Walla ENGINEERING LTD
Structural Engineering • Civil Engineering

DRAINAGE REPORT

FOR

LA AMISTAD SENIOR CENTER

J14/D119

Prepared For

Lee Gamelsky Architect and

City of Albuquerque

June 2000

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Walla ENGINEERING LTD
Structural Engineering • Civil Engineering

City of Albuquerque
Public Works Department
Development & Building Services – Hydrology Division
Plaza Del Sol Building, 2 nd Floor
600 2 nd Street NW
Albuquerque, New Mexico 87102

June 15, 2000

Re: La Amistad Senior Center
Albuquerque, New Mexico

DESIGN NARRATIVE

Description

This submittal is an edited version of a previously approved submittal prepared by D. Mark Goodwin & Associates dated March, 1997. The current project being submitted for building permit approval is similar is size and scope to the originally approved project but is slightly smaller. The existing building will have an addition with less area than the original but the site work will be basically the same. A portion of Arno Street will still be vacated as part of this work in order to restrict through traffic. The proposed traffic obstruction will be located 150 feet north of the intersection of Arno and Fruit but *will not impede* existing drainage patterns. The drainage in this area is routed on the surface by way of city standard curb and gutter from local tributary areas to City of Albuquerque storm drain facilities. As previously approved the closing of Arno St. will not impede or obstruct developed runoff flow north towards Lomas.

Existing Conditions

Two buildings currently exist on the site located centrally on the property. Parking is located on the eastern portion of the site. There are two existing drainage basins, an eastern and a western, with a basin dividing line running north/south through the center of the property. The existing storm runoff from the eastern basin drains overland to the south onto Fruit Avenue. The western basin drains overland into Arno Street. Runoff directed to Fruit Ave. flows westward on the northern half of the street to the storm inlet at the northeastern curb return at Arno and Fruit. Western basin drainage flows north on the eastern half of Arno to a storm inlet at the southeastern curb return at Lomas and Arno.

Proposed Conditions

Historical flow paths and basins will not change due to the new construction. Upstream basins and their flow paths will not be altered due to the improvements at La Amistad Senior Center.

Upstream Basins

Based on previously approved calculations, prepared by D. Mark Goodwin & Associates for this project, the existing capacity of street and storm drain facilities will be adequate to convey the developed flows from this site and tributary area.

Conclusion

The vacation of Arno Street for the proposed improvements can be accommodated without altering the existing drainage conditions and will adequately handle the revised developed site conditions. The street must remain free of obstructions in order to convey upstream storm water not conveyed by the storm sewer system, to meet current city requirements.

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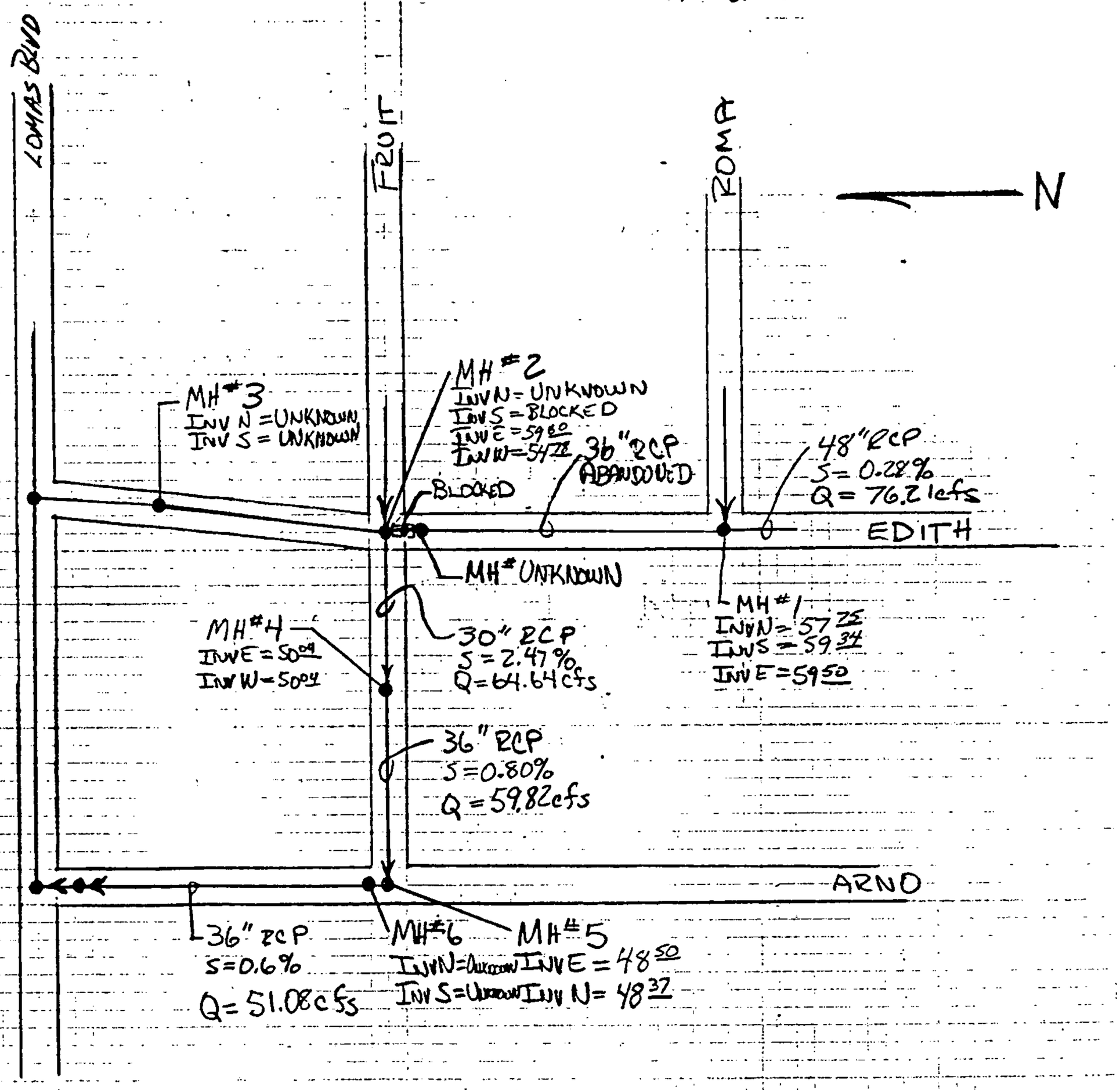
Consulting Engineers and Surveyors

PROJECT La Amistad Senior Center
SUBJECT Arno St. Drainage & Vacation
BY RM DATE 28 Feb 97
CHECKED _____ DATE _____
SHEET 1 OF 4

1. Storm Sewer Capacity

Existing Storm Sewer Capacities In The Area.

Mannings Eqtn $Q = \frac{K}{n} A R_H^{2/3} S^{1/2}$ $K = 1.49$, $n = 0.013$



D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT LA AMISTAD SENIOR CENTER
SUBJECT ARNO ST DRAINAGE & VACATION
BY RM DATE 28 FEB 97
CHECKED _____ DATE _____
SHEET 2 OF 4

2. CONTRIBUTING BASIN AREAS

- BASIN 1 – EAST OF ROMA & FRUIT, WEST OF I-25, SOUTH OF LOMAS, NORTHERN PORTION OF ST. JOSEPHS PARKING LOT.

A = 22.1247 ACRES = 0.0346 SQ. MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 99.64 cfs
Vol_{PK} = 3.6860 ACRE-FEET

- BASIN 2 – WEST OF BASIN 1, SOUTHERN PORTION OF FRUIT, NORTHERN PORTION PROPERTY BORDERED BY ROMA & FRUIT, EAST OF EDITH

A = 6.0262 ACRES = 0.0094 SQ. MILES BASIN CONTAINS PONDS

LAND TREATMENTS
TYPE "A" = 100.00%
TYPE "B" = 0.00%
TYPE "C" = 0.00%
TYPE "D" = 0.00%

AHYMO RESULTS
Q_{PK} = 9.37 cfs
Vol_{PK} = 0.2663 ACRE-FEET

HISTORICAL DISCHARGE FROM SITE IS CALCULATED

- BASIN 3 – WEST OF BASIN 1, NORTHERN PORTION & NORTH OF FRUIT, EAST OF EDITH, SOUTH OF LOMAS

A = 3.9256 ACRES = 0.0061 SQ. MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 17.58 cfs
Vol_{PK} = 0.6498 ACRE-FEET

2. CONTRIBUTING BASIN AREAS (CONTINUED)

• BASIN 4 - WEST OF EDITH, SOUTHERN PORTION OF FRUIT & NORTHERN HALF OF PROPERTY BETWEEN ROMA & FRUIT, WEST OF ARNO

A = 1.9083 ACRES = 0.0030 SQ MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 8.66 cfs
Vol_{PK} = 0.3196 ACRE-FEET

• BASIN 5 - SOUTH OF LOMAS, NORTH OF FRUIT & NORTHERN PORTION OF STREET, WEST OF EDITH, EAST OF SITE.

A = 1.8652 ACRES = 0.0029 SQ. MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 8.37 cfs
Vol_{PK} = 0.3089 ACRE-FEET

• BASIN 6 - SITE AREA & ARNO STREET, VACATED PORTION OF STREET.

A = 1.3516 ACRES = 0.0021 SQ MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 6.06 cfs
Vol_{PK} = 0.2237 ACRE-FEET

• BASIN 7 - EAST OF EDITH, SOUTH OF ROMA AND A PORTION OF ST. JOSEPHS MEDICAL CENTER

A = 5.6244 ACRES = 0.0088 SQ. MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 25.36 cfs
Vol_{PK} = 0.9375 ACRE-FEET

• CUMULATIVE TOTAL OF ALL BASINS AHYMO RESULTS EXCEPT BASIN 6

Q_{PK} = 168.78 cfs Vol_{PK} = 6.1681 ACRE-FEET

3. Conclusion

+ Assumed 50% of Contributing Basins May Flow Towards Vacated Portion of Arno and Flow Generated By Site.

$$Q = (84.39 + 6.06)\,cfs = 90.45\,cfs$$

+ Capacity Of Arno Street.

- Surface Flow = Q = 53 cfs
  (See Attached Plate 22.3-D2)
- Storm Sewer Flow = Q = 51.08 cfs
  (See Page 1 of 4)

Total Combined Flow > Assumed Flow

$$104\,cfs > 90.45\,cfs$$

∴ Therefore, Arno St. Must Convey Surface Flow And Should This Street Be Vacated No Obstructions Shall Be Placed To Impede Surface Flow.

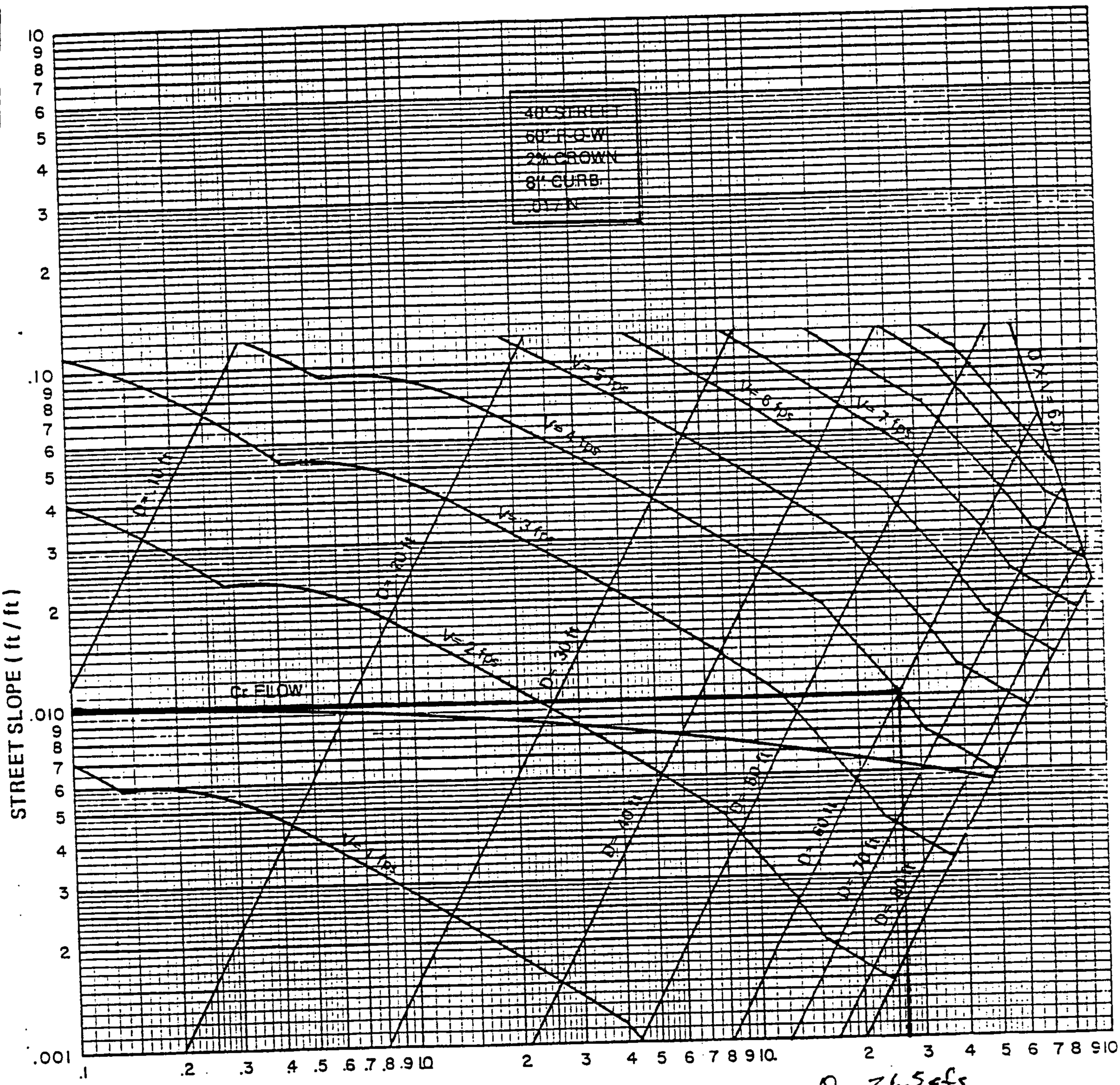
$$Q_{STORMSEWER} = 51.08\,cfs$$

$$Q_{SURFACE} = 39.37\,cfs$$

$$Q_{SURFACE} < Q_{CAPACITY}$$

$$39.37\,cfs < 51.08\,cfs$$

STREET CAPACITY



$Q_{1/2} = 26.5$ cfs

FULL STREET WIDTH
$Q = 53$ cfs

PLATE 22.3 D-2

REV. 3-83

```
START                   TIME=0.0

*****   HYDROGRAPH FOR LA AMISTAD SENIOR CENTER BETWEEN FRUIT AVENUE
*****   AND LOMAS BLVD, ON THE EASTERN HALF OF ARNO STREET. THIS IS THE
*****   ESTIMATE OF THE OFFSITE BASINS CONTRIBUTING TO THE SURFACE AND
*****   STORM SEWER FLOW IN ARNO STREET.

RAINFALL                TYPE=1 RAIN QUARTER=0.0 IN
                        RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                        RAIN DAY=2.75 IN DT=0.03333 HR

*HYDROGRAPH FOR OFF-SITE BASIN 1
COMPUTE NM HYD          ID=1 HYD NO=101.1 AREA=0.0346 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=1 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 2
COMPUTE NM HYD          ID=2 HYD NO=101.2 AREA=0.0094 SQ MI
                        PER A=100.00 PER B=0.00 PER C=0.00 PER D=0.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=2 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 3
COMPUTE NM HYD          ID=3 HYD NO=101.3 AREA=0.0061 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=3 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 4
COMPUTE NM HYD          ID=4 HYD NO=101.4 AREA=0.0030 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=4 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 5
COMPUTE NM HYD          ID=5 HYD NO=101.5 AREA=0.0029 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
```

```
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=5 CODE=1

*HYDROGRAPH FOR ON-SITE BASIN 6
COMPUTE NM HYD      ID=6 HYD NO=101.6 AREA=0.0021 SQ MI
                    PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=6 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 7
COMPUTE NM HYD      ID=7 HYD NO=101.7 AREA=0.0088 SQ MI
                    PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=7 CODE=1

ADD HYD             ID=8  HYD NO=101.8    ID=1   ID=2
PRINT HYD           ID=8  CODE=1

ADD HYD             ID=9  HYD NO=101.9    ID=8   ID=3
PRINT HYD           ID=9  CODE=1

ADD HYD             ID=11  HYD NO=101.11  ID=9   ID=4
PRINT HYD           ID=11  CODE=1

ADD HYD             ID=12  HYD NO=101.12  ID=11  ID=5
PRINT HYD           ID=12  CODE=1

ADD HYD             ID=13  HYD NO=101.13  ID=12  ID=7
PRINT HYD           ID=13  CODE=1

FINISH
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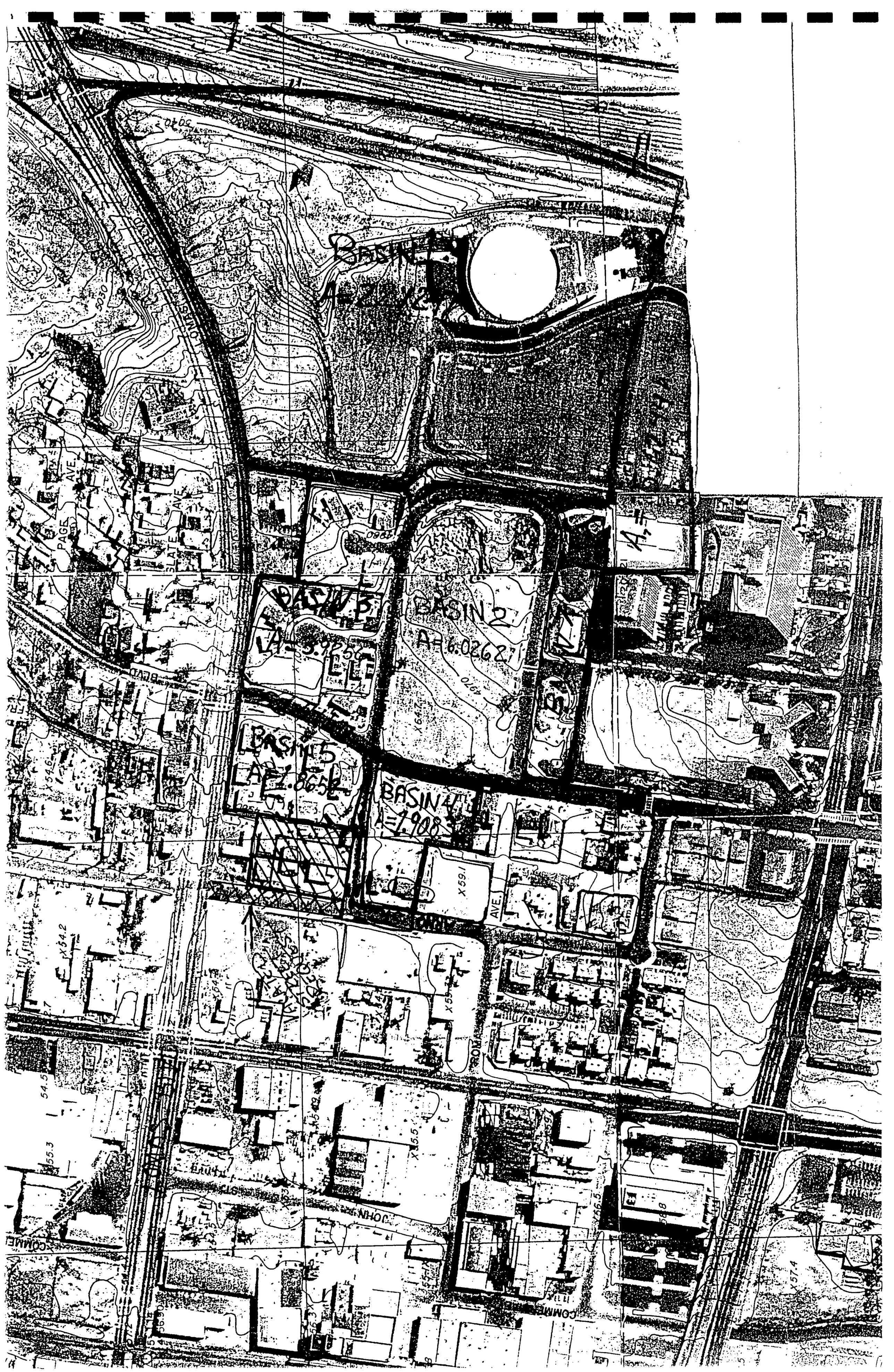
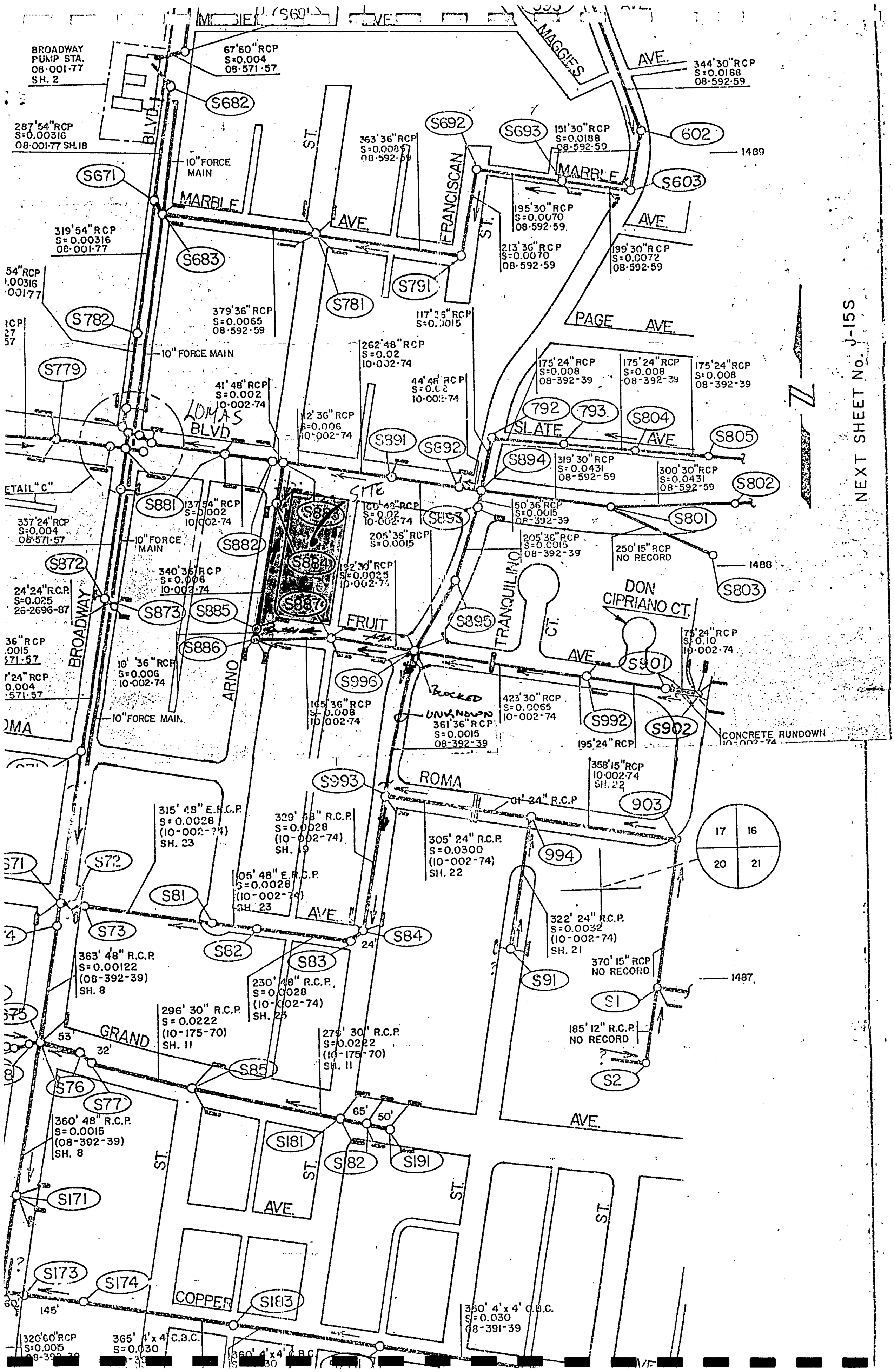

BASIN 1
A=2.972
BASIN 2
A=6.0262
BASIN 3
A=3.9256
BASIN 4
A=2.908
BASIN 5
A=2.8652
PAGE AVE.
SLATE AVE.
LOMAS BLVD.
JOHN
COMMERCE
ROMA
AVE.
X 59.1
X 57.4
X 56.5
X 55.5
X 54.2
X 53.7
X 54.6
X 55.3
X 54.5
X 56.3
X 56.9
X 57.2
X 64.2
X 64.7
X 59.7
X 90.6
X 64.7
4970
5030
5040
5080
5090
5387


BROADWAY PUMP STA. 08-001-77 SH. 2
67'60" RCP S=0.004 08-571-57
S682
287'54" RCP S=0.00316 08-001-77 SH.18
10" FORCE MAIN
S671
MARBLE
319'54" RCP S=0.00316 08-001-77
S683
S782
10" FORCE MAIN
S779
LOMAS BLVD
41'48" RCP S=0.002 10-002-74
379'36" RCP S=0.0065 08-592-59
S781
S791
363'36" RCP S=0.0085 08-592-59
S692
S693
151'30" RCP S=0.0188 08-592-59
FRANCISCAN ST.
195'30" RCP S=0.0070 08-592-59
213'36" RCP S=0.0070 08-592-59
MAGGIES AVE.
344'30" RCP S=0.0168 08-592-59
602
1489
S603
199'30" RCP S=0.0072 08-592-59
PAGE AVE.
262'48" RCP S=0.02 10-002-74
44'48" RCP S=0.02 10-002-74
175'24" RCP S=0.008 08-392-39
792
793
SLATE AVE.
S804
S805
S891
S892
S894
319'30" RCP S=0.0431 08-592-59
300'30" RCP S=0.0431 08-592-59
S802
S801
1488
S803
SITE
S881
137'54" RCP S=0.002 10-002-74
357'24" RCP S=0.004 08-571-57
S882
S883
S884
S887
S893
205'36" RCP S=0.0015
50'36" RCP S=0.0015 08-392-39
250'15" RCP NO RECORD
S872
24'24" R.C.P. S=0.025 26-2696-87
340'36" RCP S=0.006 10-002-74
S873
S885
S886
FRUIT
BROADWAY
ARNO
TRANQUILINO CT.
DON CIPRIANO CT.
S895
S901
75'24" RCP S=0.10 10-002-74
S996
BLOCKED UNKNOWN
361'36" RCP S=0.0015 08-392-39
423'30" RCP S=0.0065 10-002-74
S992
S902
CONCRETE RUNDOWN
195'24" RCP
358'15" RCP 10-002-74 SH. 22
S993
ROMA
01'24" R.C.P
903
315'48" E.R.C.P. S=0.0028 (10-002-74) SH. 23
329'48" R.C.P. S=0.0028 (10-002-74) SH. 19
305'24" R.C.P. S=0.0300 (10-002-74) SH. 22
994
17 16 20 21
S72
S81
05'48" E.R.C.P. S=0.0028 (10-002-74) SH. 23
AVE.
S73
S82
S83
S84
24'
322'24" R.C.P. S=0.0032 (10-002-74) SH. 21
S91
370'15" RCP NO RECORD
1487
363'48" R.C.P. S=0.00122 (08-392-39) SH. 8
230'48" R.C.P. S=0.0028 (10-002-74) SH. 25
296'30" R.C.P. S=0.0222 (10-175-70) SH. 11
279'30" R.C.P. S=0.0222 (10-175-70) SH. 11
GRAND
53'
32'
S85
S1
185'12" R.C.P. NO RECORD
S2
S76
S77
360'48" R.C.P. S=0.0015 (08-392-39) SH. 8
65'
50'
S181
S182
S191
ST.
S171
AVE.
S173
S174
145'
COPPER
S183
360' 4'x4' C.B.C. S=0.030 08-391-39
320'60" RCP S=0.0015
365' 4'x4' C.B.C. S=0.030
360' 4'x4' C.B.C.
J-15S
NEXT SHEET No.

