.3384  2.3396  2.3408  2.3419  2.3431
  2.3443  2.3454  2.3466  2.3477  2.3488  2.3500

*               ****************************************
*               ****************************************
*               ****************************************
*S PARK SITE ASSUMED TO BE GRASSY WITH BARREN COMPACTED AREAS, Tc IS 12MIN
COMPUTE NM HYD  ID=1 HYD NO=101.1 DA=0.002063 SQ MI
                PER A=0. PER B=30. PER C=50. PER D=20.0
                TP=-0.1333 HR MASS RAIN=-1

   K =  .072649HR   TP =  .133300HR   K/TP RATIO =  .545000   SHAPE CONSTANT, N =  7.106420
   UNIT PEAK =  1.6290   CFS   UNIT VOLUME =  .9922   B =  526.28   P60 = 2.0100
   AREA =  .000413 SQ MI   IA =  .10000 INCHES   INF =  .04000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  .033330

C:\AHYMO94\DONQX.OUT                                                    Page:  2
Wednesday  June 7, 1995   09:29:11 am

   K =  .116687HR   TP =  .133300HR   K/TP RATIO =  .875368   SHAPE CONSTANT, N =  4.056481
   UNIT PEAK =  4.4438   CFS   UNIT VOLUME =  .9974   B =  358.92   P60 = 2.0100
   AREA =  .001650 SQ MI   IA =  .40625 INCHES   INF =  .98750 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  .033330

PRINT HYD       ID=1 CODE=1

                    PARTIAL HYDROGRAPH   101.10

   RUNOFF VOLUME =  1.20771 INCHES   =  .1329 ACRE-FEET
   PEAK DISCHARGE RATE =  4.22 CFS  AT  1.500 HOURS  BASIN AREA =  .0021 SQ. MI.

