CITY OF
Albuquerque
Public Works Department

Martin J. Chávez, Mayor

Robert E. Gurulé, Director

August 18,1997

Larry Read
Larry Read & Associates
P.O. Box 90233
Albuquerque, New Mexico 87199

RE: ENGINEER CERTIFICATION FOR PLAZA-INN RENOVATIONS (J15-D44)
CERTIFICATION STATEMENT DATED 7/31/97

Dear Mr. Read:

Based on the information provided on your August 11,1997 submittal, Engineer Certification for the above referenced site is acceptable.

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

C: Andrew Garcia
File

Sincerely

Bernie J. Montoya CE
Associate Engineer

DRAINAGE INFORMATION SHEET

PROJECT TITLE: PLAZA INN - RENOVATIONS ZONE ATLAS/DRNG. FILE: J-15 D44

LEGAL DESCRIPTION: PORTION OF TRACT LRMA, LANDS OF SOUTHWESTERN CONSTRUCTION COMPANY

CITY ADDRESS: 900 MEDICAL ARTS AVENUE N.E.

ENGINEERING FIRM: LARRY READ & ASSOCIATES CONTACT: LARRY READ

ADDRESS: P. O. BOX 90233 ALB, NM 87199 PHONE: 858-3165

OWNER: CONTACT:

ADDRESS: PHONE:

ARCHITECT: CONTACT:

ADDRESS: PHONE:

SURVEYOR: CONTACT:

ADDRESS: PHONE:

CONTRACTOR: TI CONSTRUCTION CONTACT: RON SMITH

ADDRESS: BOX 26208 ALBUQ, NM 87125 PHONE: 243-3987

PREDESIGN MEETING:

_____ YES
__X__ NO

_____ COPY OF CONFERENCE RECAP SHEET

PROVIDED

TYPE OF TRANSMITTAL:

_____ DRAINAGE REPORT

_____ DRAINAGE PLAN

_____ PRELIMINARY GRADING AND DRAINAGE

_____ GRADING PLAN

_____ EROSION CONTROL PLAN

__X__ ENGINEER'S CERTIFICATION

RECEIVED
AUG 11 1997
HYDROLOGY SECTION

DATE SUBMITTED: JULY 31, 1997

BY: LARRY READ

DRB NO. _____
EPC NO. _____

PROJECT NO. _____

CHECK TYPE OF APPROVAL SOUGHT:

_____ SKETCH PLAT APPROVAL

_____ PRELIMINARY PLAT APPROVAL

_____ SITE DEVELOPMENT PLAN APPROVAL

_____ FINAL PLAT APPROVAL

_____ BUILDING PERMIT APPROVAL

_____ FOUNDATION PERMIT APPROVAL

__X__ CERTIFICATE OF OCCUPANCY APPROVAL

_____ ROUGH GRADING PERMIT APPROVAL

_____ GRADING/PAVING PERMIT APPROVAL

_____ OTHER _____ (SPECIFY)

CITY OF
Albuquerque

Martin J. Chávez, Mayor

May 14,1997

Larry Read
Larry Read & Associates
P.O. Box 90233
Albuquerque, New Mexico 87199

RE: DRAINAGE PLAN FOR PLAZA INN - RENOVATIONS (J15-D44) ENGINEER'S STAMP DATED 5/5/97

Dear Mr. Read:

Based on the information provided on your May 6,1997 submittal, the above referenced site is approved for Building Permit.

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

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

# DRAINAGE INFORMATION SHEET

PROJECT TITLE: PLAZA INN - RENOVATIONS ZONE ATLAS/DRNG. FILE: J-15/D44

LEGAL DESCRIPTION: PORTION OF TRACT LRMA, LANDS OF SOUTHWESTERN CONSTRUCTION COMPANY

CITY ADDRESS: 900 MEDICAL ARTS AVENUE N.E.

