July 14, 2021
File: LD-00203

VIA EMAIL

The Municipality of Middlesex Centre
10227 Ilderton Road
Ilderton, ON N0M 2A0

Attention: **Mr. Jake Deridder**
Development Review Coordinator, Department Public Works & Engineering

Dear Jake:

Reference: **MN 6, 10, 14 Elmhurst Street, Kilworth**
Sweid Holdings Inc.
Stormwater Servicing Brief

Introduction

LDS Consultants Inc. (LDS) has been retained by Sweid Holdings Inc. to prepare a strategy to provide stormwater management infrastructure servicing for the proposed development of the property located at MN 6, 10 and 14 Elmhurst Street in Town of Kilworth as illustrated in **Figure 1**. The subject site comprises open green space, and is approximately 2.02 hectares in area. The site is bounded by Elmhurst Street to the east, and existing residential lots with wooded areas to the north, south and west.

Background Information

The servicing strategy presented herein was developed using the following information;

- Geotechnical Investigation, prepared by LDS Consultants Inc., dated October 8th, 2019; and,
- Middlesex Centre Infrastructure Design Standards, dated January 2018;

Existing Condition

The site currently consists of three existing residential lots. These lots are generally comprised of open grassed area, multiple buildings, and some trees. The site drains west towards the rear of the lots. External flows enter the site through the north-most lot line; these external areas consist mainly of woodlot. The existing catchment areas are described below. The site was modelling in SWMHYMO to calculate existing peak flows which are summarized in **Table 1** and the catchments are illustrated in **Figure 2**. Model documentation is attached.

Catchment 101 – This catchment consists of the existing greenspace, has some trees and three existing residential dwellings and few sheds. This catchment drains overland west towards existing residential lots.

Catchment EX-1 – This catchment represents a wooded area to the northwest of the site. These area drains southeast into the existing greenspace.

Table 1 - Pre-Development Runoff Peak Flows

Storm Event	Peak Flow (m^3/s)
2-year	0.057
5-year	0.060
10-year	0.088
25-year	0.126
50-year	0.154
100-year	0.190
250-year	0.247

A geotechnical investigation was conducted by LDS to determine existing soil conditions at the subject site. The predominate soil on site is a sandy loam. For modelling purposes, it will be classified as Hydrologic Soil Group A. Five of the six boreholes were observed as being dry while a groundwater level was observed in one test pit at a depth of 4.27 meters.

Proposed Condition

It is proposed to develop the site as a mixture residential development consisting of 28 single detached homes and 28 town houses. The proposed development will include paved areas as well as some open space grassed areas. All storm runoff occurring onsite will be conveyed to the internal storm sewer system, and be allowed to infiltrate through sub terrain, stone infiltration galleries. The proposed catchments are described below and are illustrated in **Figure 3**. The proposed condition was modelled using SWMHYMO and the model results are attached to this letter report.

Catchment 201 – This catchment consists of backyards of single dwelling units 1 - 11. Minor and major flows will be conveyed to a 120 m long linear stone infiltration gallery adjacent to the lot line. This catchment accepts external flows from Catchment EX-1.

Catchment 202 – This catchment consists of backyards of single dwelling units 12 and 13. Minor and major flows will be conveyed to open bottom catch basin within lot 12. This catchment accepts external flows from Catchment EX-2.

Catchment 203 – This catchment consists of backyards of single dwelling units 14 - 16. Minor and major flows will be conveyed to a 50 m long linear stone infiltration gallery adjacent to the lot line.

Catchment 204 – This catchment consists of backyards of single dwelling units 17 - 28. Minor and major flows will be conveyed to a 120 m long linear stone infiltration gallery adjacent to the lot line.

Catchment 205 – This catchment consists of the internal street network, green space and fifty-six (56) dwellings. Minor and major flows will be conveyed by the storm sewer network to the stone infiltration gallery.

Catchment 206 – This catchment consists of a small portion of rear and side yard in he north portion of the sire. Minor and major flows will be conveyed to the Elmhurst Street ditch. This catchment accepts external flows from Catchment EX-3.

Catchment EX-1 – This catchment represents a wooded area to the northwest of the site. This area drains southeast onto the subject site. Minor and major flows will be conveyed by the storm sewer network to the stone infiltration gallery within Catchment 201.

Catchment EX-2 – This catchment represents a wooded area to the northwest of the site. This area drains southeast onto the subject site. Minor and major flows will be conveyed by the storm sewer network to the stone infiltration gallery within Catchment 202.

Catchment EX-3 – This catchment represents a wooded area to the north of the site. This area drains southeast onto the subject site. Minor and major flows will be conveyed through the subject site to the Elmhurst Street ditch.

Quantity Control

Quantity control is achieved though the combination of surface ponding, a perforated/oversized storm sewer network and an infiltration gallery underneath the internal road network. There is no outlet for this site. As such, all flow will be contained within the site boundaries to avoid adverse effects to the surrounding environment. Runoff from the backyards of the single detached homes will flow to open bottom catchbasins located in the rear yards. Runoff from the fronts of houses and town homes will flow to the internal asphalt surface. The asphalt surface will be conveyed by catchbasins and the internal storm sewer, which captures all flows on site. This system is oversized and utilizes perforated pipes to infiltrate the collected stormwater into the underlying stone bed. This infiltration gallery will store and then infiltrate all flows on site. The information used to model the infiltration gallery is outlined in **Table 3** and the footprint of this infiltration gallery is depicted in **Figure 3,** as well. There is a catchbasin manhole located in the depressed greenspace between the two parking areas in the middle of site. This area will serve as a surface storage area. The culmination of these controls is summarized in **Table 2**. Supporting model documentation is attached.

Table 2 – Infiltration Gallery Modelling Parameters

Attribute	201	202	203	204	205
Surface Area (m^2)	120	0.87	50	120	3495
Void Ratio	0.40	0.40	0.40	0.40	0.40
Depth of Stone Bed (m)	1.0	1.8	1.0	1.0	0.5
Available Void Space (m^3)	48	2	20	48	699
Surface Ponding Volume (m^3)	60	5	20	60	62
Total Storage Volume (m^3)	108	7	40	108	761
Infiltration Rate (mm/hr)	25	25	25	25	25
Model Flowrate (m^3/s)	0.00083	0.00035	0.00035	0.00083	0.0235
2-year Volume Used (m^3)	41	7	7	23	118
250-year Volume Used (m^3)	108	7	37	92	576

As shown, the total post development peak flow rates are less than the pre-development condition as the entire volume of the 250-year storm is infiltrated without overflowing the storage system. Approximately 579 m^3 of underground storage in the main infiltration gallery is utilized in the 250-year storm event. As the primary storage facility for the subject site, this infiltration gallery has an additional 185 m^3 of subsurface and surface storage for greater storm events. Should the onsite storage be overwhelmed, the ultimate overland outlet for the subject site is Elmhurst Street.

Erosion and Sediment Control

This section describes the Erosion and Sediment Control Plan that will be implemented prior to, during and immediately after construction to reduce the possibility of sediment being conveyed from the proposed construction site.

Types of Selected Erosion / Sediment Control Methods

The details and locations of the proposed temporary and longer-term erosion and sediment control measures will be identified prior to final approval. The construction drawings, once complete, will form a part of the sediment and erosion control plan. Proposed erosion and sediment control measures include the following:

- Silt fence and robust siltation barrier will be installed along the boundary of the subject site.
- All disturbed areas where work will not take place for a period of 30 days or more will be stabilized in accordance with OPSS 572.
- Street sweeping will be performed as necessary to remove soil deposited on adjacent right-of ways by construction traffic.

The proposed temporary erosion and sediment control measures have been selected based on the site's susceptibility to erosion, sensitivity of the downstream environment, site slopes, and total drainage area. The proposed measures should provide adequate erosion and sediment control for the proposed project without the need for additional measures. However, the site will be monitored during construction, and additional measures will be added, if required.

Installation of Erosion Control Measures

Proposed erosion and sediment control measures are summarized in **Table 4**.

Table 3 – Erosion and Sediment Control Sequencing

Stage	Erosion and Sediment Control Measures
Pre-Construction	Create contact list for emergency contingency plan operations.
	Install silt fence around the proposed work limits, as appropriate.
	Install robust siltation barrier.
	Preparation of a Construction Dewatering Discharge Plan, including discharge location, temporary storage locations and identifying measures to reduce suspended solids or other treatment, if required

Construction	Monitor water quality (turbidity) for construction dewatering discharge water discharged at surface
	Regular inspection of erosion and sediment control measures to confirm they are effective and operating as intended.
	Monitor weather reports for significant precipitation events for contingency planning.
	Install filter cloth in on-site catchbasins.
	Perform street sweeping as necessary to remove accumulated sediment from the adjacent right-of-way.
	Complete final paving.
	Complete final landscaping and vegetation plantings.
Post-Construction	Remove robust siltation barrier.
	Remove silt fence from the proposed work limits
	Remove filter cloth from on-site catchbasins.
	Remove construction fence from the proposed work limits.

The proposed erosion and sediment control measures have been designed according to the site slopes, the site drainage area, and the risks and consequences of failure. Based on these factors, additional measures will likely not be required.

However, the site will be monitored during construction and additional measures (i.e. additional rows of silt fence) may be installed at the discretion of the Contract Administrator. Although this not an exhaustive list, inspections are expected to include checks on siltation barrier installations to confirm that it is properly installed and secured, including inspection for evidence of damage or tears, and overtopping or undermining; checking condition of surface water ponding areas and storm drain inlets, and documenting areas where seeding / sodding / mulching is implemented to re-establish vegetative cover.

The triggers for the installation of enhanced erosion and sediment control measures would include breaching of the proposed erosion and sediment control measures, and / or re-evaluation based on site conditions during construction. In any event, site conditions and the proposed erosion and sediment control measures will be monitored on a regular basis, as described below.

Inspection Requirements

In order to monitor the effectiveness of the erosion and sediment control measures during site grading and site servicing work, frequent inspections will be required. The following minimum inspection intervals are recommended:

- The Contractor and Contract Administrator shall monitor weather reports on a daily basis, and record daily temperatures and rainfall. When rainfall is anticipated the Contractor and the Contract Administrator shall inspect the erosion control works immediately before and immediately after rainfall event and snowmelt event (timing for inspections before are based on predicted weather forecasts);
- Daily during extended or significant precipitation (i.e. rainfall amounts that exceed 25 millimetres) or during significant snowmelt periods;
- Daily during any construction activity that would potentially yield significant run-off volumes or otherwise impact the quality of the run-off leaving the site;
- Daily while deficiencies are present which fail to contain, filter or otherwise treat run-off, or contribute to sediment loading in surface water;
- Weekly during dry periods while construction activity is occurring at the site. The Contractor and the Contract Administrator shall inspect the erosion control measures the day before the last business day of the week (typically Thursday) to allow for any work to be completed on damaged erosion control works prior to the weekend.; and,
- Monthly during inactive periods (> 30 days).

The Contract Administrator will document all inspection activities in weekly erosion and sediment control inspection reports.

The Contractor shall be responsible for constructing and maintaining all erosion and sediment control measures. This shall include, but not be limited to: maintaining fencing, and removing accumulated sediment. Temporary erosion and sediment control measures will not be removed until the areas they serve are restored and stable. Removal of the erosion and sediment control measures will be the responsibility of the builder after sod has rooted on the site.

Contingency Plan

The purpose of the contingency plan is to help minimize the risk or consequence of failure of the erosion and sediment control works. Failure could result from insufficient measures, lack of maintenance, or severe weather conditions. The contingency plan includes two areas of consideration:

- Procedures that will be followed where a failure has occurred; and
- Contingency measures that will be implemented where there is potential for failure.

