CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Interim Director

Mayor Timothy M. Keller

August 14, 2019

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

RE: Solare Charter School
Grading and Drainage Plan
Engineer's Stamp Date: 08/06/19
Hydrology File: M09D031

Dear Mr. Goodwin:

Based upon the information provided in your submittal received 08/06/2019, the Grading & Drainage Plan and Drainage Report is approved for Building Permit, Grading Permit, Work Order, and for action by the DRB on Site Plan for Building Permit.

Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter. Prior to approval in support of Permanent Release of Occupancy by Hydrology, Engineer Certification per the DPM checklist will be required.

As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Dough Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

Also as a reminder, please provide two separate Drainage Covenants for the stormwater quality pond and the temporary retention ponds per Chapter 17 of the DPM prior to Permanent Release of Occupancy. Please submit this on the 4th floor of Plaza de Sol. A $25 fee will be required.

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 Box 1293

Albuquerque

NM 87103

www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV6/2018)

Project Title: Solare Charter School Building Permit #: _____ Hydrology File #: _____

DRB#: PR-2019-002042 EPC#: _____ Work Order#: _____

Legal Description: Tract 12-B-1-A and 12-B-1-B, El Rancho Grande Unit 1

City Address: Gibson Blvd. and Barbados

Applicant: Solare Collegiate Foundation Contact Peter Lorenz

Address: 1720 Bride Blvd SW, Albuquerque, NM 87105

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

Other Contact: Mark Goodwin & Associates, PA Contact: Hiram Crook

Address: PO BOX 90606, Albuquerque, NM 87199

Phone#: 828.2200 Fax#: _____ E-mail: hiram@goodwinengineers.com

TYPE OF DEVELOPMENT: 2 PLAT (# of lots) _____ RESIDENCE ____ DRB SITE ____ ADMIN SITE

IS THIS A RESUBMITTAL? X Yes _____ No

DEPARTMENT _____ TRANSPORTATION X HYDROLOGY/DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

____ ENGINEER/ARCHITECT CERTIFICATION
____ PAD CERTIFICATION
____ CONCEPTUAL G & D PLAN
X GRADING PLAN
____ DRAINAGE REPORT
____ DRAINAGE MASTER PLAN
____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
____ ELEVATION CERTIFICATE
____ CLOMR/LOMR
____ TRAFFIC CIRCULATION LAYOUT (TCL)
____ TRAFFIC IMPACT STUDY (TIS)
____ STREET LIGHT LAYOUT
____ OTHER (SPECIFY) _____
____ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

X BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY

____ PRELIMINARY PLAT APPROVAL
____ SITE PLAN FOR SUB'D APPROVAL
____ SITE PLAN FOR BLDG. PERMIT APPROVAL
____ FINAL PLAT APPROVAL

____ SIA/ RELEASE OF FINANCIAL GUARANTEE
____ FOUNDATION PERMIT APPROVAL
____ GRADING PERMIT APPROVAL
____ SO-19 APPROVAL
____ PAVING PERMIT APPROVAL
____ GRADING/ PAD CERTIFICATION
____ WORK ORDER APPROVAL
____ CLOMR/LOMR
____ FLOODPLAIN DEVELOPMENT PERMIT
____ OTHER (SPECIFY) _____

DATE SUBMITTED: 08/6/2019 By: Hiram Crook

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV6/2018)

Project Title: Solare Charter School Building Permit #: _____ Hydrology File #: _____

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TYPE OF DEVELOPMENT: 2 PLAT (# of lots) _____ RESIDENCE ____ DRB SITE ____ ADMIN SITE

IS THIS A RESUBMITTAL? X Yes _____ No

DEPARTMENT _____ TRANSPORTATION X HYDROLOGY/DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

____ ENGINEER/ARCHITECT CERTIFICATION
____ PAD CERTIFICATION
____ CONCEPTUAL G & D PLAN
X GRADING PLAN
____ DRAINAGE REPORT
____ DRAINAGE MASTER PLAN
____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
____ ELEVATION CERTIFICATE
____ CLOMR/LOMR
____ TRAFFIC CIRCULATION LAYOUT (TCL)
____ TRAFFIC IMPACT STUDY (TIS)
____ STREET LIGHT LAYOUT
____ OTHER (SPECIFY) _____
____ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

X BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY

____ PRELIMINARY PLAT APPROVAL
____ SITE PLAN FOR SUB'D APPROVAL
____ SITE PLAN FOR BLDG. PERMIT APPROVAL
____ FINAL PLAT APPROVAL

____ SIA/ RELEASE OF FINANCIAL GUARANTEE
____ FOUNDATION PERMIT APPROVAL
____ GRADING PERMIT APPROVAL
____ SO-19 APPROVAL
____ PAVING PERMIT APPROVAL
____ GRADING/ PAD CERTIFICATION
____ WORK ORDER APPROVAL
____ CLOMR/LOMR
____ FLOODPLAIN DEVELOPMENT PERMIT
____ OTHER (SPECIFY) _____