ENGINEERING FIRM: LARRY READ & ASSOCIATES CONTACT: LARRY READ

ADDRESS: P. O. BOX 90233 ALB, NM 87199 PHONE: 858-3165

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: TI CONSTRUCTION CONTACT: RON SMITH

ADDRESS: BOX 26208 ALBUQ, NM 87125 PHONE: 243-3987

PREDESIGN MEETING:

_____ YES
__X__ NO

_____ COPY OF CONFERENCE RECAP SHEET

PROVIDED

TYPE OF TRANSMITTAL:

_____ DRAINAGE REPORT

__X__ DRAINAGE PLAN

_____ PRELIMINARY GRADING AND DRAINAGE

_____ GRADING PLAN

_____ EROSION CONTROL PLAN

_____ ENGINEER'S CERTIFICATION

RECEIVED
MAY 06 1997
HYDROLOGY SECTION

DATE SUBMITTED: MAY 5, 1997

BY: LARRY READ

DRB NO. _____
EPC NO. _____

PROJECT NO. _____

CHECK TYPE OF APPROVAL SOUGHT:

_____ SKETCH PLAT APPROVAL

_____ PRELIMINARY PLAT APPROVAL

_____ SITE DEVELOPMENT PLAN APPROVAL

_____ FINAL PLAT APPROVAL

__X__ BUILDING PERMIT APPROVAL

_____ FOUNDATION PERMIT APPROVAL

_____ CERTIFICATE OF OCCUPANCY APPROVAL

_____ ROUGH GRADING PERMIT APPROVAL

_____ GRADING/PAVING PERMIT APPROVAL

_____ OTHER _____ (SPECIFY)

DRAINAGE REPORT

for

# THE PLAZA INN - RENOVATIONS

900 MEDICAL ARTS AVENUE N.E.

in

Albuquerque, New Mexico

May 5, 1997

*Prepared by*

*Larry D. Read, PE*

LAWRENCE D. READ
NEW MEXICO
10990
REGISTERED PROFESSIONAL ENGINEER
5/5/97

# *DRAINAGE REPORT*

## *for*

## *THE PLAZA INN - RENOVATIONS*

## *900 Medical Arts Avenue N.E.*

## *Albuquerque, New Mexico*

May 5, 1997

LOCATION & DESCRIPTION

The project site is a 2.8 acre site located in the southeast quadrant of the intersection of Lomas Boulevard N.E. and Interstate 25 in Albuquerque. The legal description of the property is: Portion of Tract LRMA, Lands of Southwestern Construction Company, Albuquerque, New Mexico and is shown on City of Albuquerque Zone Atlas J-15-Z a portion of which is shown as the Vicinity Map on the Grading and Drainage Plan in the rear pocket of this report.

The site is currently fully developed with a single story restaurant, a 5-story motel building, a single story office, a swimming pool area, and associated paved parking areas and landscaping.

EXISTING DRAINAGE CONDITIONS

As currently developed, the site has 5 distinct runoff discharge points.

The runoff from Basin 'A' exits the site via existing drivepad at the southeast corner of the site. The runoff from this basin is intercepted by an existing double 'c' storm inlet on Las Lomas Road N.E. that is approximately 15' east of the discharge point. This basin consists of both on-site and off-site land. The land on the project site consists of the access road that connects Medical Arts Avenue to Las Lomas Road, the east portion of the shed roof on the single story restaurant building, and some associated parking and landscape areas between the 5-story motel building and the access road. The off-site portion consists of a 25-foot wide strip of land east of the access road that slopes at approximately 2:1 from an existing parking area above to an existing 3' to 5' high retaining wall that parallels the east side of the access

road. This strip of land has only scarce native vegetation and for analyzing storm runoff quantities, has been considered Type 'C' soil due to the steep slope.

The runoff from Drainage Basin 'B' exits the site via a 3' wide concrete rundown at the northwest corner of the site. This rundown is very steep between the top of pavement and the back of sidewalk below on Medical Arts Avenue. Runoff passes under the sidewalk via and existing sidewalk culvert. Once in Medical Arts Avenue, the runoff runs west in the gutter to an existing transverse inlet at the end of the east intersection return at Lomas Boulevard and Medical Arts Avenue. The basin includes the east gable of the restaurant, the landscaping north and east of the restaurant, and the north paved parking lot. For analyzing runoff quantities, the landscaping areas have been considered Type 'B' soil since they are relatively flat turfed areas.

The runoff from Drainage Basin 'C' exits the site via a storm drain and inlet located in the courtyard area in the west central area of the site immediately west of the motel building. The storm drain, once under the existing retaining wall, discharges into a 2'-6" wide concrete rundown that carries the runoff down the slope into the east gutter on the I-25 to Lomas Off-Ramp. The Off-Ramp gutter carries the runoff north to the existing double 'c' storm inlet at the southwest return in the intersection of the Off-Ramp and Lomas Boulevard. This basin consists of the exiting motel building, swimming pool deck, and turfed landscape courtyard area west of the motel. The motel and swimming pool drain via an internal roof/storm drain that discharges in the storm inlet box located in the courtyard. For analyzing runoff quantities, the landscaping areas have been considered Type 'B' soil since they are relatively flat turfed areas.

