APPENDIX E

STORMWATER MANAGEMENT AND DRAINAGE

APPENDIX E1
HYDROLOGIC MODELING

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================================================================================
   SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
   S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
   SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
       S   W W   M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
   SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9   =========
                                                          9   9  9   9   # 4313781
        StormWater Management HYdrologic Model            999    999    =========
 ********************************************************************************
 ************************** SWMHYMO Ver/4.05  ***************************
 *********  A single event and continuous hydrologic simulation model  *********
 *********     based on the principles of HYMO and its successors      *********
 *********                  OTTHYMO-83 and OTTHYMO-89.                 *********
 ********************************************************************************
 ********* Distributed by:  J.F. Sabourin and Associates Inc.          *********
 *********                  Ottawa,  Ontario: (613) 836-3884           *********
 *********                  Gatineau, Quebec: (819) 243-6858           *********
 *********                  E-Mail: swmhymo@jfsa.Com                   *********
 ********************************************************************************
 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 +++++++++ Licensed user: McCormick Rankin Corporation                +++++++++
 +++++++++                Kitchener             SERIAL#:4313781      +++++++++
 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 ********************************************************************************
 *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++             *********
 *********           Maximum value for ID numbers  :     10            *********
 *********           Max. number of rainfall points: 105408            *********
 *********           Max. number of flow points    : 105408            *********
 ********************************************************************************
**********************   D E T A I L E D   O U T P U T   **********************
 ********************************************************************************
 *         DATE: 2014-11-11     TIME: 13:38:28     RUN COUNTER: 001022          *
 ********************************************************************************
 * Input   filename: C:\SWMHYMO\321208~1\CITYOF~1\Exist.dat                      *
 * Output  filename: C:\SWMHYMO\321208~1\CITYOF~1\Exist.out                      *
 * Summary filename: C:\SWMHYMO\321208~1\CITYOF~1\Exist.sum                      *
 * User comments:                                                               *
 * 1:_____________________________________________________________________________*
 * 2:_____________________________________________________________________________*
 * 3:_____________________________________________________________________________*
 ********************************************************************************
*#*******************************************************************************
*#  Project Name: [Dundas Street Widening EA Phase-3]  Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*******************************************************************************
--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\CITYOF~1\
--------------------  Rainfall dir.: C:\SWMHYMO\321208~1\CITYOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 001
    NSTORM=   1
           #  1=2Ch24h.stm
--------------------
| READ STORM       |    Filename: 2yr Chicago 24 hour, City of Burlington
| Ptotal=  51.78 mm|    Comments: 2yr Chicago 24 hour, City of Burlington
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.17	.520	6.17	1.130	12.17	2.020	18.17	.770
.33	.530	6.33	1.180	12.33	1.910	18.33	.760
.50	.540	6.50	1.220	12.50	1.820	18.50	.750
.67	.540	6.67	1.280	12.67	1.740	18.67	.740
.83	.550	6.83	1.340	12.83	1.670	18.83	.730
1.00	.560	7.00	1.400	13.00	1.610	19.00	.720
1.17	.570	7.17	1.480	13.17	1.540	19.17	.710
1.33	.580	7.33	1.560	13.33	1.490	19.33	.700
1.50	.590	7.50	1.650	13.50	1.440	19.50	.690
1.67	.590	7.67	1.760	13.67	1.390	19.67	.680
1.83	.600	7.83	1.890	13.83	1.350	19.83	.670
2.00	.610	8.00	2.040	14.00	1.310	20.00	.670
2.17	.630	8.17	2.230	14.17	1.270	20.17	.660
2.33	.640	8.33	2.450	14.33	1.230	20.33	.650
2.50	.650	8.50	2.730	14.50	1.200	20.50	.640
2.67	.660	8.67	3.110	14.67	1.170	20.67	.630
2.83	.670	8.83	3.630	14.83	1.140	20.83	.630
3.00	.690	9.00	4.400	15.00	1.110	21.00	.620
3.17	.700	9.17	5.680	15.17	1.080	21.17	.610
3.33	.710	9.33	8.330	15.33	1.060	21.33	.610
3.50	.730	9.50	17.910	15.50	1.040	21.50	.600
3.67	.740	9.67	73.830	15.67	1.010	21.67	.590
3.83	.760	9.83	20.810	15.83	.990	21.83	.590
4.00	.780	10.00	10.920	16.00	.970	22.00	.580
4.17	.800	10.17	7.630	16.17	.950	22.17	.570
4.33	.810	10.33	5.950	16.33	.930	22.33	.570
4.50	.830	10.50	4.930	16.50	.920	22.50	.560
4.67	.860	10.67	4.230	16.67	.900	22.67	.560
4.83	.880	10.83	3.730	16.83	.880	22.83	.550
5.00	.900	11.00	3.340	17.00	.870	23.00	.550
5.17	.930	11.17	3.040	17.17	.850	23.17	.540
5.33	.960	11.33	2.790	17.33	.840	23.33	.540
5.50	.990	11.50	2.580	17.50	.820	23.50	.530
5.67	1.020	11.67	2.410	17.67	.810	23.67	.530
5.83	1.050	11.83	2.260	17.83	.800	23.83	.520
6.00	1.090	12.00	2.130	18.00	.790	24.00	.520

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********************************************************************************
********************** Drainage Area D1 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 01:D1     DT= 5.00 |   Total Imp(%)=   34.00   Dir. Conn.(%)=   34.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .45          .88
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     250.00        15.00
     Mannings n             =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       3.92 (ii)   16.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .24          .07
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .09          .02          .097 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        25.502
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .492
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********************** Drainage Area D2 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=     .92
| 02:D2     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .35          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     175.00        15.00
     Mannings n             =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       3.16 (ii)   15.34 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .27          .07
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .07          .01          .076 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        26.974
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .521
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********************** Drainage Area D3 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.27
| 03:D3     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .86          1.41
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     430.00        15.00
     Mannings n             =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        11.44
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       6.13 (ii)   18.93 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=        .19          .06
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .15          .03          .161 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.92         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        26.974
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .521
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********************** Drainage Area D4 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=     .79
| 04:D4     DT= 5.00 |   Total Imp(%)=   39.00   Dir. Conn.(%)=   39.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .31          .48
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     160.00        15.00
     Mannings n             =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       4.17 (ii)   16.34 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .24          .07
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .06          .01          .064 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        27.342
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .528
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********************** Drainage Area D5 **********************
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| CALIB STANDHYD     |   Area    (ha)=    1.19
| 05:D5     DT= 5.00 |   Total Imp(%)=   37.00   Dir. Conn.(%)=   37.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44          .75
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     205.00        15.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       4.83 (ii)   17.01 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .22          .07
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .08          .02          .090 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        26.606
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .514
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********************** Drainage Area D6 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.07
| 06:D6     DT= 5.00 |   Total Imp(%)=   34.00   Dir. Conn.(%)=   34.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .71
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     195.00        15.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       3.37 (ii)   15.55 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .26          .07
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .07          .02          .080 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        25.502
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .492
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********************** Drainage Area D7 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.06
| 07:D7     DT= 5.00 |   Total Imp(%)=   47.00   Dir. Conn.(%)=   47.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .97         1.09
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        11.44
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       6.55 (ii)   19.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=        .18          .06
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .16          .02          .173 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.92         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        30.285
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .585
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********************** Drainage Area D8 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 08:D8W    DT= 5.00 |   Total Imp(%)=   36.00   Dir. Conn.(%)=   36.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .25          .44
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       5.00         1.00
     Length            (m)=     157.00        15.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.54 (ii)   14.72 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .29          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .05          .01          .056 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        26.238
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .507
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.34
| 09:D8E    DT= 5.00 |   Total Imp(%)=   56.00   Dir. Conn.(%)=   56.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.31         1.03
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     490.00        15.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        11.44
               over (min)       10.00        20.00
     Storage Coeff.  (min)=       8.16 (ii)   20.96 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=        .13          .05
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .18          .02          .193 (iii)
     TIME TO PEAK    (hrs)=       9.75         9.92         9.750
     RUNOFF VOLUME    (mm)=      49.78        12.99        33.596
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .649
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
------------------------
| ADD HYD (D8        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                       ID1 08:D8W           .69      .056    9.67  26.24    .000
                      +ID2 09:D8E          2.34      .193    9.75  33.60    .000

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                       SUM 01:D8           3.03      .237    9.67  31.92    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
*************************************************************
********************** Drainage Area D9 **********************
*************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.18
| 02:D9     DT= 5.00 |   Total Imp(%)=   65.00   Dir. Conn.(%)=   65.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .77          .41
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        11.44
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       5.32 (ii)   18.13 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=        .21          .06
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .14          .01          .142 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.92         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        36.907
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .713
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*************************************************************
********************** Drainage Area D10 **********************
*************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .66
| 03:D10    DT= 5.00 |   Total Imp(%)=   48.00   Dir. Conn.(%)=   48.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .32          .34
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     150.00        15.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       3.26 (ii)   15.43 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .27          .07
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .06          .01          .067 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        30.653
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .592
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
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     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********************** Drainage Area D11 **********************
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---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.48
| 04:D11W   DT= 5.00 |   Total Imp(%)=   46.00   Dir. Conn.(%)=   46.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.14         1.34
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     500.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        11.44
               over (min)       10.00        20.00
     Storage Coeff.  (min)=       8.26 (ii)   21.06 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=        .13          .05
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .16          .02          .173 (iii)
     TIME TO PEAK    (hrs)=       9.75         9.92         9.750
     RUNOFF VOLUME    (mm)=      49.78        12.99        29.917
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .578
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.70
| 05:D11E   DT= 5.00 |   Total Imp(%)=   52.00   Dir. Conn.(%)=   52.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40         1.30
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     480.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        11.44
               over (min)       10.00        20.00
     Storage Coeff.  (min)=       8.06 (ii)   20.86 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=        .13          .05
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .20          .02          .210 (iii)
     TIME TO PEAK    (hrs)=       9.75         9.92         9.750
     RUNOFF VOLUME    (mm)=      49.78        12.99        32.124
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .620
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (D11       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 04:D11W           2.48      .173    9.75  29.92    .000
                   +ID2 05:D11E           2.70      .210    9.75  32.12    .000

============================================================
                    SUM 06:D11            5.18      .383    9.75  31.07    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D12 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.97
| 07:D12W   DT= 5.00 |   Total Imp(%)=   50.00   Dir. Conn.(%)=   50.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .99          .99
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     360.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        11.44
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       6.78 (ii)   19.59 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=        .18          .06
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .17          .02          .173 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.92         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        31.389
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .606

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.08
| 08:D12E   DT= 5.00 |   Total Imp(%)=   47.00   Dir. Conn.(%)=   47.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .51          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     186.00        15.00
     Mannings n           =       .015         .300

     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       4.56 (ii)   16.73 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .23          .07
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .10          .01          .102 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        30.285
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .585
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (D12       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 07:D12W           1.97      .173    9.67  31.39    .000
                   +ID2 08:D12E           1.08      .102    9.67  30.28    .000

============================================================
                    SUM 09:D12            3.05      .275    9.67  31.00    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D13 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    3.29
| 01:D13W   DT= 5.00 |   Total Imp(%)=   48.00   Dir. Conn.(%)=   48.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.58         1.71
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     600.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        11.44
               over (min)       10.00        20.00
     Storage Coeff.  (min)=       9.21 (ii)   22.02 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=        .12          .05
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .21          .03          .230 (iii)
     TIME TO PEAK    (hrs)=       9.75         9.92         9.750
     RUNOFF VOLUME    (mm)=      49.78        12.99        30.653
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .592
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .89
| 02:D13E   DT= 5.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   40.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .53
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     170.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       4.32 (ii)   16.49 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .23          .07
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .07          .01          .073 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        27.710
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .535
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (D13       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 01:D13W           3.29      .230    9.75  30.65    .000
                   +ID2 02:D13E            .89      .073    9.67  27.71    .000

============================================================
                    SUM 03:D13            4.18      .284    9.67  30.03    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D17 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.69
| 04:D17    DT= 5.00 |   Total Imp(%)=   44.00   Dir. Conn.(%)=   44.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .74          .95
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        11.44
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       6.55 (ii)   19.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=        .18          .06
                                                    *TOTALS*
```

```
     PEAK FLOW       (cms)=        .13          .02          .134 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.92         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        29.181
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .564
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********************* Drainage Area B-W ********************
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.59
| 05:B-W    DT= 5.00 |   Total Imp(%)=   60.00   Dir. Conn.(%)=   60.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .95          .64
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     290.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        11.44
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       5.95 (ii)   18.76 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=        .19          .06
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .17          .01          .172 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.92         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        35.067
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .677
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
******************** Drainage Area B-E *********************
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.09
| 06:B-E    DT= 5.00 |   Total Imp(%)=   36.00   Dir. Conn.(%)=   36.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .39          .70
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        11.44
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       5.11 (ii)   17.92 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=        .21          .06
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .07          .01          .077 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.92         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        26.238
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .507
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********************* Drainage Area D19 ********************
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .94
| 07:D19    DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .58
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     175.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       4.40 (ii)   16.57 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .23          .07
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .07          .01          .074 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        26.974
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .521
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********************* Drainage Area D20 ********************
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.00
| 08:D20    DT= 5.00 |   Total Imp(%)=   39.00   Dir. Conn.(%)=   39.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .78         1.22
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     350.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        11.44
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       5.41 (ii)   18.22 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=        .20          .06
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .14          .02          .150 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.92         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        27.342
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .528
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
  ** END OF RUN :   1
 ************************************************************************************
```

```
--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\CITYOF~1\
-------------------  Rainfall dir.: C:\SWMHYMO\321208~1\CITYOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 002
    NSTORM=   1
           #  1=5Ch24h.stm
*#**************************************************************************
*#  Project Name: [Dundas Street Widening EA Phase-3]  Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#**************************************************************************
--------------------
| READ STORM       |    Filename: 5yr Chicago 24 hour, City of Burlington
| Ptotal=  66.79 mm|    Comments: 5yr Chicago 24 hour, City of Burlington
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .610 |   6.17   1.360 |  12.17   2.490 |  18.17    .920
              .33    .620 |   6.33   1.420 |  12.33   2.360 |  18.33    .900
              .50    .620 |   6.50   1.480 |  12.50   2.240 |  18.50    .890
              .67    .630 |   6.67   1.540 |  12.67   2.140 |  18.67    .870
              .83    .640 |   6.83   1.620 |  12.83   2.040 |  18.83    .860
             1.00    .650 |   7.00   1.700 |  13.00   1.960 |  19.00    .850
             1.17    .660 |   7.17   1.790 |  13.17   1.880 |  19.17    .840
             1.33    .670 |   7.33   1.900 |  13.33   1.810 |  19.33    .830
             1.50    .680 |   7.50   2.020 |  13.50   1.750 |  19.50    .810
             1.67    .700 |   7.67   2.160 |  13.67   1.690 |  19.67    .800
             1.83    .710 |   7.83   2.330 |  13.83   1.630 |  19.83    .790
             2.00    .720 |   8.00   2.520 |  14.00   1.580 |  20.00    .780
             2.17    .730 |   8.17   2.760 |  14.17   1.530 |  20.17    .770
             2.33    .750 |   8.33   3.060 |  14.33   1.490 |  20.33    .760
             2.50    .760 |   8.50   3.440 |  14.50   1.440 |  20.50    .750
             2.67    .780 |   8.67   3.940 |  14.67   1.410 |  20.67    .740
             2.83    .790 |   8.83   4.640 |  14.83   1.370 |  20.83    .740
             3.00    .810 |   9.00   5.700 |  15.00   1.330 |  21.00    .730
             3.17    .820 |   9.17   7.500 |  15.17   1.300 |  21.17    .720
             3.33    .840 |   9.33  11.300 |  15.33   1.270 |  21.33    .710
             3.50    .860 |   9.50  25.390 |  15.50   1.240 |  21.50    .700
             3.67    .880 |   9.67  98.980 |  15.67   1.210 |  21.67    .690
             3.83    .900 |   9.83  29.660 |  15.83   1.190 |  21.83    .690
             4.00    .920 |  10.00  15.100 |  16.00   1.160 |  22.00    .680
             4.17    .940 |  10.17  10.280 |  16.17   1.140 |  22.17    .670
             4.33    .970 |  10.33   7.880 |  16.33   1.110 |  22.33    .670
             4.50    .990 |  10.50   6.440 |  16.50   1.090 |  22.50    .660
             4.67   1.020 |  10.67   5.470 |  16.67   1.070 |  22.67    .650
             4.83   1.050 |  10.83   4.780 |  16.83   1.050 |  22.83    .640
             5.00   1.080 |  11.00   4.250 |  17.00   1.030 |  23.00    .640
             5.17   1.110 |  11.17   3.840 |  17.17   1.010 |  23.17    .630
             5.33   1.140 |  11.33   3.510 |  17.33    .990 |  23.33    .630
             5.50   1.180 |  11.50   3.230 |  17.50    .980 |  23.50    .620
             5.67   1.220 |  11.67   3.000 |  17.67    .960 |  23.67    .610
             5.83   1.260 |  11.83   2.810 |  17.83    .950 |  23.83    .610
             6.00   1.310 |  12.00   2.640 |  18.00    .930 |  24.00    .600
*****************************************************************
********** Drainage Area D1 **********
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 01:D1     DT= 5.00 |   Total Imp(%)=   34.00   Dir. Conn.(%)=   34.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .45          .88
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     250.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        23.58
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       3.48 (ii)   13.07 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .26          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .12          .04          .141 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        36.062
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT   =        .97          .32          .540
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*****************************************************************
********** Drainage Area D2 **********
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .92
| 02:D2     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .35          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     175.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        29.49
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.81 (ii)   11.58 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .28          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .09          .03          .116 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        37.803
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT   =        .97          .32          .566
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*****************************************************************
********** Drainage Area D3 **********
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.27
| 03:D3     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .86         1.41
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     430.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        23.58
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       5.45 (ii)   15.04 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .20          .07
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .21          .06          .240 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        37.803
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT   =        .97          .32          .566
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*****************************************************************
********** Drainage Area D4 **********
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .79
| 04:D4     DT= 5.00 |   Total Imp(%)=   39.00   Dir. Conn.(%)=   39.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .31          .48
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     160.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        23.58
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       3.71 (ii)   13.30 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .25          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .08          .02          .092 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        38.238
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT   =        .97          .32          .573
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*****************************************************************
********** Drainage Area D5 **********
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.19
| 05:D5     DT= 5.00 |   Total Imp(%)=   37.00   Dir. Conn.(%)=   37.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44          .75
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     205.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        23.58
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       4.30 (ii)   13.89 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .23          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .11          .03          .130 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        37.368
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT   =        .97          .32          .559
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*****************************************************************
********** Drainage Area D6 **********
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.07
| 06:D6     DT= 5.00 |   Total Imp(%)=   34.00   Dir. Conn.(%)=   34.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=        .36          .71
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     195.00        15.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        29.49
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.00 (ii)   11.77 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .28          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .10          .03          .125 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        36.062
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT    =       .97          .32          .540
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D7 **********
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.06
| 07:D7     DT= 5.00 |   Total Imp(%)=   47.00   Dir. Conn.(%)=   47.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .97         1.09
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        23.58
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       5.83 (ii)   15.42 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .20          .07
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .23          .05          .254 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        41.720
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT    =       .97          .32          .625
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D8 **********
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 08:D8W    DT= 5.00 |   Total Imp(%)=   36.00   Dir. Conn.(%)=   36.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .25          .44
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       5.00         1.00
     Length            (m)=     157.00        15.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        29.49
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.26 (ii)   11.03 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .30          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .07          .02          .086 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        36.932
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT    =       .97          .32          .553
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.34
| 09:D8E    DT= 5.00 |   Total Imp(%)=   56.00   Dir. Conn.(%)=   56.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.31         1.03
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     490.00        15.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        23.58
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       7.25 (ii)   16.84 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .17          .07
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .29          .04          .311 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        45.637
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT    =       .97          .32          .683
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------
| ADD HYD (D8       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
---------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 08:D8W            .69     .086    9.67  36.93    .000
                    +ID2 09:D8E           2.34     .311    9.67  45.64    .000

==========================================================
                     SUM 01:D8            3.03     .397    9.67  43.66    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**********************************************************
********** Drainage Area D9 **********
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.18
| 02:D9     DT= 5.00 |   Total Imp(%)=   65.00   Dir. Conn.(%)=   65.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .77          .41
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        23.58
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       4.73 (ii)   14.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .22          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .19          .02          .201 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        49.555
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT    =       .97          .32          .742
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D10 **********
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .66
| 03:D10    DT= 5.00 |   Total Imp(%)=   48.00   Dir. Conn.(%)=   48.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .32          .34
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     150.00        15.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        29.49
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.90 (ii)   11.67 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .28          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .09          .02          .098 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        42.155
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT    =       .97          .32          .631
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D11 **********
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.48
| 04:D11W   DT= 5.00 |   Total Imp(%)=   46.00   Dir. Conn.(%)=   46.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.14         1.34
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     500.00        15.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        23.58
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       7.34 (ii)   16.93 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .17          .07
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .25          .05          .279 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        41.285
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT    =       .97          .32          .618
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.70
| 05:D11E   DT= 5.00 |   Total Imp(%)=   52.00   Dir. Conn.(%)=   52.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40         1.30
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     480.00        15.00
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     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        23.58
               over (min)       5.00        15.00
     Storage Coeff.  (min)=      7.16 (ii)   16.76 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=       .17          .07
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .31          .05          .339 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=     64.79        21.26        43.896
     TOTAL RAINFALL   (mm)=     66.79        66.79        66.788
     RUNOFF COEFFICIENT   =       .97          .32          .657
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (D11       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 04:D11W           2.48      .279    9.67  41.28    .000
                   +ID2 05:D11E           2.70      .339    9.67  43.90    .000

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                    SUM 06:D11            5.18      .618    9.67  42.65    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D12 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.97
| 07:D12W   DT= 5.00 |   Total Imp(%)=   50.00   Dir. Conn.(%)=   50.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .99          .99
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     360.00        15.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        23.58
               over (min)       5.00        15.00
     Storage Coeff.  (min)=      6.03 (ii)   15.62 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=       .19          .07
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .23          .04          .253 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=     64.79        21.26        43.026
     TOTAL RAINFALL   (mm)=     66.79        66.79        66.788
     RUNOFF COEFFICIENT   =       .97          .32          .644
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.08
| 08:D12E   DT= 5.00 |   Total Imp(%)=   47.00   Dir. Conn.(%)=   47.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .51          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     186.00        15.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        23.58
               over (min)       5.00        15.00
     Storage Coeff.  (min)=      4.06 (ii)   13.65 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=       .24          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .13          .03          .144 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=     64.79        21.26        41.720
     TOTAL RAINFALL   (mm)=     66.79        66.79        66.788
     RUNOFF COEFFICIENT   =       .97          .32          .625
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (D12       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 07:D12W           1.97      .253    9.67  43.03    .000
                   +ID2 08:D12E           1.08      .144    9.67  41.72    .000

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                    SUM 09:D12            3.05      .397    9.67  42.56    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D13 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    3.29
| 01:D13W   DT= 5.00 |   Total Imp(%)=   48.00   Dir. Conn.(%)=   48.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.58         1.71
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     600.00        15.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        20.79
               over (min)      10.00        20.00
     Storage Coeff.  (min)=      8.19 (ii)   18.28 (ii)
     Unit Hyd. Tpeak (min)=     10.00        20.00
     Unit Hyd. peak  (cms)=       .13          .06
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .30          .06          .336 (iii)
     TIME TO PEAK    (hrs)=      9.75         9.92         9.750
     RUNOFF VOLUME    (mm)=     64.79        21.26        42.155
     TOTAL RAINFALL   (mm)=     66.79        66.79        66.788
     RUNOFF COEFFICIENT   =       .97          .32          .631
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .89
| 02:D13E   DT= 5.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   40.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .53
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     170.00        15.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        23.58
               over (min)       5.00        15.00
     Storage Coeff.  (min)=      3.84 (ii)   13.43 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=       .25          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .09          .02          .105 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=     64.79        21.26        38.673
     TOTAL RAINFALL   (mm)=     66.79        66.79        66.788
     RUNOFF COEFFICIENT   =       .97          .32          .579
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (D13       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 01:D13W           3.29      .336    9.75  42.16    .000
                   +ID2 02:D13E            .89      .105    9.67  38.67    .000

============================================================
                    SUM 03:D13            4.18      .414    9.67  41.41    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D17 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.69
| 04:D17    DT= 5.00 |   Total Imp(%)=   44.00   Dir. Conn.(%)=   44.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .74          .95
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        23.58
               over (min)       5.00        15.00
     Storage Coeff.  (min)=      5.83 (ii)   15.42 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=       .20          .07
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .18          .04          .197 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=     64.79        21.26        40.414
     TOTAL RAINFALL   (mm)=     66.79        66.79        66.788
     RUNOFF COEFFICIENT   =       .97          .32          .605
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area B-W **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.59
| 05:B-W    DT= 5.00 |   Total Imp(%)=   60.00   Dir. Conn.(%)=   60.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .95          .64
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     290.00        15.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        23.58
               over (min)       5.00        15.00
     Storage Coeff.  (min)=      5.29 (ii)   14.89 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=       .21          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .23          .03          .246 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=     64.79        21.26        47.378
     TOTAL RAINFALL   (mm)=     66.79        66.79        66.788
     RUNOFF COEFFICIENT   =       .97          .32          .709
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area B-E **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.09
| 06:B-E    DT= 5.00 |   Total Imp(%)=   36.00   Dir. Conn.(%)=   36.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .39          .70
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        23.58
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       4.55 (ii)   14.14 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .23          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .10          .03          .115 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        36.932
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT   =        .97          .32          .553
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area D19 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=     .94
| 07:D19    DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .58
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     175.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        23.58
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       3.91 (ii)   13.50 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .25          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .09          .03          .107 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        37.803
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT   =        .97          .32          .566
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area D20 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.00
| 08:D20    DT= 5.00 |   Total Imp(%)=   39.00   Dir. Conn.(%)=   39.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .78         1.22
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     350.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        23.58
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       4.81 (ii)   14.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .22          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .19          .05          .222 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        38.238
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT   =        .97          .32          .573
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
  ** END OF RUN :   2
************************************************************************
----------------------
| START              |  Project  dir.: C:\SWMHYMO\321208~1\CITYOF~1\
----------------------  Rainfall dir.: C:\SWMHYMO\321208~1\CITYOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 003
    NSTORM=   1
           #  1=10Ch24h.stm
*#************************************************************************
*#  Project Name: [Dundas Street Widening EA Phase-3]  Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#************************************************************************
----------------------
| READ STORM         |    Filename: 10yr Chicago 24 hour, City of Burlington
| Ptotal=  76.77 mm|    Comments: 10yr Chicago 24 hour, City of Burlington
----------------------
              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
               .17    .650 |   6.17   1.500 |  12.17   2.790 |  18.17   1.000
               .33    .660 |   6.33   1.560 |  12.33   2.640 |  18.33    .980
               .50    .670 |   6.50   1.630 |  12.50   2.500 |  18.50    .970
               .67    .680 |   6.67   1.700 |  12.67   2.380 |  18.67    .950
               .83    .690 |   6.83   1.790 |  12.83   2.280 |  18.83    .940
              1.00    .710 |   7.00   1.880 |  13.00   2.180 |  19.00    .920
              1.17    .720 |   7.17   1.990 |  13.17   2.090 |  19.17    .910
              1.33    .730 |   7.33   2.110 |  13.33   2.010 |  19.33    .900
              1.50    .740 |   7.50   2.250 |  13.50   1.940 |  19.50    .880
              1.67    .750 |   7.67   2.410 |  13.67   1.870 |  19.67    .870
              1.83    .770 |   7.83   2.600 |  13.83   1.800 |  19.83    .860
              2.00    .780 |   8.00   2.830 |  14.00   1.750 |  20.00    .850
              2.17    .790 |   8.17   3.110 |  14.17   1.690 |  20.17    .840
              2.33    .810 |   8.33   3.460 |  14.33   1.640 |  20.33    .830
              2.50    .820 |   8.50   3.900 |  14.50   1.590 |  20.50    .820
              2.67    .840 |   8.67   4.490 |  14.67   1.550 |  20.67    .810
              2.83    .860 |   8.83   5.330 |  14.83   1.510 |  20.83    .800
              3.00    .880 |   9.00   6.600 |  15.00   1.470 |  21.00    .790
              3.17    .890 |   9.17   8.800 |  15.17   1.430 |  21.17    .780
              3.33    .910 |   9.33  13.500 |  15.33   1.390 |  21.33    .770
              3.50    .930 |   9.50  30.990 |  15.50   1.360 |  21.50    .760
              3.67    .950 |   9.67 114.810 |  15.67   1.330 |  21.67    .750
              3.83    .980 |   9.83  36.270 |  15.83   1.300 |  21.83    .740
              4.00   1.000 |  10.00  18.230 |  16.00   1.270 |  22.00    .730
              4.17   1.030 |  10.17  12.230 |  16.17   1.240 |  22.17    .730
              4.33   1.050 |  10.33   9.270 |  16.33   1.220 |  22.33    .720
              4.50   1.080 |  10.50   7.500 |  16.50   1.190 |  22.50    .710
              4.67   1.110 |  10.67   6.330 |  16.67   1.170 |  22.67    .700
              4.83   1.140 |  10.83   5.490 |  16.83   1.150 |  22.83    .700
              5.00   1.180 |  11.00   4.870 |  17.00   1.130 |  23.00    .690
              5.17   1.210 |  11.17   4.380 |  17.17   1.110 |  23.17    .680
              5.33   1.250 |  11.33   3.980 |  17.33   1.090 |  23.33    .680
              5.50   1.290 |  11.50   3.660 |  17.50   1.070 |  23.50    .670
              5.67   1.340 |  11.67   3.390 |  17.67   1.050 |  23.67    .660
              5.83   1.390 |  11.83   3.160 |  17.83   1.030 |  23.83    .660
              6.00   1.440 |  12.00   2.960 |  18.00   1.010 |  24.00    .650
************************************************************
********************** Drainage Area D1 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 01:D1     DT= 5.00 |   Total Imp(%)=   34.00   Dir. Conn.(%)=   34.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .45          .88
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     250.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.28 (ii)   11.10 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .27          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .14          .06          .187 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        43.512
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .567
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area D2 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .92
| 02:D2     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .35          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     175.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.65 (ii)   10.46 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .29          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .11          .04          .142 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
```

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     RUNOFF VOLUME    (mm)=      74.77        27.41         45.406
     TOTAL RAINFALL   (mm)=      76.77        76.77         76.767
     RUNOFF COEFFICIENT   =        .97          .36           .591
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D3 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.27
| 03:D3     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .86         1.41
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     430.00        15.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        31.64
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       5.13 (ii)   13.66 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .21          .08
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .25          .08          .292 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41         45.406
     TOTAL RAINFALL   (mm)=      76.77        76.77         76.767
     RUNOFF COEFFICIENT   =        .97          .36           .591
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D4 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .79
| 04:D4     DT= 5.00 |   Total Imp(%)=   39.00   Dir. Conn.(%)=   39.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .31          .48
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     160.00        15.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.49 (ii)   11.31 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .26          .10
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .09          .03          .120 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41         45.880
     TOTAL RAINFALL   (mm)=      76.77        76.77         76.767
     RUNOFF COEFFICIENT   =        .97          .36           .598
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D5 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.19
| 05:D5     DT= 5.00 |   Total Imp(%)=   37.00   Dir. Conn.(%)=   37.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44          .75
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     205.00        15.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.05 (ii)   11.87 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .10
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .13          .05          .171 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41         44.933
     TOTAL RAINFALL   (mm)=      76.77        76.77         76.767
     RUNOFF COEFFICIENT   =        .97          .36           .585
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D6 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.07
| 06:D6     DT= 5.00 |   Total Imp(%)=   34.00   Dir. Conn.(%)=   34.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .71
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     195.00        15.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.83 (ii)   10.64 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .28          .11
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .11          .05          .153 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41         43.512
     TOTAL RAINFALL   (mm)=      76.77        76.77         76.767
     RUNOFF COEFFICIENT   =        .97          .36           .567
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D7 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.06
| 07:D7     DT= 5.00 |   Total Imp(%)=   47.00   Dir. Conn.(%)=   47.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .97         1.09
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        31.64
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       5.49 (ii)   14.02 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .20          .08
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .27          .06          .306 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41         49.668
     TOTAL RAINFALL   (mm)=      76.77        76.77         76.767
     RUNOFF COEFFICIENT   =        .97          .36           .647
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D8 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 08:D8W    DT= 5.00 |   Total Imp(%)=   36.00   Dir. Conn.(%)=   36.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .25          .44
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       5.00         1.00
     Length            (m)=     157.00        15.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.13 (ii)    9.94 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .31          .11
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .08          .03          .104 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41         44.459
     TOTAL RAINFALL   (mm)=      76.77        76.77         76.767
     RUNOFF COEFFICIENT   =        .97          .36           .579
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.34
| 09:D8E    DT= 5.00 |   Total Imp(%)=   56.00   Dir. Conn.(%)=   56.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.31         1.03
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     490.00        15.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        31.64
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.84 (ii)   15.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .18          .07
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .34          .06          .375 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41         53.930
     TOTAL RAINFALL   (mm)=      76.77        76.77         76.767
     RUNOFF COEFFICIENT   =        .97          .36           .703
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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------------------------
| ADD HYD (D8        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 08:D8W            .69     .104    9.67  44.46    .000
                    +ID2 09:D8E           2.34     .375    9.67  53.93    .000

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                     SUM 01:D8            3.03     .480    9.67  51.77    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D9 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.18
| 02:D9     DT= 5.00 |   Total Imp(%)=   65.00   Dir. Conn.(%)=   65.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .77          .41
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      2.00         1.00
     Length            (m)=    340.00        15.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    114.81        31.64
               over (min)       5.00        15.00
     Storage Coeff.  (min)=      4.46 (ii)   12.99 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=       .23          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .23          .03          .239 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=     74.77        27.41        58.192
     TOTAL RAINFALL   (mm)=     76.77        76.77        76.767
     RUNOFF COEFFICIENT   =       .97          .36          .758
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D10 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=     .66
| 03:D10    DT= 5.00 |   Total Imp(%)=   48.00   Dir. Conn.(%)=   48.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .32          .34
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      2.00         1.00
     Length            (m)=    150.00        15.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    114.81        39.37
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      2.73 (ii)   10.54 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .29          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .10          .02          .118 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     74.77        27.41        50.142
     TOTAL RAINFALL   (mm)=     76.77        76.77        76.767
     RUNOFF COEFFICIENT   =       .97          .36          .653
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D11 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.48
| 04:D11W   DT= 5.00 |   Total Imp(%)=   46.00   Dir. Conn.(%)=   46.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.14         1.34
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    500.00        15.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    114.81        31.64
               over (min)       5.00        15.00
     Storage Coeff.  (min)=      6.92 (ii)   15.45 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=       .17          .07
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .30          .07          .339 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=     74.77        27.41        49.195
     TOTAL RAINFALL   (mm)=     76.77        76.77        76.767
     RUNOFF COEFFICIENT   =       .97          .36          .641
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.70
| 05:D11E   DT= 5.00 |   Total Imp(%)=   52.00   Dir. Conn.(%)=   52.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.40         1.30
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    480.00        15.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    114.81        31.64
               over (min)       5.00        15.00
     Storage Coeff.  (min)=      6.75 (ii)   15.28 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=       .18          .07
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .37          .07          .410 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=     74.77        27.41        52.036
     TOTAL RAINFALL   (mm)=     76.77        76.77        76.767
     RUNOFF COEFFICIENT   =       .97          .36          .678
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
------------------------
| ADD HYD (D11       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 04:D11W           2.48     .339    9.67  49.19    .000
                    +ID2 05:D11E           2.70     .410    9.67  52.04    .000

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                     SUM 06:D11            5.18     .749    9.67  50.68    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D12 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.97
| 07:D12W   DT= 5.00 |   Total Imp(%)=   50.00   Dir. Conn.(%)=   50.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .99          .99
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    360.00        15.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    114.81        31.64
               over (min)       5.00        15.00
     Storage Coeff.  (min)=      5.68 (ii)   14.21 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=       .20          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .27          .06          .305 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=     74.77        27.41        51.089
     TOTAL RAINFALL   (mm)=     76.77        76.77        76.767
     RUNOFF COEFFICIENT   =       .97          .36          .666
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.08
| 08:D12E   DT= 5.00 |   Total Imp(%)=   47.00   Dir. Conn.(%)=   47.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .51          .57
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    186.00        15.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    114.81        39.37
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      3.82 (ii)   11.64 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .25          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .15          .04          .184 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     74.77        27.41        49.668
     TOTAL RAINFALL   (mm)=     76.77        76.77        76.767
     RUNOFF COEFFICIENT   =       .97          .36          .647
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
------------------------
| ADD HYD (D12       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 07:D12W           1.97     .305    9.67  51.09    .000
                    +ID2 08:D12E           1.08     .184    9.67  49.67    .000

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                     SUM 09:D12            3.05     .488    9.67  50.59    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D13 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    3.29
| 01:D13W   DT= 5.00 |   Total Imp(%)=   48.00   Dir. Conn.(%)=   48.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.58         1.71
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    600.00        15.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    114.81        31.64
               over (min)      10.00        15.00
     Storage Coeff.  (min)=      7.72 (ii)   16.25 (ii)
     Unit Hyd. Tpeak (min)=     10.00        15.00
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     Unit Hyd. peak  (cms)=        .13          .07
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .35          .09          .430 (iii)
     TIME TO PEAK    (hrs)=       9.75         9.83         9.750
     RUNOFF VOLUME    (mm)=      74.77        27.41        50.142
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .653
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .89
| 02:D13E    DT= 5.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   40.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .53
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     170.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.62 (ii)   11.44 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .25          .10
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .11          .04          .137 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        46.354
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .604
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
------------------------
| ADD HYD (D13       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                       ID1 01:D13W          3.29     .430    9.75  50.14    .000
                      +ID2 02:D13E           .89     .137    9.67  46.35    .000

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                       SUM 03:D13           4.18     .527    9.67  49.34    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********** Drainage Area D17 **********
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.69
| 04:D17     DT= 5.00 |   Total Imp(%)=   44.00   Dir. Conn.(%)=   44.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .74          .95
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        31.64
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       5.49 (ii)   14.02 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .20          .08
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .21          .06          .239 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        48.248
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .628
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area B-W **********
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.59
| 05:B-W     DT= 5.00 |   Total Imp(%)=   60.00   Dir. Conn.(%)=   60.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .95          .64
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     290.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        31.64
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       4.99 (ii)   13.52 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .22          .08
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .27          .04          .295 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        55.825
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .727
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area B-E **********
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.09
| 06:B-E     DT= 5.00 |   Total Imp(%)=   36.00   Dir. Conn.(%)=   36.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .39          .70
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.28 (ii)   12.10 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .23          .10
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .12          .05          .152 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        44.459
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .579
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D19 **********
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .94
| 07:D19     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .58
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     175.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.69 (ii)   11.50 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .25          .10
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .11          .04          .139 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        45.406
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .591
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D20 **********
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.00
| 08:D20     DT= 5.00 |   Total Imp(%)=   39.00   Dir. Conn.(%)=   39.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .78         1.22
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     350.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        31.64
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       4.54 (ii)   13.06 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .23          .08
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .23          .07          .269 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        45.880
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .598
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
  ** END OF RUN :   3
********************************************************************************
```