DATE SUBMITTED: 08/6/2019 By: Hiram Crook

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Aug 5 2019

5:1 SWALE

Triangular

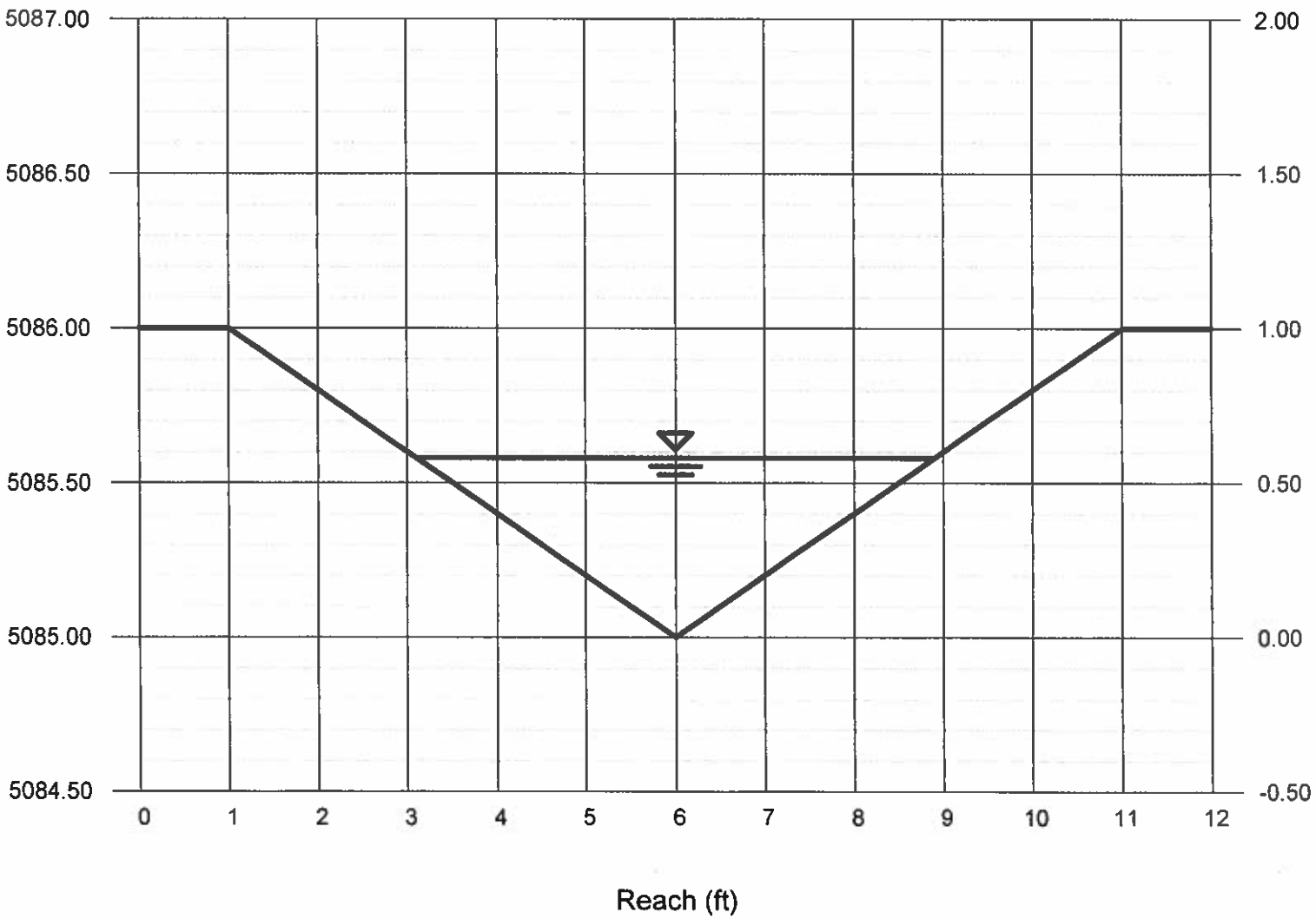
Side Slopes (z:1)	= 5.00, 5.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 5085.00
Slope (%)	= 4.50
N-Value	= 0.033

Calculations

Compute by:	Known Q
Known Q (cfs)	= 6.75

Highlighted

Depth (ft)	= 0.58
Q (cfs)	= 6.750
Area (sqft)	= 1.68
Velocity (ft/s)	= 4.01
Wetted Perim (ft)	= 5.91
Crit Depth, Yc (ft)	= 0.65
Top Width (ft)	= 5.80
EGL (ft)	= 0.83