FINISH

   NORMAL PROGRAM FINISH      END TIME (HR:MIN:SEC) = 09:05:50
```

2) VOLUME ADJUSTMENT FOR 10 DAY EVENT

$$P10 = 10-\left(\frac{24.9}{P_{(1440)}^{1/2}}\right) = 10-\left(\frac{24.9}{2.75^{1/2}}\right) = 3.96"$$

For 10 day storm

$V_{10} = V_{360} + A_D * (P_{10}-P_{360})/12$

V_{360} = 0.133 ac.ft. AHYMO

A_D = 20% * 1.32 ac. = 0.264 ac

P_{10} = 3.96"

P_{360} - 2.35"

V_{10} = 0.133 ac.ft. + 0.264 ac[(3.96 2.35)1/12]

= 0.168 ac.ft.

= 7337 ft^3

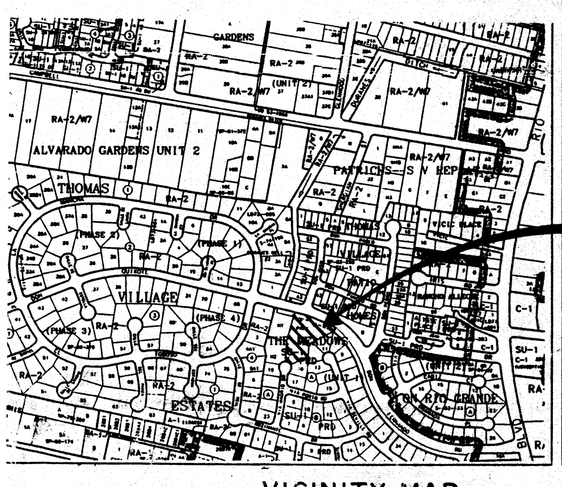
3) ADEQUACY OF PONDING AS SHOWN

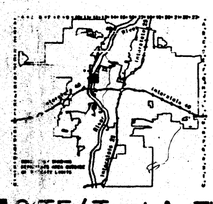
Bottom Area of Ponds (Total) = 4500 SF

Allowable Ponding Depth = 18"

Minimum Available Volume = 1.5 X 4900

= 7350 CF > 7337





SITE (Tract A, The Meadows on Rio Grande, Unit 1)

G-12-Z

VICINITY MAP

N.T.S.

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1			
2			
3			
4			

MEADOWS ON THE RIO GRANDE PARK

GRADING & DRAINAGE PLAN

DATE JUNE, 1995

SCALE 1" = 50'

DESIGNED K.M.W.

DRAWN C.S.C

JOB NO. 10506.605

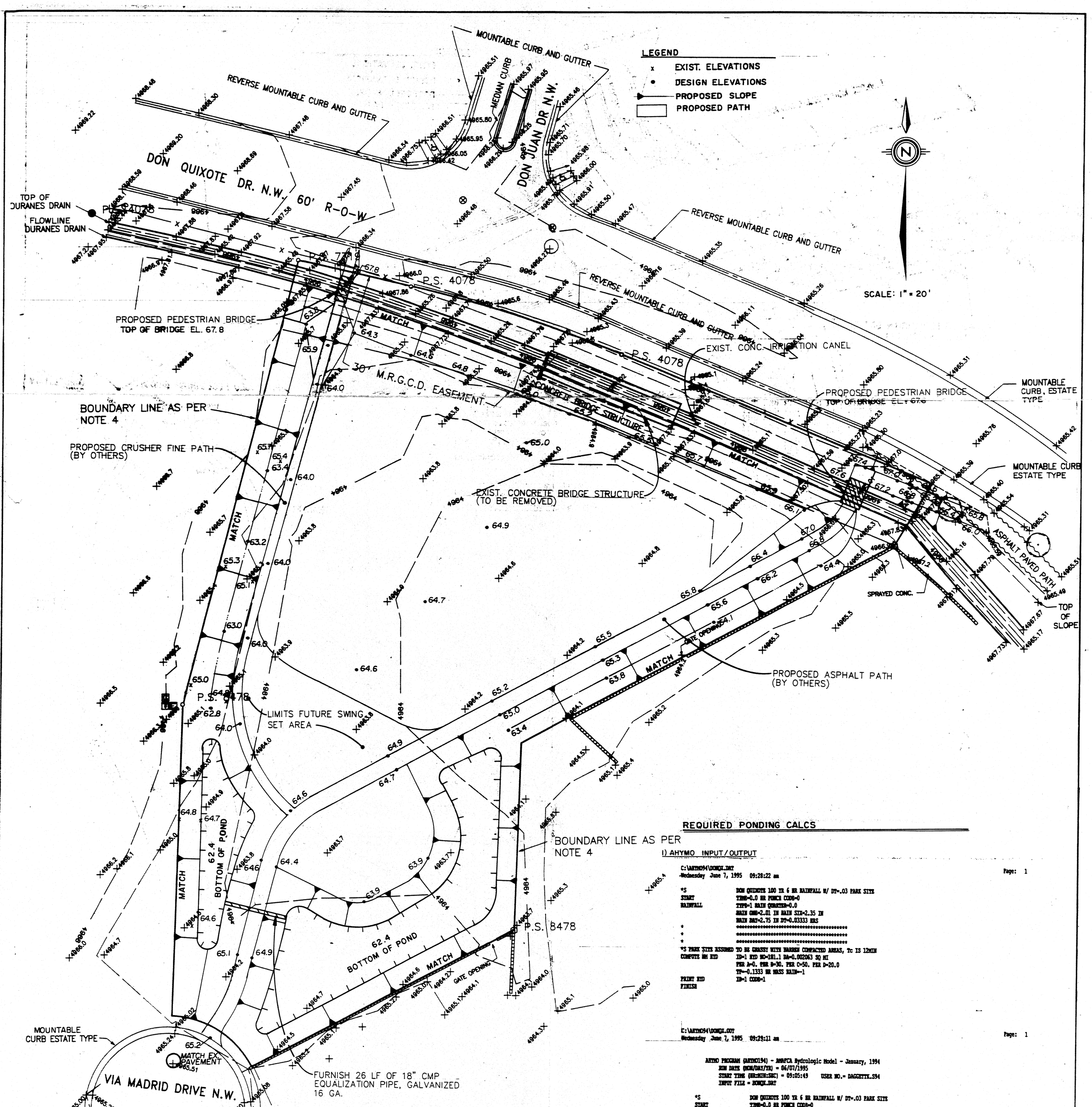
COMMUNITY SCIENCES CORPORATION

SHEET 1 OF 1

RECEIVED JUL 14 1995 HYDROLOGY

KENT M. WHITMAN NEW MEXICO 6170 PROFESSIONAL ENGINEER

6/28/95



REQUIRED PONDING CALCS

1) AHYMO INPUT/OUTPUT