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--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\CITYOF~1\
-------------------  Rainfall dir.: C:\SWMHYMO\321208~1\CITYOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 004
    NSTORM=   1
          #  1=25Ch24h.stm
*#**************************************************************************
*#  Project Name: [Dundas Street Widening EA Phase-3]  Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#**************************************************************************
--------------------
| READ STORM       |    Filename: 25yr Chicago 24 hour, City of Burlington
| Ptotal=  90.04 mm|    Comments: 25yr Chicago 24 hour, City of Burlington
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .750 |   6.17   1.720 |  12.17   3.230 |  18.17   1.140
              .33    .760 |   6.33   1.790 |  12.33   3.060 |  18.33   1.120
              .50    .770 |   6.50   1.870 |  12.50   2.900 |  18.50   1.100
              .67    .780 |   6.67   1.960 |  12.67   2.760 |  18.67   1.090
              .83    .790 |   6.83   2.060 |  12.83   2.630 |  18.83   1.070
             1.00    .800 |   7.00   2.170 |  13.00   2.520 |  19.00   1.060
             1.17    .820 |   7.17   2.300 |  13.17   2.410 |  19.17   1.040
             1.33    .830 |   7.33   2.440 |  13.33   2.320 |  19.33   1.030
             1.50    .850 |   7.50   2.600 |  13.50   2.230 |  19.50   1.010
             1.67    .860 |   7.67   2.790 |  13.67   2.150 |  19.67   1.000
             1.83    .880 |   7.83   3.020 |  13.83   2.080 |  19.83    .980
             2.00    .890 |   8.00   3.280 |  14.00   2.010 |  20.00    .970
             2.17    .910 |   8.17   3.610 |  14.17   1.950 |  20.17    .960
             2.33    .920 |   8.33   4.020 |  14.33   1.890 |  20.33    .950
             2.50    .940 |   8.50   4.540 |  14.50   1.830 |  20.50    .930
             2.67    .960 |   8.67   5.250 |  14.67   1.780 |  20.67    .920
             2.83    .980 |   8.83   6.240 |  14.83   1.730 |  20.83    .910
             3.00   1.000 |   9.00   7.770 |  15.00   1.690 |  21.00    .900
             3.17   1.020 |   9.17  10.400 |  15.17   1.640 |  21.17    .890
             3.33   1.040 |   9.33  16.080 |  15.33   1.600 |  21.33    .880
             3.50   1.070 |   9.50  37.200 |  15.50   1.560 |  21.50    .870
             3.67   1.090 |   9.67 135.520 |  15.67   1.530 |  21.67    .860
             3.83   1.120 |   9.83  43.570 |  15.83   1.490 |  21.83    .850
             4.00   1.150 |  10.00  21.800 |  16.00   1.460 |  22.00    .840
             4.17   1.170 |  10.17  14.550 |  16.17   1.430 |  22.17    .830
             4.33   1.210 |  10.33  10.970 |  16.33   1.400 |  22.33    .820
             4.50   1.240 |  10.50   8.850 |  16.50   1.370 |  22.50    .810
             4.67   1.270 |  10.67   7.440 |  16.67   1.340 |  22.67    .800
             4.83   1.310 |  10.83   6.440 |  16.83   1.320 |  22.83    .790
             5.00   1.350 |  11.00   5.690 |  17.00   1.290 |  23.00    .790
             5.17   1.390 |  11.17   5.110 |  17.17   1.270 |  23.17    .780
             5.33   1.430 |  11.33   4.640 |  17.33   1.240 |  23.33    .770
             5.50   1.480 |  11.50   4.260 |  17.50   1.220 |  23.50    .760
             5.67   1.540 |  11.67   3.940 |  17.67   1.200 |  23.67    .760
             5.83   1.590 |  11.83   3.670 |  17.83   1.180 |  23.83    .750
             6.00   1.650 |  12.00   3.440 |  18.00   1.160 |  24.00    .740
************************************************************
********** Drainage Area D1 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 01:D1     DT= 5.00 |   Total Imp(%)=   34.00   Dir. Conn.(%)=   34.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .45          .88
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     250.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.07 (ii)    9.97 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .27          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .17          .09          .236 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        53.845
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .598
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D2 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .92
| 02:D2     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .35          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     175.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.48 (ii)    9.38 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .29          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .13          .06          .177 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23         55.917
     TOTAL RAINFALL   (mm)=      90.04        90.04         90.042
     RUNOFF COEFFICIENT   =        .98          .40           .621
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D3 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.27
| 03:D3     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .86         1.41
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     430.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.80 (ii)   11.71 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .29          .13          .398 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23         55.917
     TOTAL RAINFALL   (mm)=      90.04        90.04         90.042
     RUNOFF COEFFICIENT   =        .98          .40           .621
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D4 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .79
| 04:D4     DT= 5.00 |   Total Imp(%)=   39.00   Dir. Conn.(%)=   39.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .31          .48
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     160.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.27 (ii)   10.17 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .27          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .11          .05          .150 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23         56.436
     TOTAL RAINFALL   (mm)=      90.04        90.04         90.042
     RUNOFF COEFFICIENT   =        .98          .40           .627
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D5 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.19
| 05:D5     DT= 5.00 |   Total Imp(%)=   37.00   Dir. Conn.(%)=   37.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44          .75
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     205.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.79 (ii)   10.69 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .25          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .16          .07          .215 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23         55.399
     TOTAL RAINFALL   (mm)=      90.04        90.04         90.042
     RUNOFF COEFFICIENT   =        .98          .40           .615
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D6 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.07
| 06:D6     DT= 5.00 |   Total Imp(%)=   34.00   Dir. Conn.(%)=   34.00
```

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---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .71
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     195.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.65 (ii)    9.55 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .29          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .13          .07          .193 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        53.845
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .598
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D7 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.06
| 07:D7     DT= 5.00 |   Total Imp(%)=   47.00   Dir. Conn.(%)=   47.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .97         1.09
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.14 (ii)   12.04 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .33          .10          .404 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        60.581
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .673
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D8 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 08:D8W    DT= 5.00 |   Total Imp(%)=   36.00   Dir. Conn.(%)=   36.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .25          .44
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       5.00         1.00
     Length            (m)=     157.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.99 (ii)    8.89 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .31          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .09          .04          .131 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        54.881
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .610
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.34
| 09:D8E    DT= 5.00 |   Total Imp(%)=   56.00   Dir. Conn.(%)=   56.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.31         1.03
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     490.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        43.10
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.40 (ii)   13.93 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .18          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .41          .08          .462 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        65.244
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .725
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| ADD HYD (D8       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
---------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 08:D8W            .69      .131    9.67  54.88    .000
                   +ID2 09:D8E           2.34      .462    9.67  65.24    .000

============================================================
                    SUM 01:D8            3.03      .592    9.67  62.88    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D9 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.18
| 02:D9     DT= 5.00 |   Total Imp(%)=   65.00   Dir. Conn.(%)=   65.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .77          .41
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.17 (ii)   11.07 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .27          .04          .301 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        69.907
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .776
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D10 *********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .66
| 03:D10    DT= 5.00 |   Total Imp(%)=   48.00   Dir. Conn.(%)=   48.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .32          .34
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     150.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.55 (ii)    9.45 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .29          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .12          .03          .146 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        61.099
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .679
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D11 *********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.48
| 04:D11W   DT= 5.00 |   Total Imp(%)=   46.00   Dir. Conn.(%)=   46.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.14         1.34
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     500.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        43.10
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.47 (ii)   14.01 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .18          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .36          .11          .420 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        60.062
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .667
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.70
| 05:D11E   DT= 5.00 |   Total Imp(%)=   52.00   Dir. Conn.(%)=   52.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40         1.30
     Dep. Storage     (mm)=       2.00         8.00
```

```
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     480.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        43.10
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.32 (ii)   13.85 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .19          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .45          .10          .505 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        63.171
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .702
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D11       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 04:D11W           2.48     .420    9.67  60.06    .000
                    +ID2 05:D11E           2.70     .505    9.67  63.17    .000

============================================================
                     SUM 06:D11            5.18     .926    9.67  61.68    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D12 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.97
| 07:D12W   DT= 5.00 |   Total Imp(%)=   50.00   Dir. Conn.(%)=   50.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .99          .99
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     360.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        43.10
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       5.32 (ii)   12.85 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .21          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .33          .08          .375 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        62.135
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .690
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.08
| 08:D12E   DT= 5.00 |   Total Imp(%)=   47.00   Dir. Conn.(%)=   47.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .51          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     186.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.58 (ii)   10.48 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .26          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .18          .05          .227 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        60.581
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .673
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D12       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 07:D12W           1.97     .375    9.67  62.14    .000
                    +ID2 08:D12E           1.08     .227    9.67  60.58    .000

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                     SUM 09:D12            3.05     .602    9.67  61.58    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D13 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    3.29
| 01:D13W   DT= 5.00 |   Total Imp(%)=   48.00   Dir. Conn.(%)=   48.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.58         1.71
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     600.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        43.10
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       7.22 (ii)   14.76 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .17          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .48          .13          .556 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        61.099
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .679
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .89
| 02:D13E   DT= 5.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   40.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .53
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     170.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.39 (ii)   10.29 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .26          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .13          .05          .171 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        56.954
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .633
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D13       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 01:D13W           3.29     .556    9.67  61.10    .000
                    +ID2 02:D13E            .89     .171    9.67  56.95    .000

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                     SUM 03:D13            4.18     .727    9.67  60.22    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D17 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.69
| 04:D17    DT= 5.00 |   Total Imp(%)=   44.00   Dir. Conn.(%)=   44.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .74          .95
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.14 (ii)   12.04 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .25          .08          .318 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        59.026
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .656
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area B-W **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.59
| 05:B-W    DT= 5.00 |   Total Imp(%)=   60.00   Dir. Conn.(%)=   60.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .95          .64
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     290.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.67 (ii)   11.57 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .33          .06          .375 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        67.316
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .748
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*************************************************************
********** Drainage Area B-E **********
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| CALIB STANDHYD     |   Area    (ha)=    1.09
| 06:B-E    DT= 5.00 |   Total Imp(%)=   36.00   Dir. Conn.(%)=   36.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .39          .70
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.01 (ii)   10.91 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .14          .07          .192 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        54.881
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .610
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********** Drainage Area D19 **********
*************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .94
| 07:D19    DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .58
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     175.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.45 (ii)   10.35 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .26          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .13          .06          .175 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        55.917
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .621
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*************************************************************
********** Drainage Area D20 **********
*************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.00
| 08:D20    DT= 5.00 |   Total Imp(%)=   39.00   Dir. Conn.(%)=   39.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .78         1.22
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     350.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.25 (ii)   11.15 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .27          .11          .365 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        56.436
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .627
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
  ** END OF RUN :   4
*******************************************************************************
----------------------
| START              |  Project  dir.: C:\SWMHYMO\321208~1\CITYOF~1\
----------------------  Rainfall dir.: C:\SWMHYMO\321208~1\CITYOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 005
    NSTORM=   1
           #  1=50Ch24h.stm
*#*****************************************************************************
*#  Project Name: [Dundas Street Widening EA Phase-3]  Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*****************************************************************************
----------------------
| READ STORM         |    Filename: 50yr Chicago 24 hour, City of Burlington
| Ptotal= 100.87 mm|    Comments: 50yr Chicago 24 hour, City of Burlington
----------------------
              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
               .17    .820 |   6.17   1.910 |  12.17   3.620 |  18.17   1.260
               .33    .830 |   6.33   1.990 |  12.33   3.420 |  18.33   1.240
               .50    .850 |   6.50   2.080 |  12.50   3.240 |  18.50   1.220
               .67    .860 |   6.67   2.180 |  12.67   3.080 |  18.67   1.200
               .83    .870 |   6.83   2.290 |  12.83   2.940 |  18.83   1.180
              1.00    .890 |   7.00   2.420 |  13.00   2.810 |  19.00   1.160
              1.17    .900 |   7.17   2.560 |  13.17   2.690 |  19.17   1.150
              1.33    .920 |   7.33   2.720 |  13.33   2.580 |  19.33   1.130
              1.50    .930 |   7.50   2.900 |  13.50   2.480 |  19.50   1.120
              1.67    .950 |   7.67   3.120 |  13.67   2.390 |  19.67   1.100
              1.83    .960 |   7.83   3.370 |  13.83   2.310 |  19.83   1.080
              2.00    .980 |   8.00   3.670 |  14.00   2.230 |  20.00   1.070
              2.17   1.000 |   8.17   4.050 |  14.17   2.160 |  20.17   1.060
              2.33   1.020 |   8.33   4.510 |  14.33   2.100 |  20.33   1.040
              2.50   1.040 |   8.50   5.110 |  14.50   2.030 |  20.50   1.030
              2.67   1.060 |   8.67   5.920 |  14.67   1.980 |  20.67   1.020
              2.83   1.080 |   8.83   7.060 |  14.83   1.920 |  20.83   1.000
              3.00   1.100 |   9.00   8.820 |  15.00   1.870 |  21.00    .990
              3.17   1.130 |   9.17  11.880 |  15.17   1.820 |  21.17    .980
              3.33   1.150 |   9.33  18.480 |  15.33   1.770 |  21.33    .970
              3.50   1.180 |   9.50  42.780 |  15.50   1.730 |  21.50    .960
              3.67   1.210 |   9.67 148.700 |  15.67   1.690 |  21.67    .940
              3.83   1.230 |   9.83  50.070 |  15.83   1.650 |  21.83    .930
              4.00   1.270 |  10.00  25.120 |  16.00   1.610 |  22.00    .920
              4.17   1.300 |  10.17  16.700 |  16.17   1.580 |  22.17    .910
              4.33   1.330 |  10.33  12.540 |  16.33   1.550 |  22.33    .900
              4.50   1.370 |  10.50  10.070 |  16.50   1.510 |  22.50    .890
              4.67   1.410 |  10.67   8.440 |  16.67   1.480 |  22.67    .880
              4.83   1.450 |  10.83   7.290 |  16.83   1.450 |  22.83    .870
              5.00   1.490 |  11.00   6.430 |  17.00   1.430 |  23.00    .870
              5.17   1.540 |  11.17   5.760 |  17.17   1.400 |  23.17    .860
              5.33   1.590 |  11.33   5.220 |  17.33   1.370 |  23.33    .850
              5.50   1.640 |  11.50   4.790 |  17.50   1.350 |  23.50    .840
              5.67   1.700 |  11.67   4.420 |  17.67   1.330 |  23.67    .830
              5.83   1.760 |  11.83   4.110 |  17.83   1.300 |  23.83    .820
              6.00   1.830 |  12.00   3.850 |  18.00   1.280 |  24.00    .820
*************************************************************
********** Drainage Area D1 **********
*************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 01:D1     DT= 5.00 |   Total Imp(%)=   34.00   Dir. Conn.(%)=   34.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .45          .88
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     250.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.96 (ii)    9.37 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .28          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .18          .11          .271 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        62.566
     TOTAL RAINFALL   (mm)=     100.87       100.87       100.868
     RUNOFF COEFFICIENT   =        .98          .43          .620
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*************************************************************
********** Drainage Area D2 **********
*************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .92
| 02:D2     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .35          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     175.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.39 (ii)    8.80 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .30          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .14          .07          .202 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
```

```
     RUNOFF VOLUME    (mm)=      98.87        43.86         64.766
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .642
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D3 **********
**********************************************************
----------
| CALIB STANDHYD     |   Area    (ha)=    2.27
| 03:D3     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .86         1.41
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     430.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.63 (ii)   11.04 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .33          .16          .457 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        64.766
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .642
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D4 **********
**********************************************************
----------
| CALIB STANDHYD     |   Area    (ha)=     .79
| 04:D4     DT= 5.00 |   Total Imp(%)=   39.00   Dir. Conn.(%)=   39.00
----------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .31          .48
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     160.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.15 (ii)    9.56 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .27          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .12          .06          .172 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        65.316
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .648
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D5 **********
**********************************************************
----------
| CALIB STANDHYD     |   Area    (ha)=    1.19
| 05:D5     DT= 5.00 |   Total Imp(%)=   37.00   Dir. Conn.(%)=   37.00
----------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44          .75
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     205.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.65 (ii)   10.06 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .25          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .17          .09          .246 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        64.216
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .637
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D6 **********
**********************************************************
----------
| CALIB STANDHYD     |   Area    (ha)=    1.07
| 06:D6     DT= 5.00 |   Total Imp(%)=   34.00   Dir. Conn.(%)=   34.00
----------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .71
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     195.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.55 (ii)    8.96 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .29          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .15          .09          .221 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        62.566
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .620
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D7 **********
**********************************************************
----------
| CALIB STANDHYD     |   Area    (ha)=    2.06
| 07:D7     DT= 5.00 |   Total Imp(%)=   47.00   Dir. Conn.(%)=   47.00
----------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .97         1.09
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.95 (ii)   11.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .36          .12          .461 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        69.717
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .691
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D8 **********
**********************************************************
----------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 08:D8W    DT= 5.00 |   Total Imp(%)=   36.00   Dir. Conn.(%)=   36.00
----------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .25          .44
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       5.00         1.00
     Length            (m)=     157.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.92 (ii)    8.33 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .31          .13
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .10          .06          .150 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        63.666
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .631
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------
| CALIB STANDHYD     |   Area    (ha)=    2.34
| 09:D8E    DT= 5.00 |   Total Imp(%)=   56.00   Dir. Conn.(%)=   56.00
----------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.31         1.03
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     490.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        52.12
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.16 (ii)   13.15 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .19          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .46          .10          .521 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        74.667
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .740
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```

```
         CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D8        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 08:D8W             .69     .150    9.67  63.67    .000
                    +ID2 09:D8E            2.34     .521    9.67  74.67    .000

============================================================
                     SUM 01:D8             3.03     .671    9.67  72.16    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D9 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.18
| 02:D9     DT= 5.00 |   Total Imp(%)=   65.00   Dir. Conn.(%)=   65.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .77          .41
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.02 (ii)   10.43 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .30          .05          .337 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        79.617
     TOTAL RAINFALL   (mm)=     100.87       100.87       100.868
     RUNOFF COEFFICIENT   =        .98          .43          .789
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area D10 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .66
| 03:D10    DT= 5.00 |   Total Imp(%)=   48.00   Dir. Conn.(%)=   48.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .32          .34
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     150.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.46 (ii)    8.87 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .30          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .13          .04          .165 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        70.267
     TOTAL RAINFALL   (mm)=     100.87       100.87       100.868
     RUNOFF COEFFICIENT   =        .98          .43          .697
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area D11 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.48
| 04:D11W   DT= 5.00 |   Total Imp(%)=   46.00   Dir. Conn.(%)=   46.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.14         1.34
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     500.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        52.12
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.24 (ii)   13.22 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .19          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .40          .13          .478 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        69.166
     TOTAL RAINFALL   (mm)=     100.87       100.87       100.868
     RUNOFF COEFFICIENT   =        .98          .43          .686
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.70
| 05:D11E   DT= 5.00 |   Total Imp(%)=   52.00   Dir. Conn.(%)=   52.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40         1.30
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     480.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        52.12
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.09 (ii)   13.07 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .19          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .50          .13          .572 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        72.467
     TOTAL RAINFALL   (mm)=     100.87       100.87       100.868
     RUNOFF COEFFICIENT   =        .98          .43          .718
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D11       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 04:D11W            2.48     .478    9.67  69.17    .000
                    +ID2 05:D11E            2.70     .572    9.67  72.47    .000

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                     SUM 06:D11            5.18    1.050    9.67  70.89    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D12 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.97
| 07:D12W   DT= 5.00 |   Total Imp(%)=   50.00   Dir. Conn.(%)=   50.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .99          .99
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     360.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.12 (ii)   11.53 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .36          .11          .453 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        71.367
     TOTAL RAINFALL   (mm)=     100.87       100.87       100.868
     RUNOFF COEFFICIENT   =        .98          .43          .708
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.08
| 08:D12E   DT= 5.00 |   Total Imp(%)=   47.00   Dir. Conn.(%)=   47.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .51          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     186.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.45 (ii)    9.85 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .26          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .20          .07          .258 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        69.717
     TOTAL RAINFALL   (mm)=     100.87       100.87       100.868
     RUNOFF COEFFICIENT   =        .98          .43          .691
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D12       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 07:D12W            1.97     .453    9.67  71.37    .000
                    +ID2 08:D12E            1.08     .258    9.67  69.72    .000

============================================================
                     SUM 09:D12            3.05     .711    9.67  70.78    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D13 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    3.29
| 01:D13W   DT= 5.00 |   Total Imp(%)=   48.00   Dir. Conn.(%)=   48.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.58         1.71
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     600.00        15.00
     Mannings n            =       .015         .300
```

```
     Max.eff.Inten.(mm/hr)=     148.70        52.12
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.96 (ii)   13.94 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .17          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .54          .17          .632 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86         70.267
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43          .697
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .89
| 02:D13E   DT= 5.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   40.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .53
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     170.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.27 (ii)    9.67 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .27          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .14          .06          .195 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        65.866
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43          .653
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D13       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 01:D13W          3.29     .632    9.67  70.27    .000
                    +ID2 02:D13E           .89     .195    9.67  65.87    .000

============================================================
                     SUM 03:D13           4.18     .827    9.67  69.33    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D17 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.69
| 04:D17    DT= 5.00 |   Total Imp(%)=   44.00   Dir. Conn.(%)=   44.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .74          .95
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.95 (ii)   11.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .28          .11          .364 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86         68.066
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43          .675
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area B-W **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.59
| 05:B-W    DT= 5.00 |   Total Imp(%)=   60.00   Dir. Conn.(%)=   60.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .95          .64
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     290.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.50 (ii)   10.91 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .23          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .36          .07          .422 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        76.867
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43          .762
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area B-E **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.09
| 06:B-E    DT= 5.00 |   Total Imp(%)=   36.00   Dir. Conn.(%)=   36.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .39          .70
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.86 (ii)   10.27 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .25          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .15          .08          .221 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86         63.666
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43          .631
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D19 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .94
| 07:D19    DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .58
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     175.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.32 (ii)    9.73 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .26          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .14          .07          .200 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.87         64.766
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43          .642
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D20 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.00
| 08:D20    DT= 5.00 |   Total Imp(%)=   39.00   Dir. Conn.(%)=   39.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .78         1.22
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     350.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.09 (ii)   10.50 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .30          .14          .418 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86         65.316
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43          .648
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
  ** END OF RUN :   5
**************************************************************************************
```