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Aug 5 2019

TRACT 12-B-1-B (SOLARE) 24 IN PVC PIPE

Circular

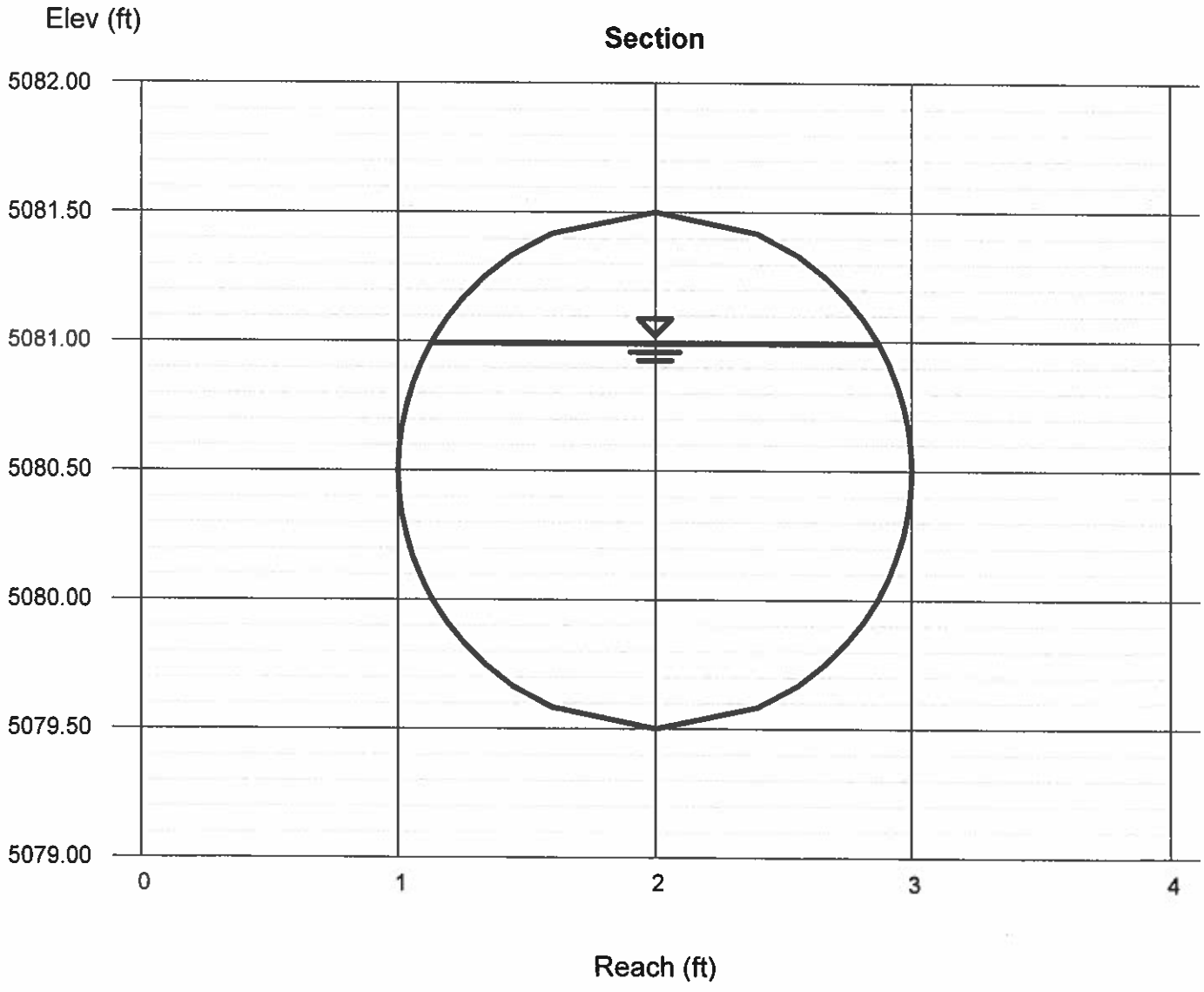
Diameter (ft)	= 2.00
Invert Elev (ft)	= 5079.50
Slope (%)	= 2.50
N-Value	= 0.025

Calculations

Compute by:	Known Q
Known Q (cfs)	= 16.75

Highlighted

Depth (ft)	= 1.49
Q (cfs)	= 16.75
Area (sqft)	= 2.51
Velocity (ft/s)	= 6.66
Wetted Perim (ft)	= 4.17
Crit Depth, Yc (ft)	= 1.48
Top Width (ft)	= 1.74
EGL (ft)	= 2.18



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Aug 5 2019

TRACT 12-B-1-A 24 IN PVC PIPE

Circular

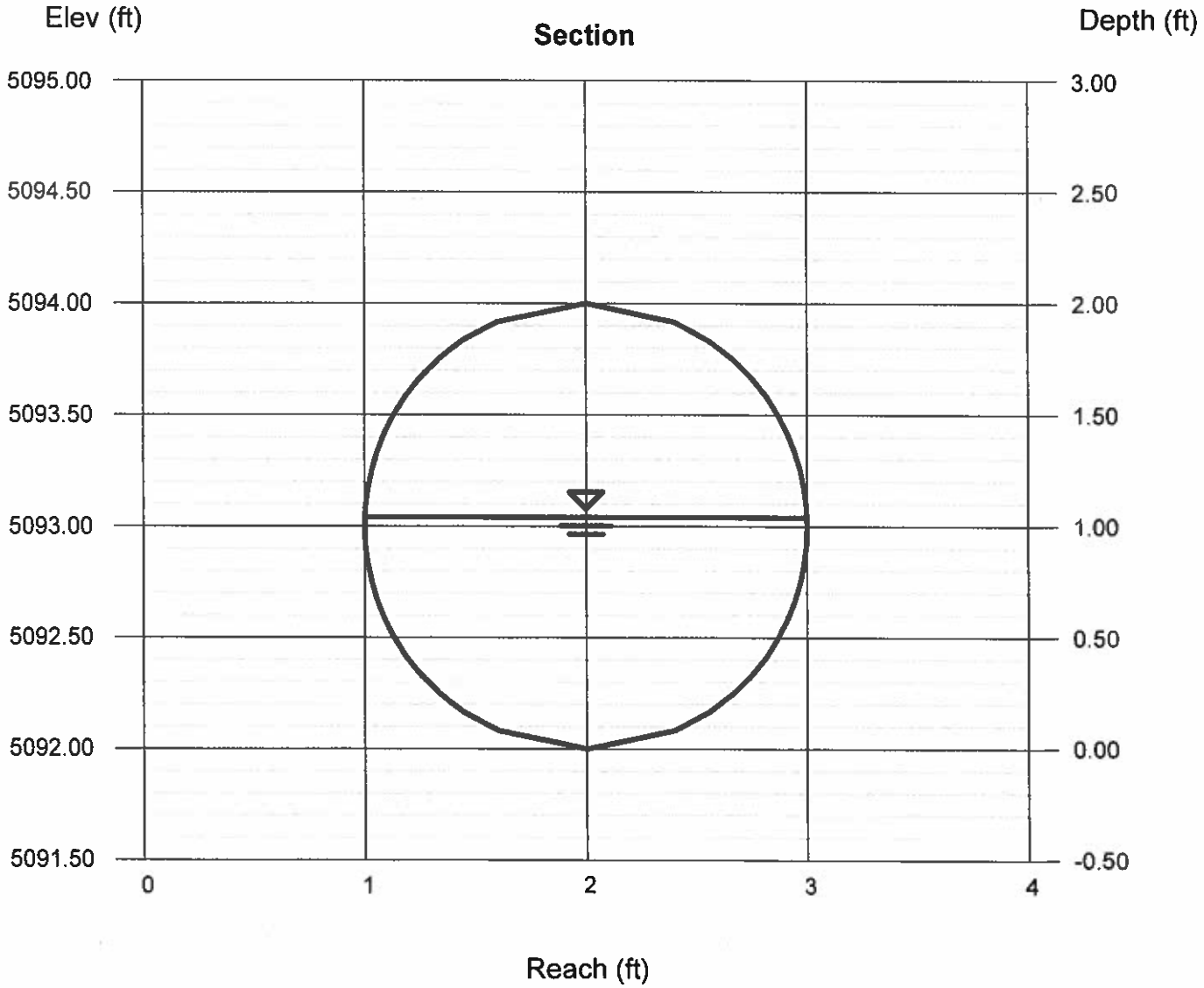
Diameter (ft)	= 2.00
Invert Elev (ft)	= 5092.00
Slope (%)	= 4.50
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 25.60

