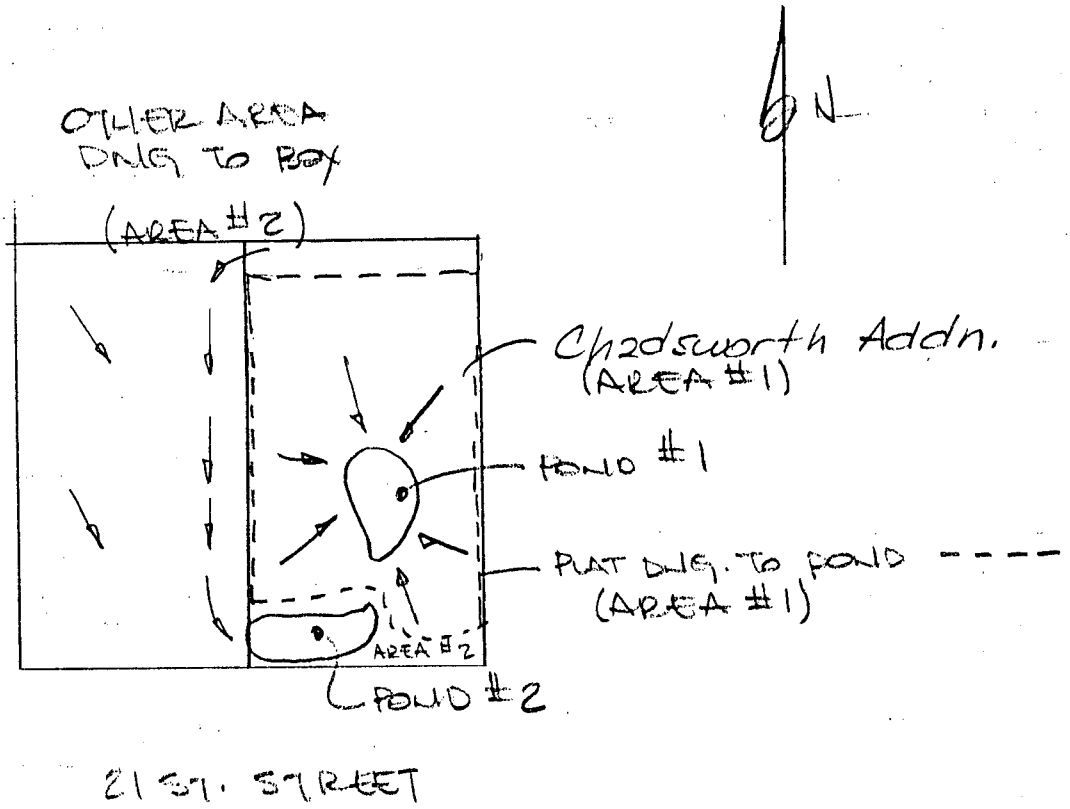
From SCS Soil Survey, Type TA-FB Soil.
Use Type C Soil for Analysis.

Routing Method: (Not to scale - for diagram only)



ROUTING:

1) CHADSWORTH PLAT (IMPROVED) TO POND #1
2) ROUTE THROUGH POND #1
3) ADD HYDROGRAPH FROM OTHER AREA + ROUTED HYDRO FROM POND #1
4) ROUTE THROUGH POND #2
5) OUTLET FROM POND #2 MAY = 123 CFS

AREAS: CHADSWORTH ADDN = 56 ACRES
" " TO POND #1 = 45 ACRES (AREA #1)

TOTAL AREA TO BAY = 125 ACRES
(FROM 21ST. STREET PLAN)

AREA # 2 = 125 ACRES
− 45 ACRES TO POND # 1
60 ACRES → (7.0 Ac DEV.)

AREA #1 HYDROGRAPH (DEVELOPED CONDITION)

AREA = 45 ACRES

T.C.: L = 2560 L.F. $TC = 0.8262\,L^{0.47}\,n^{0.47}\,S^{-0.235}$

n = 0.4 (ANG. GRASS COVER)

SLOPE = 0.005 (ASSUMED)

$TC = 0.8262(2560)^{0.47}(0.4)^{0.47}(0.005)^{-0.235}$

Tc = 74 min FOR GRASSED CONDITION } UNIMPROVED CONDITION

T.C. (PVMT/SWS TRAVEL)
ASSUME 2.6 f/s velocity

$TC = 1500\text{ ft} / 2.6\text{ f/s}\,(60\text{ s/hr}) = 10.0$ MIN.

USE T.C. = 15 MINUTES FOR DEVELOPED CONDITION

$LAG = 0.6\,TC = 0.6\left(\frac{15\text{ min}}{60\text{ m/h}}\right) = 0.15$ HOURS

CURVE NUMBER: (TR55 – SCS Manual)

USE 1/8 AC. LOTS, TYPE C SOIL

1/8 AC	(0.125)	90	$\frac{0.075}{0.125} = \Delta X/7$ $\Delta X = 4.2$
1/8 AC	(0.20)	X	
1/4 AC	(0.25)	83	90 − 4.2 = **86 CN**

WITH POND AREA; USE COMBINED CN OF **87**

AREA = 45 AC / 640 = **0.070 Sq. Miles**

RAINFALL: 100 YR – 24 HR. STORM 7.8"
SCS TYPE II DISTRIBUTION

HEC I RUN, AREA #1 (C1.IN)
(C1.OUT)

BA = 0.07 SQ. MI
CN = 67
LAG = 0.15 HRS
RAINFALL AS NOTED

RESULTS: 90 cfs @ 13 HOURS

POND #1:

	ELEV	
AREA @ 100 YEAR	159	3.6 AC
AREA @ POOL	155	3.0 AC

OUTLET MAX = 25 cfs

STRUCTURE MUST PASS 25 CFS @ ELEV 159 FROM POND #1.

AREA #2: AREA = 80 ACRES

CURVE NUMBER: SMALL GRAIN SR+CR
GOOD CONDITION - TYPE C SOIL

13 AC @ 70
7 AC @ 66 } CN = 71 CN = 71 COMBINED

TIME OF CONCENTRATION: FROM SHEET #2

FOR GRASS COVER; L = 2560 FT. ; TC = 24 MIN.
TRY V = 1.5 ft/s for 2560 FT.
T.C. = 2560/1.5(60) = 28 MIN; USE T.C. = 30 MIN.

LAG = 0.6 TC = 0.6 (30/60) = 0.30 HOURS

DATA FOR AREA #2:

BA = 80/640 = 0.125 SQ. MI.
CN = 71
LAG = 0.3 HRS
100 YR - 24 HOUR STORM

RESULTS: Q_{100} = 128 cfs, 13.05 HOURS

COMBINE POND 1 HYDROGRAPH W/ AREA 2 HYDRO.

↳ RESULTS: 152 CFS @ 13.05 HOURS

ROUTE THROUGH BOTTOM POND (POND # 2)

BOTTOM POND (#2) DATA:

STORAGE: ELEV 155 = 2.0 AC
159 = 2.5 AC

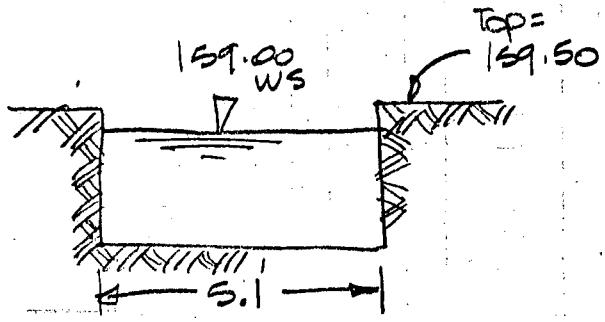
OUTLET: Q_{MAX} = 123 CFS

WEIR:
D = 4' MAX
C = 3.0 (WEIR COEFF)

$Q = CLH^{1.5}$

$123 = 3.0(L)4^{1.5}$

$L = 5.1'$



OUTLET:

ELEV	HEAD	Q
155	0	—
156	1	15
157	2	43
158	3	78
159	4	120

C = 3
L = 51
$Q = CLH^{1.5}$

BAUGHMAN COMPANY, P.A.

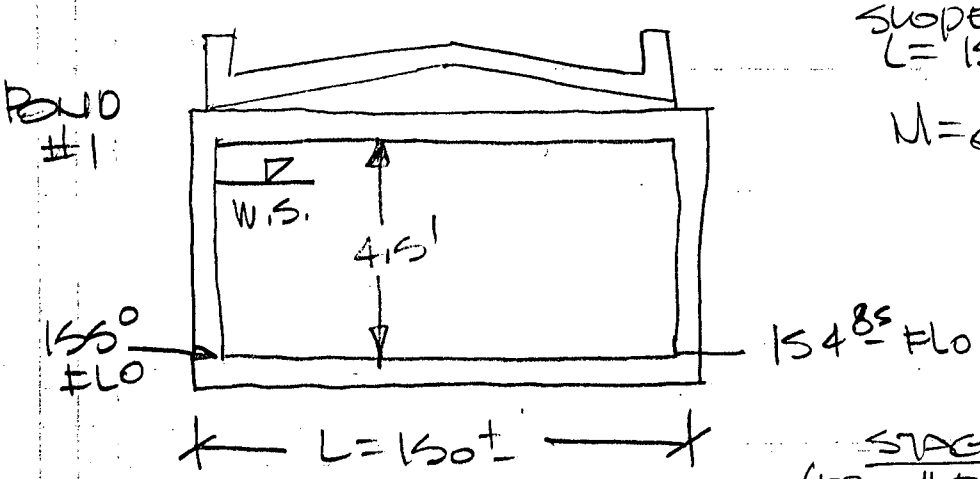
RESULTS OF POND ROUTING AND STRUCTURE DATA:

POND #1: AREA @ 155 3.0 AC
@ 159 3.6 AC

SIDE SLOPES = 4:1

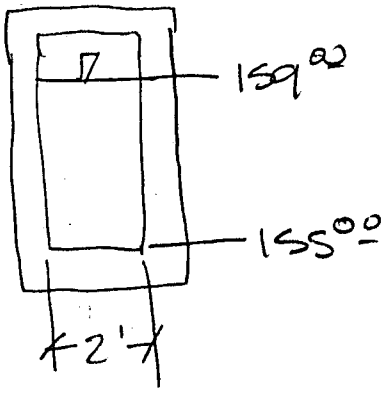
OUTLET STRUCTURE: MUST PASS 25 CFS @ 4' HEAD.

RECOMMEND: 2' WIDE BOX



SLOPE = 0.001
L = 150' ±

N = 0.013



STAGE DISCHARGE
(FROM "FLOMASTER" PROGRAM — HAESTAD METHODS)

	HEAD	Q
155	0	—
156	1	5
157	2	11
158	3	18
159	4	25

POND #2: AS DESCRIBED; 5' OUTLET WEIR OR EQUIV. FOR DISCHARGE.

FOR COMPLETE WATERSHED INFORMATION, INPUT AND OUTPUT DATA, SEE ENCLOSED HEC-1 DATA ENCLOSED.

1

****

FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985

U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616

****

THIS HEC-1 VERSION CONTAINS ALL OPTIONS EXCEPT ECONOMICS, AND THE NUMBER OF PLANS ARE REDUCED TO 3

1 HEC-1 INPUT PAGE 1

```
      LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

*** FREE ***
                    $DIAGRAM
          1         ID   CHADWORTH ADDITION FINAL DRAINAGE W/POND DATA
          2         ID   100 YR - 24 HR. STORM (DEVELOPED CONDITION)
          3         ID   AREA-1
          4         IT      5       0       0     289
          5         IO      4       0

          6         KK  AREA-1
          7         KM   COMPUTING RUNOFF HYDROGRAPH FOR THE AREA
          8         KM   WITHIN THE PLAT TO POND #1
          9         PB      0
         10         IN     60
         11         PC   0.00  0.0585  0.1287   0.126   0.312   0.419   0.566   0.712   0.858   1.053
         12         PC  1.297   1.641   3.705   5.811   6.201   6.503   6.747   6.937   7.108   7.250
         13         PC  7.371   7.487   7.600   7.703   7.800
         14         BA 0.0703
         15         LS      0      87       0
         16         UD   0.15

         17         KK  POND-1
         18         RS      1    ELEV     155       0
         19         SA    3.0     3.3     3.6
         20         SE    155     157     159
         21         SQ     .5       5      11      18      25
         22         SE    155     156     157     158     159

         23         KK  AREA-2
         24         BA  0.125
         25         LS      0      71       0
         26         UD   0.30

         27         KK COMBINE
         28         HC      2

         29         KK    POND2
         30         RS      1    ELEV     155       0
         31         SA    2.0     2.5
         32         SE    155     159
         33         SQ     .5      16      44      81     125
         34         SE    155     156     157     158     159
         35         ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
LINE      (V) ROUTING           (--->) DIVERSION OR PUMP FLOW

 NO.      (.) CONNECTOR         (<---) RETURN OF DIVERTED OR PUMPED FLOW

   6      AREA-1
              V
              V
  17      POND-1
              .
              .
  23          .      AREA-2
              .           .
              .           .
  27     COMBINE............
              V
              V
  29        POND

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1                                                  ****
                     FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
          U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
                                                   ****




                 CHADWORTH ADDITION FINAL DRAINAGE W/POND DATA
                 100 YR - 24 HR. STORM (DEVELOPED CONDITION)
                 AREA-1

   5 IO        OUTPUT CONTROL VARIABLES
                   IPRNT          4  PRINT CONTROL
                   IPLOT          0  PLOT CONTROL
                   QSCAL         0.  HYDROGRAPH PLOT SCALE

     IT        HYDROGRAPH TIME DATA
                    NMIN          5  MINUTES IN COMPUTATION INTERVAL
                   IDATE      1   0  STARTING DATE
                   ITIME       0000  STARTING TIME
                      NQ        289  NUMBER OF HYDROGRAPH ORDINATES
                  NDDATE      2   0  ENDING DATE
                  NDTIME       0000  ENDING TIME

                COMPUTATION INTERVAL     .08 HOURS
                     TOTAL TIME BASE   24.00 HOURS

        ENGLISH UNITS



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


            **************
            *            *
   6 KK     *   AREA-1   *
            *            *
            **************
                      COMPUTING RUNOFF HYDROGRAPH FOR THE AREA
                      WITHIN THE PLAT TO POND #1

  10 IN        TIME DATA FOR INPUT TIME SERIES
                   JXMIN         60  TIME INTERVAL IN MINUTES
                  JXDATE      1   0  STARTING DATE
```

SUBBASIN RUNOFF DATA

14 BA SUBBASIN CHARACTERISTICS

TAREA .07 SUBBASIN AREA

PRECIPITATION DATA

9 PB STORM 7.80 BASIN TOTAL PRECIPITATION

11 PI INCREMENTAL PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
.03	.03	.17	.17	.17	.17	.17	.17	.17	.17
.17	.17	.17	.17	.18	.18	.18	.18	.18	.18
.18	.18	.18	.18	.18	.18	.03	.03	.03	.03
.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01		

15 LS SCS LOSS RATE

STRTL .30 INITIAL ABSTRACTION
CRVNBR 87.00 CURVE NUMBER
RTIMP .00 PERCENT IMPERVIOUS AREA

16 UD SCS DIMENSIONLESS UNITGRAPH

TLAG .15 LAG

***

WARNING *** TIME INTERVAL IS GREATER THAN .29*LAG

UNIT HYDROGRAPH
11 END-OF-PERIOD ORDINATES

65.	174.	153.	77.	39.	19.	9.	5.	2.	1.
0.									