The Contractor shall be responsible for following the contingency plan, and will prepare the following items:

- The Contractor will maintain a contact list for emergency situations.
- Workers shall be on call for emergency situations for all aspects of the emergency from design to installation of sediment and erosion control measures. Any associated health and safety issues are the responsibility of Contractor.
- Sediment and erosion control measures such as erosion control blanket, straw bales and stakes, sandbags, and silt fence shall be made available for emergency installation.
- Gas powered pumps, appropriately sized hoses, filtration hose socks, and filter cloth shall be made available for emergency dewatering.
- Heavy equipment shall be on standby for emergency works.
- A supplemental contact list for any further required equipment or materials shall be prepared and made available for emergency use.

Monitoring

As noted previously, regular monitoring of the erosion and sediment control measures at the site makes up an integral part of the contingency plan, by providing an early indication should any environmental control measures (such as sediment and erosion control measures) or practices fail to achieve prescribed standards. Recommended inspection intervals were discussed previously.

In the event that monitoring identifies a high potential for failure, steps shall be immediately taken to reduce the risk. These measures may include repair to existing measures, modification of existing measures, and the addition of new measures.

If unforeseen events cause the strategies set out in the contingency plan to be insufficient or inappropriate to meet the objective of containing sediment within the working limits, the Contractor, either independently or as directed by the Contract Administrator, will respond in a timely manner with all reasonable measures to prevent, counteract, or remedy any effects on aquatic habitat, and human interest (i.e. public safety, property value).

Updates to the Erosion and Sediment Control Plan may be required to reflect changes at the site, during various stages of construction. The municipality will be circulated with updated plans, to ensure that they have the most current plans available for review and consultation, if needed.

Severe Weather Anticipated

In cases where the weather forecast indicates that significant rainfall is expected within a 24-hour period, the Contractor shall immediately complete the following:

- Inspect existing erosion and sediment control measures to confirm that they are secure and in good working order;
- Review site conditions to identify and protect areas of exposed soil that could be susceptible to surface erosion; and,
- Monitor all measures during the rainfall event, and where a potential for failure is identified, take corrective action.

The Contract Administrator shall document the status of the above-listed steps.

Responding to Failures

The Contractor will cease all construction related work and focus on erosion and sediment control as required to effectively stabilize the site where a failure has occurred or is imminent. The work shall be completed to the satisfaction of the Contract Administrator and any regulatory agencies having jurisdiction.

Any unexpected discharge of silt, sediment, or other deleterious substance shall be reported to the Municipality of Middlesex Centre within a period of 2 hours. The contractor is responsible to advise the contract administrator, and to report the incident to the Spills Action Centre in a timely manner. Depending on the type of incident, water sampling and quality testing may be warranted to document the extent of the impact. Scoping for the required testing will depend on the incident report.

If significant long-term damage to aquatic habitat or property is suspected, a restoration plan will be developed by the Owner's Engineer. Consultation with an ecologist and / or biologist may be required to confirm that the remedial measures are appropriate. Development of the initial restoration plan will begin within 24 hours of the discovery of sediment discharge, and will be implemented as soon as possible following consultation and approval from the MECP, Upper Thames Conservation Authority (UTRCA), and Municipality of Middlesex Centre. The plan will address:

- Removal and disposal of sediment deposited outside of the work limits; and
- Restoration of any areas disturbed through deposition or removal.

Reporting Schedule

The Contract Administrator shall prepare weekly erosion and sediment control monitoring reports/summaries for the duration of site grading and site servicing, and submit them to the Municipality of Middlesex Centre by April 1, July 1, and November 1 of each year until all works and services included in the plan are assumed.

The monitoring reports should document the status of the ESC Plan, any repairs, rainfall or pumping that has occurred since the last report, and any risks of failure that may be present.

Additionally, any failure of the erosion and sediment control measures shall be reported as described in the contingency plan.

Construction Dewatering Requirements

Based on the findings of the Geotechnical Investigation prepared by LDS Consultants, no shallow groundwater conditions are observed throughout the site. Where groundwater infiltration minor occurs within open excavations during construction, conventional sump pumping techniques are expected to be suitable for groundwater control.

Sediment controls should be incorporated to construction dewatering discharge outlets. These may take the form of silt bags, constructed sediment traps, or other methods of filtering the discharge water. The contractor will be responsible for regular maintenance, including sediment removal, as required. Under no circumstances will dewatering effluent be discharged directly to the receiving watercourse, without incorporating suitable measures to prevent sediment discharge, or to cause erosion or scouring at the watercourse. Both the Contractor and the Contract Administrator will be responsible for monitoring the water quality leaving the site.

As a preliminary guide, water being discharged at the site should have a turbidity level within 8 NTU of the background levels within the watercourse/municipal drain.

For construction dewatering efforts which involve a large daily volume of pumping, additional sediment control or filtration measures, such as settlement tanks may be implemented as part of the construction dewatering plan. The location of the discharge and associated sediment controls will depend on scope of work and the location of the excavation to be dewatered. Thus, the dewatering plan should be reviewed by the Owner's Engineer in consultation with the Contractor and the Contract Administrator

For projects requiring positive groundwater control with a removal rate in the range of 50,000 to 400,000 litres per day, a submission to the Environmental Activity and Sector Registry (EASR) will be required. For construction dewatering activities with volumes in excess of 400,000 litres per day, a Category 3 Permit to Take Water (PTTW) would be required for groundwater control. EASR submissions and PTTW applications are submitted to and approved by MECP according to Sections 34 and 98 of the Ontario Water Resources Act R.S.O. 1990 and Water Taking and Transfer Regulation O. Reg. 387/04.

The supporting documents to support an EASR submission or PTTW application should include calculations for the zone of influence, and identify potential qualitative and quantitative impacts to the shallow groundwater table. Details regarding volume monitoring, water quality analyses and method / location of discharge water will also be required for either type of submission. Impacts on local natural features will need to be assessed in consideration of the proposed construction dewatering plan.

Conclusion and Recommendations

The analysis completed by LDS yields the following conclusions:

- Post development peak flow rates are less than pre-development conditions;
- All storm events are contained on site;
- Sediment transport from the site during construction will be minimized; and
- An infiltration Gallery, oversized/perforated pipe system and surface storage will provide quantity control for the subject site.

We trust this letter report to be complete and meet with your acceptance. Should you have any questions concerning the findings presented herein, please do not hesitate to contact the undersigned.

Sincerely,

LDS CONSULTANTS INC.

LICENSED PROFESSIONAL ENGINEER
A. H. GUBBELS
PROVINCE OF ONTARIO

Anthony Gubbels, P. Eng.
Principal, Community Development
o: (226) 289-2952
c: (519) 494-7785
e: anthony.gubbels@LDSConsultants.ca

encl.

- Figure 1 – Site Location Plan
- Figure 2 – Pre Development Drainage Area Plan
- Figure 3 – Post Development Drainage Area Plan
- Pre-Development Runoff Model Output
- Proposed Runoff Model Output

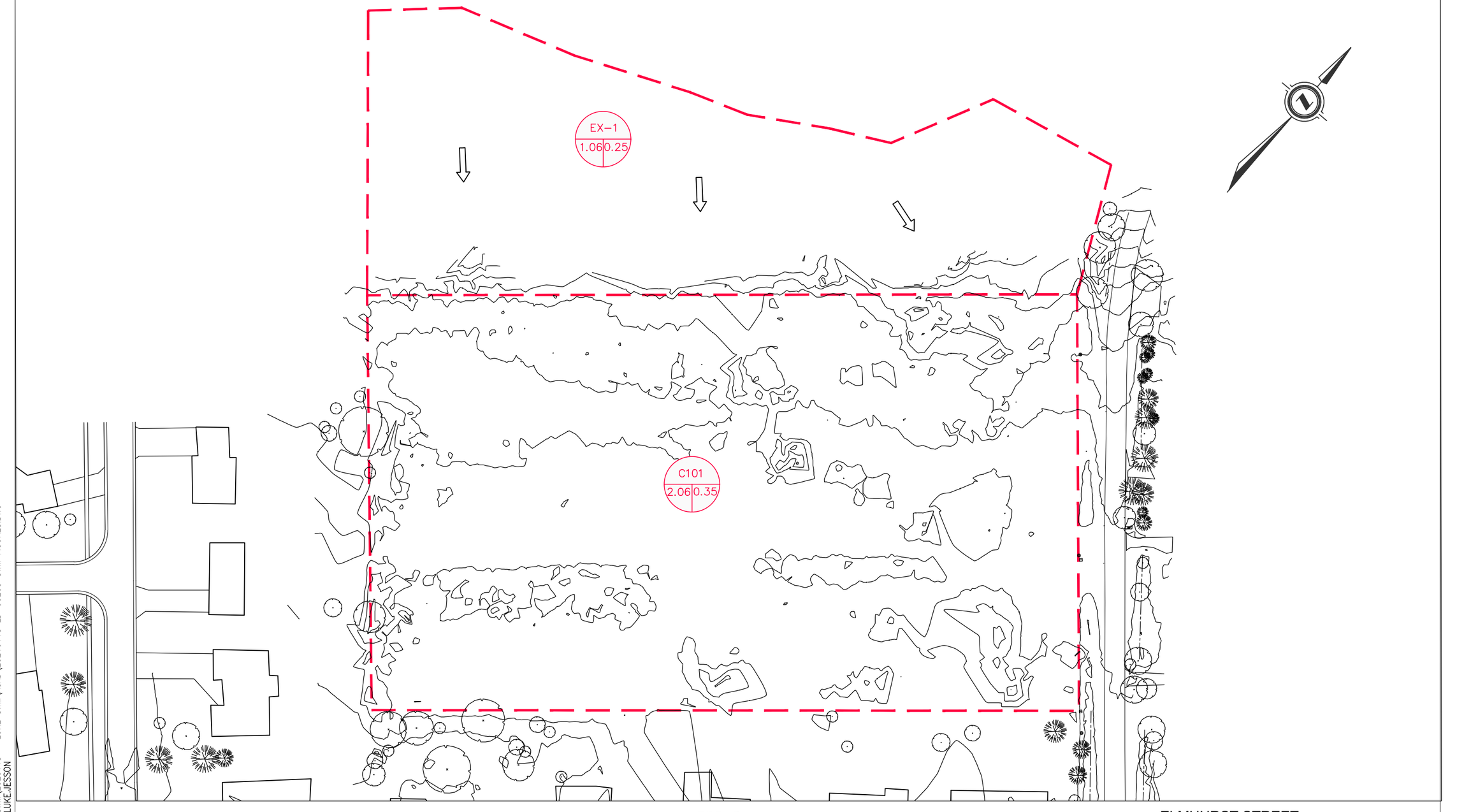
6,10,14 ELMHURST STREET

SWEID HOLDINGS INC.

LOCATION PLAN

PROJECT: 1614-00203 SCALE: N.T.S. FIGURE 1

Z:\1614-00203 - ELMHURST, KILWORTH\DETAIL DESIGN\REPORTS\SWM\161400203 LOCATION PLAN.DWG
2019-12-13 1:40:05 PM by: TEAGAN.PRESTON



LEGEND:

CATCHMENT AREA

EXISTING OVERLAND FLOW ROUTE

101 — CATCHMENT ID

AREA (ha) 7.6 | 82 — SCS CURVE NUMBER

LDS

ELMHURST STREET
SWEID HOLDINGS INC.