Highlighted

Depth (ft)	= 1.04
Q (cfs)	= 25.60
Area (sqft)	= 1.66
Velocity (ft/s)	= 15.43
Wetted Perim (ft)	= 3.23
Crit Depth, Yc (ft)	= 1.78
Top Width (ft)	= 2.00
EGL (ft)	= 4.74



(s16.67h8.5v0T&l8D Solare _ Phase 1 Basin 100

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      AHYMO PROGRAM (AHYMO-S4)                    - Version: S4.01a - Rel: 01a
           RUN DATE (MON/DAY/YR) = 08/06/2019
           START TIME (HR:MIN:SEC) = 08:20:36     USER NO.= M-GoodwinNMSiteA90075759
           INPUT FILE = F:\1-Projects\2019\A19002 - Solare Middle School\HYDROLOGY\SOLARE_PH1_101.txt

   START                0.0 HRS  PUNCH CODE=0  PRINT LINES=-6
   *S*********************************************************
   *S                   SOLARE CHARTER SCHOOL_PHASE 1_BASIN101
   *S                   100 YEAR 24-HR STORM EVENT
   *S
   *S                   FILE: SOLARE.DAT
   *S                   LAST REVISED: 5-18-15
   *S                   NOAA ATLAS 14, VOL I ZONE: A 10
   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=1.79 IN RAIN SIX=2.28 IN
                        RAIN DAY=2.58 IN DT=0.0333 HRS

                  6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
                  DT =   0.033300 HOURS       END TIME =     5.994000 HOURS
                    0.0000  0.0022  0.0043  0.0066  0.0090  0.0114  0.0141
                    0.0168  0.0196  0.0227  0.0257  0.0324  0.0392  0.0463
                    0.0538  0.0614  0.0695  0.0777  0.0861  0.0946  0.1032
                    0.1121  0.1211  0.1305  0.1405  0.1505  0.1616  0.1729
                    0.1869  0.2042  0.2214  0.2443  0.2674  0.2948  0.3272
                    0.3595  0.4074  0.4560  0.5208  0.6046  0.6884  0.9060
                    1.1292  1.3069  1.4306  1.5543  1.6193  1.6814  1.7332
                    1.7723  1.8115  1.8392  1.8664  1.8903  1.9102  1.9300
                    1.9453  1.9604  1.9734  1.9840  1.9945  2.0040  2.0135
                    2.0222  2.0300  2.0379  2.0452  2.0524  2.0595  2.0665
                    2.0735  2.0770  2.0803  2.0835  2.0867  2.0898  2.0928
                    2.0957  2.0986  2.1015  2.1043  2.1071  2.1099  2.1126
                    2.1152  2.1178  2.1203  2.1228  2.1253  2.1278  2.1303
                    2.1326  2.1349  2.1373  2.1395  2.1418  2.1440  2.1463
                    2.1485  2.1506  2.1527  2.1548  2.1569  2.1589  2.1609
                    2.1630  2.1650  2.1670  2.1689  2.1709  2.1728  2.1747
                    2.1766  2.1785  2.1804  2.1823  2.1841  2.1859  2.1877
                    2.1895  2.1913  2.1931  2.1949  2.1966  2.1984  2.2001
                    2.2018  2.2035  2.2052  2.2068  2.2085  2.2102  2.2118
                    2.2134  2.2151  2.2167  2.2183  2.2198  2.2214  2.2230
                    2.2245  2.2261  2.2276  2.2292  2.2307  2.2322  2.2337
```

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                2.2352  2.2366  2.2381  2.2396  2.2410  2.2425  2.2439
                2.2453  2.2468  2.2482  2.2496  2.2510  2.2523  2.2537
                2.2551  2.2565  2.2578  2.2592  2.2605  2.2618  2.2632
                2.2645  2.2658  2.2671  2.2684  2.2697  2.2710  2.2722
                2.2735  2.2748  2.2760  2.2773  2.2785  2.2800

*S************************************************************
*** ********************
*S  TOTAL SITE
*S  DEVELOPED CONDITIONS
*** ********************
*** BASIN 101
*** AREA = 1.76 ACRES
*** AREA = .00275
*** ******************
COMPUTE NM HYD       ID=1  HYD NO=100 AREA= 0.00275SQ MI
                     PER A=10 PER B=20  PER C=15  PER D=50
                     TP=-0.13333 HR  MASS RAIN=-1
     *****WARNING*****  SUM OF TREATMENT TYPES DOES NOT EQUAL 100 PERCENT OR TOTAL AREA


     K =  0.072665HR    TP =  0.133330HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   5.7130    CFS   UNIT VOLUME =   0.9972       B =   526.28      P60 = 1.7900
     AREA =     0.001447 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033300


     K =  0.130684HR    TP =  0.133330HR    K/TP RATIO =  0.980156     SHAPE CONSTANT, N =  3.602759
     UNIT PEAK =   3.2022    CFS   UNIT VOLUME =   0.9961       B =   327.76      P60 = 1.7900
     AREA =     0.001303 SQ MI    IA =   0.48333 INCHES    INF =   1.20333 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033300

PRINT HYD            ID=1 CODE=1

                                  PARTIAL HYDROGRAPH   100.00


    RUNOFF VOLUME =     1.45809 INCHES     =       0.2139 ACRE-FEET
    PEAK DISCHARGE RATE =       6.73 CFS  AT   1.532 HOURS   BASIN AREA =  0.0028 SQ. MI.



*
FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 08:20:36
(s0p10h4099T&l6D
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-(s16.67h8.5v0T~&l8D

Solare_ Phase 1 _ Basin 101