```
--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\CITYOF~1\
-------------------  Rainfall dir.: C:\SWMHYMO\321208~1\CITYOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 006
    NSTORM=   1
          #  1=100Ch24h.stm
*#**************************************************************************
*#  Project Name: [Dundas Street Widening EA Phase-3]  Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#**************************************************************************
--------------------
| READ STORM       |    Filename: 100yr Chicago 24 hour, City of Burlingto
| Ptotal= 108.36 mm|    Comments: 100yr Chicago 24 hour, City of Burlingto
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .830 |   6.17   1.970 |  12.17   3.780 |  18.17   1.290
              .33    .850 |   6.33   2.050 |  12.33   3.570 |  18.33   1.270
              .50    .860 |   6.50   2.150 |  12.50   3.370 |  18.50   1.250
              .67    .870 |   6.67   2.250 |  12.67   3.200 |  18.67   1.230
              .83    .890 |   6.83   2.370 |  12.83   3.050 |  18.83   1.210
             1.00    .900 |   7.00   2.500 |  13.00   2.910 |  19.00   1.190
             1.17    .920 |   7.17   2.650 |  13.17   2.790 |  19.17   1.170
             1.33    .930 |   7.33   2.820 |  13.33   2.680 |  19.33   1.150
             1.50    .950 |   7.50   3.020 |  13.50   2.570 |  19.50   1.140
             1.67    .960 |   7.67   3.250 |  13.67   2.480 |  19.67   1.120
             1.83    .980 |   7.83   3.520 |  13.83   2.390 |  19.83   1.110
             2.00   1.000 |   8.00   3.840 |  14.00   2.310 |  20.00   1.090
             2.17   1.020 |   8.17   4.240 |  14.17   2.230 |  20.17   1.080
             2.33   1.040 |   8.33   4.740 |  14.33   2.160 |  20.33   1.060
             2.50   1.060 |   8.50   5.390 |  14.50   2.100 |  20.50   1.050
             2.67   1.080 |   8.67   6.260 |  14.67   2.040 |  20.67   1.030
             2.83   1.100 |   8.83   7.510 |  14.83   1.980 |  20.83   1.020
             3.00   1.130 |   9.00   9.440 |  15.00   1.930 |  21.00   1.010
             3.17   1.150 |   9.17  12.820 |  15.17   1.870 |  21.17   1.000
             3.33   1.180 |   9.33  20.170 |  15.33   1.830 |  21.33    .980
             3.50   1.200 |   9.50  47.470 |  15.50   1.780 |  21.50    .970
             3.67   1.230 |   9.67 164.720 |  15.67   1.740 |  21.67    .960
             3.83   1.260 |   9.83  55.670 |  15.83   1.700 |  21.83    .950
             4.00   1.290 |  10.00  27.620 |  16.00   1.660 |  22.00    .940
             4.17   1.330 |  10.17  18.180 |  16.17   1.620 |  22.17    .930
             4.33   1.360 |  10.33  13.550 |  16.33   1.590 |  22.33    .920
             4.50   1.400 |  10.50  10.820 |  16.50   1.550 |  22.50    .910
             4.67   1.440 |  10.67   9.020 |  16.67   1.520 |  22.67    .900
             4.83   1.480 |  10.83   7.760 |  16.83   1.490 |  22.83    .890
             5.00   1.530 |  11.00   6.820 |  17.00   1.460 |  23.00    .880
             5.17   1.580 |  11.17   6.090 |  17.17   1.430 |  23.17    .870
             5.33   1.630 |  11.33   5.510 |  17.33   1.410 |  23.33    .860
             5.50   1.690 |  11.50   5.040 |  17.50   1.380 |  23.50    .850
             5.67   1.750 |  11.67   4.640 |  17.67   1.360 |  23.67    .840
             5.83   1.810 |  11.83   4.310 |  17.83   1.330 |  23.83    .840
             6.00   1.890 |  12.00   4.030 |  18.00   1.310 |  24.00    .830
************************************************************
********** Drainage Area D1 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 01:D1     DT= 5.00 |   Total Imp(%)=   34.00   Dir. Conn.(%)=   34.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .45          .88
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     250.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.84 (ii)    8.86 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .28          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .20          .13          .310 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        68.729
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT   =        .98          .46          .634
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D2 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .92
| 02:D2     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .35          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     175.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.29 (ii)    8.31 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .30          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .16          .08          .230 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        71.009
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT   =        .98          .46          .655
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D3 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.27
| 03:D3     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .86         1.41
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     430.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.44 (ii)   10.46 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .23          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .36          .19          .522 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        71.009
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT   =        .98          .46          .655
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D4 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .79
| 04:D4     DT= 5.00 |   Total Imp(%)=   39.00   Dir. Conn.(%)=   39.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .31          .48
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     160.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.02 (ii)    9.04 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .27          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .14          .07          .196 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        71.579
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT   =        .98          .46          .661
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D5 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.19
| 05:D5     DT= 5.00 |   Total Imp(%)=   37.00   Dir. Conn.(%)=   37.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44          .75
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     205.00        15.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.51 (ii)    9.52 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .26          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .19          .11          .281 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        70.439
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT   =        .98          .46          .650
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D6 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.07
| 06:D6     DT= 5.00 |   Total Imp(%)=   34.00   Dir. Conn.(%)=   34.00
```

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---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .36          .71
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      3.00         1.00
     Length            (m)=    195.00        15.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    164.72        75.72
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      2.45 (ii)    8.46 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .30          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .16          .10          .253 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=    106.36        49.34        68.729
     TOTAL RAINFALL   (mm)=    108.36       108.36       108.357
     RUNOFF COEFFICIENT   =       .98          .46          .634
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D7 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.06
| 07:D7     DT= 5.00 |   Total Imp(%)=   47.00   Dir. Conn.(%)=   47.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .97         1.09
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    340.00        15.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    164.72        75.72
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      4.75 (ii)   10.77 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .22          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .40          .15          .524 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=    106.36        49.34        76.140
     TOTAL RAINFALL   (mm)=    108.36       108.36       108.357
     RUNOFF COEFFICIENT   =       .98          .46          .703
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D8 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 08:D8W    DT= 5.00 |   Total Imp(%)=   36.00   Dir. Conn.(%)=   36.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .25          .44
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      5.00         1.00
     Length            (m)=    157.00        15.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    164.72        75.72
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      1.84 (ii)    7.86 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .32          .13
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .11          .07          .170 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=    106.36        49.34        69.869
     TOTAL RAINFALL   (mm)=    108.36       108.36       108.357
     RUNOFF COEFFICIENT   =       .98          .46          .645
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.34
| 09:D8E    DT= 5.00 |   Total Imp(%)=   56.00   Dir. Conn.(%)=   56.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.31         1.03
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    490.00        15.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    164.72        75.72
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      5.92 (ii)   11.93 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .19          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .52          .13          .624 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=    106.36        49.34        81.271
     TOTAL RAINFALL   (mm)=    108.36       108.36       108.357
     RUNOFF COEFFICIENT   =       .98          .46          .750
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| ADD HYD (D8       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
---------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                        ID1 08:D8W          .69     .170    9.67  69.87    .000
                       +ID2 09:D8E         2.34     .624    9.67  81.27    .000

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                        SUM 01:D8           3.03     .795    9.67  78.67    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D9 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.18
| 02:D9     DT= 5.00 |   Total Imp(%)=   65.00   Dir. Conn.(%)=   65.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .77          .41
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      2.00         1.00
     Length            (m)=    340.00        15.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    164.72        75.72
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      3.86 (ii)    9.87 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .25          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .33          .06          .380 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=    106.36        49.34        86.403
     TOTAL RAINFALL   (mm)=    108.36       108.36       108.357
     RUNOFF COEFFICIENT   =       .98          .46          .797
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D10 *********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .66
| 03:D10    DT= 5.00 |   Total Imp(%)=   48.00   Dir. Conn.(%)=   48.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .32          .34
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      2.00         1.00
     Length            (m)=    150.00        15.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    164.72        75.72
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      2.36 (ii)    8.38 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .30          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .14          .05          .187 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=    106.36        49.34        76.711
     TOTAL RAINFALL   (mm)=    108.36       108.36       108.357
     RUNOFF COEFFICIENT   =       .98          .46          .708
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D11 *********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.48
| 04:D11W   DT= 5.00 |   Total Imp(%)=   46.00   Dir. Conn.(%)=   46.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.14         1.34
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    500.00        15.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    164.72        75.72
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      5.99 (ii)   12.00 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .19          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .45          .17          .588 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=    106.36        49.34        75.570
     TOTAL RAINFALL   (mm)=    108.36       108.36       108.357
     RUNOFF COEFFICIENT   =       .98          .46          .697
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.70
| 05:D11E   DT= 5.00 |   Total Imp(%)=   52.00   Dir. Conn.(%)=   52.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
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     Surface Area     (ha)=       1.40         1.30
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     480.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.84 (ii)   11.86 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .56          .17          .691 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        78.991
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT    =        .98          .46          .729
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D11       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 04:D11W           2.48     .588    9.67  75.57    .000
                    +ID2 05:D11E           2.70     .691    9.67  78.99    .000

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                    SUM 06:D11            5.18    1.279    9.67  77.35    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D12 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.97
| 07:D12W   DT= 5.00 |   Total Imp(%)=   50.00   Dir. Conn.(%)=   50.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .99          .99
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     360.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.92 (ii)   10.93 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .41          .13          .515 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        77.851
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT    =        .98          .46          .718
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.08
| 08:D12E   DT= 5.00 |   Total Imp(%)=   47.00   Dir. Conn.(%)=   47.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .51          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     186.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.31 (ii)    9.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .26          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .22          .08          .292 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        76.140
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT    =        .98          .46          .703
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D12       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 07:D12W           1.97     .515    9.67  77.85    .000
                    +ID2 08:D12E           1.08     .292    9.67  76.14    .000

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                    SUM 09:D12            3.05     .807    9.67  77.25    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D13 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    3.29
| 01:D13W   DT= 5.00 |   Total Imp(%)=   48.00   Dir. Conn.(%)=   48.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.58         1.71
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     600.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        61.02
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.68 (ii)   13.24 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .18          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .60          .20          .717 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        76.710
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT    =        .98          .46          .708
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .89
| 02:D13E   DT= 5.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   40.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .53
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     170.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.13 (ii)    9.15 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .27          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .16          .08          .222 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        72.150
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT    =        .98          .46          .666
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-----------------------
| ADD HYD (D13       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 01:D13W           3.29     .717    9.67  76.71    .000
                    +ID2 02:D13E            .89     .222    9.67  72.15    .000

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                    SUM 03:D13            4.18     .940    9.67  75.74    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D17 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.69
| 04:D17    DT= 5.00 |   Total Imp(%)=   44.00   Dir. Conn.(%)=   44.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .74          .95
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.75 (ii)   10.77 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .31          .13          .414 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        74.430
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT    =        .98          .46          .687
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area B-W **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.59
| 05:B-W    DT= 5.00 |   Total Imp(%)=   60.00   Dir. Conn.(%)=   60.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .95          .64
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     290.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.32 (ii)   10.33 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .23          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .41          .09          .477 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34         83.552
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     TOTAL RAINFALL   (mm)=     108.36       108.36        108.357
     RUNOFF COEFFICIENT   =        .98          .46           .771
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area B-E **********
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.09
| 06:B-E    DT= 5.00 |   Total Imp(%)=   36.00   Dir. Conn.(%)=   36.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .39          .70
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.71 (ii)    9.72 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .25          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .17          .10           .252 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75          9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34         69.869
     TOTAL RAINFALL   (mm)=     108.36       108.36        108.357
     RUNOFF COEFFICIENT   =        .98          .46           .645
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D19 **********
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .94
| 07:D19    DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .58
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     175.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.19 (ii)    9.20 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .27          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .16          .08           .228 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75          9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34         71.009
     TOTAL RAINFALL   (mm)=     108.36       108.36        108.357
     RUNOFF COEFFICIENT   =        .98          .46           .655
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D20 **********
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.00
| 08:D20    DT= 5.00 |   Total Imp(%)=   39.00   Dir. Conn.(%)=   39.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .78         1.22
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     350.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.93 (ii)    9.94 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .34          .17           .477 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75          9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34         71.579
     TOTAL RAINFALL   (mm)=     108.36       108.36        108.357
     RUNOFF COEFFICIENT   =        .98          .46           .661
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
  ** END OF RUN :   6
**********************************************************************************
---------------------
| START              |  Project  dir.: C:\SWMHYMO\321208~1\CITYOF~1\
---------------------  Rainfall dir.: C:\SWMHYMO\321208~1\CITYOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 007
    NSTORM=   1
           #  1=HAZEL48.stm
*#**************************************************************************
*#  Project Name: [Dundas Street Widening EA Phase-3]  Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#**************************************************************************
---------------------
| READ STORM         |    Filename: 48 hour Hurricane Hazel
| Ptotal= 284.00 mm|    Comments: 48 hour Hurricane Hazel
---------------------
              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              1.00   2.000 |  13.00   2.000 |  25.00   2.000 |  37.00   5.936
              2.00   2.000 |  14.00   2.000 |  26.00   2.000 |  38.00   4.028
              3.00   2.000 |  15.00   2.000 |  27.00   2.000 |  39.00   5.936
              4.00   2.000 |  16.00   2.000 |  28.00   2.000 |  40.00  13.144
              5.00   2.000 |  17.00   2.000 |  29.00   2.000 |  41.00  16.960
              6.00   2.000 |  18.00   2.000 |  30.00   2.000 |  42.00  12.932
              7.00   2.000 |  19.00   2.000 |  31.00   2.000 |  43.00  23.108
              8.00   2.000 |  20.00   2.000 |  32.00   2.000 |  44.00  12.932
              9.00   2.000 |  21.00   2.000 |  33.00   2.000 |  45.00  12.932
             10.00   2.000 |  22.00   2.000 |  34.00   2.000 |  46.00  53.000
             11.00   2.000 |  23.00   2.000 |  35.00   2.000 |  47.00  38.160
             12.00   2.000 |  24.00   2.000 |  36.00   2.000 |  48.00  12.932
**********************************************************
********** Drainage Area D1 **********
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 01:D1     DT= 5.00 |   Total Imp(%)=   34.00   Dir. Conn.(%)=   34.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .45          .88
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     250.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.47 (ii)   11.72 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .23          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .07          .11           .181 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        228.274
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .804
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D2 **********
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .92
| 02:D2     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .35          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     175.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.61 (ii)   10.85 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .25          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .05          .07           .126 (iii)
     TIME TO PEAK    (hrs)=      45.83        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        231.530
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .815
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D3 **********
**********************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.27
| 03:D3     DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .86         1.41
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     430.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.50
```

```
              over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.99 (ii)   14.24 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .17          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .13          .18          .308 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        231.530
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .815
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D4 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .79
| 04:D4     DT= 5.00 |   Total Imp(%)=   39.00   Dir. Conn.(%)=   39.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .31          .48
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     160.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
              over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.76 (ii)   12.00 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .05          .06          .108 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        232.344
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .818
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D5 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.19
| 05:D5     DT= 5.00 |   Total Imp(%)=   37.00   Dir. Conn.(%)=   37.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44          .75
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     205.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.50
              over (min)        5.00        15.00
     Storage Coeff.  (min)=       5.52 (ii)   12.77 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .20          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .06          .10          .162 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        230.716
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .812
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D6 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.07
| 06:D6     DT= 5.00 |   Total Imp(%)=   34.00   Dir. Conn.(%)=   34.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .71
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     195.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
              over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.85 (ii)   11.10 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .25          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .05          .09          .146 (iii)
     TIME TO PEAK    (hrs)=      45.92        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        228.274
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .804
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D7 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.06
| 07:D7     DT= 5.00 |   Total Imp(%)=   47.00   Dir. Conn.(%)=   47.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .97         1.09
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.50
              over (min)        5.00        15.00
     Storage Coeff.  (min)=       7.48 (ii)   14.73 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .17          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .14          .14          .283 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        238.856
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .841
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D8 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 08:D8W    DT= 5.00 |   Total Imp(%)=   36.00   Dir. Conn.(%)=   36.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .25          .44
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       5.00         1.00
     Length            (m)=     157.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
              over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.90 (ii)   10.15 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .28          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .04          .06          .094 (iii)
     TIME TO PEAK    (hrs)=      45.75        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        229.902
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .810
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.34
| 09:D8E    DT= 5.00 |   Total Imp(%)=   56.00   Dir. Conn.(%)=   56.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.31         1.03
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     490.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.50
              over (min)       10.00        15.00
     Storage Coeff.  (min)=       9.31 (ii)   16.56 (ii)
     Unit Hyd. Tpeak (min)=      10.00        15.00
     Unit Hyd. peak  (cms)=        .12          .07
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .19          .13          .323 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        246.183
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .867
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
------------------------
| ADD HYD (D8        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                       ID1 08:D8W            .69     .094   46.00 229.90    .000
                      +ID2 09:D8E           2.34     .323   46.00 246.18    .000

============================================================
                       SUM 01:D8            3.03     .418   46.00 242.48    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D9 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.18
| 02:D9     DT= 5.00 |   Total Imp(%)=   65.00   Dir. Conn.(%)=   65.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .77          .41
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.50
              over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.07 (ii)   13.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
```

```
     Unit Hyd. peak  (cms)=        .19          .08
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .11          .05          .166 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        253.509
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .893
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D10 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .66
| 03:D10    DT= 5.00 |   Total Imp(%)=   48.00   Dir. Conn.(%)=   48.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .32          .34
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     150.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.72 (ii)   10.96 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .25          .11
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .05          .04          .092 (iii)
     TIME TO PEAK    (hrs)=      45.92        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        239.671
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .844
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D11 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.48
| 04:D11W   DT= 5.00 |   Total Imp(%)=   46.00   Dir. Conn.(%)=   46.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.14         1.34
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     500.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.50
               over (min)       10.00        15.00
     Storage Coeff.  (min)=       9.43 (ii)   16.67 (ii)
     Unit Hyd. Tpeak (min)=      10.00        15.00
     Unit Hyd. peak  (cms)=        .12          .07
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .17          .17          .337 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        238.043
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .838
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.70
| 05:D11E   DT= 5.00 |   Total Imp(%)=   52.00   Dir. Conn.(%)=   52.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40         1.30
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     480.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.50
               over (min)       10.00        15.00
     Storage Coeff.  (min)=       9.20 (ii)   16.45 (ii)
     Unit Hyd. Tpeak (min)=      10.00        15.00
     Unit Hyd. peak  (cms)=        .12          .07
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .21          .16          .371 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        242.927
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .855
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D11       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 04:D11W          2.48      .337   46.00 238.04    .000
                    +ID2 05:D11E          2.70      .371   46.00 242.93    .000

=============================================================
                     SUM 06:D11           5.18      .708   46.00 240.59    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D12 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.97
| 07:D12W   DT= 5.00 |   Total Imp(%)=   50.00   Dir. Conn.(%)=   50.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .99          .99
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     360.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.50
               over (min)       10.00        15.00
     Storage Coeff.  (min)=       7.74 (ii)   14.99 (ii)
     Unit Hyd. Tpeak (min)=      10.00        15.00
     Unit Hyd. peak  (cms)=        .13          .08
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .14          .13          .271 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        241.299
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .850
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.08
| 08:D12E   DT= 5.00 |   Total Imp(%)=   47.00   Dir. Conn.(%)=   47.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .51          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     186.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.21 (ii)   12.45 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .10
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .07          .07          .149 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        238.856
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .841
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D12       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 07:D12W          1.97      .271   46.00 241.30    .000
                    +ID2 08:D12E          1.08      .149   46.00 238.86    .000

=============================================================
                     SUM 09:D12           3.05      .420   46.00 240.43    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D13 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    3.29
| 01:D13W   DT= 5.00 |   Total Imp(%)=   48.00   Dir. Conn.(%)=   48.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.58         1.71
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     600.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.42
               over (min)       10.00        20.00
     Storage Coeff.  (min)=      10.52 (ii)   17.77 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=        .11          .06
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .23          .21          .445 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.08        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        239.671
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .844
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .89
| 02:D13E   DT= 5.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   40.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .53
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     170.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.93 (ii)   12.18 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .10
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .05          .07          .122 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
```

```
     RUNOFF VOLUME    (mm)=     282.00       200.60        233.158
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .821
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D13       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 01:D13W           3.29     .445   46.00 239.67    .000
                    +ID2 02:D13E            .89     .122   46.00 233.16    .000

============================================================
                     SUM 03:D13            4.18     .567   46.00 238.28    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********** Drainage Area D17 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.69
| 04:D17    DT= 5.00 |   Total Imp(%)=   44.00   Dir. Conn.(%)=   44.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .74          .95
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.50
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       7.48 (ii)   14.73 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .17          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .11          .12          .231 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        236.414
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .832
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area B-W **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.59
| 05:B-W    DT= 5.00 |   Total Imp(%)=   60.00   Dir. Conn.(%)=   60.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .95          .64
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     290.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.50
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.80 (ii)   14.05 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .18          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .14          .08          .222 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        249.439
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .878
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area B-E **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.09
| 06:B-E    DT= 5.00 |   Total Imp(%)=   36.00   Dir. Conn.(%)=   36.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .39          .70
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.50
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       5.84 (ii)   13.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .20          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .06          .09          .148 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        229.902
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .810
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D19 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .94
| 07:D19    DT= 5.00 |   Total Imp(%)=   38.00   Dir. Conn.(%)=   38.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .36          .58
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     175.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.02 (ii)   12.26 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .05          .08          .129 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        231.530
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .815
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D20 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.00
| 08:D20    DT= 5.00 |   Total Imp(%)=   39.00   Dir. Conn.(%)=   39.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .78          1.22
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     350.00        15.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.50
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.18 (ii)   13.43 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .19          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .11          .16          .272 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        232.344
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .818
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
FINISH
*******************************************************************************
   Simulation ended on 2014-11-11     at 13:38:42
*******************************************************************************
```

```
================================================================================
   SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
   S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
   SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
       S   W W   M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
   SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9   =========
                                                          9   9  9   9   # 4313781
        StormWater Management HYdrologic Model            999    999    =========
 ********************************************************************************
 ************************** SWMHYMO Ver/4.05  ***************************
 *********  A single event and continuous hydrologic simulation model  *********
 *********     based on the principles of HYMO and its successors      *********
 *********                  OTTHYMO-83 and OTTHYMO-89.                 *********
 ********************************************************************************
 ********* Distributed by:  J.F. Sabourin and Associates Inc.          *********
 *********                  Ottawa,  Ontario: (613) 836-3884           *********
 *********                  Gatineau, Quebec: (819) 243-6858           *********
 *********                  E-Mail: swmhymo@jfsa.Com                   *********
 ********************************************************************************
 ********************************************************************************
 ********* Licensed user: McCormick Rankin Corporation                 *********
 *********                Kitchener              SERIAL#:4313781       *********
 ********************************************************************************
 ********************************************************************************
 *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++             *********
 *********           Maximum value for ID numbers  :     10            *********
 *********           Max. number of rainfall points: 105408            *********
 *********           Max. number of flow points    : 105408            *********
 ********************************************************************************
 ********************   D E T A I L E D   O U T P U T   ********************
 ********************************************************************************
 *         DATE: 2014-10-15     TIME: 08:56:19     RUN COUNTER: 001013         *
 ********************************************************************************
 * Input   filename: C:\SWMHYMO\321208~1\TOWNOF~1\Existing.dat                   *
 * Output  filename: C:\SWMHYMO\321208~1\TOWNOF~1\Existing.out                   *
 * Summary filename: C:\SWMHYMO\321208~1\TOWNOF~1\Existing.sum                   *
 * User comments:                                                               *
 * 1:_____________________________________________________________________________*
 * 2:_____________________________________________________________________________*
 * 3:_____________________________________________________________________________*
 ********************************************************************************
*#*******************************************************************************
*#  Project Name: [Dundas Street]    Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*******************************************************************************
---------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
---------------------  Rainfall dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 001
    NSTORM=   1
           #  1=24hCHI02.stm
--------------------
| READ STORM       |    Filename: 24H-CHICAGO AES Toronto (Bloor Street) G
| Ptotal=  48.69 mm|    Comments: 24H-CHICAGO AES Toronto (Bloor Street) G
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .398 |   6.17   1.333 |  12.17   1.214 |  18.17    .576
              .33    .405 |   6.33   1.446 |  12.33   1.174 |  18.33    .568
              .50    .413 |   6.50   1.583 |  12.50   1.137 |  18.50    .561
              .67    .421 |   6.67   1.753 |  12.67   1.102 |  18.67    .554
              .83    .429 |   6.83   1.968 |  12.83   1.070 |  18.83    .546
             1.00    .437 |   7.00   2.254 |  13.00   1.040 |  19.00    .540
             1.17    .446 |   7.17   2.651 |  13.17   1.012 |  19.17    .533
             1.33    .455 |   7.33   3.245 |  13.33    .985 |  19.33    .527
             1.50    .464 |   7.50   4.239 |  13.50    .960 |  19.50    .520
             1.67    .474 |   7.67   6.286 |  13.67    .936 |  19.67    .514
             1.83    .485 |   7.83  13.302 |  13.83    .914 |  19.83    .508
             2.00    .496 |   8.00  79.612 |  14.00    .892 |  20.00    .502
             2.17    .507 |   8.17  28.232 |  14.17    .872 |  20.17    .497
             2.33    .520 |   8.33  12.980 |  14.33    .853 |  20.33    .491
             2.50    .533 |   8.50   8.500 |  14.50    .835 |  20.50    .486
             2.67    .546 |   8.67   6.371 |  14.67    .817 |  20.67    .480
             2.83    .561 |   8.83   5.128 |  14.83    .801 |  20.83    .475
             3.00    .576 |   9.00   4.311 |  15.00    .785 |  21.00    .470
             3.17    .592 |   9.17   3.733 |  15.17    .769 |  21.17    .465
             3.33    .610 |   9.33   3.300 |  15.33    .755 |  21.33    .461
             3.50    .629 |   9.50   2.964 |  15.50    .741 |  21.50    .456
             3.67    .648 |   9.67   2.695 |  15.67    .728 |  21.67    .451
             3.83    .670 |   9.83   2.475 |  15.83    .715 |  21.83    .447
             4.00    .693 |  10.00   2.291 |  16.00    .702 |  22.00    .443
             4.17    .718 |  10.17   2.134 |  16.17    .690 |  22.17    .438
             4.33    .745 |  10.33   2.000 |  16.33    .679 |  22.33    .434
             4.50    .774 |  10.50   1.883 |  16.50    .668 |  22.50    .430
             4.67    .806 |  10.67   1.780 |  16.67    .657 |  22.67    .426
             4.83    .841 |  10.83   1.689 |  16.83    .647 |  22.83    .422
             5.00    .880 |  11.00   1.607 |  17.00    .637 |  23.00    .418
             5.17    .923 |  11.17   1.534 |  17.17    .627 |  23.17    .414
             5.33    .971 |  11.33   1.468 |  17.33    .618 |  23.33    .411
             5.50   1.026 |  11.50   1.408 |  17.50    .609 |  23.50    .407
             5.67   1.087 |  11.67   1.353 |  17.67    .600 |  23.67    .404
             5.83   1.157 |  11.83   1.303 |  17.83    .592 |  23.83    .400
             6.00   1.238 |  12.00   1.256 |  18.00    .584 |  24.00    .397
********************************************************************************
*************** Drainage Area 21A ****************************
********************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .49
| 01:21A    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .49          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     214.00         5.00
     Mannings n             =       .015         .300
     Max.eff.Inten.(mm/hr)=      79.61        12.26
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.81 (ii)   11.26 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .10
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .10          .00          .096 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      46.69        11.46        46.336
     TOTAL RAINFALL   (mm)=      48.69        48.69        48.688
     RUNOFF COEFFICIENT   =        .96          .24          .952
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  71.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*************** Drainage Area 21B ****************************
********************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .70
| 02:21B    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .69          .01
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     425.00         5.00
     Mannings n             =       .015         .300
     Max.eff.Inten.(mm/hr)=      79.61        10.64
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       7.27 (ii)   14.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .17          .08
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .12          .00          .120 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.17         8.000
     RUNOFF VOLUME    (mm)=      46.69        11.46        46.336
     TOTAL RAINFALL   (mm)=      48.69        48.69        48.688
     RUNOFF COEFFICIENT   =        .96          .24          .952
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*************** Drainage Area 22 *****************************
********************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 03:22     DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .68          .01
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     370.00         5.00
     Mannings n             =       .015         .300
     Max.eff.Inten.(mm/hr)=      79.61        10.64
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.69 (ii)   13.51 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .18          .08
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .12          .00          .122 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.17         8.000
     RUNOFF VOLUME    (mm)=      46.69        11.46        46.336
     TOTAL RAINFALL   (mm)=      48.69        48.69        48.688
     RUNOFF COEFFICIENT   =        .96          .24          .952
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*************** Drainage Area 22A ****************************
********************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .68
| 04:22A    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .67          .01
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n             =       .015         .300
     Max.eff.Inten.(mm/hr)=      79.61        12.26
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.96 (ii)   11.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .10
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .13          .00          .132 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.17         8.000
     RUNOFF VOLUME    (mm)=      46.69        11.46        46.336
     TOTAL RAINFALL   (mm)=      48.69        48.69        48.688
     RUNOFF COEFFICIENT   =        .96          .24          .952
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  71.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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************************************************************
*************** Drainage Area 22B **************************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .22
| 05:22B    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .22          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      95.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      79.61        12.26
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.96 (ii)    9.40 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .28          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .05          .00          .047 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      46.69        11.46        46.336
     TOTAL RAINFALL   (mm)=      48.69        48.69        48.688
     RUNOFF COEFFICIENT   =        .96          .24          .952
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 23 ***************************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .20
| 06:23W    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .20          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     105.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      79.61        12.26
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.14 (ii)    9.59 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .27          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .04          .00          .042 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      46.69        11.46        46.336
     TOTAL RAINFALL   (mm)=      48.69        48.69        48.688
     RUNOFF COEFFICIENT   =        .96          .24          .952
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .29
| 07:23E    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .29          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     110.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      79.61        12.26
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.23 (ii)    9.67 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .27          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .06          .00          .061 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      46.69        11.46        46.336
     TOTAL RAINFALL   (mm)=      48.69        48.69        48.688
     RUNOFF COEFFICIENT   =        .96          .24          .952
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
------------------------
| ADD HYD (23        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 06:23W             .20     .042    8.00  46.34    .000
                    +ID2 07:23E             .29     .061    8.00  46.34    .000

============================================================
                     SUM 08:23              .49     .103    8.00  46.34    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
  ** END OF RUN :   1
********************************************************************************
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--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
-------------------  Rainfall dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 002
    NSTORM=   1
           #  1=24hCHI05.stm
*#**************************************************************************
*#  Project Name: [Dundas Street]    Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#**************************************************************************
--------------------
| READ STORM       |    Filename: 24H-CHICAGO AES Toronto (Bloor Street) G
| Ptotal=  60.87 mm|    Comments: 24H-CHICAGO AES Toronto (Bloor Street) G
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .411 |   6.17   1.475 |  12.17   1.334 |  18.17    .605
              .33    .418 |   6.33   1.609 |  12.33   1.287 |  18.33    .596
              .50    .426 |   6.50   1.773 |  12.50   1.244 |  18.50    .588
              .67    .435 |   6.67   1.977 |  12.67   1.204 |  18.67    .580
              .83    .443 |   6.83   2.241 |  12.83   1.167 |  18.83    .572
             1.00    .452 |   7.00   2.594 |  13.00   1.132 |  19.00    .565
             1.17    .462 |   7.17   3.093 |  13.17   1.099 |  19.17    .558
             1.33    .472 |   7.33   3.855 |  13.33   1.068 |  19.33    .550
             1.50    .482 |   7.50   5.164 |  13.50   1.039 |  19.50    .544
             1.67    .493 |   7.67   7.957 |  13.67   1.012 |  19.67    .537
             1.83    .505 |   7.83  18.036 |  13.83    .986 |  19.83    .530
             2.00    .517 |   8.00 110.476 |  14.00    .962 |  20.00    .524
             2.17    .529 |   8.17  39.927 |  14.17    .939 |  20.17    .518
             2.33    .543 |   8.33  17.539 |  14.33    .917 |  20.33    .512
             2.50    .557 |   8.50  11.065 |  14.50    .896 |  20.50    .506
             2.67    .572 |   8.67   8.069 |  14.67    .876 |  20.67    .500
             2.83    .588 |   8.83   6.359 |  14.83    .857 |  20.83    .494
             3.00    .605 |   9.00   5.258 |  15.00    .839 |  21.00    .489
             3.17    .623 |   9.17   4.491 |  15.17    .822 |  21.17    .483
             3.33    .643 |   9.33   3.926 |  15.33    .805 |  21.33    .478
             3.50    .664 |   9.50   3.492 |  15.50    .790 |  21.50    .473
             3.67    .686 |   9.67   3.149 |  15.67    .774 |  21.67    .468
             3.83    .710 |   9.83   2.871 |  15.83    .760 |  21.83    .463
             4.00    .735 |  10.00   2.640 |  16.00    .746 |  22.00    .458
             4.17    .763 |  10.17   2.446 |  16.17    .733 |  22.17    .454
             4.33    .794 |  10.33   2.279 |  16.33    .720 |  22.33    .449
             4.50    .827 |  10.50   2.136 |  16.50    .707 |  22.50    .445
             4.67    .863 |  10.67   2.010 |  16.67    .695 |  22.67    .440
             4.83    .903 |  10.83   1.900 |  16.83    .684 |  22.83    .436
             5.00    .948 |  11.00   1.802 |  17.00    .673 |  23.00    .432
             5.17    .997 |  11.17   1.714 |  17.17    .662 |  23.17    .428
             5.33   1.052 |  11.33   1.635 |  17.33    .652 |  23.33    .424
             5.50   1.115 |  11.50   1.563 |  17.50    .642 |  23.50    .420
             5.67   1.186 |  11.67   1.498 |  17.67    .632 |  23.67    .416
             5.83   1.268 |  11.83   1.439 |  17.83    .623 |  23.83    .412
             6.00   1.363 |  12.00   1.384 |  18.00    .614 |  24.00    .409
**************************************************************
*************** Drainage Area 21A ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .49
| 01:21A    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .49          .00
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    214.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    110.48        23.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      4.22 (ii)    9.17 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .24          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .14          .00          .137 (iii)
     TIME TO PEAK    (hrs)=      8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=     58.87        17.85        58.463
     TOTAL RAINFALL   (mm)=     60.87        60.87        60.873
     RUNOFF COEFFICIENT   =       .97          .29          .960
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 21B ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .70
| 02:21B    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .69          .01
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    425.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    110.48        23.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      6.37 (ii)   11.32 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .18          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .17          .00          .175 (iii)
     TIME TO PEAK    (hrs)=      8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=     58.87        17.85        58.463
     TOTAL RAINFALL   (mm)=     60.87        60.87        60.873
     RUNOFF COEFFICIENT   =       .97          .29          .960
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 03:22     DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .68          .01
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    370.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    110.48        23.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      5.86 (ii)   10.82 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .19          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .18          .00          .177 (iii)
     TIME TO PEAK    (hrs)=      8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=     58.87        17.85        58.463
     TOTAL RAINFALL   (mm)=     60.87        60.87        60.873
     RUNOFF COEFFICIENT   =       .97          .29          .960
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22A ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .68
| 04:22A    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .67          .01
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    225.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    110.48        23.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      4.35 (ii)    9.30 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .23          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .19          .00          .189 (iii)
     TIME TO PEAK    (hrs)=      8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=     58.87        17.85        58.463
     TOTAL RAINFALL   (mm)=     60.87        60.87        60.873
     RUNOFF COEFFICIENT   =       .97          .29          .960
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22B ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .22
| 05:22B    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .22          .00
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=     95.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    110.48        30.51
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      2.59 (ii)    7.07 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .29          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .07          .00          .066 (iii)
     TIME TO PEAK    (hrs)=      8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=     58.87        17.85        58.463
     TOTAL RAINFALL   (mm)=     60.87        60.87        60.873
     RUNOFF COEFFICIENT   =       .97          .29          .960
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 23 ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .20
| 06:23W    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .20          .00
     Dep. Storage     (mm)=      2.00         8.00
```

```
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     105.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     110.48        30.51
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.75 (ii)    7.23 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .28          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .06          .00          .060 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      58.87        17.85        58.463
     TOTAL RAINFALL   (mm)=      60.87        60.87        60.873
     RUNOFF COEFFICIENT   =        .97          .29          .960
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .29
| 07:23E    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .29          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     110.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     110.48        23.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.83 (ii)    7.78 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .28          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .09          .00          .086 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      58.87        17.85        58.463
     TOTAL RAINFALL   (mm)=      60.87        60.87        60.873
     RUNOFF COEFFICIENT   =        .97          .29          .960
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (23        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 06:23W             .20      .060    8.00  58.46    .000
                   +ID2 07:23E             .29      .086    8.00  58.46    .000

============================================================
                    SUM 08:23              .49      .146    8.00  58.46    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
  ** END OF RUN :   2
********************************************************************************
```

```
--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
--------------------  Rainfall dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 003
    NSTORM=   1
           #  1=24hCHI10.stm
*#*************************************************************************
*#  Project Name: [Dundas Street]    Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*************************************************************************
--------------------
| READ STORM       |    Filename: 24H-CHICAGO AES Toronto (Bloor Street) G
| Ptotal=  70.24 mm|    Comments: 24H-CHICAGO AES Toronto (Bloor Street) G
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.17	.459	6.17	1.665	12.17	1.504	18.17	.678
.33	.468	6.33	1.818	12.33	1.451	18.33	.669
.50	.477	6.50	2.004	12.50	1.402	18.50	.659
.67	.486	6.67	2.238	12.67	1.357	18.67	.650
.83	.496	6.83	2.540	12.83	1.314	18.83	.642
1.00	.506	7.00	2.944	13.00	1.275	19.00	.633
1.17	.517	7.17	3.517	13.17	1.237	19.17	.625
1.33	.528	7.33	4.392	13.33	1.202	19.33	.617
1.50	.540	7.50	5.903	13.50	1.170	19.50	.609
1.67	.552	7.67	9.142	13.67	1.139	19.67	.601
1.83	.565	7.83	20.924	13.83	1.109	19.83	.594
2.00	.579	8.00	130.374	14.00	1.082	20.00	.587
2.17	.593	8.17	46.695	14.17	1.056	20.17	.580
2.33	.608	8.33	20.332	14.33	1.031	20.33	.573
2.50	.624	8.50	12.760	14.50	1.007	20.50	.566
2.67	.641	8.67	9.271	14.67	.985	20.67	.560
2.83	.659	8.83	7.287	14.83	.963	20.83	.553
3.00	.679	9.00	6.012	15.00	.943	21.00	.547
3.17	.699	9.17	5.126	15.17	.923	21.17	.541
3.33	.721	9.33	4.474	15.33	.905	21.33	.535
3.50	.744	9.50	3.975	15.50	.887	21.50	.529
3.67	.769	9.67	3.581	15.67	.870	21.67	.524
3.83	.796	9.83	3.261	15.83	.853	21.83	.518
4.00	.826	10.00	2.996	16.00	.838	22.00	.513
4.17	.857	10.17	2.774	16.17	.822	22.17	.508
4.33	.892	10.33	2.583	16.33	.808	22.33	.503
4.50	.929	10.50	2.419	16.50	.794	22.50	.498
4.67	.970	10.67	2.276	16.67	.780	22.67	.493
4.83	1.016	10.83	2.150	16.83	.767	22.83	.488
5.00	1.066	11.00	2.038	17.00	.755	23.00	.483
5.17	1.122	11.17	1.937	17.17	.743	23.17	.479
5.33	1.185	11.33	1.847	17.33	.731	23.33	.474
5.50	1.255	11.50	1.766	17.50	.720	23.50	.470
5.67	1.336	11.67	1.691	17.67	.709	23.67	.465
5.83	1.429	11.83	1.624	17.83	.698	23.83	.461
6.00	1.537	12.00	1.561	18.00	.688	24.00	.457

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************************************************************
*************** Drainage Area 21A ****************************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .49
| 01:21A    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .49          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     214.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     130.37        33.45
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.95 (ii)    8.27 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .16          .00          .164 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      68.24        23.34        67.788
     TOTAL RAINFALL   (mm)=      70.24        70.24        70.237
     RUNOFF COEFFICIENT   =        .97          .33          .965
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 21B ****************************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .70
| 02:21B    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .69          .01
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     425.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     130.37        33.45
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.96 (ii)   10.28 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .19          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .21          .00          .211 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
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```
     RUNOFF VOLUME    (mm)=      68.24        23.34         67.788
     TOTAL RAINFALL   (mm)=      70.24        70.24         70.237
     RUNOFF COEFFICIENT   =        .97          .33           .965
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 03:22     DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .68          .01
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     370.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     130.37        33.45
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.49 (ii)    9.80 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .21          .00          .213 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      68.24        23.34         67.788
     TOTAL RAINFALL   (mm)=      70.24        70.24         70.237
     RUNOFF COEFFICIENT   =        .97          .33           .965
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22A ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .68
| 04:22A    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .67          .01
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     130.37        33.45
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.07 (ii)    8.39 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .23          .00          .226 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      68.24        23.34         67.788
     TOTAL RAINFALL   (mm)=      70.24        70.24         70.237
     RUNOFF COEFFICIENT   =        .97          .33           .965
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22B ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .22
| 05:22B    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .22          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      95.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     130.37        42.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.43 (ii)    6.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .19
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .08          .00          .078 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      68.24        23.34         67.788
     TOTAL RAINFALL   (mm)=      70.24        70.24         70.237
     RUNOFF COEFFICIENT   =        .97          .33           .965
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 23 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .20
| 06:23W    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .20          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     105.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     130.37        42.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.58 (ii)    6.51 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .29          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .07          .00          .071 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      68.24        23.34         67.788
     TOTAL RAINFALL   (mm)=      70.24        70.24         70.237
     RUNOFF COEFFICIENT   =        .97          .33           .965
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .29
| 07:23E    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .29          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     110.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     130.37        42.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.65 (ii)    6.58 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .29          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .10          .00          .102 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      68.24        23.34         67.788
     TOTAL RAINFALL   (mm)=      70.24        70.24         70.237
     RUNOFF COEFFICIENT   =        .97          .33           .965
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (23        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 06:23W             .20      .071    8.00  67.79    .000
                    +ID2 07:23E             .29      .102    8.00  67.79    .000
============================================================
                     SUM 08:23              .49      .173    8.00  67.79    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
  ** END OF RUN :   3
**************************************************************************************
```

```
--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
-------------------  Rainfall dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 004
    NSTORM=   1
           #  1=24hCHI25.stm
*#**************************************************************************
*#  Project Name: [Dundas Street]    Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#**************************************************************************
--------------------
| READ STORM       |    Filename: 24H-CHICAGO AES TORONTO (Bloor Street) G
| Ptotal=  82.48 mm|    Comments: 24H-CHICAGO AES TORONTO (Bloor Street) G
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .528 |   6.17   1.923 |  12.17   1.737 |  18.17    .782
              .33    .538 |   6.33   2.101 |  12.33   1.676 |  18.33    .770
              .50    .549 |   6.50   2.317 |  12.50   1.619 |  18.50    .760
              .67    .559 |   6.67   2.588 |  12.67   1.567 |  18.67    .749
              .83    .571 |   6.83   2.938 |  12.83   1.517 |  18.83    .739
             1.00    .583 |   7.00   3.407 |  13.00   1.472 |  19.00    .729
             1.17    .595 |   7.17   4.072 |  13.17   1.428 |  19.17    .720
             1.33    .608 |   7.33   5.089 |  13.33   1.388 |  19.33    .710
             1.50    .621 |   7.50   6.845 |  13.50   1.350 |  19.50    .701
             1.67    .636 |   7.67  10.618 |  13.67   1.314 |  19.67    .693
             1.83    .651 |   7.83  24.427 |  13.83   1.280 |  19.83    .684
             2.00    .666 |   8.00 156.877 |  14.00   1.248 |  20.00    .676
             2.17    .683 |   8.17  54.954 |  14.17   1.218 |  20.17    .668
             2.33    .701 |   8.33  23.718 |  14.33   1.189 |  20.33    .660
             2.50    .719 |   8.50  14.843 |  14.50   1.162 |  20.50    .652
             2.67    .739 |   8.67  10.769 |  14.67   1.136 |  20.67    .644
             2.83    .760 |   8.83   8.456 |  14.83   1.111 |  20.83    .637
             3.00    .782 |   9.00   6.972 |  15.00   1.088 |  21.00    .630
             3.17    .806 |   9.17   5.941 |  15.17   1.065 |  21.17    .623
             3.33    .831 |   9.33   5.184 |  15.33   1.043 |  21.33    .616
             3.50    .858 |   9.50   4.604 |  15.50   1.023 |  21.50    .610
             3.67    .887 |   9.67   4.146 |  15.67   1.003 |  21.67    .603
             3.83    .918 |   9.83   3.775 |  15.83    .984 |  21.83    .597
             4.00    .952 |  10.00   3.468 |  16.00    .966 |  22.00    .591
             4.17    .989 |  10.17   3.209 |  16.17    .948 |  22.17    .584
             4.33   1.028 |  10.33   2.989 |  16.33    .931 |  22.33    .579
             4.50   1.072 |  10.50   2.798 |  16.50    .915 |  22.50    .573
             4.67   1.119 |  10.67   2.632 |  16.67    .900 |  22.67    .567
             4.83   1.172 |  10.83   2.485 |  16.83    .885 |  22.83    .562
             5.00   1.230 |  11.00   2.356 |  17.00    .870 |  23.00    .556
             5.17   1.295 |  11.17   2.239 |  17.17    .856 |  23.17    .551
             5.33   1.367 |  11.33   2.135 |  17.33    .843 |  23.33    .546
             5.50   1.449 |  11.50   2.040 |  17.50    .830 |  23.50    .540
             5.67   1.543 |  11.67   1.954 |  17.67    .817 |  23.67    .535
             5.83   1.650 |  11.83   1.876 |  17.83    .805 |  23.83    .531
             6.00   1.776 |  12.00   1.804 |  18.00    .793 |  24.00    .526
**************************************************************
*************** Drainage Area 21A ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .49
| 01:21A    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .49          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     214.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     156.88        59.46
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.67 (ii)    7.10 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .25          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .20          .00          .200 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      80.47        31.11        79.981
     TOTAL RAINFALL   (mm)=      82.48        82.48        82.475
     RUNOFF COEFFICIENT   =        .98          .38          .970
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 21B ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .70
| 02:21B    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .69          .01
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     425.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     156.88        48.11
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.54 (ii)    9.27 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .26          .00          .260 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      80.47        31.12        79.981
     TOTAL RAINFALL   (mm)=      82.48        82.48        82.475
     RUNOFF COEFFICIENT   =        .98          .38          .970
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 03:22     DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .68          .01
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     370.00         5.00
     Mannings n            =       .015         .300
    Max.eff.Inten.(mm/hr)=     156.88        48.11
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.10 (ii)    8.83 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .26          .00          .262 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      80.47        31.12        79.981
     TOTAL RAINFALL   (mm)=      82.48        82.48        82.475
     RUNOFF COEFFICIENT   =        .98          .38          .970
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22A ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .68
| 04:22A    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .67          .01
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     156.88        59.46
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.78 (ii)    7.21 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .25          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .28          .00          .276 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      80.47        31.11        79.981
     TOTAL RAINFALL   (mm)=      82.48        82.48        82.475
     RUNOFF COEFFICIENT   =        .98          .38          .970
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22B ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .22
| 05:22B    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .22          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      95.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     156.88        59.46
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.25 (ii)    5.68 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .20
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .09          .00          .094 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      80.47        31.12        79.981
     TOTAL RAINFALL   (mm)=      82.48        82.48        82.475
     RUNOFF COEFFICIENT   =        .98          .38          .970
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 23 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .20
| 06:23W    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .20          .00
     Dep. Storage     (mm)=       2.00         8.00
```

```
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     105.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     156.88        59.46
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.39 (ii)    5.82 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .20
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .09          .00          .085 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      80.47        31.12        79.982
     TOTAL RAINFALL   (mm)=      82.48        82.48        82.475
     RUNOFF COEFFICIENT   =        .98          .38          .970
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .29
| 07:23E    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .29          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     110.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     156.88        59.46
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.46 (ii)    5.89 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .19
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .12          .00          .124 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      80.47        31.11        79.981
     TOTAL RAINFALL   (mm)=      82.48        82.48        82.475
     RUNOFF COEFFICIENT   =        .98          .38          .970
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*
------------------------
| ADD HYD (23        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                      ID1 06:23W            .20     .085    8.00  79.98    .000
                     +ID2 07:23E            .29     .124    8.00  79.98    .000

============================================================
                      SUM 08:23             .49     .209    8.00  79.98    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
  ** END OF RUN :   4

********************************************************************************
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--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
--------------------  Rainfall dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 005
    NSTORM=   1
           #  1=24hCHI50.stm
*#*************************************************************************
*#  Project Name: [Dundas Street]    Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*************************************************************************
--------------------
| READ STORM       |    Filename: 24H-CHICAGO TORONTO (Bloor Street) Gauge
| Ptotal=  89.46 mm|    Comments: 24H-CHICAGO TORONTO (Bloor Street) Gauge
--------------------
              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
               .17    .536 |   6.17   1.995 |  12.17   1.798 |  18.17    .798
               .33    .546 |   6.33   2.182 |  12.33   1.734 |  18.33    .786
               .50    .557 |   6.50   2.412 |  12.50   1.674 |  18.50    .775
               .67    .568 |   6.67   2.701 |  12.67   1.618 |  18.67    .764
               .83    .580 |   6.83   3.075 |  12.83   1.566 |  18.83    .754
              1.00    .592 |   7.00   3.578 |  13.00   1.518 |  19.00    .744
              1.17    .605 |   7.17   4.295 |  13.17   1.473 |  19.17    .734
              1.33    .618 |   7.33   5.399 |  13.33   1.430 |  19.33    .724
              1.50    .632 |   7.50   7.321 |  13.50   1.391 |  19.50    .715
              1.67    .647 |   7.67  11.493 |  13.67   1.353 |  19.67    .706
              1.83    .662 |   7.83  27.006 |  13.83   1.318 |  19.83    .697
              2.00    .679 |   8.00 176.064 |  14.00   1.284 |  20.00    .688
              2.17    .696 |   8.17  61.578 |  14.17   1.252 |  20.17    .680
              2.33    .714 |   8.33  26.190 |  14.33   1.222 |  20.33    .672
              2.50    .733 |   8.50  16.204 |  14.50   1.194 |  20.50    .664
              2.67    .753 |   8.67  11.657 |  14.67   1.167 |  20.67    .656
              2.83    .775 |   8.83   9.093 |  14.83   1.141 |  20.83    .648
              3.00    .798 |   9.00   7.458 |  15.00   1.116 |  21.00    .641
              3.17    .823 |   9.17   6.329 |  15.17   1.092 |  21.17    .634
              3.33    .849 |   9.33   5.502 |  15.33   1.070 |  21.33    .627
              3.50    .877 |   9.50   4.872 |  15.50   1.048 |  21.50    .620
              3.67    .907 |   9.67   4.376 |  15.67   1.028 |  21.67    .613
              3.83    .940 |   9.83   3.974 |  15.83   1.008 |  21.83    .607
              4.00    .975 |  10.00   3.644 |  16.00    .989 |  22.00    .600
              4.17   1.013 |  10.17   3.366 |  16.17    .971 |  22.17    .594
              4.33   1.054 |  10.33   3.129 |  16.33    .953 |  22.33    .588
              4.50   1.100 |  10.50   2.925 |  16.50    .936 |  22.50    .582
              4.67   1.149 |  10.67   2.748 |  16.67    .920 |  22.67    .576
              4.83   1.204 |  10.83   2.592 |  16.83    .905 |  22.83    .570
              5.00   1.265 |  11.00   2.453 |  17.00    .890 |  23.00    .565
              5.17   1.333 |  11.17   2.330 |  17.17    .875 |  23.17    .559
              5.33   1.409 |  11.33   2.219 |  17.33    .861 |  23.33    .554
              5.50   1.495 |  11.50   2.118 |  17.50    .848 |  23.50    .549
              5.67   1.593 |  11.67   2.027 |  17.67    .834 |  23.67    .543
              5.83   1.706 |  11.83   1.944 |  17.83    .822 |  23.83    .538
              6.00   1.839 |  12.00   1.868 |  18.00    .810 |  24.00    .533
************************************************************
*************** Drainage Area 21A ****************************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .49
| 01:21A    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .49          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     214.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     176.06        72.09
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.50 (ii)    6.68 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .26          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .23          .00          .226 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      87.46        35.81        86.941
     TOTAL RAINFALL   (mm)=      89.46        89.46        89.458
     RUNOFF COEFFICIENT   =        .98          .40          .972
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 21B ****************************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .70
| 02:21B    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .69          .01
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     425.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     176.06        58.61
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.29 (ii)    8.74 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .29          .00          .295 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
```

```
     RUNOFF VOLUME    (mm)=      87.46        35.83         86.941
     TOTAL RAINFALL   (mm)=      89.46        89.46         89.458
     RUNOFF COEFFICIENT   =        .98          .40           .972
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 03:22     DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .68          .01
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     370.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     176.06        58.61
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.87 (ii)    8.31 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .30          .00          .298 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      87.46        35.83         86.941
     TOTAL RAINFALL   (mm)=      89.46        89.46         89.458
     RUNOFF COEFFICIENT   =        .98          .40           .972
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22A ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .68
| 04:22A    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .67          .01
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     176.06        72.09
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.61 (ii)    6.78 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .25          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .31          .00          .313 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      87.46        35.82         86.941
     TOTAL RAINFALL   (mm)=      89.46        89.46         89.458
     RUNOFF COEFFICIENT   =        .98          .40           .972
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22B ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .22
| 05:22B    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .22          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      95.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     176.06        72.09
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.15 (ii)    5.33 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .31          .21
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .11          .00          .106 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      87.46        35.81         86.941
     TOTAL RAINFALL   (mm)=      89.46        89.46         89.458
     RUNOFF COEFFICIENT   =        .98          .40           .972
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 23 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .20
| 06:23W    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .20          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     105.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     176.06        72.09
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.29 (ii)    5.46 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .20
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .10          .00          .096 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      87.46        35.80         86.941
     TOTAL RAINFALL   (mm)=      89.46        89.46         89.458
     RUNOFF COEFFICIENT   =        .98          .40           .972
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .29
| 07:23E    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .29          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     110.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     176.06        72.09
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.35 (ii)    5.52 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .20
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .14          .00          .139 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      87.46        35.80         86.941
     TOTAL RAINFALL   (mm)=      89.46        89.46         89.458
     RUNOFF COEFFICIENT   =        .98          .40           .972
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (23        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 06:23W            .20     .096    8.00  86.94    .000
                    +ID2 07:23E            .29     .139    8.00  86.94    .000

============================================================
                     SUM 08:23             .49     .235    8.00  86.94    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
  ** END OF RUN :   5
********************************************************************************
```