```
AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
     RUN DATE (MON/DAY/YR) = 03/03/1997
     START TIME (HR:MIN:SEC) = 10:44:47      USER NO.= M_GOODWN.I01
     INPUT FILE = LAMISTAD.DAT


START                TIME=0.0


*****   HYDROGRAPH FOR LA AMISTAD SENIOR CENTER BETWEEN FRUIT AVENUE

*****   AND LOMAS BLVD, ON THE EASTERN HALF OF ARNO STREET. THIS IS THE

*****   ESTIMATE OF THE OFFSITE BASINS CONTRIBUTING TO THE SURFACE AND

*****   STORM SEWER FLOW IN ARNO STREET.


RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN

                     RAIN ONE=2.01 IN RAIN SIX=2.35 IN

                     RAIN DAY=2.75 IN DT=0.03333 HR


                     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
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.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	

```
*HYDROGRAPH FOR OFF-SITE BASIN 1

COMPUTE NM HYD       ID=1 HYD NO=101.1 AREA=0.0346 SQ MI

                     PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                     TP=0.1333 HR MASS RAINFALL=-1


          K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
PE CONSTANT, N =  7.106420
          UNIT PEAK =    122.94    CFS   UNIT VOLUME =    .9993       B =    526.
28       P60 = 2.0100
          AREA =       .031140 SQ MI    IA =    .10000 INCHES    INF =    .04000
 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
```

```
T =    .033330


         K =    .119767HR     TP =    .133300HR     K/TP RATIO =    .898476      SHA
PE CONSTANT, N =  3.944947
         UNIT PEAK =    9.1232     CFS   UNIT VOLUME =     .9990        B =    351.
48       P60 = 2.0100
         AREA =       .003460 SQ MI     IA =     .42500 INCHES     INF =   1.04000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

    PRINT HYD              ID=1 CODE=1


                                          PARTIAL HYDROGRAPH   101.10


         RUNOFF VOLUME =      1.99749 INCHES      =        3.6860 ACRE-FEET
         PEAK DISCHARGE RATE =       99.64 CFS  AT   1.500 HOURS   BASIN AREA =
   .0346 SQ. MI.



    *HYDROGRAPH FOR OFF-SITE BASIN 2

    COMPUTE NM HYD         ID=2 HYD NO=101.2 AREA=0.0094 SQ MI

                           PER A=100.00 PER B=0.00 PER C=0.00 PER D=0.00

                           TP=0.1333 HR MASS RAINFALL=-1


         K =    .160154HR     TP =    .133300HR     K/TP RATIO =  1.201459      SHA
PE CONSTANT, N =  2.957910
         UNIT PEAK =    19.630     CFS   UNIT VOLUME =     .9990        B =    278.
```

```
37      P60 = 2.0100
         AREA =       .009400 SQ MI     IA =     .65000 INCHES     INF =    1.67000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

     PRINT HYD            ID=2 CODE=1

                                PARTIAL HYDROGRAPH   101.20

         RUNOFF VOLUME =       .53121 INCHES      =         .2663 ACRE-FEET
         PEAK DISCHARGE RATE =        9.37 CFS  AT   1.533 HOURS   BASIN AREA =
.0094 SQ. MI.


   *HYDROGRAPH FOR OFF-SITE BASIN 3

   COMPUTE NM HYD       ID=3 HYD NO=101.3 AREA=0.0061 SQ MI

                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                        TP=0.1333 HR MASS RAINFALL=-1


         K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
PE CONSTANT, N =  7.106420
         UNIT PEAK =   21.675    CFS   UNIT VOLUME =    .9988       B =   526.
28      P60 = 2.0100
         AREA =       .005490 SQ MI     IA =     .10000 INCHES     INF =     .04000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330
```

```
        K =    .119767HR    TP =    .133300HR    K/TP RATIO =    .898476     SHA
PE CONSTANT, N =  3.944947
        UNIT PEAK =   1.6084    CFS   UNIT VOLUME =    .9919       B =   351.
48      P60 = 2.0100
        AREA =       .000610 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

  PRINT HYD            ID=3 CODE=1

                                        PARTIAL HYDROGRAPH   101.30

      RUNOFF VOLUME =      1.99749 INCHES      =         .6498 ACRE-FEET
      PEAK DISCHARGE RATE =       17.58 CFS  AT   1.500 HOURS   BASIN AREA =
.0061 SQ. MI.

  *HYDROGRAPH FOR OFF-SITE BASIN 4

  COMPUTE NM HYD       ID=4 HYD NO=101.4 AREA=0.0030 SQ MI

                       PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                       TP=0.1333 HR MASS RAINFALL=-1

        K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
PE CONSTANT, N =  7.106420
        UNIT PEAK =   10.660    CFS   UNIT VOLUME =    .9982       B =   526.
28      P60 = 2.0100
        AREA =       .002700 SQ MI    IA =    .10000 INCHES    INF =    .04000
```

```
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330


        K =    .119767HR    TP =    .133300HR    K/TP RATIO =    .898476     SHA
PE CONSTANT, N =  3.944947
        UNIT PEAK =    .79103    CFS   UNIT VOLUME =    .9841       B =   351.
48      P60 = 2.0100
        AREA =       .000300 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

     PRINT HYD            ID=4 CODE=1


                                        PARTIAL HYDROGRAPH   101.40


        RUNOFF VOLUME =      1.99749 INCHES      =         .3196 ACRE-FEET
        PEAK DISCHARGE RATE =        8.66 CFS  AT   1.500 HOURS   BASIN AREA =
   .0030 SQ. MI.


     *HYDROGRAPH FOR OFF-SITE BASIN 5

     COMPUTE NM HYD       ID=5 HYD NO=101.5 AREA=0.0029 SQ MI

                          PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                          TP=0.1333 HR MASS RAINFALL=-1


        K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
```

```
PE CONSTANT, N =  7.106420
         UNIT PEAK =   10.304    CFS   UNIT VOLUME =    .9982       B =   526.
28      P60 = 2.0100
         AREA =      .002610 SQ MI    IA =    .10000 INCHES    INF =    .04000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330

         K =   .119767HR    TP =   .133300HR    K/TP RATIO =   .898476     SHA
PE CONSTANT, N =  3.944947
         UNIT PEAK =   .76467    CFS   UNIT VOLUME =    .9825       B =   351.
48      P60 = 2.0100
         AREA =      .000290 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330

     PRINT HYD           ID=5 CODE=1


                                        PARTIAL HYDROGRAPH   101.50


         RUNOFF VOLUME =     1.99749 INCHES     =        .3089 ACRE-FEET
         PEAK DISCHARGE RATE =       8.37 CFS  AT   1.500 HOURS   BASIN AREA =
   .0029 SQ. MI.


     *HYDROGRAPH FOR ON-SITE BASIN 6

     COMPUTE NM HYD      ID=6 HYD NO=101.6 AREA=0.0021 SQ MI

                         PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
```

TP=0.1333 HR MASS RAINFALL=-1

```
        K =    .072649HR     TP =    .133300HR     K/TP RATIO =    .545000      SHA
PE CONSTANT, N =  7.106420
        UNIT PEAK =    7.4618     CFS   UNIT VOLUME =     .9978        B =    526.
28      P60 = 2.0100
        AREA =       .001890 SQ MI     IA =     .10000 INCHES     INF =     .04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330


        K =    .119767HR     TP =    .133300HR     K/TP RATIO =    .898476      SHA
PE CONSTANT, N =  3.944947
        UNIT PEAK =    .55372     CFS   UNIT VOLUME =     .9767        B =    351.
48      P60 = 2.0100
        AREA =       .000210 SQ MI     IA =     .42500 INCHES     INF =    1.04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

    PRINT HYD            ID=6 CODE=1


                                          PARTIAL HYDROGRAPH   101.60


        RUNOFF VOLUME =      1.99749 INCHES      =          .2237 ACRE-FEET
        PEAK DISCHARGE RATE =        6.06 CFS   AT    1.500 HOURS   BASIN AREA =
.0021 SQ. MI.


  *HYDROGRAPH FOR OFF-SITE BASIN 7
```

```
COMPUTE NM HYD       ID=7 HYD NO=101.7 AREA=0.0088 SQ MI

                     PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                     TP=0.1333 HR MASS RAINFALL=-1


        K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
PE CONSTANT, N =  7.106420
        UNIT PEAK =   31.269    CFS   UNIT VOLUME =    .9990       B =   526.
28      P60 = 2.0100
        AREA =       .007920 SQ MI    IA =    .10000 INCHES    INF =    .04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330


        K =    .119767HR    TP =    .133300HR    K/TP RATIO =    .898476     SHA
PE CONSTANT, N =  3.944947
        UNIT PEAK =   2.3204    CFS   UNIT VOLUME =    .9946       B =   351.
48      P60 = 2.0100
        AREA =       .000880 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330

    PRINT HYD            ID=7 CODE=1


                                   PARTIAL HYDROGRAPH   101.70


      RUNOFF VOLUME =      1.99749 INCHES      =         .9375 ACRE-FEET
      PEAK DISCHARGE RATE =       25.36 CFS  AT   1.500 HOURS   BASIN AREA =
.0088 SQ. MI.
```

```
ADD HYD              ID=8  HYD NO=101.8    ID=1   ID=2

PRINT HYD            ID=8  CODE=1

                                   PARTIAL HYDROGRAPH   101.80

     RUNOFF VOLUME =     1.68423 INCHES      =       3.9523 ACRE-FEET
     PEAK DISCHARGE RATE =     108.82 CFS  AT   1.500 HOURS   BASIN AREA =
.0440 SQ. MI.


ADD HYD              ID=9  HYD NO=101.9    ID=8   ID=3

PRINT HYD            ID=9  CODE=1

                                   PARTIAL HYDROGRAPH   101.90

     RUNOFF VOLUME =     1.72237 INCHES      =       4.6021 ACRE-FEET
     PEAK DISCHARGE RATE =     126.40 CFS  AT   1.500 HOURS   BASIN AREA =
.0501 SQ. MI.


ADD HYD              ID=11  HYD NO=101.11  ID=9   ID=4

PRINT HYD            ID=11  CODE=1
```

PARTIAL HYDROGRAPH 101.11

RUNOFF VOLUME = 1.73791 INCHES = 4.9217 ACRE-FEET
PEAK DISCHARGE RATE = 135.06 CFS AT 1.500 HOURS BASIN AREA =
.0531 SQ. MI.

ADD HYD ID=12 HYD NO=101.12 ID=11 ID=5

PRINT HYD ID=12 CODE=1

PARTIAL HYDROGRAPH 101.12

RUNOFF VOLUME = 1.75135 INCHES = 5.2307 ACRE-FEET
PEAK DISCHARGE RATE = 143.43 CFS AT 1.500 HOURS BASIN AREA =
.0560 SQ. MI.

ADD HYD ID=13 HYD NO=101.13 ID=12 ID=7

PRINT HYD ID=13 CODE=1

PARTIAL HYDROGRAPH 101.13

RUNOFF VOLUME = 1.78477 INCHES = 6.1681 ACRE-FEET
PEAK DISCHARGE RATE = 168.78 CFS AT 1.500 HOURS BASIN AREA =

```
.0648 SQ. MI.


 FINISH

NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 10:44:49
```

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 21, 2000

Mike Walla, P.E.
Walla Engineering Ltd.
6100 Indian School Rd. NE, Suite 210
Albuquerque, NM 87110

RE: LA AMISTAD SENIOR CENTER, 415 Fruit Ave NW (J14-D119). GRADING AND DRAINAGE PLAN FOR BUILDING PERMIT APPROVAL. ENGINEER'S STAMP (Report) DATED JUNE 15, 2000 AND (Plan) DATED MAY 23, 2000.

Dear Mr.Walla:

Based on the information provided on your June 16, 2000 submittal, the above referenced project is approved for Building Permit. The Preliminary DRC was held on June 15, 2000.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Prior to Certificate of Occpancy approval, an Engineer's Certification per the DPM will be required.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

John P. Murray, P.E.
Hydrology

c: Whitney Reierson
File

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

DRAINAGE INFORMATION

PROJECT TITLE LA AMISTAD SENIOR CENTER ZONE ATLAS/DRNG. FILE #: J-14/D119

DRB#: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: TRACT 13B1, LOMAS CENTER

CITY ADDRESS: NE CORNER OF ARNO & FRUIT

ENGINEERING FIRM: WALLA ENGINEERING CONTACT: MIKE WALLA PE

ADDRESS: 6100 INDIAN SCHOOL RD, NE PHONE: 881-3008

OWNER: CITY OF ALBUQUERQUE CONTACT: LEE GAMELSKY

ADDRESS: _____ PHONE: 842-8865

ARCHITECT: LEE GAMELSKY ARCHITECT CONTACT: LEE GAMELSKY

ADDRESS: _____ PHONE: 842-8865

SURVEYOR: CITY OF ALBUQUERQUE CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: N/A CONTACT: N/A

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

- X DRAINAGE REPORT
- X DRAINAGE PLAN
- ___ CONCEPTUAL GRADING & DRAINAGE PLAN
- X GRADING PLAN
- ___ EROSION CONTROL PLAN
- ___ ENGINEER'S CERTIFICATION
- ___ OTHER

PRE-DESIGN MEETING:

- ___ YES
- ___ NO
- ___ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- ___ SKETCH PLAT APPROVAL
- ___ PRELIMINARY PLAT APPROVAL
- ___ S. DEV. PLAN FOR SUB'D. APPROVAL
- ___ S.DEV PLAN FOR BLDG.PRMT. APPROVAL
- ___ SECTOR PLAN APPROVAL
- ___ FINAL PLAT APPROVAL
- ___ FOUNDATION PERMIT APPROVAL
- X BUILDING PERMIT APPROVAL
- ___ CERTIFICATE OF OCCUPANCY APPROVAL
- ___ GRADING PERMIT APPROVAL
- ___ PAVING PERMIT APPROVAL
- ___ S.A.D. DRAINAGE REPORT
- ___ DRAINAGE REQUIREMENTS
- ___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 6/16/00

BY: Mike Walla

RECEIVED
JUN 16 2000
HYDROLOGY SECTION

CITY OF
Albuquerque

Martin J. Chávez, Mayor

October 20,1997

John MacKenzie
D. Mark Goodwin & Associates
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: REVISED DRAINAGE PLAN FOR LA AMISTAD SENIOR CENTER (J14-D119)
REVISION DATED 10/1/97

Dear Mr. MacKenzie:

Based on the information provided on your October 2,1997 resubmittal, the above referenced site is approved for Building Permit.

Please be advised that a separate permit is required for construction within City R/W. A copy of this approval letter must be on hand when applying for the excavation permit.

Also, prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

If I can be of further assistance, please feel free to contact me at 924-3986.

C: Andrew Garcia
Arlene Portillo
File

Sincerely

Bernie J. Montoya
Associate Engineer

OFFICIAL NOTICE

CITY OF ALBUQUERQUE
PLANNING DEPARTMENT
DEVELOPMENT SERVICES DIVISION
P.O. BOX 1293, ALBUQUERQUE NEW MEXICO 87103

17. DRB-94-405 V-97-12 The City of Albuquerque requests Vacation (closing) of a portion of Amo Street (Public Right-of-Way) for T10N, R3E, Sec. 17, Balduini Addition zoned SU-2/C-1/M-1 (City) and located on Amo NE and Lomas NE. [V-94-82] (J-14) [DEFERRED FROM 5/20/97]

At the June 10, 1997, Development Review Board Meeting, the Vacation was approved as shown on Exhibit A in the Planning File with the following findings and conditions:

FINDINGS:

1. The public welfare is in no way served by retaining the rights-of-way and/or easements.

2. There is no convincing evidence that any substantial property right is being abridged against the will of the owner of the right.

CONDITIONS:

1. Final disposition shall be through the City Real Estate Office.

2. The vacated property shall be shown on a replat and the replat shall be filed for record with the Bernalillo County Clerk's Office within one year.

3. Affected utility companies shall acknowledge the vacation by their signatures on the replat.

If you wish to appeal this decision, you must do so by June 25, 1997, in the manner described below. A nonrefundable fee of $135 is required at the time the appeal is filed.

Appeal is to the Environmental Planning Commission. Any person aggrieved with any determination of the Development Review Board may file an appeal on the Planning Division form, to the Planning Division, within 15 days of the Development Review Board's decision. The date the determination in question is issued is not included in the 15-day period for filing an appeal; If the fifteenth day falls on a Saturday, Sunday or holiday as listed in the Merit System Ordinance, the next working day is considered as the deadline for filing the appeal. Such appeal shall be heard within 45 days of its filing.

You will receive notice if any other person files an appeal. Successful applicants are reminded that other requirements of the City must be complied with, even after approval of the referenced application(s).

Please note that the vacation of all plats, rights-of-way, and easements are void after one year from the final appeal date referenced above if all conditions are not met (The effective date of Development Review Board approval is the hearing date plus the 15-day appeal period.) (REF: Chapter 14 Article 14 Part 7-2 (E)(3)(6) Revised Ordinance.)

Claire Koopman
Board Secretary

cc: Gamelsky Benton Architects, 622 Tijeras Ave NW, 87102
City of Albuquerque, Dept., of Family & Community Services, 1840 University Blvd SE, 87106
Loren Hines, Property Management, Legal Dept./7th Flr, City/County-Room 7042
Terri Martin, Public Works Department, 2nd Floor, Plaza del Sol Bldg.
File

Walla ENGINEERING LTD
Structural Engineering • Civil Engineering

DRAINAGE REPORT

FOR

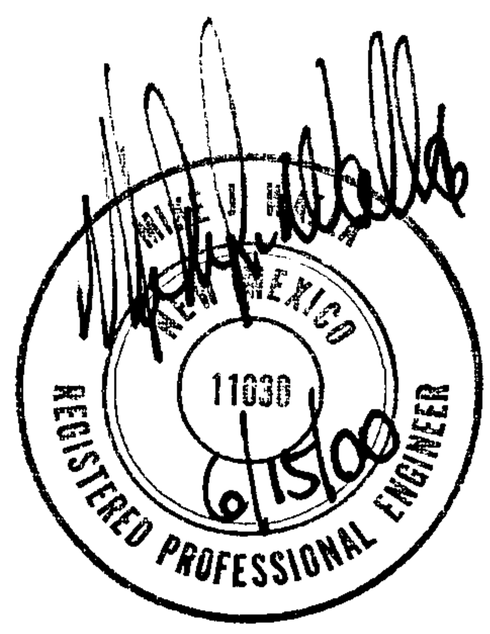
LA AMISTAD SENIOR CENTER

Prepared For

Lee Gamelsky Architect and

City of Albuquerque

June 2000



6100 Indian School Road NE • Suite 210
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(505) 881-3008 • Facsimile (505) 884-5390

Mike J. Walla P.E. • Larry E. Kennedy

Walla ENGINEERING LTD
Structural Engineering • Civil Engineering

City of Albuquerque
Public Works Department
Development & Building Services - Hydrology Division
Plaza Del Sol Building, 2 nd Floor
600 2 nd Street NW
Albuquerque, New Mexico 87102

June 15, 2000

Re: La Amistad Senior Center
Albuquerque, New Mexico

DESIGN NARRATIVE

Description

This submittal is an edited version of a previously approved submittal prepared by D. Mark Goodwin & Associates dated March, 1997. The current project being submitted for building permit approval is similar is size and scope to the originally approved project but is slightly smaller. The existing building will have an addition with less area than the original but the site work will be basically the same. A portion of Arno Street will still be vacated as part of this work in order to restrict through traffic. The proposed traffic obstruction will be located 150 feet north of the intersection of Arno and Fruit but *will not impede* existing drainage patterns. The drainage in this area is routed on the surface by way of city standard curb and gutter from local tributary areas to City of Albuquerque storm drain facilities. As previously approved the closing of Arno St. will not impede or obstruct developed runoff flow north towards Lomas.

Existing Conditions

Two buildings currently exist on the site located centrally on the property. Parking is located on the eastern portion of the site. There are two existing drainage basins, an eastern and a western, with a basin dividing line running north/south through the center of the property. The existing storm runoff from the eastern basin drains overland to the south onto Fruit Avenue. The western basin drains overland into Arno Street. Runoff directed to Fruit Ave. flows westward on the northern half of the street to the storm inlet at the northeastern curb return at Arno and Fruit. Western basin drainage flows north on the eastern half of Arno to a storm inlet at the southeastern curb return at Lomas and Arno.

Proposed Conditions

Historical flow paths and basins will not change due to the new construction. Upstream basins and their flow paths will not be altered due to the improvements at La Amistad Senior Center.

Upstream Basins

Based on previously approved calculations, prepared by D. Mark Goodwin & Associates for this project, the existing capacity of street and storm drain facilities will be adequate to convey the developed flows from this site and tributary area.

Conclusion

The vacation of Arno Street for the proposed improvements can be accommodated without altering the existing drainage conditions and will adequately handle the revised developed site conditions. The street must remain free of obstructions in order to convey upstream storm water not conveyed by the storm sewer system, to meet current city requirements.

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Albuquerque • New Mexico • 87110
(505) 881-3008 • Facsimile (505) 884-5390
Mike J. Walla P.E. • Larry E. Kennedy

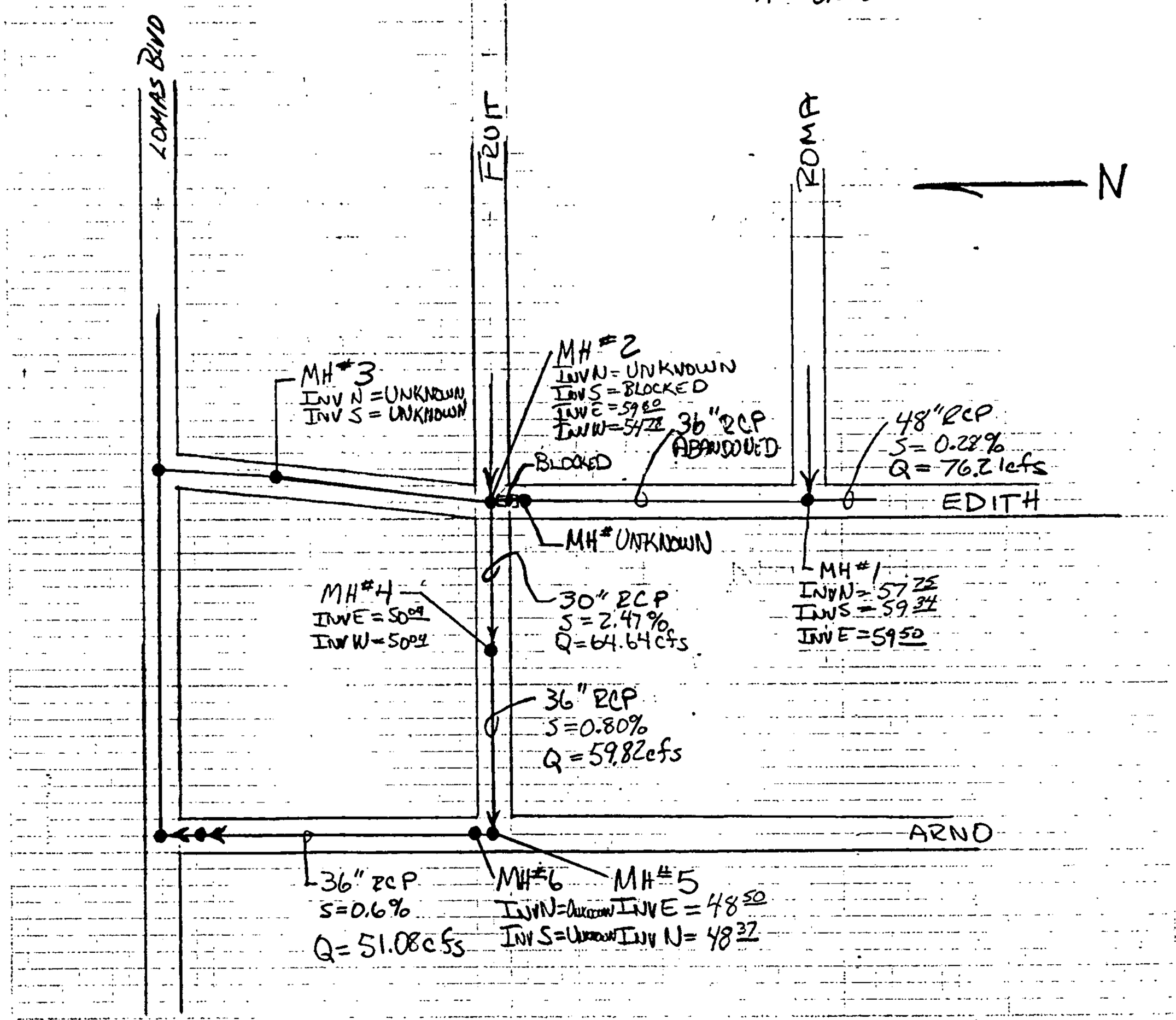
D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT La Amistad Senior Center
SUBJECT Arno St. Drainage & Vacation
BY RM DATE 28 Feb 97
CHECKED _____ DATE _____
SHEET 1 OF 4

1. Storm Sewer Capacity

Existing Storm Sewer Capacities In The Area.

Mannings Eqtn $Q = \frac{K}{n} A R_H^{2/3} S^{1/2}$ $K = 1.49$, $n = 0.013$



D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT LA AMISTAD SENIOR CENTER
SUBJECT ARNO ST DRAINAGE & VACATION
BY RM DATE 28 FEB 97
CHECKED _____ DATE _____
SHEET 2 OF 4

2. CONTRIBUTING BASIN AREAS

- BASIN 1 – EAST OF ROMA & FRUIT, WEST OF I-25, SOUTH OF LOMAS, NORTHERN PORTION OF ST. JOSEPHS PARKING LOT.

A = 22.1247 ACRES = 0.0346 SQ. MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 99.64 cfs
$V_{OL_{PK}}$ = 3.6860 ACRE-FEET

- BASIN 2 – WEST OF BASIN 1, SOUTHERN PORTION OF FRUIT, NORTHERN PORTION PROPERTY BORDERED BY ROMA & FRUIT, EAST OF EDITH

A = 6.0262 ACRES = 0.0094 SQ. MILES

BASIN CONTAINS PONDS
HISTORICAL DISCHARGE FROM SITE IS CALCULATED

LAND TREATMENTS
TYPE "A" = 100.00%
TYPE "B" = 0.00%
TYPE "C" = 0.00%
TYPE "D" = 0.00%

AHYMO RESULTS
Q_{PK} = 9.37 cfs
$V_{OL_{PK}}$ = 0.2663 ACRE-FEET

- BASIN 3 – WEST OF BASIN 1, NORTHERN PORTION & NORTH OF FRUIT, EAST OF EDITH, SOUTH OF LOMAS

A = 3.9256 ACRES = 0.0061 SQ. MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 17.58 cfs
$V_{OL_{PK}}$ = 0.6498 ACRE-FEET

2. Contributing Basin Areas (Continued)

• Basin 4 - West Of Edith, Southern Portion Of Fruit & Northern Half Of Property Between Roma & Fruit, West Of Arno
A = 1.9083 Acres = 0.0030 sq miles

Land Treatments
Type "A" = 0.00%
Type "B" = 5.00%
Type "C" = 5.00%
Type "D" = 90.00%

AHYMO Results
Q_{pk} = 8.66 cfs
Vol_{pk} = 0.3196 Acre-Feet

• Basin 5 - South Of Lomas, North Of Fruit & Northern Portion Of Street, West Of Edith, East Of Site.
A = 1.8652 Acres = 0.0029 sq. miles

Land Treatments
Type "A" = 0.00%
Type "B" = 5.00%
Type "C" = 5.00%
Type "D" = 90.00%

AHYMO Results
Q_{pk} = 8.37 cfs
Vol_{pk} = 0.3089 Acre-Feet

• Basin 6 - Site Area & Arno Street, Vacated Portion Of Street.
A = 1.3516 Acres = 0.0021 sq miles

Land Treatments
Type "A" = 0.00%
Type "B" = 5.00%
Type "C" = 5.00%
Type "D" = 90.00%

AHYMO Results
Q_{pk} = 6.06 cfs
Vol_{pk} = 0.2237 Acre-Feet

• Basin 7 - East Of Edith, South Of Roma And A Portion Of St. Josephs Medical Center
A = 5.6244 Acres = 0.0088 sq. miles

Land Treatments
Type "A" = 0.00%
Type "B" = 5.00%
Type "C" = 5.00%
Type "D" = 90.00%

AHYMO Results
Q_{pk} = 25.36 cfs
Vol_{pk} = 0.9375 Acre-Feet

• Cumulative Total Of All Basins AHYMO Results Except Basin 6
Q_{pk} = 168.78 cfs Vol_{pk} = 6.1681 Acre-Feet

3. Conclusion

+ Assumed 50% of contributing basins may flow towards vacated portion of Arno and flow generated by site.

$$Q = (84.39 + 6.06)\,cfs = 90.45\,cfs$$

+ Capacity of Arno Street.
  - Surface Flow = Q = 53 cfs
    (See attached Plate 22.3-D2)
  - Storm Sewer Flow = Q = 51.08 cfs
    (See page 1 of 4)

Total Combined Flow > Assumed Flow

$$104\,cfs > 90.45\,cfs$$

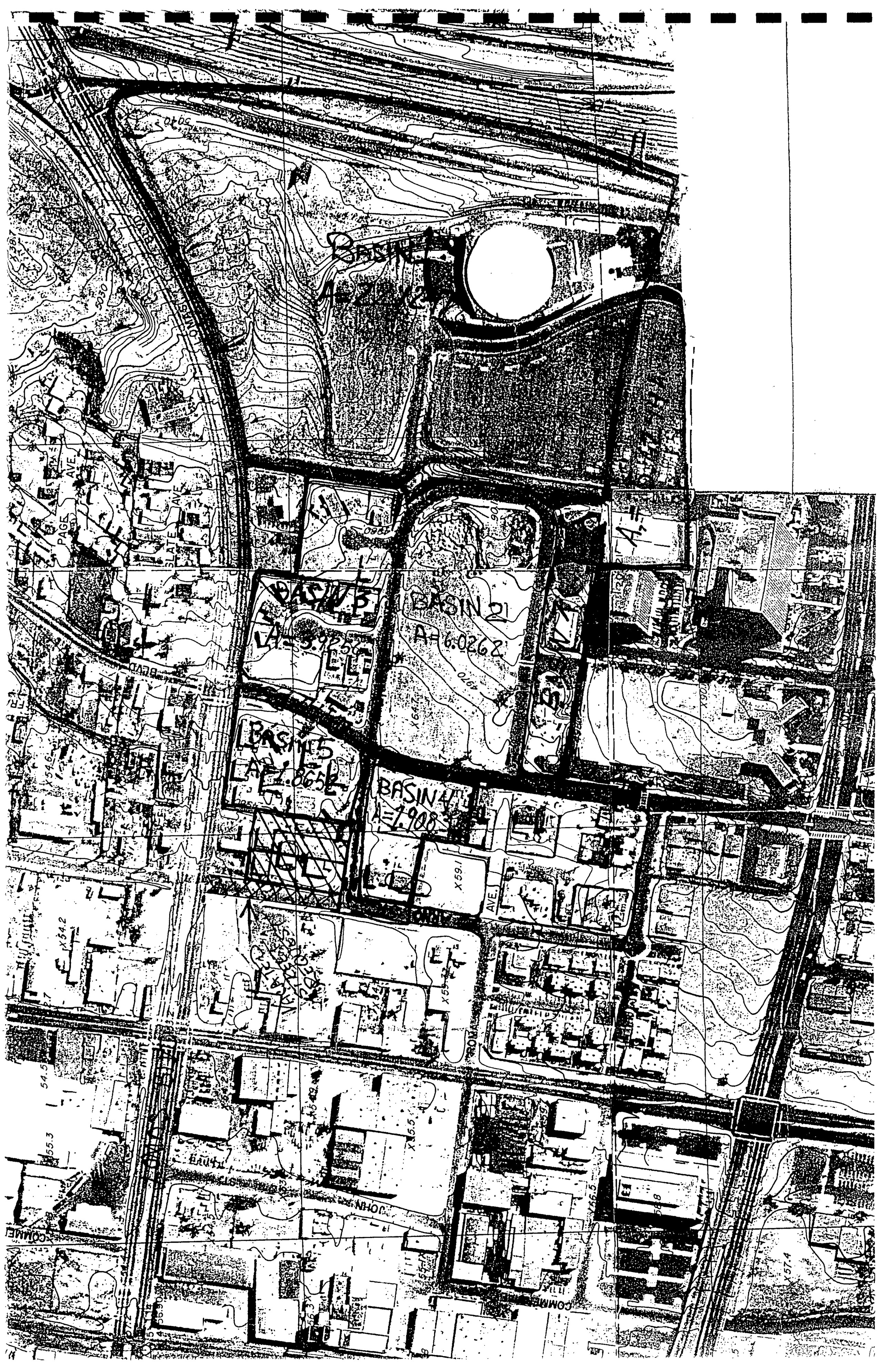
∴ Therefore, Arno St. must convey surface flow and should this street be vacated no obstructions shall be placed to impede surface flow.

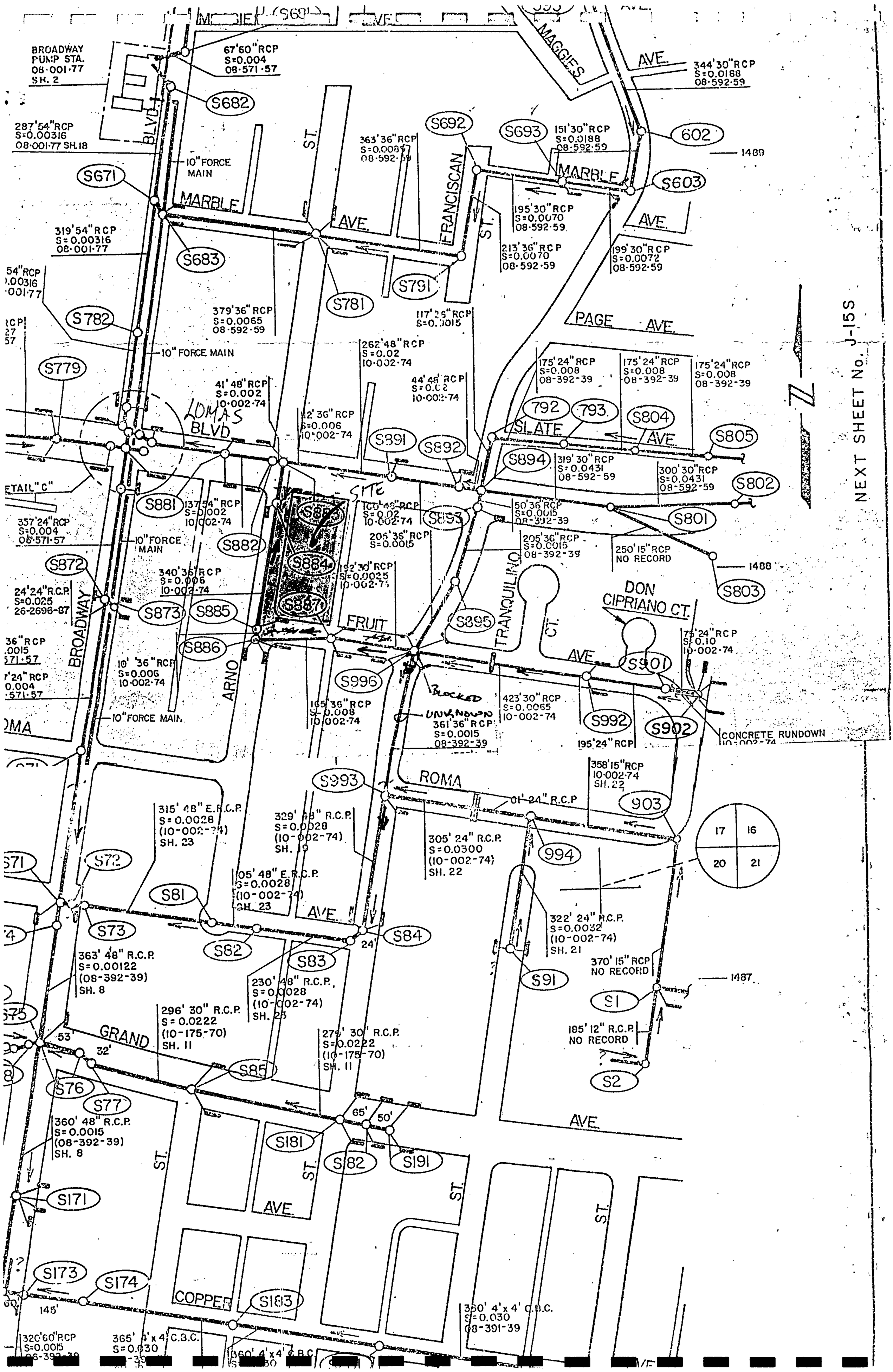
$$Q_{stormsewer} = 51.08\,cfs$$

$$Q_{surface} = 39.37\,cfs$$

$$Q_{surface} < Q_{capacity}$$

$$39.37\,cfs < 51.08\,cfs$$


BASIN 1
A=2.912
BASIN 2
A=6.026
BASIN 3
A=3.925
BASIN 4
A=2.908
BASIN 5
A=1.865
PAGE AVE.
SLATE AVE.
LOMAS
JOHN
COMMERCE
ROMA
AVE.