PRE-DEVELOPMENT DRAINAGE AREA PLAN

PROJECT: LD-00203 SCALE: 1:1000 FIGURE 2

H:\SWM\LD-00203\REPORTS\SWM\20200118 - LUKE SWM\ACAD\20210118 LD-00203 SWM FIGURES.DWG
1/29/2021 11:23:00 AM by: LUKE.JESSON

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00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO       999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9    =========
00008>                                                          9   9  9   9   # 4058874
00009>          StormWater Management HYdrologic Model           999    999    =========
00010>
00011>  ********************************************************************************
00012>  ***************************** SWMHYMO Ver/4.05  ********************************
00013>  *********  A single event and continuous hydrologic simulation model  *********
00014>  *********     based on the principles of HYMO and its successors      *********
00015>  *********                 OTTHYMO-83 and OTTHYMO-89.                  *********
00016>  ********************************************************************************
00017>  ********* Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018>  *********                  Ottawa,  Ontario: (613) 836-3884           *********
00019>  *********                  Gatineau, Quebec: (819) 243-6858           *********
00020>  *********                  E-Mail: swmhymo@jfsa.com                   *********
00021>  ********************************************************************************
00022>
00023>  +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024>  +++++++++ Licensed user: Land Development Solutions                  +++++++++
00025>  +++++++++                London               SERIAL#:4058874       +++++++++
00026>  +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028>  ********************************************************************************
00029>  *********          ++++++ PROGRAM ARRAY DIMENSIONS ++++++            *********
00030>  *********          Maximum value for ID numbers  :     10            *********
00031>  *********          Max. number of rainfall points: 105408            *********
00032>  *********          Max. number of flow points    : 105408            *********
00033>  ********************************************************************************
00034>
00035>
00036>  **********************   D E T A I L E D   O U T P U T   **********************
00037>  ********************************************************************************
00038>  *         DATE: 2021-01-20     TIME: 15:16:30     RUN COUNTER: 001986          *
00039>  ********************************************************************************
00040>  * Input   filename: C:\LUKE_J~1\00203\LD203-~1.DAT                              *
00041>  * Output  filename: C:\LUKE_J~1\00203\LD203-~1.out                              *
00042>  * Summary filename: C:\LUKE_J~1\00203\LD203-~1.sum                              *
00043>  * User comments:                                                               *
00044>  * 1:_____________________________________________________________________________*
00045>  * 2:_____________________________________________________________________________*
00046>  * 3:_____________________________________________________________________________*
00047>  ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*******************************************************************************
00052> *#  Project Name: [Elmhurst]    Project Number: [LD-00203]
00053> *#  Date        : 20-01-2021
00054> *#  Modeller    : [LJ]
00055> *#  Company     : LDS Consultants Inc.
00056> *#  License #   : 4058874
00057> *#*******************************************************************************
00058> --------------------
00059> | START            |  Project  dir.: C:\LUKE_J~1\00203\
00060> --------------------  Rainfall dir.: C:\LUKE_J~1\00203\
00061>     TZERO =   .00 hrs on       0
00062>     METOUT=   2 (output = METRIC)
00063>     NRUN  = 001
00064>     NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> --------------------
00068> | CHICAGO STORM    |    IDF curve parameters: A=1290.000
00069> | Ptotal= 42.74 mm |                          B=   8.500
00070> --------------------                          C=    .860
00071>                          used in:   INTENSITY =  A / (t + B)^C
00072>
00073>                          Duration of storm  =  3.00 hrs
00074>                          Storm time step    =  5.00 min
00075>                          Time to peak ratio =   .33
00076>
00077>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00078>                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00079>                .08   2.831 |    .83  20.863 |   1.58   9.536 |   2.33   3.861
00080>                .17   3.133 |    .92  50.587 |   1.67   8.220 |   2.42   3.621
00081>                .25   3.510 |   1.00 137.563 |   1.75   7.213 |   2.50   3.410
00082>                .33   3.992 |   1.08  65.095 |   1.83   6.422 |   2.58   3.222
00083>                .42   4.631 |   1.17  36.145 |   1.92   5.784 |   2.67   3.054
00084>                .50   5.513 |   1.25  24.074 |   2.00   5.260 |   2.75   2.904
00085>                .58   6.807 |   1.33  17.708 |   2.08   4.823 |   2.83   2.767
00086>                .67   8.864 |   1.42  13.862 |   2.17   4.453 |   2.92   2.644
00087>                .75  12.574 |   1.50  11.323 |   2.25   4.136 |   3.00   2.531
00088>
00089> --------------------------------------------------------------------------------
00090> 001:0003--------------------------------------------------------------------------
00091> ---------------------
00092> | CALIB NASHYD       |   Area    (ha)=    2.04   Curve Number   (CN)=72.00
00093> | 01:c101   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
00094> ---------------------   U.H. Tp(hrs)=    .220
00095>
00096>     Unit Hyd Qpeak  (cms)=     .354
00097>
00098>     PEAK FLOW       (cms)=     .057 (i)
00099>     TIME TO PEAK    (hrs)=    1.333
00100>     RUNOFF VOLUME    (mm)=    9.041
00101>     TOTAL RAINFALL   (mm)=   42.745
00102>     RUNOFF COEFFICIENT   =    .212
00103>
00104>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00105>
00106> --------------------------------------------------------------------------------
00107> 001:0004--------------------------------------------------------------------------
00108> --------------------
00109> | CHICAGO STORM    |    IDF curve parameters: A=1183.740
00110> | Ptotal= 44.18 mm |                          B=   7.641
00111> --------------------                          C=    .838
00112>                          used in:   INTENSITY =  A / (t + B)^C
00113>
00114>                          Duration of storm  =  3.00 hrs
00115>                          Storm time step    =  5.00 min
00116>                          Time to peak ratio =   .33
00117>
00118>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00119>                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00120>                .08   3.191 |    .83  21.189 |   1.58  10.028 |   2.33   4.275
00121>                .17   3.511 |    .92  50.660 |   1.67   8.713 |   2.42   4.024
00122>                .25   3.908 |   1.00 141.242 |   1.75   7.702 |   2.50   3.802
00123>                .33   4.411 |   1.08  65.174 |   1.83   6.902 |   2.58   3.605
00124>                .42   5.072 |   1.17  36.212 |   1.92   6.254 |   2.67   3.428
00125>                .50   5.978 |   1.25  24.339 |   2.00   5.719 |   2.75   3.268
00126>                .58   7.291 |   1.33  18.094 |   2.08   5.271 |   2.83   3.124
00127>                .67   9.357 |   1.42  14.311 |   2.17   4.889 |   2.92   2.992
00128>                .75  13.038 |   1.50  11.802 |   2.25   4.561 |   3.00   2.871
00129>
00130> --------------------------------------------------------------------------------
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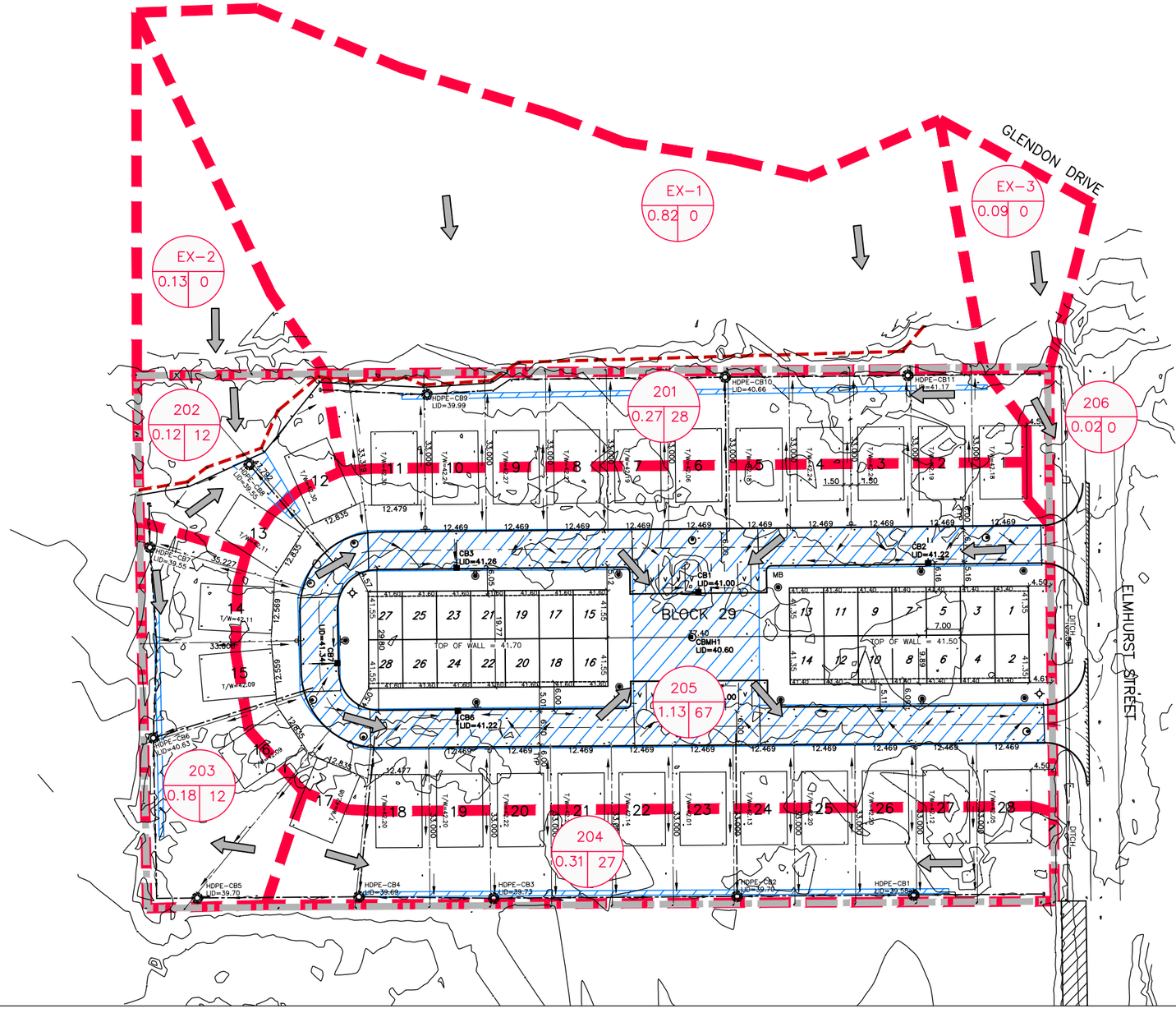
00132> ---------------------
00133> | CALIB NASHYD       |   Area    (ha)=    2.04   Curve Number   (CN)=72.00
00134> | 01:c101   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
00135> ---------------------   U.H. Tp(hrs)=    .220
00136>
00137>     Unit Hyd Qpeak  (cms)=     .354
00138>
00139>     PEAK FLOW       (cms)=     .060 (i)
00140>     TIME TO PEAK    (hrs)=    1.317
00141>     RUNOFF VOLUME    (mm)=    9.701
00142>     TOTAL RAINFALL   (mm)=   44.184
00143>     RUNOFF COEFFICIENT   =    .220
00144>
00145>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00146>
00147> --------------------------------------------------------------------------------
00148> 001:0006--------------------------------------------------------------------------
00149> --------------------
00150> | CHICAGO STORM    |    IDF curve parameters: A=1574.382
00151> | Ptotal= 52.04 mm |                          B=   9.025
00152> --------------------                          C=    .860
00153>                          used in:   INTENSITY =  A / (t + B)^C
00154>
00155>                          Duration of storm  =  3.00 hrs
00156>                          Storm time step    =  5.00 min
00157>                          Time to peak ratio =   .33
00158>
00159>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00160>                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00161>                .08   3.493 |    .83  25.826 |   1.58  11.834 |   2.33   4.773
00162>                .17   3.869 |    .92  61.712 |   1.67  10.197 |   2.42   4.475
00163>                .25   4.337 |   1.00 162.470 |   1.75   8.945 |   2.50   4.212
00164>                .33   4.937 |   1.08  79.037 |   1.83   7.960 |   2.58   3.979
00165>                .42   5.731 |   1.17  44.466 |   1.92   7.166 |   2.67   3.770
00166>                .50   6.830 |   1.25  29.772 |   2.00   6.514 |   2.75   3.583
00167>                .58   8.439 |   1.33  21.949 |   2.08   5.970 |   2.83   3.414
00168>                .67  10.998 |   1.42  17.198 |   2.17   5.510 |   2.92   3.261
00169>                .75  15.601 |   1.50  14.051 |   2.25   5.115 |   3.00   3.121
00170>
00171> --------------------------------------------------------------------------------
00172> 001:0007--------------------------------------------------------------------------
00173> ---------------------
00174> | CALIB NASHYD       |   Area    (ha)=    2.04   Curve Number   (CN)=72.00
00175> | 01:c101   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
00176> ---------------------   U.H. Tp(hrs)=    .220
00177>
00178>     Unit Hyd Qpeak  (cms)=     .354
00179>
00180>     PEAK FLOW       (cms)=     .088 (i)
00181>     TIME TO PEAK    (hrs)=    1.317
00182>     RUNOFF VOLUME    (mm)=   13.582
00183>     TOTAL RAINFALL   (mm)=   52.043
00184>     RUNOFF COEFFICIENT   =    .261
00185>
00186>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00187>
00188> --------------------------------------------------------------------------------
00189> 001:0008--------------------------------------------------------------------------
00190> --------------------
00191> | CHICAGO STORM    |    IDF curve parameters: A=2019.372
00192> | Ptotal= 61.48 mm |                          B=   9.824
00193> --------------------                          C=    .875
00194>                          used in:   INTENSITY =  A / (t + B)^C
00195>
00196>                          Duration of storm  =  3.00 hrs
00197>                          Storm time step    =  5.00 min
00198>                          Time to peak ratio =   .33
00199>
00200>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00201>                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00202>                .08   3.900 |    .83  31.054 |   1.58  13.926 |   2.33   5.406
00203>                .17   4.339 |    .92  74.372 |   1.67  11.933 |   2.42   5.053
00204>                .25   4.890 |   1.00 190.819 |   1.75  10.414 |   2.50   4.743
00205>                .33   5.600 |   1.08  95.075 |   1.83   9.222 |   2.58   4.468
00206>                .42   6.545 |   1.17  53.763 |   1.92   8.265 |   2.67   4.224
00207>                .50   7.861 |   1.25  35.883 |   2.00   7.482 |   2.75   4.005
00208>                .58   9.802 |   1.33  26.308 |   2.08   6.831 |   2.83   3.808
00209>                .67  12.908 |   1.42  20.486 |   2.17   6.281 |   2.92   3.629
00210>                .75  18.531 |   1.50  16.634 |   2.25   5.811 |   3.00   3.466
00211>
00212> --------------------------------------------------------------------------------
00213> 001:0009--------------------------------------------------------------------------
00214> ---------------------
00215> | CALIB NASHYD       |   Area    (ha)=    2.04   Curve Number   (CN)=72.00
00216> | 01:c101   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
00217> ---------------------   U.H. Tp(hrs)=    .220
00218>
00219>     Unit Hyd Qpeak  (cms)=     .354
00220>
00221>     PEAK FLOW       (cms)=     .126 (i)
00222>     TIME TO PEAK    (hrs)=    1.317
00223>     RUNOFF VOLUME    (mm)=   18.783
00224>     TOTAL RAINFALL   (mm)=   61.478
00225>     RUNOFF COEFFICIENT   =    .306
00226>
00227>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00228>
00229> --------------------------------------------------------------------------------
00230> 001:0010--------------------------------------------------------------------------
00231> --------------------
00232> | CHICAGO STORM    |    IDF curve parameters: A=2270.665
00233> | Ptotal= 68.00 mm |                          B=   9.984
00234> --------------------                          C=    .878
00235>                          used in:   INTENSITY =  A / (t + B)^C
00236>
00237>                          Duration of storm  =  3.00 hrs
00238>                          Storm time step    =  5.00 min
00239>                          Time to peak ratio =   .33
00240>
00241>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00242>                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00243>                .08   4.264 |    .83  34.467 |   1.58  15.391 |   2.33   5.928
00244>                .17   4.749 |    .92  82.576 |   1.67  13.174 |   2.42   5.537
00245>                .25   5.357 |   1.00 210.839 |   1.75  11.484 |   2.50   5.195
00246>                .33   6.142 |   1.08 105.524 |   1.83  10.160 |   2.58   4.891
00247>                .42   7.190 |   1.17  59.734 |   1.92   9.098 |   2.67   4.621
00248>                .50   8.649 |   1.25  39.846 |   2.00   8.229 |   2.75   4.380
00249>                .58  10.804 |   1.33  29.182 |   2.08   7.506 |   2.83   4.162
00250>                .67  14.259 |   1.42  22.696 |   2.17   6.897 |   2.92   3.965
00251>                .75  20.519 |   1.50  18.406 |   2.25   6.377 |   3.00   3.786
00252>
00253> --------------------------------------------------------------------------------
00254> 001:0011--------------------------------------------------------------------------
```