The runoff from Drainage Basin 'D' exits the site via an existing 2' by 4' (Type 'D') storm inlet located in the southwest corner of the south parking lot. This inlet in connected into the back of the existing NMSHTD Type 'M' inlet located on the east side of the Off-Ramp just north of the intersection of Las Lomas Boulevard. The basin consists of the west gable of the office building, the turfed landscaping area between the office building and west property line, and the paved south parking lot. For analyzing runoff quantities, the landscaping areas have been considered Type 'B' soil since they are relatively flat turfed areas.
The runoff from Drainage Basin 'E' exits the site via the existing drivepad toward the southeast corner of the site. The runoff follows the north gutter on Las Lomas Road toward the west to the existing NMSHTD Type 'M' inlet described in Drainage Basin 'D' above. This basin consists the east gable of the office building, the southeast parking lot, and some landscaping areas between the office building and parking lot and along the east side of the parking lot. For analyzing runoff quantities, the landscaping areas have been considered Type 'B' soil since they are relatively flat turfed areas.

All existing off-site storm inlets connect via storm sewers to the existing storm sewer in Lomas Boulevard. An excerpt of the Drainage Facilities Map J-15S showing these systems has been included in the Appendix for reference.

## PROPOSED CONDITIONS

This proposed project consists of adding a 3500 square foot building to enclose the existing swimming pool, painting the masonry facia and adding some awnings on the motel building, and adding a 900 square foot addition to the south end of the office building. The building to enclose the swimming pool will use an internal roof drain system that connects into the existing deck drain system around the pool. The building will replace the existing concrete deck that surrounds the pool almost exactly so there will not be any changes in the quantities of land treatment types or drainage patterns from what has been described in Existing Drainage Conditions for Drainage Basin 'C' above. The awnings that are being added to the motel building will not affect any soil treatment quantities or drainage patterns from what has been described in Existing Drainage Conditions for Drainage Basin 'C' above. The 900 square foot addition proposed to be added to the south end of the office building will use a roof pitched in the center of the north/south dimension. This addition will remove 1240 square feet of pavement, half in Basin 'D' and half in Basin 'E', will add 900 square feet of roof area, half in Basin 'D' and half in Basin 'E', and will add 170 square feet of turf landscaping to each of Basins 'D' and 'E'. The net change for this proposed addition to the office is a decrease of impervious area of 340 square feet, half in Basin 'D' and half in Basin 'E'. There is no construction proposed in Basins 'A' of 'C'.

## OFF-SITE DRAINAGE

The only runoff from off-site that will affect this site is that from the area east of the retaining wall along the east side access road. This area has been described in Existing Drainage Conditions, Drainage Basin 'A' above. Both drivepads from the site to Las Lomas Road incorporate significant slopes from the site down to Las Lomas. The drivepad from the site to Medical Arts Avenue on the north side of the site has only a small water block. This should not present any problems with runoff from Medical Arts Avenue entering the site due to the very steep grade on Medical Arts Ave. toward Lomas Boulevard to the north.

## FLOOD PLAIN STATUS

As shown on FEMA 350002-0029 dated September 15, 1983, there are no designated 100-year flood plains on or near this site. There is also no designated 100-year flood plain shown on any of the adjacent streets that this site discharge runoff to.

## METHODOLOGY

The hydrology for this project was analyzed using the January 1994 release of the AHYMO computer modeling program as developed by AMAFCA. All procedures are according to

those shown in the January 1993 release of the City of Albuquerque Development Process Manual, Section 22.2 except as follows:

The specific values used for this analysis are as follows:

-Precipitation Zone 2

-Design Storm 100-year, 6-hour duration
i = 2.35 inches ($t_c$ = 0.2 hours)

The Ahymo printouts are included in the Appendix for reference.

PEAK RUNOFF QUANTITIES

The AHYMO printouts, summary sheets, and miscellaneous calculations are included in the Appendix of this report for reference. The net change in runoff from this site, due to this proposed project, is a decrease of 0.01 cfs (during a 100-year storm) in both Basins 'D' and 'E'. Since there not being any designated 100-year flood plains in or around this site, the Master Drainage Plan did not identify any improvements required in this portion of the Lomas Storm Sewer System, and the net affect of this project is a decrease in runoff, we have not provided any analysis beyond the site limits.