```
C:\AHYMO94\DONQX.DAT                                                    Page:  1
Wednesday  June 7, 1995   09:28:22 am

*S              DON QUIXOTE 100 YR 6 HR RAINFALL W/ DT=.03 PARK SITE
START           TIME=0.0 HR PUNCH CODE=0
RAINFALL        TYPE=1 RAIN QUARTER=0.0
                RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                RAIN DAY=2.75 IN DT=0.03333 HRS
*               ****************************************
*               ****************************************
*               ****************************************
*S PARK SITE ASSUMED TO BE GRASSY WITH BARREN COMPACTED AREAS, Tc IS 12MIN
COMPUTE NM HYD  ID=1 HYD NO=101.1 DA=0.002063 SQ MI
                PER A=0. PER B=30. PER C=50. PER D=20.0
                TP=-0.1333 HR MASS RAIN=-1
PRINT HYD       ID=1 CODE=1
FINISH


C:\AHYMO94\DONQX.OUT                                                    Page:  1
Wednesday  June 7, 1995   09:29:11 am

AHYMO PROGRAM (AHYMO194) - ASAFCA Hydrologic Model - January, 1994
     RUN DATE (MON/DAY/YR) = 06/07/1995
     START TIME (HR:MIN:SEC) = 09:05:49     USER NO.= DAGGETTK.S94
     INPUT FILE = DONQX.DAT

*S              DON QUIXOTE 100 YR 6 HR RAINFALL W/ DT=.03 PARK SITE
START           TIME=0.0 HR PUNCH CODE=0
RAINFALL        TYPE=1 RAIN QUARTER=0.0
                RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                RAIN DAY=2.75 IN DT=0.03333 HRS

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
DT =    .033330 HOURS        END TIME =     5.999400 HOURS
   .0000   .0016   .0033   .0049   .0066   .0084   .0102
   .0120   .0139   .0158   .0178   .0199   .0219   .0241
   .0263   .0286   .0309   .0333   .0358   .0384   .0411
   .0439   .0467   .0497   .0529   .0561   .0596   .0631
   .0669   .0709   .0751   .0807   .0866   .0930   .1066
   .1371   .1840   .2514   .3434   .4644   .6186   .8106
  1.0449  1.2624  1.3533  1.4300  1.4982  1.5602  1.6174
  1.6704  1.7200  1.7664  1.8102  1.8514  1.8904  1.9273
  1.9622  1.9953  2.0268  2.0566  2.0850  2.0915  2.0976
  2.1033  2.1088  2.1140  2.1191  2.1239  2.1285  2.1329
  2.1373  2.1414  2.1454  2.1494  2.1531  2.1568  2.1604
  2.1639  2.1673  2.1706  2.1739  2.1771  2.1802  2.1832
  2.1862  2.1891  2.1919  2.1947  2.1975  2.2002  2.2028
  2.2054  2.2080  2.2105  2.2130  2.2154  2.2178  2.2202
  2.2225  2.2248  2.2270  2.2293  2.2315  2.2336  2.2358
  2.2379  2.2399  2.2420  2.2440  2.2460  2.2480  2.2500
  2.2519  2.2538  2.2557  2.2576  2.2594  2.2612  2.2631
  2.2648  2.2666  2.2684  2.2701  2.2718  2.2735  2.2752
  2.2769  2.2785  2.2802  2.2818  2.2834  2.2850  2.2866
  2.2881  2.2897  2.2912  2.2928  2.2943  2.2958  2.2973
  2.2987  2.3002  2.3017  2.3031  2.3045  2.3060  2.3074
  2.3088  2.3102  2.3115  2.3129  2.3143  2.3156  2.3169
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  2.3273  2.3286  2.3298  2.3311  2.3323  2.3335  2.3348
  2.3360  2.3372  2.3384  2.3396  2.3408  2.3419  2.3431
  2.3443  2.3454  2.3466  2.3477  2.3488  2.3500
*               ****************************************
*               ****************************************
*               ****************************************
*S PARK SITE ASSUMED TO BE GRASSY WITH BARREN COMPACTED AREAS, Tc IS 12MIN
COMPUTE NM HYD  ID=1 HYD NO=101.1 DA=0.002063 SQ MI
                PER A=0. PER B=30. PER C=50. PER D=20.0
                TP=-0.1333 HR MASS RAIN=-1