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--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
-------------------  Rainfall dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 006
    NSTORM=   1
           #  1=24CHI100.stm
*#**************************************************************************
*#  Project Name: [Dundas Street]    Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#**************************************************************************
--------------------
| READ STORM       |    Filename: 24H-CHICAGO TORONTO (Bloor Street) Gauge
| Ptotal=  98.14 mm|    Comments: 24H-CHICAGO TORONTO (Bloor Street) Gauge
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .588 |   6.17   2.185 |  12.17   1.970 |  18.17    .875
              .33    .599 |   6.33   2.390 |  12.33   1.899 |  18.33    .862
              .50    .611 |   6.50   2.642 |  12.50   1.834 |  18.50    .850
              .67    .623 |   6.67   2.958 |  12.67   1.773 |  18.67    .838
              .83    .636 |   6.83   3.366 |  12.83   1.716 |  18.83    .826
             1.00    .649 |   7.00   3.916 |  13.00   1.664 |  19.00    .815
             1.17    .663 |   7.17   4.699 |  13.17   1.614 |  19.17    .804
             1.33    .678 |   7.33   5.905 |  13.33   1.568 |  19.33    .794
             1.50    .693 |   7.50   8.002 |  13.50   1.524 |  19.50    .784
             1.67    .709 |   7.67  12.553 |  13.67   1.483 |  19.67    .774
             1.83    .726 |   7.83  29.486 |  13.83   1.444 |  19.83    .764
             2.00    .744 |   8.00 194.210 |  14.00   1.407 |  20.00    .754
             2.17    .763 |   8.17  67.348 |  14.17   1.373 |  20.17    .745
             2.33    .783 |   8.33  28.591 |  14.33   1.340 |  20.33    .736
             2.50    .804 |   8.50  17.692 |  14.50   1.308 |  20.50    .728
             2.67    .826 |   8.67  12.732 |  14.67   1.279 |  20.67    .719
             2.83    .850 |   8.83   9.936 |  14.83   1.250 |  20.83    .711
             3.00    .875 |   9.00   8.152 |  15.00   1.223 |  21.00    .703
             3.17    .902 |   9.17   6.920 |  15.17   1.197 |  21.17    .695
             3.33    .931 |   9.33   6.018 |  15.33   1.173 |  21.33    .687
             3.50    .961 |   9.50   5.329 |  15.50   1.149 |  21.50    .680
             3.67    .994 |   9.67   4.787 |  15.67   1.127 |  21.67    .672
             3.83   1.030 |   9.83   4.349 |  15.83   1.105 |  21.83    .665
             4.00   1.068 |  10.00   3.988 |  16.00   1.084 |  22.00    .658
             4.17   1.110 |  10.17   3.684 |  16.17   1.064 |  22.17    .651
             4.33   1.156 |  10.33   3.426 |  16.33   1.045 |  22.33    .645
             4.50   1.205 |  10.50   3.203 |  16.50   1.027 |  22.50    .638
             4.67   1.260 |  10.67   3.009 |  16.67   1.009 |  22.67    .632
             4.83   1.320 |  10.83   2.838 |  16.83    .992 |  22.83    .625
             5.00   1.386 |  11.00   2.687 |  17.00    .975 |  23.00    .619
             5.17   1.460 |  11.17   2.552 |  17.17    .959 |  23.17    .613
             5.33   1.544 |  11.33   2.430 |  17.33    .944 |  23.33    .607
             5.50   1.638 |  11.50   2.320 |  17.50    .929 |  23.50    .602
             5.67   1.746 |  11.67   2.221 |  17.67    .915 |  23.67    .596
             5.83   1.870 |  11.83   2.130 |  17.83    .901 |  23.83    .590
             6.00   2.014 |  12.00   2.047 |  18.00    .888 |  24.00    .585
**************************************************************
*************** Drainage Area 21A ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .49
| 01:21A    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .49          .00
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    214.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    194.21        85.82
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      3.37 (ii)    6.33 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .26          .19
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .25          .00          .251 (iii)
     TIME TO PEAK    (hrs)=      8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=     96.13        41.89        95.592
     TOTAL RAINFALL   (mm)=     98.14        98.14        98.135
     RUNOFF COEFFICIENT   =       .98          .43          .974
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 21B ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .70
| 02:21B    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .69          .01
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    425.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    194.21        70.55
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      5.09 (ii)    8.29 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .21          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .33          .00          .330 (iii)
     TIME TO PEAK    (hrs)=      8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=     96.13        41.90        95.593
     TOTAL RAINFALL   (mm)=     98.14        98.14        98.135
     RUNOFF COEFFICIENT   =       .98          .43          .974
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 03:22     DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .68          .01
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    370.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    194.21        70.55
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      4.68 (ii)    7.88 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .22          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .33          .00          .332 (iii)
     TIME TO PEAK    (hrs)=      8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=     96.13        41.90        95.593
     TOTAL RAINFALL   (mm)=     98.14        98.14        98.135
     RUNOFF COEFFICIENT   =       .98          .43          .974
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22A ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .68
| 04:22A    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .67          .01
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    225.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    194.21        85.82
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      3.47 (ii)    6.43 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .26          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .35          .00          .347 (iii)
     TIME TO PEAK    (hrs)=      8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=     96.13        41.90        95.593
     TOTAL RAINFALL   (mm)=     98.14        98.14        98.135
     RUNOFF COEFFICIENT   =       .98          .43          .974
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22B ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .22
| 05:22B    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .22          .00
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=     95.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    194.21        85.82
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      2.07 (ii)    5.03 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .31          .21
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .12          .00          .117 (iii)
     TIME TO PEAK    (hrs)=      8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=     96.14        41.89        95.593
     TOTAL RAINFALL   (mm)=     98.14        98.14        98.135
     RUNOFF COEFFICIENT   =       .98          .43          .974
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 23 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .20
| 06:23W    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=        .20          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     105.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     194.21        85.82
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.20 (ii)    5.16 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .21
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .11          .00          .106 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      96.13        41.89        95.592
     TOTAL RAINFALL   (mm)=      98.14        98.14        98.135
     RUNOFF COEFFICIENT    =       .98          .43          .974
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .29
| 07:23E    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .29          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     110.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     194.21        85.82
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.26 (ii)    5.22 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .21
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .15          .00          .154 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      96.13        41.88        95.593
     TOTAL RAINFALL   (mm)=      98.14        98.14        98.135
     RUNOFF COEFFICIENT    =       .98          .43          .974
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (23        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 06:23W             .20     .106    8.00  95.59    .000
                    +ID2 07:23E             .29     .154    8.00  95.59    .000

============================================================
                     SUM 08:23              .49     .260    8.00  95.59    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
  ** END OF RUN :   6

********************************************************************************
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--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
--------------------  Rainfall dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 007
    NSTORM=   1
           #  1=HAZEL48.stm
*#*****************************************************************************
*#  Project Name: [Dundas Street]    Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*****************************************************************************
--------------------
| READ STORM       |    Filename: 48 hour Hurricane Hazel
| Ptotal= 284.00 mm|    Comments: 48 hour Hurricane Hazel
--------------------
              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              1.00   2.000 |  13.00   2.000 |  25.00   2.000 |  37.00   5.936
              2.00   2.000 |  14.00   2.000 |  26.00   2.000 |  38.00   4.028
              3.00   2.000 |  15.00   2.000 |  27.00   2.000 |  39.00   5.936
              4.00   2.000 |  16.00   2.000 |  28.00   2.000 |  40.00  13.144
              5.00   2.000 |  17.00   2.000 |  29.00   2.000 |  41.00  16.960
              6.00   2.000 |  18.00   2.000 |  30.00   2.000 |  42.00  12.932
              7.00   2.000 |  19.00   2.000 |  31.00   2.000 |  43.00  23.108
              8.00   2.000 |  20.00   2.000 |  32.00   2.000 |  44.00  12.932
              9.00   2.000 |  21.00   2.000 |  33.00   2.000 |  45.00  12.932
             10.00   2.000 |  22.00   2.000 |  34.00   2.000 |  46.00  53.000
             11.00   2.000 |  23.00   2.000 |  35.00   2.000 |  47.00  38.160
             12.00   2.000 |  24.00   2.000 |  36.00   2.000 |  48.00  12.932
*******************************************************************
*************** Drainage Area 21A *********************************
*******************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .49
| 01:21A    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .49          .00
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     214.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.66 (ii)    9.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .07          .00          .072 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60       281.186
     TOTAL RAINFALL   (mm)=     284.00       284.00       284.000
     RUNOFF COEFFICIENT    =       .99          .71          .990
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*******************************************************************
*************** Drainage Area 21B *********************************
*******************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .70
| 02:21B    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .69          .01
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     425.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)       10.00        10.00
     Storage Coeff.  (min)=       8.55 (ii)   12.30 (ii)
     Unit Hyd. Tpeak (min)=      10.00        10.00
     Unit Hyd. peak  (cms)=        .12          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .10          .00          .103 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60       281.186
     TOTAL RAINFALL   (mm)=     284.00       284.00       284.000
     RUNOFF COEFFICIENT    =       .99          .71          .990
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*******************************************************************
*************** Drainage Area 22 **********************************
*******************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 03:22     DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .68          .01
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     370.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)       10.00        10.00
     Storage Coeff.  (min)=       7.87 (ii)   11.61 (ii)
     Unit Hyd. Tpeak (min)=      10.00        10.00
     Unit Hyd. peak  (cms)=        .13          .10
```

```
                                                      *TOTALS*
     PEAK FLOW      (cms)=        .10          .00          .101 (iii)
     TIME TO PEAK   (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME   (mm)=     282.00       200.60       281.186
     TOTAL RAINFALL  (mm)=     284.00       284.00       284.000
     RUNOFF COEFFICIENT  =        .99          .71          .990
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22A ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .68
| 04:22A    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .67          .01
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    225.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     53.00        47.57
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      5.84 (ii)    9.58 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .20          .11
                                                      *TOTALS*
     PEAK FLOW      (cms)=        .10          .00          .100 (iii)
     TIME TO PEAK   (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME   (mm)=     282.00       200.60       281.186
     TOTAL RAINFALL  (mm)=     284.00       284.00       284.000
     RUNOFF COEFFICIENT  =        .99          .71          .990
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22B ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .22
| 05:22B    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .22          .00
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=     95.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     53.00        47.65
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      3.48 (ii)    7.22 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .26          .17
                                                      *TOTALS*
     PEAK FLOW      (cms)=        .03          .00          .032 (iii)
     TIME TO PEAK   (hrs)=      45.83        46.00         46.000
     RUNOFF VOLUME   (mm)=     282.00       200.55       281.186
     TOTAL RAINFALL  (mm)=     284.00       284.00       284.000
     RUNOFF COEFFICIENT  =        .99          .71          .990
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 23 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .20
| 06:23W    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .20          .00
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    105.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     53.00        47.65
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      3.70 (ii)    7.44 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .25          .17
                                                      *TOTALS*
     PEAK FLOW      (cms)=        .03          .00          .029 (iii)
     TIME TO PEAK   (hrs)=      45.83        46.00        46.000
     RUNOFF VOLUME   (mm)=     282.00       200.53       281.185
     TOTAL RAINFALL  (mm)=     284.00       284.00       284.000
     RUNOFF COEFFICIENT  =        .99          .71          .990
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .29
| 07:23E    DT= 5.00 |   Total Imp(%)=   99.00   Dir. Conn.(%)=   99.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .29          .00
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    110.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     53.00        47.57
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      3.80 (ii)    7.55 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .25          .13
                                                      *TOTALS*
     PEAK FLOW      (cms)=        .04          .00          .043 (iii)
     TIME TO PEAK   (hrs)=      45.92        46.00         46.000
     RUNOFF VOLUME   (mm)=     282.00       200.60       281.186
     TOTAL RAINFALL  (mm)=     284.00       284.00       284.000
     RUNOFF COEFFICIENT  =        .99          .71          .990
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
------------------------
| ADD HYD (23        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                       ID1 06:23W           .20      .029   46.00 281.19    .000
                      +ID2 07:23E           .29      .043   46.00 281.19    .000

============================================================
                       SUM 08:23            .49      .072   46.00 281.19    .000

FINISH

  Simulation ended on 2014-10-15     at 08:56:23
================================================================================
```

3212082 - SUMMARY OF EXISTING FLOWS - TOWN OF OAKVILLE								
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	Regional
Catchment ID	**21A**							
Paved Area (ha)	0.49							
Pervious Area (ha)	0.74							
Total Area (ha)	1.23							
NOCSS Unit Flow Rate (m3/s/ha)		0.007	0.011	0.013	0.017	0.020	0.022	0.054
NOCSS Flows (m3/s)		0.005	0.008	0.010	0.013	0.015	0.016	0.040
SWMHYMO (m3/s)		0.096	0.137	0.164	0.200	0.226	0.251	0.072
Total		**0.101**	**0.145**	**0.174**	**0.213**	**0.241**	**0.267**	**0.112**
Catchment ID	**21B**							
Paved Area (ha)	0.7							
Pervious Area (ha)	1.54							
Total Area (ha)	2.24							
NOCSS Unit Flow Rate (m3/s/ha)		0.010	0.016	0.020	0.024	0.027	0.031	0.065
NOCSS Flows (m3/s)		0.015	0.025	0.031	0.037	0.042	0.048	0.100
SWMHYMO (m3/s)		0.120	0.175	0.211	0.260	0.295	0.330	0.103
Total		**0.135**	**0.200**	**0.242**	**0.297**	**0.337**	**0.378**	**0.203**
Catchment ID	**22**							
Paved Area (ha)	0.69							
Pervious Area (ha)	1.13							
Total Area (ha)	1.82							
NOCSS Unit Flow Rate (m3/s/ha)		0.006	0.010	0.012	0.015	0.018	0.020	0.049
NOCSS Flows (m3/s)		0.007	0.011	0.014	0.017	0.020	0.023	0.055
SWMHYMO (m3/s)		0.122	0.177	0.213	0.262	0.298	0.332	0.101
Total		**0.129**	**0.188**	**0.227**	**0.279**	**0.318**	**0.355**	**0.156**
Catchment ID	**22A**							
Paved Area (ha)	0.68							
Pervious Area (ha)	0.65							
Total Area (ha)	1.33							
NOCSS Unit Flow Rate (m3/s/ha)		0.006	0.010	0.012	0.015	0.018	0.020	0.049
NOCSS Flows (m3/s)		0.004	0.007	0.008	0.010	0.012	0.013	0.032
SWMHYMO (m3/s)		0.132	0.189	0.226	0.276	0.313	0.347	0.100
Total		**0.136**	**0.196**	**0.234**	**0.286**	**0.325**	**0.360**	**0.132**
Catchment ID	**22B**							
Paved Area (ha)	0.22							
Pervious Area (ha)	0.34							
Total Area (ha)	0.56							
NOCSS Unit Flow Rate (m3/s/ha)		0.006	0.010	0.012	0.015	0.018	0.020	0.049
NOCSS Flows (m3/s)		0.002	0.003	0.004	0.005	0.006	0.007	0.017
SWMHYMO (m3/s)		0.047	0.066	0.078	0.094	0.106	0.117	0.032
Total		**0.049**	**0.069**	**0.082**	**0.099**	**0.112**	**0.124**	**0.049**

SUMMARY OF EXISTING FLOWS (Page-2)								
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	Regional
Catchment ID	**23**							
Paved Area (ha)	0.49							
Pervious Area (ha)	0.68							
Total Area (ha)	1.17							
NOCSS Unit Flow Rate (m3/s/ha)		0.006	0.010	0.013	0.017	0.019	0.022	0.055
NOCSS Flows (m3/s)		0.004	0.007	0.009	0.012	0.013	0.015	0.037
SWMHYMO (m3/s)		0.103	0.146	0.173	0.209	0.235	0.260	0.072
Total		**0.107**	**0.153**	**0.182**	**0.221**	**0.248**	**0.275**	**0.109**

```
================================================================================

   SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
   S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
   SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
       S   W W   M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
   SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9    =========
                                                         9   9  9   9   # 4313781
        StormWater Management HYdrologic Model            999    999    =========
 ********************************************************************************
 ***************************** SWMHYMO Ver/4.05  ********************************
 *********  A single event and continuous hydrologic simulation model  *********
 *********     based on the principles of HYMO and its successors      *********
 *********                  OTTHYMO-83 and OTTHYMO-89.                  *********
 ********************************************************************************
 ********* Distributed by:  J.F. Sabourin and Associates Inc.           *********
 *********                  Ottawa,  Ontario: (613) 836-3884            *********
 *********                  Gatineau, Quebec: (819) 243-6858            *********
 *********                  E-Mail: swmhymo@jfsa.Com                    *********
 ********************************************************************************
 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 +++++++++ Licensed user: McCormick Rankin Corporation                  +++++++++
 +++++++++               Kitchener             SERIAL#:4313781        +++++++++
 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 ********************************************************************************
 *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++             *********
 *********           Maximum value for ID numbers  :     10            *********
 *********           Max. number of rainfall points: 105408            *********
 *********           Max. number of flow points    : 105408            *********
 ********************************************************************************
 **********************   D E T A I L E D   O U T P U T   **********************
 ********************************************************************************
 *         DATE: 2014-11-11     TIME: 13:43:41     RUN COUNTER: 001023         *
 ********************************************************************************
 * Input   filename: C:\SWMHYMO\321208~1\CITYOF~1\Prop.dat                       *
 * Output  filename: C:\SWMHYMO\321208~1\CITYOF~1\Prop.out                       *
 * Summary filename: C:\SWMHYMO\321208~1\CITYOF~1\Prop.sum                       *
 * User comments:                                                               *
 * 1:_____________________________________________________________________________*
 * 2:_____________________________________________________________________________*
 * 3:_____________________________________________________________________________*
 ********************************************************************************
*#*******************************************************************************
*#  Project Name: [Dundas Street Widening EA Phase-3]  Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*******************************************************************************
--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\CITYOF~1\
--------------------  Rainfall dir.: C:\SWMHYMO\321208~1\CITYOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 001
    NSTORM=   1
           #  1=2Ch24h.stm
--------------------
| READ STORM       |    Filename: 2yr Chicago 24 hour, City of Burlington
| Ptotal=  51.78 mm|    Comments: 2yr Chicago 24 hour, City of Burlington
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .520 |   6.17   1.130 |  12.17   2.020 |  18.17    .770
              .33    .530 |   6.33   1.180 |  12.33   1.910 |  18.33    .760
              .50    .540 |   6.50   1.220 |  12.50   1.820 |  18.50    .750
              .67    .540 |   6.67   1.280 |  12.67   1.740 |  18.67    .740
              .83    .550 |   6.83   1.340 |  12.83   1.670 |  18.83    .730
             1.00    .560 |   7.00   1.400 |  13.00   1.610 |  19.00    .720
             1.17    .570 |   7.17   1.480 |  13.17   1.540 |  19.17    .710
             1.33    .580 |   7.33   1.560 |  13.33   1.490 |  19.33    .700
             1.50    .590 |   7.50   1.650 |  13.50   1.440 |  19.50    .690
             1.67    .590 |   7.67   1.760 |  13.67   1.390 |  19.67    .680
             1.83    .600 |   7.83   1.890 |  13.83   1.350 |  19.83    .670
             2.00    .610 |   8.00   2.040 |  14.00   1.310 |  20.00    .670
             2.17    .630 |   8.17   2.230 |  14.17   1.270 |  20.17    .660
             2.33    .640 |   8.33   2.450 |  14.33   1.230 |  20.33    .650
             2.50    .650 |   8.50   2.730 |  14.50   1.200 |  20.50    .640
             2.67    .660 |   8.67   3.110 |  14.67   1.170 |  20.67    .630
             2.83    .670 |   8.83   3.630 |  14.83   1.140 |  20.83    .630
             3.00    .690 |   9.00   4.400 |  15.00   1.110 |  21.00    .620
             3.17    .700 |   9.17   5.680 |  15.17   1.080 |  21.17    .610
             3.33    .710 |   9.33   8.330 |  15.33   1.060 |  21.33    .610
             3.50    .730 |   9.50  17.910 |  15.50   1.040 |  21.50    .600
             3.67    .740 |   9.67  73.830 |  15.67   1.010 |  21.67    .590
             3.83    .760 |   9.83  20.810 |  15.83    .990 |  21.83    .590
             4.00    .780 |  10.00  10.920 |  16.00    .970 |  22.00    .580
             4.17    .800 |  10.17   7.630 |  16.17    .950 |  22.17    .570
             4.33    .810 |  10.33   5.950 |  16.33    .930 |  22.33    .570
             4.50    .830 |  10.50   4.930 |  16.50    .920 |  22.50    .560
             4.67    .860 |  10.67   4.230 |  16.67    .900 |  22.67    .560
             4.83    .880 |  10.83   3.730 |  16.83    .880 |  22.83    .550
             5.00    .900 |  11.00   3.340 |  17.00    .870 |  23.00    .550
             5.17    .930 |  11.17   3.040 |  17.17    .850 |  23.17    .540
             5.33    .960 |  11.33   2.790 |  17.33    .840 |  23.33    .540
             5.50    .990 |  11.50   2.580 |  17.50    .820 |  23.50    .530
             5.67   1.020 |  11.67   2.410 |  17.67    .810 |  23.67    .530
             5.83   1.050 |  11.83   2.260 |  17.83    .800 |  23.83    .520
             6.00   1.090 |  12.00   2.130 |  18.00    .790 |  24.00    .520
************************************************************
********************** Drainage Area D1 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 01:D1     DT= 5.00 |   Total Imp(%)=   71.00   Dir. Conn.(%)=   71.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .94          .39
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     250.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.92 (ii)    9.67 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .11
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .18          .01          .191 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        39.114
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .755
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area D2 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .92
| 02:D2     DT= 5.00 |   Total Imp(%)=   72.00   Dir. Conn.(%)=   72.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .66          .26
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     175.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.16 (ii)    8.92 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .27          .12
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .13          .01          .138 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        39.482
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .762
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area D3 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.27
| 03:D3     DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.70          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     430.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       6.13 (ii)   11.88 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .19          .10
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .30          .02          .307 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        40.586
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .784
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area D4 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=     .79
| 04:D4     DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .59          .20
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     160.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.17 (ii)    9.92 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .11
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .11          .01          .118 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        40.586
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .784
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
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     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********************** Drainage Area D5 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.19
| 05:D5     DT= 5.00 |   Total Imp(%)=   79.00   Dir. Conn.(%)=   79.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .94          .25
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     205.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.83 (ii)   10.59 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .17          .01          .179 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        42.057
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .812
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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001:0008---------------------------------------------------------------------
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**********************************************************
********************** Drainage Area D6 **********************
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| CALIB STANDHYD     |   Area    (ha)=    1.07
| 06:D6     DT= 5.00 |   Total Imp(%)=   65.00   Dir. Conn.(%)=   65.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .70          .37
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     195.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.37 (ii)    9.13 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .26          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .14          .01          .146 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        36.907
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .713
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********************** Drainage Area D7 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.06
| 07:D7     DT= 5.00 |   Total Imp(%)=   84.00   Dir. Conn.(%)=   84.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.73          .33
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.55 (ii)   12.85 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .18          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .29          .01          .298 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        43.897
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .848
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********************** Drainage Area D8 **********************
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| CALIB STANDHYD     |   Area    (ha)=     .69
| 08:D8W    DT= 5.00 |   Total Imp(%)=   67.00   Dir. Conn.(%)=   67.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .23
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       5.00         1.00
     Length            (m)=     157.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.54 (ii)    8.30 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .29          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .09          .01          .099 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        37.643
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .727
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.34
| 09:D8E    DT= 5.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   76.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.78          .56
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     490.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)       10.00        15.00
     Storage Coeff.  (min)=       8.16 (ii)   14.45 (ii)
     Unit Hyd. Tpeak (min)=      10.00        15.00
     Unit Hyd. peak  (cms)=        .13          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .25          .01          .257 (iii)
     TIME TO PEAK    (hrs)=       9.75         9.83         9.750
     RUNOFF VOLUME    (mm)=      49.78        12.99        40.954
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .791
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
------------------------
| ADD HYD (D8        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                       ID1 08:D8W           .69      .099    9.67  37.64    .000
                      +ID2 09:D8E          2.34      .257    9.75  40.95    .000

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                       SUM 01:D8           3.03      .342    9.67  40.20    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**********************************************************
********************** Drainage Area D9 **********************
**********************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.18
| 02:D9     DT= 5.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   85.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.00          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.32 (ii)   11.07 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .18          .00          .185 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        44.265
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .855
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********************** Drainage Area D10 **********************
**********************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .66
| 03:D10    DT= 5.00 |   Total Imp(%)=   70.00   Dir. Conn.(%)=   70.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .20
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     150.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.26 (ii)    9.01 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .27          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .09          .01          .096 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        38.746
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .748
      *** WARNING: Storage Coefficient is smaller than DT!
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                Use a smaller DT or a larger area.
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN* =  71.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area D11 **********************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.49
| 04:D11W   DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.99          .50
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     500.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        10.00        15.00
     Storage Coeff.  (min)=       8.26 (ii)   14.55 (ii)
     Unit Hyd. Tpeak (min)=      10.00        15.00
     Unit Hyd. peak  (cms)=        .13          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .27          .01          .285 (iii)
     TIME TO PEAK    (hrs)=       9.75         9.83         9.750
     RUNOFF VOLUME    (mm)=      49.78        12.99        42.425
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .819
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.69
| 05:D11E   DT= 5.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.42          .27
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     480.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        10.00        15.00
     Storage Coeff.  (min)=       8.06 (ii)   14.35 (ii)
     Unit Hyd. Tpeak (min)=      10.00        15.00
     Unit Hyd. peak  (cms)=        .13          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .34          .01          .342 (iii)
     TIME TO PEAK    (hrs)=       9.75         9.83         9.750
     RUNOFF VOLUME    (mm)=      49.78        12.99        46.104
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .890
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (D11       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 04:D11W           2.49     .285    9.75  42.43    .000
                   +ID2 05:D11E           2.69     .342    9.75  46.10    .000

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                   SUM 06:D11            5.18     .626    9.75  44.34    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D12 **********************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.97
| 07:D12W   DT= 5.00 |   Total Imp(%)=   88.00   Dir. Conn.(%)=   88.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.73          .24
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     360.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        5.00         15.00
     Storage Coeff.  (min)=       6.78 (ii)   13.08 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .18          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .29          .01          .294 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        45.369
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .876
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.08
| 08:D12E   DT= 5.00 |   Total Imp(%)=   83.00   Dir. Conn.(%)=   83.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .90          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     186.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00         10.00
     Storage Coeff.  (min)=       4.56 (ii)   10.31 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .23          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .17          .01          .172 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        43.529
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .841
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (D12       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 07:D12W           1.97     .294    9.67  45.37    .000
                   +ID2 08:D12E           1.08     .172    9.67  43.53    .000

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                   SUM 09:D12            3.05     .467    9.67  44.72    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D13 **********************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    3.29
| 01:D13W   DT= 5.00 |   Total Imp(%)=   86.00   Dir. Conn.(%)=   86.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.83          .46
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     600.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        10.00        15.00
     Storage Coeff.  (min)=       9.21 (ii)   15.51 (ii)
     Unit Hyd. Tpeak (min)=      10.00        15.00
     Unit Hyd. peak  (cms)=        .12          .07
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .38          .01          .386 (iii)
     TIME TO PEAK    (hrs)=       9.75         9.83         9.750
     RUNOFF VOLUME    (mm)=      49.78        12.99        44.633
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .862
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .89
| 02:D13E   DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .67          .22
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     170.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00         10.00
     Storage Coeff.  (min)=       4.32 (ii)   10.07 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .23          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .13          .01          .132 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        40.586
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .784
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (D13       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 01:D13W           3.29     .386    9.75  44.63    .000
                   +ID2 02:D13E            .89     .132    9.67  40.59    .000

============================================================
                   SUM 03:D13            4.18     .493    9.67  43.77    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D17 **********************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.69
| 04:D17    DT= 5.00 |   Total Imp(%)=   83.00   Dir. Conn.(%)=   83.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40          .29
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        12.99
               over (min)        5.00         15.00
     Storage Coeff.  (min)=       6.55 (ii)   12.85 (ii)
```

```
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .18          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .24          .01          .242 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.83         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        43.529
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .841
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************* Drainage Area B-W **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.98
| 05:B-W    DT= 5.00 |   Total Imp(%)=   88.00   Dir. Conn.(%)=   88.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.74          .24
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     290.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.95 (ii)   11.71 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .19          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .31          .01          .310 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        45.369
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .876
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************* Drainage Area B-E **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.15
| 06:B-E    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .89          .26
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.11 (ii)   10.87 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .16          .01          .167 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        41.322
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .798
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************* Drainage Area D19 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .94
| 07:D19    DT= 5.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   76.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .71          .23
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     175.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.40 (ii)   10.15 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .23          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .13          .01          .140 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        40.954
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .791
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************* Drainage Area D20 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.00
| 08:D20    DT= 5.00 |   Total Imp(%)=   79.00   Dir. Conn.(%)=   79.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.58          .42
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     350.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      73.83        16.29
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.41 (ii)   11.17 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .28          .01          .293 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      49.78        12.99        42.057
     TOTAL RAINFALL   (mm)=      51.78        51.78        51.783
     RUNOFF COEFFICIENT   =        .96          .25          .812
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
  ** END OF RUN :   1
**************************************************************************
```

```
--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\CITYOF~1\
-------------------  Rainfall dir.: C:\SWMHYMO\321208~1\CITYOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 002
    NSTORM=   1
           #  1=5Ch24h.stm
*#**************************************************************************
*#  Project Name: [Dundas Street Widening EA Phase-3]  Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#**************************************************************************
--------------------
| READ STORM       |    Filename: 5yr Chicago 24 hour, City of Burlington
| Ptotal=  66.79 mm|    Comments: 5yr Chicago 24 hour, City of Burlington
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .610 |   6.17   1.360 |  12.17   2.490 |  18.17    .920
              .33    .620 |   6.33   1.420 |  12.33   2.360 |  18.33    .900
              .50    .620 |   6.50   1.480 |  12.50   2.240 |  18.50    .890
              .67    .630 |   6.67   1.540 |  12.67   2.140 |  18.67    .870
              .83    .640 |   6.83   1.620 |  12.83   2.040 |  18.83    .860
             1.00    .650 |   7.00   1.700 |  13.00   1.960 |  19.00    .850
             1.17    .660 |   7.17   1.790 |  13.17   1.880 |  19.17    .840
             1.33    .670 |   7.33   1.900 |  13.33   1.810 |  19.33    .830
             1.50    .680 |   7.50   2.020 |  13.50   1.750 |  19.50    .810
             1.67    .700 |   7.67   2.160 |  13.67   1.690 |  19.67    .800
             1.83    .710 |   7.83   2.330 |  13.83   1.630 |  19.83    .790
             2.00    .720 |   8.00   2.520 |  14.00   1.580 |  20.00    .780
             2.17    .730 |   8.17   2.760 |  14.17   1.530 |  20.17    .770
             2.33    .750 |   8.33   3.060 |  14.33   1.490 |  20.33    .760
             2.50    .760 |   8.50   3.440 |  14.50   1.440 |  20.50    .750
             2.67    .780 |   8.67   3.940 |  14.67   1.410 |  20.67    .740
             2.83    .790 |   8.83   4.640 |  14.83   1.370 |  20.83    .740
             3.00    .810 |   9.00   5.700 |  15.00   1.330 |  21.00    .730
             3.17    .820 |   9.17   7.500 |  15.17   1.300 |  21.17    .720
             3.33    .840 |   9.33  11.300 |  15.33   1.270 |  21.33    .710
             3.50    .860 |   9.50  25.390 |  15.50   1.240 |  21.50    .700
             3.67    .880 |   9.67  98.980 |  15.67   1.210 |  21.67    .690
             3.83    .900 |   9.83  29.660 |  15.83   1.190 |  21.83    .690
             4.00    .920 |  10.00  15.100 |  16.00   1.160 |  22.00    .680
             4.17    .940 |  10.17  10.280 |  16.17   1.140 |  22.17    .670
             4.33    .970 |  10.33   7.880 |  16.33   1.110 |  22.33    .670
             4.50    .990 |  10.50   6.440 |  16.50   1.090 |  22.50    .660
             4.67   1.020 |  10.67   5.470 |  16.67   1.070 |  22.67    .650
             4.83   1.050 |  10.83   4.780 |  16.83   1.050 |  22.83    .640
             5.00   1.080 |  11.00   4.250 |  17.00   1.030 |  23.00    .640
             5.17   1.110 |  11.17   3.840 |  17.17   1.010 |  23.17    .630
             5.33   1.140 |  11.33   3.510 |  17.33    .990 |  23.33    .630
             5.50   1.180 |  11.50   3.230 |  17.50    .980 |  23.50    .620
             5.67   1.220 |  11.67   3.000 |  17.67    .960 |  23.67    .610
             5.83   1.260 |  11.83   2.810 |  17.83    .950 |  23.83    .610
             6.00   1.310 |  12.00   2.640 |  18.00    .930 |  24.00    .600
************************************************************
********** Drainage Area D1 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 01:D1     DT= 5.00 |   Total Imp(%)=   71.00   Dir. Conn.(%)=   71.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .94          .39
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      3.00         1.00
     Length            (m)=    250.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        29.49
               over (min)       5.00        10.00
     Storage Coeff.  (min)=     3.48 (ii)    8.02 (ii)
     Unit Hyd. Tpeak (min)=     5.00        10.00
     Unit Hyd. peak  (cms)=      .26          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=      .25          .02          .267 (iii)
     TIME TO PEAK    (hrs)=     9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=    64.79        21.26        52.166
     TOTAL RAINFALL   (mm)=    66.79        66.79        66.788
     RUNOFF COEFFICIENT   =      .97          .32          .781
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D2 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .92
| 02:D2     DT= 5.00 |   Total Imp(%)=   72.00   Dir. Conn.(%)=   72.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .66          .26
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      3.00         1.00
     Length            (m)=    175.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        34.11
               over (min)       5.00         5.00
     Storage Coeff.  (min)=     2.81 (ii)    7.09 (ii)
     Unit Hyd. Tpeak (min)=     5.00         5.00
     Unit Hyd. peak  (cms)=      .28          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=      .18          .02          .196 (iii)
     TIME TO PEAK    (hrs)=     9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=    64.79        21.26        52.601
     TOTAL RAINFALL   (mm)=    66.79        66.79        66.788
     RUNOFF COEFFICIENT   =      .97          .32          .788
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D3 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.27
| 03:D3     DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.70          .57
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      2.00         1.00
     Length            (m)=    430.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        29.49
               over (min)       5.00        10.00
     Storage Coeff.  (min)=     5.45 (ii)    9.98 (ii)
     Unit Hyd. Tpeak (min)=     5.00        10.00
     Unit Hyd. peak  (cms)=      .20          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=      .41          .03          .435 (iii)
     TIME TO PEAK    (hrs)=     9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=    64.79        21.26        53.907
     TOTAL RAINFALL   (mm)=    66.79        66.79        66.788
     RUNOFF COEFFICIENT   =      .97          .32          .807
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D4 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .79
| 04:D4     DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .59          .20
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    160.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        29.49
               over (min)       5.00        10.00
     Storage Coeff.  (min)=     3.71 (ii)    8.24 (ii)
     Unit Hyd. Tpeak (min)=     5.00        10.00
     Unit Hyd. peak  (cms)=      .25          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=      .15          .01          .164 (iii)
     TIME TO PEAK    (hrs)=     9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=    64.79        21.26        53.907
     TOTAL RAINFALL   (mm)=    66.79        66.79        66.788
     RUNOFF COEFFICIENT   =      .97          .32          .807
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D5 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.19
| 05:D5     DT= 5.00 |   Total Imp(%)=   79.00   Dir. Conn.(%)=   79.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .94          .25
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    205.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        29.49
               over (min)       5.00        10.00
     Storage Coeff.  (min)=     4.30 (ii)    8.84 (ii)
     Unit Hyd. Tpeak (min)=     5.00        10.00
     Unit Hyd. peak  (cms)=      .23          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=      .24          .01          .251 (iii)
     TIME TO PEAK    (hrs)=     9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=    64.79        21.26        55.648
     TOTAL RAINFALL   (mm)=    66.79        66.79        66.788
     RUNOFF COEFFICIENT   =      .97          .32          .833
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D6 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.07
| 06:D6     DT= 5.00 |   Total Imp(%)=   65.00   Dir. Conn.(%)=   65.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=        .70          .37
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     195.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        34.11
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.00 (ii)    7.28 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .28          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .19          .03          .211 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        49.555
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT    =       .97          .32          .742
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D7 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.06
| 07:D7     DT= 5.00 |   Total Imp(%)=   84.00   Dir. Conn.(%)=   84.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.73          .33
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        29.49
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.83 (ii)   10.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .41          .02          .424 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        57.824
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT    =       .97          .32          .866
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D8 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 08:D8W    DT= 5.00 |   Total Imp(%)=   67.00   Dir. Conn.(%)=   67.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .23
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       5.00         1.00
     Length            (m)=     157.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        34.11
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.26 (ii)    6.54 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .13          .02          .142 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        50.425
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT    =       .97          .32          .755
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.34
| 09:D8E    DT= 5.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   76.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.78          .56
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     490.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        29.49
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       7.25 (ii)   11.79 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .17          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .39          .03          .414 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        54.342
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT    =       .97          .32          .814
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

----------------------
| ADD HYD (D8        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 08:D8W            .69      .142    9.67  50.43    .000
                    +ID2 09:D8E           2.34      .414    9.67  54.34    .000

============================================================
                     SUM 01:D8            3.03      .556    9.67  53.45    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D9 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.18
| 02:D9     DT= 5.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   85.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.00          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        29.49
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.73 (ii)    9.27 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .25          .01          .258 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        58.260
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT    =       .97          .32          .872
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D10 *********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .66
| 03:D10    DT= 5.00 |   Total Imp(%)=   70.00   Dir. Conn.(%)=   70.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .20
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     150.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        34.11
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.90 (ii)    7.18 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .28          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .12          .01          .137 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        51.731
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT    =       .97          .32          .775
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D11 *********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.49
| 04:D11W   DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.99          .50
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     500.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      98.98        29.49
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       7.34 (ii)   11.88 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .17          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .44          .02          .457 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        56.083
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT    =       .97          .32          .840
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.69
| 05:D11E   DT= 5.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.42          .27
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     480.00         5.00
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     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        29.49
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      7.16 (ii)   11.70 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .17          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .54          .01          .547 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     64.79        21.26        60.436
     TOTAL RAINFALL   (mm)=     66.79        66.79        66.788
     RUNOFF COEFFICIENT   =       .97          .32          .905
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (D11       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 04:D11W           2.49      .457    9.67  56.08    .000
                   +ID2 05:D11E           2.69      .547    9.67  60.44    .000

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                    SUM 06:D11            5.18    1.004    9.67  58.34    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********** Drainage Area D12 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.97
| 07:D12W   DT= 5.00 |   Total Imp(%)=   88.00   Dir. Conn.(%)=   88.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.73          .24
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     360.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        29.49
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      6.03 (ii)   10.57 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .19          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .41          .01          .416 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     64.79        21.26        59.565
     TOTAL RAINFALL   (mm)=     66.79        66.79        66.788
     RUNOFF COEFFICIENT   =       .97          .32          .892
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.08
| 08:D12E   DT= 5.00 |   Total Imp(%)=   83.00   Dir. Conn.(%)=   83.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .90          .18
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    186.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        29.49
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      4.06 (ii)    8.59 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .24          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .23          .01          .239 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     64.79        21.26        57.389
     TOTAL RAINFALL   (mm)=     66.79        66.79        66.788
     RUNOFF COEFFICIENT   =       .97          .32          .859
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (D12       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 07:D12W           1.97      .416    9.67  59.57    .000
                   +ID2 08:D12E           1.08      .239    9.67  57.39    .000

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                    SUM 09:D12            3.05      .656    9.67  58.79    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********** Drainage Area D13 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    3.29
| 01:D13W   DT= 5.00 |   Total Imp(%)=   86.00   Dir. Conn.(%)=   86.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.83          .46
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     600.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        23.58
               over (min)      10.00        15.00
     Storage Coeff.  (min)=      8.19 (ii)   13.15 (ii)
     Unit Hyd. Tpeak (min)=     10.00        15.00
     Unit Hyd. peak  (cms)=       .13          .08
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .53          .02          .547 (iii)
     TIME TO PEAK    (hrs)=      9.75         9.83         9.750
     RUNOFF VOLUME    (mm)=     64.79        21.26        58.695
     TOTAL RAINFALL   (mm)=     66.79        66.79        66.788
     RUNOFF COEFFICIENT   =       .97          .32          .879
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .89
| 02:D13E   DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .67          .22
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    170.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        29.49
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      3.84 (ii)    8.38 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .25          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .17          .01          .184 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     64.79        21.26        53.907
     TOTAL RAINFALL   (mm)=     66.79        66.79        66.788
     RUNOFF COEFFICIENT   =       .97          .32          .807
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (D13       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 01:D13W           3.29      .547    9.75  58.69    .000
                   +ID2 02:D13E            .89      .184    9.67  53.91    .000

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                    SUM 03:D13            4.18      .701    9.67  57.68    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********** Drainage Area D17 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.69
| 04:D17    DT= 5.00 |   Total Imp(%)=   83.00   Dir. Conn.(%)=   83.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.40          .29
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    340.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        29.49
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      5.83 (ii)   10.36 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .20          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .33          .01          .344 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     64.79        21.26        57.389
     TOTAL RAINFALL   (mm)=     66.79        66.79        66.788
     RUNOFF COEFFICIENT   =       .97          .32          .859
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area B-W **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.98
| 05:B-W    DT= 5.00 |   Total Imp(%)=   88.00   Dir. Conn.(%)=   88.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.74          .24
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    290.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     98.98        29.49
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      5.29 (ii)    9.83 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .21          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .42          .01          .434 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     64.79        21.26        59.565
     TOTAL RAINFALL   (mm)=     66.79        66.79        66.788
     RUNOFF COEFFICIENT   =       .97          .32          .892
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area B-E **********
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.15
| 06:B-E    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .89          .26
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n           =       .015         .300

     Max.eff.Inten.(mm/hr)=      98.98        29.49
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.55 (ii)    9.08 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .23          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .22          .01          .235 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        54.778
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT   =        .97          .32          .820
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

************************************************************
********************** Drainage Area D19 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .94
| 07:D19    DT= 5.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   76.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .71          .23
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     175.00         5.00
     Mannings n           =       .015         .300

     Max.eff.Inten.(mm/hr)=      98.98        29.49
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.91 (ii)    8.45 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .25          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .18          .01          .195 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        54.342
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT   =        .97          .32          .814
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area D20 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.00
| 08:D20    DT= 5.00 |   Total Imp(%)=   79.00   Dir. Conn.(%)=   79.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.58          .42
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     350.00         5.00
     Mannings n           =       .015         .300