BROADWAY PUMP STA. 08-001-77 SH. 2
67'60" RCP S=0.004 08-571-57
S682
287'54" RCP S=0.00316 08-001-77 SH.18
BLVD.
10" FORCE MAIN
S671
MARBLE
AVE.
ST.
363'36" RCP S=0.0089 08-592-59
S692
S693
151'30" RCP S=0.0188 08-592-59
MAGGIES
AVE.
344'30" RCP S=0.0168 08-592-59
602
1489
MARBLE
S603
FRANCISCAN
ST.
195'30" RCP S=0.0070 08-592-59
213'36" RCP S=0.0070 08-592-59
199'30" RCP S=0.0072 08-592-59
AVE.
319'54" RCP S=0.00316 08-001-77
S683
S791
S781
379'36" RCP S=0.0065 08-592-59
117'36" RCP S=0.0015
PAGE AVE.
S782
10" FORCE MAIN
262'48" RCP S=0.02 10-002-74
S779
41'48" RCP S=0.002 10-002-74
44'48" RCP S=0.02 10-002-74
175'24" RCP S=0.008 08-392-39
175'24" RCP S=0.008 08-392-39
175'24" RCP S=0.008 08-392-39
LOMAS BLVD
792
793
S804
SLATE
AVE
S805
S891
S892
S894
319'30" RCP S=0.0431 08-592-59
300'30" RCP S=0.0431 08-592-59
S802
SITE
S881
137'54" RCP S=0.002 10-002-74
S893
50'36" RCP S=0.0015 08-392-39
S801
357'24" RCP S=0.004 08-571-57
10" FORCE MAIN
S882
205'36" RCP S=0.0015
205'36" RCP S=0.0015 08-392-39
250'15" RCP NO RECORD
1488
S803
S872
340'36" RCP S=0.006 10-002-74
S884
162'30" RCP S=0.0025 10-002-74
24'24" R.C.P. S=0.025 26-2696-87
S873
S885
S887
FRUIT
S895
TRANQUILINO
CT.
DON CIPRIANO CT.
BROADWAY
S886
AVE
S901
75'24" RCP S=0.10 10-002-74
10'36" RCP S=0.006 10-002-74
ARNO
S996
BLOCKED
UNKNOWN
423'30" RCP S=0.0065 10-002-74
S992
S902
CONCRETE RUNDOWN
10" FORCE MAIN
165'36" RCP S=0.008 10-002-74
361'36" RCP S=0.0015 08-392-39
195'24" RCP
358'15" RCP 10-002-74 SH. 22
S993
ROMA
01'24" R.C.P
903
315'48" E.R.C.P. S=0.0028 (10-002-74) SH. 23
329'48" R.C.P. S=0.0028 (10-002-74) SH. 19
305'24" R.C.P. S=0.0300 (10-002-74) SH. 22
994
17
16
20
21
S72
S81
105'48" E.R.C.P. S=0.0028 (10-002-74) SH. 23
AVE.
322'24" R.C.P. S=0.0032 (10-002-74) SH. 21
S73
S84
S82
24'
S83
363'48" R.C.P. S=0.00122 (08-392-39) SH. 8
230'48" R.C.P. S=0.0028 (10-002-74) SH. 23
S91
370'15" RCP NO RECORD
1487
S1
296'30" R.C.P. S=0.0222 (10-175-70) SH. 11
GRAND
53'
32'
279'30" R.C.P. S=0.0222 (10-175-70) SH. 11
185'12" R.C.P. NO RECORD
S2
S85
S76
S77
65'
50'
360'48" R.C.P. S=0.0015 (08-392-39) SH. 8
AVE.
S181
S182
S191
ST.
S171
AVE.
ST.
ST.
ST.
S173
S174
145'
COPPER
S183
360' 4'x4' C.B.C. S=0.030 08-391-39
320'60" RCP S=0.0015
365' 4'x4' C.B.C. S=0.030
360' 4'x4' C.B.C.
NEXT SHEET No. J-15S

STREET CAPACITY

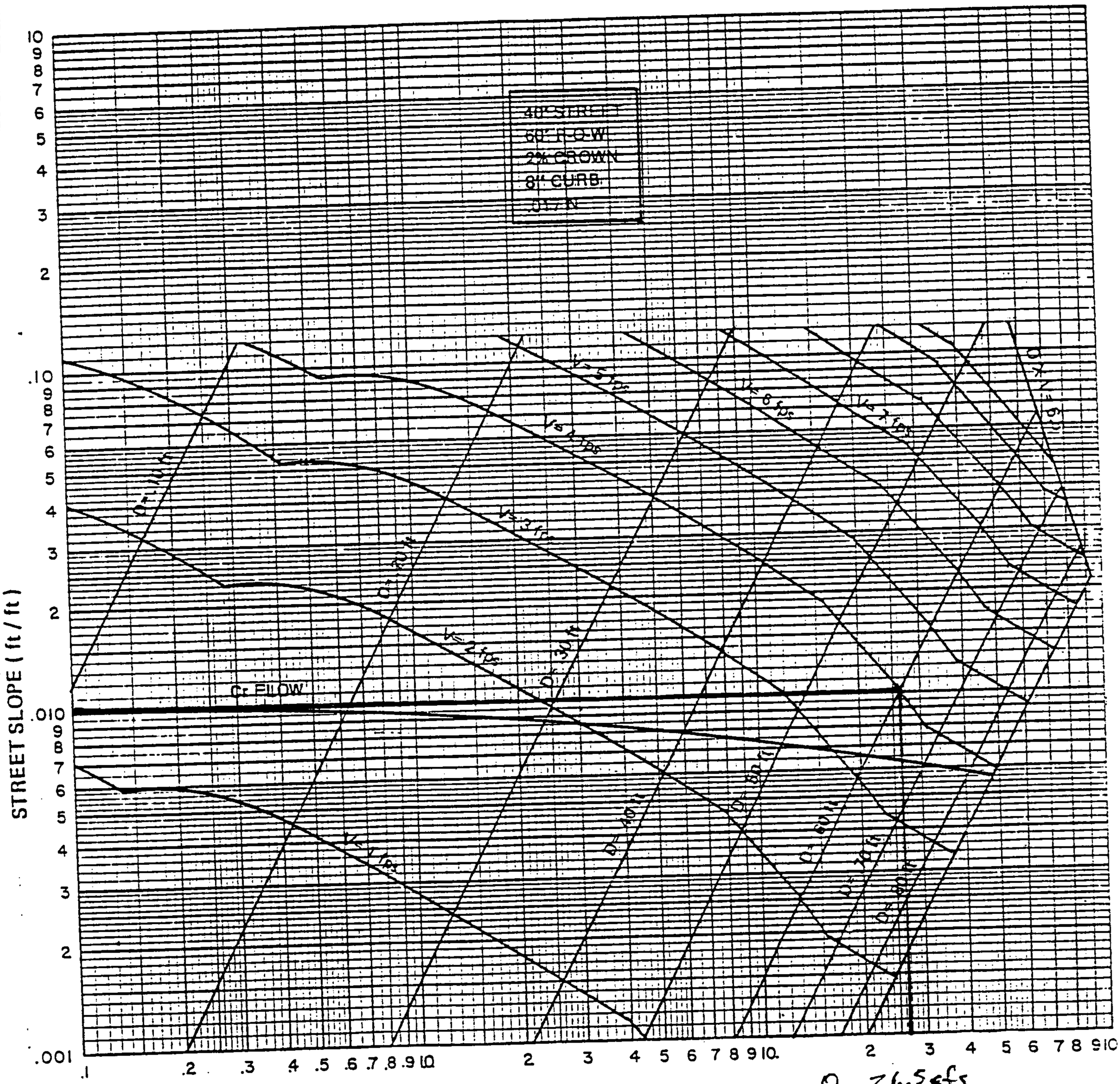


PLATE 22.3 D-2

REV. 3-83

```
START                   TIME=0.0

*****   HYDROGRAPH FOR LA AMISTAD SENIOR CENTER BETWEEN FRUIT AVENUE
*****   AND LOMAS BLVD, ON THE EASTERN HALF OF ARNO STREET. THIS IS THE
*****   ESTIMATE OF THE OFFSITE BASINS CONTRIBUTING TO THE SURFACE AND
*****   STORM SEWER FLOW IN ARNO STREET.

RAINFALL                TYPE=1 RAIN QUARTER=0.0 IN
                        RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                        RAIN DAY=2.75 IN DT=0.03333 HR

*HYDROGRAPH FOR OFF-SITE BASIN 1
COMPUTE NM HYD          ID=1 HYD NO=101.1 AREA=0.0346 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=1 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 2
COMPUTE NM HYD          ID=2 HYD NO=101.2 AREA=0.0094 SQ MI
                        PER A=100.00 PER B=0.00 PER C=0.00 PER D=0.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=2 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 3
COMPUTE NM HYD          ID=3 HYD NO=101.3 AREA=0.0061 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=3 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 4
COMPUTE NM HYD          ID=4 HYD NO=101.4 AREA=0.0030 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=4 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 5
COMPUTE NM HYD          ID=5 HYD NO=101.5 AREA=0.0029 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
```

```
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=5 CODE=1

*HYDROGRAPH FOR ON-SITE BASIN 6
COMPUTE NM HYD      ID=6 HYD NO=101.6 AREA=0.0021 SQ MI
                    PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=6 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 7
COMPUTE NM HYD      ID=7 HYD NO=101.7 AREA=0.0088 SQ MI
                    PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=7 CODE=1

ADD HYD             ID=8  HYD NO=101.8    ID=1   ID=2
PRINT HYD           ID=8  CODE=1

ADD HYD             ID=9  HYD NO=101.9    ID=8   ID=3
PRINT HYD           ID=9  CODE=1

ADD HYD             ID=11  HYD NO=101.11  ID=9   ID=4
PRINT HYD           ID=11  CODE=1

ADD HYD             ID=12  HYD NO=101.12  ID=11  ID=5
PRINT HYD           ID=12  CODE=1

ADD HYD             ID=13  HYD NO=101.13  ID=12  ID=7
PRINT HYD           ID=13  CODE=1

FINISH
```

```
AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
     RUN DATE (MON/DAY/YR) = 03/03/1997
     START TIME (HR:MIN:SEC) = 10:44:47     USER NO.= M_GOODWN.I01
     INPUT FILE = LAMISTAD.DAT


START                TIME=0.0


*****   HYDROGRAPH FOR LA AMISTAD SENIOR CENTER BETWEEN FRUIT AVENUE

*****   AND LOMAS BLVD, ON THE EASTERN HALF OF ARNO STREET. THIS IS THE

*****   ESTIMATE OF THE OFFSITE BASINS CONTRIBUTING TO THE SURFACE AND

*****   STORM SEWER FLOW IN ARNO STREET.


RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN

                     RAIN ONE=2.01 IN RAIN SIX=2.35 IN

                     RAIN DAY=2.75 IN DT=0.03333 HR


                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	

```
*HYDROGRAPH FOR OFF-SITE BASIN 1

COMPUTE NM HYD       ID=1 HYD NO=101.1 AREA=0.0346 SQ MI

                     PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                     TP=0.1333 HR MASS RAINFALL=-1

        K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
PE CONSTANT, N =  7.106420
        UNIT PEAK =    122.94    CFS   UNIT VOLUME =    .9993       B =    526.
28      P60 = 2.0100
        AREA =       .031140 SQ MI    IA =    .10000 INCHES    INF =    .04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
```

```
T =    .033330


          K =    .119767HR     TP =    .133300HR     K/TP RATIO =    .898476      SHA
PE CONSTANT, N =  3.944947
          UNIT PEAK =    9.1232     CFS    UNIT VOLUME =     .9990        B =    351.
48       P60 = 2.0100
          AREA =       .003460 SQ MI     IA =     .42500 INCHES     INF =   1.04000
 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

     PRINT HYD              ID=1 CODE=1


                                          PARTIAL HYDROGRAPH   101.10


          RUNOFF VOLUME =      1.99749 INCHES      =        3.6860 ACRE-FEET
          PEAK DISCHARGE RATE =       99.64 CFS  AT   1.500 HOURS   BASIN AREA =
    .0346 SQ. MI.



     *HYDROGRAPH FOR OFF-SITE BASIN 2

     COMPUTE NM HYD       ID=2 HYD NO=101.2 AREA=0.0094 SQ MI

                          PER A=100.00 PER B=0.00 PER C=0.00 PER D=0.00

                          TP=0.1333 HR MASS RAINFALL=-1


          K =    .160154HR     TP =    .133300HR     K/TP RATIO =  1.201459      SHA
PE CONSTANT, N =  2.957910
          UNIT PEAK =    19.630     CFS    UNIT VOLUME =     .9990        B =    278.
```

```
37      P60 = 2.0100
         AREA =       .009400 SQ MI    IA =     .65000 INCHES    INF =   1.67000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330

     PRINT HYD            ID=2 CODE=1

                                PARTIAL HYDROGRAPH   101.20

         RUNOFF VOLUME =       .53121 INCHES      =         .2663 ACRE-FEET
         PEAK DISCHARGE RATE =       9.37 CFS  AT   1.533 HOURS   BASIN AREA =
.0094 SQ. MI.


   *HYDROGRAPH FOR OFF-SITE BASIN 3

   COMPUTE NM HYD       ID=3 HYD NO=101.3 AREA=0.0061 SQ MI

                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                        TP=0.1333 HR MASS RAINFALL=-1


         K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
PE CONSTANT, N =  7.106420
         UNIT PEAK =   21.675    CFS   UNIT VOLUME =    .9988       B =   526.
28      P60 = 2.0100
         AREA =       .005490 SQ MI    IA =     .10000 INCHES    INF =    .04000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330
```

```
        K =    .119767HR    TP =    .133300HR    K/TP RATIO =    .898476     SHA
PE CONSTANT, N =  3.944947
        UNIT PEAK =   1.6084    CFS   UNIT VOLUME =    .9919       B =   351.
48      P60 = 2.0100
        AREA =       .000610 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

  PRINT HYD            ID=3 CODE=1

                                        PARTIAL HYDROGRAPH   101.30

      RUNOFF VOLUME =      1.99749 INCHES      =         .6498 ACRE-FEET
      PEAK DISCHARGE RATE =       17.58 CFS  AT   1.500 HOURS   BASIN AREA =
.0061 SQ. MI.

  *HYDROGRAPH FOR OFF-SITE BASIN 4

  COMPUTE NM HYD       ID=4 HYD NO=101.4 AREA=0.0030 SQ MI

                       PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                       TP=0.1333 HR MASS RAINFALL=-1

        K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
PE CONSTANT, N =  7.106420
        UNIT PEAK =   10.660    CFS   UNIT VOLUME =    .9982       B =   526.
28      P60 = 2.0100
        AREA =       .002700 SQ MI    IA =    .10000 INCHES    INF =    .04000
```

```
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330


        K =    .119767HR     TP =    .133300HR     K/TP RATIO =    .898476      SHA
PE CONSTANT, N =  3.944947
        UNIT PEAK =    .79103     CFS   UNIT VOLUME =     .9841        B =    351.
48      P60 = 2.0100
        AREA =       .000300 SQ MI     IA =     .42500 INCHES     INF =    1.04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

     PRINT HYD            ID=4 CODE=1


                                        PARTIAL HYDROGRAPH   101.40


        RUNOFF VOLUME =      1.99749 INCHES      =          .3196 ACRE-FEET
        PEAK DISCHARGE RATE =        8.66 CFS  AT   1.500 HOURS   BASIN AREA =
   .0030 SQ. MI.


*HYDROGRAPH FOR OFF-SITE BASIN 5

COMPUTE NM HYD       ID=5 HYD NO=101.5 AREA=0.0029 SQ MI

                     PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                     TP=0.1333 HR MASS RAINFALL=-1


    K =    .072649HR     TP =    .133300HR     K/TP RATIO =    .545000      SHA
```

```
PE CONSTANT, N =  7.106420
        UNIT PEAK =   10.304    CFS   UNIT VOLUME =    .9982       B =   526.
28      P60 = 2.0100
        AREA =      .002610 SQ MI    IA =    .10000 INCHES    INF =    .04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330

        K =   .119767HR    TP =   .133300HR    K/TP RATIO =   .898476     SHA
PE CONSTANT, N =  3.944947
        UNIT PEAK =   .76467    CFS   UNIT VOLUME =    .9825       B =   351.
48      P60 = 2.0100
        AREA =      .000290 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330

    PRINT HYD           ID=5 CODE=1


                                        PARTIAL HYDROGRAPH   101.50


        RUNOFF VOLUME =     1.99749 INCHES     =        .3089 ACRE-FEET
        PEAK DISCHARGE RATE =       8.37 CFS  AT   1.500 HOURS   BASIN AREA =
   .0029 SQ. MI.


    *HYDROGRAPH FOR ON-SITE BASIN 6

    COMPUTE NM HYD      ID=6 HYD NO=101.6 AREA=0.0021 SQ MI

                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
```

```
                    TP=0.1333 HR MASS RAINFALL=-1


        K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
PE CONSTANT, N =  7.106420
        UNIT PEAK =    7.4618    CFS   UNIT VOLUME =    .9978       B =   526.
28      P60 = 2.0100
        AREA =       .001890 SQ MI    IA =    .10000 INCHES    INF =    .04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330


        K =    .119767HR    TP =    .133300HR    K/TP RATIO =    .898476     SHA
PE CONSTANT, N =  3.944947
        UNIT PEAK =    .55372    CFS   UNIT VOLUME =    .9767       B =   351.
48      P60 = 2.0100
        AREA =       .000210 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330

    PRINT HYD           ID=6 CODE=1


                                        PARTIAL HYDROGRAPH   101.60


        RUNOFF VOLUME =     1.99749 INCHES     =        .2237 ACRE-FEET
        PEAK DISCHARGE RATE =       6.06 CFS  AT   1.500 HOURS   BASIN AREA =
.0021 SQ. MI.


  *HYDROGRAPH FOR OFF-SITE BASIN 7
```

```
     COMPUTE NM HYD       ID=7 HYD NO=101.7 AREA=0.0088 SQ MI

                          PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                          TP=0.1333 HR MASS RAINFALL=-1


          K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
PE CONSTANT, N =  7.106420
          UNIT PEAK =   31.269    CFS   UNIT VOLUME =    .9990       B =   526.
28       P60 = 2.0100
          AREA =       .007920 SQ MI    IA =    .10000 INCHES    INF =    .04000
 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330


          K =    .119767HR    TP =    .133300HR    K/TP RATIO =    .898476     SHA
PE CONSTANT, N =  3.944947
          UNIT PEAK =   2.3204    CFS   UNIT VOLUME =    .9946       B =   351.
48       P60 = 2.0100
          AREA =       .000880 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

     PRINT HYD            ID=7 CODE=1


                                   PARTIAL HYDROGRAPH   101.70


          RUNOFF VOLUME =     1.99749 INCHES     =         .9375 ACRE-FEET
          PEAK DISCHARGE RATE =      25.36 CFS  AT   1.500 HOURS   BASIN AREA =
.0088 SQ. MI.
```

```
ADD HYD              ID=8  HYD NO=101.8    ID=1   ID=2

PRINT HYD            ID=8  CODE=1

                                   PARTIAL HYDROGRAPH   101.80

     RUNOFF VOLUME =     1.68423 INCHES      =       3.9523 ACRE-FEET
     PEAK DISCHARGE RATE =     108.82 CFS  AT   1.500 HOURS   BASIN AREA =
.0440 SQ. MI.


ADD HYD              ID=9  HYD NO=101.9    ID=8   ID=3

PRINT HYD            ID=9  CODE=1

                                   PARTIAL HYDROGRAPH   101.90

     RUNOFF VOLUME =     1.72237 INCHES      =       4.6021 ACRE-FEET
     PEAK DISCHARGE RATE =     126.40 CFS  AT   1.500 HOURS   BASIN AREA =
.0501 SQ. MI.


ADD HYD              ID=11  HYD NO=101.11  ID=9   ID=4

PRINT HYD            ID=11  CODE=1
```

PARTIAL HYDROGRAPH 101.11

RUNOFF VOLUME = 1.73791 INCHES = 4.9217 ACRE-FEET
PEAK DISCHARGE RATE = 135.06 CFS AT 1.500 HOURS BASIN AREA =
.0531 SQ. MI.

ADD HYD ID=12 HYD NO=101.12 ID=11 ID=5

PRINT HYD ID=12 CODE=1

PARTIAL HYDROGRAPH 101.12

RUNOFF VOLUME = 1.75135 INCHES = 5.2307 ACRE-FEET
PEAK DISCHARGE RATE = 143.43 CFS AT 1.500 HOURS BASIN AREA =
.0560 SQ. MI.

ADD HYD ID=13 HYD NO=101.13 ID=12 ID=7

PRINT HYD ID=13 CODE=1

PARTIAL HYDROGRAPH 101.13

RUNOFF VOLUME = 1.78477 INCHES = 6.1681 ACRE-FEET
PEAK DISCHARGE RATE = 168.78 CFS AT 1.500 HOURS BASIN AREA =

```
.0648 SQ. MI.