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

**************
*            *
```

****

HYDROGRAPH ROUTING DATA

18 RS STORAGE ROUTING

NSTPS	1	NUMBER OF SUBREACHES
ITYP	ELEV	TYPE OF INITIAL CONDITION
RSVRIC	155.00	INITIAL CONDITION
X	.00	WORKING R AND D COEFFICIENT

19 SA	AREA	3.0	3.3	3.6	
20 SE	ELEVATION	155.00	157.00	159.00	
21 SQ	DISCHARGE	1.	5.	11.	18. 25.
22 SE	ELEVATION	155.00	156.00	157.00	158.00 159.00

***

COMPUTED STORAGE-ELEVATION DATA

STORAGE	.00	6.30	13.20
ELEVATION	155.00	157.00	159.00

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	3.07	6.30	9.67	13.20
OUTFLOW	.50	5.00	11.00	18.00	25.00
ELEVATION	155.00	156.00	157.00	158.00	159.00

*** ***

****
* *
23 KK * AREA-2 *
* *
****

SUBBASIN RUNOFF DATA

24 BA SUBBASIN CHARACTERISTICS

TAREA .13 SUBBASIN AREA

PRECIPITATION DATA

9 PB STORM 7.80 BASIN TOTAL PRECIPITATION

11 PI INCREMENTAL PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02

.17	.17	.17	.17	.18	.18	.18	.18	.18	.18
.18	.18	.18	.18	.18	.18	.03	.03	.03	.03
.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01		

```
25 LS        SCS LOSS RATE
                STRTL          .82  INITIAL ABSTRACTION
               CRVNBR        71.00  CURVE NUMBER
                RTIMP          .00  PERCENT IMPERVIOUS AREA

26 UD        SCS DIMENSIONLESS UNITGRAPH
                 TLAG          .30  LAG
```

***

UNIT HYDROGRAPH
20 END-OF-PERIOD ORDINATES

25.	80.	151.	177.	162.	127.	81.	54.	37.	25.
17.	11.	7.	5.	3.	2.	2.	1.	1.	0.

*** ***

```
        **************
        *            *
27 KK   *  COMBINE   *
        *            *
        **************

28 HC        HYDROGRAPH COMBINATION
                ICOMP            2  NUMBER OF HYDROGRAPHS TO COMBINE
```

***

*** ***

```
        **************
        *            *
29 KK   *      POND  *     2
        *            *
        **************

          HYDROGRAPH ROUTING DATA

30 RS        STORAGE ROUTING
                NSTPS            1  NUMBER OF SUBREACHES
                 ITYP         ELEV  TYPE OF INITIAL CONDITION
               RSVRIC       155.00  INITIAL CONDITION
```

31 SA	AREA	2.0	2.5				
32 SE	ELEVATION	155.00	159.00				
33 SQ	DISCHARGE	1.	16.	44.	81.	125.	
34 SE	ELEVATION	155.00	156.00	157.00	158.00	159.00	

***

COMPUTED STORAGE-ELEVATION DATA

STORAGE	.00	8.98
ELEVATION	155.00	159.00

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	2.06	4.24	6.55	8.98
OUTFLOW	.50	16.00	44.00	81.00	125.00
ELEVATION	155.00	156.00	157.00	158.00	159.00

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
HYDROGRAPH AT	AREA-1	91.	13.00	37.	12.	12.	.07		
ROUTED TO	POND-1	25.	13.33	21.	9.	9.	.07	158.98	13.33
HYDROGRAPH AT	AREA-2	128.	13.00	47.	15.	15.	.13		
2 COMBINED AT	COMBINE	151.	13.00	67.	24.	24.	.20		
ROUTED TO	POND	122.	13.25	63.	23.	23.	.20	158.92	13.25

*** NORMAL END OF HEC-1 ***

CLADSWORTH ADDITION

By 11/1/90 Date CB Page 1 2

BAUGHMAN COMPANY, P.A.

D- B

USE TYPE C SOIL (TA-FB)

EXIST. AREA= 58 AC. (ENTIRE PLAT) - ALL DRAINS EVENTUALLY TO I30p ACROSS 21ST. STREET.

HEC-1 RUN for EXIST. CONDITION

BA= 58AC/640 = 0.091 SQ. MILES

L= 2560 LF

$T_c = 0.8262 L^{0.47} n^{0.47} s^{-0.235}$

n= 0.4 (Avg Grass Cover)

slope= 0.005 (Assumed)

$T_c = 0.8262 (2560)^{0.47} (0.4)^{0.47} (0.005)^{-0.235}$ (0.5% slope)

T_c = 74 min

$T_c = 0.8262 (2560)^{0.47} (0.4)^{0.47} (0.01)^{-0.235}$

T_c = 63 min ← Use This

Lag Time = 0.6Tc = 0.6(63/60) = 0.63 Hours

RAINFALL= 7.8" 24 Hours - SCS TYPE II DIST.

RUNOFF FACTOR: SMALL GRAIN - SR+CR
GOOD COND - TYPE C
SOIL = 80

CN = 80

RESULTS = (100 cfs) EXIST AREA CONTRIBUTION TO BOX @ 21ST. STREET

VOLUME = 26 AC-FT.

FROM HIGHWAY PLAN - BOX OLD 21ST STREET)

$Q_{MAX\ BOX}$ = 130 cfs DA = 125 ACRES

PORP. AMOUNT = $\frac{130}{125} = \frac{X}{58}$ $X = 60$ cfs

USE 60 cfs outflow from Chadsworth Addn Det. PONDS.

DEVELOPED CONDITION:

USE 1/5 Ac LOTS, TYPE C SOIL =

$$0.125\left[\begin{array}{lll} \left[\begin{array}{l} 1/6\ AC\ (0.125) \\ 0.075 \end{array}\right] & 90 & \Big]x \\ 1/5\ AC\ (0.20) & X & \\ 1/4\ AC\ (0.25) & 83 & \Big]1 \end{array}\right.$$

$\frac{0.075}{0.125} = \frac{X}{7}$ $X = 4.2$

$90 - 4.2 =$ **86 RUNOFF FACTOR**

USE 90/W POND AREA

DA = 0.091 AC
CN = 86

Tc THROUGH PONDS L = 2400 FEET

Assume V = 1.5 ft/sec

$2400/1.5(60) = 27$ MINUTES → USE 30 MIN

LAG = $0.6(30/60) =$ **.13 HOURS**

RESULTS: Q = 119 cfs **.32 AC-FT VOLUME**.

****

FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985

U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616

****

C:\HEC1\CHADP.IN

C:\HEC1\CHADP.OU

ALSO

CH.IN BEARDS

CHAD.IN] SEPERATE RUN FILES

CHAD2.IN

THIS HEC-1 VERSION CONTAINS ALL OPTIONS EXCEPT ECONOMICS, AND THE NUMBER OF PLANS ARE REDUCED TO 3

HEC-1 INPUT


```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

*** FREE ***
    1         ID   CHANSWORTH ADDITION
    2         ID   100 YR - 24 HR. STORM (DEVELOPED CONDITION)
    3         ID   WITH DETENTION PONDS
    4         IT      5       0       0     289

    5         KK BASIN-A
    6         KM   COMPUTING RUNOFF HYDROGRAPH FOR THE AREA
    7         KM   WITHIN THE PLAT
    8         PB       0
    9         IN      60
   10         PC    0.00  0.0585  0.1287   0.126   0.312   0.419   0.566   0.712   0.858   1.053
   11         PC   1.297   1.641   3.705   5.811   6.201   6.503   6.747   6.937   7.108   7.250
   12         PC   7.371   7.487   7.600   7.703   7.800
   13         BA   0.038   (24 ACRES)
   14         LS       0      90       0
   15         UD    0.20

   16         KK  POND-1
   17         RS       1    ELEV    1345       0
   18         SA    1.09    1.56
   19         SE    1345    1348
   20         SQ       1       8      20      30
   21         SE    1345    1346    1347    1348

   22         KK BASIN-B
   23         KM   SOUTHERN BASIN
   24         BA   0.053  — 34 AC
   25         LS       0      90       0
   26         UD    0.20

   27         KK COMBINE
   28         KM   COMBINE PREVIOUS 2 HYDROGRAPHS
   29         HC       2

   30         KK  POND-2
   31         RS       1    ELEV    1343
   32         SA    2.16    3.05
   33         SE    1343    1348
   34         SQ       2       9      19      31      46      62
   35         SE    1343    1344    1345    1346    1347    1348
   36         ZZ
```

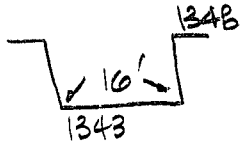
) 2-21" CMP's INLET CONTROL ASSUMED

↳ CHECK FOR OUTLET CONTROL ON FINAL RUN

↳ 20 MIN Tc = 12 MIN LAG.

} MODELED AS 1 POND

↳ 16' CALC WEIR



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                    CHANSWORTH ADDITION
                    100 YR - 24 HR. STORM (DEVELOPED CONDITION)
                    WITH DETENTION PONDS

   IT         HYDROGRAPH TIME DATA
                     NMIN           5  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1    0  STARTING DATE
                    ITIME        0000  STARTING TIME
                       NQ         289  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE      2    0  ENDING DATE
                   NDTIME        0000  ENDING TIME

               COMPUTATION INTERVAL     .08 HOURS
                    TOTAL TIME BASE   24.00 HOURS

         ENGLISH UNITS


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


           **************
           *            *
  5 KK     *   BASIN-A  *
           *            *
           **************
                    COMPUTING RUNOFF HYDROGRAPH FOR THE AREA
                    WITHIN THE PLAT

  9 IN          TIME DATA FOR INPUT TIME SERIES
                     JXMIN           60  TIME INTERVAL IN MINUTES
                    JXDATE       1    0  STARTING DATE
                    JXTIME            0  STARTING TIME

             SUBBASIN RUNOFF DATA

 13 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .04  SUBBASIN AREA

              PRECIPITATION DATA

  8 PB               STORM         7.80  BASIN TOTAL PRECIPITATION

 10 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .01      .01      .01      .01      .01      .01      .01      .01
                     .01      .01      .01      .01      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .02      .02      .02      .02
                     .02      .02      .02      .02      .02      .02      .02      .02      .01      .01
                     .01      .01      .01      .01      .01      .01      .01      .01      .01      .01
                     .01      .01      .01      .01      .01      .01      .01      .01      .01      .01
                     .01      .01      .01      .01      .01      .01      .01      .01      .01      .01
                     .01      .01      .01      .01      .01      .01      .01      .01      .01      .01
                     .01      .01      .01      .01      .01      .01      .02      .02      .02      .02
                     .02      .02      .02      .02      .02      .02      .02      .02      .02      .02
                     .02      .02      .02      .02      .02      .02      .02      .02      .02      .02
                     .03      .03      .03      .03      .03      .03      .03      .03      .03      .03
                     .03      .03      .17      .17      .17      .17      .17      .17      .17      .17
                     .17      .17      .17      .17      .18      .18      .18      .18      .18      .18
```

.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01		

14 LS SCS LOSS RATE
- STRTL .22 INITIAL ABSTRACTION
- CRVNBR 90.00 CURVE NUMBER
- RTIMP .00 PERCENT IMPERVIOUS AREA

15 UD SCS DIMENSIONLESS UNITGRAPH
- TLAG .20 LAG

***

WARNING *** TIME INTERVAL IS GREATER THAN .29*LAG

UNIT HYDROGRAPH
14 END-OF-PERIOD ORDINATES

19.	61.	76.	61.	34.	19.	11.	6.	4.	2.
1.	1.	0.	0.						

****

HYDROGRAPH AT STATION BASIN-A

****

DA MON	HRMN	ORD	RAIN	LOSS	EXCESS	COMP Q	*	DA MON	HRMN	ORD	RAIN	LOSS	EXCESS	COMP Q
1	0000	1	.00	.00	.00	0.	*	1	1205	146	.18	.01	.17	47.
1	0005	2	.00	.00	.00	0.	*	1	1210	147	.18	.01	.17	48.
1	0010	3	.00	.00	.00	0.	*	1	1215	148	.18	.01	.17	48.
1	0015	4	.00	.00	.00	0.	*	1	1220	149	.18	.01	.17	48.
1	0020	5	.00	.00	.00	0.	*	1	1225	150	.18	.01	.17	49.
1	0025	6	.00	.00	.00	0.	*	1	1230	151	.18	.01	.17	49.
1	0030	7	.00	.00	.00	0.	*	1	1235	152	.18	.01	.17	49.
1	0035	8	.00	.00	.00	0.	*	1	1240	153	.18	.01	.17	49.
1	0040	9	.00	.00	.00	0.	*	1	1245	154	.18	.01	.17	50.
1	0045	10	.00	.00	.00	0.	*	1	1250	155	.18	.01	.17	50.
1	0050	11	.00	.00	.00	0.	*	1	1255	156	.18	.01	.17	50.
1	0055	12	.00	.00	.00	0.	*	1	1300	157	.18	.00	.17	50.
1	0100	13	.00	.00	.00	0.	*	1	1305	158	.03	.00	.03	47.
1	0105	14	.01	.01	.00	0.	*	1	1310	159	.03	.00	.03	39.
1	0110	15	.01	.01	.00	0.	*	1	1315	160	.03	.00	.03	29.
1	0115	16	.01	.01	.00	0.	*	1	1320	161	.03	.00	.03	20.
1	0120	17	.01	.01	.00	0.	*	1	1325	162	.03	.00	.03	15.
1	0125	18	.01	.01	.00	0.	*	1	1330	163	.03	.00	.03	13.
1	0130	19	.01	.01	.00	0.	*	1	1335	164	.03	.00	.03	11.
1	0135	20	.01	.01	.00	0.	*	1	1340	165	.03	.00	.03	10.
1	0140	21	.01	.01	.00	0.	*	1	1345	166	.03	.00	.03	10.
1	0145	22	.01	.01	.00	0.	*	1	1350	167	.03	.00	.03	10.
1	0150	23	.01	.01	.00	0.	*	1	1355	168	.03	.00	.03	9.
1	0155	24	.01	.01	.00	0.	*	1	1400	169	.03	.00	.03	9.
1	0200	25	.01	.01	.00	0.	*	1	1405	170	.03	.00	.02	9.
1	0205	26	.00	.00	.00	0.	*	1	1410	171	.03	.00	.02	9.
								1	1415	172	.03	.00	.02	8.