```
00255> ----------------------
00256> | CALIB NASHYD       |   Area    (ha)=    2.04   Curve Number   (CN)=72.00
00257> | 01:c101   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
00258> ----------------------   U.H. Tp(hrs)=    .220
00259>
00260>      Unit Hyd Qpeak  (cms)=     .354
00261>
00262>      PEAK FLOW       (cms)=     .154 (i)
00263>      TIME TO PEAK    (hrs)=    1.300
00264>      RUNOFF VOLUME    (mm)=   22.672
00265>      TOTAL RAINFALL   (mm)=   67.999
00266>      RUNOFF COEFFICIENT   =     .333
00267>
00268>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00269>
00270> ------------------------------------------------------------------------------
00271> 001:0012---------------------------------------------------------------------
00272> --------------------
00273> | CHICAGO STORM    |    IDF curve parameters: A=2619.363
00274> | Ptotal= 75.83 mm |                          B=  10.500
00275> --------------------                          C=    .884
00276>                          used in:   INTENSITY =  A / (t + B)^C
00277>
00278>                          Duration of storm  =  3.00 hrs
00279>                          Storm time step    =  5.00 min
00280>                          Time to peak ratio =   .33
00281>
00282>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00283>                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00284>                .08   4.669 |    .83  38.909 |   1.58  17.257 |   2.33   6.536
00285>                .17   5.212 |    .92  92.768 |   1.67  14.738 |   2.42   6.097
00286>                .25   5.895 |   1.00 232.243 |   1.75  12.820 |   2.50   5.712
00287>                .33   6.777 |   1.08 118.260 |   1.83  11.318 |   2.58   5.372
00288>                .42   7.958 |   1.17  67.393 |   1.92  10.115 |   2.67   5.069
00289>                .50   9.607 |   1.25  45.001 |   2.00   9.132 |   2.75   4.799
00290>                .58  12.049 |   1.33  32.924 |   2.08   8.315 |   2.83   4.555
00291>                .67  15.971 |   1.42  25.560 |   2.17   7.627 |   2.92   4.335
00292>                .75  23.085 |   1.50  20.683 |   2.25   7.041 |   3.00   4.135
00293>
00294> ------------------------------------------------------------------------------
00295> 001:0013---------------------------------------------------------------------
00296> ----------------------
00297> | CALIB NASHYD       |   Area    (ha)=    2.04   Curve Number   (CN)=72.00
00298> | 01:c101   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
00299> ----------------------   U.H. Tp(hrs)=    .220
00300>
00301>      Unit Hyd Qpeak  (cms)=     .354
00302>
00303>      PEAK FLOW       (cms)=     .190 (i)
00304>      TIME TO PEAK    (hrs)=    1.300
00305>      RUNOFF VOLUME    (mm)=   27.614
00306>      TOTAL RAINFALL   (mm)=   75.828
00307>      RUNOFF COEFFICIENT   =     .364
00308>
00309>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00310>
00311> ------------------------------------------------------------------------------
00312> 001:0014---------------------------------------------------------------------
00313> --------------------
00314> | CHICAGO STORM    |    IDF curve parameters: A=3048.220
00315> | Ptotal= 86.60 mm |                          B=  10.030
00316> --------------------                          C=    .888
00317>                          used in:   INTENSITY =  A / (t + B)^C
00318>
00319>                          Duration of storm  =  3.00 hrs
00320>                          Storm time step    =  5.00 min
00321>                          Time to peak ratio =   .33
00322>
00323>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00324>                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00325>                .08   5.146 |    .83  43.789 |   1.58  19.207 |   2.33   7.218
00326>                .17   5.748 |    .92 106.492 |   1.67  16.378 |   2.42   6.730
00327>                .25   6.505 |   1.00 274.730 |   1.75  14.228 |   2.50   6.302
00328>                .33   7.486 |   1.08 136.493 |   1.83  12.548 |   2.58   5.925
00329>                .42   8.799 |   1.17  76.628 |   1.92  11.204 |   2.67   5.589
00330>                .50  10.637 |   1.25  50.754 |   2.00  10.107 |   2.75   5.289
00331>                .58  13.366 |   1.33  36.943 |   2.08   9.197 |   2.83   5.020
00332>                .67  17.763 |   1.42  28.579 |   2.17   8.431 |   2.92   4.776
00333>                .75  25.782 |   1.50  23.067 |   2.25   7.779 |   3.00   4.554
00334>
00335> ------------------------------------------------------------------------------
00336> 001:0015---------------------------------------------------------------------
00337> ----------------------
00338> | CALIB NASHYD       |   Area    (ha)=    2.04   Curve Number   (CN)=72.00
00339> | 01:c101   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
00340> ----------------------   U.H. Tp(hrs)=    .220
00341>
00342>      Unit Hyd Qpeak  (cms)=     .354
00343>
00344>      PEAK FLOW       (cms)=     .247 (i)
00345>      TIME TO PEAK    (hrs)=    1.300
00346>      RUNOFF VOLUME    (mm)=   34.829
00347>      TOTAL RAINFALL   (mm)=   86.599
00348>      RUNOFF COEFFICIENT   =     .402
00349>
00350>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00351>
00352> ------------------------------------------------------------------------------
00353> 001:0016---------------------------------------------------------------------
00354>        FINISH
00355> ------------------------------------------------------------------------------
00356> ******************************************************************************
00357>      WARNINGS / ERRORS / NOTES
00358>      -------------------------
00359>    Simulation ended on 2021-01-20     at 15:16:31
00360> ==============================================================================
00361>
00362>
```



LEGEND:

- CATCHMENT AREA
- PROPOSED OVERLAND FLOW ROUTE
- PROPOSED INFILTRATION MEASURES

101 — CATCHMENT ID
AREA (ha) 7.6 | 50 — IMPERVIOUS %

LDS

MN 6, 10, 14 ELMHURST STREET
SWEID HOLDINGS INC.

POST DEVELOPMENT DRAINAGE AREA PLAN

PROJECT: 1614-00203 SCALE: N.T.S. FIGURE 2

Z:\1614-00203 - ELMHURST, KILWORTH\DETAIL DESIGN\REPORTS\SWM\20210707 SITE PLAN REVISION\20210707 LD-00203 SWM FIGURES.DWG
7/8/2021 8:12:54 AM by: JOE.VANDENBERG

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO       999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO          9      9   =========
00008>                                                        9   9  9   9   # 4058874
00009>          StormWater Management HYdrologic Model         999    999    =========
00010>
00011>  ********************************************************************************
00012>  ***************************** SWMHYMO Ver/4.05  ********************************
00013>  *********  A single event and continuous hydrologic simulation model  *********
00014>  *********     based on the principles of HYMO and its successors      *********
00015>  *********                 OTTHYMO-83 and OTTHYMO-89.                  *********
00016>  ********************************************************************************
00017>  ********* Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018>  *********                  Ottawa,  Ontario: (613) 836-3884           *********
00019>  *********                  Gatineau, Quebec: (819) 243-6858           *********
00020>  *********                  E-Mail: swmhymo@jfsa.com                   *********
00021>  ********************************************************************************
00022>
00023>  +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024>  +++++++++ Licensed user: Land Development Solutions                  +++++++++
00025>  +++++++++                 London              SERIAL#:4058874       +++++++++
00026>  +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028>  ********************************************************************************
00029>  *********          ++++++ PROGRAM ARRAY DIMENSIONS ++++++            *********
00030>  *********          Maximum value for ID numbers  :     10            *********
00031>  *********          Max. number of rainfall points: 105408            *********
00032>  *********          Max. number of flow points    : 105408            *********
00033>  ********************************************************************************
00034>
00035>
00036>  **********************   D E T A I L E D   O U T P U T   **********************
00037>  ********************************************************************************
00038>  *         DATE: 2021-07-14     TIME: 12:15:13     RUN COUNTER: 000595         *
00039>  ********************************************************************************
00040>  * Input   filename: C:\SWMHYMO\PROJECTS\00203\210707PC.dat                     *
00041>  * Output  filename: C:\SWMHYMO\PROJECTS\00203\210707PC.out                     *
00042>  * Summary filename: C:\SWMHYMO\PROJECTS\00203\210707PC.sum                     *
00043>  * User comments:                                                              *
00044>  * 1:_____________________________________________________________________     *
00045>  * 2:_____________________________________________________________________     *
00046>  * 3:_____________________________________________________________________     *
00047>  ********************************************************************************
00048>
00049> -------------------------------------------------------------------------------
00050> 001:0001-----------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Elmhurst]    Project Number: [LD-00203]
00053> *#  Date        : 26-11-2019
00054> *#  Modeller    : [JV]
00055> *#  Company     : LDS Consultants Inc.
00056> *#  License #   : 4058874
00057> *#*****************************************************************************
00058> --------------------
00059> | START            |  Project  dir.: C:\SWMHYMO\PROJECTS\00203\
00060> --------------------  Rainfall dir.: C:\SWMHYMO\PROJECTS\00203\
00061>     TZERO =   .00 hrs on       0
00062>     METOUT=   2 (output = METRIC)
00063>     NRUN  = 001
00064>     NSTORM=   0
00065> -------------------------------------------------------------------------------
00066> 001:0002-----------------------------------------------------------------------
00067> --------------------
00068> | CHICAGO STORM    |    IDF curve parameters: A= 538.850
00069> | Ptotal= 23.54 mm |                          B=   6.331
00070> --------------------                          C=    .809
00071>                          used in:   INTENSITY =  A / (t + B)^C
00072>
00073>                          Duration of storm  =  3.00 hrs
00074>                          Storm time step    =  5.00 min
00075>                          Time to peak ratio =   .33
00076>
00077>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00078>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00079>               .08   1.881 |    .83  10.955 |   1.58   5.429 |   2.33   2.467
00080>               .17   2.056 |    .92  25.749 |   1.67   4.765 |   2.42   2.332
00081>               .25   2.270 |   1.00  75.607 |   1.75   4.251 |   2.50   2.213
00082>               .33   2.539 |   1.08  33.150 |   1.83   3.841 |   2.58   2.106
00083>               .42   2.889 |   1.17  18.381 |   1.92   3.506 |   2.67   2.010
00084>               .50   3.363 |   1.25  12.506 |   2.00   3.228 |   2.75   1.923
00085>               .58   4.040 |   1.33   9.432 |   2.08   2.994 |   2.83   1.844
00086>               .67   5.090 |   1.42   7.564 |   2.17   2.793 |   2.92   1.772
00087>               .75   6.931 |   1.50   6.317 |   2.25   2.619 |   3.00   1.705
00088>
00089> -------------------------------------------------------------------------------
00090> 001:0003-----------------------------------------------------------------------
00091> --------------------
00092> | CHICAGO STORM    |    IDF curve parameters: A=1290.000
00093> | Ptotal= 42.74 mm |                          B=   8.500
00094> --------------------                          C=    .860
00095>                          used in:   INTENSITY =  A / (t + B)^C
00096>
00097>                          Duration of storm  =  3.00 hrs
00098>                          Storm time step    =  5.00 min
00099>                          Time to peak ratio =   .33
00100>
00101>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00102>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00103>               .08   2.831 |    .83  20.863 |   1.58   9.536 |   2.33   3.861
00104>               .17   3.133 |    .92  50.587 |   1.67   8.220 |   2.42   3.621
00105>               .25   3.510 |   1.00 137.563 |   1.75   7.213 |   2.50   3.410