  K =  .072649HR   TP =  .133300HR   K/TP RATIO =  .545000   SHAPE CONSTANT, N =  7.106420
  UNIT PEAK =  1.6290   CFS   UNIT VOLUME =  .9922    B =  526.28    P60 = 2.0100
  AREA =    .000413 SQ MI   IA =  .10000 INCHES   INF =  .04000 INCHES PER HOUR
  RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  .033330

C:\AHYMO94\DONQX.OUT                                                    Page:  2
Wednesday  June 7, 1995   09:29:11 am

  K =  .116687HR   TP =  .133300HR   K/TP RATIO =  .875368   SHAPE CONSTANT, N =  4.056481
  UNIT PEAK =  4.4438   CFS   UNIT VOLUME =  .9974    B =  358.92    P60 = 2.0100
  AREA =    .001650 SQ MI   IA =  .40625 INCHES   INF =  .98750 INCHES PER HOUR
  RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  .033330

PRINT HYD       ID=1 CODE=1

                    PARTIAL HYDROGRAPH   101.10

  RUNOFF VOLUME =    1.20771 INCHES    =      .1329 ACRE-FEET
  PEAK DISCHARGE RATE =     4.22 CFS  AT  1.500 HOURS   BASIN AREA =  .0021 SQ. MI.