  FINISH


NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 10:44:49
```

CITY OF
Albuquerque

Martin J. Chávez, Mayor

October 20,1997

John MacKenzie
D. Mark Goodwin & Associates
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: REVISED DRAINAGE PLAN FOR LA AMISTAD SENIOR CENTER (J14-D119)
REVISION DATED 10/1/97

Dear Mr. MacKenzie:

Based on the information provided on your October 2,1997 resubmittal, the above referenced site is approved for Building Permit.

Please be advised that a separate permit is required for construction within City R/W. A copy of this approval letter must be on hand when applying for the excavation permit.

Also, prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

If I can be of further assistance, please feel free to contact me at 924-3986.

C: Andrew Garcia
Arlene Portillo
File

Sincerely

Bernie J. Montoya
Associate Engineer

CITY OF
Albuquerque
Public Works Department

Martin J. Chávez, Mayor

Robert E. Gurulé, Director

August 22,1997

John MacKenzie
D. Mark Goodwin & Associates
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: DRAINAGE PLAN FOR LA AMISTAD SENIOR CENTER (J14-D119) ENGINEER'S STAMP DATED 3/25/97

Dear Mr. MacKenzie:

Based on the information provided on your August 6,1997 submittal, listed are some concerns that will need to be addressed prior to final approval:

1. Roof run-off must be routed towards the asphalt area if possible. If not possible, a 4" pvc or sidewalk culvert through the curb is the next solution.

2. Finish floor elevation to full mean sea level designation is required.

If I can be of further assistance, please feel free to contact me at 924-3986.

C: Andrew Garcia
File

Sincerely

Bernie J. Montoya

Bernie J. Montoya CE
Associate Engineer

DRAINAGE INFORMATION SHEET

PROJECT TITLE: La Amistad Senior Center

ZONEATLAS/DRNG,FILE#: J-14 / D119

DRB#: 94-405 EPC#

WORK ORDER#:

LEGAL DESCRIPTION: Tract 13B1, Lomas Center

CITY ADDRESS: NE Corner of Arno & Fruit

ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	Roger Martinez, Jr.
ADDRESS:	P.O. Box 90606 Albuquerque, NM 87199	PHONE:	(505) 345-2010
OWNER:	City of Albuquerque	CONTACT:	Lee Gamelsky
ADDRESS:	622 Tijeras NW Albuquerque, NM 87109	PHONE:	(505) 842-8865
ARCHITECT:	Gamelsky Benton Architects	CONTACT:	Lee Gamelsky
ADDRESS:	622 Tijeras NW Albuquerque, NM 87109	PHONE:	(505) 842-8865
SURVEYOR:		CONTACT:	
ADDRESS:		PHONE:	
CONTACTOR:		CONTACT:	
ADDRESS:		PHONE:	

TYPE OF SUBMITTAL:

- ___ DRAINAGE REPORT
- X DRAINAGE PLAN
- ___ CONCEPTUAL GRADING & DRAINAGE PLAN
- X GRADING PLAN
- ___ EROSION CONTROL
- ___ ENGINEER'S CERTIFICATION
- ___ OTHER

PRE-DESIGN MEETING:

- ___ YES
- ___ NO
- ___ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- ___ SKETCH PLAT APRROVAL
- ___ PRELIMINARY PLAT APRROVAL
- ___ S. DEV. PLAN FOR SUB'D APPROVAL
- ___ S. DEV. PLAN FOR BLDG PERMIT APPROVAL
- ___ SECTOR PLAN APPROVAL
- ___ FINAL PLAT APPROVAL
- ___ FOUNDATION PERMIT APPROVAL
- X BUILDING PERMIT APPROVAL
- ___ CERTIFICATION OF OCCUPANCY APPROVAL
- ___ GRADING PERMIT APPROVAL
- ___ PAVING PERMIT APPROVAL
- ___ S.A.D. DRAINAGE REPORT
- ___ DRAINAGE REQUIREMENTS
- ___ OTHER

RECEIVED
OCT 02 1997
HYDROLOGY SECTION

DATE SUBMITTED: 26 Aug. 97

BY: Roger Martinez, Jr.

Roger Martinez, Jr.

D. Mark Goodwin & Associates, P.A.
Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmg@swcp.com

August 26, 1997

Mr. Bernie J. Montoya
City Of Albuquerque, Hydrology
P.O. Box 1293
Albuquerque, NM 87103

RE: *La Amistad Senior Center - J14-D119*

Dear Mr. Montoya,

The intent of this letter is to respond to your concerns outlined in your letter dated August 22, 1997 for the referenced project. Attached, please find the revised grading and drainage plan for the referenced project.

1. The roof run-off has been directed, within city right of way, to drainlines through the curb for off-site discharge.

2. The finished floor elevation has been corrected to reflect mean sea level elevation.

If you have any questions concerning this project or the letter, please contact me at 828-2200.

Sincerely,

MARK GOODWIN AND ASSOCIATES, P.A.

Roger Martinez, Jr.

Attachments

RM

RECEIVED
OCT 0 2 1997
HYDROLOGY SECTION

DRAINAGE INFORMATION SHEET

PROJECT TITLE: La Amistad Senior Center

ZONEATLAS/DRNG,FILE#: J-14 / D109

DRB#: 94-405 EPC#

WORK ORDER#:

LEGAL DESCRIPTION: Tract 13B1, Lomas Center

CITY ADDRESS: NE Corner of Arno & Fruit

ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	Roger Martinez, Jr.
ADDRESS:	P.O. Box 90606 Albuquerque, NM 87199	PHONE:	(505) 345-2010
OWNER:	City of Albuquerque	CONTACT:	Lee Gamelsky
ADDRESS:	622 Tijeras NW Albuquerque, NM 87109	PHONE:	(505) 842-8865
ARCHITECT:	Gamelsky Benton Architects	CONTACT:	Lee Gamelsky
ADDRESS:	622 Tijeras NW Albuquerque, NM 87109	PHONE:	(505) 842-8865
SURVEYOR:		CONTACT:	
ADDRESS:		PHONE:	
CONTACTOR:		CONTACT:	
ADDRESS:		PHONE:	

TYPE OF SUBMITTAL:

- ___ DRAINAGE REPORT
- X DRAINAGE PLAN
- ___ CONCEPTUAL GRADING & DRAINAGE PLAN
- X GRADING PLAN
- ___ EROSION CONTROL
- ___ ENGINEER'S CERTIFICATION
- ___ OTHER

PRE-DESIGN MEETING:

- ___ YES
- ___ NO
- ___ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- ___ SKETCH PLAT APRROVAL
- ___ PRELIMINARY PLAT APRROVAL
- ___ S. DEV. PLAN FOR SUB'D APPROVAL
- ___ S. DEV. PLAN FOR BLDG PERMIT APPROVAL
- ___ SECTOR PLAN APPROVAL
- ___ FINAL PLAT APPROVAL
- ___ FOUNDATION PERMIT APPROVAL
- X BUILDING PERMIT APPROVAL
- ___ CERTIFICATION OF OCCUPANCY APPROVAL
- ___ GRADING PERMIT APPROVAL
- ___ PAVING PERMIT APPROVAL
- ___ S.A.D. DRAINAGE REPORT
- ___ DRAINAGE REQUIREMENTS
- ___ OTHER

DATE SUBMITTED: 6 AUG 97

BY: Roger Martinez, Jr.

Roger Martinez, Jr.

RECEIVED AUG 06 1997 HYDROLOGY SECTION

CITY OF
Albuquerque
Public Works Department

April 8, 1997

Martin J. Chávez, Mayor

Robert E. Gurulé, Director

John M. MacKenzie, P.E.
Mark Goodwin & Associates, P.A.
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: Drainage Plan for La Amistad Senior Center (J14/D119) Submitted for Preliminary and Final Plat Approval, Building Permit Approval and Vacation of Public Right-of-way, Engineer's Stamp Dated 3/25/97.

Dear Mr. MacKenzie:

Prior to approval of the above referenced plan, the following comments must be addressed:

1. This submittal was not complete. Each drainage submittal must be complete and be able to stand alone. The supplemental calculations should be bound together and stamped by a Professional Engineer. The grading and drainage plan should reference the supplemental information provided.

2. The supplemental calculations state that 84.39 cfs comes from the upstream basins. Please provide the basin map and calculations to demonstrate where these flows are located and the direction of flow. Is all of this runoff flowing east on Fruit Avenue? If 49.4 cfs bypasses the inlets on Fruit, how does this water turn north on Arno?

3. How much runoff flows north on Arno from south of the intersection? How much runoff comes from the developed Senior Center site? Why aren't additional inlets provided to intercept these flows? What is the capacity of the existing storm drain? How does the proposed parking effect the flows on the east side of Arno?

Without this information, I cannot approve the vacation action for the Arno right-of-way. Is this the only action for the Preliminary and Final Plat approval? Please provide a copy of the Plat. Prior to building permit approval, runoff calculations for the site will be required. If you should have any questions regarding these comments, please call me at 924-3982.

Sincerely,

Susan Calongne

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: File

D. Mark Goodwin & Associates, P.A.
Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmg@swcp.com

August 6, 1997

Hydrology
City Of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RE: *La Amistad Senior Center (J14 - D109)*
Building Permit

To Whom It May Concern:

The intent of this letter is to request Building Permit approval for the referenced project. The project has been submitted prior to this for Final Plat and Street Vacation both of which have been approved.

This submittal was reviewed on March 25, 1997 for all three items, final plat, street vacation, and building permit. The building permit is the only remaining issue for complete approval of the project. The vacation approval is attached to this submittal.

If you have any questions concerning this project or the letter, please contact me at 828-2200.

Sincerely,

MARK GOODWIN AND ASSOCIATES, P.A.

Roger Martinez, Jr.

Attachments

RECEIVED
AUG 06 1997
HYDROLOGY SECTION

[redacted]

RECEIVED
APR 09 1997
HYDROLOGY SECTION

MARK GOODWIN & ASSOCIATES
CONSULTING ENGINEERS

DRAINAGE REPORT
for
LA AMISTAD SENIOR CENTER

Prepared For

City of Albuquerque

March 1997

RECEIVED
APR 09 1997
HYDROLOGY SECTION

JOHN M. MacKENZIE
NEW MEXICO
11619
REGISTERED PROFESSIONAL ENGINEER

3-4-97

PURPOSE

The purpose of this drainage analysis is on behalf of the City of Albuquerque, La Amistad Senior Center, for Vacation(closing) of a portion of Arno Street. The closing will occur from the intersection of Fruit and Arno then northward to Lomas Blvd. The intent of this partial closing is to restrict through traffic. The traffic obstruction to be considered is located 150' north of the intersection of Arno and Fruit and shall not impede the existing drainage patterns(See attached Grading and Drainage Plan). The drainage in this area is accomplished by storm sewer and by overland flow along city standard curb and gutter(See attached sheets for basin boundaries). This report will show that Arno Street can be closed but must not impede or obstruct the developed flow north towards Lomas Blvd.

EXISTING CONDITIONS

The site has two existing buildings centrally located within the property, one on the north and the other on the south. Parking is located on the eastern portion of the property. There are two existing drainage basins, an eastern and a western, with the basin dividing line running north and south in the center of the property. The existing storm runoff for the eastern basin drains overland to the south onto Fruit Avenue. The western basin drains overland into Arno Street. The flows exiting onto Fruit Avenue flow westward on the northern half of the street to the storm inlet located at the northeastern curb return of the Arno and Fruit intersection. The western basin drains northward overland along the eastern half of Arno to a storm inlet located at the southeastern curb return of the intersection of Lomas and Arno.

PROPOSED CONDITIONS

The integrity of the basins and their historical flow paths shall remain constant with regard to the proposed improvements which are additions to the existing buildings. The upstream basins and their flow paths will not be altered due to the improvements constructed at Fruit and Arno.

UPSTREAM BASINS

There are six basins contributing developed flow to the intersection of Arno Street and Fruit Avenue. This area of the city contains a storm sewer but limited information is available due to the maturity of the storm sewer construction. The developed flow generated by the upstream basins can be quantified but what is captured by the storm sewer system was not quantified. The available drainage information was calculated utilizing the "old" hydrology and constructed prior to the City of Albuquerque's mandate for maintenance of hydrology records. The basin descriptions are included within this submittal and field verified. The approach for analyzing the upstream basins drainage was to assume 50% of the developed flows were captured by the

storm sewer system and the remainder of the flow is conveyed by the street. The capacity of the RC pipes are also included in this submittal. The available information was not conclusive in the direction the storm water was conveyed out of this area. Given that the intersection of Arno and Fruit is the low point of the outlined basins and 50% of the flow may travel to this location. The capacity of the street and the capacity of the storm sewer will adequately convey the developed flows from this area.

CONCLUSION

The vacation of this street for the proposed improvements to the existing building and off-site areas can be accommodated without altering the existing drainage conditions. It has been shown in this report that the street must remain free of obstructions to convey upstream storm water, not conveyed by the storm sewer system, to meet all current city requirements. The existing storm sewer system As-Builts have been included and utilized for this submittal. The latest AHYMO methodology was utilized for obtaining developed flows in this area.

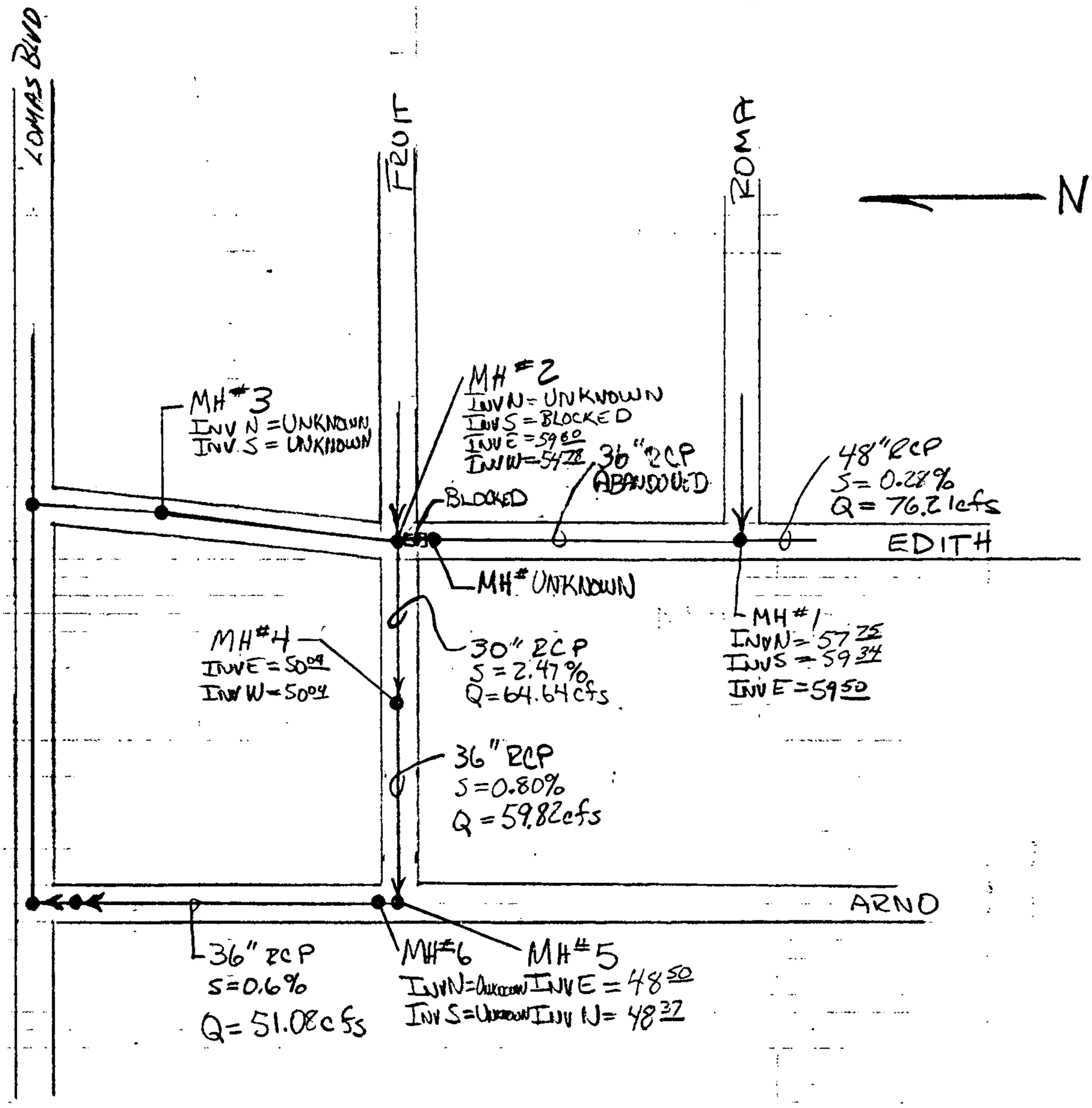
D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT La Amistad Senior Center
SUBJECT Arno St. Drainage & Vacation
BY RM DATE 28 Feb 97
CHECKED _____ DATE _____
SHEET 1 OF 4

1. Storm Sewer Capacity

Existing Storm Sewer Capacities In The Area.

Mannings Eqtn $Q = \frac{K}{n} A R_H^{2/3} S^{1/2}$ $K = 1.49$, $n = 0.013$



2. CONTRIBUTING BASIN AREAS

- BASIN 1 – EAST OF ROMA & FRUIT, WEST OF I-25, SOUTH OF LOMAS, NORTHERN PORTION OF ST. JOSEPHS PARKING LOT.

A = 22.1247 ACRES = 0.0346 SQ. MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 99.64 cfs
$V_{OL_{PK}}$ = 3.6860 ACRE-FEET

- BASIN 2 – WEST OF BASIN 1, SOUTHERN PORTION OF FRUIT, NORTHERN PORTION PROPERTY BORDERED BY ROMA & FRUIT, EAST OF EDITH

A = 6.0262 ACRES = 0.0094 SQ. MILES

BASIN CONTAINS PONDS
HISTORICAL DISCHARGE FROM SITE IS CALCULATED

LAND TREATMENTS
TYPE "A" = 100.00%
TYPE "B" = 0.00%
TYPE "C" = 0.00%
TYPE "D" = 0.00%

AHYMO RESULTS
Q_{PK} = 9.37 cfs
$V_{OL_{PK}}$ = 0.2663 ACRE-FEET

- BASIN 3 – WEST OF BASIN 1, NORTHERN PORTION & NORTH OF FRUIT, EAST OF EDITH, SOUTH OF LOMAS

A = 3.9256 ACRES = 0.0061 SQ. MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 17.58 cfs
$V_{OL_{PK}}$ = 0.6498 ACRE-FEET

2. Contributing Basin Areas (Continued)

• Basin 4 - West Of Edith, Southern Portion Of Fruit & Northern Half Of Property Between Roma & Fruit, West Of Arno

A = 1.9083 Acres = 0.0030 sq miles

Land Treatments
Type "A" = 0.00%
Type "B" = 5.00%
Type "C" = 5.00%
Type "D" = 90.00%

AHYMO Results
Q_{PK} = 8.66 cfs
Vol_{PK} = 0.3196 Acre-Feet

• Basin 5 - South Of Lomas, North Of Fruit & Northern Portion Of Street, West Of Edith, East Of Site.

A = 1.8652 Acres = 0.0029 sq. miles

Land Treatments
Type "A" = 0.00%
Type "B" = 5.00%
Type "C" = 5.00%
Type "D" = 90.00%

AHYMO Results
Q_{PK} = 8.37 cfs
Vol_{PK} = 0.3089 Acre-Feet

• Basin 6 - Site Area & Arno Street, Vacated Portion Of Street.

A = 1.3516 Acres = 0.0021 sq miles

Land Treatments
Type "A" = 0.00%
Type "B" = 5.00%
Type "C" = 5.00%
Type "D" = 90.00%

AHYMO Results
Q_{PK} = 6.06 cfs
Vol_{PK} = 0.2237 Acre-Feet

• Basin 7 - East Of Edith, South Of Roma And A Portion Of St. Josephs Medical Center

A = 5.6244 Acres = 0.0088 sq. miles

Land Treatments
Type "A" = 0.00%
Type "B" = 5.00%
Type "C" = 5.00%
Type "D" = 90.00%

AHYMO Results
Q_{PK} = 25.36 cfs
Vol_{PK} = 0.9375 Acre-Feet

• Cumulative Total Of All Basins AHYMO Results Except Basin 6

Q_{PK} = 168.78 cfs Vol_{PK} = 6.1681 Acre-Feet

3. CONCLUSION

+ ASSUMED 50% OF CONTRIBUTING BASINS MAY FLOW TOWARDS VACATED PORTION OF ARNO AND FLOW GENERATED BY SITE.

$$Q = (84.39 + 6.06)\,cfs = 90.45\,cfs$$

+ CAPACITY OF ARNO STREET.
  - SURFACE FLOW = Q = 53 cfs
    (SEE ATTACHED PLATE 22.3-D2)
  - STORM SEWER FLOW = Q = 51.08 cfs
    (SEE PAGE 1 OF 4)

TOTAL COMBINED FLOW > ASSUMED FLOW

$$104\,cfs > 90.45\,cfs$$

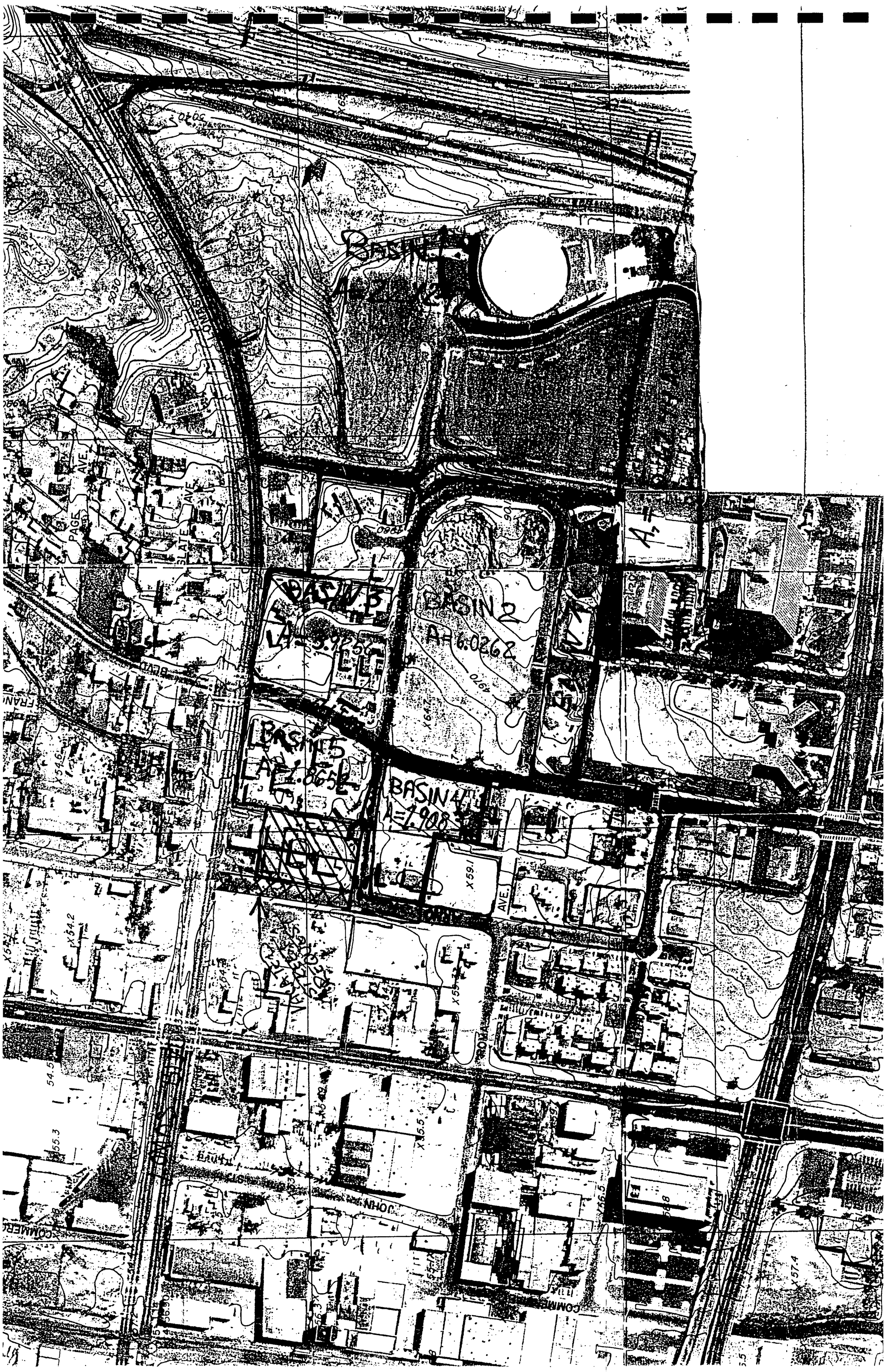
∴ THEREFORE, ARNO ST. MUST CONVEY SURFACE FLOW AND SHOULD THIS STREET BE VACATED NO OBSTRUCTIONS SHALL BE PLACED TO IMPEDE SURFACE FLOW.

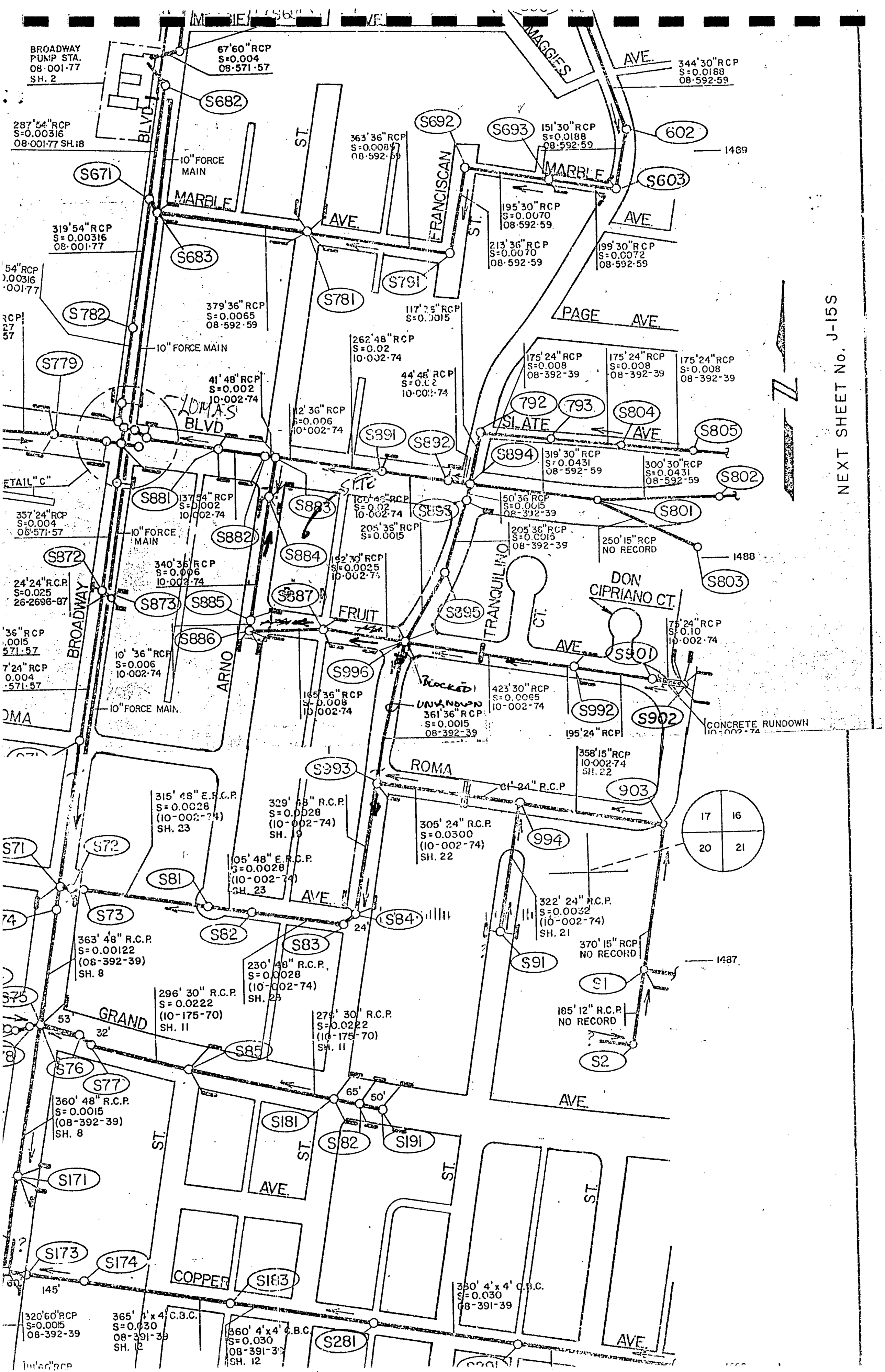
$$Q_{STORMSEWER} = 51.08\,cfs$$

$$Q_{SURFACE} = 39.37\,cfs$$

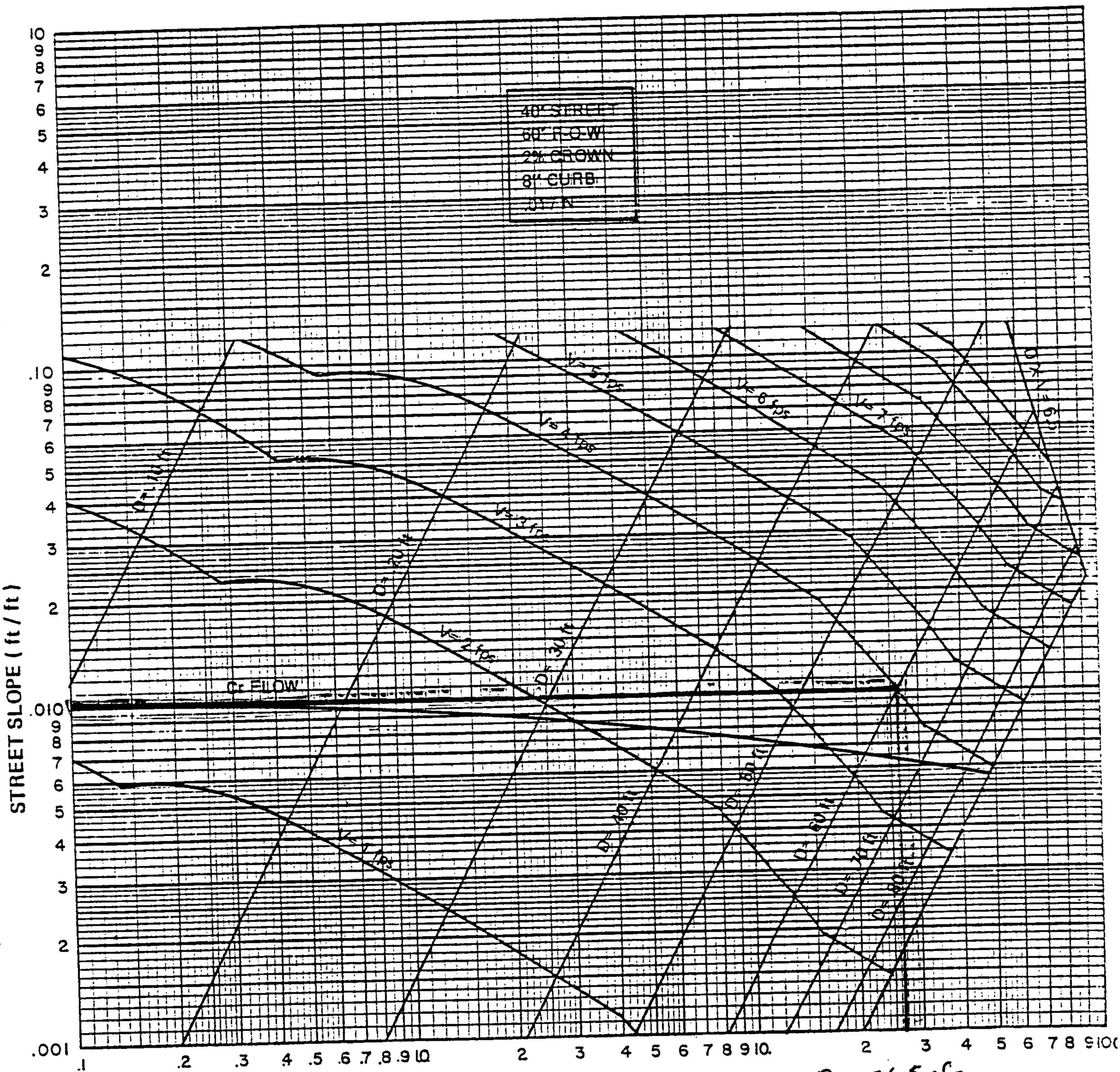
$$Q_{SURFACE} < Q_{CAPACITY}$$

$$39.37\,cfs < 51.08\,cfs$$


BASIN 1
BASIN 2
A=6.0268
BASIN 3
A=3.9256
BASIN 4
A=1.908
BASIN 5
A=1.8652
PAGE AVE.
SLATE AVE.
JOHN
COMMERCIAL
BLVD.
X59.1
X57.4
X56.5
X55.5
X54.2
X54.5
X55.3
5030
4970
5040


BROADWAY PUMP STA. 08-001-77 SH. 2
67'60" RCP S=0.004 08-571-57
S682
287'54" RCP S=0.00316 08-001-77 SH.18
10" FORCE MAIN
S671
MARBLE
AVE.
319'54" RCP S=0.00316 08-001-77
S683
363'36" RCP S=0.0065 08-592-59
S692
S693
151'30" RCP S=0.0188 08-592-59
MAGGIES
AVE.
344'30" RCP S=0.0168 08-592-59
602
1489
S603
195'30" RCP S=0.0070 08-592-59
213'36" RCP S=0.0070 08-592-59
199'30" RCP S=0.0072 08-592-59
FRANCISCAN
ST.
S791
S781
379'36" RCP S=0.0065 08-592-59
PAGE AVE.
S782
10" FORCE MAIN
262'48" RCP S=0.02 10-002-74
S779
41'48" RCP S=0.002 10-002-74
LOMAS BLVD
175'24" RCP S=0.008 08-392-39
792
793
S804
SLATE AVE
S805
S891
S892
S894
319'30" RCP S=0.0431 08-592-59
300'30" RCP S=0.0431 08-592-59
S802
S881
137'54" RCP S=0.002 10-002-74
S883
S893
50'36" RCP S=0.0015 08-392-39
S801
357'24" RCP S=0.004 08-571-57
10" FORCE MAIN
S882
205'36" RCP S=0.0015
250'15" RCP NO RECORD
1488
S803
S872
340'36" RCP S=0.006 10-002-74
S884
24'24" R.C.P. S=0.025 26-2696-87
S873
S885
S887
BROADWAY
FRUIT
TRANQUILINO CT.
DON CIPRIANO CT.
S895
S886
ARNO
S996
S901
75'24" RCP S=0.10 10-002-74
10'36" RCP S=0.006 10-002-74
BLOCKED
UNKNOWN 361'36" RCP S=0.0015 08-392-39
423'30" RCP S=0.0065 10-002-74
165'36" RCP S=0.008 10-002-74
10" FORCE MAIN
S992
S902
CONCRETE RUNDOWN
195'24" RCP
358'15" RCP 10-002-74 SH. 22
S993
ROMA
91'24" R.C.P.
903
315'48" E.R.C.P. S=0.0028 (10-002-74) SH. 23
329'48" R.C.P. S=0.0028 (10-002-74) SH. 19
305'24" R.C.P. S=0.0300 (10-002-74) SH. 22
994
17
16
20
21
S71
S72
105'48" E.R.C.P. S=0.0028 (10-002-74) SH. 23
S81
AVE.
322'24" R.C.P. S=0.0032 (10-002-74) SH. 21
S73
S82
S83
S84
363'48" R.C.P. S=0.00122 (06-392-39) SH. 8
230'48" R.C.P. S=0.0028 (10-002-74) SH. 23
S91
370'15" RCP NO RECORD
1487
S1
296'30" R.C.P. S=0.0222 (10-175-70) SH. 11
GRAND
279'30" R.C.P. S=0.0222 (10-175-70) SH. 11
185'12" R.C.P. NO RECORD
S2
S85
S76
S77
360'48" R.C.P. S=0.0015 (08-392-39) SH. 8
S181
S182
S191
ST.
AVE.
S171
COPPER
S173
S174
S183
360' 4'x4' C.B.C. S=0.030 08-391-39
320'60" RCP S=0.0015 08-392-39
365' 4'x4' C.B.C. S=0.030 08-391-39 SH. 12
360' 4'x4' C.B.C. S=0.030 08-391-39 SH. 12
S281
NEXT SHEET No. J-15S

STREET CAPACITY



$Q_{1/2} = 26.5$ cfs

Full Street Width

$Q = 53$ cfs

PLATE 22.3 D-2

REV. 3-83

```
START                   TIME=0.0

*****   HYDROGRAPH FOR LA AMISTAD SENIOR CENTER BETWEEN FRUIT AVENUE
*****   AND LOMAS BLVD, ON THE EASTERN HALF OF ARNO STREET. THIS IS THE
*****   ESTIMATE OF THE OFFSITE BASINS CONTRIBUTING TO THE SURFACE AND
*****   STORM SEWER FLOW IN ARNO STREET.