```
      AHYMO PROGRAM (AHYMO-S4)                    - Version: S4.01a - Rel: 01a
           RUN DATE (MON/DAY/YR) = 08/06/2019
           START TIME (HR:MIN:SEC) = 08:14:58     USER NO.= M-GoodwinNMSiteA90075759
           INPUT FILE = F:\1-Projects\2019\A19002 - Solare Middle School\HYDROLOGY\SOLARE_PH1.txt

START                0.0 HRS  PUNCH CODE=0  PRINT LINES=-6
*S*****************************************************
*S                   SOLARE CHARTER SCHOOL_PHASE 1
*S                   100 YEAR 24-HR STORM EVENT
*S
*S                   FILE: SOLARE.DAT
*S                   LAST REVISED: 5-18-15
*S                   NOAA ATLAS 14, VOL I ZONE: A 10
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=1.79 IN RAIN SIX=2.28 IN
                     RAIN DAY=2.58 IN DT=0.0333 HRS

               6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
               DT =   0.033300 HOURS       END TIME =     5.994000 HOURS
                 0.0000  0.0022  0.0043  0.0066  0.0090  0.0114  0.0141
                 0.0168  0.0196  0.0227  0.0257  0.0324  0.0392  0.0463
                 0.0538  0.0614  0.0695  0.0777  0.0861  0.0946  0.1032
                 0.1121  0.1211  0.1305  0.1405  0.1505  0.1616  0.1729
                 0.1869  0.2042  0.2214  0.2443  0.2674  0.2948  0.3272
                 0.3595  0.4074  0.4560  0.5208  0.6046  0.6884  0.9060
                 1.1292  1.3069  1.4306  1.5543  1.6193  1.6814  1.7332
                 1.7723  1.8115  1.8392  1.8664  1.8903  1.9102  1.9300
                 1.9453  1.9604  1.9734  1.9840  1.9945  2.0040  2.0135
                 2.0222  2.0300  2.0379  2.0452  2.0524  2.0595  2.0665
                 2.0735  2.0770  2.0803  2.0835  2.0867  2.0898  2.0928
                 2.0957  2.0986  2.1015  2.1043  2.1071  2.1099  2.1126
                 2.1152  2.1178  2.1203  2.1228  2.1253  2.1278  2.1303
                 2.1326  2.1349  2.1373  2.1395  2.1418  2.1440  2.1463
                 2.1485  2.1506  2.1527  2.1548  2.1569  2.1589  2.1609
                 2.1630  2.1650  2.1670  2.1689  2.1709  2.1728  2.1747
                 2.1766  2.1785  2.1804  2.1823  2.1841  2.1859  2.1877
                 2.1895  2.1913  2.1931  2.1949  2.1966  2.1984  2.2001
                 2.2018  2.2035  2.2052  2.2068  2.2085  2.2102  2.2118
                 2.2134  2.2151  2.2167  2.2183  2.2198  2.2214  2.2230
                 2.2245  2.2261  2.2276  2.2292  2.2307  2.2322  2.2337
```

```
                2.2352  2.2366  2.2381  2.2396  2.2410  2.2425  2.2439
                2.2453  2.2468  2.2482  2.2496  2.2510  2.2523  2.2537
                2.2551  2.2565  2.2578  2.2592  2.2605  2.2618  2.2632
                2.2645  2.2658  2.2671  2.2684  2.2697  2.2710  2.2722
                2.2735  2.2748  2.2760  2.2773  2.2785  2.2800

*S************************************************************
*** ********************
*S  TOTAL SITE
*S  DEVELOPED CONDITIONS
*** ********************
*** BASIN 100
*** AREA = 3.12 ACRES
*** AREA = .004875
*** ******************
COMPUTE NM HYD       ID=1  HYD NO=100 AREA= 0.004875SQ MI
                     PER A=10 PER B=20  PER C=15  PER D=50
                     TP=-0.13333 HR  MASS RAIN=-1
     *****WARNING*****  SUM OF TREATMENT TYPES DOES NOT EQUAL 100 PERCENT OR TOTAL AREA


     K =  0.072665HR    TP =  0.133330HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   10.128    CFS   UNIT VOLUME =   0.9982       B =   526.28      P60 = 1.7900
     AREA =     0.002566 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033300


     K =  0.130684HR    TP =  0.133330HR    K/TP RATIO =  0.980156     SHAPE CONSTANT, N =  3.602759
     UNIT PEAK =   5.6766    CFS   UNIT VOLUME =   0.9980       B =   327.76      P60 = 1.7900
     AREA =     0.002309 SQ MI    IA =   0.48333 INCHES    INF =   1.20333 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033300

PRINT HYD            ID=1 CODE=1

                                  PARTIAL HYDROGRAPH   100.00


    RUNOFF VOLUME =     1.45809 INCHES     =       0.3791 ACRE-FEET
    PEAK DISCHARGE RATE =      10.01 CFS  AT   1.532 HOURS   BASIN AREA =  0.0049 SQ. MI.