     Max.eff.Inten.(mm/hr)=      98.98        29.49
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.81 (ii)    9.35 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .39          .02          .412 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      64.79        21.26        55.648
     TOTAL RAINFALL   (mm)=      66.79        66.79        66.788
     RUNOFF COEFFICIENT   =        .97          .32          .833
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
  ** END OF RUN :   2
************************************************************************************
```

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--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\CITYOF~1\
-------------------  Rainfall dir.: C:\SWMHYMO\321208~1\CITYOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 003
    NSTORM=   1
           #  1=10Ch24h.stm
*#*************************************************************************
*#  Project Name: [Dundas Street Widening EA Phase-3]  Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*************************************************************************
--------------------
| READ STORM       |    Filename: 10yr Chicago 24 hour, City of Burlington
| Ptotal=  76.77 mm|    Comments: 10yr Chicago 24 hour, City of Burlington
--------------------
              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
               .17    .650 |   6.17   1.500 |  12.17   2.790 |  18.17   1.000
               .33    .660 |   6.33   1.560 |  12.33   2.640 |  18.33    .980
               .50    .670 |   6.50   1.630 |  12.50   2.500 |  18.50    .970
               .67    .680 |   6.67   1.700 |  12.67   2.380 |  18.67    .950
               .83    .690 |   6.83   1.790 |  12.83   2.280 |  18.83    .940
              1.00    .710 |   7.00   1.880 |  13.00   2.180 |  19.00    .920
              1.17    .720 |   7.17   1.990 |  13.17   2.090 |  19.17    .910
              1.33    .730 |   7.33   2.110 |  13.33   2.010 |  19.33    .900
              1.50    .740 |   7.50   2.250 |  13.50   1.940 |  19.50    .880
              1.67    .750 |   7.67   2.410 |  13.67   1.870 |  19.67    .870
              1.83    .770 |   7.83   2.600 |  13.83   1.800 |  19.83    .860
              2.00    .780 |   8.00   2.830 |  14.00   1.750 |  20.00    .850
              2.17    .790 |   8.17   3.110 |  14.17   1.690 |  20.17    .840
              2.33    .810 |   8.33   3.460 |  14.33   1.640 |  20.33    .830
              2.50    .820 |   8.50   3.900 |  14.50   1.590 |  20.50    .820
              2.67    .840 |   8.67   4.490 |  14.67   1.550 |  20.67    .810
              2.83    .860 |   8.83   5.330 |  14.83   1.510 |  20.83    .800
              3.00    .880 |   9.00   6.600 |  15.00   1.470 |  21.00    .790
              3.17    .890 |   9.17   8.800 |  15.17   1.430 |  21.17    .780
              3.33    .910 |   9.33  13.500 |  15.33   1.390 |  21.33    .770
              3.50    .930 |   9.50  30.990 |  15.50   1.360 |  21.50    .760
              3.67    .950 |   9.67 114.810 |  15.67   1.330 |  21.67    .750
              3.83    .980 |   9.83  36.270 |  15.83   1.300 |  21.83    .740
              4.00   1.000 |  10.00  18.230 |  16.00   1.270 |  22.00    .730
              4.17   1.030 |  10.17  12.230 |  16.17   1.240 |  22.17    .730
              4.33   1.050 |  10.33   9.270 |  16.33   1.220 |  22.33    .720
              4.50   1.080 |  10.50   7.500 |  16.50   1.190 |  22.50    .710
              4.67   1.110 |  10.67   6.330 |  16.67   1.170 |  22.67    .700
              4.83   1.140 |  10.83   5.490 |  16.83   1.150 |  22.83    .700
              5.00   1.180 |  11.00   4.870 |  17.00   1.130 |  23.00    .690
              5.17   1.210 |  11.17   4.380 |  17.17   1.110 |  23.17    .680
              5.33   1.250 |  11.33   3.980 |  17.33   1.090 |  23.33    .680
              5.50   1.290 |  11.50   3.660 |  17.50   1.070 |  23.50    .670
              5.67   1.340 |  11.67   3.390 |  17.67   1.050 |  23.67    .660
              5.83   1.390 |  11.83   3.160 |  17.83   1.030 |  23.83    .660
              6.00   1.440 |  12.00   2.960 |  18.00   1.010 |  24.00    .650
************************************************************
********************** Drainage Area D1 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 01:D1     DT= 5.00 |   Total Imp(%)=   71.00   Dir. Conn.(%)=   71.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .94          .39
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     250.00         5.00
     Mannings n           =       .015         .300

     Max.eff.Inten.(mm/hr)=     114.81        44.99
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.28 (ii)    7.11 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .27          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .29          .03          .325 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        61.034
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .795
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area D2 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .92
| 02:D2     DT= 5.00 |   Total Imp(%)=   72.00   Dir. Conn.(%)=   72.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .66          .26
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     175.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        44.99
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.65 (ii)    6.48 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .29          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .21          .02          .232 (iii)
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     TIME TO PEAK    (hrs)=       9.67         9.67          9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41         61.507
     TOTAL RAINFALL   (mm)=      76.77        76.77         76.767
     RUNOFF COEFFICIENT   =        .97          .36           .801
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********************** Drainage Area D3 **********************
**********************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.27
| 03:D3     DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.70          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     430.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.13 (ii)    9.18 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .48          .04          .519 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        62.928
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36           .820
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********************** Drainage Area D4 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=     .79
| 04:D4     DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .59          .20
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     160.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        44.99
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.49 (ii)    7.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .26          .17
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .18          .02          .199 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        62.928
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36           .820
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********************** Drainage Area D5 **********************
**********************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.19
| 05:D5     DT= 5.00 |   Total Imp(%)=   79.00   Dir. Conn.(%)=   79.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .94          .25
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     205.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.05 (ii)    8.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .13
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .28          .02          .297 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        64.822
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36           .844
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********************** Drainage Area D6 **********************
**********************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.07
| 06:D6     DT= 5.00 |   Total Imp(%)=   65.00   Dir. Conn.(%)=   65.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .70          .37
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     195.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        44.99
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.83 (ii)    6.66 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .28          .18
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .22          .03          .252 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        58.192
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36           .758
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********************** Drainage Area D7 **********************
**********************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.06
| 07:D7     DT= 5.00 |   Total Imp(%)=   84.00   Dir. Conn.(%)=   84.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.73          .33
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.49 (ii)    9.53 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .48          .02          .504 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        67.190
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36           .875
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********************** Drainage Area D8 **********************
**********************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 08:D8W    DT= 5.00 |   Total Imp(%)=   67.00   Dir. Conn.(%)=   67.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .23
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       5.00         1.00
     Length            (m)=     157.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        44.99
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.13 (ii)    5.96 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .31          .19
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .15          .02          .169 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        59.139
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36           .770
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.34
| 09:D8E    DT= 5.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   76.00
----------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.78          .56
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     490.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       6.84 (ii)   10.88 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .18          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .47          .04          .497 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        63.401
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36           .826
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
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     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D8        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 08:D8W            .69     .169    9.67  59.14    .000
                    +ID2 09:D8E           2.34     .497    9.67  63.40    .000

============================================================
                     SUM 01:D8            3.03     .666    9.67  62.43    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********** Drainage Area D9 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.18
| 02:D9     DT= 5.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   85.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.00          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.46 (ii)    8.50 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .23          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .29          .01          .306 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        67.663
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .881
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D10 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .66
| 03:D10    DT= 5.00 |   Total Imp(%)=   70.00   Dir. Conn.(%)=   70.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .20
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     150.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        44.99
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.73 (ii)    6.56 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .29          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .14          .02          .163 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        60.560
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .789
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D11 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.49
| 04:D11W   DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.99          .50
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     500.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       6.92 (ii)   10.96 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .17          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .52          .03          .548 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        65.296
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .851
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.69
| 05:D11E   DT= 5.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.42          .27
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     480.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       6.75 (ii)   10.79 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .18          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .64          .02          .652 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        70.031
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .912
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D11       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 04:D11W           2.49     .548    9.67  65.30    .000
                    +ID2 05:D11E           2.69     .652    9.67  70.03    .000

============================================================
                     SUM 06:D11            5.18    1.200    9.67  67.75    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********** Drainage Area D12 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.97
| 07:D12W   DT= 5.00 |   Total Imp(%)=   88.00   Dir. Conn.(%)=   88.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.73          .24
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     360.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.68 (ii)    9.72 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .48          .02          .495 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        69.084
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .900
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.08
| 08:D12E   DT= 5.00 |   Total Imp(%)=   83.00   Dir. Conn.(%)=   83.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .90          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     186.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.82 (ii)    7.86 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .25          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .27          .01          .282 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        66.716
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .869
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D12       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 07:D12W           1.97     .495    9.67  69.08    .000
                    +ID2 08:D12E           1.08     .282    9.67  66.72    .000

============================================================
                     SUM 09:D12            3.05     .777    9.67  68.25    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********** Drainage Area D13 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    3.29
| 01:D13W   DT= 5.00 |   Total Imp(%)=   86.00   Dir. Conn.(%)=   86.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.83          .46
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     600.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)       10.00        10.00
     Storage Coeff.  (min)=       7.72 (ii)   11.76 (ii)
```

```
     Unit Hyd. Tpeak (min)=      10.00        10.00
     Unit Hyd. peak  (cms)=        .13          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .63          .03          .659 (iii)
     TIME TO PEAK    (hrs)=       9.75         9.75         9.750
     RUNOFF VOLUME    (mm)=      74.77        27.41        68.137
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .888
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .89
| 02:D13E    DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .67          .22
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     170.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.62 (ii)    7.66 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .25          .13
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .20          .02          .218 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        62.928
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .820
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D13       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                       ID1 01:D13W          3.29     .659    9.75  68.14    .000
                      +ID2 02:D13E           .89     .218    9.67  62.93    .000

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                       SUM 03:D13           4.18     .849    9.67  67.03    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D17 **********************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.69
| 04:D17     DT= 5.00 |   Total Imp(%)=   83.00   Dir. Conn.(%)=   83.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40          .29
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.49 (ii)    9.53 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .39          .02          .410 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        66.716
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .869
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area B-W **********************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.98
| 05:B-W     DT= 5.00 |   Total Imp(%)=   88.00   Dir. Conn.(%)=   88.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.74          .24
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     290.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.99 (ii)    9.03 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .50          .02          .514 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        69.084
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .900
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area B-E **********************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.15
| 06:B-E     DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .89          .26
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.28 (ii)    8.33 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .23          .13
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .26          .02          .279 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        63.875
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .832
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area D19 **********************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .94
| 07:D19     DT= 5.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   76.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .71          .23
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     175.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.69 (ii)    7.73 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .25          .13
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .22          .02          .232 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        63.401
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .826
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area D20 **********************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.00
| 08:D20     DT= 5.00 |   Total Imp(%)=   79.00   Dir. Conn.(%)=   79.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.58          .42
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     350.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     114.81        39.37
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.54 (ii)    8.58 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .23          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .46          .03          .489 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      74.77        27.41        64.822
     TOTAL RAINFALL   (mm)=      76.77        76.77        76.767
     RUNOFF COEFFICIENT   =        .97          .36          .844
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
  ** END OF RUN :   3
********************************************************************************
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--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\CITYOF~1\
-------------------  Rainfall dir.: C:\SWMHYMO\321208~1\CITYOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 004
    NSTORM=   1
          #  1=25Ch24h.stm
*#**************************************************************************
*#  Project Name: [Dundas Street Widening EA Phase-3]  Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#**************************************************************************
--------------------
| READ STORM       |    Filename: 25yr Chicago 24 hour, City of Burlington
| Ptotal=  90.04 mm|    Comments: 25yr Chicago 24 hour, City of Burlington
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .750 |   6.17   1.720 |  12.17   3.230 |  18.17   1.140
              .33    .760 |   6.33   1.790 |  12.33   3.060 |  18.33   1.120
              .50    .770 |   6.50   1.870 |  12.50   2.900 |  18.50   1.100
              .67    .780 |   6.67   1.960 |  12.67   2.760 |  18.67   1.090
              .83    .790 |   6.83   2.060 |  12.83   2.630 |  18.83   1.070
             1.00    .800 |   7.00   2.170 |  13.00   2.520 |  19.00   1.060
             1.17    .820 |   7.17   2.300 |  13.17   2.410 |  19.17   1.040
             1.33    .830 |   7.33   2.440 |  13.33   2.320 |  19.33   1.030
             1.50    .850 |   7.50   2.600 |  13.50   2.230 |  19.50   1.010
             1.67    .860 |   7.67   2.790 |  13.67   2.150 |  19.67   1.000
             1.83    .880 |   7.83   3.020 |  13.83   2.080 |  19.83    .980
             2.00    .890 |   8.00   3.280 |  14.00   2.010 |  20.00    .970
             2.17    .910 |   8.17   3.610 |  14.17   1.950 |  20.17    .960
             2.33    .920 |   8.33   4.020 |  14.33   1.890 |  20.33    .950
             2.50    .940 |   8.50   4.540 |  14.50   1.830 |  20.50    .930
             2.67    .960 |   8.67   5.250 |  14.67   1.780 |  20.67    .920
             2.83    .980 |   8.83   6.240 |  14.83   1.730 |  20.83    .910
             3.00   1.000 |   9.00   7.770 |  15.00   1.690 |  21.00    .900
             3.17   1.020 |   9.17  10.400 |  15.17   1.640 |  21.17    .890
             3.33   1.040 |   9.33  16.080 |  15.33   1.600 |  21.33    .880
             3.50   1.070 |   9.50  37.200 |  15.50   1.560 |  21.50    .870
             3.67   1.090 |   9.67 135.520 |  15.67   1.530 |  21.67    .860
             3.83   1.120 |   9.83  43.570 |  15.83   1.490 |  21.83    .850
             4.00   1.150 |  10.00  21.800 |  16.00   1.460 |  22.00    .840
             4.17   1.170 |  10.17  14.550 |  16.17   1.430 |  22.17    .830
             4.33   1.210 |  10.33  10.970 |  16.33   1.400 |  22.33    .820
             4.50   1.240 |  10.50   8.850 |  16.50   1.370 |  22.50    .810
             4.67   1.270 |  10.67   7.440 |  16.67   1.340 |  22.67    .800
             4.83   1.310 |  10.83   6.440 |  16.83   1.320 |  22.83    .790
             5.00   1.350 |  11.00   5.690 |  17.00   1.290 |  23.00    .790
             5.17   1.390 |  11.17   5.110 |  17.17   1.270 |  23.17    .780
             5.33   1.430 |  11.33   4.640 |  17.33   1.240 |  23.33    .770
             5.50   1.480 |  11.50   4.260 |  17.50   1.220 |  23.50    .760
             5.67   1.540 |  11.67   3.940 |  17.67   1.200 |  23.67    .760
             5.83   1.590 |  11.83   3.670 |  17.83   1.180 |  23.83    .750
             6.00   1.650 |  12.00   3.440 |  18.00   1.160 |  24.00    .740
************************************************************
********** Drainage Area D1 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 01:D1     DT= 5.00 |   Total Imp(%)=   71.00   Dir. Conn.(%)=   71.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .94          .39
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      3.00         1.00
     Length            (m)=    250.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    135.52        60.59
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      3.07 (ii)    6.47 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .27          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .35          .05          .395 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     88.04        36.23        73.016
     TOTAL RAINFALL   (mm)=     90.04        90.04        90.042
     RUNOFF COEFFICIENT   =       .98          .40          .811
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D2 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .92
| 02:D2     DT= 5.00 |   Total Imp(%)=   72.00   Dir. Conn.(%)=   72.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .66          .26
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      3.00         1.00
     Length            (m)=    175.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    135.52        60.59
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      2.48 (ii)    5.88 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .29          .19
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .25          .03          .280 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     88.04        36.23        73.534
     TOTAL RAINFALL   (mm)=     90.04        90.04        90.042
     RUNOFF COEFFICIENT   =       .98          .40          .817
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********** Drainage Area D3 **********
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| CALIB STANDHYD     |   Area    (ha)=    2.27
| 03:D3     DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.70          .57
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      2.00         1.00
     Length            (m)=    430.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    135.52        53.70
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      4.80 (ii)    8.37 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .22          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .58          .06          .631 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     88.04        36.23        75.088
     TOTAL RAINFALL   (mm)=     90.04        90.04        90.042
     RUNOFF COEFFICIENT   =       .98          .40          .834
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D4 **********
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----------------------
| CALIB STANDHYD     |   Area    (ha)=     .79
| 04:D4     DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .59          .20
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    160.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    135.52        60.59
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      3.27 (ii)    6.67 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .27          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .22          .02          .240 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     88.04        36.23        75.088
     TOTAL RAINFALL   (mm)=     90.04        90.04        90.042
     RUNOFF COEFFICIENT   =       .98          .40          .834
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********** Drainage Area D5 **********
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| CALIB STANDHYD     |   Area    (ha)=    1.19
| 05:D5     DT= 5.00 |   Total Imp(%)=   79.00   Dir. Conn.(%)=   79.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .94          .25
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    205.00         5.00
     Mannings n            =     .015         .300
     Max.eff.Inten.(mm/hr)=    135.52        60.59
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      3.79 (ii)    7.19 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .25          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .34          .03          .366 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     88.04        36.23        77.161
     TOTAL RAINFALL   (mm)=     90.04        90.04        90.042
     RUNOFF COEFFICIENT   =       .98          .40          .857
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********** Drainage Area D6 **********
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| CALIB STANDHYD     |   Area    (ha)=    1.07
| 06:D6     DT= 5.00 |   Total Imp(%)=   65.00   Dir. Conn.(%)=   65.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .70          .37
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      3.00         1.00
     Length            (m)=    195.00         5.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    135.52        60.59
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      2.65 (ii)    6.05 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .29          .19
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .26          .05          .307 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     88.04        36.23        69.907
     TOTAL RAINFALL   (mm)=     90.04        90.04        90.042
     RUNOFF COEFFICIENT   =       .98          .40          .776
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D7 **********************
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---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.06
| 07:D7     DT= 5.00 |   Total Imp(%)=   84.00   Dir. Conn.(%)=   84.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.73          .33
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    340.00         5.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    135.52        53.70
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      5.14 (ii)    8.71 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .21          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .58          .03          .610 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     88.04        36.23        79.751
     TOTAL RAINFALL   (mm)=     90.04        90.04        90.042
     RUNOFF COEFFICIENT   =       .98          .40          .886
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********************** Drainage Area D8 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 08:D8W    DT= 5.00 |   Total Imp(%)=   67.00   Dir. Conn.(%)=   67.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .46          .23
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      5.00         1.00
     Length            (m)=    157.00         5.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    135.52        60.59
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      1.99 (ii)    5.40 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .31          .21
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .17          .03          .204 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     88.04        36.23        70.943
     TOTAL RAINFALL   (mm)=     90.04        90.04        90.042
     RUNOFF COEFFICIENT   =       .98          .40          .788
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.34
| 09:D8E    DT= 5.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   76.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.78          .56
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    490.00         5.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    135.52        53.70
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      6.40 (ii)    9.97 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .18          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .56          .05          .608 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     88.04        36.23        75.606
     TOTAL RAINFALL   (mm)=     90.04        90.04        90.042
     RUNOFF COEFFICIENT   =       .98          .40          .840
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| ADD HYD (D8       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
---------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 08:D8W            .69      .204    9.67  70.94    .000
                   +ID2 09:D8E           2.34      .608    9.67  75.61    .000

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                    SUM 01:D8            3.03      .812    9.67  74.54    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D9 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.18
| 02:D9     DT= 5.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   85.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.00          .18
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      2.00         1.00
     Length            (m)=    340.00         5.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    135.52        53.70
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      4.17 (ii)    7.74 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .24          .13
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .35          .02          .368 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     88.04        36.23        80.270
     TOTAL RAINFALL   (mm)=     90.04        90.04        90.042
     RUNOFF COEFFICIENT   =       .98          .40          .891
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D10 *********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .66
| 03:D10    DT= 5.00 |   Total Imp(%)=   70.00   Dir. Conn.(%)=   70.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .46          .20
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      2.00         1.00
     Length            (m)=    150.00         5.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    135.52        60.59
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      2.55 (ii)    5.96 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .29          .19
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .17          .03          .197 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     88.04        36.23        72.498
     TOTAL RAINFALL   (mm)=     90.04        90.04        90.042
     RUNOFF COEFFICIENT   =       .98          .40          .805
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********************** Drainage Area D11 *********************
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---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.49
| 04:D11W   DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.99          .50
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    500.00         5.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    135.52        53.70
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      6.47 (ii)   10.04 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .18          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .63          .05          .668 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     88.04        36.23        77.679
     TOTAL RAINFALL   (mm)=     90.04        90.04        90.042
     RUNOFF COEFFICIENT   =       .98          .40          .863
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB STANDHYD     |   Area    (ha)=    2.69
| 05:D11E   DT= 5.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      2.42          .27
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```
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     480.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       6.32 (ii)    9.89 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .19          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .77          .03          .791 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        82.860
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .920
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D11       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 04:D11W           2.49     .668    9.67  77.68    .000
                    +ID2 05:D11E           2.69     .791    9.67  82.86    .000

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                     SUM 06:D11            5.18    1.459    9.67  80.37    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D12 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.97
| 07:D12W   DT= 5.00 |   Total Imp(%)=   88.00   Dir. Conn.(%)=   88.00
----------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.73          .24
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     360.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.32 (ii)    8.89 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .58          .02          .598 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        81.824
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .909
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.08
| 08:D12E   DT= 5.00 |   Total Imp(%)=   83.00   Dir. Conn.(%)=   83.00
----------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .90          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     186.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        60.59
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.58 (ii)    6.98 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .26          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .32          .02          .345 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        79.233
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .880
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D12       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 07:D12W           1.97     .598    9.67  81.82    .000
                    +ID2 08:D12E           1.08     .345    9.67  79.23    .000

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                     SUM 09:D12            3.05     .943    9.67  80.91    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D13 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    3.29
| 01:D13W   DT= 5.00 |   Total Imp(%)=   86.00   Dir. Conn.(%)=   86.00
----------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.83          .46
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     600.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       7.22 (ii)   10.79 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .17          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .86          .04          .896 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        80.788
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .897
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .89
| 02:D13E   DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .67          .22
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     170.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        60.59
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.39 (ii)    6.79 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .26          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .24          .03          .269 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        75.088
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .834
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D13       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 01:D13W           3.29     .896    9.67  80.79    .000
                    +ID2 02:D13E            .89     .269    9.67  75.09    .000

============================================================
                     SUM 03:D13            4.18    1.165    9.67  79.57    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D17 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.69
| 04:D17    DT= 5.00 |   Total Imp(%)=   83.00   Dir. Conn.(%)=   83.00
----------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40          .29
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.14 (ii)    8.71 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .47          .03          .496 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        79.233
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .880
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area B-W **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.98
| 05:B-W    DT= 5.00 |   Total Imp(%)=   88.00   Dir. Conn.(%)=   88.00
----------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.74          .24
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     290.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.67 (ii)    8.24 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .60          .02          .620 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        81.824
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .909
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
```

```
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*****************************************************************
********** Drainage Area B-E **********
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.15
| 06:B-E    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .89          .26
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        60.59
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       4.01 (ii)    7.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .24          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .31          .03          .345 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        76.124
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .845
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*****************************************************************
********** Drainage Area D19 **********
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .94
| 07:D19    DT= 5.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   76.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .71          .23
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     175.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        60.59
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.45 (ii)    6.85 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .26          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .26          .03          .286 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        75.606
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .840
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*****************************************************************
********** Drainage Area D20 **********
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.00
| 08:D20    DT= 5.00 |   Total Imp(%)=   79.00   Dir. Conn.(%)=   79.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.58          .42
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     350.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     135.52        53.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.25 (ii)    7.82 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .55          .04          .591 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      88.04        36.23        77.161
     TOTAL RAINFALL   (mm)=      90.04        90.04        90.042
     RUNOFF COEFFICIENT   =        .98          .40          .857
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
  ** END OF RUN :   4
*****************************************************************************
```

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--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\CITYOF~1\
-------------------  Rainfall dir.: C:\SWMHYMO\321208~1\CITYOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 005
    NSTORM=   1
           #  1=50Ch24h.stm
*#*************************************************************************
*#  Project Name: [Dundas Street Widening EA Phase-3]  Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*************************************************************************
--------------------
| READ STORM       |    Filename: 50yr Chicago 24 hour, City of Burlington
| Ptotal= 100.87 mm|    Comments: 50yr Chicago 24 hour, City of Burlington
--------------------
              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
               .17    .820 |   6.17   1.910 |  12.17   3.620 |  18.17   1.260
               .33    .830 |   6.33   1.990 |  12.33   3.420 |  18.33   1.240
               .50    .850 |   6.50   2.080 |  12.50   3.240 |  18.50   1.220
               .67    .860 |   6.67   2.180 |  12.67   3.080 |  18.67   1.200
               .83    .870 |   6.83   2.290 |  12.83   2.940 |  18.83   1.180
              1.00    .890 |   7.00   2.420 |  13.00   2.810 |  19.00   1.160
              1.17    .900 |   7.17   2.560 |  13.17   2.690 |  19.17   1.150
              1.33    .920 |   7.33   2.720 |  13.33   2.580 |  19.33   1.130
              1.50    .930 |   7.50   2.900 |  13.50   2.480 |  19.50   1.120
              1.67    .950 |   7.67   3.120 |  13.67   2.390 |  19.67   1.100
              1.83    .960 |   7.83   3.370 |  13.83   2.310 |  19.83   1.080
              2.00    .980 |   8.00   3.670 |  14.00   2.230 |  20.00   1.070
              2.17   1.000 |   8.17   4.050 |  14.17   2.160 |  20.17   1.060
              2.33   1.020 |   8.33   4.510 |  14.33   2.100 |  20.33   1.040
              2.50   1.040 |   8.50   5.110 |  14.50   2.030 |  20.50   1.030
              2.67   1.060 |   8.67   5.920 |  14.67   1.980 |  20.67   1.020
              2.83   1.080 |   8.83   7.060 |  14.83   1.920 |  20.83   1.000
              3.00   1.100 |   9.00   8.820 |  15.00   1.870 |  21.00    .990
              3.17   1.130 |   9.17  11.880 |  15.17   1.820 |  21.17    .980
              3.33   1.150 |   9.33  18.480 |  15.33   1.770 |  21.33    .970
              3.50   1.180 |   9.50  42.780 |  15.50   1.730 |  21.50    .960
              3.67   1.210 |   9.67 148.700 |  15.67   1.690 |  21.67    .940
              3.83   1.230 |   9.83  50.070 |  15.83   1.650 |  21.83    .930
              4.00   1.270 |  10.00  25.120 |  16.00   1.610 |  22.00    .920
              4.17   1.300 |  10.17  16.700 |  16.17   1.580 |  22.17    .910
              4.33   1.330 |  10.33  12.540 |  16.33   1.550 |  22.33    .900
              4.50   1.370 |  10.50  10.070 |  16.50   1.510 |  22.50    .890
              4.67   1.410 |  10.67   8.440 |  16.67   1.480 |  22.67    .880
              4.83   1.450 |  10.83   7.290 |  16.83   1.450 |  22.83    .870
              5.00   1.490 |  11.00   6.430 |  17.00   1.430 |  23.00    .870
              5.17   1.540 |  11.17   5.760 |  17.17   1.400 |  23.17    .860
              5.33   1.590 |  11.33   5.220 |  17.33   1.370 |  23.33    .850
              5.50   1.640 |  11.50   4.790 |  17.50   1.350 |  23.50    .840
              5.67   1.700 |  11.67   4.420 |  17.67   1.330 |  23.67    .830
              5.83   1.760 |  11.83   4.110 |  17.83   1.300 |  23.83    .820
              6.00   1.830 |  12.00   3.850 |  18.00   1.280 |  24.00    .820
*****************************************************************
********** Drainage Area D1 **********
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 01:D1     DT= 5.00 |   Total Imp(%)=   71.00   Dir. Conn.(%)=   71.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .94          .39
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     250.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        72.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.96 (ii)    6.13 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .28          .19
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .38          .06          .441 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        82.917
     TOTAL RAINFALL   (mm)=     100.87       100.87       100.868
     RUNOFF COEFFICIENT   =        .98          .43          .822
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*****************************************************************
********** Drainage Area D2 **********
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .92
| 02:D2     DT= 5.00 |   Total Imp(%)=   72.00   Dir. Conn.(%)=   72.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .66          .26
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     175.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        72.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.39 (ii)    5.56 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .20
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .27          .04          .312 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
```