RAINFALL                TYPE=1 RAIN QUARTER=0.0 IN
                        RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                        RAIN DAY=2.75 IN DT=0.03333 HR

*HYDROGRAPH FOR OFF-SITE BASIN 1
COMPUTE NM HYD          ID=1 HYD NO=101.1 AREA=0.0346 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=1 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 2
COMPUTE NM HYD          ID=2 HYD NO=101.2 AREA=0.0094 SQ MI
                        PER A=100.00 PER B=0.00 PER C=0.00 PER D=0.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=2 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 3
COMPUTE NM HYD          ID=3 HYD NO=101.3 AREA=0.0061 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=3 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 4
COMPUTE NM HYD          ID=4 HYD NO=101.4 AREA=0.0030 SQ MI
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                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=4 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 5
COMPUTE NM HYD          ID=5 HYD NO=101.5 AREA=0.0029 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
```

```
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=5 CODE=1

*HYDROGRAPH FOR ON-SITE BASIN 6
COMPUTE NM HYD      ID=6 HYD NO=101.6 AREA=0.0021 SQ MI
                    PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=6 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 7
COMPUTE NM HYD      ID=7 HYD NO=101.7 AREA=0.0088 SQ MI
                    PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=7 CODE=1

ADD HYD             ID=8  HYD NO=101.8    ID=1   ID=2
PRINT HYD           ID=8  CODE=1

ADD HYD             ID=9  HYD NO=101.9    ID=8   ID=3
PRINT HYD           ID=9  CODE=1

ADD HYD             ID=11  HYD NO=101.11  ID=9   ID=4
PRINT HYD           ID=11  CODE=1

ADD HYD             ID=12  HYD NO=101.12  ID=11  ID=5
PRINT HYD           ID=12  CODE=1

ADD HYD             ID=13  HYD NO=101.13  ID=12  ID=7
PRINT HYD           ID=13  CODE=1

FINISH
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```
AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
     RUN DATE (MON/DAY/YR) = 03/03/1997
     START TIME (HR:MIN:SEC) = 10:44:47     USER NO.= M_GOODWN.I01
     INPUT FILE = LAMISTAD.DAT


START                TIME=0.0


*****   HYDROGRAPH FOR LA AMISTAD SENIOR CENTER BETWEEN FRUIT AVENUE

*****   AND LOMAS BLVD, ON THE EASTERN HALF OF ARNO STREET. THIS IS THE

*****   ESTIMATE OF THE OFFSITE BASINS CONTRIBUTING TO THE SURFACE AND

*****   STORM SEWER FLOW IN ARNO STREET.


RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN

                     RAIN ONE=2.01 IN RAIN SIX=2.35 IN

                     RAIN DAY=2.75 IN DT=0.03333 HR


                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	

*HYDROGRAPH FOR OFF-SITE BASIN 1

COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.0346 SQ MI

PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHA
PE CONSTANT, N = 7.106420
UNIT PEAK = 122.94 CFS UNIT VOLUME = .9993 B = 526.
28 P60 = 2.0100
AREA = .031140 SQ MI IA = .10000 INCHES INF = .04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D

```
T =    .033330


         K =    .119767HR     TP =    .133300HR     K/TP RATIO =    .898476      SHA
PE CONSTANT, N =  3.944947
         UNIT PEAK =    9.1232     CFS    UNIT VOLUME =     .9990        B =    351.
48       P60 = 2.0100
         AREA =       .003460 SQ MI     IA =     .42500 INCHES     INF =    1.04000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

      PRINT HYD            ID=1 CODE=1


                                                PARTIAL HYDROGRAPH   101.10


         RUNOFF VOLUME =      1.99749 INCHES      =        3.6860 ACRE-FEET
         PEAK DISCHARGE RATE =       99.64 CFS   AT    1.500 HOURS    BASIN AREA =
    .0346 SQ. MI.



      *HYDROGRAPH FOR OFF-SITE BASIN 2

      COMPUTE NM HYD       ID=2 HYD NO=101.2 AREA=0.0094 SQ MI

                           PER A=100.00 PER B=0.00 PER C=0.00 PER D=0.00

                           TP=0.1333 HR MASS RAINFALL=-1


         K =    .160154HR     TP =    .133300HR     K/TP RATIO =  1.201459      SHA
PE CONSTANT, N =  2.957910
         UNIT PEAK =    19.630     CFS    UNIT VOLUME =     .9990        B =    278.
```

```
37      P60 = 2.0100
         AREA =       .009400 SQ MI    IA =    .65000 INCHES    INF =   1.67000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330

     PRINT HYD            ID=2 CODE=1


                                          PARTIAL HYDROGRAPH   101.20


         RUNOFF VOLUME =       .53121 INCHES      =         .2663 ACRE-FEET
         PEAK DISCHARGE RATE =        9.37 CFS  AT   1.533 HOURS   BASIN AREA =
.0094 SQ. MI.



  *HYDROGRAPH FOR OFF-SITE BASIN 3

  COMPUTE NM HYD       ID=3 HYD NO=101.3 AREA=0.0061 SQ MI

                       PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                       TP=0.1333 HR MASS RAINFALL=-1


         K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHA
PE CONSTANT, N =  7.106420
         UNIT PEAK =   21.675    CFS   UNIT VOLUME =    .9988       B =   526.
28      P60 = 2.0100
         AREA =       .005490 SQ MI    IA =    .10000 INCHES    INF =    .04000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330
```

```
          K =    .119767HR     TP =    .133300HR     K/TP RATIO =    .898476      SHA
PE CONSTANT, N =  3.944947
          UNIT PEAK =    1.6084     CFS    UNIT VOLUME =     .9919        B =    351.
48       P60 = 2.0100
          AREA =       .000610 SQ MI     IA =     .42500 INCHES     INF =   1.04000
 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

  PRINT HYD            ID=3 CODE=1


                                        PARTIAL HYDROGRAPH   101.30


      RUNOFF VOLUME =      1.99749 INCHES      =         .6498 ACRE-FEET
      PEAK DISCHARGE RATE =       17.58 CFS  AT   1.500 HOURS   BASIN AREA =
.0061 SQ. MI.



  *HYDROGRAPH FOR OFF-SITE BASIN 4

  COMPUTE NM HYD       ID=4 HYD NO=101.4 AREA=0.0030 SQ MI

                       PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                       TP=0.1333 HR MASS RAINFALL=-1


          K =    .072649HR     TP =    .133300HR     K/TP RATIO =    .545000      SHA
PE CONSTANT, N =  7.106420
          UNIT PEAK =    10.660     CFS    UNIT VOLUME =     .9982        B =    526.
28       P60 = 2.0100
          AREA =       .002700 SQ MI     IA =     .10000 INCHES     INF =    .04000
```

```
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330


        K =    .119767HR    TP =    .133300HR    K/TP RATIO =    .898476     SHA
PE CONSTANT, N =  3.944947
        UNIT PEAK =    .79103    CFS   UNIT VOLUME =    .9841       B =   351.
48      P60 = 2.0100
        AREA =       .000300 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

     PRINT HYD            ID=4 CODE=1


                                          PARTIAL HYDROGRAPH   101.40


        RUNOFF VOLUME =      1.99749 INCHES      =         .3196 ACRE-FEET
        PEAK DISCHARGE RATE =        8.66 CFS  AT   1.500 HOURS   BASIN AREA =
   .0030 SQ. MI.


     *HYDROGRAPH FOR OFF-SITE BASIN 5

     COMPUTE NM HYD       ID=5 HYD NO=101.5 AREA=0.0029 SQ MI

                          PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                          TP=0.1333 HR MASS RAINFALL=-1


        K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
```

```
PE CONSTANT, N =  7.106420
        UNIT PEAK =   10.304    CFS   UNIT VOLUME =    .9982       B =   526.
28      P60 = 2.0100
        AREA =      .002610 SQ MI    IA =    .10000 INCHES    INF =    .04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330


        K =   .119767HR    TP =   .133300HR    K/TP RATIO =   .898476     SHA
PE CONSTANT, N =  3.944947
        UNIT PEAK =   .76467    CFS   UNIT VOLUME =    .9825       B =   351.
48      P60 = 2.0100
        AREA =      .000290 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330

     PRINT HYD           ID=5 CODE=1


                                        PARTIAL HYDROGRAPH   101.50


        RUNOFF VOLUME =     1.99749 INCHES     =        .3089 ACRE-FEET
        PEAK DISCHARGE RATE =       8.37 CFS  AT   1.500 HOURS   BASIN AREA =
   .0029 SQ. MI.


*HYDROGRAPH FOR ON-SITE BASIN 6

COMPUTE NM HYD      ID=6 HYD NO=101.6 AREA=0.0021 SQ MI

                    PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
```

TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHA
PE CONSTANT, N = 7.106420
UNIT PEAK = 7.4618 CFS UNIT VOLUME = .9978 B = 526.
28 P60 = 2.0100
AREA = .001890 SQ MI IA = .10000 INCHES INF = .04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T = .033330

K = .119767HR TP = .133300HR K/TP RATIO = .898476 SHA
PE CONSTANT, N = 3.944947
UNIT PEAK = .55372 CFS UNIT VOLUME = .9767 B = 351.
48 P60 = 2.0100
AREA = .000210 SQ MI IA = .42500 INCHES INF = 1.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T = .033330

PRINT HYD ID=6 CODE=1

PARTIAL HYDROGRAPH 101.60

RUNOFF VOLUME = 1.99749 INCHES = .2237 ACRE-FEET
PEAK DISCHARGE RATE = 6.06 CFS AT 1.500 HOURS BASIN AREA =
.0021 SQ. MI.

*HYDROGRAPH FOR OFF-SITE BASIN 7

```
     COMPUTE NM HYD       ID=7 HYD NO=101.7 AREA=0.0088 SQ MI

                          PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                          TP=0.1333 HR MASS RAINFALL=-1


         K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
PE CONSTANT, N =  7.106420
         UNIT PEAK =    31.269    CFS   UNIT VOLUME =    .9990       B =  526.
28      P60 = 2.0100
         AREA =       .007920 SQ MI    IA =    .10000 INCHES    INF =    .04000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330


         K =    .119767HR    TP =    .133300HR    K/TP RATIO =    .898476     SHA
PE CONSTANT, N =  3.944947
         UNIT PEAK =    2.3204    CFS   UNIT VOLUME =    .9946       B =   351.
48      P60 = 2.0100
         AREA =       .000880 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

     PRINT HYD            ID=7 CODE=1


                                   PARTIAL HYDROGRAPH   101.70


         RUNOFF VOLUME =      1.99749 INCHES      =         .9375 ACRE-FEET
         PEAK DISCHARGE RATE =       25.36 CFS  AT   1.500 HOURS   BASIN AREA =
.0088 SQ. MI.
```

```
ADD HYD              ID=8  HYD NO=101.8    ID=1   ID=2

PRINT HYD            ID=8  CODE=1

                                   PARTIAL HYDROGRAPH   101.80

    RUNOFF VOLUME =     1.68423 INCHES     =       3.9523 ACRE-FEET
    PEAK DISCHARGE RATE =     108.82 CFS  AT   1.500 HOURS   BASIN AREA =
.0440 SQ. MI.


ADD HYD              ID=9  HYD NO=101.9    ID=8   ID=3

PRINT HYD            ID=9  CODE=1

                                   PARTIAL HYDROGRAPH   101.90

    RUNOFF VOLUME =     1.72237 INCHES     =       4.6021 ACRE-FEET
    PEAK DISCHARGE RATE =     126.40 CFS  AT   1.500 HOURS   BASIN AREA =
.0501 SQ. MI.


ADD HYD              ID=11  HYD NO=101.11  ID=9   ID=4

PRINT HYD            ID=11  CODE=1
```

PARTIAL HYDROGRAPH 101.11

RUNOFF VOLUME = 1.73791 INCHES = 4.9217 ACRE-FEET
PEAK DISCHARGE RATE = 135.06 CFS AT 1.500 HOURS BASIN AREA =
.0531 SQ. MI.

ADD HYD ID=12 HYD NO=101.12 ID=11 ID=5

PRINT HYD ID=12 CODE=1

PARTIAL HYDROGRAPH 101.12

RUNOFF VOLUME = 1.75135 INCHES = 5.2307 ACRE-FEET
PEAK DISCHARGE RATE = 143.43 CFS AT 1.500 HOURS BASIN AREA =
.0560 SQ. MI.

ADD HYD ID=13 HYD NO=101.13 ID=12 ID=7

PRINT HYD ID=13 CODE=1

PARTIAL HYDROGRAPH 101.13

RUNOFF VOLUME = 1.78477 INCHES = 6.1681 ACRE-FEET
PEAK DISCHARGE RATE = 168.78 CFS AT 1.500 HOURS BASIN AREA =

```
.0648 SQ. MI.


  FINISH


      NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 10:44:49
```

CITY OF
Albuquerque

Public Works Department

March 14, 1997

Martin J. Chávez, Mayor

Robert E. Gurulé, Director

Roger Martinez, Jr.
Mark Goodwin & Associates
P.O. Box 90606
Albuquerque, NM 87199

RE: LA AMISTAD SENIOR CENTER (J14-D109). GRADING AND DRAINAGE PLAN FOR PRELIMINARY PLAT, FINAL PLAT, AND BUILDING PERMIT.

Dear Mr. Martinez:

Based on the information provided on your March 4, 1997 submittal, City Hydrology has the following comments:

1. Provide a vicinity map. Include the site grading and drainage plan for Building Permit approval.

2. According to your capacity calculations, the street can not be blocked from storm water drainage. It appears that you have taken up the entire width of the street with some type of landscaping island. Remove these islands. Per our conversation on 3-14-97, it may be acceptable to use few small islands, if you provide street inlet capacity calculations.

3. Keep in mind, the property owner will be responsible for the maintenance of the vacated street. Be certain to include the appropriate language on the plat. Provide a copy of the proposed plat with your next submittal.

4. Show, on the plan sheet, the entire portion of Arno Street to be vacated.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

Lisa Ann Manwill, P.E.
Engineering Assoc./Hyd.

c: Andrew Garcia
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: La Amistad Senior Center ZONEATLAS/DRNG,FILE#: J-14

DRB#: 94-405 EPC# WORK ORDER#:

LEGAL DESCRIPTION: Tract 13B1, Lomas Center

CITY ADDRESS: NE Corner of Arno & Fruit

ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	Roger Martinez, Jr.
ADDRESS:	P.O. Box 90606 Albuquerque, NM 87199	PHONE:	(505) 345-2010
OWNER:	City of Albuquerque	CONTACT:	Lee Gamelsky
ADDRESS:	622 Tijeras NW Albuquerque, NM 87109	PHONE:	(505) 842-8865
ARCHITECT:	Gamelsky Benton Architects	CONTACT:	Lee Gamelsky
ADDRESS:	622 Tijeras NW Albuquerque, NM 87109	PHONE:	(505) 842-8865
SURVEYOR:		CONTACT:	
ADDRESS:		PHONE:	
CONTACTOR:		CONTACT:	
ADDRESS:		PHONE:	

TYPE OF SUBMITTAL:

X DRAINAGE REPORT
__ DRAINAGE PLAN
__ CONCEPTUAL GRADING & DRAINAGE PLAN
__ GRADING PLAN
__ EROSION CONTROL
__ ENGINEER'S CERTIFICATION
__ OTHER

PRE-DESIGN MEETING:

__ YES
__ NO
__ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

__ SKETCH PLAT APRROVAL
X PRELIMINARY PLAT APRROVAL
__ S. DEV. PLAN FOR SUB'D APPROVAL
__ S. DEV. PLAN FOR BLDG PERMIT APPROVAL
__ SECTOR PLAN APPROVAL
X FINAL PLAT APPROVAL
__ FOUNDATION PERMIT APPROVAL
X BUILDING PERMIT APPROVAL
__ CERTIFICATION OF OCCUPANCY APPROVAL
__ GRADING PERMIT APPROVAL
__ PAVING PERMIT APPROVAL
__ S.A.D. DRAINAGE REPORT
__ DRAINAGE REQUIREMENTS
X OTHER Vaction of Public Right of Way

DATE SUBMITTED: 25 MAR 97

BY: Roger Martinez, Jr.

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors
P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 345-2010

March 24, 1997

Ms Lisa Ann Manwill, P.E.
Hydrology
City Of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RE: La Amistad Senior Center (J14-D109)
Preliminary Plat, Final Plat, and Building Permit

Dear Ms. Manwill,

The intent of this letter is to respond to your comments outlined in your letter dated March 4, 1997. Attached, please find the revised plan set for the referenced project.

1. *Requested information provided in this submittal.*
2. *Storm Inlet capacities and surface flow has been verified and attached to this submittal. The proposed landscaped area has been redesigned to accomodate the surface flow in Arno.*
3. *Provided within the submittal.*
4. *Provided within the submittal.*

If you have any questions concerning this project or the letter, please contact me at 345-2010.

Sincerely,

MARK GOODWIN AND ASSOCIATES, P.A.

Roger Martinez, Jr.

Attachments

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT La Amistad Senior Center
SUBJECT Drainage
BY RM DATE 24 Mar 97
CHECKED _____ DATE _____
SHEET 1 OF 7

Storm Inlet Capacities

Contributing Upstream Basins $Q = 84.39$ cfs (From Previous Report Dated 4 Mar 97)

Depth Of Surface Flow w/ $Q = 84.39$ cfs

$D = 0.72'$ $Q = 17.5$ cfs/Grate
(See Nomographs Pg 2 & 3 of This Submittal)

$Q = 17.5$ cfs * 2 Grates $= 35$ cfs

Q Left In Fruit After The First Set Of Grates

$Q = 49.40$ cfs

Depth Of Surface Flow w/ $Q = 49.40$ cfs

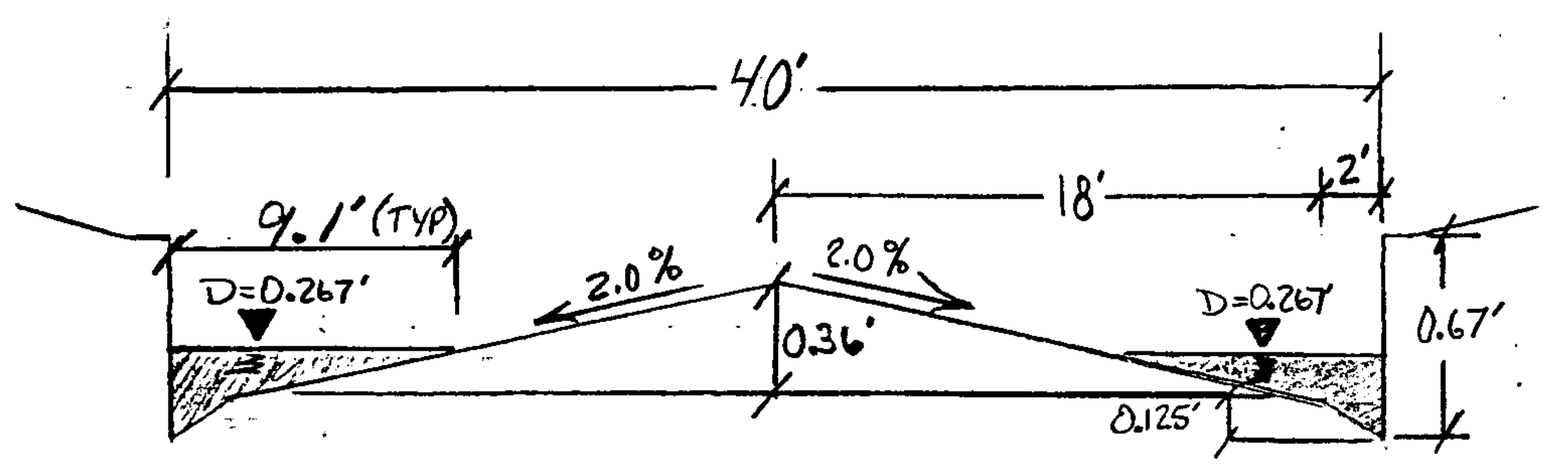
$D = 0.58'$ $Q = 11.0$ cfs
(See Nomographs Pg 4 & 5 of This Submittal)

Total Q Remaining In Arno Flowing North Towards Lomas Blvd.

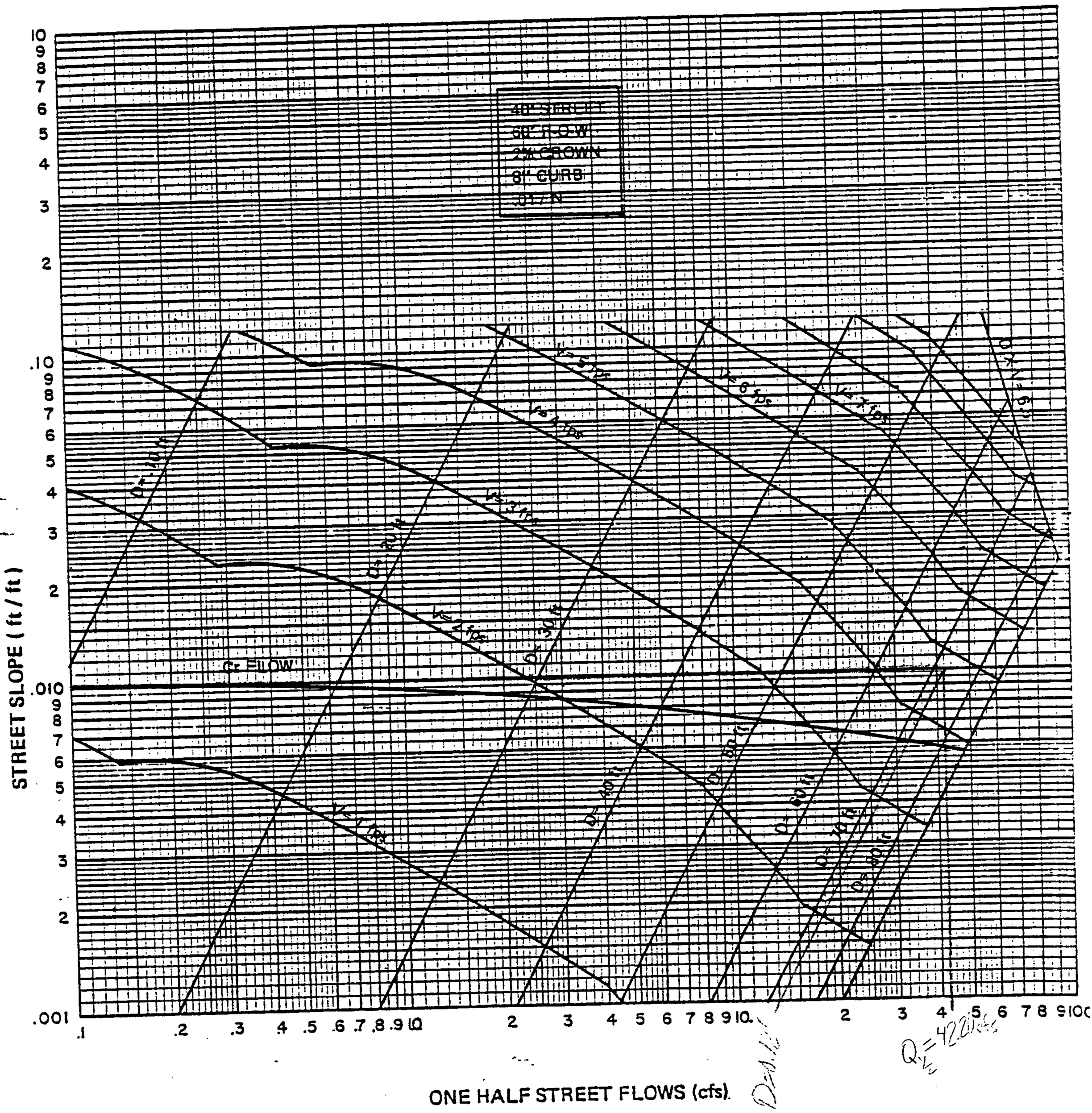
$Q = (27.40 + 6.06)$ cfs $= 33.46$ cfs

Depth Of Surface Flow w/ $Q = 33.46$ cfs

$D = 0.267'$ w/ $Q_{1/2} = 16.73$ cfs
(See Nomograph Pg 6 of This Submittal)



STREET CAPACITY

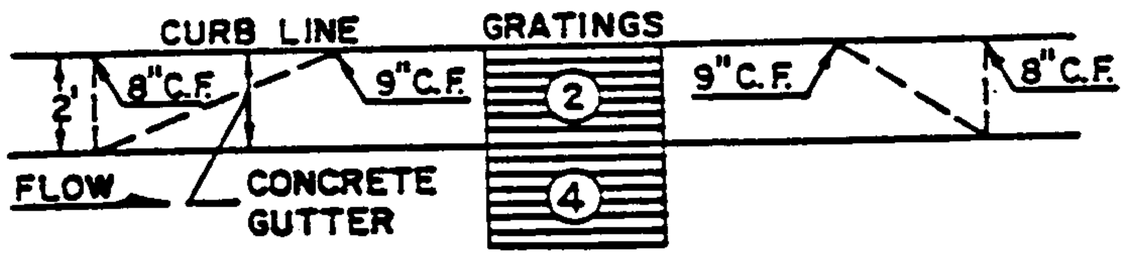


REV. 3-83

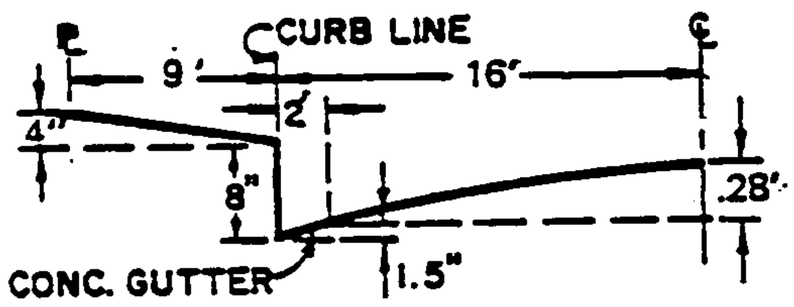
PLATE 22.3 D-2

PAGE 2

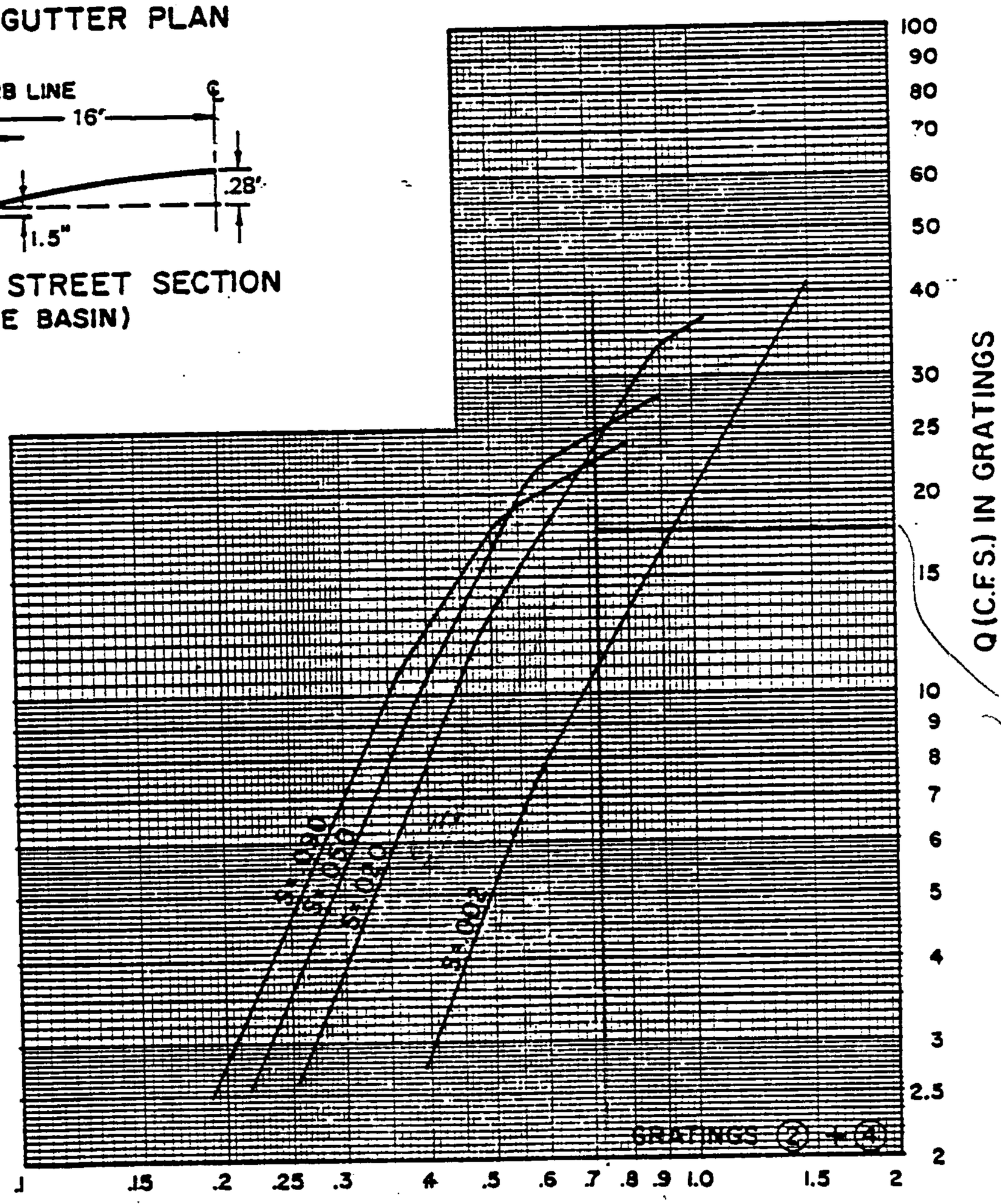
GRATING CAPACITIES FOR TYPE "B"



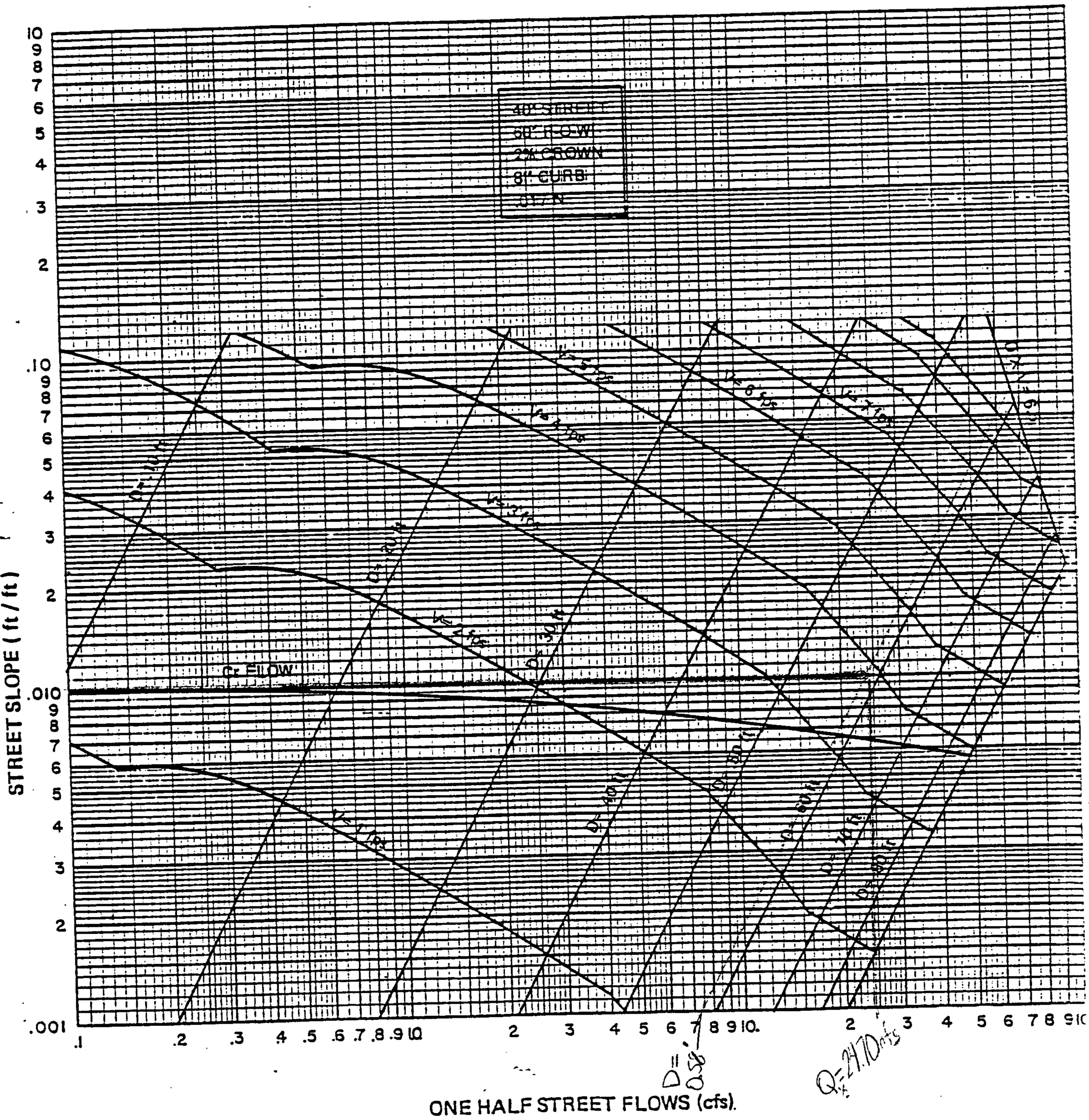
GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