# *APPENDIX*

PROJECT: _____ **LARRY READ & ASSOCIATES** CALCULATIONS
Civil Engineers

DATE: _____ By: _____ Pg: ___ of ___

PLAZA INN - CHECK CAPACITY - EXISTING FACILITIES

BASIN 'B' - 3' WIDE x 6" TALL RUNDOWN

$Q_{100} = 2.7$ cfs

$Q = 2.65\ P(h)^{1.5}$ (WEIR EQUATION)

$P = 3' + 2 * 0.5' = 4'$

$h_{max} = 0.5'$

$Q_{cap} = 2.65(4)(0.5)^{1.5}$

$Q_{cap} = 3.7$ cfs $> Q_{100} = 2.7$ cfs OK

BASIN 'C' 4' x 2' GRATED STORM INLET

$Q_{100} = 1.87$ cfs.

$Q = 2.65\ P(h)^{1.5}$ (WEIR EQUATION)

$P = 2*4 + 2*2 = 12'$

$h =$ solve for

$1.87 = 2.65(12)(h)^{1.5}$

$h = 0.15' \Rightarrow$ PONDING AREA $\approx 15' \times 15'$ @ 2% SLOPE

OK - NOT WEAK DIRECTION

PROJECT: _____ **LARRY READ & ASSOCIATES** CALCULATIONS
Civil Engineers
DATE: _____ By: _____ Pg: ___ of ___