00106>               .33   3.992 |   1.08  65.095 |   1.83   6.422 |   2.58   3.222
00107>               .42   4.631 |   1.17  36.145 |   1.92   5.784 |   2.67   3.054
00108>               .50   5.513 |   1.25  24.074 |   2.00   5.260 |   2.75   2.904
00109>               .58   6.807 |   1.33  17.708 |   2.08   4.823 |   2.83   2.767
00110>               .67   8.864 |   1.42  13.862 |   2.17   4.453 |   2.92   2.644
00111>               .75  12.574 |   1.50  11.323 |   2.25   4.136 |   3.00   2.531
00112>
00113> -------------------------------------------------------------------------------
00114> 001:0004-----------------------------------------------------------------------
00115> ----------------------
00116> | CALIB NASHYD       |   Area    (ha)=    1.04   Curve Number   (CN)=32.00
00117> | 01:EX1    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
00118> ----------------------   U.H. Tp(hrs)=    .500
00119>
00120>     Unit Hyd Qpeak  (cms)=     .079
00121>
00122>     PEAK FLOW       (cms)=     .005 (i)
00123>     TIME TO PEAK    (hrs)=    1.667
00124>     RUNOFF VOLUME    (mm)=    2.466
00125>     TOTAL RAINFALL   (mm)=   42.745
00126>     RUNOFF COEFFICIENT   =     .058
00127>
00128>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00129>
00130> -------------------------------------------------------------------------------
00131> 001:0005-----------------------------------------------------------------------
00132> ----------------------
00133> | CALIB NASHYD       |   Area    (ha)=    1.04   Curve Number   (CN)=32.00
00134> | 02:EX2    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
00135> ----------------------   U.H. Tp(hrs)=    .500
00136>
00137>     Unit Hyd Qpeak  (cms)=     .079
00138>
00139>     PEAK FLOW       (cms)=     .005 (i)
00140>     TIME TO PEAK    (hrs)=    1.667
00141>     RUNOFF VOLUME    (mm)=    2.466
00142>     TOTAL RAINFALL   (mm)=   42.745
00143>     RUNOFF COEFFICIENT   =     .058
00144>
00145>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00146>
00147> -------------------------------------------------------------------------------
00148> 001:0006-----------------------------------------------------------------------
00149> ----------------------
00150> | CALIB STANDHYD     |   Area    (ha)=     .27
00151> | 03:C201   DT= 1.00 |   Total Imp(%)=   28.00   Dir. Conn.(%)=    5.00
00152> ----------------------
00153>                              IMPERVIOUS    PERVIOUS (i)
00154>     Surface Area     (ha)=        .08          .19
00155>     Dep. Storage     (mm)=       2.00         5.00
00156>     Average Slope     (%)=       1.80         1.80
00157>     Length            (m)=      40.00        10.00
00158>     Mannings n           =       .013         .025
00159>
00160>     Max.eff.Inten.(mm/hr)=     137.56        31.31
00161>                   over (min)      1.00         2.00
00162>     Storage Coeff.  (min)=       1.09 (ii)    2.36 (ii)
00163>     Unit Hyd. Tpeak (min)=       1.00         2.00
00164>     Unit Hyd. peak  (cms)=       1.02          .50
00165>                                                          *TOTALS*
00166>     PEAK FLOW       (cms)=        .01          .01          .018 (iii)
00167>     TIME TO PEAK    (hrs)=       1.00         1.02         1.000
00168>     RUNOFF VOLUME    (mm)=      40.74         7.72         9.375
00169>     TOTAL RAINFALL   (mm)=      42.74        42.74        42.745
00170>     RUNOFF COEFFICIENT   =        .95          .18          .219
00171>
00172>       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00173>           CN* =  55.0    Ia = Dep. Storage  (Above)
00174>      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00175>           THAN THE STORAGE COEFFICIENT.
00176>     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00177>
00178> -------------------------------------------------------------------------------
00179> 001:0007-----------------------------------------------------------------------
00180> ------------------------
00181> | ADD HYD (201trench ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00182> ------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
00183>                        ID1 01:EX1          1.04     .005    1.67   2.47    .000
00184>                       +ID2 03:C201          .27     .018    1.00   9.38    .000
00185>                        ========================================================
00186>                        SUM 10:201trench     1.31     .018    1.00   3.89    .000
00187>
00188>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00189>
00190> -------------------------------------------------------------------------------
00191> 001:0008-----------------------------------------------------------------------
00192> ------------------------
00193> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .001  (cms)
00194> | TotalHyd 10:201tre |   Number of inlets in system [NINLET] =      1
00195> ------------------------   Total minor system capacity         =    .001  (cms)
00196>                            Total major system storage [TMJSTO] =    108.(cu.m.)
00197>
00198>                     ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00199>                                     (ha)     (cms)     (hrs)     (mm)    (cms)
00200>      TOTAL HYD.   10:201tre        1.31      .018     1.000    3.890     .000
00201>      ================================================================
00202>      MAJOR SYST   01:201OVL         .00      .000      .000     .000     .000
00203>      MINOR SYST   03:INFIL        1.31      .001      .800    3.892     .000
00204>
00205>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00206>
00207>      Maximum MAJOR SYSTEM storage used =      41.(cu.m.)
00208>
00209> -------------------------------------------------------------------------------
00210> 001:0009-----------------------------------------------------------------------
00211> ----------------------
00212> | CALIB NASHYD       |   Area    (ha)=     .12   Curve Number   (CN)=55.00
00213> | 04:202    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
00214> ----------------------   U.H. Tp(hrs)=    .500
00215>
00216>     Unit Hyd Qpeak  (cms)=     .009
00217>
00218>     PEAK FLOW       (cms)=     .001 (i)
00219>     TIME TO PEAK    (hrs)=    1.667
00220>     RUNOFF VOLUME    (mm)=    5.793
00221>     TOTAL RAINFALL   (mm)=   42.745
00222>     RUNOFF COEFFICIENT   =     .136
00223>
00224>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00225>
00226> -------------------------------------------------------------------------------
00227> 001:0010-----------------------------------------------------------------------
00228> ------------------------
00229> | ADD HYD (202trench ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00230> ------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
00231>                        ID1 02:EX2          1.04     .005    1.67   2.47    .000
00232>                       +ID2 04:202           .12     .001    1.67   5.79    .000
00233>                        ========================================================
00234>                        SUM 09:202trench     1.16     .006    1.67   2.81    .000
00235>
00236>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00237>
00238> -------------------------------------------------------------------------------
00239> 001:0011-----------------------------------------------------------------------
00240> ------------------------
00241> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .000  (cms)
00242> | TotalHyd 09:202tre |   Number of inlets in system [NINLET] =      1
00243> ------------------------   Total minor system capacity         =    .000  (cms)
00244>                            Total major system storage [TMJSTO] =      7.(cu.m.)
00245>
00246>                     ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00247>                                     (ha)     (cms)     (hrs)     (mm)    (cms)
00248>      TOTAL HYD.   09:202tre        1.16      .006     1.667    2.810     .000
00249>      ================================================================
00250>      MAJOR SYST   02:202OVL         .76      .006     1.667    2.810     .000
00251>      MINOR SYST   04:INFIL         .40      .000     1.000    2.822     .000
00252>
00253>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00254>
```

```
      Maximum MAJOR SYSTEM storage used =      7.(cu.m.)

------------------------------------------------------------------------------
001:0012------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=     .18   Curve Number   (CN)=55.00
| 05:203    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .500

      Unit Hyd Qpeak  (cms)=     .014

      PEAK FLOW       (cms)=     .002 (i)
      TIME TO PEAK    (hrs)=    1.667
      RUNOFF VOLUME    (mm)=    5.797
      TOTAL RAINFALL   (mm)=   42.745
      RUNOFF COEFFICIENT   =     .136

      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0013------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .000  (cms)
| TotalHyd 05:203    |   Number of inlets in system [NINLET] =       1
----------------------   Total minor system capacity         =    .000  (cms)
                         Total major system storage [TMJSTO] =     40.(cu.m.)

                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)    (cms)
      TOTAL HYD.   05:203           .18      .002     1.667    5.797     .000
      ==========================================================================
      MAJOR SYST   03:203OVL        .00      .000      .000     .000     .000
      MINOR SYST   04:INFIL         .18      .000     1.083    5.797     .000

      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

      Maximum MAJOR SYSTEM storage used =      7.(cu.m.)

------------------------------------------------------------------------------
001:0014------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .31
| 06:C204   DT= 1.00 |   Total Imp(%)=   31.00   Dir. Conn.(%)=    5.00
----------------------

                             IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=        .10          .21
      Dep. Storage     (mm)=       2.00         5.00
      Average Slope     (%)=       1.80         1.80
      Length            (m)=      40.00        10.00
      Mannings n            =      .013         .025

      Max.eff.Inten.(mm/hr)=     137.56        34.19
                  over (min)        1.00         2.00
      Storage Coeff.  (min)=       1.09 (ii)    2.31 (ii)
      Unit Hyd. Tpeak (min)=       1.00         2.00
      Unit Hyd. peak  (cms)=       1.02          .51
                                                      *TOTALS*
      PEAK FLOW       (cms)=        .01          .02          .021 (iii)
      TIME TO PEAK    (hrs)=       1.00         1.02         1.000
      RUNOFF VOLUME    (mm)=      40.74         8.05         9.684
      TOTAL RAINFALL   (mm)=      42.74        42.74        42.745
      RUNOFF COEFFICIENT   =        .95          .19          .227

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  55.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0015------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .001  (cms)
| TotalHyd 06:C204   |   Number of inlets in system [NINLET] =       1
----------------------   Total minor system capacity         =    .001  (cms)
                         Total major system storage [TMJSTO] =     108.(cu.m.)

                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)    (cms)
      TOTAL HYD.   06:C204          .31      .021     1.000    9.684     .000
      ==========================================================================
      MAJOR SYST   05:204OVL        .00      .000      .000     .000     .000
      MINOR SYST   04:INFIL         .31      .001      .783    9.684     .000

      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

      Maximum MAJOR SYSTEM storage used =      23.(cu.m.)

------------------------------------------------------------------------------
001:0016------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.13
| 07:C205   DT= 1.00 |   Total Imp(%)=   67.00   Dir. Conn.(%)=   35.00
----------------------

                             IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=        .76          .37
      Dep. Storage     (mm)=       2.00         5.00
      Average Slope     (%)=       1.80         1.80
      Length            (m)=      40.00        10.00
      Mannings n            =      .013         .025

      Max.eff.Inten.(mm/hr)=     137.56        69.61
                  over (min)        1.00         2.00
      Storage Coeff.  (min)=       1.09 (ii)    2.01 (ii)