STREET CAPACITY

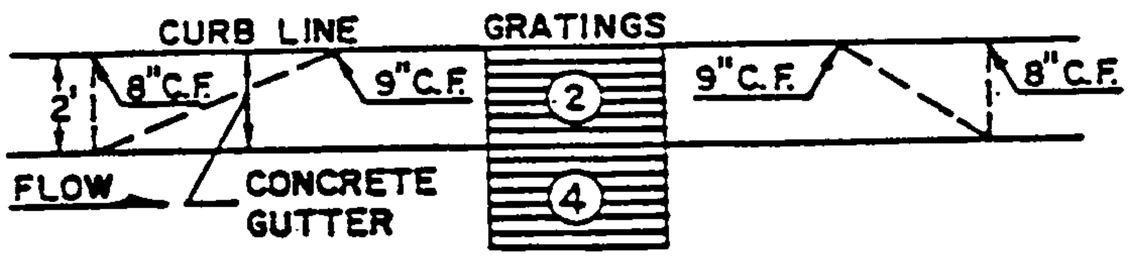


REV. 3-83

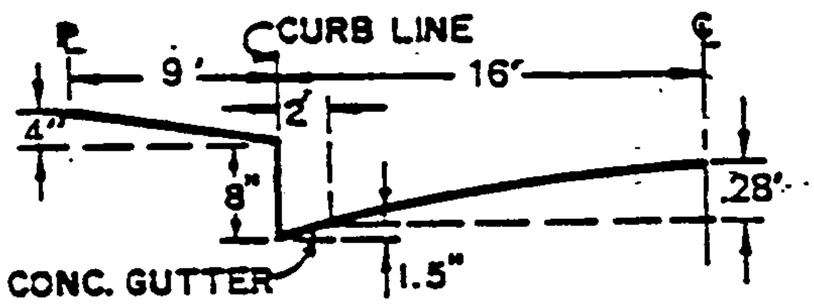
PLATE 22.3 D-2

PAGE 4

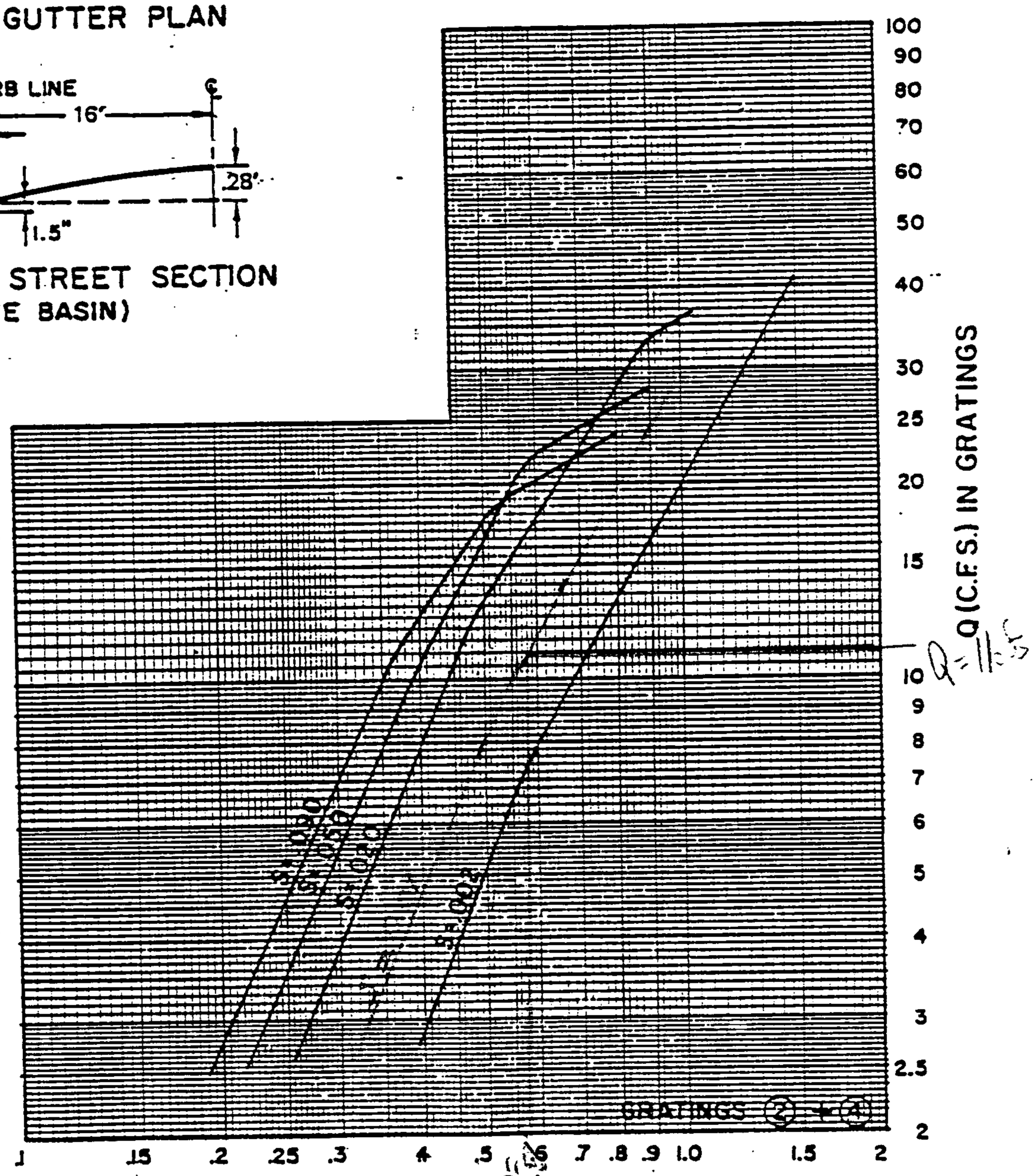
GRATING CAPACITIES FOR TYPE "B"



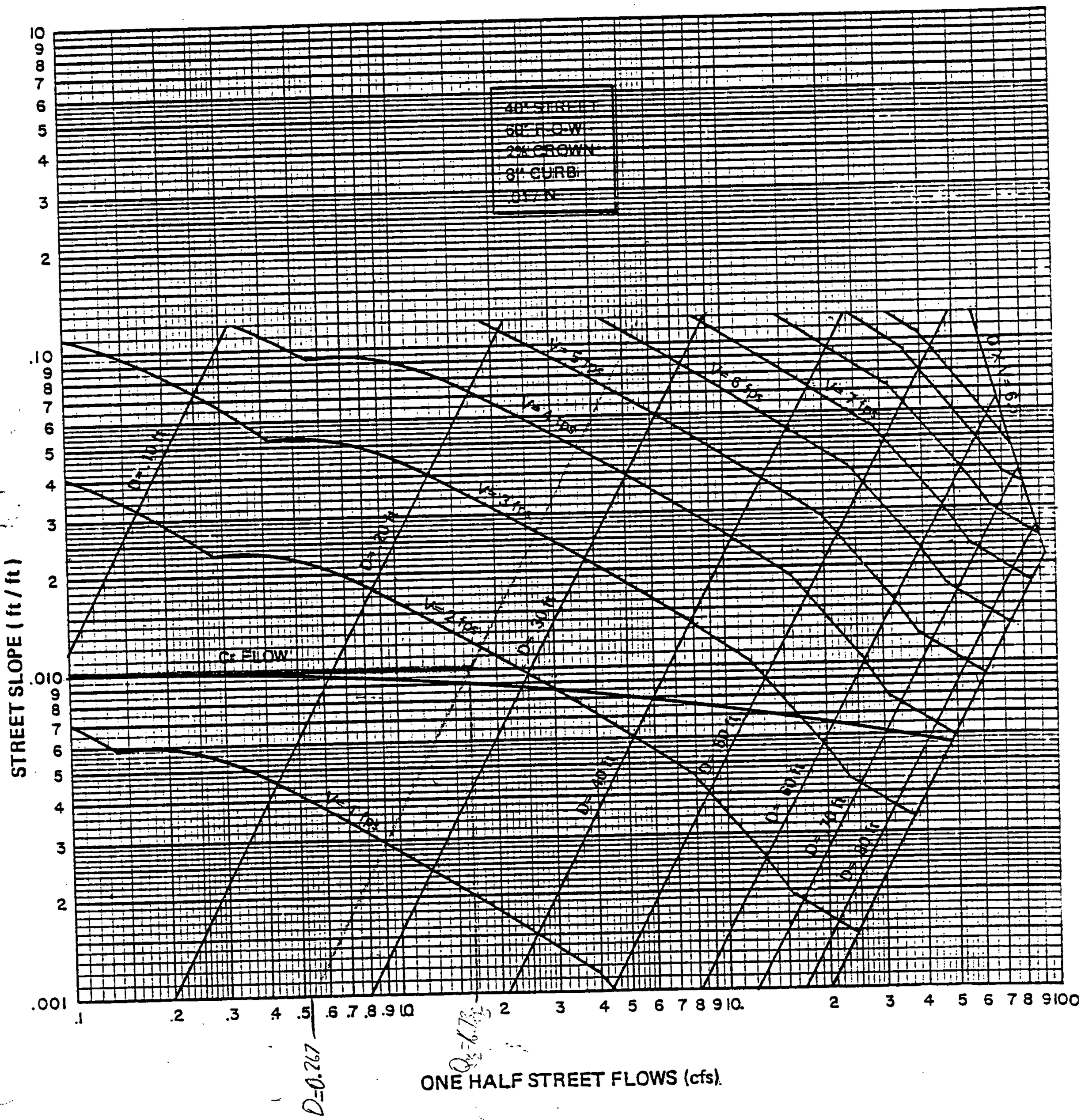
GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



STREET CAPACITY



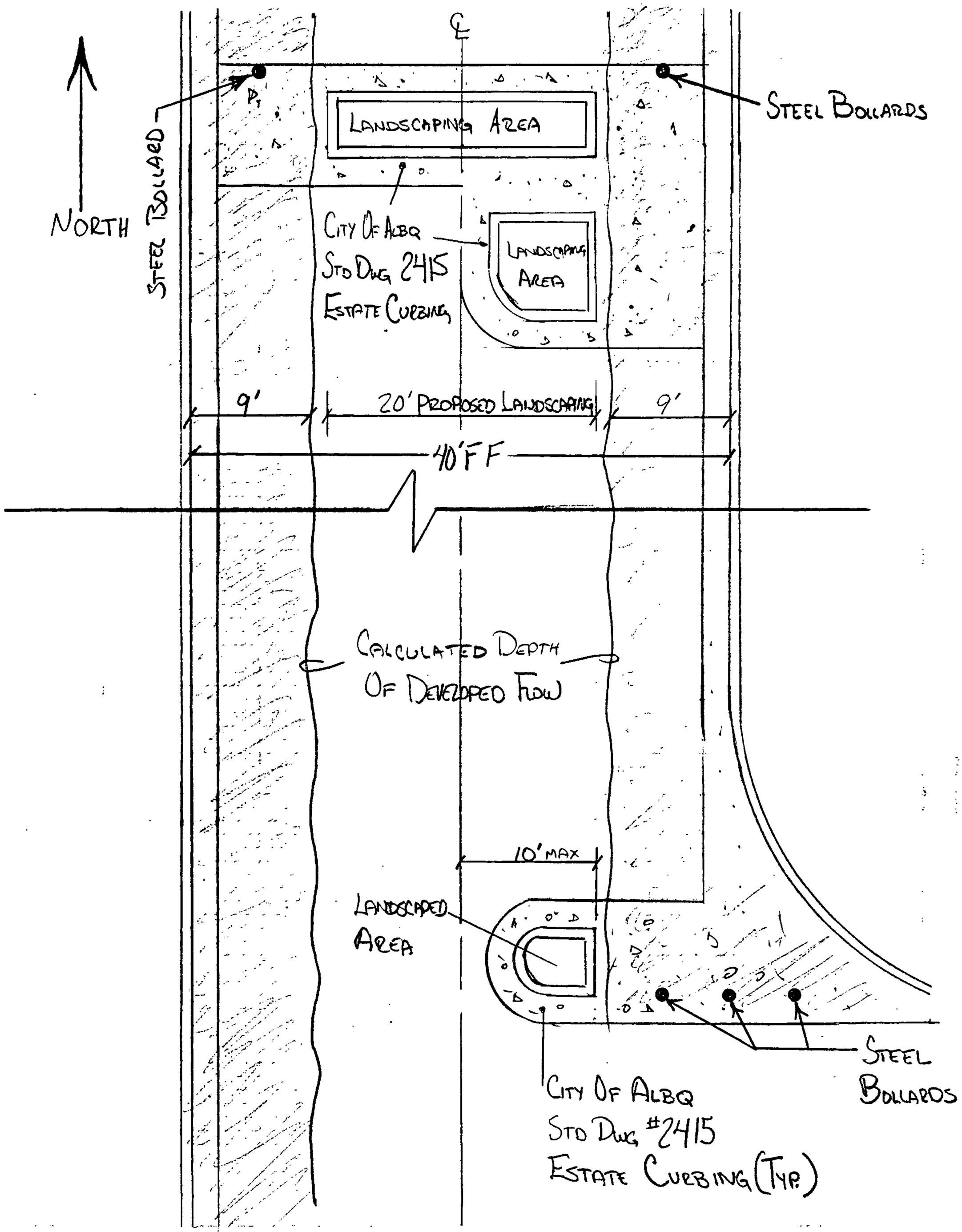
REV. 3-83

PLATE 22.3 D-2

PAGE 6

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT LA AMISTAD SENIOR CENTER
SUBJECT DRAINAGE
BY RM DATE 24 MAR 97
CHECKED _____ DATE _____
SHEET 7 OF 7



OFFICIAL NOTICE

CITY OF ALBUQUERQUE
PLANNING DEPARTMENT
DEVELOPMENT SERVICES DIVISION
P.O. BOX 1293, ALBUQUERQUE NEW MEXICO 87103

17. DRB-94-405 V-97-12 The City of Albuquerque requests Vacation (closing) of a portion of Arno Street (Public Right-of-Way) for T10N, R3E, Sec. 17, Balduini Addition zoned SU-2/C-1/M-1 (City) and located on Arno NE and Lomas NE. [V-94-82] (J-14) [DEFERRED FROM 5/20/97]

At the June 10, 1997, Development Review Board Meeting, the Vacation was approved as shown on Exhibit A in the Planning File with the following findings and conditions:

FINDINGS:

1. The public welfare is in no way served by retaining the rights-of-way and/or easements.

2. There is no convincing evidence that any substantial property right is being abridged against the will of the owner of the right.

CONDITIONS:

1. Final disposition shall be through the City Real Estate Office.

2. The vacated property shall be shown on a replat and the replat shall be filed for record with the Bernalillo County Clerk's Office within one year.

3. Affected utility companies shall acknowledge the vacation by their signatures on the replat.

If you wish to appeal this decision, you must do so by June 25, 1997, in the manner described below. A nonrefundable fee of $135 is required at the time the appeal is filed.

Appeal is to the Environmental Planning Commission. Any person aggrieved with any determination of the Development Review Board may file an appeal on the Planning Division form, to the Planning Division, within 15 days of the Development Review Board's decision. The date the determination in question is issued is not included in the 15-day period for filing an appeal; If the fifteenth day falls on a Saturday, Sunday or holiday as listed in the Merit System Ordinance, the next working day is considered as the deadline for filing the appeal. Such appeal shall be heard within 45 days of its filing.

You will receive notice if any other person files an appeal. Successful applicants are reminded that other requirements of the City must be complied with, even after approval of the referenced application(s).

Please note that the vacation of all plats, rights-of-way, and easements are void after one year from the final appeal date referenced above if all conditions are not met (The effective date of Development Review Board approval is the hearing date plus the 15-day appeal period.) (REF: Chapter 14 Article 14 Part 7-2 (E)(3)(6) Revised Ordinance.)

Claire Koopman
Board Secretary

cc: Gamelsky Benton Architects, 622 Tijeras Ave NW, 87102
City of Albuquerque, Dept., of Family & Community Services, 1840 University Blvd SE, 87106
Loren Hines, Property Management, Legal Dept./7th Flr, City/County-Room 7042
Terri Martin, Public Works Department, 2nd Floor, Plaza del Sol Bldg.
File

ALBUQUERQUE, NEW MEXICO

7-9-97
DATE

PROJECT NO. 5221.90

STANDARD REVIEW COMMENT SHEET

SHEET 1 OF 1

TO: Billy Gaddy /CHAIRMAN DRC-APPLICANT
(USER DEPT./DIVISION)

FROM: /HYDROLOGY/ENGINEERING
(REVIEWER/REVIEW DEPT./DIVISION)

PROJECT: Carlos Montoya

PROJECT DESCRIPTION STATUS ☐ Pre-Design ☒ Preliminary ☐ Final

FOR REVIEWER DEPT./DIVISION			For User Dept.	
Page No.	Com. No.	COMMENTS	A/D	Remark
	1.	Please submit a drainage plan to Hydrology for review & approval. (J14-D119)		

ALBUQUERQUE, NEW MEXICO

7-9-97
DATE

PROJECT NO. 5-22.1.90

STANDARD REVIEW COMMENT SHEET

SHEET 1 OF 1

TO: Billy Gaebler /CHAIRMAN DRC-APPLICANT
(USER DEPT./DIVISION)

FROM: /HYDROLOGY/ENGINEERING
(REVIEWER/REVIEW DEPT./DIVISION)

PROJECT: Carlos Montoya

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FOR REVIEWER DEPT./DIVISION			For User Dept.	
Page No.	Com. No.	COMMENTS	A/D	Remark
	1.	Please submit a drainage plan to Hydrology for review & approval. (J14-D119)		

CITY OF
Albuquerque
Public Works Department

Martin J. Chávez, Mayor

Robert E. Gurulé, Director

April 21, 1997

John M. MacKenzie, P.E.
Mark Goodwin & Associates, P.A.
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: REVISED DRAINAGE PLAN FOR LA AMISTAD SENIOR CENTER (J14-D119)
ENGINEER'S STAMP DATED 3/25/97 & SUPPLEMENTAL INFORMATION
PROVIDED ON 4/9/97

Dear Mr. MacKenzie:

Based on the information provided on your April 9,1997 resubmittal, I am unable to continue the review because of the assumptions that have been made. More concrete information will need to be provided to determine if the capacity exists to allow the vacation of the street.

If I can be of further assistance, please feel free to contact me at 924-3986.

C: Andrew Garcia
File

Sincerely

Bernie J. Montoya
Engineering Associate

DRAINAGE INFORMATION SHEET

PROJECT TITLE: La Amistad Senior Center ZONEATLAS/DRNG,FILE#: J-14

DRB#: 94-405 EPC# WORK ORDER#:

LEGAL DESCRIPTION: Tract 13B1, Lomas Center

CITY ADDRESS: NE Corner of Arno & Fruit

ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	Roger Martinez, Jr.
ADDRESS:	P.O. Box 90606 Albuquerque, NM 87199	PHONE:	(505) 345-2010
OWNER:	City of Albuquerque	CONTACT:	Lee Gamelsky
ADDRESS:	622 Tijeras NW Albuquerque, NM 87109	PHONE:	(505) 842-8865
ARCHITECT:	Gamelsky Benton Architects	CONTACT:	Lee Gamelsky
ADDRESS:	622 Tijeras NW Albuquerque, NM 87109	PHONE:	(505) 842-8865
SURVEYOR:		CONTACT:	
ADDRESS:		PHONE:	
CONTACTOR:		CONTACT:	
ADDRESS:		PHONE:	

TYPE OF SUBMITTAL:

X DRAINAGE REPORT
___ DRAINAGE PLAN
___ CONCEPTUAL GRADING & DRAINAGE PLAN
___ GRADING PLAN
___ EROSION CONTROL
___ ENGINEER'S CERTIFICATION
___ OTHER

PRE-DESIGN MEETING:

___ YES
___ NO
___ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APRROVAL
___ PRELIMINARY PLAT APRROVAL
___ S. DEV. PLAN FOR SUB'D APPROVAL
___ S. DEV. PLAN FOR BLDG PERMIT APPROVAL
___ SECTOR PLAN APPROVAL
___ FINAL PLAT APPROVAL
___ FOUNDATION PERMIT APPROVAL
___ BUILDING PERMIT APPROVAL
___ CERTIFICATION OF OCCUPANCY APPROVAL
___ GRADING PERMIT APPROVAL
___ PAVING PERMIT APPROVAL
___ S.A.D. DRAINAGE REPORT
___ DRAINAGE REQUIREMENTS
X OTHER Vaction of Public Right of Way

RECEIVED
APR 09 1997
HYDROLOGY SECTION

DATE SUBMITTED: 9 APR 97

BY: Roger Martinez, Jr.
Roger Martinez, Jr.

DRAINAGE INFORMATION SHEET

PROJECT TITLE: La Amistad Senior Center

ZONEATLAS/DRNG,FILE#: J-14

DRB#: 94-405 EPC#

WORK ORDER#:

LEGAL DESCRIPTION: Tract 13B1, Lomas Center

CITY ADDRESS: NE Corner of Arno & Fruit

ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	Roger Martinez, Jr.
ADDRESS:	P.O. Box 90606 Albuquerque, NM 87199	PHONE:	(505) 345-2010
OWNER:	City of Albuquerque	CONTACT:	Lee Gamelsky
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SURVEYOR:		CONTACT:	
ADDRESS:		PHONE:	
CONTACTOR:		CONTACT:	
ADDRESS:		PHONE:	

TYPE OF SUBMITTAL:

X DRAINAGE REPORT
DRAINAGE PLAN
CONCEPTUAL GRADING & DRAINAGE PLAN
GRADING PLAN
EROSION CONTROL
ENGINEER'S CERTIFICATION
OTHER

PRE-DESIGN MEETING:

YES
NO
COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

SKETCH PLAT APRROVAL
X PRELIMINARY PLAT APRROVAL
S. DEV. PLAN FOR SUB'D APPROVAL
S. DEV. PLAN FOR BLDG PERMIT APPROVAL
SECTOR PLAN APPROVAL
X FINAL PLAT APPROVAL
FOUNDATION PERMIT APPROVAL
X BUILDING PERMIT APPROVAL
CERTIFICATION OF OCCUPANCY APPROVAL
GRADING PERMIT APPROVAL
PAVING PERMIT APPROVAL
S.A.D. DRAINAGE REPORT
DRAINAGE REQUIREMENTS
X OTHER Vaction of Public Right of Way

DATE SUBMITTED: 25 MAR 97

BY: Roger Martinez, Jr.

RECEIVED
MAR 26 1997
HYDROLOGY SECTION

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors
P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 345-2010

March 24, 1997

Ms Lisa Ann Manwill, P.E.
Hydrology
City Of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RE: La Amistad Senior Center (J14-D109)
Preliminary Plat, Final Plat, and Building Permit

Dear Ms. Manwill,

The intent of this letter is to respond to your comments outlined in your letter dated March 4, 1997. Attached, please find the revised plan set for the referenced project.

1. *Requested information provided in this submittal.*

2. *Storm Inlet capacities and surface flow has been verified and attached to this submittal. The proposed landscaped area has been redesigned to accomodate the surface flow in Arno.*

3. *Provided within the submittal.*

4. *Provided within the submittal.*

If you have any questions concerning this project or the letter, please contact me at 345-2010.

Sincerely,

MARK GOODWIN AND ASSOCIATES, P.A.

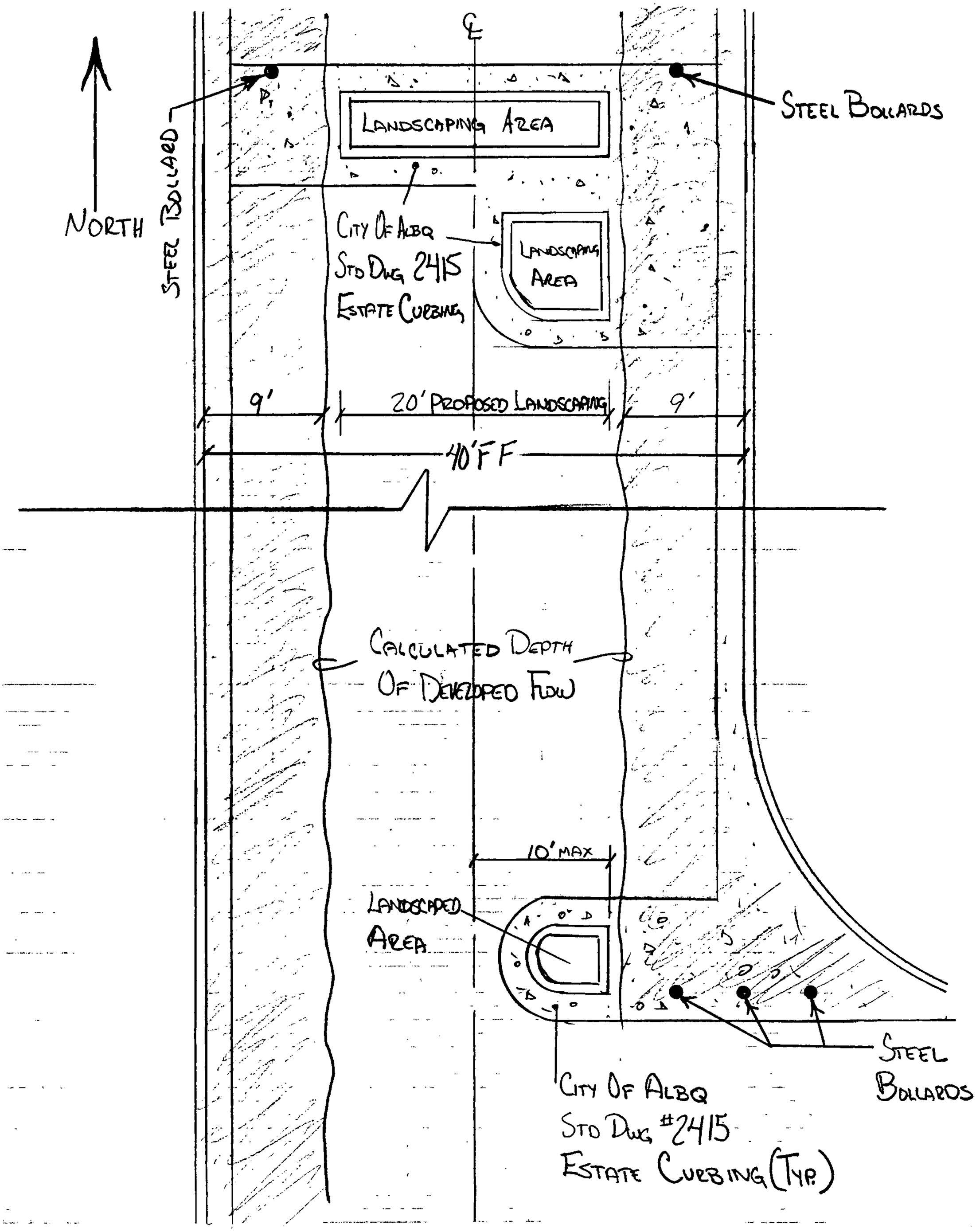
Roger Martinez, Jr.

Attachments

RECEIVED
MAR 26 1997
HYDROLOGY SECTION

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT LA AMISTAD SENIOR CENTER
SUBJECT DRAINAGE
BY RM DATE 24 MAR 97
CHECKED _____ DATE _____
SHEET 7 OF 7



D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT La Amistad Senior Center
SUBJECT Drainage
BY RM DATE 24 Mar 97
CHECKED _____ DATE _____
SHEET 1 OF 7

Storm Inlet Capacities

Contributing Upstream Basins $Q = 84.39$ cfs (From Previous Report Dated 4 Mar 97)

Depth Of Surface Flow w/ $Q = 84.39$ cfs

$D = 0.72'$ $Q = 17.5$ cfs/Grate
(See Nomographs Pg 2 & 3 of This Submittal)

$Q = 17.5$ cfs * 2 Grates $= 35$ cfs

Q Left In Fruit After The First Set Of Grates

$Q = 49.40$ cfs

Depth Of Surface Flow w/ $Q = 49.40$ cfs

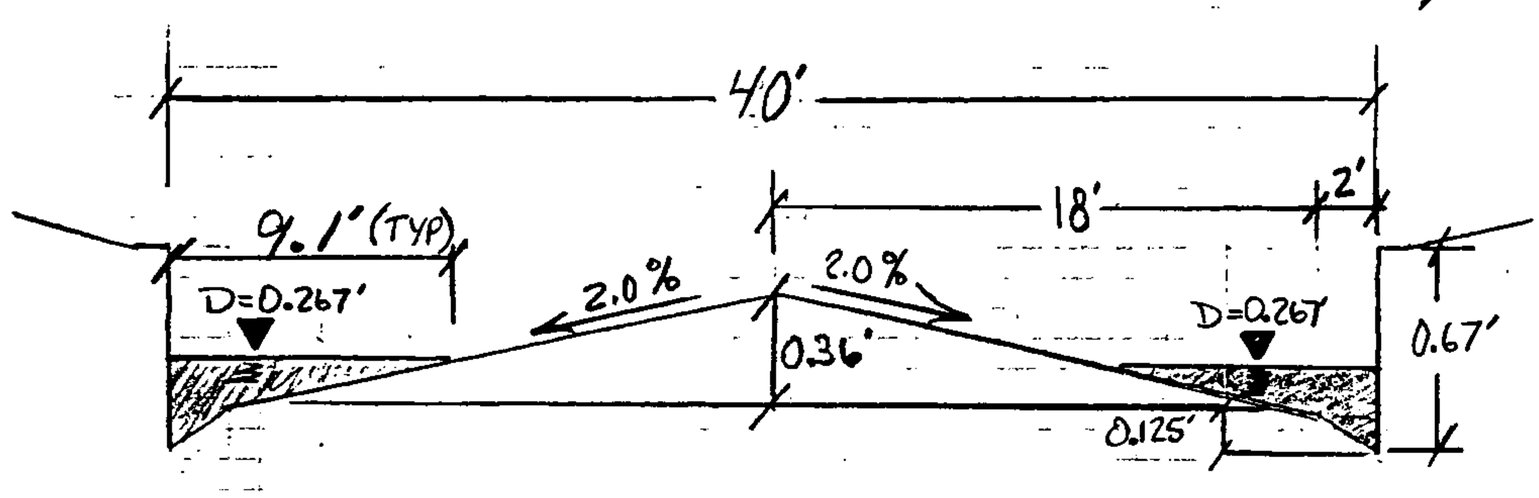
$D = 0.58'$ $Q = 11.0$ cfs
(See Nomographs Pg 4 & 5 of This Submittal)

Total Q Remaining In Arno Flowing North Towards Lomas Blvd.