1	0220	29	.00	.00	.00	0.	*	1	1425	174	.03	.00	.02	8.
1	0225	30	.00	.00	.00	0.	*	1	1430	175	.03	.00	.02	7.
1	0230	31	.00	.00	.00	0.	*	1	1435	176	.03	.00	.02	7.
1	0235	32	.00	.00	.00	0.	*	1	1440	177	.03	.00	.02	7.
1	0240	33	.00	.00	.00	0.	*	1	1445	178	.03	.00	.02	7.
1	0245	34	.00	.00	.00	0.	*	1	1450	179	.03	.00	.02	7.
1	0250	35	.00	.00	.00	0.	*	1	1455	180	.03	.00	.02	7.
1	0255	36	.00	.00	.00	0.	*	1	1500	181	.03	.00	.02	7.
1	0300	37	.00	.00	.00	0.	*	1	1505	182	.02	.00	.02	7.
1	0305	38	.02	.02	.00	0.	*	1	1510	183	.02	.00	.02	7.
1	0310	39	.02	.02	.00	0.	*	1	1515	184	.02	.00	.02	7.
1	0315	40	.02	.02	.00	0.	*	1	1520	185	.02	.00	.02	6.
1	0320	41	.02	.02	.00	0.	*	1	1525	186	.02	.00	.02	6.
1	0325	42	.02	.02	.00	0.	*	1	1530	187	.02	.00	.02	6.
1	0330	43	.02	.02	.00	0.	*	1	1535	188	.02	.00	.02	6.
1	0335	44	.02	.02	.00	0.	*	1	1540	189	.02	.00	.02	6.
1	0340	45	.02	.01	.00	0.	*	1	1545	190	.02	.00	.02	6.
1	0345	46	.02	.01	.00	0.	*	1	1550	191	.02	.00	.02	6.
1	0350	47	.02	.01	.00	0.	*	1	1555	192	.02	.00	.02	6.
1	0355	48	.02	.01	.00	0.	*	1	1600	193	.02	.00	.02	6.
1	0400	49	.02	.01	.00	0.	*	1	1605	194	.02	.00	.02	6.
1	0405	50	.01	.01	.00	0.	*	1	1610	195	.02	.00	.02	6.
1	0410	51	.01	.01	.00	0.	*	1	1615	196	.02	.00	.02	5.
1	0415	52	.01	.01	.00	0.	*	1	1620	197	.02	.00	.02	5.
1	0420	53	.01	.01	.00	0.	*	1	1625	198	.02	.00	.02	5.
1	0425	54	.01	.01	.00	0.	*	1	1630	199	.02	.00	.02	5.
1	0430	55	.01	.01	.00	0.	*	1	1635	200	.02	.00	.02	5.
1	0435	56	.01	.01	.00	1.	*	1	1640	201	.02	.00	.02	5.
1	0440	57	.01	.01	.00	1.	*	1	1645	202	.02	.00	.02	5.
1	0445	58	.01	.01	.00	1.	*	1	1650	203	.02	.00	.02	5.
1	0450	59	.01	.01	.00	1.	*	1	1655	204	.02	.00	.02	5.
1	0455	60	.01	.01	.00	1.	*	1	1700	205	.02	.00	.02	5.
1	0500	61	.01	.01	.00	1.	*	1	1705	206	.01	.00	.01	5.
1	0505	62	.01	.01	.00	1.	*	1	1710	207	.01	.00	.01	4.
1	0510	63	.01	.01	.00	1.	*	1	1715	208	.01	.00	.01	4.
1	0515	64	.01	.01	.00	1.	*	1	1720	209	.01	.00	.01	4.
1	0520	65	.01	.01	.00	1.	*	1	1725	210	.01	.00	.01	4.
1	0525	66	.01	.01	.00	1.	*	1	1730	211	.01	.00	.01	4.
1	0530	67	.01	.01	.00	1.	*	1	1735	212	.01	.00	.01	4.
1	0535	68	.01	.01	.00	1.	*	1	1740	213	.01	.00	.01	4.
1	0540	69	.01	.01	.00	1.	*	1	1745	214	.01	.00	.01	4.
1	0545	70	.01	.01	.00	1.	*	1	1750	215	.01	.00	.01	4.
1	0550	71	.01	.01	.00	1.	*	1	1755	216	.01	.00	.01	4.
1	0555	72	.01	.01	.00	1.	*	1	1800	217	.01	.00	.01	4.
1	0600	73	.01	.01	.01	1.	*	1	1805	218	.01	.00	.01	4.
1	0605	74	.01	.01	.01	1.	*	1	1810	219	.01	.00	.01	4.
1	0610	75	.01	.01	.01	1.	*	1	1815	220	.01	.00	.01	4.
1	0615	76	.01	.01	.01	1.	*	1	1820	221	.01	.00	.01	4.
1	0620	77	.01	.01	.01	2.	*	1	1825	222	.01	.00	.01	4.
1	0625	78	.01	.01	.01	2.	*	1	1830	223	.01	.00	.01	3.
1	0630	79	.01	.01	.01	2.	*	1	1835	224	.01	.00	.01	3.
1	0635	80	.01	.01	.01	2.	*	1	1840	225	.01	.00	.01	3.
1	0640	81	.01	.01	.01	2.	*	1	1845	226	.01	.00	.01	3.
1	0645	82	.01	.01	.01	2.	*	1	1850	227	.01	.00	.01	3.
1	0650	83	.01	.01	.01	2.	*	1	1855	228	.01	.00	.01	3.
1	0655	84	.01	.01	.01	2.	*	1	1900	229	.01	.00	.01	3.
1	0700	85	.01	.01	.01	2.	*	1	1905	230	.01	.00	.01	3.
1	0705	86	.01	.01	.01	2.	*	1	1910	231	.01	.00	.01	3.
1	0710	87	.01	.01	.01	2.	*	1	1915	232	.01	.00	.01	3.
1	0715	88	.01	.01	.01	2.	*	1	1920	233	.01	.00	.01	3.
1	0720	89	.01	.01	.01	2.	*	1	1925	234	.01	.00	.01	3.
1	0725	90	.01	.01	.01	2.	*	1	1930	235	.01	.00	.01	3.
1	0730	91	.01	.01	.01	2.	*	1	1935	236	.01	.00	.01	3.
1	0735	92	.01	.01	.01	2.	*	1	1940	237	.01	.00	.01	3.

1	0750	95	.01	.01	.01	2.	*	1	1955	240	.01	.00	.01	3.
.1	0755	96	.01	.01	.01	2.	*	1	2000	241	.01	.00	.01	3.
1	0800	97	.01	.00	.01	2.	*	1	2005	242	.01	.00	.01	3.
1	0805	98	.02	.01	.01	2.	*	1	2010	243	.01	.00	.01	3.
1	0810	99	.02	.01	.01	2.	*	1	2015	244	.01	.00	.01	3.
1	0815	100	.02	.01	.01	3.	*	1	2020	245	.01	.00	.01	3.
1	0820	101	.02	.01	.01	3.	*	1	2025	246	.01	.00	.01	3.
1	0825	102	.02	.01	.01	3.	*	1	2030	247	.01	.00	.01	3.
1	0830	103	.02	.01	.01	3.	*	1	2035	248	.01	.00	.01	3.
1	0835	104	.02	.01	.01	3.	*	1	2040	249	.01	.00	.01	3.
1	0840	105	.02	.01	.01	3.	*	1	2045	250	.01	.00	.01	3.
1	0845	106	.02	.01	.01	3.	*	1	2050	251	.01	.00	.01	3.
1	0850	107	.02	.01	.01	3.	*	1	2055	252	.01	.00	.01	3.
1	0855	108	.02	.01	.01	3.	*	1	2100	253	.01	.00	.01	3.
1	0900	109	.02	.01	.01	3.	*	1	2105	254	.01	.00	.01	3.
1	0905	110	.02	.01	.01	3.	*	1	2110	255	.01	.00	.01	3.
1	0910	111	.02	.01	.01	3.	*	1	2115	256	.01	.00	.01	3.
1	0915	112	.02	.01	.01	4.	*	1	2120	257	.01	.00	.01	3.
1	0920	113	.02	.01	.01	4.	*	1	2125	258	.01	.00	.01	3.
1	0925	114	.02	.01	.01	4.	*	1	2130	259	.01	.00	.01	3.
1	0930	115	.02	.01	.01	4.	*	1	2135	260	.01	.00	.01	3.
1	0935	116	.02	.01	.01	4.	*	1	2140	261	.01	.00	.01	3.
1	0940	117	.02	.01	.01	4.	*	1	2145	262	.01	.00	.01	3.
1	0945	118	.02	.01	.01	4.	*	1	2150	263	.01	.00	.01	3.
1	0950	119	.02	.01	.01	4.	*	1	2155	264	.01	.00	.01	3.
1	0955	120	.02	.01	.01	4.	*	1	2200	265	.01	.00	.01	3.
1	1000	121	.02	.01	.02	4.	*	1	2205	266	.01	.00	.01	3.
1	1005	122	.03	.01	.02	4.	*	1	2210	267	.01	.00	.01	3.
1	1010	123	.03	.01	.02	5.	*	1	2215	268	.01	.00	.01	3.
1	1015	124	.03	.01	.02	5.	*	1	2220	269	.01	.00	.01	3.
1	1020	125	.03	.01	.02	6.	*	1	2225	270	.01	.00	.01	3.
1	1025	126	.03	.01	.02	6.	*	1	2230	271	.01	.00	.01	3.
1	1030	127	.03	.01	.02	6.	*	1	2235	272	.01	.00	.01	2.
1	1035	128	.03	.01	.02	6.	*	1	2240	273	.01	.00	.01	2.
1	1040	129	.03	.01	.02	6.	*	1	2245	274	.01	.00	.01	2.
1	1045	130	.03	.01	.02	7.	*	1	2250	275	.01	.00	.01	2.
1	1050	131	.03	.01	.02	7.	*	1	2255	276	.01	.00	.01	2.
1	1055	132	.03	.01	.02	7.	*	1	2300	277	.01	.00	.01	2.
1	1100	133	.03	.01	.02	7.	*	1	2305	278	.01	.00	.01	2.
1	1105	134	.17	.03	.14	9.	*	1	2310	279	.01	.00	.01	2.
1	1110	135	.17	.03	.14	16.	*	1	2315	280	.01	.00	.01	2.
1	1115	136	.17	.02	.15	25.	*	1	2320	281	.01	.00	.01	2.
1	1120	137	.17	.02	.15	33.	*	1	2325	282	.01	.00	.01	2.
1	1125	138	.17	.02	.15	38.	*	1	2330	283	.01	.00	.01	2.
1	1130	139	.17	.02	.15	41.	*	1	2335	284	.01	.00	.01	2.
1	1135	140	.17	.02	.16	43.	*	1	2340	285	.01	.00	.01	2.
1	1140	141	.17	.01	.16	44.	*	1	2345	286	.01	.00	.01	2.
1	1145	142	.17	.01	.16	45.	*	1	2350	287	.01	.00	.01	2.
1	1150	143	.17	.01	.16	46.	*	1	2355	288	.01	.00	.01	2.
1	1155	144	.17	.01	.16	46.	*	2	0000	289	.01	.00	.01	2.
1	1200	145	.17	.01	.16	47.	*							
							*							

****

TOTAL RAINFALL = 7.80, TOTAL LOSS = 1.19, TOTAL EXCESS = 6.61

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.00-HR
+ (CFS)	(HR)					
		(CFS)				
+ 50.	13.00		21.	7.	7.	7.
		(INCHES)	5.040	6.586	6.586	6.586
		(AC-FT)	10.	13.	13.	13.

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          *            *
16 KK     *   POND-1   *
          *            *
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HYDROGRAPH ROUTING DATA

17 RS	STORAGE ROUTING			
	NSTPS	1.		NUMBER OF SUBREACHES
	ITYP	ELEV		TYPE OF INITIAL CONDITION
	RSVRIC	1345.00		INITIAL CONDITION
	X	.00		WORKING R AND D COEFFICIENT
18 SA	AREA	1.1	1.6	
19 SE	ELEVATION	1345.00	1348.00	
20 SQ	DISCHARGE	1.	8.	20. 30.
21 SE	ELEVATION	1345.00	1346.00	1347.00 1348.00

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COMPUTED STORAGE-ELEVATION DATA

STORAGE	.00	3.95
ELEVATION	1345.00	1348.00

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	1.16	2.48	3.95
OUTFLOW	1.00	8.00	20.00	30.00
ELEVATION	1345.00	1346.00	1347.00	1348.00

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HYDROGRAPH AT STATION POND-1

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	1.	.0	1345.0	1		0805	98	2.	.1	1345.1	1		1610	195	11.	1.5	1346.2
1		0005	2	1.	.0	1345.0	1		0810	99	2.	.1	1345.1	1		1615	196	11.	1.5	1346.2
1		0010	3	1.	.0	1345.0	1		0815	100	2.	.1	1345.1	1		1620	197	10.	1.4	1346.2
1		0015	4	1.	.0	1345.0	1		0820	101	2.	.1	1345.1	1		1625	198	10.	1.4	1346.2
1		0020	5	1.	.0	1345.0	1		0825	102	2.	.1	1345.1	1		1630	199	10.	1.3	1346.1
1		0025	6	1.	.0	1345.0	1		0830	103	2.	.1	1345.1	1		1635	200	9.	1.3	1346.1
1		0030	7	1.	.0	1345.0	1		0835	104	2.	.1	1345.1	1		1640	201	9.	1.3	1346.1
1		0035	8	1.	.0	1345.0	1		0840	105	2.	.1	1345.1	1		1645	202	9.	1.2	1346.1
1		0040	9	1.	.0	1345.0	1		0845	106	2.	.1	1345.1	1		1650	203	9.	1.2	1346.0
1		0045	10	1.	.0	1345.0	1		0850	107	2.	.2	1345.1	1		1655	204	8.	1.2	1346.0
1		0050	11	1.	.0	1345.0	1		0855	108	2.	.2	1345.1	1		1700	205	8.	1.2	1346.0
1		0055	12	1.	.0	1345.0	1		0900	109	2.	.2	1345.1	1		1705	206	8.	1.1	1346.0
1		0100	13	1.	.0	1345.0	1		0905	110	2.	.2	1345.2	1		1710	207	8.	1.1	1346.0
1		0105	14	1.	.0	1345.0	1		0910	111	2.	.2	1345.2	1		1715	208	8.	1.1	1345.9
1		0110	15	1.	.0	1345.0	1		0915	112	2.	.2	1345.2	1		1720	209	7.	1.1	1345.9
1																				