      Unit Hyd. Tpeak (min)=       1.00         2.00
      Unit Hyd. peak  (cms)=       1.02          .56
                                                      *TOTALS*
      PEAK FLOW       (cms)=        .15          .06          .207 (iii)
      TIME TO PEAK    (hrs)=       1.00         1.02         1.000
      RUNOFF VOLUME    (mm)=      40.74        11.09        21.472
      TOTAL RAINFALL   (mm)=      42.74        42.74        42.745
      RUNOFF COEFFICIENT   =        .95          .26          .502

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  55.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0017------------------------------------------------------------------------
----------------------
| ADD HYD (to205     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                     (ha)     (cms)   (hrs)   (mm)   (cms)
                        ID1 01:201OVLD        .00     .000     .00    .00    .000
                      +ID2 02:202OVLD         .76     .006    1.67   2.81    .000
                      +ID3 03:203OVLD         .00     .000     .00    .00    .000
                      +ID4 05:204OVLD         .00     .000     .00    .00    .000
                      +ID5 07:C205           1.13     .207    1.00  21.47    .000
                       ================================================================
                       SUM 10:to205          1.89     .207    1.00  13.96    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
001:0018------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .023  (cms)
| TotalHyd 10:to205  |   Number of inlets in system [NINLET] =       1
----------------------   Total minor system capacity         =    .023  (cms)
                         Total major system storage [TMJSTO] =     761.(cu.m.)

                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)    (cms)
      TOTAL HYD.   10:to205         1.89      .207     1.000   13.959     .000
      ==========================================================================
      MAJOR SYST   01:205OVL         .00      .000      .000     .000     .000
      MINOR SYST   02:INFIL        1.89      .023      .800   14.019     .000

      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

      Maximum MAJOR SYSTEM storage used =     118.(cu.m.)

------------------------------------------------------------------------------
001:0019------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=     .09   Curve Number   (CN)=32.00
| 07:EX3    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .500

      Unit Hyd Qpeak  (cms)=     .007

      PEAK FLOW       (cms)=     .000 (i)
      TIME TO PEAK    (hrs)=    1.667
      RUNOFF VOLUME    (mm)=    2.455
      TOTAL RAINFALL   (mm)=   42.745
      RUNOFF COEFFICIENT   =     .057

      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0020------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=     .05   Curve Number   (CN)=55.00
| 04:206    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .250

      Unit Hyd Qpeak  (cms)=     .008

      PEAK FLOW       (cms)=     .001 (i)
      TIME TO PEAK    (hrs)=    1.333
      RUNOFF VOLUME    (mm)=    5.789
      TOTAL RAINFALL   (mm)=   42.745
      RUNOFF COEFFICIENT   =     .135

      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0021------------------------------------------------------------------------
----------------------
| ADD HYD (toDitch   ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                     (ha)     (cms)   (hrs)   (mm)   (cms)
                        ID1 04:206            .05     .001    1.33   5.79    .000
                      +ID2 07:EX3             .09     .000    1.67   2.46    .000
                       ================================================================
                       SUM 10:toDitch         .14     .001    1.42   3.65    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
001:0022------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=1183.740
| Ptotal= 44.18 mm |                          B=   7.641
--------------------                          C=    .838
                          used in:   INTENSITY =  A / (t + B)^C

                          Duration of storm  =  3.00 hrs
                          Storm time step    =  5.00 min
                          Time to peak ratio =   .33

               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
                .08   3.191 |    .83  21.189 |   1.58  10.028 |   2.33   4.275
                .17   3.511 |    .92  50.660 |   1.67   8.713 |   2.42   4.024
                .25   3.908 |   1.00 141.242 |   1.75   7.702 |   2.50   3.802
                .33   4.411 |   1.08  65.174 |   1.83   6.902 |   2.58   3.605
                .42   5.072 |   1.17  36.212 |   1.92   6.254 |   2.67   3.428
                .50   5.978 |   1.25  24.339 |   2.00   5.719 |   2.75   3.268
                .58   7.291 |   1.33  18.094 |   2.08   5.271 |   2.83   3.124
                .67   9.357 |   1.42  14.311 |   2.17   4.889 |   2.92   2.992
                .75  13.038 |   1.50  11.802 |   2.25   4.561 |   3.00   2.871

------------------------------------------------------------------------------
001:0023------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    1.04   Curve Number   (CN)=32.00
| 01:EX1    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .500

      Unit Hyd Qpeak  (cms)=     .079

      PEAK FLOW       (cms)=     .005 (i)
      TIME TO PEAK    (hrs)=    1.667
      RUNOFF VOLUME    (mm)=    2.651
      TOTAL RAINFALL   (mm)=   44.184
      RUNOFF COEFFICIENT   =     .060

      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0024------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    1.04   Curve Number   (CN)=32.00
| 02:EX2    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .500

      Unit Hyd Qpeak  (cms)=     .079

      PEAK FLOW       (cms)=     .005 (i)
      TIME TO PEAK    (hrs)=    1.667
      RUNOFF VOLUME    (mm)=    2.651
      TOTAL RAINFALL   (mm)=   44.184
      RUNOFF COEFFICIENT   =     .060
```

```
00509>
00510>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00511>
00512> ------------------------------------------------------------------------------
00513> 001:0025------------------------------------------------------------------------
00514> ----------------------
00515> | CALIB STANDHYD     |   Area    (ha)=     .27
00516> | 03:C201   DT= 1.00 |   Total Imp(%)=   28.00   Dir. Conn.(%)=    5.00
00517> ----------------------
00518>                              IMPERVIOUS    PERVIOUS (i)
00519>      Surface Area     (ha)=        .08         .19
00520>      Dep. Storage     (mm)=       2.00        5.00
00521>      Average Slope     (%)=       1.80        1.80
00522>      Length            (m)=      40.00       10.00
00523>      Mannings n             =      .013        .025
00524>
00525>      Max.eff.Inten.(mm/hr)=     141.24       33.22
00526>                    over (min)        1.00        2.00
00527>      Storage Coeff.  (min)=       1.08 (ii)    2.31 (ii)
00528>      Unit Hyd. Tpeak (min)=       1.00        2.00
00529>      Unit Hyd. peak  (cms)=       1.03         .51
00530>                                                          *TOTALS*
00531>      PEAK FLOW       (cms)=        .01         .01          .019 (iii)
00532>      TIME TO PEAK    (hrs)=       1.00        1.02         1.000
00533>      RUNOFF VOLUME    (mm)=      42.18        8.25         9.942
00534>      TOTAL RAINFALL   (mm)=      44.18       44.18        44.184
00535>      RUNOFF COEFFICIENT   =        .95         .19          .225
00536>
00537>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00538>            CN* =  55.0    Ia = Dep. Storage  (Above)
00539>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00540>            THAN THE STORAGE COEFFICIENT.
00541>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00542>
00543> ------------------------------------------------------------------------------
00544> 001:0026------------------------------------------------------------------------
00545> ------------------------
00546> | ADD HYD (201trench ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00547> ------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
00548>                       ID1 01:EX1           1.04     .005    1.67   2.65    .000
00549>                      +ID2 03:C201           .27     .019    1.00   9.94    .000
00550>                       ========================================================
00551>                       SUM 10:201trench      1.31     .019    1.00   4.15    .000
00552>
00553>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00554>
00555> ------------------------------------------------------------------------------
00556> 001:0027------------------------------------------------------------------------
00557> ----------------------
00558> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .001  (cms)
00559> | TotalHyd 10:201tre |   Number of inlets in system [NINLET] =       1
00560> ----------------------   Total minor system capacity        =    .001  (cms)
00561>                          Total major system storage [TMJSTO] =    108.(cu.m.)
00562>
00563>                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00564>                                   (ha)     (cms)     (hrs)     (mm)    (cms)
00565>      TOTAL HYD.   10:201tre       1.31      .019     1.000    4.154     .000
00566>      ================================================================================
00567>      MAJOR SYST   01:201OVL         .00      .000      .000     .000     .000
00568>      MINOR SYST   03:INFIL        1.31      .001      .783    4.154     .000
00569>
00570>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00571>
00572>      Maximum MAJOR SYSTEM storage used =      45.(cu.m.)
00573>
00574> ------------------------------------------------------------------------------
00575> 001:0028------------------------------------------------------------------------
00576> ----------------------
00577> | CALIB NASHYD       |   Area    (ha)=     .12   Curve Number   (CN)=55.00
00578> | 04:202    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
00579> ----------------------   U.H. Tp(hrs)=    .500
00580>
00581>      Unit Hyd Qpeak  (cms)=     .009
00582>
00583>      PEAK FLOW       (cms)=     .001 (i)
00584>      TIME TO PEAK    (hrs)=    1.667
00585>      RUNOFF VOLUME    (mm)=    6.208
00586>      TOTAL RAINFALL   (mm)=   44.184
00587>      RUNOFF COEFFICIENT   =     .141
00588>
00589>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00590>
00591> ------------------------------------------------------------------------------
00592> 001:0029------------------------------------------------------------------------
00593> ------------------------
00594> | ADD HYD (202trench ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00595> ------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
00596>                       ID1 02:EX2           1.04     .005    1.67   2.65    .000
00597>                      +ID2 04:202            .12     .001    1.67   6.21    .000
00598>                       ========================================================
00599>                       SUM 09:202trench      1.16     .006    1.67   3.02    .000
00600>
00601>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00602>
00603> ------------------------------------------------------------------------------
00604> 001:0030------------------------------------------------------------------------
00605> ----------------------
00606> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .000  (cms)
00607> | TotalHyd 09:202tre |   Number of inlets in system [NINLET] =       1
00608> ----------------------   Total minor system capacity        =    .000  (cms)
00609>                          Total major system storage [TMJSTO] =      7.(cu.m.)
00610>
00611>                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00612>                                   (ha)     (cms)     (hrs)     (mm)    (cms)
00613>      TOTAL HYD.   09:202tre       1.16      .006     1.667    3.019     .000
00614>      ================================================================================
00615>      MAJOR SYST   02:202OVL         .79      .006     1.667    3.019     .000
00616>      MINOR SYST   04:INFIL         .37      .000     1.000    3.042     .000
00617>
00618>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00619>
00620>      Maximum MAJOR SYSTEM storage used =       7.(cu.m.)
00621>
00622> ------------------------------------------------------------------------------
00623> 001:0031------------------------------------------------------------------------