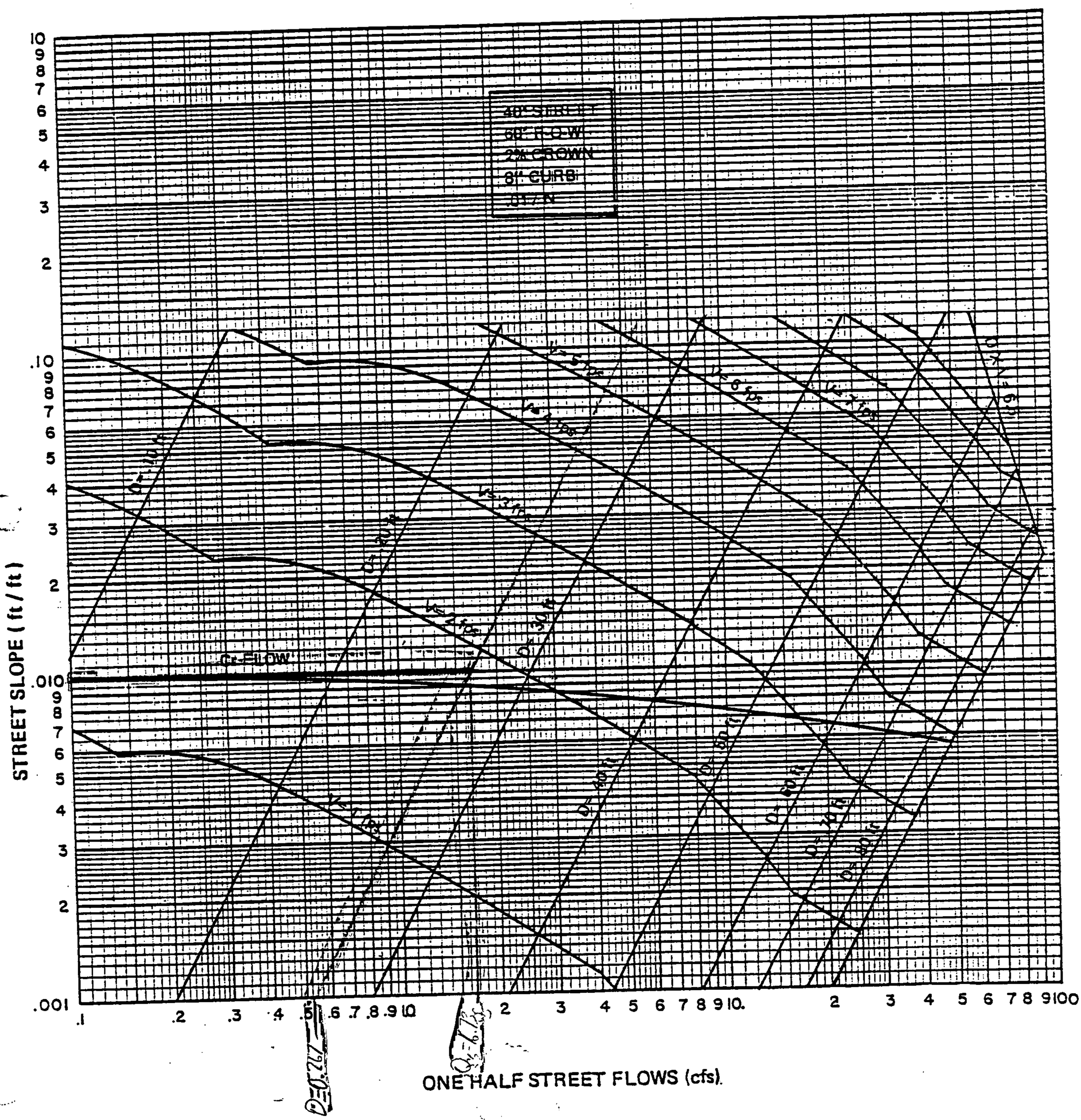
$Q = (27.40 + 6.06)$ cfs $= 33.46$ cfs

Depth Of Surface Flow w/ $Q = 33.46$ cfs

$D = 0.267'$ w/ $Q_{1/2} = 16.73$ cfs
(See Nomograph Pg 6 of This Submittal)



STREET CAPACITY

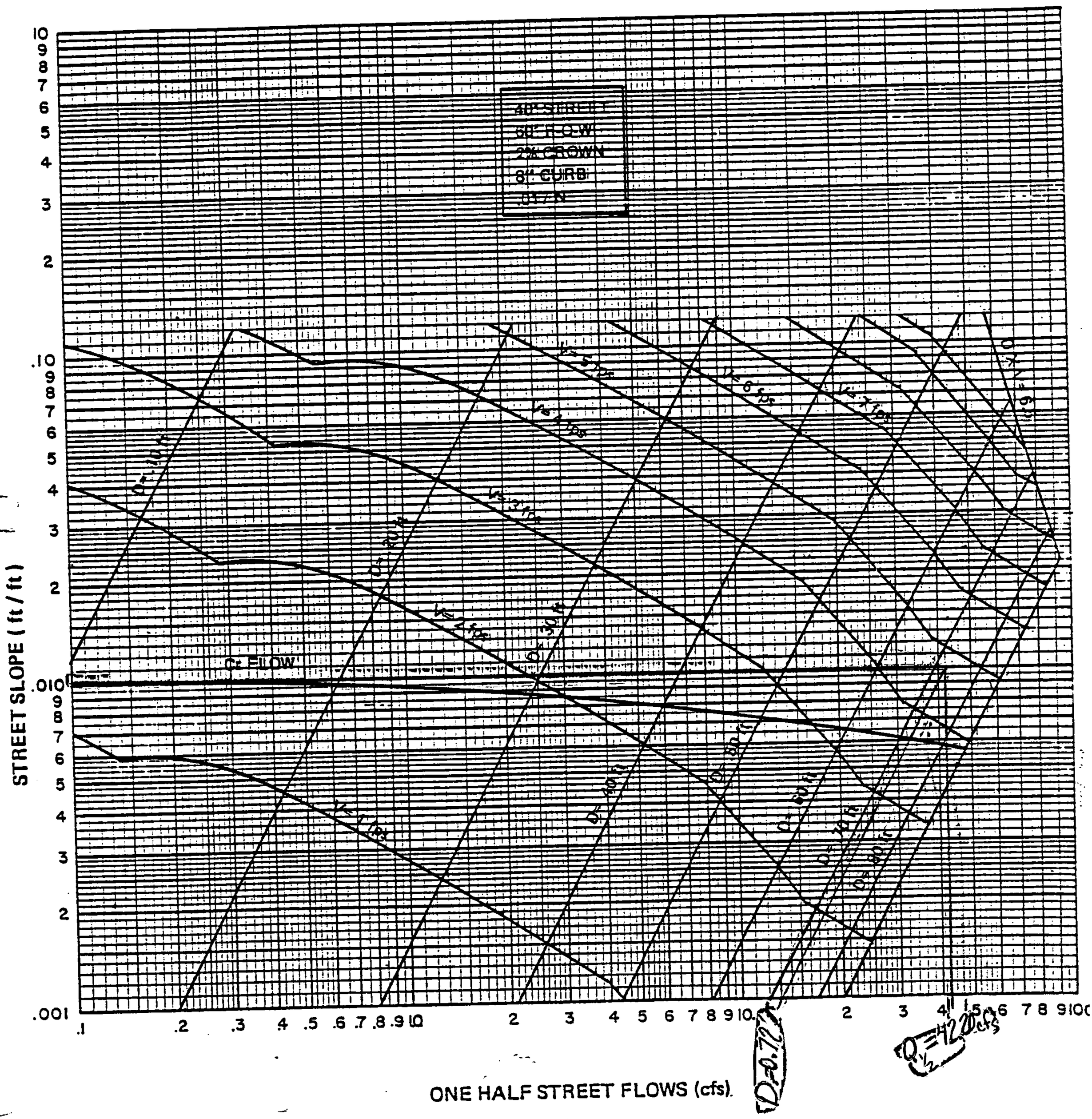


REV. 3-83

PLATE 22.3 D-2

PAGE 6

STREET CAPACITY

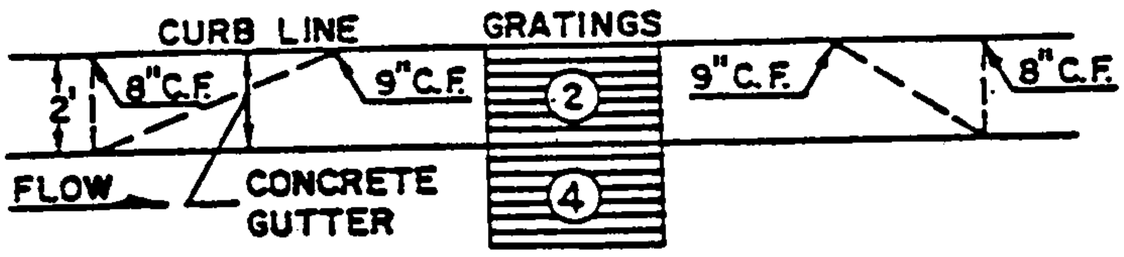


REV. 3-83

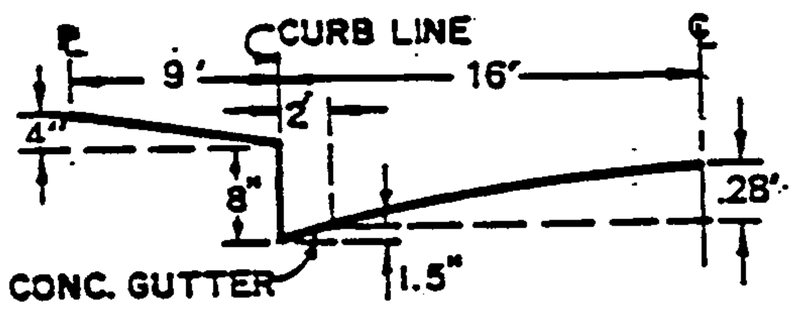
PLATE 22.3 D-2

PAGE 2

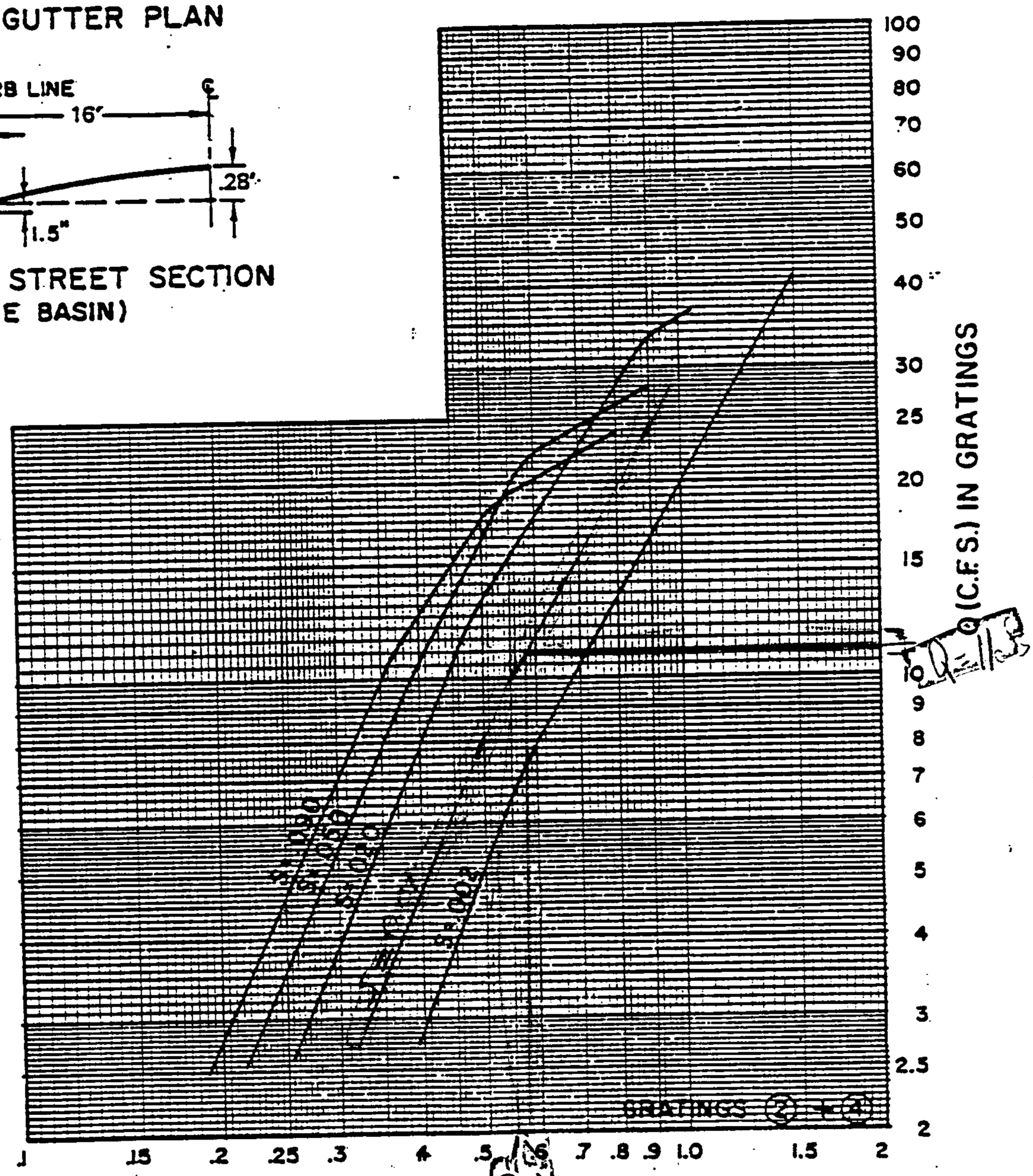
GRATING CAPACITIES FOR TYPE "B"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



STREET CAPACITY

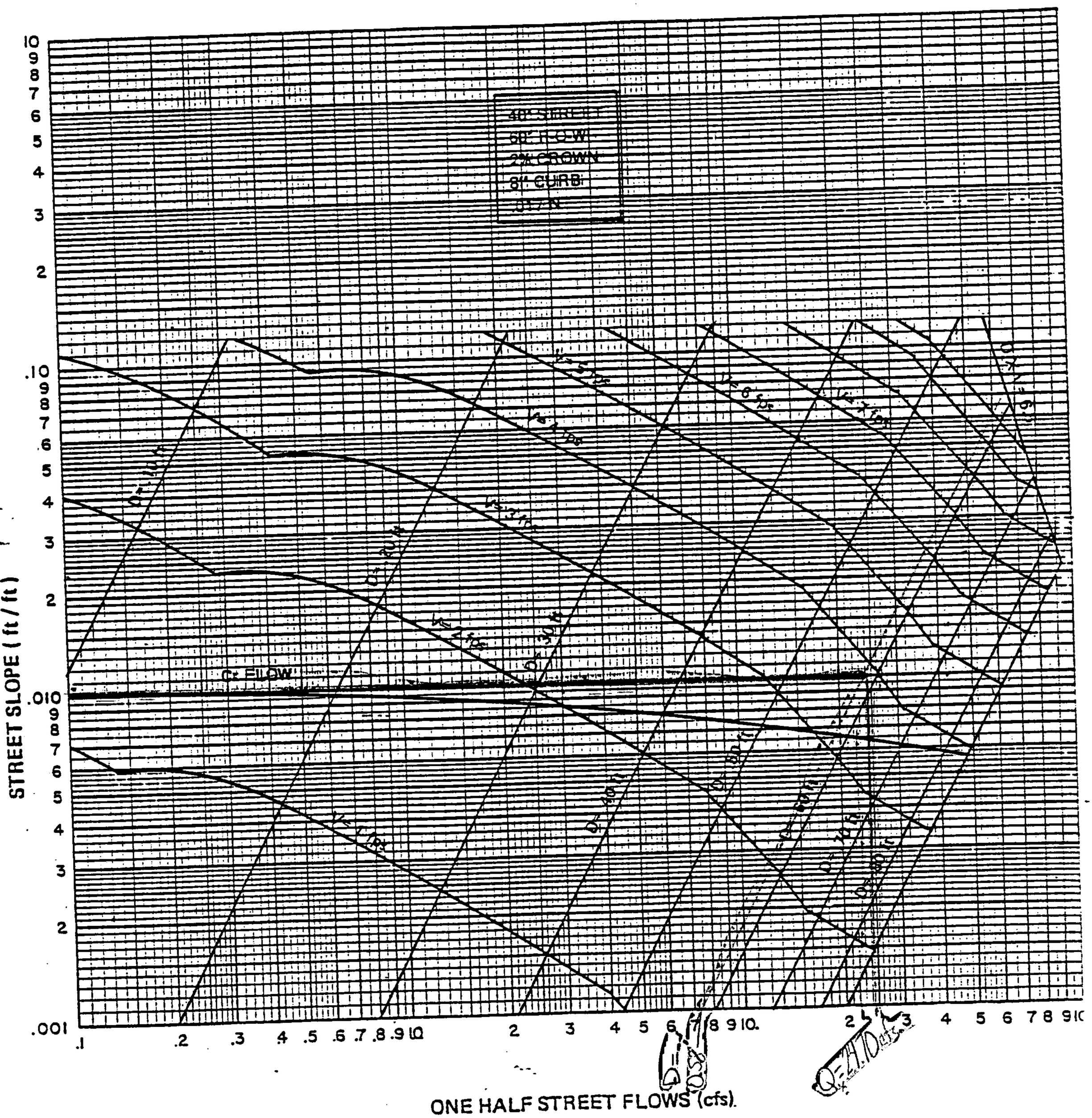
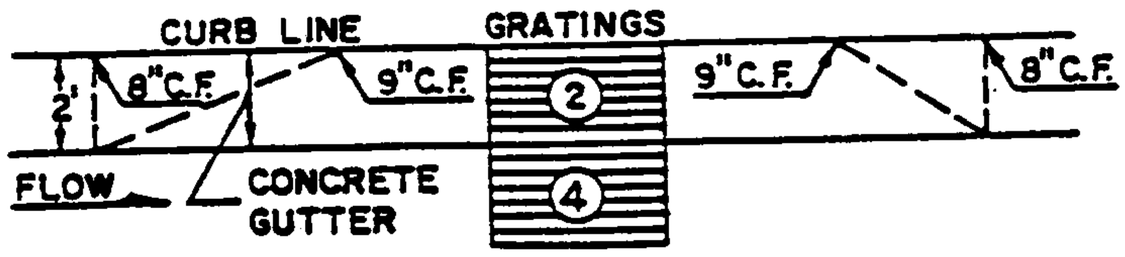


PLATE 22.3 D-2

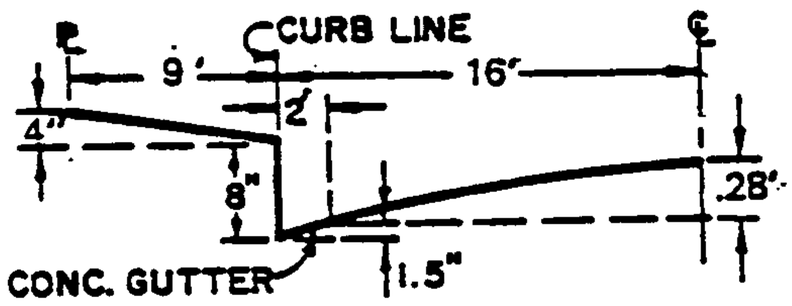
REV. 3-83

PAGE 4

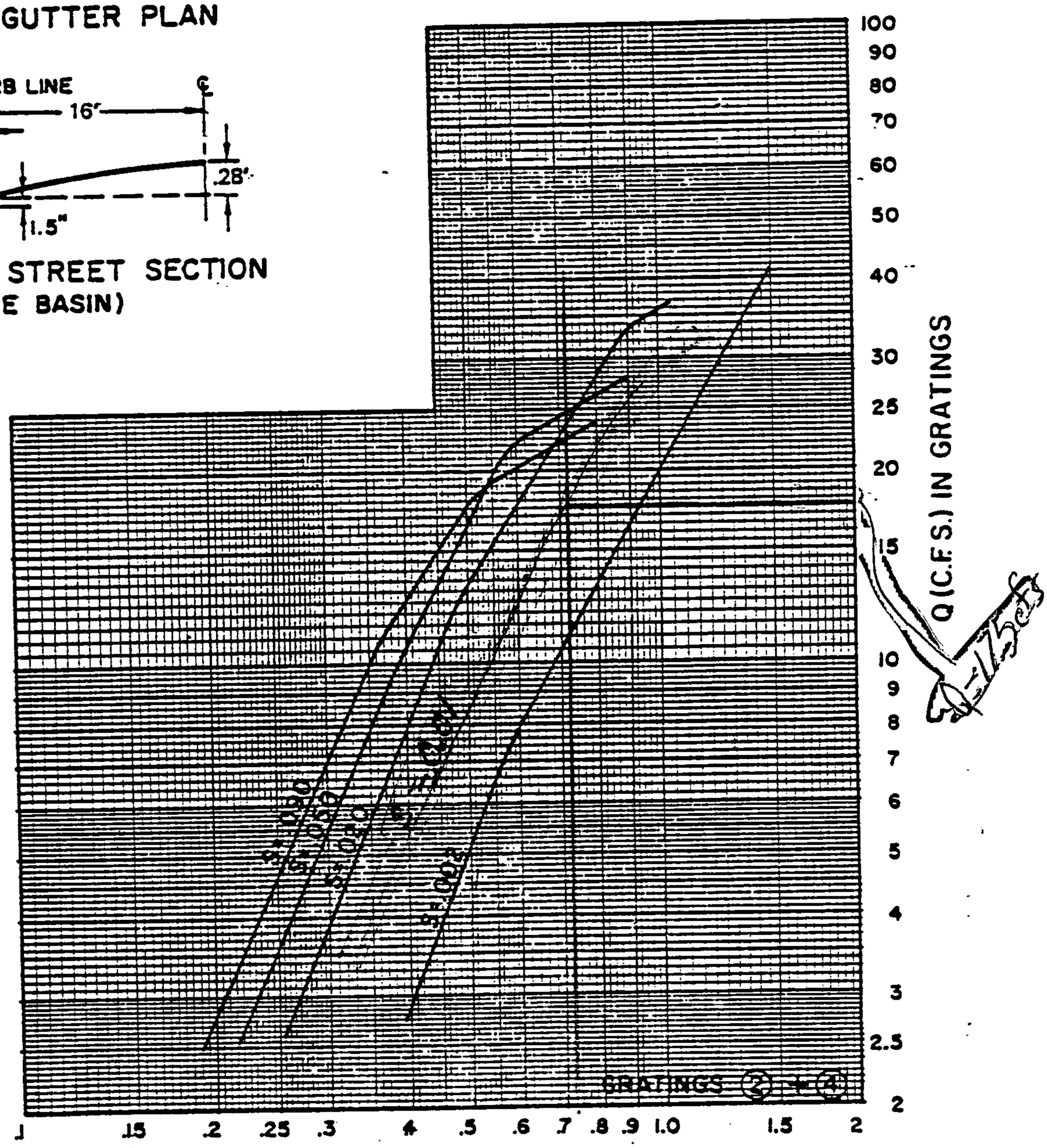
GRATING CAPACITIES FOR TYPE "B"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



CITY OF
Albuquerque

Public Works Department
March 14, 1997

Martin J. Chávez, Mayor

Robert E. Gurulé, Director

Roger Martinez, Jr.
Mark Goodwin & Associates
P.O. Box 90606
Albuquerque, NM 87199

J-14/D119

RE: LA AMISTAD SENIOR CENTER (~~J14-D119~~). GRADING AND DRAINAGE PLAN FOR PRELIMINARY PLAT, FINAL PLAT, AND BUILDING PERMIT.

Dear Mr. Martinez:

Based on the information provided on your March 4, 1997 submittal, City Hydrology has the following comments:

1. Provide a vicinity map. Include the site grading and drainage plan for Building Permit approval.

2. According to your capacity calculations, the street can not be blocked from storm water drainage. It appears that you have taken up the entire width of the street with some type of landscaping island. Remove these islands. Per our conversation on 3-14-97, it may be acceptable to use few small islands, if you provide street inlet capacity calculations.

3. Keep in mind, the property owner will be responsible for the maintenance of the vacated street. Be certain to include the appropriate language on the plat. Provide a copy of the proposed plat with your next submittal.

4. Show, on the plan sheet, the entire portion of Arno Street to be vacated.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

Lisa Ann Manwill, P.E.
Engineering Assoc./Hyd.

c: Andrew Garcia
File

DRAINAGE INFORMATION SHEET

119

J-14/D119

PROJECT TITLE: La Amistad Senior Center

ZONEATLAS/DRNG,FILE#: J-14 ~~D109~~

DRB#: 94-405 EPC#

WORK ORDER#:

LEGAL DESCRIPTION: Tract 13B1, Lomas Center

CITY ADDRESS: NE Corner of Arno & Fruit

ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	Roger Martinez, Jr.
ADDRESS:	P.O. Box 90606 Albuquerque, NM 87199	PHONE:	(505) 345-2010
OWNER:	City of Albuquerque	CONTACT:	Lee Gamelsky
ADDRESS:	622 Tijeras NW Albuquerque, NM 87109	PHONE:	(505) 842-8865
ARCHITECT:	Gamelsky Benton Architects	CONTACT:	Lee Gamelsky
ADDRESS:	622 Tijeras NW Albuquerque, NM 87109	PHONE:	(505) 842-8865
SURVEYOR:		CONTACT:	
ADDRESS:		PHONE:	
CONTACTOR:		CONTACT:	
ADDRESS:		PHONE:	

TYPE OF SUBMITTAL:

X DRAINAGE REPORT
DRAINAGE PLAN
CONCEPTUAL GRADING & DRAINAGE PLAN
GRADING PLAN
EROSION CONTROL
ENGINEER'S CERTIFICATION
OTHER

PRE-DESIGN MEETING:

YES
NO
COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

SKETCH PLAT APRROVAL
X PRELIMINARY PLAT APRROVAL
S. DEV. PLAN FOR SUB'D APPROVAL
S. DEV. PLAN FOR BLDG PERMIT APPROVAL
SECTOR PLAN APPROVAL
X FINAL PLAT APPROVAL
FOUNDATION PERMIT APPROVAL
X BUILDING PERMIT APPROVAL
CERTIFICATION OF OCCUPANCY APPROVAL
GRADING PERMIT APPROVAL
PAVING PERMIT APPROVAL
S.A.D. DRAINAGE REPORT
DRAINAGE REQUIREMENTS
X OTHER Vaction of Public Right of Way

RECEIVED
MAR 04 1997
HYDROLOGY SECTION

DATE SUBMITTED: March 4, 1997

BY: Roger Martinez, Jr.

Roger Martinez, Jr.

[redacted]

MARK GOODWIN & ASSOCIATES
CONSULTING ENGINEERS

DRAINAGE REPORT
for
LA AMISTAD SENIOR CENTER

Prepared For

City of Albuquerque

March 1997

JOHN M. MACKENZIE
NEW MEXICO
11619
REGISTERED PROFESSIONAL ENGINEER

3-4-97

D. MARK GOODWIN & ASSOCIATES

PURPOSE

The purpose of this drainage analysis is on behalf of the City of Albuquerque, La Amistad Senior Center, for Vacation(closing) of a portion of Arno Street. The closing will occur from the intersection of Fruit and Arno then northward to Lomas Blvd. The intent of this partial closing is to restrict through traffic. The traffic obstruction to be considered is located 150' north of the intersection of Arno and Fruit and shall not impede the existing drainage patterns(See attached Grading and Drainage Plan). The drainage in this area is accomplished by storm sewer and by overland flow along city standard curb and gutter(See attached sheets for basin boundaries). This report will show that Arno Street can be closed but must not impede or obstruct the developed flow north towards Lomas Blvd.

EXISTING CONDITIONS

The site has two existing buildings centrally located within the property, one on the north and the other on the south. Parking is located on the eastern portion of the property. There are two existing drainage basins, an eastern and a western, with the basin dividing line running north and south in the center of the property. The existing storm runoff for the eastern basin drains overland to the south onto Fruit Avenue. The western basin drains overland into Arno Street. The flows exiting onto Fruit Avenue flow westward on the northern half of the street to the storm inlet located at the northeastern curb return of the Arno and Fruit intersection. The western basin drains northward overland along the eastern half of Arno to a storm inlet located at the southeastern curb return of the intersection of Lomas and Arno.

PROPOSED CONDITIONS

The integrity of the basins and their historical flow paths shall remain constant with regard to the proposed improvements which are additions to the existing buildings. The upstream basins and their flow paths will not be altered due to the improvements constructed at Fruit and Arno.

UPSTREAM BASINS

There are six basins contributing developed flow to the intersection of Arno Street and Fruit Avenue. This area of the city contains a storm sewer but limited information is available due to the maturity of the storm sewer construction. The developed flow generated by the upstream basins can be quantified but what is captured by the storm sewer system was not quantified. The available drainage information was calculated utilizing the "old" hydrology and constructed prior to the City of Albuquerque's mandate for maintenance of hydrology records. The basin descriptions are included within this submittal and field verified. The approach for analyzing the upstream basins drainage was to assume 50% of the developed flows were captured by the

storm sewer system and the remainder of the flow is conveyed by the street. The capacity of the RC pipes are also included in this submittal. The available information was not conclusive in the direction the storm water was conveyed out of this area. Given that the intersection of Arno and Fruit is the low point of the outlined basins and 50% of the flow may travel to this location. The capacity of the street and the capacity of the storm sewer will adequately convey the developed flows from this area.

CONCLUSION

The vacation of this street for the proposed improvements to the existing building and off-site areas can be accommodated without altering the existing drainage conditions. It has been shown in this report that the street must remain free of obstructions to convey upstream storm water, not conveyed by the storm sewer system, to meet all current city requirements. The existing storm sewer system As-Builts have been included and utilized for this submittal. The latest AHYMO methodology was utilized for obtaining developed flows in this area.

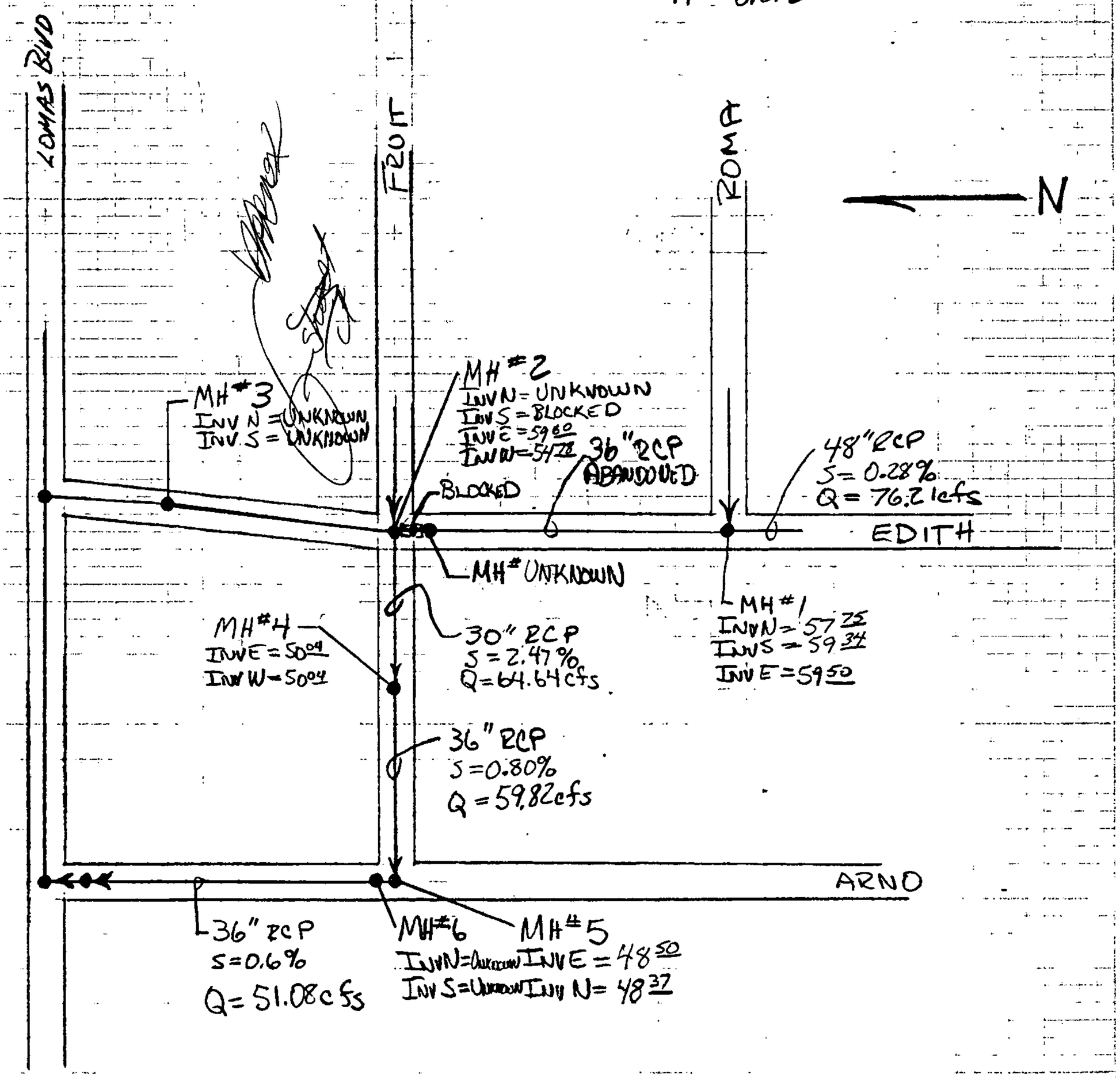
D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT LA AMISTAD SENIOR CENTER
SUBJECT ARNO ST. DRAINAGE & VACATION
BY RM DATE 28 FEB 97
CHECKED _____ DATE _____
SHEET 1 OF 4

1. STORM SEWER CAPACITY

EXISTING STORM SEWER CAPACITIES IN THE AREA.

MANNINGS EQTN $Q = \frac{K}{n} A R_H^{2/3} S^{1/2}$ $K = 1.49$, $n = 0.013$



2. CONTRIBUTING BASIN AREAS

- BASIN 1 – EAST OF ROMA & FRUIT, WEST OF I-25, SOUTH OF LOMAS, NORTHERN PORTION OF ST. JOSEPHS PARKING LOT.