```
     RUNOFF VOLUME    (mm)=      98.87        43.86         83.467
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .827
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D3 **********
**********************************************************
----------
| CALIB STANDHYD     |   Area    (ha)=    2.27
| 03:D3     DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.70          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     430.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.63 (ii)    7.94 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .13
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .64          .07          .706 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        85.117
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .844
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D4 **********
**********************************************************
----------
| CALIB STANDHYD     |   Area    (ha)=     .79
| 04:D4     DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .59          .20
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     160.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        72.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.15 (ii)    6.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .27          .19
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .24          .03          .268 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        85.117
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .844
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D5 **********
**********************************************************
----------
| CALIB STANDHYD     |   Area    (ha)=    1.19
| 05:D5     DT= 5.00 |   Total Imp(%)=   79.00   Dir. Conn.(%)=   79.00
----------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .94          .25
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     205.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        72.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.65 (ii)    6.83 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .25          .18
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .37          .04          .408 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        87.318
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .866
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D6 **********
**********************************************************
----------
| CALIB STANDHYD     |   Area    (ha)=    1.07
| 06:D6     DT= 5.00 |   Total Imp(%)=   65.00   Dir. Conn.(%)=   65.00
----------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .70          .37
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     195.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        72.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.55 (ii)    5.72 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .29          .20
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .28          .06          .343 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        79.617
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .789
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**********************************************************
********** Drainage Area D7 **********
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----------
| CALIB STANDHYD     |   Area    (ha)=    2.06
| 07:D7     DT= 5.00 |   Total Imp(%)=   84.00   Dir. Conn.(%)=   84.00
----------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.73          .33
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.95 (ii)    8.26 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .13
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .65          .04          .681 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        90.068
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .893
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********** Drainage Area D8 **********
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----------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 08:D8W    DT= 5.00 |   Total Imp(%)=   67.00   Dir. Conn.(%)=   67.00
----------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .23
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       5.00         1.00
     Length            (m)=     157.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        72.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.92 (ii)    5.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .31          .21
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .19          .04          .228 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        80.717
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .800
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------
| CALIB STANDHYD     |   Area    (ha)=    2.34
| 09:D8E    DT= 5.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   76.00
----------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.78          .56
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     490.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       6.16 (ii)    9.48 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .19          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .63          .07          .683 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        85.667
     TOTAL RAINFALL   (mm)=     100.87       100.87        100.868
     RUNOFF COEFFICIENT   =        .98          .43           .849
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```

```
         CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D8        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                      ID1 08:D8W             .69     .228    9.67  80.72    .000
                     +ID2 09:D8E            2.34     .683    9.67  85.67    .000

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                      SUM 01:D8             3.03     .911    9.67  84.54    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D9 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.18
| 02:D9     DT= 5.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   85.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.00          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        72.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       4.02 (ii)    7.19 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .24          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .39          .03          .415 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        90.618
     TOTAL RAINFALL   (mm)=     100.87       100.87       100.868
     RUNOFF COEFFICIENT   =        .98          .43          .898
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********************** Drainage Area D10 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=     .66
| 03:D10    DT= 5.00 |   Total Imp(%)=   70.00   Dir. Conn.(%)=   70.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .20
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     150.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        72.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.46 (ii)    5.63 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .20
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .19          .03          .220 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        82.367
     TOTAL RAINFALL   (mm)=     100.87       100.87       100.868
     RUNOFF COEFFICIENT   =        .98          .43          .817
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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********************** Drainage Area D11 **********************
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.49
| 04:D11W   DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.99          .50
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     500.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       6.24 (ii)    9.55 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .19          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .70          .06          .749 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        87.868
     TOTAL RAINFALL   (mm)=     100.87       100.87       100.868
     RUNOFF COEFFICIENT   =        .98          .43          .871
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.69
| 05:D11E   DT= 5.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.42          .27
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     480.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       6.09 (ii)    9.40 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .19          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .86          .03          .883 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        93.368
     TOTAL RAINFALL   (mm)=     100.87       100.87       100.868
     RUNOFF COEFFICIENT   =        .98          .43          .926
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D11       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                      ID1 04:D11W            2.49     .749    9.67  87.87    .000
                     +ID2 05:D11E            2.69     .883    9.67  93.37    .000

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                      SUM 06:D11            5.18    1.632    9.67  90.72    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D12 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.97
| 07:D12W   DT= 5.00 |   Total Imp(%)=   88.00   Dir. Conn.(%)=   88.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.73          .24
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     360.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.12 (ii)    8.44 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .64          .03          .666 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        92.268
     TOTAL RAINFALL   (mm)=     100.87       100.87       100.868
     RUNOFF COEFFICIENT   =        .98          .43          .915
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.08
| 08:D12E   DT= 5.00 |   Total Imp(%)=   83.00   Dir. Conn.(%)=   83.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .90          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     186.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        72.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.45 (ii)    6.62 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .26          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .36          .03          .384 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=      98.87        43.86        89.518
     TOTAL RAINFALL   (mm)=     100.87       100.87       100.868
     RUNOFF COEFFICIENT   =        .98          .43          .887
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D12       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                      ID1 07:D12W            1.97     .666    9.67  92.27    .000
                     +ID2 08:D12E            1.08     .384    9.67  89.52    .000

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                      SUM 09:D12            3.05    1.050    9.67  91.29    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D13 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    3.29
| 01:D13W   DT= 5.00 |   Total Imp(%)=   86.00   Dir. Conn.(%)=   86.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.83          .46
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     600.00         5.00
     Mannings n            =       .015         .300
```

```
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      6.96 (ii)   10.27 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .17          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .96          .05          1.004 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75          9.667
     RUNOFF VOLUME    (mm)=     98.87        43.86         91.168
     TOTAL RAINFALL   (mm)=    100.87       100.87        100.868
     RUNOFF COEFFICIENT   =       .98          .43           .904
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .89
| 02:D13E    DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .67          .22
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     170.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        72.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      3.27 (ii)    6.44 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .27          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .27          .03           .301 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67          9.667
     RUNOFF VOLUME    (mm)=     98.87        43.86         85.117
     TOTAL RAINFALL   (mm)=    100.87       100.87        100.868
     RUNOFF COEFFICIENT   =       .98          .43           .844
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------
| ADD HYD (D13       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                       ID1 01:D13W          3.29    1.004    9.67  91.17    .000
                      +ID2 02:D13E           .89     .301    9.67  85.12    .000

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                       SUM 03:D13           4.18    1.304    9.67  89.88    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********** Drainage Area D17 **********
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.69
| 04:D17     DT= 5.00 |   Total Imp(%)=   83.00   Dir. Conn.(%)=   83.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40          .29
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      4.95 (ii)    8.26 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .22          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .52          .04           .554 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75          9.667
     RUNOFF VOLUME    (mm)=     98.87        43.86         89.518
     TOTAL RAINFALL   (mm)=    100.87       100.87        100.868
     RUNOFF COEFFICIENT   =       .98          .43           .887
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area B-W **********
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.98
| 05:B-W     DT= 5.00 |   Total Imp(%)=   88.00   Dir. Conn.(%)=   88.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.74          .24
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     290.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        64.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      4.50 (ii)    7.81 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .23          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .66          .03           .689 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75          9.667
     RUNOFF VOLUME    (mm)=     98.87        43.86         92.268
     TOTAL RAINFALL   (mm)=    100.87       100.87        100.868
     RUNOFF COEFFICIENT   =       .98          .43           .915
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area B-E **********
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.15
| 06:B-E     DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .89          .26
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        72.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      3.86 (ii)    7.04 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .25          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .35          .04           .385 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67          9.667
     RUNOFF VOLUME    (mm)=     98.87        43.86         86.217
     TOTAL RAINFALL   (mm)=    100.87       100.87        100.868
     RUNOFF COEFFICIENT   =       .98          .43           .855
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D19 **********
************************************************************
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| CALIB STANDHYD     |   Area    (ha)=     .94
| 07:D19     DT= 5.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   76.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .71          .23
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     175.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        72.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      3.32 (ii)    6.49 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .26          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .28          .03           .319 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67          9.667
     RUNOFF VOLUME    (mm)=     98.87        43.86         85.667
     TOTAL RAINFALL   (mm)=    100.87       100.87        100.868
     RUNOFF COEFFICIENT   =       .98          .43           .849
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D20 **********
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---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.00
| 08:D20     DT= 5.00 |   Total Imp(%)=   79.00   Dir. Conn.(%)=   79.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.58          .42
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     350.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     148.70        72.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      4.09 (ii)    7.26 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .24          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=       .61          .06           .673 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67          9.667
     RUNOFF VOLUME    (mm)=     98.87        43.86         87.318
     TOTAL RAINFALL   (mm)=    100.87       100.87        100.868
     RUNOFF COEFFICIENT   =       .98          .43           .866
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
  ** END OF RUN :   5
************************************************************************************
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--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\CITYOF~1\
-------------------  Rainfall dir.: C:\SWMHYMO\321208~1\CITYOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 006
    NSTORM=   1
           #  1=100Ch24h.stm
#*******************************************************************************
*#  Project Name: [Dundas Street Widening EA Phase-3]  Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*******************************************************************************
--------------------
| READ STORM       |    Filename: 100yr Chicago 24 hour, City of Burlingto
| Ptotal= 108.36 mm|    Comments: 100yr Chicago 24 hour, City of Burlingto
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .830 |   6.17   1.970 |  12.17   3.780 |  18.17   1.290
              .33    .850 |   6.33   2.050 |  12.33   3.570 |  18.33   1.270
              .50    .860 |   6.50   2.150 |  12.50   3.370 |  18.50   1.250
              .67    .870 |   6.67   2.250 |  12.67   3.200 |  18.67   1.230
              .83    .890 |   6.83   2.370 |  12.83   3.050 |  18.83   1.210
             1.00    .900 |   7.00   2.500 |  13.00   2.910 |  19.00   1.190
             1.17    .920 |   7.17   2.650 |  13.17   2.790 |  19.17   1.170
             1.33    .930 |   7.33   2.820 |  13.33   2.680 |  19.33   1.150
             1.50    .950 |   7.50   3.020 |  13.50   2.570 |  19.50   1.140
             1.67    .960 |   7.67   3.250 |  13.67   2.480 |  19.67   1.120
             1.83    .980 |   7.83   3.520 |  13.83   2.390 |  19.83   1.110
             2.00   1.000 |   8.00   3.840 |  14.00   2.310 |  20.00   1.090
             2.17   1.020 |   8.17   4.240 |  14.17   2.230 |  20.17   1.080
             2.33   1.040 |   8.33   4.740 |  14.33   2.160 |  20.33   1.060
             2.50   1.060 |   8.50   5.390 |  14.50   2.100 |  20.50   1.050
             2.67   1.080 |   8.67   6.260 |  14.67   2.040 |  20.67   1.030
             2.83   1.100 |   8.83   7.510 |  14.83   1.980 |  20.83   1.020
             3.00   1.130 |   9.00   9.440 |  15.00   1.930 |  21.00   1.010
             3.17   1.150 |   9.17  12.820 |  15.17   1.870 |  21.17   1.000
             3.33   1.180 |   9.33  20.170 |  15.33   1.830 |  21.33    .980
             3.50   1.200 |   9.50  47.470 |  15.50   1.780 |  21.50    .970
             3.67   1.230 |   9.67 164.720 |  15.67   1.740 |  21.67    .960
             3.83   1.260 |   9.83  55.670 |  15.83   1.700 |  21.83    .950
             4.00   1.290 |  10.00  27.620 |  16.00   1.660 |  22.00    .940
             4.17   1.330 |  10.17  18.180 |  16.17   1.620 |  22.17    .930
             4.33   1.360 |  10.33  13.550 |  16.33   1.590 |  22.33    .920
             4.50   1.400 |  10.50  10.820 |  16.50   1.550 |  22.50    .910
             4.67   1.440 |  10.67   9.020 |  16.67   1.520 |  22.67    .900
             4.83   1.480 |  10.83   7.760 |  16.83   1.490 |  22.83    .890
             5.00   1.530 |  11.00   6.820 |  17.00   1.460 |  23.00    .880
             5.17   1.580 |  11.17   6.090 |  17.17   1.430 |  23.17    .870
             5.33   1.630 |  11.33   5.510 |  17.33   1.410 |  23.33    .860
             5.50   1.690 |  11.50   5.040 |  17.50   1.380 |  23.50    .850
             5.67   1.750 |  11.67   4.640 |  17.67   1.360 |  23.67    .840
             5.83   1.810 |  11.83   4.310 |  17.83   1.330 |  23.83    .840
             6.00   1.890 |  12.00   4.030 |  18.00   1.310 |  24.00    .830
************************************************************
********** Drainage Area D1 **********
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 01:D1     DT= 5.00 |   Total Imp(%)=   71.00   Dir. Conn.(%)=   71.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .94          .39
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     250.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        84.34
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.84 (ii)    5.82 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .28          .20
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .42          .07          .495 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        89.823
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT   =        .98          .46          .829
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D2 **********
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----------------------
| CALIB STANDHYD     |   Area    (ha)=     .92
| 02:D2     DT= 5.00 |   Total Imp(%)=   72.00   Dir. Conn.(%)=   72.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .66          .26
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     175.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        84.34
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.29 (ii)    5.27 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .21
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .30          .05          .350 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        90.393
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT   =        .98          .46          .834
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D3 **********
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----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.27
| 03:D3     DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.70          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     430.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        84.34
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       4.44 (ii)    7.42 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .23          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .72          .10          .816 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        92.104
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT   =        .98          .46          .850
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D4 **********
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----------------------
| CALIB STANDHYD     |   Area    (ha)=     .79
| 04:D4     DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .59          .20
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     160.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        84.34
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.02 (ii)    6.00 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .27          .19
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .26          .04          .301 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        92.104
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT   =        .98          .46          .850
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D5 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.19
| 05:D5     DT= 5.00 |   Total Imp(%)=   79.00   Dir. Conn.(%)=   79.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .94          .25
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     205.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        84.34
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.51 (ii)    6.49 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .26          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .41          .04          .457 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        94.384
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT   =        .98          .46          .871
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D6 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.07
| 06:D6     DT= 5.00 |   Total Imp(%)=   65.00   Dir. Conn.(%)=   65.00
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---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .70          .37
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      3.00         1.00
     Length            (m)=    195.00         5.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    164.72        84.34
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      2.45 (ii)    5.43 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .30          .20
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .31          .07          .386 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=    106.36        49.34         86.403
     TOTAL RAINFALL   (mm)=    108.36       108.36        108.357
     RUNOFF COEFFICIENT   =       .98          .46           .797
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D7 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.06
| 07:D7     DT= 5.00 |   Total Imp(%)=   84.00   Dir. Conn.(%)=   84.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.73          .33
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    340.00         5.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    164.72        75.72
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      4.75 (ii)    7.86 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .22          .13
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .72          .05          .764 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=    106.36        49.34         97.235
     TOTAL RAINFALL   (mm)=    108.36       108.36        108.357
     RUNOFF COEFFICIENT   =       .98          .46           .897
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D8 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 08:D8W    DT= 5.00 |   Total Imp(%)=   67.00   Dir. Conn.(%)=   67.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .46          .23
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      5.00         1.00
     Length            (m)=    157.00         5.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    164.72        84.34
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      1.84 (ii)    4.82 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .32          .22
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .21          .05          .256 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=    106.36        49.34         87.543
     TOTAL RAINFALL   (mm)=    108.36       108.36        108.357
     RUNOFF COEFFICIENT   =       .98          .46           .808
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.34
| 09:D8E    DT= 5.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   76.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.78          .56
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    490.00         5.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    164.72        75.72
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      5.92 (ii)    9.03 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .19          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .70          .08          .770 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=    106.36        49.34         92.674
     TOTAL RAINFALL   (mm)=    108.36       108.36        108.357
     RUNOFF COEFFICIENT   =       .98          .46           .855
        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D8       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 08:D8W            .69      .256    9.67  87.54    .000
                    +ID2 09:D8E           2.34      .770    9.67  92.67    .000

==========================================================
                     SUM 01:D8            3.03    1.026    9.67  91.51    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D9 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.18
| 02:D9     DT= 5.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   85.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.00          .18
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      2.00         1.00
     Length            (m)=    340.00         5.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    164.72        84.34
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      3.86 (ii)    6.84 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .25          .18
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .43          .03          .465 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=    106.36        49.34         97.805
     TOTAL RAINFALL   (mm)=    108.36       108.36        108.357
     RUNOFF COEFFICIENT   =       .98          .46           .903
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D10 *********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .66
| 03:D10    DT= 5.00 |   Total Imp(%)=   70.00   Dir. Conn.(%)=   70.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .46          .20
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      2.00         1.00
     Length            (m)=    150.00         5.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    164.72        84.34
               over (min)       5.00         5.00
     Storage Coeff.  (min)=      2.36 (ii)    5.34 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=       .30          .21
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .21          .04          .247 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=    106.36        49.34         89.253
     TOTAL RAINFALL   (mm)=    108.36       108.36        108.357
     RUNOFF COEFFICIENT   =       .98          .46           .824
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D11 *********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.49
| 04:D11W   DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.99          .50
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    500.00         5.00
     Mannings n           =      .015         .300
     Max.eff.Inten.(mm/hr)=    164.72        75.72
               over (min)       5.00        10.00
     Storage Coeff.  (min)=      5.99 (ii)    9.10 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .19          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .78          .07          .844 (iii)
     TIME TO PEAK    (hrs)=      9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=    106.36        49.34         94.954
     TOTAL RAINFALL   (mm)=    108.36       108.36        108.357
     RUNOFF COEFFICIENT   =       .98          .46           .876
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.69
| 05:D11E   DT= 5.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=       2.42          .27
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     480.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.84 (ii)    8.95 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .96          .04          .992 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        100.655
     TOTAL RAINFALL   (mm)=     108.36       108.36        108.357
     RUNOFF COEFFICIENT    =        .98          .46          .929
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D11       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 04:D11W           2.49     .844    9.67  94.95    .000
                    +ID2 05:D11E           2.69     .992    9.67 100.66    .000

============================================================
                    SUM 06:D11            5.18    1.835    9.67  97.91    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D12 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.97
| 07:D12W   DT= 5.00 |   Total Imp(%)=   88.00   Dir. Conn.(%)=   88.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.73          .24
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     360.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.92 (ii)    8.03 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .72          .04          .747 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        99.515
     TOTAL RAINFALL   (mm)=     108.36       108.36        108.357
     RUNOFF COEFFICIENT    =        .98          .46          .918
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.08
| 08:D12E   DT= 5.00 |   Total Imp(%)=   83.00   Dir. Conn.(%)=   83.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .90          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     186.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        84.34
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.31 (ii)    6.29 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .26          .19
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .40          .03          .429 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        96.665
     TOTAL RAINFALL   (mm)=     108.36       108.36        108.357
     RUNOFF COEFFICIENT    =        .98          .46          .892
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D12       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 07:D12W           1.97     .747    9.67  99.52    .000
                    +ID2 08:D12E           1.08     .429    9.67  96.66    .000

============================================================
                    SUM 09:D12            3.05    1.176    9.67  98.51    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D13 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    3.29
| 01:D13W   DT= 5.00 |   Total Imp(%)=   86.00   Dir. Conn.(%)=   86.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.83          .46
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     600.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       6.68 (ii)    9.79 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .18          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.08          .06          1.130 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        98.375
     TOTAL RAINFALL   (mm)=     108.36       108.36        108.357
     RUNOFF COEFFICIENT    =        .98          .46          .908
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .89
| 02:D13E   DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .67          .22
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     170.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        84.34
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.13 (ii)    6.11 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .27          .19
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .30          .04          .337 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        92.104
     TOTAL RAINFALL   (mm)=     108.36       108.36        108.357
     RUNOFF COEFFICIENT    =        .98          .46          .850
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (D13       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 01:D13W           3.29    1.130    9.67  98.37    .000
                    +ID2 02:D13E            .89     .337    9.67  92.10    .000

============================================================
                    SUM 03:D13            4.18    1.468    9.67  97.04    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********************** Drainage Area D17 **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.69
| 04:D17    DT= 5.00 |   Total Imp(%)=   83.00   Dir. Conn.(%)=   83.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40          .29
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        75.72
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.75 (ii)    7.86 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .58          .04          .622 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.75         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        96.665
     TOTAL RAINFALL   (mm)=     108.36       108.36        108.357
     RUNOFF COEFFICIENT    =        .98          .46          .892
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********************** Drainage Area B-W **********************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.98
| 05:B-W    DT= 5.00 |   Total Imp(%)=   88.00   Dir. Conn.(%)=   88.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.74          .24
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     290.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        84.34
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       4.32 (ii)    7.30 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .23          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .74          .04          .781 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        99.515
     TOTAL RAINFALL   (mm)=     108.36       108.36        108.357
```

```
     RUNOFF COEFFICIENT   =        .98          .46          .918
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*****************************************************************
********** Drainage Area B-E **********************************
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.15
| 06:B-E    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .89          .26
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        84.34
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.71 (ii)    6.69 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .25          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .39          .05          .432 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        93.244
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT   =        .98          .46          .861
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*****************************************************************
********** Drainage Area D19 **********************************
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .94
| 07:D19    DT= 5.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   76.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .71          .23
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     175.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        84.34
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.19 (ii)    6.17 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .27          .19
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .32          .04          .358 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        92.674
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT   =        .98          .46          .855
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*****************************************************************
********** Drainage Area D20 **********************************
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.00
| 08:D20    DT= 5.00 |   Total Imp(%)=   79.00   Dir. Conn.(%)=   79.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.58          .42
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     350.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     164.72        84.34
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.93 (ii)    6.91 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .24          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .68          .07          .755 (iii)
     TIME TO PEAK    (hrs)=       9.67         9.67         9.667
     RUNOFF VOLUME    (mm)=     106.36        49.34        84.384
     TOTAL RAINFALL   (mm)=     108.36       108.36       108.357
     RUNOFF COEFFICIENT   =        .98          .46          .871
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
  ** END OF RUN :   6
*****************************************************************************
----------------------
| START              |  Project  dir.: C:\SWMHYMO\321208~1\CITYOF~1\
----------------------  Rainfall dir.: C:\SWMHYMO\321208~1\CITYOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 007
    NSTORM=   1
           #  1=HAZEL48.stm
*#*************************************************************************
*#  Project Name: [Dundas Street Widening EA Phase-3]  Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*************************************************************************
----------------------
| READ STORM         |    Filename: 48 hour Hurricane Hazel
| Ptotal= 284.00 mm  |    Comments: 48 hour Hurricane Hazel
----------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
             1.00   2.000 |  13.00   2.000 |  25.00   2.000 |  37.00   5.936
             2.00   2.000 |  14.00   2.000 |  26.00   2.000 |  38.00   4.028
             3.00   2.000 |  15.00   2.000 |  27.00   2.000 |  39.00   5.936
             4.00   2.000 |  16.00   2.000 |  28.00   2.000 |  40.00  13.144
             5.00   2.000 |  17.00   2.000 |  29.00   2.000 |  41.00  16.960
             6.00   2.000 |  18.00   2.000 |  30.00   2.000 |  42.00  12.932
             7.00   2.000 |  19.00   2.000 |  31.00   2.000 |  43.00  23.108
             8.00   2.000 |  20.00   2.000 |  32.00   2.000 |  44.00  12.932
             9.00   2.000 |  21.00   2.000 |  33.00   2.000 |  45.00  12.932
            10.00   2.000 |  22.00   2.000 |  34.00   2.000 |  46.00  53.000
            11.00   2.000 |  23.00   2.000 |  35.00   2.000 |  47.00  38.160
            12.00   2.000 |  24.00   2.000 |  36.00   2.000 |  48.00  12.932
*****************************************************************
********** Drainage Area D1 ***********************************
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 01:D1     DT= 5.00 |   Total Imp(%)=   71.00   Dir. Conn.(%)=   71.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .94          .39
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     250.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.47 (ii)    8.22 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .23          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .14          .05          .190 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60       258.393
     TOTAL RAINFALL   (mm)=     284.00       284.00       284.000
     RUNOFF COEFFICIENT   =        .99          .71          .910
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*****************************************************************
********** Drainage Area D2 ***********************************
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .92
| 02:D2     DT= 5.00 |   Total Imp(%)=   72.00   Dir. Conn.(%)=   72.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .66          .26
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     175.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.65
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.61 (ii)    7.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .25          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .10          .03          .131 (iii)
     TIME TO PEAK    (hrs)=      45.92        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60       259.207
     TOTAL RAINFALL   (mm)=     284.00       284.00       284.000
     RUNOFF COEFFICIENT   =        .99          .71          .913
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*****************************************************************
********** Drainage Area D3 ***********************************
*****************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.27
| 03:D3     DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.70          .57
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     430.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
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```
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       6.99 (ii)   10.74 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .17          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .25          .07          .325 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        261.649
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .921
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D4 **********************
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---------------------
| CALIB STANDHYD     |   Area    (ha)=     .79
| 04:D4     DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .59          .20
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     160.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.76 (ii)    8.50 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .09          .03          .113 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        261.649
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .921
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D5 **********************
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---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.19
| 05:D5     DT= 5.00 |   Total Imp(%)=   79.00   Dir. Conn.(%)=   79.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .94          .25
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     205.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.52 (ii)    9.27 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .14          .03          .171 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        264.905
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .933
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D6 **********************
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---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.07
| 06:D6     DT= 5.00 |   Total Imp(%)=   65.00   Dir. Conn.(%)=   65.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .70          .37
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       3.00         1.00
     Length            (m)=     195.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.85 (ii)    7.60 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .25          .13
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .10          .05          .152 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        253.509
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .893
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D7 **********************
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---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.06
| 07:D7     DT= 5.00 |   Total Imp(%)=   84.00   Dir. Conn.(%)=   84.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.73          .33
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       7.48 (ii)   11.23 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .17          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .25          .04          .298 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        268.976
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .947
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D8 **********************
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---------------------
| CALIB STANDHYD     |   Area    (ha)=     .69
| 08:D8W    DT= 5.00 |   Total Imp(%)=   67.00   Dir. Conn.(%)=   67.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .23
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       5.00         1.00
     Length            (m)=     157.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.65
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.90 (ii)    6.65 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .28          .18
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .07          .03          .098 (iii)
     TIME TO PEAK    (hrs)=      45.75        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        255.137
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .898
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.34
| 09:D8E    DT= 5.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   76.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.78          .56
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     490.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.50
               over (min)       10.00        15.00
     Storage Coeff.  (min)=       9.31 (ii)   13.06 (ii)
     Unit Hyd. Tpeak (min)=      10.00        15.00
     Unit Hyd. peak  (cms)=        .12          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .26          .07          .334 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        262.463
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .924
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
------------------------
| ADD HYD (D8        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                       ID1 08:D8W            .69     .098   46.00 255.14    .000
                      +ID2 09:D8E           2.34     .334   46.00 262.46    .000

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                       SUM 01:D8            3.03     .432   46.00 260.79    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D9 **********************
**************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.18
| 02:D9     DT= 5.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   85.00
---------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.00          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       6.07 (ii)    9.82 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
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     Unit Hyd. peak  (cms)=        .19          .11
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .15          .02          .171 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        269.789
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .950
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D10 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .66
| 03:D10    DT= 5.00 |   Total Imp(%)=   70.00   Dir. Conn.(%)=   70.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .46          .20
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      2.00         1.00
     Length            (m)=    150.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     53.00        47.65
               over (min)        5.00         5.00
     Storage Coeff.  (min)=     3.72 (ii)    7.46 (ii)
     Unit Hyd. Tpeak (min)=     5.00         5.00
     Unit Hyd. peak  (cms)=       .25          .17
                                                          *TOTALS*
     PEAK FLOW       (cms)=       .07          .03          .094 (iii)
     TIME TO PEAK    (hrs)=     45.92        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        257.579
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .907
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
********************** Drainage Area D11 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.49
| 04:D11W   DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.99          .50
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    500.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     53.00        47.50
               over (min)       10.00        15.00
     Storage Coeff.  (min)=      9.43 (ii)   13.17 (ii)
     Unit Hyd. Tpeak (min)=     10.00        15.00
     Unit Hyd. peak  (cms)=       .12          .08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       .29          .06          .357 (iii)
     TIME TO PEAK    (hrs)=     46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        265.720
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .936
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.69
| 05:D11E   DT= 5.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      2.42          .27
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    480.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     53.00        47.50
               over (min)       10.00        15.00
     Storage Coeff.  (min)=      9.20 (ii)   12.95 (ii)
     Unit Hyd. Tpeak (min)=     10.00        15.00
     Unit Hyd. peak  (cms)=       .12          .08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       .36          .03          .391 (iii)
     TIME TO PEAK    (hrs)=     46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        273.860
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .964
        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (D11       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 04:D11W          2.49      .357   46.00 265.72    .000
                    +ID2 05:D11E          2.69      .391   46.00 273.86    .000

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                     SUM 06:D11           5.18      .748   46.00 269.95    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
**************************************************************
********************** Drainage Area D12 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.97
| 07:D12W   DT= 5.00 |   Total Imp(%)=   88.00   Dir. Conn.(%)=   88.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.73          .24
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    360.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     53.00        47.57
               over (min)       10.00        10.00
     Storage Coeff.  (min)=      7.74 (ii)   11.49 (ii)
     Unit Hyd. Tpeak (min)=     10.00        10.00
     Unit Hyd. peak  (cms)=       .13          .10
                                                          *TOTALS*
     PEAK FLOW       (cms)=       .26          .03          .286 (iii)
     TIME TO PEAK    (hrs)=     46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        272.231
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .959
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.08
| 08:D12E   DT= 5.00 |   Total Imp(%)=   83.00   Dir. Conn.(%)=   83.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .90          .18
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    186.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      5.21 (ii)    8.95 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .21          .12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       .13          .02          .156 (iii)
     TIME TO PEAK    (hrs)=     46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        268.162
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .944
        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------
| ADD HYD (D12       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 07:D12W          1.97      .286   46.00 272.23    .000
                    +ID2 08:D12E          1.08      .156   46.00 268.16    .000

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                     SUM 09:D12           3.05      .442   46.00 270.79    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
**************************************************************
********************** Drainage Area D13 **********************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    3.29
| 01:D13W   DT= 5.00 |   Total Imp(%)=   86.00   Dir. Conn.(%)=   86.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      2.83          .46
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    600.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     53.00        47.50
               over (min)       10.00        15.00
     Storage Coeff.  (min)=     10.52 (ii)   14.26 (ii)
     Unit Hyd. Tpeak (min)=     10.00        15.00
     Unit Hyd. peak  (cms)=       .11          .08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       .42          .06          .474 (iii)
     TIME TO PEAK    (hrs)=     46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        270.604
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .953
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .89
| 02:D13E   DT= 5.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   75.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .67          .22
     Dep. Storage     (mm)=      2.00         8.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    170.00         5.00
     Mannings n            =      .015         .300
     Max.eff.Inten.(mm/hr)=     53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      4.93 (ii)    8.68 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=       .22          .12
                                                          *TOTALS*
```

```
     PEAK FLOW       (cms)=        .10          .03          .128 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        261.649
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .921
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (D13       ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 01:D13W          3.29      .474   46.00 270.60    .000
                    +ID2 02:D13E           .89      .128   46.00 261.65    .000

============================================================
                     SUM 03:D13           4.18      .602   46.00 268.70    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
************************************************************
********** Drainage Area D17 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.69
| 04:D17    DT= 5.00 |   Total Imp(%)=   83.00   Dir. Conn.(%)=   83.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40          .29
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     340.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       7.48 (ii)   11.23 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .17          .10
                                                     *TOTALS*
     PEAK FLOW       (cms)=        .21          .04          .244 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        268.162
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .944
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area B-W **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.98
| 05:B-W    DT= 5.00 |   Total Imp(%)=   88.00   Dir. Conn.(%)=   88.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.74          .24
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     290.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       6.80 (ii)   10.54 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .18          .11
                                                     *TOTALS*
     PEAK FLOW       (cms)=        .26          .03          .288 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        272.232
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .959
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area B-E **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.15
| 06:B-E    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .89          .26
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.84 (ii)    9.58 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .11
                                                     *TOTALS*
     PEAK FLOW       (cms)=        .13          .03          .165 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        263.277
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .927
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D19 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .94
| 07:D19    DT= 5.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   76.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .71          .23
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     175.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.02 (ii)    8.77 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .12
                                                     *TOTALS*
     PEAK FLOW       (cms)=        .11          .03          .135 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        262.464
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .924
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
********** Drainage Area D20 **********
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.00
| 08:D20    DT= 5.00 |   Total Imp(%)=   79.00   Dir. Conn.(%)=   79.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.58          .42
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     350.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       6.18 (ii)    9.93 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .19          .11
                                                     *TOTALS*
     PEAK FLOW       (cms)=        .23          .06          .288 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        264.906
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .933
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

   Simulation ended on 2014-11-11     at 13:43:53
================================================================================
```

```
================================================================================
   SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
   S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
   SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
       S   W W   M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
   SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9   =========
                                                          9   9  9   9   # 4313781
        StormWater Management HYdrologic Model            999    999    =========
 ********************************************************************************
 ************************** SWMHYMO Ver/4.05  ***************************
 *********  A single event and continuous hydrologic simulation model  *********
 *********     based on the principles of HYMO and its successors      *********
 *********                  OTTHYMO-83 and OTTHYMO-89.                 *********
 ********************************************************************************
 ********* Distributed by:  J.F. Sabourin and Associates Inc.          *********
 *********                  Ottawa,  Ontario: (613) 836-3884           *********
 *********                  Gatineau, Quebec: (819) 243-6858           *********
 *********                  E-Mail: swmhymo@jfsa.Com                   *********
 ********************************************************************************
 ********************************************************************************
 +++++++++ Licensed user: McCormick Rankin Corporation                +++++++++
 +++++++++                Kitchener            SERIAL#:4313781        +++++++++
 ********************************************************************************
 ********************************************************************************
 *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++             *********
 *********           Maximum value for ID numbers  :     10            *********
 *********           Max. number of rainfall points: 105408            *********
 *********           Max. number of flow points    : 105408            *********
 ********************************************************************************
 ********************   D E T A I L E D   O U T P U T   ********************
 ********************************************************************************
 *         DATE: 2014-10-14     TIME: 16:58:03     RUN COUNTER: 001012         *
 ********************************************************************************
 * Input   filename: C:\SWMHYMO\321208~1\TOWNOF~1\Proposed.dat                   *
 * Output  filename: C:\SWMHYMO\321208~1\TOWNOF~1\Proposed.out                   *
 * Summary filename: C:\SWMHYMO\321208~1\TOWNOF~1\Proposed.sum                   *
 * User comments:                                                               *
 * 1:_____________________________________________________________________________*
 * 2:_____________________________________________________________________________*
 * 3:_____________________________________________________________________________*
 ********************************************************************************
*#*******************************************************************************
*#  Project Name: [Dundas Street]    Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*******************************************************************************
---------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
---------------------  Rainfall dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 001
    NSTORM=   1
          #  1=24hCHI02.stm
---------------------
| READ STORM       |    Filename: 24H-CHICAGO AES Toronto (Bloor Street) G
| Ptotal=  48.69 mm|    Comments: 24H-CHICAGO AES Toronto (Bloor Street) G
---------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .398 |   6.17   1.333 |  12.17   1.214 |  18.17    .576
              .33    .405 |   6.33   1.446 |  12.33   1.174 |  18.33    .568
              .50    .413 |   6.50   1.583 |  12.50   1.137 |  18.50    .561
              .67    .421 |   6.67   1.753 |  12.67   1.102 |  18.67    .554
              .83    .429 |   6.83   1.968 |  12.83   1.070 |  18.83    .546
             1.00    .437 |   7.00   2.254 |  13.00   1.040 |  19.00    .540
             1.17    .446 |   7.17   2.651 |  13.17   1.012 |  19.17    .533
             1.33    .455 |   7.33   3.245 |  13.33    .985 |  19.33    .527
             1.50    .464 |   7.50   4.239 |  13.50    .960 |  19.50    .520
             1.67    .474 |   7.67   6.286 |  13.67    .936 |  19.67    .514
             1.83    .485 |   7.83  13.302 |  13.83    .914 |  19.83    .508
             2.00    .496 |   8.00  79.612 |  14.00    .892 |  20.00    .502
             2.17    .507 |   8.17  28.232 |  14.17    .872 |  20.17    .497
             2.33    .520 |   8.33  12.980 |  14.33    .853 |  20.33    .491
             2.50    .533 |   8.50   8.500 |  14.50    .835 |  20.50    .486
             2.67    .546 |   8.67   6.371 |  14.67    .817 |  20.67    .480
             2.83    .561 |   8.83   5.128 |  14.83    .801 |  20.83    .475
             3.00    .576 |   9.00   4.311 |  15.00    .785 |  21.00    .470
             3.17    .592 |   9.17   3.733 |  15.17    .769 |  21.17    .465
             3.33    .610 |   9.33   3.300 |  15.33    .755 |  21.33    .461
             3.50    .629 |   9.50   2.964 |  15.50    .741 |  21.50    .456
             3.67    .648 |   9.67   2.695 |  15.67    .728 |  21.67    .451
             3.83    .670 |   9.83   2.475 |  15.83    .715 |  21.83    .447
             4.00    .693 |  10.00   2.291 |  16.00    .702 |  22.00    .443
             4.17    .718 |  10.17   2.134 |  16.17    .690 |  22.17    .438
             4.33    .745 |  10.33   2.000 |  16.33    .679 |  22.33    .434
             4.50    .774 |  10.50   1.883 |  16.50    .668 |  22.50    .430
             4.67    .806 |  10.67   1.780 |  16.67    .657 |  22.67    .426
             4.83    .841 |  10.83   1.689 |  16.83    .647 |  22.83    .422
             5.00    .880 |  11.00   1.607 |  17.00    .637 |  23.00    .418
             5.17    .923 |  11.17   1.534 |  17.17    .627 |  23.17    .414
             5.33    .971 |  11.33   1.468 |  17.33    .618 |  23.33    .411
             5.50   1.026 |  11.50   1.408 |  17.50    .609 |  23.50    .407
             5.67   1.087 |  11.67   1.353 |  17.67    .600 |  23.67    .404
             5.83   1.157 |  11.83   1.303 |  17.83    .592 |  23.83    .400
             6.00   1.238 |  12.00   1.256 |  18.00    .584 |  24.00    .397
********************************************************************************
*************** Drainage Area 21A ****************************
********************************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.23
| 01:21A    DT= 5.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   85.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.05          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     214.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      79.61        12.26
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.81 (ii)   11.26 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .10
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .21          .00          .209 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      46.69        11.46        41.404
     TOTAL RAINFALL   (mm)=      48.69        48.69        48.688
     RUNOFF COEFFICIENT   =        .96          .24          .850
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
********************************************************************************
*************** Drainage Area 21B ****************************
********************************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.24
| 02:21B    DT= 5.00 |   Total Imp(%)=   82.00   Dir. Conn.(%)=   82.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.84          .40
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     425.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      79.61        10.64
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       7.27 (ii)   14.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .17          .08
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .32          .01          .321 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.17         8.000
     RUNOFF VOLUME    (mm)=      46.69        11.46        40.348
     TOTAL RAINFALL   (mm)=      48.69        48.69        48.688
     RUNOFF COEFFICIENT   =        .96          .24          .829
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
********************************************************************************
*************** Drainage Area 22 *****************************
********************************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.82
| 03:22     DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.46          .36
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     370.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      79.61        10.64
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.69 (ii)   13.51 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=        .18          .08
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .26          .01          .263 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.17         8.000
     RUNOFF VOLUME    (mm)=      46.69        11.46        39.643
     TOTAL RAINFALL   (mm)=      48.69        48.69        48.688
     RUNOFF COEFFICIENT   =        .96          .24          .814
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
********************************************************************************
*************** Drainage Area 22A ****************************
********************************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 04:22A    DT= 5.00 |   Total Imp(%)=   89.00   Dir. Conn.(%)=   89.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.18          .15
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      79.61        12.26
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.96 (ii)   11.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .10
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .23          .00          .234 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.17         8.000
     RUNOFF VOLUME    (mm)=      46.69        11.46        42.813
     TOTAL RAINFALL   (mm)=      48.69        48.69        48.688
     RUNOFF COEFFICIENT   =        .96          .24          .879
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
************************************************************
*************** Drainage Area 22B **************************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .56
| 05:22B    DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .45          .11
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      95.00         1.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      79.61        16.21
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.96 (ii)    5.15 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .28          .21
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .10          .00          .100 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      46.69        11.46        39.643
     TOTAL RAINFALL   (mm)=      48.69        48.69        48.688
     RUNOFF COEFFICIENT   =        .96          .24          .814
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 23 ***************************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .57
| 06:23W    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44          .13
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     105.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      79.61        12.26
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.14 (ii)    9.59 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .27          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .09          .00          .096 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      46.69        11.46        38.586
     TOTAL RAINFALL   (mm)=      48.69        48.69        48.688
     RUNOFF COEFFICIENT   =        .96          .24          .793
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .60
| 07:23E    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .14
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     110.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      79.61        12.26
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.62 (ii)    9.07 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .29          .12
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .10          .00          .103 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      46.69        11.46        38.586
     TOTAL RAINFALL   (mm)=      48.69        48.69        48.688
     RUNOFF COEFFICIENT   =        .96          .24          .793
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
------------------------
| ADD HYD (23        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 06:23W             .57     .096    8.00  38.59    .000
                    +ID2 07:23E             .60     .103    8.00  38.59    .000

============================================================
                     SUM 08:23             1.17     .198    8.00  38.59    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

  ** END OF RUN :   1
************************************************************************************
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--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
-------------------  Rainfall dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 002
    NSTORM=   1
           #  1=24hCHI05.stm
*#**************************************************************************
*#  Project Name: [Dundas Street]    Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#**************************************************************************
--------------------
| READ STORM       |    Filename: 24H-CHICAGO AES Toronto (Bloor Street) G
| Ptotal=  60.87 mm|    Comments: 24H-CHICAGO AES Toronto (Bloor Street) G
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .411 |   6.17   1.475 |  12.17   1.334 |  18.17    .605
              .33    .418 |   6.33   1.609 |  12.33   1.287 |  18.33    .596
              .50    .426 |   6.50   1.773 |  12.50   1.244 |  18.50    .588
              .67    .435 |   6.67   1.977 |  12.67   1.204 |  18.67    .580
              .83    .443 |   6.83   2.241 |  12.83   1.167 |  18.83    .572
             1.00    .452 |   7.00   2.594 |  13.00   1.132 |  19.00    .565
             1.17    .462 |   7.17   3.093 |  13.17   1.099 |  19.17    .558
             1.33    .472 |   7.33   3.855 |  13.33   1.068 |  19.33    .550
             1.50    .482 |   7.50   5.164 |  13.50   1.039 |  19.50    .544
             1.67    .493 |   7.67   7.957 |  13.67   1.012 |  19.67    .537
             1.83    .505 |   7.83  18.036 |  13.83    .986 |  19.83    .530
             2.00    .517 |   8.00 110.476 |  14.00    .962 |  20.00    .524
             2.17    .529 |   8.17  39.927 |  14.17    .939 |  20.17    .518
             2.33    .543 |   8.33  17.539 |  14.33    .917 |  20.33    .512
             2.50    .557 |   8.50  11.065 |  14.50    .896 |  20.50    .506
             2.67    .572 |   8.67   8.069 |  14.67    .876 |  20.67    .500
             2.83    .588 |   8.83   6.359 |  14.83    .857 |  20.83    .494
             3.00    .605 |   9.00   5.258 |  15.00    .839 |  21.00    .489
             3.17    .623 |   9.17   4.491 |  15.17    .822 |  21.17    .483
             3.33    .643 |   9.33   3.926 |  15.33    .805 |  21.33    .478
             3.50    .664 |   9.50   3.492 |  15.50    .790 |  21.50    .473
             3.67    .686 |   9.67   3.149 |  15.67    .774 |  21.67    .468
             3.83    .710 |   9.83   2.871 |  15.83    .760 |  21.83    .463
             4.00    .735 |  10.00   2.640 |  16.00    .746 |  22.00    .458
             4.17    .763 |  10.17   2.446 |  16.17    .733 |  22.17    .454
             4.33    .794 |  10.33   2.279 |  16.33    .720 |  22.33    .449
             4.50    .827 |  10.50   2.136 |  16.50    .707 |  22.50    .445
             4.67    .863 |  10.67   2.010 |  16.67    .695 |  22.67    .440
             4.83    .903 |  10.83   1.900 |  16.83    .684 |  22.83    .436
             5.00    .948 |  11.00   1.802 |  17.00    .673 |  23.00    .432
             5.17    .997 |  11.17   1.714 |  17.17    .662 |  23.17    .428
             5.33   1.052 |  11.33   1.635 |  17.33    .652 |  23.33    .424
             5.50   1.115 |  11.50   1.563 |  17.50    .642 |  23.50    .420
             5.67   1.186 |  11.67   1.498 |  17.67    .632 |  23.67    .416
             5.83   1.268 |  11.83   1.439 |  17.83    .623 |  23.83    .412
             6.00   1.363 |  12.00   1.384 |  18.00    .614 |  24.00    .409
************************************************************
*************** Drainage Area 21A ****************************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.23
| 01:21A    DT= 5.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   85.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.05          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     214.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     110.48        23.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.22 (ii)    9.17 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .30          .01          .301 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      58.87        17.85        52.720
     TOTAL RAINFALL   (mm)=      60.87        60.87        60.873
     RUNOFF COEFFICIENT   =        .97          .29          .866
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 21B ****************************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.24
| 02:21B    DT= 5.00 |   Total Imp(%)=   82.00   Dir. Conn.(%)=   82.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.84          .40
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     425.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     110.48        23.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       6.37 (ii)   11.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .18          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .46          .02          .474 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      58.87        17.85         51.489
     TOTAL RAINFALL   (mm)=      60.87        60.87         60.873
     RUNOFF COEFFICIENT   =        .97          .29           .846
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 22 *****************************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.82
| 03:22     DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.46          .36
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     370.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     110.48        23.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.86 (ii)   10.82 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .19          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .38          .02          .388 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      58.87        17.85        50.668
     TOTAL RAINFALL   (mm)=      60.87        60.87        60.873
     RUNOFF COEFFICIENT   =        .97          .29          .832
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 22A ****************************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 04:22A    DT= 5.00 |   Total Imp(%)=   89.00   Dir. Conn.(%)=   89.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.18          .15
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     110.48        23.70
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.35 (ii)    9.30 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .23          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .33          .01          .337 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      58.87        17.85        54.361
     TOTAL RAINFALL   (mm)=      60.87        60.87        60.873
     RUNOFF COEFFICIENT   =        .97          .29          .893
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 22B ****************************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .56
| 05:22B    DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .45          .11
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      95.00         1.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     110.48        30.51
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.59 (ii)    4.30 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .29          .23
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .14          .01          .143 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      58.87        17.85        50.668
     TOTAL RAINFALL   (mm)=      60.87        60.87        60.873
     RUNOFF COEFFICIENT   =        .97          .29          .832
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 23 ****************************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .57
| 06:23W    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44          .13
     Dep. Storage     (mm)=       2.00         8.00
```

```
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     105.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     110.48        30.51
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.75 (ii)    7.23 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .28          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .13          .01          .139 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      58.87        17.85        49.438
     TOTAL RAINFALL   (mm)=      60.87        60.87        60.873
     RUNOFF COEFFICIENT   =        .97          .29          .812
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .60
| 07:23E    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .14
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     110.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     110.48        30.51
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.30 (ii)    6.78 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .14          .01          .148 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      58.87        17.85        49.438
     TOTAL RAINFALL   (mm)=      60.87        60.87        60.873
     RUNOFF COEFFICIENT   =        .97          .29          .812
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (23        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 06:23W             .57      .139    8.00  49.44    .000
                   +ID2 07:23E             .60      .148    8.00  49.44    .000

============================================================
                    SUM 08:23             1.17      .287    8.00  49.44    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
  ** END OF RUN :   2

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```
--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
--------------------  Rainfall dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 003
    NSTORM=   1
           #  1=24hCHI10.stm
*#*************************************************************************
*#  Project Name: [Dundas Street]    Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*************************************************************************
--------------------
| READ STORM       |    Filename: 24H-CHICAGO AES Toronto (Bloor Street) G
| Ptotal=  70.24 mm|    Comments: 24H-CHICAGO AES Toronto (Bloor Street) G
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .459 |   6.17   1.665 |  12.17   1.504 |  18.17    .678
              .33    .468 |   6.33   1.818 |  12.33   1.451 |  18.33    .669
              .50    .477 |   6.50   2.004 |  12.50   1.402 |  18.50    .659
              .67    .486 |   6.67   2.238 |  12.67   1.357 |  18.67    .650
              .83    .496 |   6.83   2.540 |  12.83   1.314 |  18.83    .642
             1.00    .506 |   7.00   2.944 |  13.00   1.275 |  19.00    .633
             1.17    .517 |   7.17   3.517 |  13.17   1.237 |  19.17    .625
             1.33    .528 |   7.33   4.392 |  13.33   1.202 |  19.33    .617
             1.50    .540 |   7.50   5.903 |  13.50   1.170 |  19.50    .609
             1.67    .552 |   7.67   9.142 |  13.67   1.139 |  19.67    .601
             1.83    .565 |   7.83  20.924 |  13.83   1.109 |  19.83    .594
             2.00    .579 |   8.00 130.374 |  14.00   1.082 |  20.00    .587
             2.17    .593 |   8.17  46.695 |  14.17   1.056 |  20.17    .580
             2.33    .608 |   8.33  20.332 |  14.33   1.031 |  20.33    .573
             2.50    .624 |   8.50  12.760 |  14.50   1.007 |  20.50    .566
             2.67    .641 |   8.67   9.271 |  14.67    .985 |  20.67    .560
             2.83    .659 |   8.83   7.287 |  14.83    .963 |  20.83    .553
             3.00    .679 |   9.00   6.012 |  15.00    .943 |  21.00    .547
             3.17    .699 |   9.17   5.126 |  15.17    .923 |  21.17    .541
             3.33    .721 |   9.33   4.474 |  15.33    .905 |  21.33    .535
             3.50    .744 |   9.50   3.975 |  15.50    .887 |  21.50    .529
             3.67    .769 |   9.67   3.581 |  15.67    .870 |  21.67    .524
             3.83    .796 |   9.83   3.261 |  15.83    .853 |  21.83    .518
             4.00    .826 |  10.00   2.996 |  16.00    .838 |  22.00    .513
             4.17    .857 |  10.17   2.774 |  16.17    .822 |  22.17    .508
             4.33    .892 |  10.33   2.583 |  16.33    .808 |  22.33    .503
             4.50    .929 |  10.50   2.419 |  16.50    .794 |  22.50    .498
             4.67    .970 |  10.67   2.276 |  16.67    .780 |  22.67    .493
             4.83   1.016 |  10.83   2.150 |  16.83    .767 |  22.83    .488
             5.00   1.066 |  11.00   2.038 |  17.00    .755 |  23.00    .483
             5.17   1.122 |  11.17   1.937 |  17.17    .743 |  23.17    .479
             5.33   1.185 |  11.33   1.847 |  17.33    .731 |  23.33    .474
             5.50   1.255 |  11.50   1.766 |  17.50    .720 |  23.50    .470
             5.67   1.336 |  11.67   1.691 |  17.67    .709 |  23.67    .465
             5.83   1.429 |  11.83   1.624 |  17.83    .698 |  23.83    .461
             6.00   1.537 |  12.00   1.561 |  18.00    .688 |  24.00    .457
************************************************************
*************** Drainage Area 21A ****************************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.23
| 01:21A    DT= 5.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   85.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.05          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     214.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     130.37        33.45
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.95 (ii)    8.27 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .35          .01          .362 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      68.24        23.34        61.502
     TOTAL RAINFALL   (mm)=      70.24        70.24        70.237
     RUNOFF COEFFICIENT   =        .97          .33          .876
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 21B ****************************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.24
| 02:21B    DT= 5.00 |   Total Imp(%)=   82.00   Dir. Conn.(%)=   82.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.84          .40
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     425.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     130.37        33.45
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.96 (ii)   10.28 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .19          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .56          .02          .576 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
```

```
     RUNOFF VOLUME    (mm)=      68.24        23.34         60.155
     TOTAL RAINFALL   (mm)=      70.24        70.24         70.237
     RUNOFF COEFFICIENT   =        .97          .33           .856
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.82
| 03:22     DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.46          .36
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     370.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     130.37        33.45
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.49 (ii)    9.80 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .11
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .45          .02          .470 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      68.24        23.34        59.257
     TOTAL RAINFALL   (mm)=      70.24        70.24        70.237
     RUNOFF COEFFICIENT   =        .97          .33           .844
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22A ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 04:22A    DT= 5.00 |   Total Imp(%)=   89.00   Dir. Conn.(%)=   89.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.18          .15
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     130.37        33.45
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.07 (ii)    8.39 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .24          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .40          .01          .405 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      68.24        23.34        63.298
     TOTAL RAINFALL   (mm)=      70.24        70.24        70.237
     RUNOFF COEFFICIENT   =        .97          .33           .901
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22B ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .56
| 05:22B    DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .45          .11
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      95.00         1.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     130.37        42.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.43 (ii)    3.92 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .24
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .16          .01          .171 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      68.24        23.34        59.257
     TOTAL RAINFALL   (mm)=      70.24        70.24        70.237
     RUNOFF COEFFICIENT   =        .97          .33           .844
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 23 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .57
| 06:23W    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44          .13
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     105.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     130.37        42.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.58 (ii)    6.51 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .29          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .16          .01          .167 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      68.24        23.34        57.910
     TOTAL RAINFALL   (mm)=      70.24        70.24        70.237
     RUNOFF COEFFICIENT   =        .97          .33           .824
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .60
| 07:23E    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .14
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     110.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     130.37        42.17
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.15 (ii)    6.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .31          .19
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .17          .01          .177 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      68.24        23.34        57.910
     TOTAL RAINFALL   (mm)=      70.24        70.24        70.237
     RUNOFF COEFFICIENT   =        .97          .33           .824
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (23        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 06:23W            .57      .167    8.00  57.91    .000
                    +ID2 07:23E            .60      .177    8.00  57.91    .000

============================================================
                     SUM 08:23            1.17      .344    8.00  57.91    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

  ** END OF RUN :   3
********************************************************************************
```