00624> ----------------------
00625> | CALIB NASHYD       |   Area    (ha)=     .18   Curve Number   (CN)=55.00
00626> | 05:203    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
00627> ----------------------   U.H. Tp(hrs)=    .500
00628>
00629>      Unit Hyd Qpeak  (cms)=     .014
00630>
00631>      PEAK FLOW       (cms)=     .002 (i)
00632>      TIME TO PEAK    (hrs)=    1.667
00633>      RUNOFF VOLUME    (mm)=    6.210
00634>      TOTAL RAINFALL   (mm)=   44.184
00635>      RUNOFF COEFFICIENT   =     .141
00636>
00637>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00638>
00639> ------------------------------------------------------------------------------
00640> 001:0032------------------------------------------------------------------------
00641> ----------------------
00642> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .000  (cms)
00643> | TotalHyd 05:203    |   Number of inlets in system [NINLET] =       1
00644> ----------------------   Total minor system capacity        =    .000  (cms)
00645>                          Total major system storage [TMJSTO] =     40.(cu.m.)
00646>
00647>                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00648>                                   (ha)     (cms)     (hrs)     (mm)    (cms)
00649>      TOTAL HYD.   05:203           .18      .002     1.667    6.210     .000
00650>      ================================================================================
00651>      MAJOR SYST   03:203OVL         .00      .000      .000     .000     .000
00652>      MINOR SYST   04:INFIL         .18      .000     1.083    6.266     .000
00653>
00654>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00655>
00656>      Maximum MAJOR SYSTEM storage used =       8.(cu.m.)
00657>
00658> ------------------------------------------------------------------------------
00659> 001:0033------------------------------------------------------------------------
00660> ----------------------
00661> | CALIB STANDHYD     |   Area    (ha)=     .31
00662> | 06:C204   DT= 1.00 |   Total Imp(%)=   31.00   Dir. Conn.(%)=    5.00
00663> ----------------------
00664>                              IMPERVIOUS    PERVIOUS (i)
00665>      Surface Area     (ha)=        .10         .21
00666>      Dep. Storage     (mm)=       2.00        5.00
00667>      Average Slope     (%)=       1.80        1.80
00668>      Length            (m)=      40.00       10.00
00669>      Mannings n             =      .013        .025
00670>
00671>      Max.eff.Inten.(mm/hr)=     141.24       36.25
00672>                    over (min)        1.00        2.00
00673>      Storage Coeff.  (min)=       1.08 (ii)    2.27 (ii)
00674>      Unit Hyd. Tpeak (min)=       1.00        2.00
00675>      Unit Hyd. peak  (cms)=       1.03         .51
00676>                                                          *TOTALS*
00677>      PEAK FLOW       (cms)=        .01         .02          .022 (iii)
00678>      TIME TO PEAK    (hrs)=       1.00        1.02         1.000
00679>      RUNOFF VOLUME    (mm)=      42.18        8.59        10.268
00680>      TOTAL RAINFALL   (mm)=      44.18       44.18        44.184
00681>      RUNOFF COEFFICIENT   =        .95         .19          .232
00682>
00683>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00684>            CN* =  55.0    Ia = Dep. Storage  (Above)
00685>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00686>            THAN THE STORAGE COEFFICIENT.
00687>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00688>
00689> ------------------------------------------------------------------------------
00690> 001:0034------------------------------------------------------------------------
00691> ----------------------
00692> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .001  (cms)
00693> | TotalHyd 06:C204   |   Number of inlets in system [NINLET] =       1
00694> ----------------------   Total minor system capacity        =    .001  (cms)
00695>                          Total major system storage [TMJSTO] =    108.(cu.m.)
00696>
00697>                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00698>                                   (ha)     (cms)     (hrs)     (mm)    (cms)
00699>      TOTAL HYD.   06:C204          .31      .022     1.000   10.268     .000
00700>      ================================================================================
00701>      MAJOR SYST   05:204OVL         .00      .000      .000     .000     .000
00702>      MINOR SYST   04:INFIL         .31      .001      .767   10.281     .000
00703>
00704>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00705>
00706>      Maximum MAJOR SYSTEM storage used =      25.(cu.m.)
00707>
00708> ------------------------------------------------------------------------------
00709> 001:0035------------------------------------------------------------------------
00710> ----------------------
00711> | CALIB STANDHYD     |   Area    (ha)=    1.13
00712> | 07:C205   DT= 1.00 |   Total Imp(%)=   67.00   Dir. Conn.(%)=   35.00
00713> ----------------------
00714>                              IMPERVIOUS    PERVIOUS (i)
00715>      Surface Area     (ha)=        .76         .37
00716>      Dep. Storage     (mm)=       2.00        5.00
00717>      Average Slope     (%)=       1.80        1.80
00718>      Length            (m)=      40.00       10.00
00719>      Mannings n             =      .013        .025
00720>
00721>      Max.eff.Inten.(mm/hr)=     141.24       73.49
00722>                    over (min)        1.00        2.00
00723>      Storage Coeff.  (min)=       1.08 (ii)    1.98 (ii)
00724>      Unit Hyd. Tpeak (min)=       1.00        2.00
00725>      Unit Hyd. peak  (cms)=       1.03         .56
00726>                                                          *TOTALS*
00727>      PEAK FLOW       (cms)=        .15         .06          .215 (iii)
00728>      TIME TO PEAK    (hrs)=       1.00        1.02         1.000
00729>      RUNOFF VOLUME    (mm)=      42.18       11.79        22.425
00730>      TOTAL RAINFALL   (mm)=      44.18       44.18        44.184
00731>      RUNOFF COEFFICIENT   =        .95         .27          .508
00732>
00733>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00734>            CN* =  55.0    Ia = Dep. Storage  (Above)
00735>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00736>            THAN THE STORAGE COEFFICIENT.
00737>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00738>
00739> ------------------------------------------------------------------------------
00740> 001:0036------------------------------------------------------------------------
00741> ----------------------
00742> | ADD HYD (to205     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00743> ------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
00744>                       ID1 01:201OVLD        .00      .000     .00    .00    .000
00745>                      +ID2 02:202OVLD        .79      .006    1.67   3.02    .000
00746>                      +ID3 03:203OVLD        .00      .000     .00    .00    .000
00747>                      +ID4 05:204OVLD        .00      .000     .00    .00    .000
00748>                      +ID5 07:C205          1.13      .215    1.00  22.43    .000
00749>                       ========================================================
00750>                       SUM 10:to205          1.92      .215    1.00  14.46    .000
00751>
00752>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00753>
00754> ------------------------------------------------------------------------------
00755> 001:0037------------------------------------------------------------------------
00756> ----------------------
00757> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .023  (cms)
00758> | TotalHyd 10:to205  |   Number of inlets in system [NINLET] =       1
00759> ----------------------   Total minor system capacity        =    .023  (cms)
00760>                          Total major system storage [TMJSTO] =    761.(cu.m.)
00761>
00762>                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
```

```
                                (ha)     (cms)     (hrs)     (mm)    (cms)
     TOTAL HYD.   10:to205       1.92      .215     1.000   14.460     .000
     ======================================================================
     MAJOR SYST   01:205OVL       .00      .000      .000     .000     .000
     MINOR SYST   02:INFIL       1.92      .023      .800   14.494     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

     Maximum MAJOR SYSTEM storage used =     122.(cu.m.)

--------------------------------------------------------------------------------
001:0038--------------------------------------------------------------------------
---------------------
| CALIB NASHYD       |   Area    (ha)=     .09   Curve Number   (CN)=32.00
| 07:EX3    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
---------------------   U.H. Tp(hrs)=    .500

     Unit Hyd Qpeak  (cms)=     .007

     PEAK FLOW       (cms)=     .000 (i)
     TIME TO PEAK    (hrs)=    1.667
     RUNOFF VOLUME    (mm)=    2.638
     TOTAL RAINFALL   (mm)=   44.184
     RUNOFF COEFFICIENT   =     .060

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0039--------------------------------------------------------------------------
---------------------
| CALIB NASHYD       |   Area    (ha)=     .05   Curve Number   (CN)=55.00
| 04:206    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
---------------------   U.H. Tp(hrs)=    .250

     Unit Hyd Qpeak  (cms)=     .008

     PEAK FLOW       (cms)=     .001 (i)
     TIME TO PEAK    (hrs)=    1.333
     RUNOFF VOLUME    (mm)=    6.202
     TOTAL RAINFALL   (mm)=   44.184
     RUNOFF COEFFICIENT   =     .140

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0040--------------------------------------------------------------------------
------------------------
| ADD HYD (toDitch   ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
                       ID1 04:206           .05      .001    1.33   6.20    .000
                      +ID2 07:EX3           .09      .000    1.67   2.64    .000
                       ========================================================
                       SUM 10:toDitch       .14      .001    1.42   3.91    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0041--------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=1574.382
| Ptotal= 52.04 mm |                          B=   9.025
--------------------                          C=    .860
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  3.00 hrs
                         Storm time step    =  5.00 min
                         Time to peak ratio =   .33

              TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
               .08   3.493 |   .83  25.826 |  1.58  11.834 |  2.33   4.773
               .17   3.869 |   .92  61.712 |  1.67  10.197 |  2.42   4.475
               .25   4.337 |  1.00 162.470 |  1.75   8.945 |  2.50   4.212
               .33   4.937 |  1.08  79.037 |  1.83   7.960 |  2.58   3.979
               .42   5.731 |  1.17  44.466 |  1.92   7.166 |  2.67   3.770
               .50   6.830 |  1.25  29.772 |  2.00   6.514 |  2.75   3.583
               .58   8.439 |  1.33  21.949 |  2.08   5.970 |  2.83   3.414
               .67  10.998 |  1.42  17.198 |  2.17   5.510 |  2.92   3.261
               .75  15.601 |  1.50  14.051 |  2.25   5.115 |  3.00   3.121

--------------------------------------------------------------------------------
001:0042--------------------------------------------------------------------------
---------------------
| CALIB NASHYD       |   Area    (ha)=    1.04   Curve Number   (CN)=32.00
| 01:EX1    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
---------------------   U.H. Tp(hrs)=    .500

     Unit Hyd Qpeak  (cms)=     .079

     PEAK FLOW       (cms)=     .007 (i)
     TIME TO PEAK    (hrs)=    1.667
     RUNOFF VOLUME    (mm)=    3.771
     TOTAL RAINFALL   (mm)=   52.043
     RUNOFF COEFFICIENT   =     .072

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0043--------------------------------------------------------------------------
---------------------
| CALIB NASHYD       |   Area    (ha)=    1.04   Curve Number   (CN)=32.00
| 02:EX2    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
---------------------   U.H. Tp(hrs)=    .500

     Unit Hyd Qpeak  (cms)=     .079

     PEAK FLOW       (cms)=     .007 (i)
     TIME TO PEAK    (hrs)=    1.667
     RUNOFF VOLUME    (mm)=    3.771
     TOTAL RAINFALL   (mm)=   52.043
     RUNOFF COEFFICIENT   =     .072

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0044--------------------------------------------------------------------------