FINISH

  NORMAL PROGRAM FINISH        END TIME (HR:MIN:SEC) = 09:05:50
```

2) VOLUME ADJUSTMENT FOR 10 DAY EVENT

$$P10 = 10-\left(\frac{24.9}{P_{(1440)}^{1/4}}\right) = 10-\left(\frac{24.9}{2.75^{1/4}}\right) = 3.96"$$

For 10 day storm

$V_{10} = V_{360} + A_D * (P_{10}-P_{360})/12$

$V_{360} = 0.133$ ac.ft. AHYMO

$A_D = 20\% * 1.32$ ac. $= 0.264$ ac

$P_{10} = 3.96"$

$P_{360} - 2.35"$

$V_{10} = 0.133$ ac.ft. $+ 0.264$ ac[(3.96-2.35)1/12]

$= 0.168$ ac.ft.

$= 7337$ ft^3

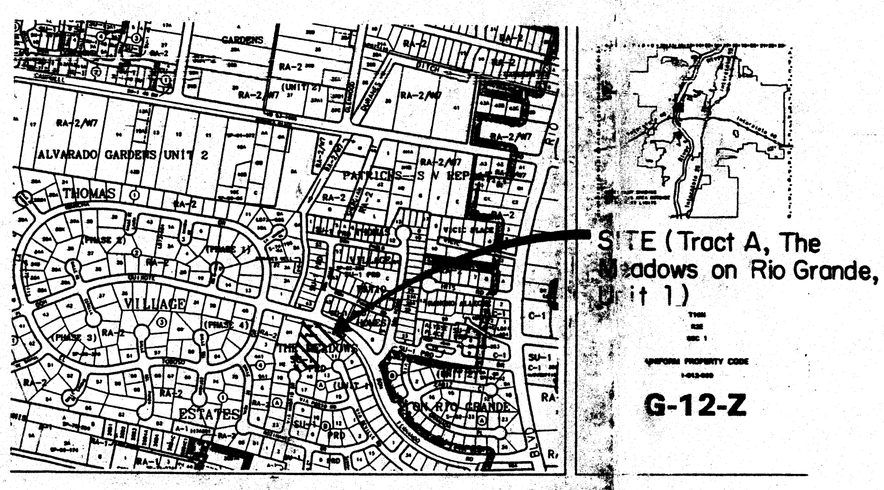
3) ADEQUACY OF PONDING AS SHOWN

Bottom Area of Ponds (Total) = 4900 SF

Allowable Ponding Depth = 18"

Minimum Available Volume = 1.5 X 4900

= 7350 CF > 7337



VICINITY MAP
N.T.S.

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1			
2			
3			
4			

MEADOWS ON THE RIO GRANDE PARK

GRADING & DRAINAGE PLAN

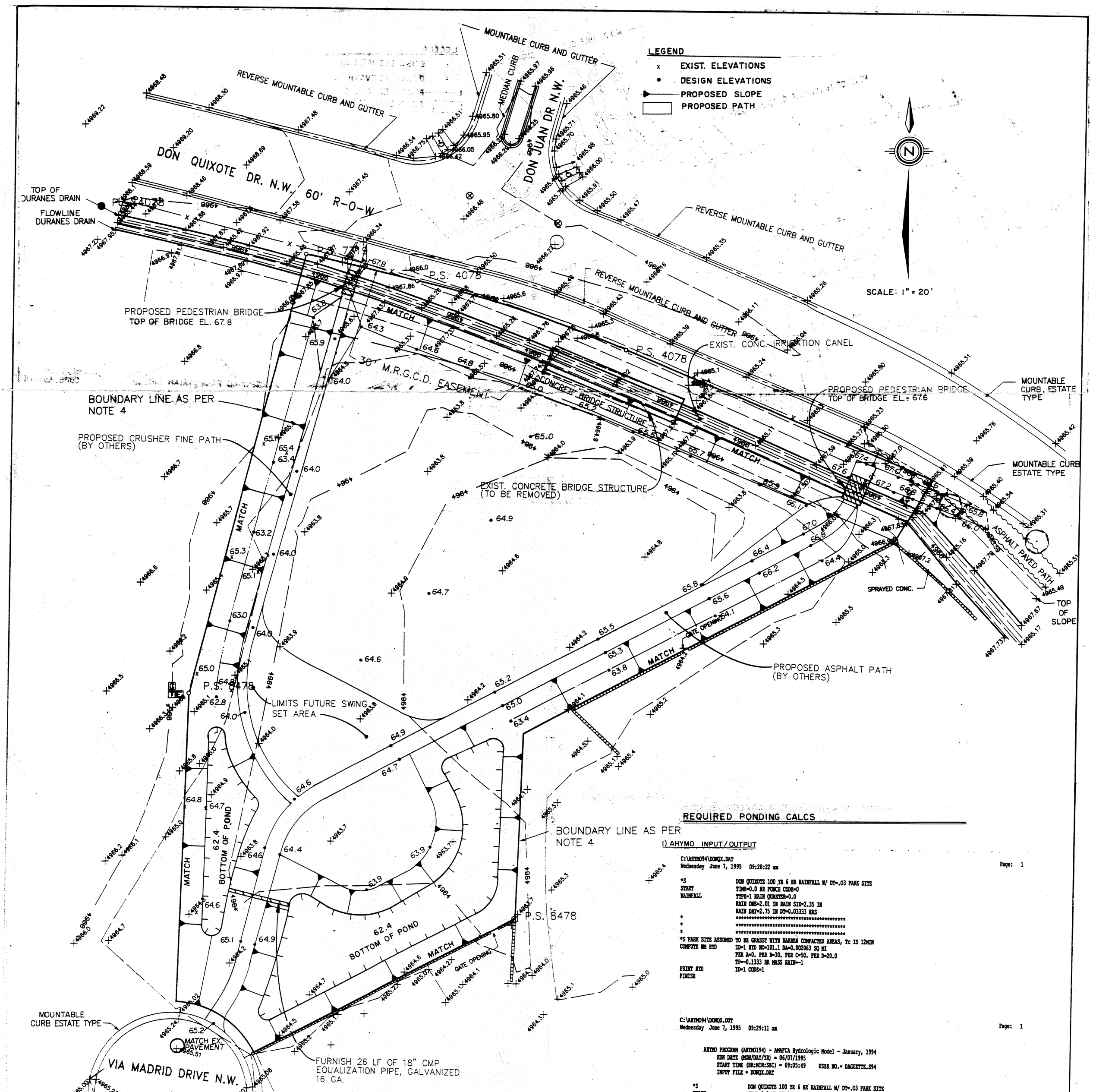
DATE: JUNE, 1995
SCALE: 1" = 50'
DESIGNED: K.M.W.
DRAWN: C.S.C
JOB NO. 94-006-005

SHEET 1 OF 1

RECEIVED JUL 14 1995 HYDROLOGY D.

KENT M. WHITMAN NEW MEXICO 6170 PROFESSIONAL ENGINEER

6/28/95



REQUIRED PONDING CALCS

1) AHYMO INPUT/OUTPUT

```
C:\AHYMO94\DONQX.DAT                                                    Page:  1
Wednesday  June 7, 1995   09:28:22 am