1	0125	18	1.	.0	1345.0	*	1	0930	115	2.	.2	1345.2	*	1	1735	212	7.	1.0	1345.9
1	0130	19	1.	.0	1345.0	*	1	0935	116	2.	.2	1345.2	*	1	1740	213	7.	1.0	1345.9
1	0135	20	1.	.0	1345.0	*	1	0940	117	3.	.3	1345.2	*	1	1745	214	7.	1.0	1345.8
1	0140	21	1.	.0	1345.0	*	1	0945	118	3.	.3	1345.2	*	1	1750	215	7.	1.0	1345.8
1	0145	22	1.	.0	1345.0	*	1	0950	119	3.	.3	1345.2	*	1	1755	216	7.	.9	1345.8
1	0150	23	1.	.0	1345.0	*	1	0955	120	3.	.3	1345.2	*	1	1800	217	7.	.9	1345.8
1	0155	24	1.	.0	1345.0	*	1	1000	121	3.	.3	1345.3	*	1	1805	218	6.	.9	1345.8
1	0200	25	1.	.0	1345.0	*	1	1005	122	3.	.3	1345.3	*	1	1810	219	6.	.9	1345.8
1	0205	26	1.	.0	1345.0	*	1	1010	123	3.	.3	1345.3	*	1	1815	220	6.	.9	1345.7
1	0210	27	1.	.0	1345.0	*	1	1015	124	3.	.3	1345.3	*	1	1820	221	6.	.9	1345.7
1	0215	28	1.	.0	1345.0	*	1	1020	125	3.	.4	1345.3	*	1	1825	222	6.	.8	1345.7
1	0220	29	1.	.0	1345.0	*	1	1025	126	3.	.4	1345.3	*	1	1830	223	6.	.8	1345.7
1	0225	30	1.	.0	1345.0	*	1	1030	127	3.	.4	1345.3	*	1	1835	224	6.	.8	1345.7
1	0230	31	1.	.0	1345.0	*	1	1035	128	3.	.4	1345.4	*	1	1840	225	6.	.8	1345.7
1	0235	32	1.	.0	1345.0	*	1	1040	129	4.	.4	1345.4	*	1	1845	226	6.	.8	1345.7
1	0240	33	1.	.0	1345.0	*	1	1045	130	4.	.5	1345.4	*	1	1850	227	6.	.8	1345.6
1	0245	34	1.	.0	1345.0	*	1	1050	131	4.	.5	1345.4	*	1	1855	228	5.	.7	1345.6
1	0250	35	1.	.0	1345.0	*	1	1055	132	4.	.5	1345.4	*	1	1900	229	5.	.7	1345.6
1	0255	36	1.	.0	1345.0	*	1	1100	133	4.	.5	1345.4	*	1	1905	230	5.	.7	1345.6
1	0300	37	1.	.0	1345.0	*	1	1105	134	4.	.5	1345.5	*	1	1910	231	5.	.7	1345.6
1	0305	38	1.	.0	1345.0	*	1	1110	135	5.	.6	1345.5	*	1	1915	232	5.	.7	1345.6
1	0310	39	1.	.0	1345.0	*	1	1115	136	5.	.7	1345.6	*	1	1920	233	5.	.7	1345.6
1	0315	40	1.	.0	1345.0	*	1	1120	137	6.	.9	1345.7	*	1	1925	234	5.	.7	1345.6
1	0320	41	1.	.0	1345.0	*	1	1125	138	7.	1.1	1345.9	*	1	1930	235	5.	.6	1345.6
1	0325	42	1.	.0	1345.0	*	1	1130	139	9.	1.3	1346.1	*	1	1935	236	5.	.6	1345.5
1	0330	43	1.	.0	1345.0	*	1	1135	140	11.	1.5	1346.2	*	1	1940	237	5.	.6	1345.5
1	0335	44	1.	.0	1345.0	*	1	1140	141	13.	1.7	1346.4	*	1	1945	238	5.	.6	1345.5
1	0340	45	1.	.0	1345.0	*	1	1145	142	15.	1.9	1346.6	*	1	1950	239	5.	.6	1345.5
1	0345	46	1.	.0	1345.0	*	1	1150	143	17.	2.1	1346.7	*	1	1955	240	5.	.6	1345.5
1	0350	47	1.	.0	1345.0	*	1	1155	144	19.	2.3	1346.9	*	1	2000	241	4.	.6	1345.5
1	0355	48	1.	.0	1345.0	*	1	1200	145	20.	2.5	1347.0	*	1	2005	242	4.	.6	1345.5
1	0400	49	1.	.0	1345.0	*	1	1205	146	21.	2.7	1347.1	*	1	2010	243	4.	.6	1345.5
1	0405	50	1.	.0	1345.0	*	1	1210	147	23.	2.9	1347.3	*	1	2015	244	4.	.5	1345.5
1	0410	51	1.	.0	1345.0	*	1	1215	148	24.	3.0	1347.4	*	1	2020	245	4.	.5	1345.5
1	0415	52	1.	.0	1345.0	*	1	1220	149	25.	3.2	1347.5	*	1	2025	246	4.	.5	1345.5
1	0420	53	1.	.0	1345.0	*	1	1225	150	26.	3.4	1347.6	*	1	2030	247	4.	.5	1345.4
1	0425	54	1.	.0	1345.0	*	1	1230	151	27.	3.5	1347.7	*	1	2035	248	4.	.5	1345.4
1	0430	55	1.	.0	1345.0	*	1	1235	152	28.	3.7	1347.8	*	1	2040	249	4.	.5	1345.4
1	0435	56	1.	.0	1345.0	*	1	1240	153	29.	3.8	1347.9	*	1	2045	250	4.	.5	1345.4
1	0440	57	1.	.0	1345.0	*	1	1245	154	30.	3.9	1348.0	*	1	2050	251	4.	.5	1345.4
1	0445	58	1.	.0	1345.0	*	1	1250	155	31.	4.1	1348.1	*	1	2055	252	4.	.5	1345.4
1	0450	59	1.	.0	1345.0	*	1	1255	156	32.	4.2	1348.2	*	1	2100	253	4.	.5	1345.4
1	0455	60	1.	.0	1345.0	*	1	1300	157	32.	4.3	1348.2	*	1	2105	254	4.	.5	1345.4
1	0500	61	1.	.0	1345.0	*	1	1305	158	33.	4.4	1348.3	*	1	2110	255	4.	.5	1345.4
1	0505	62	1.	.0	1345.0	*	1	1310	159	34.	4.5	1348.4	*	1	2115	256	4.	.4	1345.4
1	0510	63	1.	.0	1345.0	*	1	1315	160	34.	4.5	1348.4	*	1	2120	257	4.	.4	1345.4
1	0515	64	1.	.0	1345.0	*	1	1320	161	33.	4.4	1348.3	*	1	2125	258	4.	.4	1345.4
1	0520	65	1.	.0	1345.0	*	1	1325	162	33.	4.3	1348.3	*	1	2130	259	4.	.4	1345.4
1	0525	66	1.	.0	1345.0	*	1	1330	163	32.	4.2	1348.2	*	1	2135	260	4.	.4	1345.4
1	0530	67	1.	.0	1345.0	*	1	1335	164	31.	4.1	1348.1	*	1	2140	261	4.	.4	1345.4
1	0535	68	1.	.0	1345.0	*	1	1340	165	30.	3.9	1348.0	*	1	2145	262	3.	.4	1345.4
1	0540	69	1.	.0	1345.0	*	1	1345	166	29.	3.8	1347.9	*	1	2150	263	3.	.4	1345.4
1	0545	70	1.	.0	1345.0	*	1	1350	167	28.	3.7	1347.8	*	1	2155	264	3.	.4	1345.3
1	0550	71	1.	.0	1345.0	*	1	1355	168	27.	3.6	1347.7	*	1	2200	265	3.	.4	1345.3
1	0555	72	1.	.0	1345.0	*	1	1400	169	26.	3.4	1347.6	*	1	2205	266	3.	.4	1345.3
1	0600	73	1.	.0	1345.0	*	1	1405	170	26.	3.3	1347.6	*	1	2210	267	3.	.4	1345.3
1	0605	74	1.	.0	1345.0	*	1	1410	171	25.	3.2	1347.5	*	1	2215	268	3.	.4	1345.3
1	0610	75	1.	.0	1345.0	*	1	1415	172	24.	3.1	1347.4	*	1	2220	269	3.	.4	1345.3
1	0615	76	1.	.0	1345.0	*	1	1420	173	23.	3.0	1347.3	*	1	2225	270	3.	.4	1345.3
1	0620	77	1.	.0	1345.0	*	1	1425	174	23.	2.9	1347.3	*	1	2230	271	3.	.4	1345.3
1	0625	78	1.	.0	1345.0	*	1	1430	175	22.	2.8	1347.2	*	1	2235	272	3.	.4	1345.3
1	0630	79	1.	.0	1345.0	*	1	1435	176	21.	2.7	1347.1	*	1	2240	273	3.	.4	1345.3
1	0635	80	1.	.0	1345.0	*	1	1440	177	21.	2.6	1347.1	*	1	2245	274	3.	.4	1345.3
1	0640	81	1.	.0	1345.0	*	1	1445	178	20.	2.5	1347.0	*	1	2250	275	3.	.4	1345.3

1	0655	84	1.	.0	1345.0	*	1	1500	181	18.	2.3	1346.8	*	1	2305	278	3.	.3	1345.3
1	0700	85	1.	.0	1345.0	*	1	1505	182	17.	2.2	1346.8	*	1	2310	279	3.	.3	1345.3
1	0705	86	1.	.0	1345.0	*	1	1510	183	17.	2.1	1346.7	*	1	2315	280	3.	.3	1345.3
1	0710	87	1.	.1	1345.0	*	1	1515	184	16.	2.0	1346.7	*	1	2320	281	3.	.3	1345.3
1	0715	88	1.	.1	1345.0	*	1	1520	185	15.	2.0	1346.6	*	1	2325	282	3.	.3	1345.3
1	0720	89	1.	.1	1345.1	*	1	1525	186	15.	1.9	1346.6	*	1	2330	283	3.	.3	1345.3
1	0725	90	1.	.1	1345.1	*	1	1530	187	14.	1.9	1346.5	*	1	2335	284	3.	.3	1345.3
1	0730	91	1.	.1	1345.1	*	1	1535	188	14.	1.8	1346.5	*	1	2340	285	3.	.3	1345.3
1	0735	92	1.	.1	1345.1	*	1	1540	189	13.	1.7	1346.4	*	1	2345	286	3.	.3	1345.3
1	0740	93	1.	.1	1345.1	*	1	1545	190	13.	1.7	1346.4	*	1	2350	287	3.	.3	1345.3
1	0745	94	1.	.1	1345.1	*	1	1550	191	12.	1.7	1346.4	*	1	2355	288	3.	.3	1345.3
1	0750	95	1.	.1	1345.1	*	1	1555	192	12.	1.6	1346.3	*	2	0000	289	3.	.3	1345.3
1	0755	96	2.	.1	1345.1	*	1	1600	193	12.	1.6	1346.3	*						
1	0800	97	2.	.1	1345.1	*	1	1605	194	11.	1.5	1346.3	*						
						*							*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.00-HR
+ (CFS)	(HR)					
		(CFS)				
+ 34.	13.25		19.	7.	7.	7.
		(INCHES)	4.706	6.617	6.617	6.617
		(AC-FT)	10.	13.	13.	13.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.00-HR
+ (AC-FT)	(HR)				
4.	13.17	3.	1.	1.	1.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.00-HR
+ (FEET)	(HR)				
1348.37	13.25	1346.99	1345.67	1345.67	1345.67

CUMULATIVE AREA = .04 SQ MI

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          *             *
22 KK     *  BASIN-B    *
          *             *
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SOUTHERN BASIN

SUBBASIN RUNOFF DATA

24 BA SUBBASIN CHARACTERISTICS
TAREA .05 SUBBASIN AREA

PRECIPITATION DATA

8 PB STORM 7.80 BASIN TOTAL PRECIPITATION

10 PI INCREMENTAL PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.02	.02	.02	.02

.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
.03	.03	.17	.17	.17	.17	.17	.17	.17	.17
.17	.17	.17	.17	.18	.18	.18	.18	.18	.18
.18	.18	.18	.18	.18	.18	.03	.03	.03	.03
.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01		

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25 LS         SCS LOSS RATE
                 STRTL        .22  INITIAL ABSTRACTION
                CRVNBR      90.00  CURVE NUMBER
                 RTIMP        .00  PERCENT IMPERVIOUS AREA

26 UD         SCS DIMENSIONLESS UNITGRAPH
                  TLAG        .20  LAG
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WARNING *** TIME INTERVAL IS GREATER THAN .29*LAG

UNIT HYDROGRAPH
14 END-OF-PERIOD ORDINATES

26.	85.	106.	84.	47.	27.	15.	9.	5.	3.
2.	1.	1.	0.						

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HYDROGRAPH AT STATION BASIN-B

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DA	MON	HRMN	ORD	RAIN	LOSS	EXCESS	COMP Q	*	DA	MON	HRMN	ORD	RAIN	LOSS	EXCESS	COMP Q
1		0000	1	.00	.00	.00	0.	*	1		1205	146	.18	.01	.17	66.
1		0005	2	.00	.00	.00	0.	*	1		1210	147	.18	.01	.17	66.
1		0010	3	.00	.00	.00	0.	*	1		1215	148	.18	.01	.17	67.
1		0015	4	.00	.00	.00	0.	*	1		1220	149	.18	.01	.17	68.
1		0020	5	.00	.00	.00	0.	*	1		1225	150	.18	.01	.17	68.
1		0025	6	.00	.00	.00	0.	*	1		1230	151	.18	.01	.17	68.
1		0030	7	.00	.00	.00	0.	*	1		1235	152	.18	.01	.17	69.
1		0035	8	.00	.00	.00	0.	*	1		1240	153	.18	.01	.17	69.
1		0040	9	.00	.00	.00	0.	*	1		1245	154	.18	.01	.17	69.
1		0045	10	.00	.00	.00	0.	*	1		1250	155	.18	.01	.17	69.
1		0050	11	.00	.00	.00	0.	*	1		1255	156	.18	.01	.17	69.
1		0055	12	.00	.00	.00	0.	*	1		1300	157	.18	.00	.17	70.
1		0100	13	.00	.00	.00	0.	*	1		1305	158	.03	.00	.03	66.
1		0105	14	.01	.01	.00	0.	*	1		1310	159	.03	.00	.03	54.
1		0110	15	.01	.01	.00	0.	*	1		1315	160	.03	.00	.03	40.

1	0125	18	.01	.01	.00	0.	*	1	1330	163	.03	.00	.03	18.
1	0130	19	.01	.01	.00	0.	*	1	1335	164	.03	.00	.03	16.
1	0135	20	.01	.01	.00	0.	*	1	1340	165	.03	.00	.03	15.
1	0140	21	.01	.01	.00	0.	*	1	1345	166	.03	.00	.03	14.
1	0145	22	.01	.01	.00	0.	*	1	1350	167	.03	.00	.03	13.
1	0150	23	.01	.01	.00	0.	*	1	1355	168	.03	.00	.03	13.
1	0155	24	.01	.01	.00	0.	*	1	1400	169	.03	.00	.03	13.
1	0200	25	.01	.01	.00	0.	*	1	1405	170	.03	.00	.02	13.
1	0205	26	.00	.00	.00	0.	*	1	1410	171	.03	.00	.02	12.
1	0210	27	.00	.00	.00	0.	*	1	1415	172	.03	.00	.02	11.
1	0215	28	.00	.00	.00	0.	*	1	1420	173	.03	.00	.02	11.
1	0220	29	.00	.00	.00	0.	*	1	1425	174	.03	.00	.02	11.
1	0225	30	.00	.00	.00	0.	*	1	1430	175	.03	.00	.02	10.
1	0230	31	.00	.00	.00	0.	*	1	1435	176	.03	.00	.02	10.
1	0235	32	.00	.00	.00	0.	*	1	1440	177	.03	.00	.02	10.
1	0240	33	.00	.00	.00	0.	*	1	1445	178	.03	.00	.02	10.
1	0245	34	.00	.00	.00	0.	*	1	1450	179	.03	.00	.02	10.
1	0250	35	.00	.00	.00	0.	*	1	1455	180	.03	.00	.02	10.
1	0255	36	.00	.00	.00	0.	*	1	1500	181	.03	.00	.02	10.
1	0300	37	.00	.00	.00	0.	*	1	1505	182	.02	.00	.02	10.
1	0305	38	.02	.02	.00	0.	*	1	1510	183	.02	.00	.02	10.
1	0310	39	.02	.02	.00	0.	*	1	1515	184	.02	.00	.02	9.
1	0315	40	.02	.02	.00	0.	*	1	1520	185	.02	.00	.02	9.
1	0320	41	.02	.02	.00	0.	*	1	1525	186	.02	.00	.02	8.
1	0325	42	.02	.02	.00	0.	*	1	1530	187	.02	.00	.02	8.
1	0330	43	.02	.02	.00	0.	*	1	1535	188	.02	.00	.02	8.
1	0335	44	.02	.02	.00	0.	*	1	1540	189	.02	.00	.02	8.
1	0340	45	.02	.01	.00	0.	*	1	1545	190	.02	.00	.02	8.
1	0345	46	.02	.01	.00	0.	*	1	1550	191	.02	.00	.02	8.
1	0350	47	.02	.01	.00	0.	*	1	1555	192	.02	.00	.02	8.
1	0355	48	.02	.01	.00	0.	*	1	1600	193	.02	.00	.02	8.
1	0400	49	.02	.01	.00	0.	*	1	1605	194	.02	.00	.02	8.
1	0405	50	.01	.01	.00	1.	*	1	1610	195	.02	.00	.02	8.
1	0410	51	.01	.01	.00	1.	*	1	1615	196	.02	.00	.02	7.
1	0415	52	.01	.01	.00	1.	*	1	1620	197	.02	.00	.02	7.
1	0420	53	.01	.01	.00	1.	*	1	1625	198	.02	.00	.02	7.
1	0425	54	.01	.01	.00	1.	*	1	1630	199	.02	.00	.02	7.
1	0430	55	.01	.01	.00	1.	*	1	1635	200	.02	.00	.02	6.
1	0435	56	.01	.01	.00	1.	*	1	1640	201	.02	.00	.02	6.
1	0440	57	.01	.01	.00	1.	*	1	1645	202	.02	.00	.02	6.
1	0445	58	.01	.01	.00	1.	*	1	1650	203	.02	.00	.02	6.
1	0450	59	.01	.01	.00	1.	*	1	1655	204	.02	.00	.02	6.
1	0455	60	.01	.01	.00	1.	*	1	1700	205	.02	.00	.02	6.
1	0500	61	.01	.01	.00	1.	*	1	1705	206	.01	.00	.01	6.
1	0505	62	.01	.01	.00	1.	*	1	1710	207	.01	.00	.01	6.
1	0510	63	.01	.01	.00	1.	*	1	1715	208	.01	.00	.01	6.
1	0515	64	.01	.01	.00	1.	*	1	1720	209	.01	.00	.01	6.
1	0520	65	.01	.01	.00	1.	*	1	1725	210	.01	.00	.01	6.
1	0525	66	.01	.01	.00	1.	*	1	1730	211	.01	.00	.01	6.
1	0530	67	.01	.01	.00	2.	*	1	1735	212	.01	.00	.01	6.
1	0535	68	.01	.01	.00	2.	*	1	1740	213	.01	.00	.01	6.
1	0540	69	.01	.01	.00	2.	*	1	1745	214	.01	.00	.01	6.
1	0545	70	.01	.01	.00	2.	*	1	1750	215	.01	.00	.01	6.
1	0550	71	.01	.01	.00	2.	*	1	1755	216	.01	.00	.01	6.
1	0555	72	.01	.01	.00	2.	*	1	1800	217	.01	.00	.01	6.
1	0600	73	.01	.01	.01	2.	*	1	1805	218	.01	.00	.01	6.
1	0605	74	.01	.01	.01	2.	*	1	1810	219	.01	.00	.01	5.
1	0610	75	.01	.01	.01	2.	*	1	1815	220	.01	.00	.01	5.
1	0615	76	.01	.01	.01	2.	*	1	1820	221	.01	.00	.01	5.
1	0620	77	.01	.01	.01	2.	*	1	1825	222	.01	.00	.01	5.
1	0625	78	.01	.01	.01	2.	*	1	1830	223	.01	.00	.01	5.
1	0630	79	.01	.01	.01	2.	*	1	1835	224	.01	.00	.01	5.
1	0635	80	.01	.01	.01	2.	*	1	1840	225	.01	.00	.01	5.
1	0640	81	.01	.01	.01	2.	*	1	1845	226	.01	.00	.01	5.