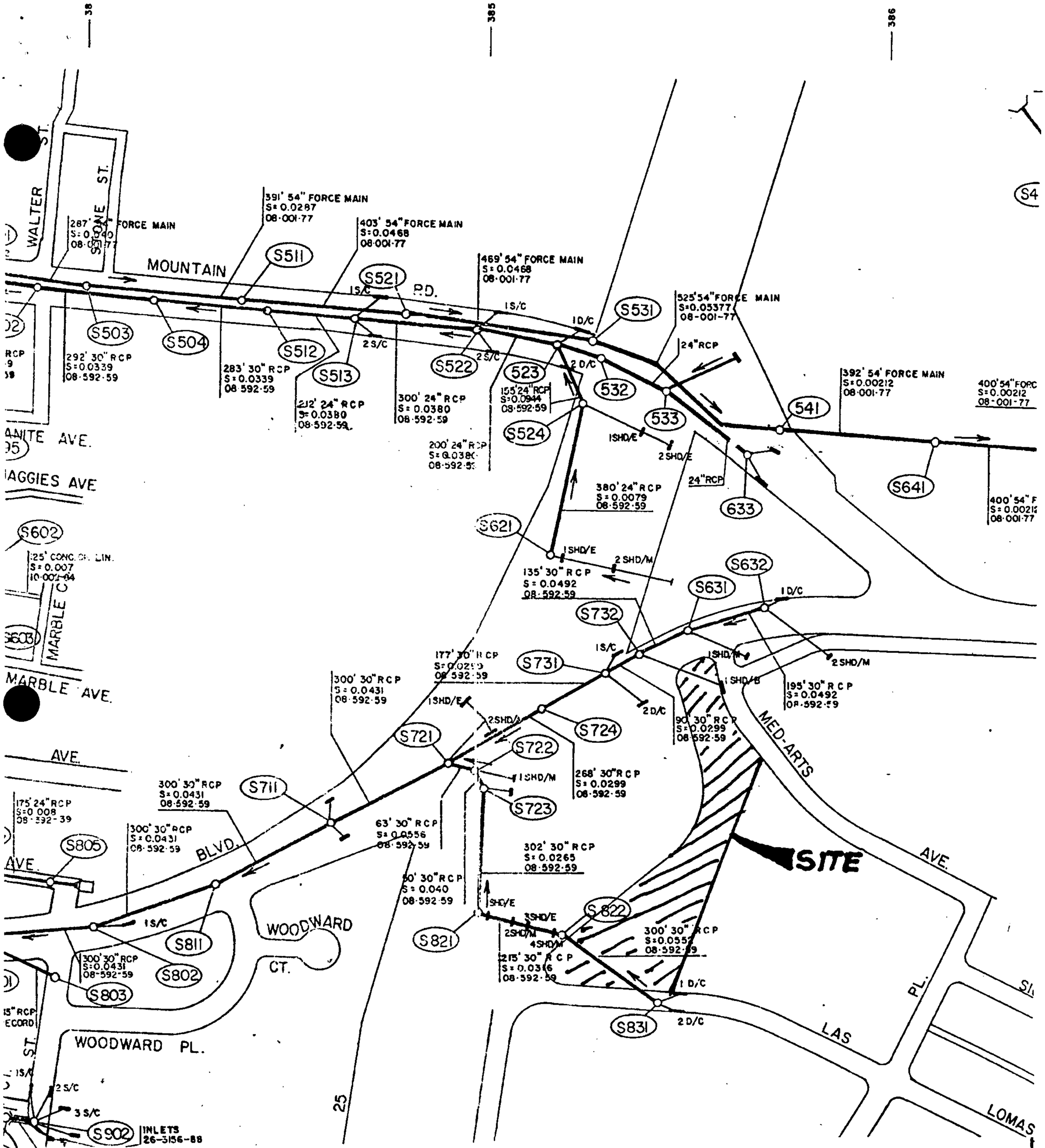
BASIN 'D' 2'x4' GRATED STORM INLET

$Q_{100} = 2.26$ cfs

BY INSPECTION OF BASIN 'C' SOLUTION ABOVE - PONDING WILL NOT REACH ANY BUILDING AND WILL NOT OVERTOP 6" CURB AROUND INLET.

OK

# DRAINAGE FACILITIES MAP




| LEGEND | NOTES |
|---|---|
| STORM SEWER LINE<br>MANHOLE<br>(S-112) MANHOLE NUMBER<br>STORM INLET<br>I C 2 NUMBER, TYPE, GRATES | 1. MANHOLE IDENTIFICATION REQUIRES BOTH THE MAP GRID & MANHOLE NO.<br>2. MANHOLE NUMBERS CARRIED FROM ADJACENT MAPS HAVE THE MAP GRID SHOWN. |

| REVISIONS | |
|---|---|
| DATE | REMARKS |
| 7-30-84 | DRAWN BY AF |
| 8-17-84 | ADDED YALE TO LOMAS SYS. AF |
| 4-27-88 BEECH | BRIDGE STRUCTURE 08-004-67 |
| 5-19-88 P.A.Y. | (08-392-39)(08-583-58)(10-002-74) |
| 6-7-88 P.A.Y. | FIELD INVENTORY WORK |