*S              DON QUIXOTE 100 YR 6 HR RAINFALL W/ DT=.03 PARK SITE
START           TIME=0.0 HR PUNCH CODE=0
RAINFALL        TYPE=1 RAIN QUARTER=0.0
                RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                RAIN DAY=2.75 IN DT=0.03333 HRS
*               ******************************************
*               ******************************************
*               ******************************************
*S PARK SITE ASSUMED TO BE GRASSY WITH BARREN COMPACTED AREAS, Tc IS 12MIN
COMPUTE NM HYD  ID=1 HYD NO=101.1 DA=0.002063 SQ MI
                PER A=0. PER B=30. PER C=50. PER D=20.0
                TP=-0.1333 HR MASS RAIN=-1
PRINT HYD       ID=1 CODE=1
FINISH


C:\AHYMO94\DONQX.OUT                                                    Page:  1
Wednesday  June 7, 1995   09:29:11 am

     AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
          RUN DATE (MON/DAY/YR) = 06/07/1995
          START TIME (HR:MIN:SEC) = 09:05:49     USER NO.= DAGGETTK.S94
          INPUT FILE = DONQX.DAT

*S              DON QUIXOTE 100 YR 6 HR RAINFALL W/ DT=.03 PARK SITE
START           TIME=0.0 HR PUNCH CODE=0
RAINFALL        TYPE=1 RAIN QUARTER=0.0
                RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                RAIN DAY=2.75 IN DT=0.03333 HRS

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
DT =    .033330 HOURS      END TIME =    5.999400 HOURS
   .0000   .0016   .0033   .0049   .0066   .0084   .0102
   .0120   .0139   .0158   .0178   .0199   .0219   .0241
   .0263   .0286   .0309   .0333   .0358   .0384   .0411
   .0439   .0467   .0497   .0529   .0561   .0596   .0631
   .0669   .0709   .0751   .0807   .0866   .0930   .1066
   .1371   .1840   .2514   .3434   .4644   .6186   .8106
  1.0449  1.2624  1.3533  1.4300  1.4982  1.5602  1.6174
  1.6704  1.7200  1.7664  1.8102  1.8514  1.8904  1.9273
  1.9622  1.9953  2.0268  2.0566  2.0850  2.0915  2.0976
  2.1033  2.1088  2.1140  2.1191  2.1239  2.1285  2.1329
  2.1373  2.1414  2.1454  2.1494  2.1531  2.1568  2.1604
  2.1639  2.1673  2.1706  2.1739  2.1771  2.1802  2.1832
  2.1862  2.1891  2.1919  2.1947  2.1975  2.2002  2.2028
  2.2054  2.2080  2.2105  2.2130  2.2154  2.2178  2.2202
  2.2225  2.2248  2.2270  2.2293  2.2315  2.2336  2.2358
  2.2379  2.2399  2.2420  2.2440  2.2460  2.2480  2.2500
  2.2519  2.2538  2.2557  2.2576  2.2594  2.2612  2.2631
  2.2648  2.2666  2.2684  2.2701  2.2718  2.2735  2.2752
  2.2769  2.2785  2.2802  2.2818  2.2834  2.2850  2.2866
  2.2881  2.2897  2.2912  2.2928  2.2943  2.2958  2.2973
  2.2987  2.3002  2.3017  2.3031  2.3045  2.3060  2.3074
  2.3088  2.3102  2.3115  2.3129  2.3143  2.3156  2.3169
  2.3183  2.3196  2.3209  2.3222  2.3235  2.3248  2.3261
  2.3273  2.3286  2.3298  2.3311  2.3323  2.3335  2.3348
  2.3360  2.3372  2.3384  2.3396  2.3408  2.3419  2.3431
  2.3443  2.3454  2.3466  2.3477  2.3488  2.3500

*               ******************************************
*               ******************************************
*               ******************************************
*S PARK SITE ASSUMED TO BE GRASSY WITH BARREN COMPACTED AREAS, Tc IS 12MIN
COMPUTE NM HYD  ID=1 HYD NO=101.1 DA=0.002063 SQ MI
                PER A=0. PER B=30. PER C=50. PER D=20.0
                TP=-0.1333 HR MASS RAIN=-1