1	0655	84	.01	.01	.01	2.	*	1	1900	229	.01	.00	.01	5.
1	0700	85	.01	.01	.01	2.	*	1	1905	230	.01	.00	.01	5.
1	0705	86	.01	.01	.01	3.	*	1	1910	231	.01	.00	.01	5.
1	0710	87	.01	.01	.01	3.	*	1	1915	232	.01	.00	.01	4.
1	0715	88	.01	.01	.01	3.	*	1	1920	233	.01	.00	.01	4.
1	0720	89	.01	.01	.01	3.	*	1	1925	234	.01	.00	.01	4.
1	0725	90	.01	.01	.01	3.	*	1	1930	235	.01	.00	.01	4.
1	0730	91	.01	.01	.01	3.	*	1	1935	236	.01	.00	.01	4.
1	0735	92	.01	.01	.01	3.	*	1	1940	237	.01	.00	.01	4.
1	0740	93	.01	.01	.01	3.	*	1	1945	238	.01	.00	.01	4.
1	0745	94	.01	.01	.01	3.	*	1	1950	239	.01	.00	.01	4.
1	0750	95	.01	.01	.01	3.	*	1	1955	240	.01	.00	.01	4.
1	0755	96	.01	.01	.01	3.	*	1	2000	241	.01	.00	.01	4.
1	0800	97	.01	.00	.01	3.	*	1	2005	242	.01	.00	.01	4.
1	0805	98	.02	.01	.01	3.	*	1	2010	243	.01	.00	.01	4.
1	0810	99	.02	.01	.01	3.	*	1	2015	244	.01	.00	.01	4.
1	0815	100	.02	.01	.01	4.	*	1	2020	245	.01	.00	.01	4.
1	0820	101	.02	.01	.01	4.	*	1	2025	246	.01	.00	.01	4.
1	0825	102	.02	.01	.01	4.	*	1	2030	247	.01	.00	.01	4.
1	0830	103	.02	.01	.01	4.	*	1	2035	248	.01	.00	.01	4.
1	0835	104	.02	.01	.01	4.	*	1	2040	249	.01	.00	.01	4.
1	0840	105	.02	.01	.01	4.	*	1	2045	250	.01	.00	.01	4.
1	0845	106	.02	.01	.01	4.	*	1	2050	251	.01	.00	.01	4.
1	0850	107	.02	.01	.01	4.	*	1	2055	252	.01	.00	.01	4.
1	0855	108	.02	.01	.01	4.	*	1	2100	253	.01	.00	.01	4.
1	0900	109	.02	.01	.01	4.	*	1	2105	254	.01	.00	.01	4.
1	0905	110	.02	.01	.01	4.	*	1	2110	255	.01	.00	.01	4.
1	0910	111	.02	.01	.01	5.	*	1	2115	256	.01	.00	.01	4.
1	0915	112	.02	.01	.01	5.	*	1	2120	257	.01	.00	.01	4.
1	0920	113	.02	.01	.01	5.	*	1	2125	258	.01	.00	.01	4.
1	0925	114	.02	.01	.01	6.	*	1	2130	259	.01	.00	.01	4.
1	0930	115	.02	.01	.01	6.	*	1	2135	260	.01	.00	.01	4.
1	0935	116	.02	.01	.01	6.	*	1	2140	261	.01	.00	.01	4.
1	0940	117	.02	.01	.01	6.	*	1	2145	262	.01	.00	.01	4.
1	0945	118	.02	.01	.01	6.	*	1	2150	263	.01	.00	.01	4.
1	0950	119	.02	.01	.01	6.	*	1	2155	264	.01	.00	.01	4.
1	0955	120	.02	.01	.01	6.	*	1	2200	265	.01	.00	.01	4.
1	1000	121	.02	.01	.02	6.	*	1	2205	266	.01	.00	.01	4.
1	1005	122	.03	.01	.02	6.	*	1	2210	267	.01	.00	.01	4.
1	1010	123	.03	.01	.02	7.	*	1	2215	268	.01	.00	.01	4.
1	1015	124	.03	.01	.02	8.	*	1	2220	269	.01	.00	.01	4.
1	1020	125	.03	.01	.02	8.	*	1	2225	270	.01	.00	.01	4.
1	1025	126	.03	.01	.02	8.	*	1	2230	271	.01	.00	.01	3.
1	1030	127	.03	.01	.02	9.	*	1	2235	272	.01	.00	.01	3.
1	1035	128	.03	.01	.02	9.	*	1	2240	273	.01	.00	.01	3.
1	1040	129	.03	.01	.02	9.	*	1	2245	274	.01	.00	.01	3.
1	1045	130	.03	.01	.02	9.	*	1	2250	275	.01	.00	.01	3.
1	1050	131	.03	.01	.02	9.	*	1	2255	276	.01	.00	.01	3.
1	1055	132	.03	.01	.02	9.	*	1	2300	277	.01	.00	.01	3.
1	1100	133	.03	.01	.02	9.	*	1	2305	278	.01	.00	.01	3.
1	1105	134	.17	.03	.14	12.	*	1	2310	279	.01	.00	.01	3.
1	1110	135	.17	.03	.14	23.	*	1	2315	280	.01	.00	.01	3.
1	1115	136	.17	.02	.15	35.	*	1	2320	281	.01	.00	.01	3.
1	1120	137	.17	.02	.15	46.	*	1	2325	282	.01	.00	.01	3.
1	1125	138	.17	.02	.15	53.	*	1	2330	283	.01	.00	.01	3.
1	1130	139	.17	.02	.15	57.	*	1	2335	284	.01	.00	.01	3.
1	1135	140	.17	.02	.16	59.	*	1	2340	285	.01	.00	.01	3.
1	1140	141	.17	.01	.16	61.	*	1	2345	286	.01	.00	.01	3.
1	1145	142	.17	.01	.16	63.	*	1	2350	287	.01	.00	.01	3.
1	1150	143	.17	.01	.16	64.	*	1	2355	288	.01	.00	.01	3.
1	1155	144	.17	.01	.16	64.	*	2	0000	289	.01	.00	.01	3.
1	1200	145	.17	.01	.16	65.	*							
							*							

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	PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.00-HR
+	(CFS)	(HR)					
			(CFS)				
+	70.	13.00		29.	9.	9.	9.
			(INCHES)	5.040	6.586	6.586	6.586
			(AC-FT)	14.	19.	19.	19.

CUMULATIVE AREA = .05 SQ MI

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          *             *
27 KK     *   COMBINE   *
          *             *
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COMBINE PREVIOUS 2 HYDROGRAPHS

29 HC HYDROGRAPH COMBINATION

ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION COMBINE
SUM OF 2 HYDROGRAPHS

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	1.	1		0605	74	3.	1		1210	147	89.	1		1815	220	11.
1		0005	2	1.	1		0610	75	3.	1		1215	148	91.	1		1820	221	11.
1		0010	3	1.	1		0615	76	3.	1		1220	149	92.	1		1825	222	11.
1		0015	4	1.	1		0620	77	3.	1		1225	150	94.	1		1830	223	11.
1		0020	5	1.	1		0625	78	3.	1		1230	151	95.	1		1835	224	11.
1		0025	6	1.	1		0630	79	3.	1		1235	152	97.	1		1840	225	11.
1		0030	7	1.	1		0635	80	3.	1		1240	153	98.	1		1845	226	10.
1		0035	8	1.	1		0640	81	3.	1		1245	154	99.	1		1850	227	10.
1		0040	9	1.	1		0645	82	4.	1		1250	155	100.	1		1855	228	10.
1		0045	10	1.	1		0650	83	4.	1		1255	156	101.	1		1900	229	10.
1		0050	11	1.	1		0655	84	4.	1		1300	157	102.	1		1905	230	10.
1		0055	12	1.	1		0700	85	4.	1		1305	158	99.	1		1910	231	10.
1		0100	13	1.	1		0705	86	4.	1		1310	159	88.	1		1915	232	10.
1		0105	14	1.	1		0710	87	4.	1		1315	160	74.	1		1920	233	9.
1		0110	15	1.	1		0715	88	4.	1		1320	161	61.	1		1925	234	9.
1		0115	16	1.	1		0720	89	4.	1		1325	162	54.	1		1930	235	9.
1		0120	17	1.	1		0725	90	4.	1		1330	163	50.	1		1935	236	9.
1		0125	18	1.	1		0730	91	4.	1		1335	164	47.	1		1940	237	9.
1		0130	19	1.	1		0735	92	4.	1		1340	165	44.	1		1945	238	9.
1		0135	20	1.	1		0740	93	4.	1		1345	166	43.	1		1950	239	9.
1		0140	21	1.	1		0745	94	4.	1		1350	167	42.	1		1955	240	9.
1		0145	22	1.	1		0750	95	4.	1		1355	168	41.	1		2000	241	9.
1		0150	23	1.	1		0755	96	4.	1		1400	169	40.	1		2005	242	8.
1		0155	24	1.	1		0800	97	4.	1		1405	170	39.	1		2010	243	8.
1		0200	25	1.	1		0805	98	5.	1		1410	171	37.	1		2015	244	8.
1		0205	26	1.	1		0810	99	5.	1		1415	172	36.	1		2020	245	8.

1	0220	29	1.	*	1	0825	102	6.	*	1	1430	175	32.	*	1	2035	248	8.		
1	0225	30	1.	*	1	0830	103	6.	*	1	1435	176	32.	*	1	2040	249	8.		
1	0230	31	1.	*	1	0835	104	6.	*	1	1440	177	31.	*	1	2045	250	8.		
1	0235	32	1.	*	1	0840	105	6.	*	1	1445	178	30.	*	1	2050	251	8.		
1	0240	33	1.	*	1	0845	106	6.	*	1	1450	179	29.	*	1	2055	252	8.		
1	0245	34	1.	*	1	0850	107	6.	*	1	1455	180	29.	*	1	2100	253	8.		
1	0250	35	1.	*	1	0855	108	6.	*	1	1500	181	28.	*	1	2105	254	8.		
1	0255	36	1.	*	1	0900	109	6.	*	1	1505	182	27.	*	1	2110	255	8.		
1	0300	37	1.	*	1	0905	110	7.	*	1	1510	183	26.	*	1	2115	256	8.		
1	0305	38	1.	*	1	0910	111	7.	*	1	1515	184	25.	*	1	2120	257	7.		
1	0310	39	1.	*	1	0915	112	7.	*	1	1520	185	24.	*	1	2125	258	7.		
1	0315	40	1.	*	1	0920	113	8.	*	1	1525	186	23.	*	1	2130	259	7.		
1	0320	41	1.	*	1	0925	114	8.	*	1	1530	187	23.	*	1	2135	260	7.		
1	0325	42	1.	*	1	0930	115	8.	*	1	1535	188	22.	*	1	2140	261	7.		
1	0330	43	1.	*	1	0935	116	8.	*	1	1540	189	22.	*	1	2145	262	7.		
1	0335	44	1.	*	1	0940	117	8.	*	1	1545	190	21.	*	1	2150	263	7.		
1	0340	45	1.	*	1	0945	118	8.	*	1	1550	191	21.	*	1	2155	264	7.		
1	0345	46	1.	*	1	0950	119	9.	*	1	1555	192	20.	*	1	2200	265	7.		
1	0350	47	1.	*	1	0955	120	9.	*	1	1600	193	20.	*	1	2205	266	7.		
1	0355	48	1.	*	1	1000	121	9.	*	1	1605	194	19.	*	1	2210	267	7.		
1	0400	49	1.	*	1	1005	122	9.	*	1	1610	195	19.	*	1	2215	268	7.		
1	0405	50	2.	*	1	1010	123	10.	*	1	1615	196	18.	*	1	2220	269	7.		
1	0410	51	2.	*	1	1015	124	11.	*	1	1620	197	17.	*	1	2225	270	7.		
1	0415	52	2.	*	1	1020	125	11.	*	1	1625	198	17.	*	1	2230	271	7.		
1	0420	53	2.	*	1	1025	126	12.	*	1	1630	199	16.	*	1	2235	272	7.		
1	0425	54	2.	*	1	1030	127	12.	*	1	1635	200	16.	*	1	2240	273	7.		
1	0430	55	2.	*	1	1035	128	12.	*	1	1640	201	15.	*	1	2245	274	7.		
1	0435	56	2.	*	1	1040	129	13.	*	1	1645	202	15.	*	1	2250	275	7.		
1	0440	57	2.	*	1	1045	130	13.	*	1	1650	203	15.	*	1	2255	276	7.		
1	0445	58	2.	*	1	1050	131	13.	*	1	1655	204	15.	*	1	2300	277	7.		
1	0450	59	2.	*	1	1055	132	13.	*	1	1700	205	14.	*	1	2305	278	6.		
1	0455	60	2.	*	1	1100	133	13.	*	1	1705	206	14.	*	1	2310	279	6.		
1	0500	61	2.	*	1	1105	134	17.	*	1	1710	207	14.	*	1	2315	280	6.		
1	0505	62	2.	*	1	1110	135	27.	*	1	1715	208	14.	*	1	2320	281	6.		
1	0510	63	2.	*	1	1115	136	41.	*	1	1720	209	13.	*	1	2325	282	6.		
1	0515	64	2.	*	1	1120	137	52.	*	1	1725	210	13.	*	1	2330	283	6.		
1	0520	65	2.	*	1	1125	138	60.	*	1	1730	211	13.	*	1	2335	284	6.		
1	0525	66	2.	*	1	1130	139	66.	*	1	1735	212	13.	*	1	2340	285	6.		
1	0530	67	3.	*	1	1135	140	70.	*	1	1740	213	13.	*	1	2345	286	6.		
1	0535	68	3.	*	1	1140	141	74.	*	1	1745	214	13.	*	1	2350	287	6.		
1	0540	69	3.	*	1	1145	142	78.	*	1	1750	215	12.	*	1	2355	288	6.		
1	0545	70	3.	*	1	1150	143	80.	*	1	1755	216	12.	*	2	0000	289	6.		
1	0550	71	3.	*	1	1155	144	83.	*	1	1800	217	12.	*						
1	0555	72	3.	*	1	1200	145	85.	*	1	1805	218	12.	*						
1	0600	73	3.	*	1	1205	146	87.	*	1	1810	219	12.	*						
				*					*					*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.00-HR
+ (CFS)	(HR)					
		(CFS)				
+ 102.	13.00		48.	16.	16.	16.
		(INCHES)	4.854	6.599	6.599	6.599
		(AC-FT)	24.	32.	32.	32.