MAP GRID

J-15S

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =05/05/1997
INPUT FILE = C:\AHYMO\PLAZA.DAT USER NO.= CINFRNNM.I01

| COMMAND | HYDROGRAPH IDENTIFICATION | FROM ID NO. | TO ID NO. | AREA (SQ MI) | PEAK DISCHARGE (CFS) | RUNOFF VOLUME (AC-FT) | RUNOFF (INCHES) | TIME TO PEAK (HOURS) | CFS PER ACRE | NOTATION | PAGE = 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| START | | | | | | | | | | TIME= | .00 |
| *S | COMPUTE 100 YR. 6 HR. HYDROGRAPHS FOR PLAZA INN MOTEL | | | | | | | | | | |
| *S | TIE1110.DAT - HYMO PER JAN 1993 DPM REVISIONS | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| RAINFALL | TYPE= 1 | | | | | | | | | RAIN6= | 2.350 |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | COMPUTE RUNOFF FOR PROPOSED CONDITIONS | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | BASIN A | | | | | | | | | | |
| COMPUTE NM HYD | 101.10 | - | 1 | .00160 | 4.13 | .145 | 1.69938 | 1.500 | 4.029 | PER IMP= | 62.00 |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | BASIN B | | | | | | | | | | |
| COMPUTE NM HYD | 102.10 | - | 2 | .00100 | 2.71 | .098 | 1.84621 | 1.500 | 4.234 | PER IMP= | 79.80 |
| *S | | | | | | | | | | | |
| *S | BASIN C | | | | | | | | | | |
| COMPUTE NM HYD | 103.10 | - | 3 | .00065 | 1.87 | .069 | 1.98272 | 1.500 | 4.497 | PER IMP= | 90.00 |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | BASIN D | | | | | | | | | | |
| COMPUTE NM HYD | 104.10 | - | 4 | .00074 | 2.06 | .075 | 1.89841 | 1.500 | 4.339 | PER IMP= | 83.70 |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | BASIN E | | | | | | | | | | |
| COMPUTE NM HYD | 105.10 | - | 5 | .00081 | 2.38 | .088 | 2.03492 | 1.500 | 4.584 | PER IMP= | 93.90 |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | COMPUTE RUNOFF FOR EXISTING CONDITIONS | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | BASIN A - NO CHANGE FROM PROPOSED | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | BASIN B - NO CHANGE FROM PROPOSED | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | BASIN C - NO CHANGE FROM PROPOSED | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | BASIN D | | | | | | | | | | |
| COMPUTE NM HYD | 106.10 | - | 6 | .00074 | 2.06 | .075 | 1.90911 | 1.500 | 4.359 | PER IMP= | 84.50 |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| *S | BASIN E | | | | | | | | | | |
| COMPUTE NM HYD | 107.10 | - | 7 | .00081 | 2.39 | .088 | 2.04563 | 1.500 | 4.604 | PER IMP= | 94.70 |
| *S | | | | | | | | | | | |
| *S | | | | | | | | | | | |
| FINISH | | | | | | | | | | | |

```
    AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
         RUN DATE (MON/DAY/YR) = 05/05/1997
         START TIME (HR:MIN:SEC) = 09:56:43     USER NO.= CINFRNNM.I01
         INPUT FILE = C:\AHYMO\PLAZA.DAT

START                 TIME=0.0 0 -6
*S     COMPUTE 100 YR. 6 HR. HYDROGRAPHS FOR  PLAZA INN MOTEL
*S     TIE1110.DAT     -    HYMO PER JAN 1993 DPM REVISIONS
*S
*S
*--------------------------------------------------------------------
*--------------------------------------------------------------------
RAINFALL            TYPE=-1  RAIN QUAR=0 RAIN ONE=2.01 RAIN SIX=2.35
                    RAIN DAY=2.75 DT=0.03

               COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
               DT =    .030000 HOURS       END TIME =     6.000000 HOURS
*--------------------------------------------------------------------
*S
*--------------------------------------------------------------------
*S
*S COMPUTE RUNOFF FOR PROPOSED CONDITIONS
*S
*--------------------------------------------------------------------
*S
*S
*S  BASIN A
COMPUTE NM HYD      ID=1   HYD NO= 101.1   DA=0.0016 SQ MI
                    PER A=0 PER B=10.4 PER C=27.6  PER D=62 TP=-.133
                    RAIN=-1

    K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   3.9253    CFS   UNIT VOLUME =    .9967       B =   526.28      P60 = 2.0100
    AREA =      .000992 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .030000


    K =   .113933HR    TP =   .133000HR    K/TP RATIO =   .856639     SHAPE CONSTANT, N =  4.152490
    UNIT PEAK =   1.6695    CFS   UNIT VOLUME =    .9921       B =   365.21      P60 = 2.0100
    AREA =      .000608 SQ MI    IA =    .39105 INCHES    INF =    .94495 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .030000

*S
PRINT HYD           ID=1 CODE=10

                              PARTIAL HYDROGRAPH   101.10

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
     .000       .0          1.500       4.1         3.000       .0          4.500       .0          6.000       .0
     .300       .0          1.800       1.4         3.300       .0          4.800       .0          6.300       .0
     .600       .0          2.100        .6         3.600       .0          5.100       .0
     .900       .0          2.400        .2         3.900       .0          5.400       .0
    1.200       .1          2.700        .1         4.200       .0          5.700       .0

    RUNOFF VOLUME =     1.69938 INCHES     =        .1450 ACRE-FEET
    PEAK DISCHARGE RATE =       4.13 CFS  AT   1.500 HOURS   BASIN AREA =   .0016 SQ. MI.


*S
*S  BASIN B
COMPUTE NM HYD      ID=2   HYD NO= 102.1   DA=0.0010 SQ MI
                    PER A=0 PER B=20.2 PER C=0  PER D=79.8 TP=-.133
                    RAIN=-1

    K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   3.1577    CFS   UNIT VOLUME =    .9962       B =   526.28      P60 = 2.0100
    AREA =      .000798 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .030000


    K =   .131790HR    TP =   .133000HR    K/TP RATIO =   .990905     SHAPE CONSTANT, N =  3.563124
    UNIT PEAK =   .49347    CFS   UNIT VOLUME =    .9724       B =   324.91      P60 = 2.0100
```

AREA = .000202 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

*S
PRINT HYD ID=2 CODE=10

PARTIAL HYDROGRAPH 102.10

| TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS |
|---|---|---|---|---|---|---|---|---|---|
| .000 | .0 | 1.500 | 2.7 | 3.000 | .0 | 4.500 | .0 | 6.000 | .0 |
| .300 | .0 | 1.800 | .9 | 3.300 | .0 | 4.800 | .0 | 6.300 | .0 |
| .600 | .0 | 2.100 | .5 | 3.600 | .0 | 5.100 | .0 | | |
| .900 | .0 | 2.400 | .1 | 3.900 | .0 | 5.400 | .0 | | |
| 1.200 | .0 | 2.700 | .0 | 4.200 | .0 | 5.700 | .0 | | |

RUNOFF VOLUME = 1.84621 INCHES = .0985 ACRE-FEET
PEAK DISCHARGE RATE = 2.71 CFS AT 1.500 HOURS BASIN AREA = .0010 SQ. MI.