A = 22.1247 ACRES = 0.0346 SQ. MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 99.64 cfs
Vol_{PK} = 3.6860 ACRE-FEET

- BASIN 2 – WEST OF BASIN 1, SOUTHERN PORTION OF FRUIT, NORTHERN PORTION PROPERTY BORDERED BY ROMA & FRUIT, EAST OF EDITH

A = 6.0262 ACRES = 0.0094 SQ. MILES

BASIN CONTAINS PONDS
HISTORICAL DISCHARGE FROM SITE IS CALCULATED

LAND TREATMENTS
TYPE "A" = 100.00%
TYPE "B" = 0.00%
TYPE "C" = 0.00%
TYPE "D" = 0.00%

AHYMO RESULTS
Q_{PK} = 9.37 cfs
Vol_{PK} = 0.2663 ACRE-FEET

- BASIN 3 – WEST OF BASIN 1, NORTHERN PORTION & NORTH OF FRUIT, EAST OF EDITH, SOUTH OF LOMAS

A = 3.9256 ACRES = 0.0061 SQ. MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 17.58 cfs
Vol_{PK} = 0.6498 ACRE-FEET

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT LA AMISTAD SENIOR CENTER
SUBJECT ARNO ST DRAINAGE & VACATION
BY RM DATE 28 FEB 97
CHECKED _____ DATE _____
SHEET 3 OF 4

2. CONTRIBUTING BASIN AREAS (CONTINUED)

• BASIN 4 - WEST OF EDITH, SOUTHERN PORTION OF FRUIT & NORTHERN HALF OF PROPERTY BETWEEN ROMA & FRUIT, WEST OF ARNO
A = 1.9083 ACRES = 0.0030 SQ MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 8.66 cfs
Vol_{PK} = 0.3196 ACRE-FEET

• BASIN 5 - SOUTH OF LOMAS, NORTH OF FRUIT & NORTHERN PORTION OF STREET, WEST OF EDITH, EAST OF SITE.
A = 1.8652 ACRES = 0.0029 SQ. MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 8.37 cfs
Vol_{PK} = 0.3089 ACRE-FEET

• BASIN 6 - SITE AREA & ARNO STREET, VACATED PORTION OF STREET.
A = 1.3516 ACRES = 0.0021 SQ MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 6.06 cfs
Vol_{PK} = 0.2237 ACRE-FEET

• BASIN 7 - EAST OF EDITH, SOUTH OF ROMA AND A PORTION OF ST. JOSEPHS MEDICAL CENTER
A = 5.6244 ACRES = 0.0088 SQ. MILES

LAND TREATMENTS
TYPE "A" = 0.00%
TYPE "B" = 5.00%
TYPE "C" = 5.00%
TYPE "D" = 90.00%

AHYMO RESULTS
Q_{PK} = 25.36 cfs
Vol_{PK} = 0.9375 ACRE-FEET

Why don't you include?

• CUMULATIVE TOTAL OF ALL BASINS AHYMO RESULTS EXCEPT BASIN 6
Q_{PK} = 168.78 cfs Vol_{PK} = 6.1681 ACRE-FEET

3. Conclusion

+ Assumed 50% of contributing basins may flow towards vacated portion of Arno and flow generated by site.

$$Q = (84.39 + 6.06)\text{ cfs} = 90.45\text{ cfs}$$

+ Capacity of Arno Street.

- Surface Flow = Q = 53 cfs
  (see attached Plate 22.3-D2)
- Storm Sewer Flow = Q = 51.08 cfs
  (see page 1 of 4)

Total Combined Flow > Assumed Flow

104 cfs > 90.45 cfs

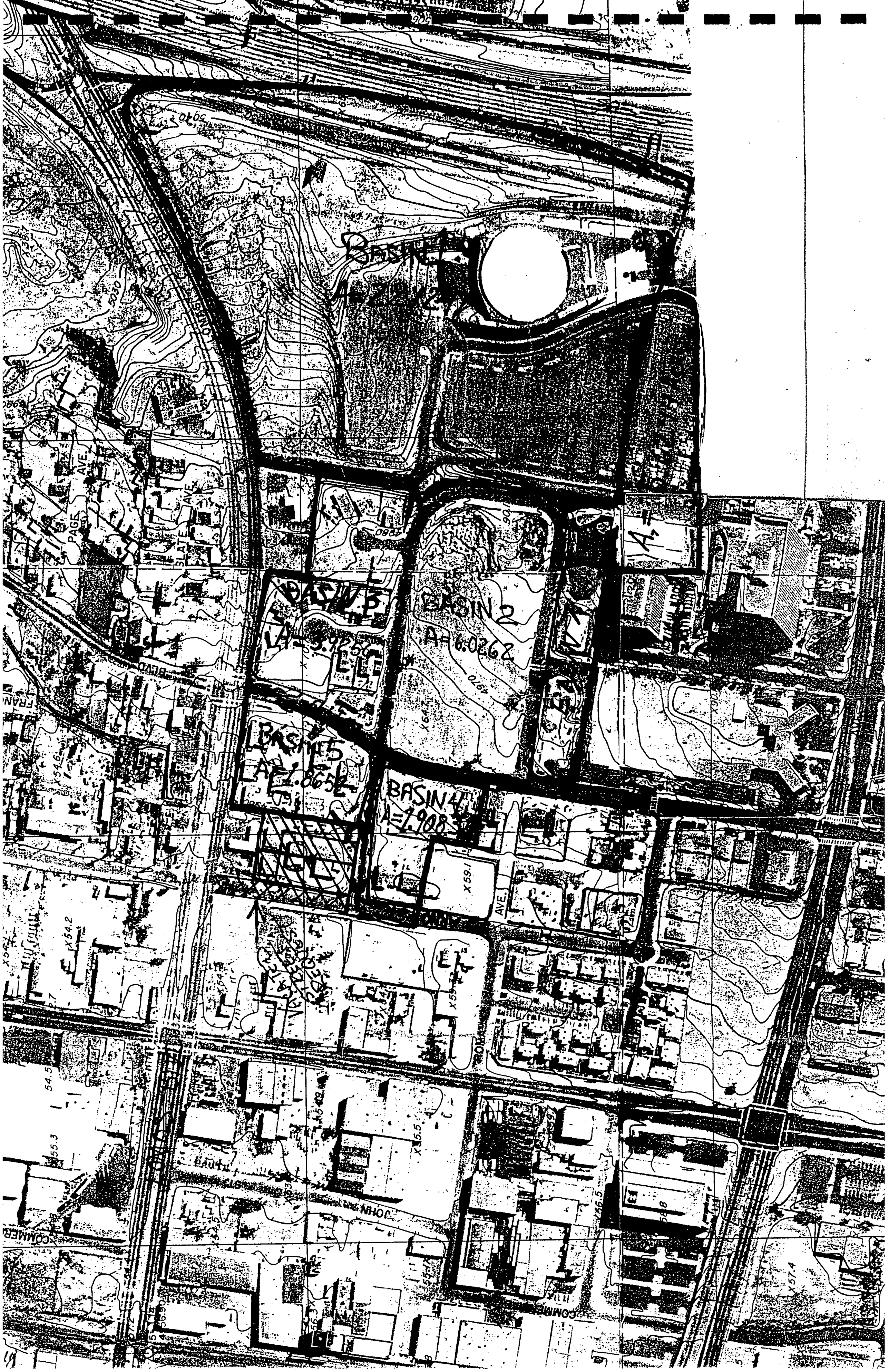
∴ Therefore, Arno St. must convey surface flow and should this street be vacated no obstructions shall be placed to impede surface flow.

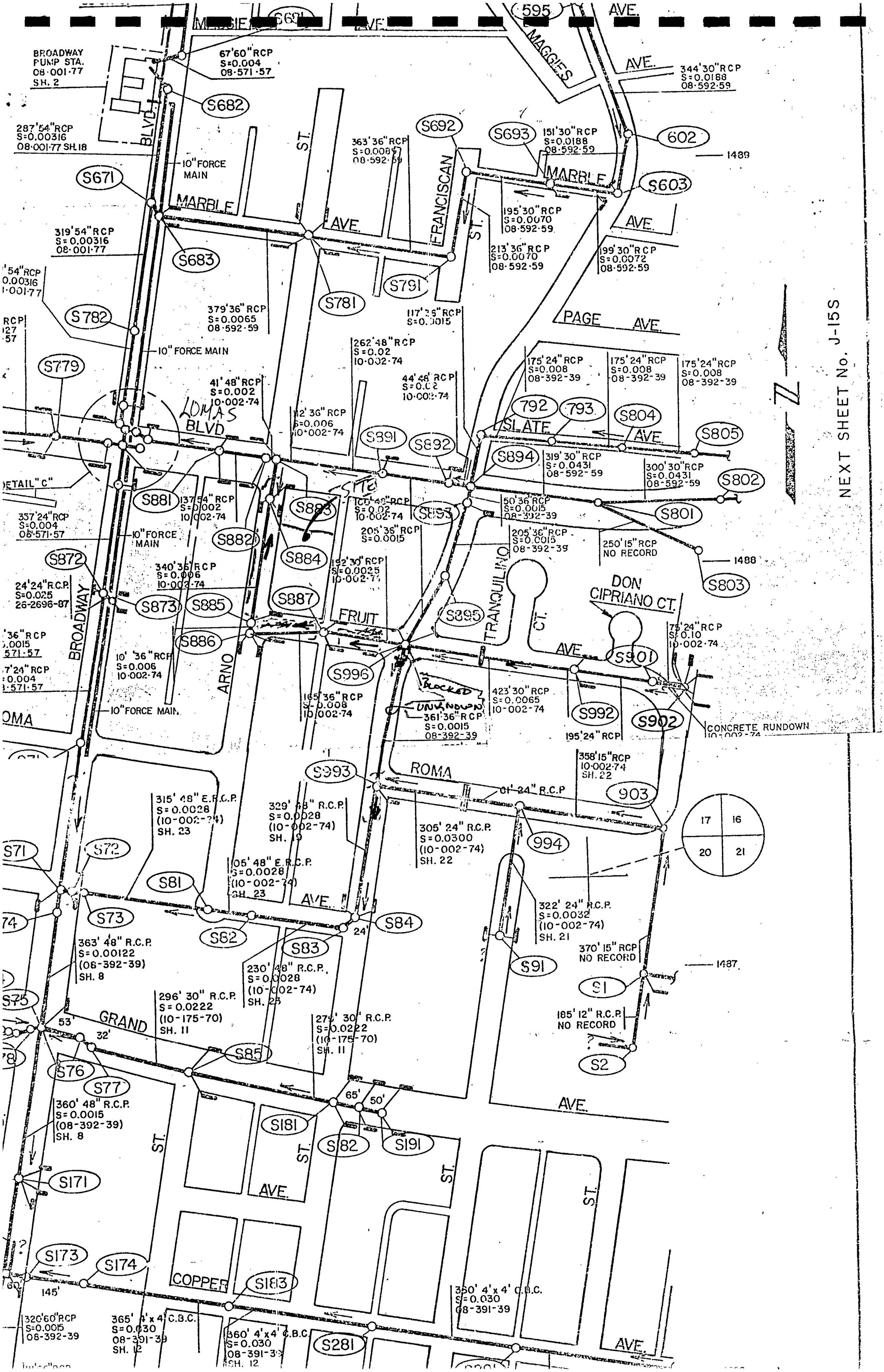
$$Q_{stormsewer} = 51.08\text{ cfs}$$

$$Q_{surface} = 39.37\text{ cfs}$$

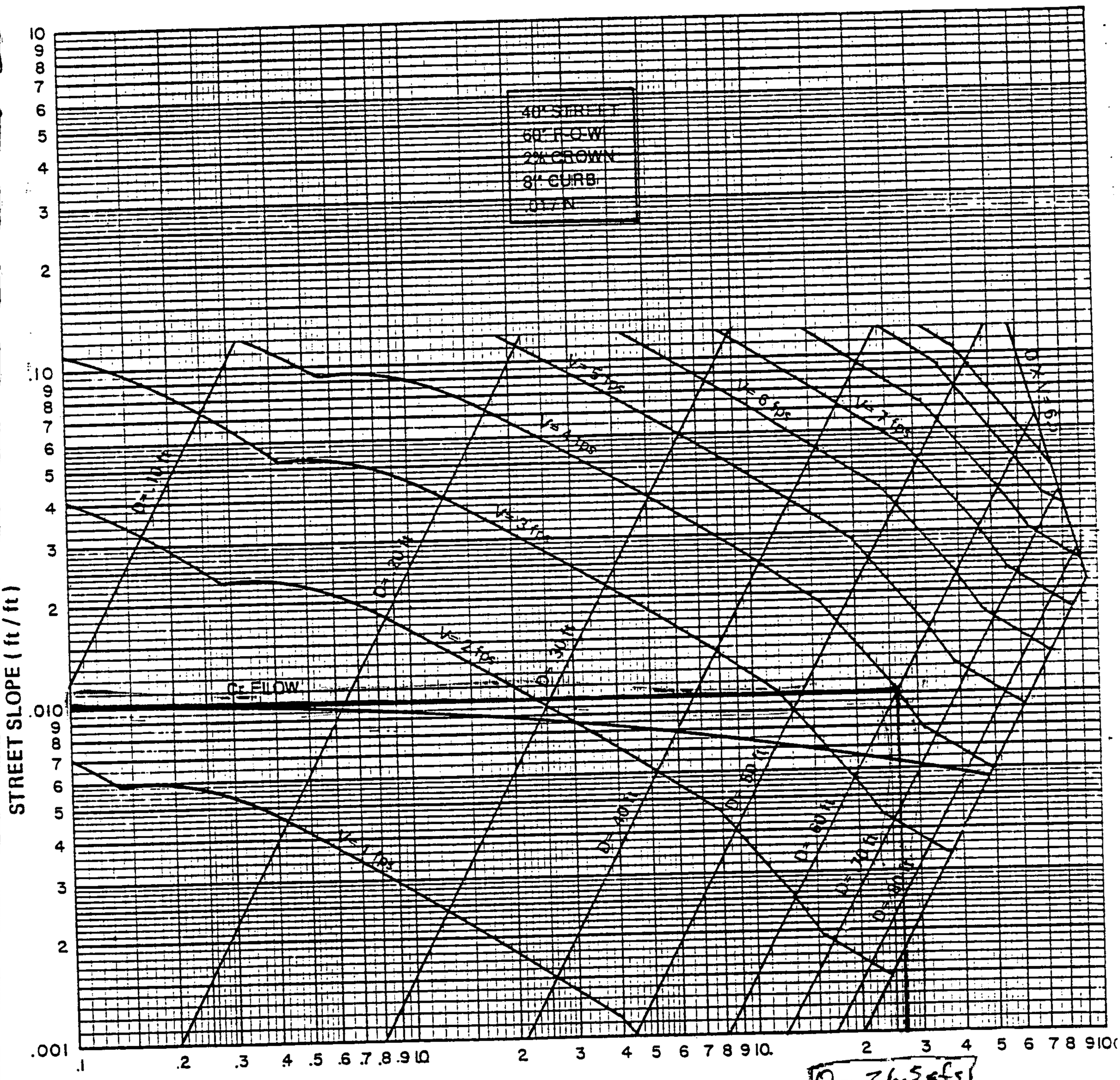
$$Q_{surface} < Q_{capacity}$$

$$39.37\text{ cfs} < 51.08\text{ cfs}$$


BASIN 1
BASIN 2
A=6.026
BASIN 3
A=3.926
BASIN 4
A=1.908
BASIN 5
A=1.865
A=
PAGE AVE.
SLATE AVE.
JOHN
COMMERCE
X 59.1
X 56.5
X 57.4
X 54.2
X 55.3
X 54.6


MAGGIE AVE.
595
MAGGIES AVE.
BROADWAY PUMP STA. 08-001-77 SH. 2
67'60" RCP S=0.004 08-571-57
S682
344'30" RCP S=0.0168 08-592-59
287'54" RCP S=0.00316 08-001-77 SH. 18
BLVD.
10" FORCE MAIN
S671
MARBLE AVE.
ST.
363'36" RCP S=0.0089 08-592-59
S692
S693
151'30" RCP S=0.0188 08-592-59
602
1489
MARBLE
S603
FRANCISCAN ST.
195'30" RCP S=0.0070 08-592-59
AVE.
319'54" RCP S=0.00316 08-001-77
S683
213'36" RCP S=0.0070 08-592-59
199'30" RCP S=0.0072 08-592-59
S791
S781
379'36" RCP S=0.0065 08-592-59
S782
10" FORCE MAIN
PAGE AVE.
262'48" RCP S=0.02 10-002-74
S779
41'48" RCP S=0.002 10-002-74
44'48" RCP S=0.02 10-002-74
175'24" RCP S=0.008 08-392-39
175'24" RCP S=0.008 08-392-39
175'24" RCP S=0.008 08-392-39
LOMAS BLVD
792
793
S804
SLATE AVE.
S805
S891
S892
S894
319'30" RCP S=0.0431 08-592-59
300'30" RCP S=0.0431 08-592-59
S802
DETAIL "C"
S881
137'54" RCP S=0.002 10-002-74
SITE
S883
S893
50'36" RCP S=0.0015 08-392-39
S801
357'24" RCP S=0.004 08-571-57
10" FORCE MAIN
S882
205'36" RCP S=0.0015
205'36" RCP S=0.0015 08-392-39
250'15" RCP NO RECORD
1488
S872
S884
192'30" RCP S=0.0025 10-002-74
S803
340'36" RCP S=0.006 10-002-74
24'24" R.C.P. S=0.025 26-2696-87
S873
S885
S887
FRUIT
S895
TRANQUILINO CT.
DON CIPRIANO CT.
BROADWAY
S886
ARNO
10' 36" RCP S=0.006 10-002-74
S996
AVE.
S901
75'24" RCP S=0.10 10-002-74
10" FORCE MAIN
BLOCKED
UNKNOWN
165'36" RCP S=0.008 10-002-74
361'36" RCP S=0.0015 08-392-39
423'30" RCP S=0.0065 10-002-74
S992
S902
195'24" RCP
CONCRETE RUNDOWN
358'15" RCP 10-002-74 SH. 22
S993
ROMA
01'24" R.C.P.
903
315'48" E.R.C.P. S=0.0028 (10-002-74) SH. 23
329'48" R.C.P. S=0.0028 (10-002-74) SH. 9
305'24" R.C.P. S=0.0300 (10-002-74) SH. 22
994
17
16
20
21
S71
S72
105'48" E.R.C.P. S=0.0028 (10-002-74) SH. 23
S81
AVE.
322'24" R.C.P. S=0.0032 (10-002-74) SH. 21
S73
S82
S83
S84
24'
363'48" R.C.P. S=0.00122 (08-392-39) SH. 8
230'48" R.C.P. S=0.0028 (10-002-74) SH. 23
S91
370'15" RCP NO RECORD
1487
S1
296'30" R.C.P. S=0.0222 (10-175-70) SH. 11
GRAND
53'
32'
279'30" R.C.P. S=0.0222 (10-175-70) SH. 11
185'12" R.C.P. NO RECORD
S85
S2
S75
S76
S77
65'
50'
360'48" R.C.P. S=0.0015 (08-392-39) SH. 8
AVE.
S181
S182
S191
ST.
S171
AVE.
ST.
ST.
ST.
S173
S174
145'
COPPER
S183
350' 4'x4' C.B.C. S=0.030 08-391-39
320'60" RCP S=0.0015 08-392-39
365' 4'x4' C.B.C. S=0.030 08-391-39 SH. 12
360' 4'x4' C.B.C. S=0.030 08-391-39 SH. 12
S281
AVE.
NEXT SHEET No. J-15S

STREET CAPACITY



$Q_{1/2}$ = 26.5 cfs

Full Street Width

Q = 53 cfs

PLATE 22.3 D-2

REV. 3-83

```
START                   TIME=0.0

*****   HYDROGRAPH FOR LA AMISTAD SENIOR CENTER BETWEEN FRUIT AVENUE
*****   AND LOMAS BLVD, ON THE EASTERN HALF OF ARNO STREET. THIS IS THE
*****   ESTIMATE OF THE OFFSITE BASINS CONTRIBUTING TO THE SURFACE AND
*****   STORM SEWER FLOW IN ARNO STREET.

RAINFALL                TYPE=1 RAIN QUARTER=0.0 IN
                        RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                        RAIN DAY=2.75 IN DT=0.03333 HR

*HYDROGRAPH FOR OFF-SITE BASIN 1
COMPUTE NM HYD          ID=1 HYD NO=101.1 AREA=0.0346 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=1 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 2
COMPUTE NM HYD          ID=2 HYD NO=101.2 AREA=0.0094 SQ MI
                        PER A=100.00 PER B=0.00 PER C=0.00 PER D=0.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=2 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 3
COMPUTE NM HYD          ID=3 HYD NO=101.3 AREA=0.0061 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=3 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 4
COMPUTE NM HYD          ID=4 HYD NO=101.4 AREA=0.0030 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                        TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD               ID=4 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 5
COMPUTE NM HYD          ID=5 HYD NO=101.5 AREA=0.0029 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
```

```
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=5 CODE=1

*HYDROGRAPH FOR ON-SITE BASIN 6
COMPUTE NM HYD      ID=6 HYD NO=101.6 AREA=0.0021 SQ MI
                    PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=6 CODE=1

*HYDROGRAPH FOR OFF-SITE BASIN 7
COMPUTE NM HYD      ID=7 HYD NO=101.7 AREA=0.0088 SQ MI
                    PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=7 CODE=1

ADD HYD             ID=8  HYD NO=101.8    ID=1   ID=2
PRINT HYD           ID=8  CODE=1

ADD HYD             ID=9  HYD NO=101.9    ID=8   ID=3
PRINT HYD           ID=9  CODE=1

ADD HYD             ID=11  HYD NO=101.11  ID=9   ID=4
PRINT HYD           ID=11  CODE=1

ADD HYD             ID=12  HYD NO=101.12  ID=11  ID=5
PRINT HYD           ID=12  CODE=1

ADD HYD             ID=13  HYD NO=101.13  ID=12  ID=7
PRINT HYD           ID=13  CODE=1

FINISH
```

```
AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
     RUN DATE (MON/DAY/YR) = 03/03/1997
     START TIME (HR:MIN:SEC) = 10:44:47     USER NO.= M_GOODWN.I01
     INPUT FILE = LAMISTAD.DAT


START                TIME=0.0


*****   HYDROGRAPH FOR LA AMISTAD SENIOR CENTER BETWEEN FRUIT AVENUE

*****   AND LOMAS BLVD, ON THE EASTERN HALF OF ARNO STREET. THIS IS THE

*****   ESTIMATE OF THE OFFSITE BASINS CONTRIBUTING TO THE SURFACE AND

*****   STORM SEWER FLOW IN ARNO STREET.


RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN

                     RAIN ONE=2.01 IN RAIN SIX=2.35 IN

                     RAIN DAY=2.75 IN DT=0.03333 HR


                     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	

```
*HYDROGRAPH FOR OFF-SITE BASIN 1

COMPUTE NM HYD       ID=1 HYD NO=101.1 AREA=0.0346 SQ MI

                     PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                     TP=0.1333 HR MASS RAINFALL=-1


         K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
PE CONSTANT, N =  7.106420
         UNIT PEAK =    122.94    CFS   UNIT VOLUME =    .9993       B =    526.
28       P60 = 2.0100
         AREA =       .031140 SQ MI    IA =    .10000 INCHES    INF =    .04000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
```

```
T =    .033330


          K =    .119767HR     TP =    .133300HR     K/TP RATIO =    .898476      SHA
PE CONSTANT, N =  3.944947
          UNIT PEAK =    9.1232     CFS    UNIT VOLUME =     .9990        B =    351.
48       P60 = 2.0100
          AREA =       .003460 SQ MI     IA =     .42500 INCHES     INF =    1.04000
 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

     PRINT HYD            ID=1 CODE=1


                                          PARTIAL HYDROGRAPH   101.10


          RUNOFF VOLUME =      1.99749 INCHES      =        3.6860 ACRE-FEET
          PEAK DISCHARGE RATE =       99.64 CFS  AT    1.500 HOURS   BASIN AREA =
    .0346 SQ. MI.



     *HYDROGRAPH FOR OFF-SITE BASIN 2

     COMPUTE NM HYD       ID=2 HYD NO=101.2 AREA=0.0094 SQ MI

                          PER A=100.00 PER B=0.00 PER C=0.00 PER D=0.00

                          TP=0.1333 HR MASS RAINFALL=-1


          K =    .160154HR     TP =    .133300HR     K/TP RATIO =  1.201459      SHA
PE CONSTANT, N =  2.957910
          UNIT PEAK =    19.630     CFS    UNIT VOLUME =     .9990        B =    278.
```

```
37      P60 = 2.0100
         AREA =       .009400 SQ MI     IA =     .65000 INCHES     INF =   1.67000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

     PRINT HYD            ID=2 CODE=1

                                          PARTIAL HYDROGRAPH   101.20

         RUNOFF VOLUME =       .53121 INCHES      =         .2663 ACRE-FEET
         PEAK DISCHARGE RATE =       9.37 CFS  AT   1.533 HOURS   BASIN AREA =
.0094 SQ. MI.


  *HYDROGRAPH FOR OFF-SITE BASIN 3

  COMPUTE NM HYD       ID=3 HYD NO=101.3 AREA=0.0061 SQ MI

                       PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                       TP=0.1333 HR MASS RAINFALL=-1

         K =    .072649HR     TP =    .133300HR     K/TP RATIO =    .545000     SHA
PE CONSTANT, N =  7.106420
         UNIT PEAK =   21.675    CFS   UNIT VOLUME =    .9988       B =   526.
28      P60 = 2.0100
         AREA =       .005490 SQ MI     IA =     .10000 INCHES     INF =    .04000
 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330
```

```
        K =    .119767HR    TP =    .133300HR    K/TP RATIO =    .898476    SHA
PE CONSTANT, N =  3.944947
        UNIT PEAK =    1.6084    CFS   UNIT VOLUME =    .9919       B =   351.
48      P60 = 2.0100
        AREA =       .000610 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330

  PRINT HYD            ID=3 CODE=1


                                        PARTIAL HYDROGRAPH   101.30


      RUNOFF VOLUME =      1.99749 INCHES      =         .6498 ACRE-FEET
      PEAK DISCHARGE RATE =       17.58 CFS  AT   1.500 HOURS   BASIN AREA =
.0061 SQ. MI.



  *HYDROGRAPH FOR OFF-SITE BASIN 4

  COMPUTE NM HYD       ID=4 HYD NO=101.4 AREA=0.0030 SQ MI

                       PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                       TP=0.1333 HR MASS RAINFALL=-1


        K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
PE CONSTANT, N =  7.106420
        UNIT PEAK =    10.660    CFS   UNIT VOLUME =    .9982       B =   526.
28      P60 = 2.0100
        AREA =       .002700 SQ MI    IA =    .10000 INCHES    INF =    .04000
```

```
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330


        K =    .119767HR    TP =    .133300HR    K/TP RATIO =    .898476     SHA
PE CONSTANT, N =  3.944947
        UNIT PEAK =    .79103    CFS   UNIT VOLUME =    .9841       B =   351.
48      P60 = 2.0100
        AREA =       .000300 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

     PRINT HYD            ID=4 CODE=1


                                        PARTIAL HYDROGRAPH   101.40


        RUNOFF VOLUME =      1.99749 INCHES      =         .3196 ACRE-FEET
        PEAK DISCHARGE RATE =        8.66 CFS  AT   1.500 HOURS   BASIN AREA =
   .0030 SQ. MI.


     *HYDROGRAPH FOR OFF-SITE BASIN 5

     COMPUTE NM HYD       ID=5 HYD NO=101.5 AREA=0.0029 SQ MI

                          PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                          TP=0.1333 HR MASS RAINFALL=-1


        K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
```

```
PE CONSTANT, N =  7.106420
        UNIT PEAK =   10.304    CFS   UNIT VOLUME =    .9982       B =   526.
28      P60 = 2.0100
        AREA =      .002610 SQ MI    IA =    .10000 INCHES    INF =    .04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330


        K =   .119767HR    TP =   .133300HR    K/TP RATIO =   .898476     SHA
PE CONSTANT, N =  3.944947
        UNIT PEAK =   .76467    CFS   UNIT VOLUME =    .9825       B =   351.
48      P60 = 2.0100
        AREA =      .000290 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =   .033330

    PRINT HYD           ID=5 CODE=1


                                        PARTIAL HYDROGRAPH   101.50


        RUNOFF VOLUME =     1.99749 INCHES     =        .3089 ACRE-FEET
        PEAK DISCHARGE RATE =       8.37 CFS  AT   1.500 HOURS   BASIN AREA =
   .0029 SQ. MI.


*HYDROGRAPH FOR ON-SITE BASIN 6

COMPUTE NM HYD      ID=6 HYD NO=101.6 AREA=0.0021 SQ MI

                    PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
```

TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHA
PE CONSTANT, N = 7.106420
UNIT PEAK = 7.4618 CFS UNIT VOLUME = .9978 B = 526.
28 P60 = 2.0100
AREA = .001890 SQ MI IA = .10000 INCHES INF = .04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T = .033330

K = .119767HR TP = .133300HR K/TP RATIO = .898476 SHA
PE CONSTANT, N = 3.944947
UNIT PEAK = .55372 CFS UNIT VOLUME = .9767 B = 351.
48 P60 = 2.0100
AREA = .000210 SQ MI IA = .42500 INCHES INF = 1.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T = .033330

PRINT HYD ID=6 CODE=1

PARTIAL HYDROGRAPH 101.60

RUNOFF VOLUME = 1.99749 INCHES = .2237 ACRE-FEET
PEAK DISCHARGE RATE = 6.06 CFS AT 1.500 HOURS BASIN AREA =
.0021 SQ. MI.

*HYDROGRAPH FOR OFF-SITE BASIN 7

```
     COMPUTE NM HYD       ID=7 HYD NO=101.7 AREA=0.0088 SQ MI

                          PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00

                          TP=0.1333 HR MASS RAINFALL=-1


          K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHA
PE CONSTANT, N =  7.106420
          UNIT PEAK =    31.269    CFS   UNIT VOLUME =    .9990       B =    526.
28       P60 = 2.0100
          AREA =       .007920 SQ MI    IA =    .10000 INCHES    INF =    .04000
 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330


          K =    .119767HR    TP =    .133300HR    K/TP RATIO =    .898476     SHA
PE CONSTANT, N =  3.944947
          UNIT PEAK =    2.3204    CFS   UNIT VOLUME =    .9946       B =    351.
48       P60 = 2.0100
          AREA =       .000880 SQ MI    IA =    .42500 INCHES    INF =   1.04000
 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - D
T =    .033330

     PRINT HYD            ID=7 CODE=1


                                   PARTIAL HYDROGRAPH   101.70


          RUNOFF VOLUME =      1.99749 INCHES      =         .9375 ACRE-FEET
          PEAK DISCHARGE RATE =       25.36 CFS  AT   1.500 HOURS   BASIN AREA =
.0088 SQ. MI.
```

```
ADD HYD              ID=8  HYD NO=101.8    ID=1   ID=2

PRINT HYD            ID=8  CODE=1

                                   PARTIAL HYDROGRAPH   101.80

     RUNOFF VOLUME =     1.68423 INCHES     =       3.9523 ACRE-FEET
     PEAK DISCHARGE RATE =     108.82 CFS  AT   1.500 HOURS   BASIN AREA =
.0440 SQ. MI.


ADD HYD              ID=9  HYD NO=101.9    ID=8   ID=3

PRINT HYD            ID=9  CODE=1

                                   PARTIAL HYDROGRAPH   101.90

     RUNOFF VOLUME =     1.72237 INCHES     =       4.6021 ACRE-FEET
     PEAK DISCHARGE RATE =     126.40 CFS  AT   1.500 HOURS   BASIN AREA =
.0501 SQ. MI.


ADD HYD              ID=11  HYD NO=101.11  ID=9   ID=4

PRINT HYD            ID=11  CODE=1
```

PARTIAL HYDROGRAPH 101.11

RUNOFF VOLUME = 1.73791 INCHES = 4.9217 ACRE-FEET
PEAK DISCHARGE RATE = 135.06 CFS AT 1.500 HOURS BASIN AREA =
.0531 SQ. MI.

ADD HYD ID=12 HYD NO=101.12 ID=11 ID=5

PRINT HYD ID=12 CODE=1

PARTIAL HYDROGRAPH 101.12

RUNOFF VOLUME = 1.75135 INCHES = 5.2307 ACRE-FEET
PEAK DISCHARGE RATE = 143.43 CFS AT 1.500 HOURS BASIN AREA =
.0560 SQ. MI.

ADD HYD ID=13 HYD NO=101.13 ID=12 ID=7

PRINT HYD ID=13 CODE=1

PARTIAL HYDROGRAPH 101.13

RUNOFF VOLUME = 1.78477 INCHES = 6.1681 ACRE-FEET
PEAK DISCHARGE RATE = 168.78 CFS AT 1.500 HOURS BASIN AREA =

```
.0648 SQ. MI.


  FINISH


      NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 10:44:49
```