CUMULATIVE AREA = .09 SQ MI

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30 KK      *   POND-2  *
           *           *
           *************
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HYDROGRAPH ROUTING DATA

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31 RS         STORAGE ROUTING
                   NSTPS          1  NUMBER OF SUBREACHES
                    ITYP       ELEV  TYPE OF INITIAL CONDITION
                  RSVRIC    1343.00  INITIAL CONDITION
                       X        .00  WORKING R AND D COEFFICIENT

32 SA               AREA        2.2       3.0

33 SE          ELEVATION    1343.00   1348.00

34 SQ          DISCHARGE         2.        9.       19.       31.       46.       62.

35 SE          ELEVATION    1343.00   1344.00   1345.00   1346.00   1347.00   1348.00
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COMPUTED STORAGE-ELEVATION DATA

STORAGE	.00	12.96
ELEVATION	1343.00	1348.00

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	2.24	4.65	7.24	10.01	12.96
OUTFLOW	2.00	9.00	19.00	31.00	46.00	62.00
ELEVATION	1343.00	1344.00	1345.00	1346.00	1347.00	1348.00

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HYDROGRAPH AT STATION POND-2

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	2.	.0	1343.0	*	1		0805	98	3.	.3	1343.1	*	1		1610	195	35.	8.0	1346.3
1		0005	2	2.	.0	1343.0	*	1		0810	99	3.	.3	1343.1	*	1		1615	196	35.	7.9	1346.2
1		0010	3	2.	.0	1343.0	*	1		0815	100	3.	.3	1343.1	*	1		1620	197	34.	7.8	1346.2
1		0015	4	2.	.0	1343.0	*	1		0820	101	3.	.3	1343.1	*	1		1625	198	33.	7.7	1346.2
1		0020	5	2.	.0	1343.0	*	1		0825	102	3.	.3	1343.1	*	1		1630	199	33.	7.6	1346.1
1		0025	6	2.	.0	1343.0	*	1		0830	103	3.	.3	1343.2	*	1		1635	200	32.	7.4	1346.1
1		0030	7	2.	.0	1343.0	*	1		0835	104	3.	.4	1343.2	*	1		1640	201	31.	7.3	1346.0
1		0035	8	2.	.0	1343.0	*	1		0840	105	3.	.4	1343.2	*	1		1645	202	31.	7.2	1346.0
1		0040	9	2.	.0	1343.0	*	1		0845	106	3.	.4	1343.2	*	1		1650	203	30.	7.1	1346.0
1		0045	10	2.	.0	1343.0	*	1		0850	107	3.	.4	1343.2	*	1		1655	204	30.	7.0	1345.9
1		0050	11	2.	.0	1343.0	*	1		0855	108	3.	.4	1343.2	*	1		1700	205	29.	6.9	1345.9
1		0055	12	2.	.0	1343.0	*	1		0900	109	3.	.5	1343.2	*	1		1705	206	29.	6.8	1345.8
1		0100	13	2.	.0	1343.0	*	1		0905	110	3.	.5	1343.2	*	1		1710	207	28.	6.7	1345.8
1		0105	14	2.	.0	1343.0	*	1		0910	111	4.	.5	1343.2	*	1		1715	208	28.	6.6	1345.8
1		0110	15	2.	.0	1343.0	*	1		0915	112	4.	.5	1343.2	*	1		1720	209	28.	6.5	1345.7
1		0115	16	2.	.0	1343.0	*	1		0920	113	4.	.6	1343.2	*	1		1725	210	27.	6.4	1345.7
1		0120	17	2.	.0	1343.0	*	1		0925	114	4.	.6	1343.3	*	1		1730	211	27.	6.3	1345.6
1		0125	18	2.	.0	1343.0	*	1		0930	115	4.	.6	1343.3	*	1		1735	212	26.	6.2	1345.6
1		0130	19	2.	.0	1343.0	*	1		0935	116	4.	.6	1343.3	*	1		1740	213	26.	6.1	1345.6
1		0135	20	2.	.0	1343.0	*	1		0940	117	4.	.7	1343.3	*	1		1745	214	25.	6.0	1345.5
1		0140	21	2.	.0	1343.0	*	1		0945	118	4.	.7	1343.3	*	1		1750	215	25.	5.9	1345.5
1		0145	22	2.	.0	1343.0	*	1		0950	119	4.	.7	1343.3	*	1		1755	216	25.	5.9	1345.5
1		0150	23	2.	.0	1343.0	*	1		0955	120	4.	.8	1343.3	*	1		1800	217	24.	5.8	1345.4

1	0205	26	2.	.0	1343.0	*	1	1010	123	5.	.8	1343.4	*	1	1815	220	23.	5.5	1345.3
1	0210	27	2.	.0	1343.0	*	1	1015	124	5.	.9	1343.4	*	1	1820	221	23.	5.5	1345.3
1	0215	28	2.	.0	1343.0	*	1	1020	125	5.	.9	1343.4	*	1	1825	222	22.	5.4	1345.3
1	0220	29	2.	.0	1343.0	*	1	1025	126	5.	1.0	1343.4	*	1	1830	223	22.	5.3	1345.2
1	0225	30	2.	.0	1343.0	*	1	1030	127	5.	1.0	1343.5	*	1	1835	224	22.	5.2	1345.2
1	0230	31	2.	.0	1343.0	*	1	1035	128	5.	1.1	1343.5	*	1	1840	225	21.	5.1	1345.2
1	0235	32	2.	.0	1343.0	*	1	1040	129	5.	1.1	1343.5	*	1	1845	226	21.	5.1	1345.2
1	0240	33	2.	.0	1343.0	*	1	1045	130	6.	1.2	1343.5	*	1	1850	227	21.	5.0	1345.1
1	0245	34	2.	.0	1343.0	*	1	1050	131	6.	1.2	1343.5	*	1	1855	228	20.	4.9	1345.1
1	0250	35	2.	.0	1343.0	*	1	1055	132	6.	1.3	1343.6	*	1	1900	229	20.	4.9	1345.1
1	0255	36	2.	.0	1343.0	*	1	1100	133	6.	1.3	1343.6	*	1	1905	230	20.	4.8	1345.1
1	0300	37	2.	.0	1343.0	*	1	1105	134	6.	1.4	1343.6	*	1	1910	231	19.	4.7	1345.0
1	0305	38	2.	.0	1343.0	*	1	1110	135	7.	1.5	1343.7	*	1	1915	232	19.	4.7	1345.0
1	0310	39	2.	.0	1343.0	*	1	1115	136	7.	1.7	1343.7	*	1	1920	233	19.	4.6	1345.0
1	0315	40	2.	.0	1343.0	*	1	1120	137	8.	1.9	1343.9	*	1	1925	234	19.	4.5	1345.0
1	0320	41	2.	.0	1343.0	*	1	1125	138	9.	2.3	1344.0	*	1	1930	235	18.	4.5	1344.9
1	0325	42	2.	.0	1343.0	*	1	1130	139	11.	2.6	1344.2	*	1	1935	236	18.	4.4	1344.9
1	0330	43	2.	.0	1343.0	*	1	1135	140	12.	3.0	1344.3	*	1	1940	237	18.	4.3	1344.9
1	0335	44	2.	.0	1343.0	*	1	1140	141	14.	3.4	1344.5	*	1	1945	238	17.	4.3	1344.8
1	0340	45	2.	.0	1343.0	*	1	1145	142	16.	3.8	1344.7	*	1	1950	239	17.	4.2	1344.8
1	0345	46	2.	.0	1343.0	*	1	1150	143	17.	4.3	1344.8	*	1	1955	240	17.	4.2	1344.8
1	0350	47	2.	.0	1343.0	*	1	1155	144	19.	4.7	1345.0	*	1	2000	241	17.	4.1	1344.8
1	0355	48	2.	.0	1343.0	*	1	1200	145	21.	5.2	1345.2	*	1	2005	242	17.	4.1	1344.8
1	0400	49	2.	.0	1343.0	*	1	1205	146	23.	5.6	1345.4	*	1	2010	243	16.	4.0	1344.7
1	0405	50	2.	.0	1343.0	*	1	1210	147	25.	6.0	1345.5	*	1	2015	244	16.	3.9	1344.7
1	0410	51	2.	.0	1343.0	*	1	1215	148	27.	6.5	1345.7	*	1	2020	245	16.	3.9	1344.7
1	0415	52	2.	.0	1343.0	*	1	1220	149	29.	6.9	1345.9	*	1	2025	246	16.	3.8	1344.7
1	0420	53	2.	.0	1343.0	*	1	1225	150	32.	7.3	1346.0	*	1	2030	247	15.	3.8	1344.6
1	0425	54	2.	.0	1343.0	*	1	1230	151	34.	7.8	1346.2	*	1	2035	248	15.	3.7	1344.6
1	0430	55	2.	.0	1343.0	*	1	1235	152	36.	8.2	1346.3	*	1	2040	249	15.	3.7	1344.6
1	0435	56	2.	.0	1343.0	*	1	1240	153	38.	8.6	1346.5	*	1	2045	250	15.	3.6	1344.6
1	0440	57	2.	.0	1343.0	*	1	1245	154	41.	9.0	1346.6	*	1	2050	251	15.	3.6	1344.6
1	0445	58	2.	.0	1343.0	*	1	1250	155	43.	9.4	1346.8	*	1	2055	252	14.	3.5	1344.5
1	0450	59	2.	.0	1343.0	*	1	1255	156	45.	9.8	1346.9	*	1	2100	253	14.	3.5	1344.5
1	0455	60	2.	.0	1343.0	*	1	1300	157	47.	10.2	1347.1	*	1	2105	254	14.	3.5	1344.5
1	0500	61	2.	.0	1343.0	*	1	1305	158	49.	10.5	1347.2	*	1	2110	255	14.	3.4	1344.5
1	0505	62	2.	.0	1343.0	*	1	1310	159	51.	10.8	1347.3	*	1	2115	256	14.	3.4	1344.5
1	0510	63	2.	.0	1343.0	*	1	1315	160	52.	11.0	1347.4	*	1	2120	257	14.	3.3	1344.5
1	0515	64	2.	.0	1343.0	*	1	1320	161	52.	11.2	1347.4	*	1	2125	258	13.	3.3	1344.4
1	0520	65	2.	.0	1343.0	*	1	1325	162	52.	11.2	1347.4	*	1	2130	259	13.	3.2	1344.4
1	0525	66	2.	.0	1343.0	*	1	1330	163	52.	11.2	1347.4	*	1	2135	260	13.	3.2	1344.4
1	0530	67	2.	.0	1343.0	*	1	1335	164	52.	11.2	1347.4	*	1	2140	261	13.	3.2	1344.4
1	0535	68	2.	.0	1343.0	*	1	1340	165	52.	11.1	1347.4	*	1	2145	262	13.	3.1	1344.4
1	0540	69	2.	.0	1343.0	*	1	1345	166	52.	11.1	1347.4	*	1	2150	263	13.	3.1	1344.4
1	0545	70	2.	.0	1343.0	*	1	1350	167	51.	11.0	1347.3	*	1	2155	264	12.	3.1	1344.3
1	0550	71	2.	.0	1343.0	*	1	1355	168	51.	10.9	1347.3	*	1	2200	265	12.	3.0	1344.3
1	0555	72	2.	.0	1343.0	*	1	1400	169	51.	10.9	1347.3	*	1	2205	266	12.	3.0	1344.3
1	0600	73	2.	.0	1343.0	*	1	1405	170	50.	10.8	1347.3	*	1	2210	267	12.	3.0	1344.3
1	0605	74	2.	.0	1343.0	*	1	1410	171	50.	10.7	1347.2	*	1	2215	268	12.	2.9	1344.3
1	0610	75	2.	.0	1343.0	*	1	1415	172	49.	10.6	1347.2	*	1	2220	269	12.	2.9	1344.3
1	0615	76	2.	.1	1343.0	*	1	1420	173	49.	10.5	1347.2	*	1	2225	270	12.	2.9	1344.3
1	0620	77	2.	.1	1343.0	*	1	1425	174	48.	10.4	1347.1	*	1	2230	271	11.	2.8	1344.2
1	0625	78	2.	.1	1343.0	*	1	1430	175	48.	10.3	1347.1	*	1	2235	272	11.	2.8	1344.2
1	0630	79	2.	.1	1343.0	*	1	1435	176	47.	10.2	1347.1	*	1	2240	273	11.	2.8	1344.2
1	0635	80	2.	.1	1343.0	*	1	1440	177	46.	10.1	1347.0	*	1	2245	274	11.	2.7	1344.2
1	0640	81	2.	.1	1343.0	*	1	1445	178	46.	10.0	1347.0	*	1	2250	275	11.	2.7	1344.2
1	0645	82	2.	.1	1343.0	*	1	1450	179	45.	9.9	1347.0	*	1	2255	276	11.	2.7	1344.2
1	0650	83	2.	.1	1343.0	*	1	1455	180	45.	9.8	1346.9	*	1	2300	277	11.	2.6	1344.2
1	0655	84	2.	.1	1343.1	*	1	1500	181	44.	9.7	1346.9	*	1	2305	278	11.	2.6	1344.2
1	0700	85	2.	.1	1343.1	*	1	1505	182	43.	9.5	1346.8	*	1	2310	279	10.	2.6	1344.1
1	0705	86	2.	.1	1343.1	*	1	1510	183	43.	9.4	1346.8	*	1	2315	280	10.	2.6	1344.1
1	0710	87	2.	.1	1343.1	*	1	1515	184	42.	9.3	1346.7	*	1	2320	281	10.	2.5	1344.1
1	0715	88	2.	.2	1343.1	*	1	1520	185	42.	9.2	1346.7	*	1	2325	282	10.	2.5	1344.1
1	0720	89	3.	.2	1343.1	*	1	1525	186	41.	9.1	1346.7	*	1	2330	283	10.	2.5	1344.1

1	0735	92	3.	.2	1343.1	*	1	1540	189	39.	8.7	1346.5	*	1	2345	286	10.	2.4	1344.1
1	0740	93	3.	.2	1343.1	*	1	1545	190	38.	8.6	1346.5	*	1	2350	287	10.	2.4	1344.1
1	0745	94	3.	.2	1343.1	*	1	1550	191	38.	8.5	1346.4	*	1	2355	288	9.	2.4	1344.0
1	0750	95	3.	.2	1343.1	*	1	1555	192	37.	8.4	1346.4	*	2	0000	289	9.	2.3	1344.0
1	0755	96	3.	.2	1343.1	*	1	1600	193	36.	8.2	1346.4	*						
1	0800	97	3.	.3	1343.1	*	1	1605	194	36.	8.1	1346.3	*						
						*							*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.00-HR
+ (CFS)	(HR)					
		(CFS)				
+ 52.	13.42		39.	15.	15.	15.
		(INCHES)	3.961	6.189	6.189	6.189
		(AC-FT)	19.	30.	30.	30.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.00-HR
+ (AC-FT)	(HR)				
11.	13.42	9.	3.	3.	3.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.00-HR
+ (FEET)	(HR)				
1347.40	13.42	1346.50	1344.37	1344.37	1344.37

CUMULATIVE AREA = .09 SQ MI

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	BASIN-A	50.	13.00	21.	7.	7.	.04		
+	ROUTED TO	POND-1	34.	13.25	19.	7.	7.	.04	1348.37	13.25
+	HYDROGRAPH AT	BASIN-B	70.	13.00	29.	9.	9.	.05		
+	2 COMBINED AT	COMBINE	102.	13.00	48.	16.	16.	.09		
+	ROUTED TO	POND-2	52.	13.42	39.	15.	15.	.09	1347.40	13.42

*** NORMAL END OF HEC-1 ***

BAUGHMAN COMPANY, P.A.