*S BASIN C
COMPUTE NM HYD ID=3 HYD NO= 103.1 DA=0.00065 SQ MI
PER A=0 PER B=10 PER C=0 PER D=90 TP=-.133
RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.3148 CFS UNIT VOLUME = .9951 B = 526.28 P60 = 2.0100
AREA = .000585 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

K = .131790HR TP = .133000HR K/TP RATIO = .990905 SHAPE CONSTANT, N = 3.563124
UNIT PEAK = .15879 CFS UNIT VOLUME = .9137 B = 324.91 P60 = 2.0100
AREA = .000065 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

*S
PRINT HYD ID=3 CODE=10

PARTIAL HYDROGRAPH 103.10

| TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS |
|---|---|---|---|---|---|---|---|---|---|
| .000 | .0 | 1.500 | 1.9 | 3.000 | .0 | 4.500 | .0 | 6.000 | .0 |
| .300 | .0 | 1.800 | .7 | 3.300 | .0 | 4.800 | .0 | 6.300 | .0 |
| .600 | .0 | 2.100 | .3 | 3.600 | .0 | 5.100 | .0 | | |
| .900 | .0 | 2.400 | .1 | 3.900 | .0 | 5.400 | .0 | | |
| 1.200 | .0 | 2.700 | .0 | 4.200 | .0 | 5.700 | .0 | | |

RUNOFF VOLUME = 1.98272 INCHES = .0687 ACRE-FEET
PEAK DISCHARGE RATE = 1.87 CFS AT 1.500 HOURS BASIN AREA = .0007 SQ. MI.

*S
*S BASIN D
COMPUTE NM HYD ID=4 HYD NO= 104.1 DA=0.00074 SQ MI
PER A=0 PER B=16.3 PER C=0 PER D=83.7 TP=-.133
RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.4509 CFS UNIT VOLUME = .9951 B = 526.28 P60 = 2.0100
AREA = .000619 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

K = .131790HR TP = .133000HR K/TP RATIO = .990905 SHAPE CONSTANT, N = 3.563124
UNIT PEAK = .29466 CFS UNIT VOLUME = .9530 B = 324.91 P60 = 2.0100
AREA = .000121 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

*S
PRINT HYD ID=4 CODE=10

PARTIAL HYDROGRAPH 104.10

| TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS |
|---|---|---|---|---|---|---|---|---|---|
| .000 | .0 | 1.500 | 2.1 | 3.000 | .0 | 4.500 | .0 | 6.000 | .0 |
| .300 | .0 | 1.800 | .7 | 3.300 | .0 | 4.800 | .0 | 6.300 | .0 |
| .600 | .0 | 2.100 | .4 | 3.600 | .0 | 5.100 | .0 | | |
| .900 | .0 | 2.400 | .1 | 3.900 | .0 | 5.400 | .0 | | |
| 1.200 | .0 | 2.700 | .0 | 4.200 | .0 | 5.700 | .0 | | |

RUNOFF VOLUME = 1.89841 INCHES = .0749 ACRE-FEET
PEAK DISCHARGE RATE = 2.06 CFS AT 1.500 HOURS BASIN AREA = .0007 SQ. MI.

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*S
*S  BASIN E
COMPUTE NM HYD       ID=5   HYD NO= 105.1   DA=0.00081 SQ MI
                     PER A=0 PER B=6.1 PER C=0  PER D=93.9 TP=-.133
                     RAIN=-1
```

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 3.0096 CFS UNIT VOLUME = .9962 B = 526.28 P60 = 2.0100
AREA = .000761 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

K = .131790HR TP = .133000HR K/TP RATIO = .990905 SHAPE CONSTANT, N = 3.563124
UNIT PEAK = .12070 CFS UNIT VOLUME = .8830 B = 324.91 P60 = 2.0100
AREA = .000049 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