*
FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 08:14:58
~(s0p10h4099T~&16D
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Solare (Tract 12-B-1-A)
Temporary Pond

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(s16.67h8.5v0T&l8D

      AHYMO PROGRAM (AHYMO-S4)                    - Version: S4.01a - Rel: 01a
           RUN DATE (MON/DAY/YR) = 06/18/2019
           START TIME (HR:MIN:SEC) = 07:46:55     USER NO.= M-GoodwinNMSiteA90075759
           INPUT FILE = F:\1-Projects\2019\A19002 - Solare Middle School\HYDROLOGY\SOLARE_12_B_1_A.txt

  START                0.0 HRS  PUNCH CODE=0  PRINT LINES=-6
  *S*********************************************************
  *S                   TRACT 12-B-1-A
  *S                   100 YEAR 24-HR STORM EVENT
  *S
  *S                   FILE: SOLARE_12_B_1_A.DAT
  *S                   LAST REVISED: 5-18-15
  *S                   NOAA ATLAS 14, VOL I ZONE: A 10
  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=1.79 IN RAIN SIX=2.28 IN
                       RAIN DAY=2.58 IN DT=0.0333 HRS

                  6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
                  DT =   0.033300 HOURS       END TIME =     5.994000 HOURS
                    0.0000  0.0022  0.0043  0.0066  0.0090  0.0114  0.0141
                    0.0168  0.0196  0.0227  0.0257  0.0324  0.0392  0.0463
                    0.0538  0.0614  0.0695  0.0777  0.0861  0.0946  0.1032
                    0.1121  0.1211  0.1305  0.1405  0.1505  0.1616  0.1729
                    0.1869  0.2042  0.2214  0.2443  0.2674  0.2948  0.3272
                    0.3595  0.4074  0.4560  0.5208  0.6046  0.6884  0.9060
                    1.1292  1.3069  1.4306  1.5543  1.6193  1.6814  1.7332
                    1.7723  1.8115  1.8392  1.8664  1.8903  1.9102  1.9300
                    1.9453  1.9604  1.9734  1.9840  1.9945  2.0040  2.0135
                    2.0222  2.0300  2.0379  2.0452  2.0524  2.0595  2.0665
                    2.0735  2.0770  2.0803  2.0835  2.0867  2.0898  2.0928
                    2.0957  2.0986  2.1015  2.1043  2.1071  2.1099  2.1126
                    2.1152  2.1178  2.1203  2.1228  2.1253  2.1278  2.1303
                    2.1326  2.1349  2.1373  2.1395  2.1418  2.1440  2.1463
                    2.1485  2.1506  2.1527  2.1548  2.1569  2.1589  2.1609
                    2.1630  2.1650  2.1670  2.1689  2.1709  2.1728  2.1747
                    2.1766  2.1785  2.1804  2.1823  2.1841  2.1859  2.1877
                    2.1895  2.1913  2.1931  2.1949  2.1966  2.1984  2.2001
                    2.2018  2.2035  2.2052  2.2068  2.2085  2.2102  2.2118
                    2.2134  2.2151  2.2167  2.2183  2.2198  2.2214  2.2230
                    2.2245  2.2261  2.2276  2.2292  2.2307  2.2322  2.2337
```

```
                2.2352  2.2366  2.2381  2.2396  2.2410  2.2425  2.2439
                2.2453  2.2468  2.2482  2.2496  2.2510  2.2523  2.2537
                2.2551  2.2565  2.2578  2.2592  2.2605  2.2618  2.2632
                2.2645  2.2658  2.2671  2.2684  2.2697  2.2710  2.2722
                2.2735  2.2748  2.2760  2.2773  2.2785  2.2800

*S************************************************************
*** ********************
*S  TOTAL SITE
*S  DEVELOPED CONDITIONS
*** ********************
*** BASIN 101
*** AREA = 6.1178 ACRES
*** AREA = .009559
*** ******************
COMPUTE NM HYD       ID=1  HYD NO=100 AREA= 0.009559SQ MI
                     PER A=0 PER B=0  PER C=10  PER D=90
                     TP=-0.13333 HR  MASS RAIN=-1

     K =  0.072665HR    TP =  0.133330HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   33.958    CFS   UNIT VOLUME =   0.9990       B =   526.28      P60 = 1.7900
     AREA =     0.008603 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033300


     K =  0.104988HR    TP =  0.133330HR    K/TP RATIO =  0.787430     SHAPE CONSTANT, N =  4.558258
     UNIT PEAK =   2.8019    CFS   UNIT VOLUME =   0.9959       B =   390.82      P60 = 1.7900
     AREA =     0.000956 SQ MI    IA =   0.35000 INCHES    INF =   0.83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033300

PRINT HYD            ID=1 CODE=1

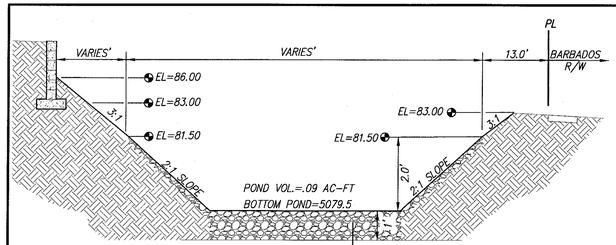
                                  PARTIAL HYDROGRAPH   100.00


    RUNOFF VOLUME =     1.92817 INCHES     =       0.9830 ACRE-FEET
    PEAK DISCHARGE RATE =      25.59 CFS  AT   1.532 HOURS   BASIN AREA =  0.0096 SQ. MI.