Chadsworth 2nd Addition
Storm Water Sewer Analysis

Soil Type : From SCS "Soil Survey of Sedgwick Co, KS"

Type: Fa, M2 } Hydrological Soil Group B

Runoff Factors : From C.O.W. Drainage Manual

Lot size between 1/8 Ac and 1/4 Ac ; Use Average Residental Lots, Type B soil.

$C_2 = 0.48$ $i_2 = 3.83$"/hr (T_c = 15 minutes)

$C_5 = 0.50$ $i_5 = 4.56$"/hr

$C_{100} = 0.64$ $i_{100} = 7.37$"/hr.

Backlot Drainage Factors:

$C_2 = 0.16$ $i_2 = 3.83$ (T_c = 15 minutes)

$C_5 = 0.18$ $i_5 = 4.56$

$C_{100} = 0.37$ $i_{100} = 7.37$

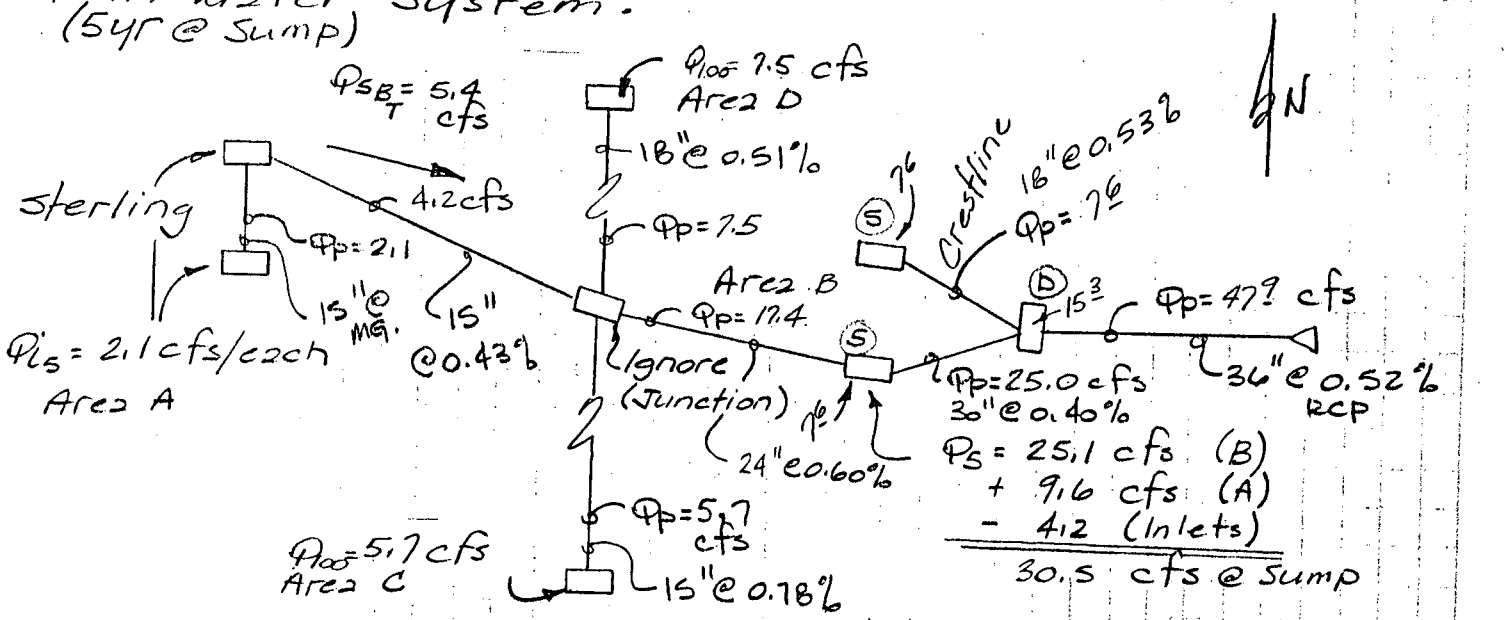
Time of Concentration of 15 minutes used for All S.W.S. Design.

Where 100 yr. Overspill is Available, System Designed for 5 year Storm.

BAUGHMAN COMPANY, P.A.

Basin	Area (Ac)	Type	Q_2 (cfs)	Q_5 (cfs)	Q_{100} (cfs)
A	4.2	Res*	7.7	9.6	19.8
B	11.0	Res	20.2	25.1	51.9
C	2.1	B.L.*	1.3	1.7	5.7
D	2.75	B.L.	1.7	2.3	7.5

Storm Water System:
(5yr @ Sump)



Q_S = 25.1 cfs (B)
+ 9.6 cfs (A)
- 4.2 (Inlets)
30.5 cfs @ Sump

* Res = Residential Developed
* B.L. = Back lot Developed

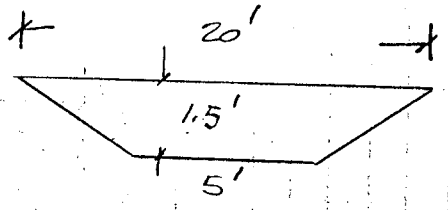
Inlet Capacity @ T.C = 8.2 cfs

Use 2 single : 1 Double
Better than 5yr Capacity.

Total Basin Q_{100} = 84.9 cfs

-5yr in SWS System = -47.9 cfs
(100yr for Back lots)

= 37.0 cfs Overspill Through Esmt.



Area = 16.75 ft²
WP = 20.3
n = 0.03
s = 0.005

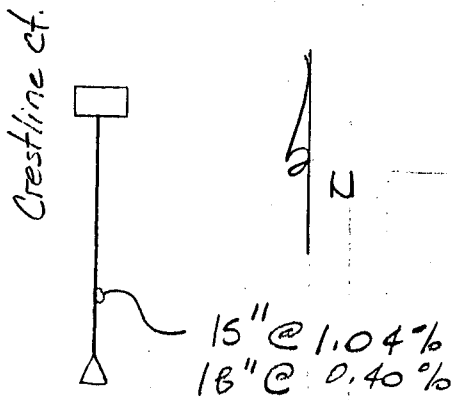
Overspill Swale

$$V = \frac{1.49}{0.03}\left(\frac{16.75}{20.3}\right)^{0.67}(0.005)^{1/2} = 3.3 \text{ f/sec}$$

$$Q_{pitch} = 3.3(16.75) = 62.4 \text{ cfs} \quad Cap > 37 \quad \text{O.K.}$$

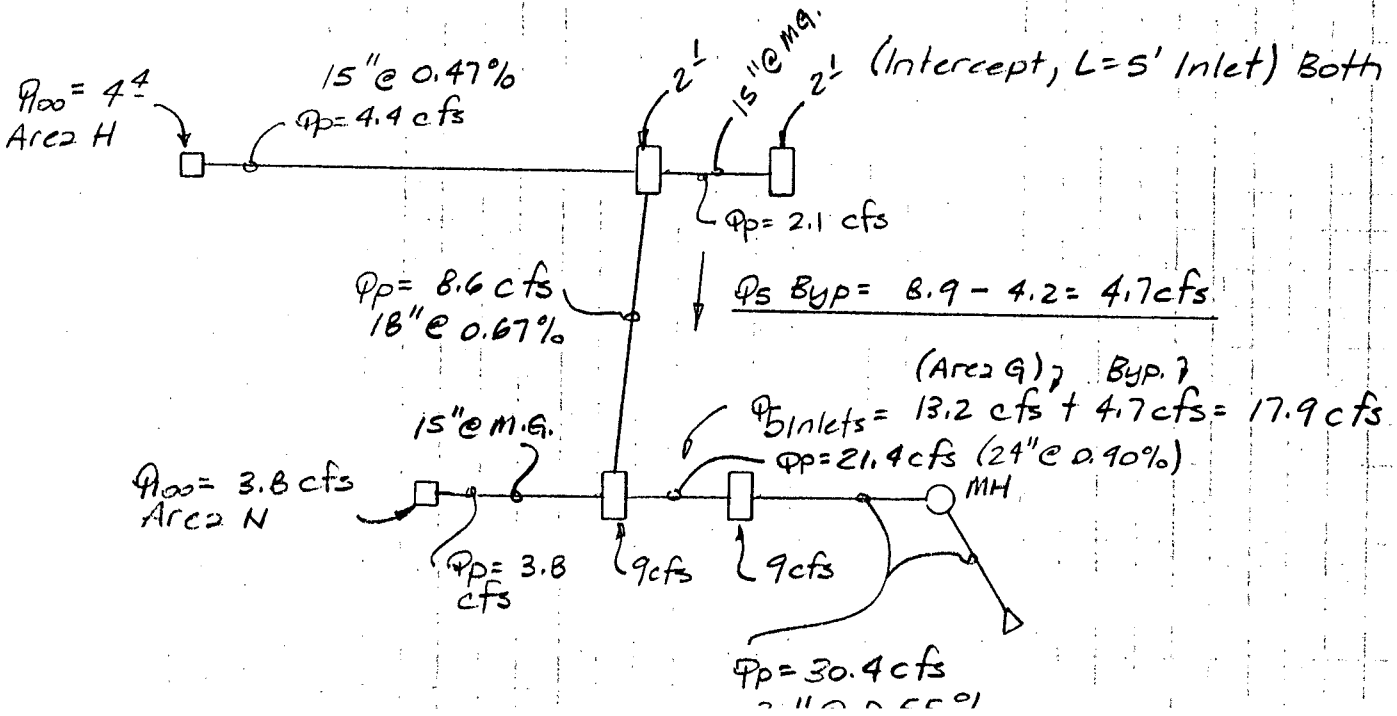
BAUGHMAN COMPANY, P.A.

Basin	Area (AC)	Type	Q_2 (cfs)	Q_5 (cfs)	Q_{100} (cfs)
E	1.4	Res	2.6	3.2	6.6



100yr Sump:
Single Inlet

Basin	Area (Ac)	Type	Q_2 (cfs)	Q_5 (cfs)	Q_{100} (cfs)
F	3.9	Res	7.2	8.9	18.4
G	5.8	Res	10.7	13.2	27.4
H	1.6	B.L.	1.0	1.3	4.4
N	1.4	B.L.	0.9	1.2	3.8



BAUGHMAN COMPANY, P.A.

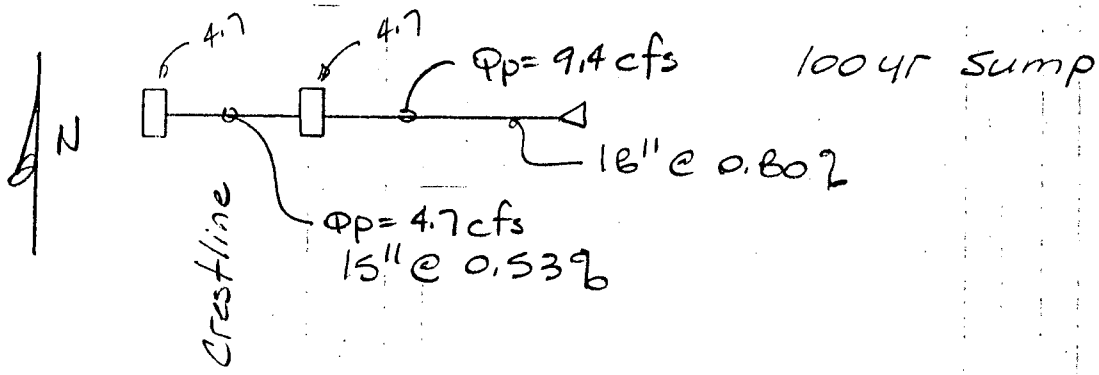
Total System 100 yr = 54.0 cfs

-5yr system capacity = -30.4 cfs
(100yr - Back lots)

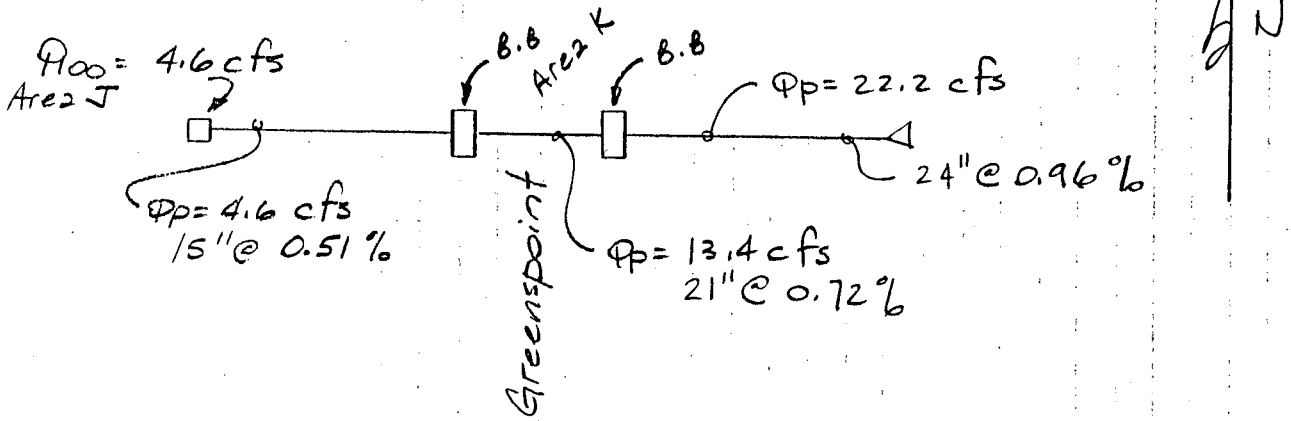
23.6 cfs Bypass through Reserve 100yr - storm

Use Similar Swale As First Basin.