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--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
-------------------  Rainfall dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 004
    NSTORM=   1
           #  1=24hCHI25.stm
*#**************************************************************************
*#  Project Name: [Dundas Street]    Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#**************************************************************************
--------------------
| READ STORM       |    Filename: 24H-CHICAGO AES TORONTO (Bloor Street) G
| Ptotal=  82.48 mm|    Comments: 24H-CHICAGO AES TORONTO (Bloor Street) G
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .528 |   6.17   1.923 |  12.17   1.737 |  18.17    .782
              .33    .538 |   6.33   2.101 |  12.33   1.676 |  18.33    .770
              .50    .549 |   6.50   2.317 |  12.50   1.619 |  18.50    .760
              .67    .559 |   6.67   2.588 |  12.67   1.567 |  18.67    .749
              .83    .571 |   6.83   2.938 |  12.83   1.517 |  18.83    .739
             1.00    .583 |   7.00   3.407 |  13.00   1.472 |  19.00    .729
             1.17    .595 |   7.17   4.072 |  13.17   1.428 |  19.17    .720
             1.33    .608 |   7.33   5.089 |  13.33   1.388 |  19.33    .710
             1.50    .621 |   7.50   6.845 |  13.50   1.350 |  19.50    .701
             1.67    .636 |   7.67  10.618 |  13.67   1.314 |  19.67    .693
             1.83    .651 |   7.83  24.427 |  13.83   1.280 |  19.83    .684
             2.00    .666 |   8.00 156.877 |  14.00   1.248 |  20.00    .676
             2.17    .683 |   8.17  54.954 |  14.17   1.218 |  20.17    .668
             2.33    .701 |   8.33  23.718 |  14.33   1.189 |  20.33    .660
             2.50    .719 |   8.50  14.843 |  14.50   1.162 |  20.50    .652
             2.67    .739 |   8.67  10.769 |  14.67   1.136 |  20.67    .644
             2.83    .760 |   8.83   8.456 |  14.83   1.111 |  20.83    .637
             3.00    .782 |   9.00   6.972 |  15.00   1.088 |  21.00    .630
             3.17    .806 |   9.17   5.941 |  15.17   1.065 |  21.17    .623
             3.33    .831 |   9.33   5.184 |  15.33   1.043 |  21.33    .616
             3.50    .858 |   9.50   4.604 |  15.50   1.023 |  21.50    .610
             3.67    .887 |   9.67   4.146 |  15.67   1.003 |  21.67    .603
             3.83    .918 |   9.83   3.775 |  15.83    .984 |  21.83    .597
             4.00    .952 |  10.00   3.468 |  16.00    .966 |  22.00    .591
             4.17    .989 |  10.17   3.209 |  16.17    .948 |  22.17    .584
             4.33   1.028 |  10.33   2.989 |  16.33    .931 |  22.33    .579
             4.50   1.072 |  10.50   2.798 |  16.50    .915 |  22.50    .573
             4.67   1.119 |  10.67   2.632 |  16.67    .900 |  22.67    .567
             4.83   1.172 |  10.83   2.485 |  16.83    .885 |  22.83    .562
             5.00   1.230 |  11.00   2.356 |  17.00    .870 |  23.00    .556
             5.17   1.295 |  11.17   2.239 |  17.17    .856 |  23.17    .551
             5.33   1.367 |  11.33   2.135 |  17.33    .843 |  23.33    .546
             5.50   1.449 |  11.50   2.040 |  17.50    .830 |  23.50    .540
             5.67   1.543 |  11.67   1.954 |  17.67    .817 |  23.67    .535
             5.83   1.650 |  11.83   1.876 |  17.83    .805 |  23.83    .531
             6.00   1.776 |  12.00   1.804 |  18.00    .793 |  24.00    .526
**************************************************************
*************** Drainage Area 21A ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.23
| 01:21A    DT= 5.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   85.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.05          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     214.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     156.88        59.46
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.67 (ii)    7.10 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .25          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .43          .02          .451 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      80.47        31.12        73.072
     TOTAL RAINFALL   (mm)=      82.48        82.48        82.475
     RUNOFF COEFFICIENT   =        .98          .38          .886
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 21B ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.24
| 02:21B    DT= 5.00 |   Total Imp(%)=   82.00   Dir. Conn.(%)=   82.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.84          .40
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     425.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     156.88        48.11
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.54 (ii)    9.27 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .69          .04          .714 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      80.47        31.12        71.591
     TOTAL RAINFALL   (mm)=      82.48        82.48        82.475
     RUNOFF COEFFICIENT   =        .98          .38          .868
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.82
| 03:22     DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.46          .36
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     370.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     156.88        48.11
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.10 (ii)    8.83 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .56          .03          .583 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      80.47        31.12        70.604
     TOTAL RAINFALL   (mm)=      82.48        82.48        82.475
     RUNOFF COEFFICIENT   =        .98          .38          .856
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22A ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 04:22A    DT= 5.00 |   Total Imp(%)=   89.00   Dir. Conn.(%)=   89.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.18          .15
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     156.88        59.46
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.78 (ii)    7.21 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .25          .17
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .48          .02          .501 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      80.47        31.12        75.046
     TOTAL RAINFALL   (mm)=      82.48        82.48        82.475
     RUNOFF COEFFICIENT   =        .98          .38          .910
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22B ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .56
| 05:22B    DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .45          .11
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      95.00         1.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=     156.88        59.46
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.25 (ii)    3.56 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .26
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .19          .02          .209 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      80.47        31.12        70.604
     TOTAL RAINFALL   (mm)=      82.48        82.48        82.475
     RUNOFF COEFFICIENT   =        .98          .38          .856
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 23 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .57
| 06:23W    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44          .13
     Dep. Storage     (mm)=       2.00         8.00
```

```
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     105.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     156.88        59.46
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.39 (ii)    5.82 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .20
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .19          .02          .205 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      80.47        31.12        69.124
     TOTAL RAINFALL   (mm)=      82.48        82.48        82.475
     RUNOFF COEFFICIENT   =        .98          .38          .838
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .60
| 07:23E    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .14
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     110.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     156.88        59.46
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.00 (ii)    5.43 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .31          .20
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .20          .02          .217 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      80.47        31.12        69.124
     TOTAL RAINFALL   (mm)=      82.48        82.48        82.475
     RUNOFF COEFFICIENT   =        .98          .38          .838
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| ADD HYD (23        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                    ID1 06:23W             .57      .205    8.00  69.12    .000
                   +ID2 07:23E             .60      .217    8.00  69.12    .000

============================================================
                    SUM 08:23             1.17      .422    8.00  69.12    .000
    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

  ** END OF RUN :   4
********************************************************************************
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--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
--------------------  Rainfall dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 005
    NSTORM=   1
           #  1=24hCHI50.stm
*#*************************************************************************
*#  Project Name: [Dundas Street]    Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*************************************************************************
--------------------
| READ STORM       |    Filename: 24H-CHICAGO TORONTO (Bloor Street) Gauge
| Ptotal=  89.46 mm|    Comments: 24H-CHICAGO TORONTO (Bloor Street) Gauge
--------------------
              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
               .17    .536 |   6.17   1.995 |  12.17   1.798 |  18.17    .798
               .33    .546 |   6.33   2.182 |  12.33   1.734 |  18.33    .786
               .50    .557 |   6.50   2.412 |  12.50   1.674 |  18.50    .775
               .67    .568 |   6.67   2.701 |  12.67   1.618 |  18.67    .764
               .83    .580 |   6.83   3.075 |  12.83   1.566 |  18.83    .754
              1.00    .592 |   7.00   3.578 |  13.00   1.518 |  19.00    .744
              1.17    .605 |   7.17   4.295 |  13.17   1.473 |  19.17    .734
              1.33    .618 |   7.33   5.399 |  13.33   1.430 |  19.33    .724
              1.50    .632 |   7.50   7.321 |  13.50   1.391 |  19.50    .715
              1.67    .647 |   7.67  11.493 |  13.67   1.353 |  19.67    .706
              1.83    .662 |   7.83  27.006 |  13.83   1.318 |  19.83    .697
              2.00    .679 |   8.00 176.064 |  14.00   1.284 |  20.00    .688
              2.17    .696 |   8.17  61.578 |  14.17   1.252 |  20.17    .680
              2.33    .714 |   8.33  26.190 |  14.33   1.222 |  20.33    .672
              2.50    .733 |   8.50  16.204 |  14.50   1.194 |  20.50    .664
              2.67    .753 |   8.67  11.657 |  14.67   1.167 |  20.67    .656
              2.83    .775 |   8.83   9.093 |  14.83   1.141 |  20.83    .648
              3.00    .798 |   9.00   7.458 |  15.00   1.116 |  21.00    .641
              3.17    .823 |   9.17   6.329 |  15.17   1.092 |  21.17    .634
              3.33    .849 |   9.33   5.502 |  15.33   1.070 |  21.33    .627
              3.50    .877 |   9.50   4.872 |  15.50   1.048 |  21.50    .620
              3.67    .907 |   9.67   4.376 |  15.67   1.028 |  21.67    .613
              3.83    .940 |   9.83   3.974 |  15.83   1.008 |  21.83    .607
              4.00    .975 |  10.00   3.644 |  16.00    .989 |  22.00    .600
              4.17   1.013 |  10.17   3.366 |  16.17    .971 |  22.17    .594
              4.33   1.054 |  10.33   3.129 |  16.33    .953 |  22.33    .588
              4.50   1.100 |  10.50   2.925 |  16.50    .936 |  22.50    .582
              4.67   1.149 |  10.67   2.748 |  16.67    .920 |  22.67    .576
              4.83   1.204 |  10.83   2.592 |  16.83    .905 |  22.83    .570
              5.00   1.265 |  11.00   2.453 |  17.00    .890 |  23.00    .565
              5.17   1.333 |  11.17   2.330 |  17.17    .875 |  23.17    .559
              5.33   1.409 |  11.33   2.219 |  17.33    .861 |  23.33    .554
              5.50   1.495 |  11.50   2.118 |  17.50    .848 |  23.50    .549
              5.67   1.593 |  11.67   2.027 |  17.67    .834 |  23.67    .543
              5.83   1.706 |  11.83   1.944 |  17.83    .822 |  23.83    .538
              6.00   1.839 |  12.00   1.868 |  18.00    .810 |  24.00    .533
************************************************************
*************** Drainage Area 21A ****************************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.23
| 01:21A    DT= 5.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   85.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.05          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     214.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     176.06        72.09
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.50 (ii)    6.68 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .26          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .49          .03          .512 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      87.46        35.83        79.713
     TOTAL RAINFALL   (mm)=      89.46        89.46        89.458
     RUNOFF COEFFICIENT   =        .98          .40          .891
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 21B ****************************
************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.24
| 02:21B    DT= 5.00 |   Total Imp(%)=   82.00   Dir. Conn.(%)=   82.00
---------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.84          .40
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     425.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     176.06        58.61
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.29 (ii)    8.74 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .78          .05          .816 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
```

```
     RUNOFF VOLUME    (mm)=      87.46        35.83         78.164
     TOTAL RAINFALL   (mm)=      89.46        89.46         89.458
     RUNOFF COEFFICIENT   =        .98          .40           .874
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.82
| 03:22     DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.46          .36
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     370.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     176.06        58.61
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.87 (ii)    8.31 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .63          .04           .665 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08          8.000
     RUNOFF VOLUME    (mm)=      87.46        35.83         77.132
     TOTAL RAINFALL   (mm)=      89.46        89.46         89.458
     RUNOFF COEFFICIENT   =        .98          .40           .862
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22A ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 04:22A    DT= 5.00 |   Total Imp(%)=   89.00   Dir. Conn.(%)=   89.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.18          .15
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     176.06        72.09
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.61 (ii)    6.78 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .25          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .55          .02           .568 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00          8.000
     RUNOFF VOLUME    (mm)=      87.46        35.83         81.778
     TOTAL RAINFALL   (mm)=      89.46        89.46         89.458
     RUNOFF COEFFICIENT   =        .98          .40           .914
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22B ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .56
| 05:22B    DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .45          .11
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      95.00         1.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     176.06        72.09
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.15 (ii)    3.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .31          .26
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .22          .02           .237 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00          8.000
     RUNOFF VOLUME    (mm)=      87.46        35.83         77.131
     TOTAL RAINFALL   (mm)=      89.46        89.46         89.458
     RUNOFF COEFFICIENT   =        .98          .40           .862
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 23 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .57
| 06:23W    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44          .13
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     105.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     176.06        72.09
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.29 (ii)    5.46 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .20
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .21          .02           .232 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00          8.000
     RUNOFF VOLUME    (mm)=      87.46        35.83         75.582
     TOTAL RAINFALL   (mm)=      89.46        89.46         89.458
     RUNOFF COEFFICIENT   =        .98          .40           .845
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .60
| 07:23E    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .14
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     110.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     176.06        72.09
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.91 (ii)    5.08 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .32          .21
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .22          .02           .246 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00          8.000
     RUNOFF VOLUME    (mm)=      87.46        35.83         75.583
     TOTAL RAINFALL   (mm)=      89.46        89.46         89.458
     RUNOFF COEFFICIENT   =        .98          .40           .845
      *** WARNING: Storage Coefficient is smaller than DT!
                  Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (23        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                      ID1 06:23W           .57     .232    8.00  75.58    .000
                     +ID2 07:23E           .60     .246    8.00  75.58    .000

============================================================
                      SUM 08:23            1.17     .479    8.00  75.58    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

  ** END OF RUN :   5

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--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
-------------------  Rainfall dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 006
    NSTORM=   1
           #  1=24CHI100.stm
*#**************************************************************************
*#  Project Name: [Dundas Street]    Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#**************************************************************************
--------------------
| READ STORM       |    Filename: 24H-CHICAGO TORONTO (Bloor Street) Gauge
| Ptotal=  98.14 mm|    Comments: 24H-CHICAGO TORONTO (Bloor Street) Gauge
--------------------
             TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              .17    .588 |   6.17   2.185 |  12.17   1.970 |  18.17    .875
              .33    .599 |   6.33   2.390 |  12.33   1.899 |  18.33    .862
              .50    .611 |   6.50   2.642 |  12.50   1.834 |  18.50    .850
              .67    .623 |   6.67   2.958 |  12.67   1.773 |  18.67    .838
              .83    .636 |   6.83   3.366 |  12.83   1.716 |  18.83    .826
             1.00    .649 |   7.00   3.916 |  13.00   1.664 |  19.00    .815
             1.17    .663 |   7.17   4.699 |  13.17   1.614 |  19.17    .804
             1.33    .678 |   7.33   5.905 |  13.33   1.568 |  19.33    .794
             1.50    .693 |   7.50   8.002 |  13.50   1.524 |  19.50    .784
             1.67    .709 |   7.67  12.553 |  13.67   1.483 |  19.67    .774
             1.83    .726 |   7.83  29.486 |  13.83   1.444 |  19.83    .764
             2.00    .744 |   8.00 194.210 |  14.00   1.407 |  20.00    .754
             2.17    .763 |   8.17  67.348 |  14.17   1.373 |  20.17    .745
             2.33    .783 |   8.33  28.591 |  14.33   1.340 |  20.33    .736
             2.50    .804 |   8.50  17.692 |  14.50   1.308 |  20.50    .728
             2.67    .826 |   8.67  12.732 |  14.67   1.279 |  20.67    .719
             2.83    .850 |   8.83   9.936 |  14.83   1.250 |  20.83    .711
             3.00    .875 |   9.00   8.152 |  15.00   1.223 |  21.00    .703
             3.17    .902 |   9.17   6.920 |  15.17   1.197 |  21.17    .695
             3.33    .931 |   9.33   6.018 |  15.33   1.173 |  21.33    .687
             3.50    .961 |   9.50   5.329 |  15.50   1.149 |  21.50    .680
             3.67    .994 |   9.67   4.787 |  15.67   1.127 |  21.67    .672
             3.83   1.030 |   9.83   4.349 |  15.83   1.105 |  21.83    .665
             4.00   1.068 |  10.00   3.988 |  16.00   1.084 |  22.00    .658
             4.17   1.110 |  10.17   3.684 |  16.17   1.064 |  22.17    .651
             4.33   1.156 |  10.33   3.426 |  16.33   1.045 |  22.33    .645
             4.50   1.205 |  10.50   3.203 |  16.50   1.027 |  22.50    .638
             4.67   1.260 |  10.67   3.009 |  16.67   1.009 |  22.67    .632
             4.83   1.320 |  10.83   2.838 |  16.83    .992 |  22.83    .625
             5.00   1.386 |  11.00   2.687 |  17.00    .975 |  23.00    .619
             5.17   1.460 |  11.17   2.552 |  17.17    .959 |  23.17    .613
             5.33   1.544 |  11.33   2.430 |  17.33    .944 |  23.33    .607
             5.50   1.638 |  11.50   2.320 |  17.50    .929 |  23.50    .602
             5.67   1.746 |  11.67   2.221 |  17.67    .915 |  23.67    .596
             5.83   1.870 |  11.83   2.130 |  17.83    .901 |  23.83    .590
             6.00   2.014 |  12.00   2.047 |  18.00    .888 |  24.00    .585
************************************************************
*************** Drainage Area 21A **************************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.23
| 01:21A    DT= 5.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   85.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.05          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     214.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     194.21        85.82
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.37 (ii)    6.33 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .26          .19
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .54          .03          .571 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      96.13        41.90        88.000
     TOTAL RAINFALL   (mm)=      98.14        98.14        98.135
     RUNOFF COEFFICIENT   =        .98          .43          .897
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 21B **************************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.24
| 02:21B    DT= 5.00 |   Total Imp(%)=   82.00   Dir. Conn.(%)=   82.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.84          .40
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     425.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     194.21        70.55
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.09 (ii)    8.29 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .21          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .87          .06          .914 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      96.13        41.90        86.373
     TOTAL RAINFALL   (mm)=      98.14        98.14        98.135
     RUNOFF COEFFICIENT   =        .98          .43          .880
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 22 ***************************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.82
| 03:22     DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.46          .36
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     370.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     194.21        70.55
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.68 (ii)    7.88 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .22          .13
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .71          .05          .745 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.08         8.000
     RUNOFF VOLUME    (mm)=      96.13        41.90        85.289
     TOTAL RAINFALL   (mm)=      98.14        98.14        98.135
     RUNOFF COEFFICIENT   =        .98          .43          .869
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 22A **************************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 04:22A    DT= 5.00 |   Total Imp(%)=   89.00   Dir. Conn.(%)=   89.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.18          .15
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     194.21        85.82
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.47 (ii)    6.43 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .26          .18
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .61          .02          .633 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      96.14        41.90        90.170
     TOTAL RAINFALL   (mm)=      98.14        98.14        98.135
     RUNOFF COEFFICIENT   =        .98          .43          .919
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 22B **************************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .56
| 05:22B    DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .45          .11
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      95.00         1.00
     Mannings n            =       .015         .300
     Max.eff.Inten.(mm/hr)=     194.21        85.82
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.07 (ii)    3.20 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .31          .27
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .24          .02          .264 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      96.13        41.90        85.289
     TOTAL RAINFALL   (mm)=      98.14        98.14        98.135
     RUNOFF COEFFICIENT   =        .98          .43          .869
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
************************************************************
*************** Drainage Area 23 ***************************
************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .57
| 06:23W    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
----------------------
                           IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=        .44          .13
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     105.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     194.21        85.82
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.20 (ii)    5.16 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .30          .21
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .23          .02          .259 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      96.13        41.90         83.662
     TOTAL RAINFALL   (mm)=      98.14        98.14         98.135
     RUNOFF COEFFICIENT   =        .98          .43          .853
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .60
| 07:23E    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .14
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     110.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=     194.21        85.82
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.84 (ii)    4.80 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .32          .22
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .25          .03          .275 (iii)
     TIME TO PEAK    (hrs)=       8.00         8.00         8.000
     RUNOFF VOLUME    (mm)=      96.13        41.90         83.662
     TOTAL RAINFALL   (mm)=      98.14        98.14         98.135
     RUNOFF COEFFICIENT   =        .98          .43          .853
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
-----------------------
| ADD HYD (23        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
-----------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 06:23W             .57     .259    8.00  83.66    .000
                    +ID2 07:23E             .60     .275    8.00  83.66    .000

============================================================
                    SUM 08:23             1.17     .534    8.00  83.66    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
  ** END OF RUN :   6
*******************************************************************************
```

```
--------------------
| START            |  Project  dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
--------------------  Rainfall dir.: C:\SWMHYMO\321208~1\TOWNOF~1\
    TZERO =   .00 hrs on        0
    METOUT=   2 (output = METRIC)
    NRUN  = 007
    NSTORM=   1
           #  1=HAZEL48.stm
*#*****************************************************************************
*#  Project Name: [Dundas Street]    Project Number: [3212082]
*#  Date        : October 2014
*#  Modeller    : [MK]
*#  Company     : MMM Group Limited
*#  License #   : 4313781
*#*****************************************************************************
--------------------
| READ STORM       |    Filename: 48 hour Hurricane Hazel
| Ptotal= 284.00 mm|    Comments: 48 hour Hurricane Hazel
--------------------
              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
              1.00   2.000 |  13.00   2.000 |  25.00   2.000 |  37.00   5.936
              2.00   2.000 |  14.00   2.000 |  26.00   2.000 |  38.00   4.028
              3.00   2.000 |  15.00   2.000 |  27.00   2.000 |  39.00   5.936
              4.00   2.000 |  16.00   2.000 |  28.00   2.000 |  40.00  13.144
              5.00   2.000 |  17.00   2.000 |  29.00   2.000 |  41.00  16.960
              6.00   2.000 |  18.00   2.000 |  30.00   2.000 |  42.00  12.932
              7.00   2.000 |  19.00   2.000 |  31.00   2.000 |  43.00  23.108
              8.00   2.000 |  20.00   2.000 |  32.00   2.000 |  44.00  12.932
              9.00   2.000 |  21.00   2.000 |  33.00   2.000 |  45.00  12.932
             10.00   2.000 |  22.00   2.000 |  34.00   2.000 |  46.00  53.000
             11.00   2.000 |  23.00   2.000 |  35.00   2.000 |  47.00  38.160
             12.00   2.000 |  24.00   2.000 |  36.00   2.000 |  48.00  12.932
*******************************************************************
*************** Drainage Area 21A *********************************
*******************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.23
| 01:21A    DT= 5.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   85.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.05          .18
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     214.00         5.00
     Mannings n          =       .015         .300

     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.66 (ii)    9.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .12
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .15          .02          .178 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60       269.790
     TOTAL RAINFALL   (mm)=     284.00       284.00       284.000
     RUNOFF COEFFICIENT   =        .99          .71          .950

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*******************************************************************
*************** Drainage Area 21B *********************************
*******************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    2.24
| 02:21B    DT= 5.00 |   Total Imp(%)=   82.00   Dir. Conn.(%)=   82.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.84          .40
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     425.00         5.00
     Mannings n          =       .015         .300

     Max.eff.Inten.(mm/hr)=      53.00        47.57
               over (min)       10.00        10.00
     Storage Coeff.  (min)=       8.55 (ii)   12.30 (ii)
     Unit Hyd. Tpeak (min)=      10.00        10.00
     Unit Hyd. peak  (cms)=        .12          .10
                                                    *TOTALS*
     PEAK FLOW       (cms)=        .27          .05          .323 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00        46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60       267.348
     TOTAL RAINFALL   (mm)=     284.00       284.00       284.000
     RUNOFF COEFFICIENT   =        .99          .71          .941

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
*******************************************************************
*************** Drainage Area 22 **********************************
*******************************************************************
---------------------
| CALIB STANDHYD     |   Area    (ha)=    1.82
| 03:22     DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
---------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.46          .36
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     370.00         5.00
     Mannings n          =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
```

```
              over (min)       10.00        10.00
     Storage Coeff.  (min)=       7.87 (ii)   11.61 (ii)
     Unit Hyd. Tpeak (min)=      10.00        10.00
     Unit Hyd. peak  (cms)=        .13          .10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .21          .05          .262 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        265.720
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .936
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22A ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.33
| 04:22A    DT= 5.00 |   Total Imp(%)=   89.00   Dir. Conn.(%)=   89.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.18          .15
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     225.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.57
              over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.84 (ii)    9.58 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=        .20          .11
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .17          .02          .193 (iii)
     TIME TO PEAK    (hrs)=      46.00        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        273.046
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .961
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 22B ****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .56
| 05:22B    DT= 5.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   80.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .45          .11
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      95.00         1.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.65
              over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.48 (ii)    4.91 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .26          .22
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .07          .01          .081 (iii)
     TIME TO PEAK    (hrs)=      45.83        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        265.719
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .936
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
**************************************************************
*************** Drainage Area 23 *****************************
**************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .57
| 06:23W    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .44          .13
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     105.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.65
              over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.70 (ii)    7.44 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .25          .17
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .06          .02          .082 (iii)
     TIME TO PEAK    (hrs)=      45.92        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        263.277
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .927
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .60
| 07:23E    DT= 5.00 |   Total Imp(%)=   77.00   Dir. Conn.(%)=   77.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .14
     Dep. Storage     (mm)=       2.00         8.00
     Average Slope     (%)=       2.00         1.00
     Length            (m)=     110.00         5.00
     Mannings n           =       .015         .300
     Max.eff.Inten.(mm/hr)=      53.00        47.65
              over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.09 (ii)    6.83 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=        .27          .18
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .07          .02          .086 (iii)
     TIME TO PEAK    (hrs)=      45.75        46.00         46.000
     RUNOFF VOLUME    (mm)=     282.00       200.60        263.277
     TOTAL RAINFALL   (mm)=     284.00       284.00        284.000
     RUNOFF COEFFICIENT   =        .99          .71           .927
      *** WARNING: Storage Coefficient is smaller than DT!
                   Use a smaller DT or a larger area.
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
------------------------
| ADD HYD (23        ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                     ID1 06:23W             .57     .082   46.00 263.28    .000
                    +ID2 07:23E             .60     .086   46.00 263.28    .000

============================================================
                     SUM 08:23             1.17     .168   46.00 263.28    .000
   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
      FINISH
********************************************************************************
   Simulation ended on 2014-10-14     at 16:58:07
================================================================================
```

APPENDIX E-2
HYDRAULIC ASSESSMENT