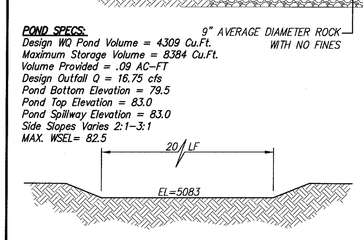


*
FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 07:46:55
(s0p10h4099T&16D
```

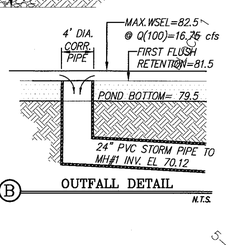


POND SPECS:
Design WQ Pond Volume = 4309 Cu.Ft.
Maximum Storage Volume = 8384 Cu.Ft.
Volume Provided = .09 AC-FT
Design Outfall Q = 16.75 cfs
Pond Bottom Elevation = 79.5
Pond Top Elevation = 83.0
Pond Spillway Elevation = 83.0
Side Slopes Varies 2:1-3:1
MAX. WSEL= 82.5
9" AVERAGE DIAMETER ROCK WITH NO FINES

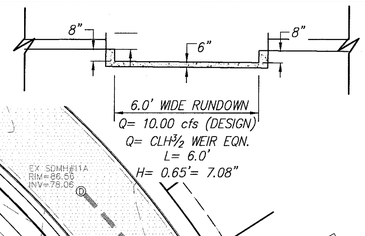


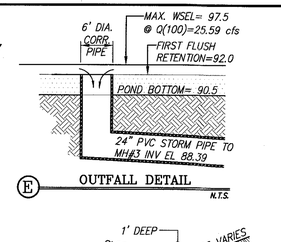
C EMERGENCY SPILLWAY DETAIL FOR PHASE 1
N.T.S.

Q= CLH 3/2
Q= 16.75 =3(20)(H) 3/2
H= .43' = 5"

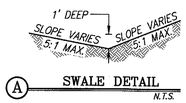


B OUTFALL DETAIL
N.T.S.

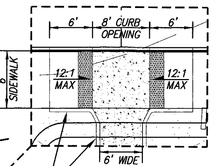




E OUTFALL DETAIL
N.T.S.



A SWALE DETAIL
N.T.S.



SIDEWALK DETAIL
SCALE: NTS

GENERAL 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. NO WORK ALLOWED IN THE PUBLIC RIGHT OF WAY WITHOUT AN APPROVED WORK ORDER.
6. SITE DOES NOT LIE IN A 100 YEAR FLOOD ZONE.
7. ALL SITE WALLS SHALL CONFORM TO THE GENERAL HEIGHT AND DESIGN REGULATIONS CONTAINED IN SECTION 14-16-3-19 OF THE CITY ZONING CODE.

HYDROLOGY NOTES

THE PROJECT SITE IS LOCATED ON THE WEST SIDE OF ALBUQUERQUE, AND IS BOUNDED BY GIBSON BLVD TO THE SOUTH; BARBADOS AVE. TO THE EAST AND SOUTH OF THE EL RANCHO GRANDE RESIDENTIAL DEVELOPMENT. A CHARTER SCHOOL IS BEING PROPOSED TO BE CONSTRUCTED ON THE WESTERN TRACT (12-B-1-B) 4.88 ACRE PROPERTY. IT WILL HAVE ONE ACCESS ENTRANCE FOR BUS DROP-OFF AND PARKING OFF OF BARBADOS AVE; ON THE EAST SIDE OF THE PROPERTY. THE SITE IS SHOWN ON ZONE ATLAS PAGE M-9-Z.

THE SITE IS NOT LOCATED IN A 100YR FLOOD ZONE PER FEMA FIRM MAP 35001C0336H, AUGUST 2012.

THE HYDROLOGY WAS CALCULATED PER COA DPM USING AHYMO P_{6H}=2.58" FROM NOAA 14. THE RESULTS ARE SUMMARIZED IN THE HYDROLOGY TABLE ON THIS SHEET.

BASIN DATA

THE INTENT OF THIS PLAN IS TO PROVIDE COMPLETE DETENTION OF THE DEVELOPED WATER QUALITY VOLUME FOR THE 100 YEAR, 24 HR. STORM FOR ALL OF TRACT 12-B-1-B. THIS GRADING PLAN WILL CONTAIN THE RUN-OFF FROM ALL FUTURE BUILDINGS PER THE APPROVED SITE PLAN. PHASE 1 BUILDING WILL BE CONSTRUCTED AT THIS TIME WITH THIS PLAN. THE SITE HAS BEEN GRANTED FREE DISCHARGE AS THE RUN-OFF VOLUMES HAVE BEEN ACCOUNTED FOR IN THE PREVIOUS OF THE EL RANCHO GRANDE UNIT 1B PLAN.

FRENCH DRAINS ARE FEATURES OF THE DESIGN TO HASTEN INFILTRATION WITHIN THE PONDS WHEN RUNOFF IS CAPTURED FROM STORM EVENTS.

TRACT 12-B-1-B (SOLARE CHARTER SCHOOL)

FULLY DEVELOPED CONDITION

BASIN ID	% D	% C	% B	% A	AREA	Q(100)	VOLUME
100	50.0	25.0	15.0	5.0	3.12 AC.	10.01 cfs	.376 AC-FT
101	50.0	25.0	15.0	5.0	1.76 AC.	6.75 cfs	.212 AC-FT
TOTAL SITE					4.88 AC.	16.75 cfs	.589 AC-FT

STORM WATER QUALITY (TOTAL DEVELOPED SITE)

THE "STORM WATER QUALITY" IS BEING ACCOMPLISHED ONSITE THROUGH THE USE OF SWALES AND SHEET FLOW TO SOUTHEAST POND AT GIBSON AND BARBADOS.

REQUIRED VOLUME = 0.34" X IMPERVIOUS AREA
= 0.34"/12 X (106,297 SF)
= 3011.75 CF
= .07 AC-FT

PROVIDED VOLUME = 4309 CF