  K =  .072649HR   TP =  .133300HR   K/TP RATIO =  .545000   SHAPE CONSTANT, N =  7.106420
  UNIT PEAK =  1.6290   CFS   UNIT VOLUME =  .9922     B =  526.28     P60 = 2.0100
  AREA =     .000413 SQ MI   IA =   .10000 INCHES   INF =   .04000 INCHES PER HOUR
  RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  .033330

C:\AHYMO94\DONQX.OUT                                                    Page:  2
Wednesday  June 7, 1995   09:29:11 am

  K =  .116687HR   TP =  .133300HR   K/TP RATIO =  .875368   SHAPE CONSTANT, N =  4.056481
  UNIT PEAK =  4.4438   CFS   UNIT VOLUME =  .9974     B =  358.92     P60 = 2.0100
  AREA =     .001650 SQ MI   IA =   .40625 INCHES   INF =   .98750 INCHES PER HOUR
  RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  .033330

PRINT HYD          ID=1 CODE=1

                    PARTIAL HYDROGRAPH   101.10

  RUNOFF VOLUME =   1.20771 INCHES   =    .1329 ACRE-FEET
  PEAK DISCHARGE RATE =    4.22 CFS  AT  1.500 HOURS   BASIN AREA =  .0021 SQ. MI.

FINISH

NORMAL PROGRAM FINISH        END TIME (HR:MIN:SEC) = 09:05:50
```

2) VOLUME ADJUSTMENT FOR 10 DAY EVENT

$$P10 = 10\text{-}\left(\frac{24.9}{P_{(1440)}^{1/4}}\right) = 10\text{-}\left(\frac{24.9}{2.75^{1/4}}\right) = 3.96"$$

For 10 day storm

$V_{10} = V_{360} + A_D * (P_{10}-P_{360})/12$

$V_{360} = 0.133$ ac.ft. AHYMO

$A_D = 20\% * 1.32$ ac. $= 0.264$ ac

$P_{10} = 3.96"$

$P_{360} = 2.35"$

$V_{10} = 0.133$ ac.ft. $+ 0.264$ ac[(3.96-2.35)1/12]

$= 0.168$ ac.ft.

$= 7337$ ft^3

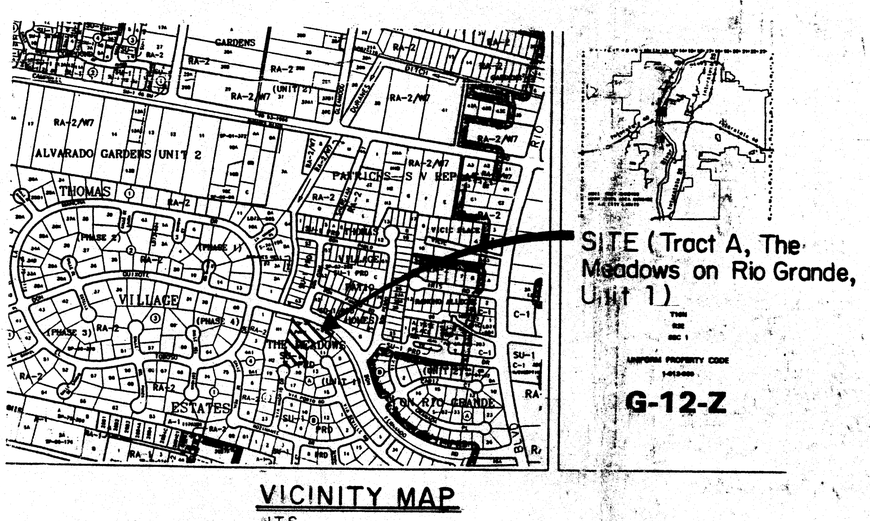
3) ADEQUACY OF PONDING AS SHOWN

Bottom Area of Ponds (Total) = 4900 SF

Allowable Ponding Depth = 18"

Minimum Available Volume = 1.5 X 4900

= 7350 CF > 7337



VICINITY MAP

N.T.S.

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1			
2			
3			
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MEADOWS ON THE RIO GRANDE PARK

GRADING & DRAINAGE PLAN

DATE: JUNE, 1995
SCALE: 1" = 50'
DESIGNED: K.M.W.
DRAWN: C.S.C.
JOB NO. 10506-605
SHEET 1 OF 1

RECEIVED JUL 14 1995 HYDROLOGY DIV.

KENT M. WHITMAN NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 6170

6/28/95