Basin	Area (Ac)	Type	Q_2 (cfs)	Q_5 (cfs)	Q_{100} (cfs)
I	2.0	Res	3.7	4.6	9.4



Basin	Area	Type	Q_2	Q_{100}
J	1.7	B.L.	1.0	4.6
K	3.7	Res	6.8	17.5



BAUGHMAN COMPANY, P.A.

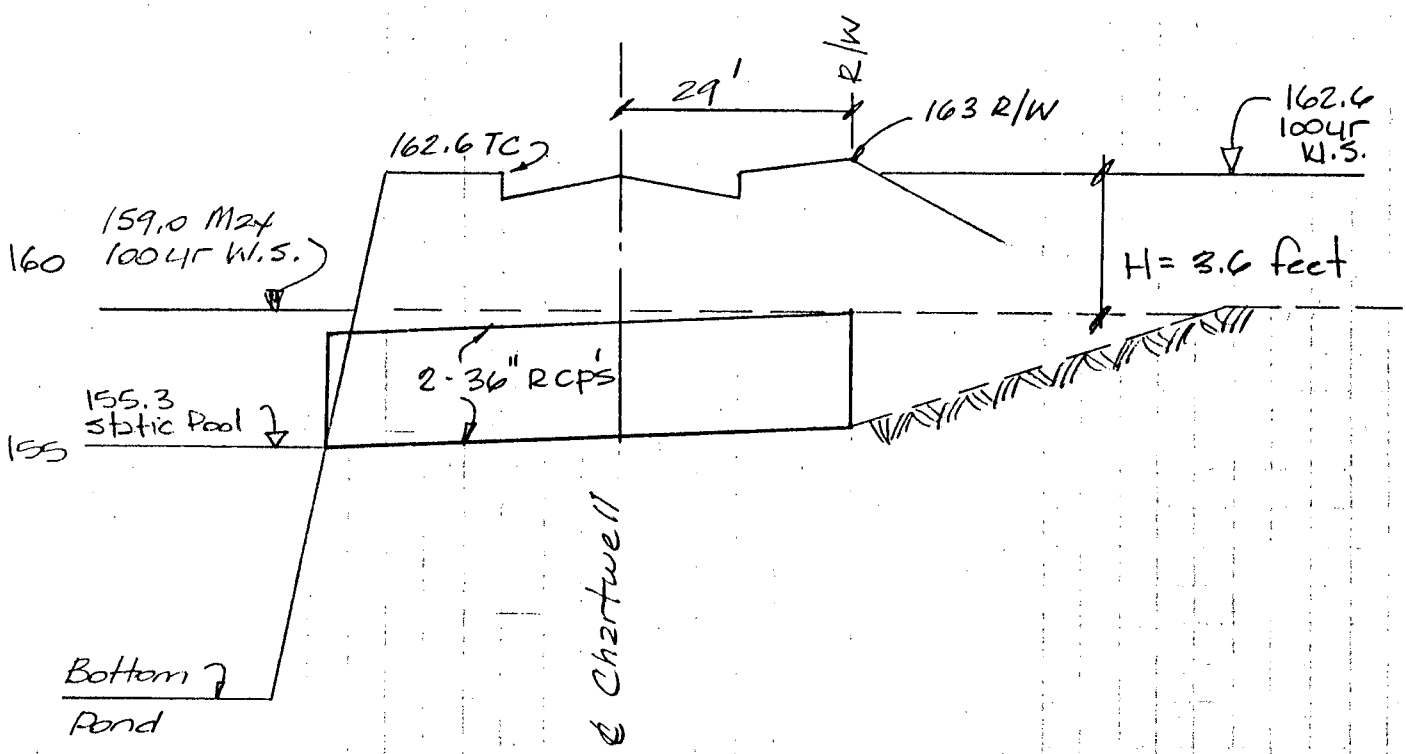
Basin	Area	Type	Q_2	Q_5	Q_{100}
L	4.0	Res	7.4	9.1	18.9
M	4.45	Res	8.2	10.1	21.0
	Totals		15.6	19.2	39.9

This sump @ Chartwell Must Include A pipe under Chartwell that can pass 100 yr overspill from Cadillac Lake, located North of the Chadsworth Plats.

From the 21st. St. North Drainage Plan (Highway Plans), the Box Under 21st. St. North allows A maximum flowrate of 130 cfs to the South under 21st. St. North. The weir structure constructed with the Chadsworth Addition storm water system limits the maximum outflow from the pond (when Completed with this project) to 125 cfs max. Since the RCBC plan included all of the acreage from the Chadsworth Plats in its design, it will be assumed that the peak flow rate of 130 cfs can still be passed by Cadillac Lake after the initial peak from the adjacent areas has been passed through the RCBC.

Therefore, the pipes under Chartwell Street Must be capable of passing 130 cfs @ The stage of Peak discharge from Cadillac Lake. From USGS Quad Sheet, and FEMA Flood Maps, the Peak stage of Cadillac Lake = 1350 MSL, = 162.6 City Datum.

The Cross Pipe will Be designed on the Assumption that the local street Flow Q_{100} of 39.9 cfs has already passed through the pipe. ie: that the time of Concentration of Cadillac Lake is larger than the Tc of the local Drainage Basin.



For Culvert Length = 70 feet
K_e = 0.5
H = 3.6 feet
Flowing Full - outlet Submerged

From: Hydraulic Engg. Circ. # 5, U.S.D.O.T.

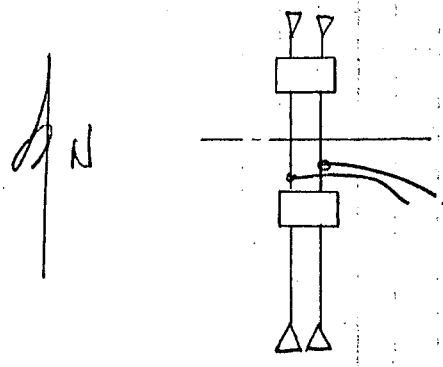
1 pipe capacity = 75 cfs

2 pipes = 150 cfs > 130 cfs O.K.

Use 2-36" R.C.P. Under Chartwell for Overspill.

For sump @ Chartwell, Q_{100} = 39.9 cfs

Two Double Inlets Cap = 4(13 cfs/ea @ R/W Elev) = 52 cfs O.K.



BAUGHMAN COMPANY, P.A.

Detention Pond System Analysis:

Existing Chadsworth Detention Ponds Are Connected W/RCP And Can Act As One Pond. Added storage Due To New Pond areas In Chadsworth 2nd Addition And enlarged Backslopes on Exist. Middle Pond In Chadsworth Addition.

Total Site Analysis:

Total Area Draining To Ponds = Chadsworth Addn (58 Ac) + Chadsworth 2nd Addn (65 Ac)

Total Area = 123 Acres

CN_{Dev} = 87 (Chadsworth Addn. Dng. Plan)

CN_{pond} = 99 for Pond Surface Areas.

Pond Data:

Middle Chad I Pond: @ 155.3 = 2.66 Ac
@ 159.0 = 4.38 Ac

Bottom Chad I Pond To P.L. (West): @ 155.3 = 1.58 Ac
@ 159.0 = 2.08 Ac.

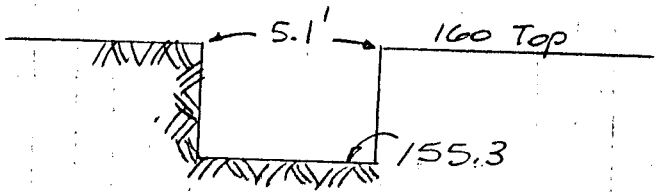
New Chad. II Pond: @ 155.3 = 6.7 Ac
@ 159.0 = 10.6 Ac

Total As One Pond: @ 155.3 = 10.9 Ac } Rounded Down
@ 159.0 = 17.0 Ac }

Outlet Weir:

$Q = CLH^{1.5}$; C = 3.0

Concrete Weir Structure



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Elev	H	Q
155.3	0	0
156	0.7	9
157	1.7	33.9
158	2.7	67.9
159	3.7	109.0

} As Built Weir Rating Information.

Time of Concentration: Tc From Farthest Drop Inlet
Chad. I Engg.

220' grassed Flow @ 0.4 f/sec = 220/0.4(60) = 19.17 m.

Pipe Flow = 1050 feet @ 3 f/sec Avg = 1050/3(60) = 5.8 m.

Pond Flow = 1000 feet @ 1.5 f/sec Avg = 1000/(1.5)(60) = 11.1 m.

Conservative Tc = 36 min
Use 40 min Tc

Lag Time = 0.6 Tc
= 0.6(40) = 24m = 0.40 hrs

CN: Use 100yr Pond Ac @ 99 = 17 Ac (99) = 1683

+ B21 @ 87 = (123-17)(87) = 9222

Σ = 10905/123 = 88.65

Use Composite CN = 89

To HEC-1 Program

BA = 123 Ac = 0.192 sq mi.
CN = 89
Lag = 0.40 hrs

W/ Pond Information And Route

Results: Ponds Max stage = 158.13

Max Q through Weir = 73 cfs

BAUGHMAN COMPANY, P.A.

Pond Summary:

Addition of storage on Detention Ponds in Chadsworth 2nd Addition lowers 100yr Flood Stage to 158.2 (Rounded). 100yr Discharge Rate = 73 cfs.

The 2-36" Pipes Under Chartwell Can Pass more than the RCBC Under 21st. St. North Under 100 yr flood Conditions @ Cadillac Lake. Since the Box Under 21st. Street is the first outlet structure for Cadillac Lake, the Possible Overspill from the lake will not be impeded by Chartwell Street Crossing the Drainage Easement located at the east side of Chadsworth 2nd Addition.

In the worst Condition, Cadillac Lake Could Discharge the 130 cfs that is limited By the 21st. Street Box. Ignoring Storage Capacity of the Ponds, the Weir from the Bottom Chadsworth Pond Can Pass:

159 100yr Pond W.S. Allowed By Platting − 155.3 Static Pool = 3.7 feet of head.

$$Q_{weir} = CLH^{1.5}; = 3.0(5.1)(3.7)^{1.5} = 109 \text{ cfs}$$

Under these Conditions, the ponds in Chadsworth 1 and 2 additions would be in their post peak stage, allowing storage of the additional runoff from the Lake.

City Copy

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FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
****

THIS HEC-1 VERSION CONTAINS ALL OPTIONS EXCEPT ECONOMICS, AND THE NUMBER OF PLANS ARE REDUCED TO 3

1 HEC-1 INPUT PAGE 1

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      LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

*** FREE ***
           1          ID   CHANSWORTH AND CHADSWORTH 2ND ADDITION
           2          ID   100 YR - 24 HR. STORM (ALL DEVELOPED CONDITION)
           3          ID   WITH DETENTION PONDS ACTING AS ONE POND
           4          IT      5       0       0     289

           5          KK BASIN-A
           6          KM   COMPUTING RUNOFF HYDROGRAPH FOR THE AREA
           7          KM   WITHIN BOTH ADDITIONS TOTAL TO POND
           8          PB      0
           9          IN     60
          10          IO      4
          11          PC   0.00  0.0585  0.1287   0.126   0.312   0.419   0.566   0.712   0.858   1.053
          12          PC  1.297   1.641   3.705   5.811   6.201   6.503   6.747   6.937   7.108   7.250
          13          PC  7.371   7.487   7.600   7.703   7.800
          14          BA  0.192
          15          LS      0      89       0
          16          UD   0.40

          17          KK  POND-1
          18          RS      1    ELEV   155.3       0
          19          SA   10.9    17.0
          20          SE  155.3   159.0
          21          SQ      1       9      34      68     109
          22          SE  155.3     156     157     158     159
          23          ZZ
```

1

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FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
****

CHANSWORTH AND CHADSWORTH 2ND ADDITION
100 YR - 24 HR. STORM (ALL DEVELOPED CONDITION)
WITH DETENTION PONDS ACTING AS ONE POND

IT HYDROGRAPH TIME DATA

NMIN		5	MINUTES IN COMPUTATION INTERVAL
IDATE	1	0	STARTING DATE
ITIME		0000	STARTING TIME
NQ		289	NUMBER OF HYDROGRAPH ORDINATES
NDDATE	2	0	ENDING DATE

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 24.00 HOURS

ENGLISH UNITS

*** ***

5 KK

****
* *
* BASIN-A *
* *
****

COMPUTING RUNOFF HYDROGRAPH FOR THE AREA
WITHIN BOTH ADDITIONS TOTAL TO POND

10 IO OUTPUT CONTROL VARIABLES

IPRNT	4	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE

9 IN TIME DATA FOR INPUT TIME SERIES

JXMIN		60	TIME INTERVAL IN MINUTES
JXDATE	1	0	STARTING DATE
JXTIME		0	STARTING TIME

SUBBASIN RUNOFF DATA

14 BA SUBBASIN CHARACTERISTICS

TAREA	.19	SUBBASIN AREA

PRECIPITATION DATA

11 PB

STORM	7.80	BASIN TOTAL PRECIPITATION

11 PI INCREMENTAL PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
.03	.03	.17	.17	.17	.17	.17	.17	.17	.17
.17	.17	.17	.17	.18	.18	.18	.18	.18	.18
.18	.18	.18	.18	.18	.18	.03	.03	.03	.03
.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01

```
                .01       .01       .01       .01       .01       .01       .01       .01

 15 LS        SCS LOSS RATE
                  STRTL       .25  INITIAL ABSTRACTION
                 CRVNBR     89.00  CURVE NUMBER
                  RTIMP       .00  PERCENT IMPERVIOUS AREA

 16 UD        SCS DIMENSIONLESS UNITGRAPH
                   TLAG       .40  LAG

                                          ***

                                      UNIT HYDROGRAPH
                                  26 END-OF-PERIOD ORDINATES
            19.       59.      125.      185.      209.      204.      177.      141.       97.       71.
            53.       39.       29.       21.       15.       11.        8.        6.        5.        3.
             2.        2.        1.        1.        1.        0.

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


          ***************
          *             *
 17 KK    *   POND-1    *
          *             *
          ***************

             HYDROGRAPH ROUTING DATA

 18 RS        STORAGE ROUTING
                  NSTPS          1  NUMBER OF SUBREACHES
                   ITYP       ELEV  TYPE OF INITIAL CONDITION
                  RSVRIC     155.30  INITIAL CONDITION
                       X        .00 WORKING R AND D COEFFICIENT

 19 SA              AREA       10.9      17.0

 20 SE        ELEVATION      155.30    159.00

 21 SQ        DISCHARGE          1.        9.       34.       68.      109.

 22 SE        ELEVATION      155.30    156.00    157.00    158.00    159.00

                                          ***

                                COMPUTED STORAGE-ELEVATION DATA

          STORAGE        .00     51.20
        ELEVATION     155.30    159.00

                             COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      7.99     20.73     35.10     51.20
          OUTFLOW       1.00      9.00     34.00     68.00    109.00
        ELEVATION     155.30    156.00    157.00    158.00    159.00
1
                                        RUNOFF SUMMARY
                                  FLOW IN CUBIC FEET PER SECOND
                                 TIME IN HOURS,  AREA IN SQUARE MILES

                                  PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
      OPERATION      STATION      FLOW     PEAK                                           AREA      STAGE     MAX STAGE
```

	HYDROGRAPH AT								
+	BASIN-A	248.	13.00	103.	33.	33.	.19		
	ROUTED TO								
+	POND-1	73.	13.83	61.	25.	25.	.19		
+								158.13	13.83

*** NORMAL END OF HEC-1 ***