=.09 AC-FT

TRACT 12-B-1-A (WESTERN PROPERTY)

TRACT 12-B-1-A HAS BEEN DESIGNATED AS A FUTURE COMMERCIAL PROPERTY AND HAS BEEN ANALYZED AT 90% D FOR FUTURE DESIGN WITH A 6' WIDE STAND PIPE ALLOWING FOR THE CALCULATED 25.59 CFS RUNOFF.

THE TEMPORARY POND IS CURRENTLY SIZED FOR EXISTING RUNOFF FLOW FOR THE SITE IN THE AMOUNT OF .59 AC-FT.

EXISTING CONDITION

BASIN ID	% D	% C	% B	% A	AREA	Q(100)	VOLUME
101	0.0	100.0	0.0	0.0	6.11 AC.	18.72 cfs	.5289 AC-FT

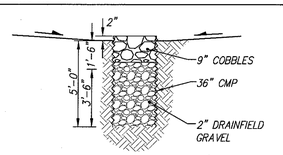
DEVELOPED CONDITION

BASIN ID	% D	% C	% B	% A	AREA	Q(100)	VOLUME
101	90.0	10.0	0.0	5.0	6.11 AC.	25.59 cfs	.9830 AC-FT

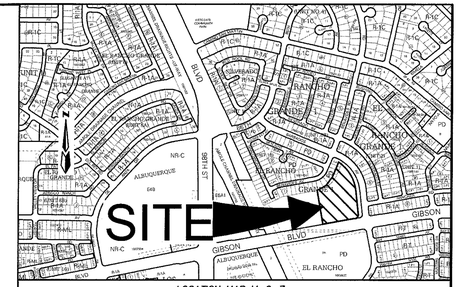
STORM WATER QUALITY

THE REQUIRED "STORM WATER QUALITY" VOLUME IS CALCULATED AND WILL BE REQUIRED AT THE TIME OF DEVELOPMENT FOR THE COMMERCIAL PORTION OF THE SITE.

REQUIRED VOLUME = 0.34" X IMPERVIOUS AREA
= 0.34"/12 X (239,842.26 SF)
= 6795 CF
= .16 AC-FT



D FRENCH DRAIN DETAIL



LEGAL DESCRIPTION

A tract of land situate, within the Town of Atrisco Grant, projected Section 33, Township 10 North, Range 2 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being all of TRACT 12-B-1, EL RANCHO GRANDE 1, 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 August 15, 2003, in Plat Book 2003C, Page 249, EXCEPTING THEREFROM a portion of De Anza Drive SW, as the same is shown and designated in QUITCLAIM DEED, filed for record in the office of the County Clerk of Bernalillo County, New Mexico, on July 6, 2006, in Document No. 2006100612, and containing 10.9983 acres more or less.

ACS BENCHMARK

AGRS Aluminum Cap stamped "10-M9 2002" From the intersection of Arenal Road/Sapphire Road and Unser Boulevard, travel south on Unser Boulevard 0.65 miles to the intersection of Unser Boulevard and Gibson Boulevard/Spring Flower Road; travel west on Gibson Boulevard 0.3 miles to the intersection of Gibson Boulevard and Barbados Avenue/Stampede Road. The station is in the NW quadrant (on drop inlet) Geographic Position, in feet (NAD83) N.M. State Plane Coordinates (Central Zone) N=1471730928, E=1496215.383, G-G=0.999684639, DA=-00°16'35.92" Elevation, in feet (NAVD88) = 5082.551

LEGEND

- -5565- CONTOUR (MAJOR)
- CONTOUR (MINOR)
- CURB AND GUTTER
- CONCRETE
- WALL
- TOP CURB / FLOW LINE
- SPOT ELEVATION
- SANITARY SEWER MANHOLE
- STORM DRAIN MANHOLE
- CATCH BASIN/DROP INLET
- 8" WATER VALVE/SIZE
- ELECTRIC TRANSFORMER
- ELECTRIC PEDESTAL
- LIGHT POLE
- SIGN
- SLOPE ARROW
- •93.7 SPOT ELEVATION
- SIDEWALK CULVERT
- 24" STORM DRAIN PIPE
- SWALE
- STORM DRAIN MANHOLE
- STAND PIPE
- RETAINING WALL
- FRENCH DRAIN
- -95.0- NEW CONTOUR MAJOR
- NEW CONTOUR MINOR
- -GAS- NEW GAS LINE

SOLARE MIDDLE SCHOOL

GRADING & DRAINAGE PLAN - PHASE 1

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

Designed: HC	Drawn: DER	Checked: DMG	Sheet 1 of 1
Scale: AS SHOWN	Date: 7/27/19	Job: A19002	

D. MARK GOODWIN NEW MEXICO 8648 LICENSED PROFESSIONAL ENGINEER
7/26/19

F:\A19JOBS\A19002 Solare Middle School\GRADE & DRAIN\A19002-G&D_PH1.dwg, Last saved by: Hiram, 7/27/19