```
*S
PRINT HYD            ID=5 CODE=10
```

PARTIAL HYDROGRAPH 105.10

| TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS |
|---|---|---|---|---|---|---|---|---|---|
| .000 | .0 | 1.500 | 2.4 | 3.000 | .0 | 4.500 | .0 | 6.000 | .0 |
| .300 | .0 | 1.800 | .8 | 3.300 | .0 | 4.800 | .0 | 6.300 | .0 |
| .600 | .0 | 2.100 | .4 | 3.600 | .0 | 5.100 | .0 | | |
| .900 | .0 | 2.400 | .1 | 3.900 | .0 | 5.400 | .0 | | |
| 1.200 | .0 | 2.700 | .0 | 4.200 | .0 | 5.700 | .0 | | |

RUNOFF VOLUME = 2.03492 INCHES = .0879 ACRE-FEET
PEAK DISCHARGE RATE = 2.38 CFS AT 1.500 HOURS BASIN AREA = .0008 SQ. MI.

```
*S
*----------------------------------------------------------------
*S
*S COMPUTE RUNOFF FOR EXISTING CONDITIONS
*S
*----------------------------------------------------------------
*S
*S
*S  BASIN A - NO CHANGE FROM PROPOSED
*S
*S
*S  BASIN B - NO CHANGE FROM PROPOSED
*S
*S
*S  BASIN C - NO CHANGE FROM PROPOSED
*S
*S
*S  BASIN D
COMPUTE NM HYD       ID=6   HYD NO= 106.1   DA=0.00074 SQ MI
                     PER A=0 PER B=15.5 PER C=0  PER D=84.5 TP=-.133
                     RAIN=-1
```

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.4743 CFS UNIT VOLUME = .9951 B = 526.28 P60 = 2.0100
AREA = .000625 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

K = .131790HR TP = .133000HR K/TP RATIO = .990905 SHAPE CONSTANT, N = 3.563124
UNIT PEAK = .28020 CFS UNIT VOLUME = .9493 B = 324.91 P60 = 2.0100
AREA = .000115 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

*S
PRINT HYD ID=6 CODE=10

PARTIAL HYDROGRAPH 106.10

| TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS |
|---|---|---|---|---|---|---|---|---|---|
| .000 | .0 | 1.500 | 2.1 | 3.000 | .0 | 4.500 | .0 | 6.000 | .0 |
| .300 | .0 | 1.800 | .7 | 3.300 | .0 | 4.800 | .0 | 6.300 | .0 |
| .600 | .0 | 2.100 | .4 | 3.600 | .0 | 5.100 | .0 | | |
| .900 | .0 | 2.400 | .1 | 3.900 | .0 | 5.400 | .0 | | |
| 1.200 | .0 | 2.700 | .0 | 4.200 | .0 | 5.700 | .0 | | |

RUNOFF VOLUME = 1.90911 INCHES = .0753 ACRE-FEET
PEAK DISCHARGE RATE = 2.06 CFS AT 1.500 HOURS BASIN AREA = .0007 SQ. MI.

*S
*S BASIN E
COMPUTE NM HYD ID=7 HYD NO= 107.1 DA=0.00081 SQ MI
PER A=0 PER B=5.3 PER C=0 PER D=94.7 TP=-.133
RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 3.0353 CFS UNIT VOLUME = .9962 B = 526.28 P60 = 2.0100
AREA = .000767 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

K = .131790HR TP = .133000HR K/TP RATIO = .990905 SHAPE CONSTANT, N = 3.563124
UNIT PEAK = .10487 CFS UNIT VOLUME = .8638 B = 324.91 P60 = 2.0100
AREA = .000043 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

*S
PRINT HYD ID=5 CODE=10

PARTIAL HYDROGRAPH 105.10

| TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS | TIME HRS | FLOW CFS |
|---|---|---|---|---|---|---|---|---|---|
| .000 | .0 | 1.500 | 2.4 | 3.000 | .0 | 4.500 | .0 | 6.000 | .0 |
| .300 | .0 | 1.800 | .8 | 3.300 | .0 | 4.800 | .0 | 6.300 | .0 |
| .600 | .0 | 2.100 | .4 | 3.600 | .0 | 5.100 | .0 | | |
| .900 | .0 | 2.400 | .1 | 3.900 | .0 | 5.400 | .0 | | |
| 1.200 | .0 | 2.700 | .0 | 4.200 | .0 | 5.700 | .0 | | |

RUNOFF VOLUME = 2.03492 INCHES = .0879 ACRE-FEET
PEAK DISCHARGE RATE = 2.38 CFS AT 1.500 HOURS BASIN AREA = .0008 SQ. MI.

*S
FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 09:56:43