---------------------
| CALIB STANDHYD     |   Area    (ha)=     .27
| 03:C201   DT= 1.00 |   Total Imp(%)=   28.00   Dir. Conn.(%)=    5.00
---------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .08          .19
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.80         1.80
     Length            (m)=      40.00        10.00
     Mannings n           =       .013         .025

     Max.eff.Inten.(mm/hr)=     162.47        44.95
               over (min)          1.00         2.00
     Storage Coeff.  (min)=       1.02 (ii)    2.11 (ii)
     Unit Hyd. Tpeak (min)=       1.00         2.00
     Unit Hyd. peak  (cms)=       1.06          .54
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .01          .02          .025 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.02         1.000
     RUNOFF VOLUME    (mm)=      50.04        11.32        13.253
     TOTAL RAINFALL   (mm)=      52.04        52.04        52.043
     RUNOFF COEFFICIENT   =        .96          .22          .255

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  55.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0045--------------------------------------------------------------------------
----------------------
| ADD HYD (201trench ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                       ID1 01:EX1           1.04      .007    1.67   3.77    .000
                      +ID2 03:C201           .27      .025    1.00  13.25    .000
                       ========================================================
                       SUM 10:201trench      1.31      .025    1.00   5.72    .000

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0046--------------------------------------------------------------------------
---------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .001  (cms)
| TotalHyd 10:201tre |   Number of inlets in system [NINLET] =       1
---------------------   Total minor system capacity          =    .001  (cms)
                        Total major system storage [TMJSTO] =    108.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   10:201tre       1.31      .025     1.000    5.725     .000
     ======================================================================
     MAJOR SYST   01:201OVL        .00      .000      .000     .000     .000
     MINOR SYST   03:INFIL        1.31      .001      .767    5.725     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

     Maximum MAJOR SYSTEM storage used =      65.(cu.m.)

--------------------------------------------------------------------------------
001:0047--------------------------------------------------------------------------
---------------------
| CALIB NASHYD       |   Area    (ha)=     .12   Curve Number   (CN)=55.00
| 04:202    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
---------------------   U.H. Tp(hrs)=    .500

     Unit Hyd Qpeak  (cms)=     .009

     PEAK FLOW       (cms)=     .002 (i)
     TIME TO PEAK    (hrs)=    1.667
     RUNOFF VOLUME    (mm)=    8.676
     TOTAL RAINFALL   (mm)=   52.043
     RUNOFF COEFFICIENT   =     .167

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0048--------------------------------------------------------------------------
----------------------
| ADD HYD (202trench ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                       ID1 02:EX2           1.04      .007    1.67   3.77    .000
                      +ID2 04:202            .12      .002    1.67   8.68    .000
                       ========================================================
                       SUM 09:202trench      1.16      .009    1.67   4.28    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0049--------------------------------------------------------------------------
---------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .000  (cms)
| TotalHyd 09:202tre |   Number of inlets in system [NINLET] =       1
---------------------   Total minor system capacity          =    .000  (cms)
                        Total major system storage [TMJSTO] =       7.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   09:202tre       1.16      .009     1.667    4.278     .000
     ======================================================================
     MAJOR SYST   02:202OVL        .89      .009     1.667    4.278     .000
     MINOR SYST   04:INFIL        .27      .000     1.000    4.309     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

     Maximum MAJOR SYSTEM storage used =       7.(cu.m.)

--------------------------------------------------------------------------------
001:0050--------------------------------------------------------------------------
---------------------
| CALIB NASHYD       |   Area    (ha)=     .18   Curve Number   (CN)=55.00
| 05:203    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
---------------------   U.H. Tp(hrs)=    .500

     Unit Hyd Qpeak  (cms)=     .014

     PEAK FLOW       (cms)=     .003 (i)
     TIME TO PEAK    (hrs)=    1.667
     RUNOFF VOLUME    (mm)=    8.678
     TOTAL RAINFALL   (mm)=   52.043
     RUNOFF COEFFICIENT   =     .167

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0051--------------------------------------------------------------------------
---------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .000  (cms)
| TotalHyd 05:203    |   Number of inlets in system [NINLET] =       1
---------------------   Total minor system capacity          =    .000  (cms)
                        Total major system storage [TMJSTO] =     40.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   05:203           .18      .003     1.667    8.678     .000
     ======================================================================
     MAJOR SYST   03:203OVL        .00      .000      .000     .000     .000
```

```
      MINOR SYST   04:INFIL         .18      .000     1.083    8.730     .000

      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

      Maximum MAJOR SYSTEM storage used =      12.(cu.m.)

------------------------------------------------------------------------------
001:0052------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .31
| 06:C204   DT= 1.00 |   Total Imp(%)=   31.00   Dir. Conn.(%)=    5.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=        .10          .21
      Dep. Storage     (mm)=       2.00         5.00
      Average Slope     (%)=       1.80         1.80
      Length            (m)=      40.00        10.00
      Mannings n             =     .013         .025

      Max.eff.Inten.(mm/hr)=     162.47        48.93
                   over (min)       1.00         2.00
      Storage Coeff.  (min)=       1.02 (ii)    2.08 (ii)
      Unit Hyd. Tpeak (min)=       1.00         2.00
      Unit Hyd. peak  (cms)=       1.06          .54
                                                        *TOTALS*
      PEAK FLOW       (cms)=        .01          .02          .030 (iii)
      TIME TO PEAK    (hrs)=       1.00         1.02         1.000
      RUNOFF VOLUME    (mm)=      50.04        11.76        13.671
      TOTAL RAINFALL   (mm)=      52.04        52.04        52.043
      RUNOFF COEFFICIENT   =       .96          .23          .263

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  55.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0053------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .001  (cms)
| TotalHyd 06:C204   |   Number of inlets in system [NINLET] =       1
----------------------   Total minor system capacity         =    .001  (cms)
                         Total major system storage [TMJSTO] =     108.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)    (cms)
      TOTAL HYD.   06:C204          .31      .030     1.000   13.671     .000
      ==========================================================================
      MAJOR SYST   05:204OVL        .00      .000      .000     .000     .000
      MINOR SYST   04:INFIL         .31      .001      .750   13.680     .000

      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

      Maximum MAJOR SYSTEM storage used =      35.(cu.m.)

------------------------------------------------------------------------------
001:0054------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.13
| 07:C205   DT= 1.00 |   Total Imp(%)=   67.00   Dir. Conn.(%)=   35.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=        .76          .37
      Dep. Storage     (mm)=       2.00         5.00
      Average Slope     (%)=       1.80         1.80
      Length            (m)=      40.00        10.00
      Mannings n             =     .013         .025

      Max.eff.Inten.(mm/hr)=     162.47        97.11
                   over (min)       1.00         2.00
      Storage Coeff.  (min)=       1.02 (ii)    1.82 (ii)
      Unit Hyd. Tpeak (min)=       1.00         2.00
      Unit Hyd. peak  (cms)=       1.06          .59
                                                        *TOTALS*
      PEAK FLOW       (cms)=        .18          .08          .261 (iii)
      TIME TO PEAK    (hrs)=       1.00         1.02         1.000
      RUNOFF VOLUME    (mm)=      50.04        15.81        27.791
      TOTAL RAINFALL   (mm)=      52.04        52.04        52.043
      RUNOFF COEFFICIENT   =       .96          .30          .534

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  55.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0055------------------------------------------------------------------------
------------------------
| ADD HYD (to205     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                        ID1 01:201OVLD       .00      .000     .00    .00    .000
                       +ID2 02:202OVLD       .89      .009    1.67   4.28    .000
                       +ID3 03:203OVLD       .00      .000     .00    .00    .000
                       +ID4 05:204OVLD       .00      .000     .00    .00    .000
                       +ID5 07:C205         1.13      .261    1.00  27.79    .000
                        ==========================================================
                        SUM 10:to205         2.02      .261    1.00  17.41    .000

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
001:0056------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .023  (cms)
| TotalHyd 10:to205  |   Number of inlets in system [NINLET] =       1
----------------------   Total minor system capacity         =    .023  (cms)
                         Total major system storage [TMJSTO] =     761.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)    (cms)
      TOTAL HYD.   10:to205        2.02      .261     1.000   17.407     .000
      ==========================================================================
      MAJOR SYST   01:205OVL        .00      .000      .000     .000     .000
      MINOR SYST   02:INFIL        2.02      .023      .767   17.434     .000

      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

      Maximum MAJOR SYSTEM storage used =     178.(cu.m.)

------------------------------------------------------------------------------
001:0057------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=     .09   Curve Number   (CN)=32.00
| 07:EX3    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .500

      Unit Hyd Qpeak  (cms)=     .007

      PEAK FLOW       (cms)=     .001 (i)
      TIME TO PEAK    (hrs)=    1.667
      RUNOFF VOLUME    (mm)=    3.758
      TOTAL RAINFALL   (mm)=   52.043
      RUNOFF COEFFICIENT   =     .072

      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0058------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=     .05   Curve Number   (CN)=55.00
| 04:206    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .250

      Unit Hyd Qpeak  (cms)=     .008

      PEAK FLOW       (cms)=     .001 (i)
      TIME TO PEAK    (hrs)=    1.333
      RUNOFF VOLUME    (mm)=    8.672
      TOTAL RAINFALL   (mm)=   52.043
      RUNOFF COEFFICIENT   =     .167

      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0059------------------------------------------------------------------------
------------------------
| ADD HYD (toDitch   ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                        ID1 04:206           .05      .001    1.33   8.67    .000
                       +ID2 07:EX3           .09      .001    1.67   3.76    .000
                        ==========================================================
                        SUM 10:toDitch        .14      .002    1.42   5.51    .000

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
001:0060------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=2019.372
| Ptotal= 61.48 mm |                          B=   9.824
--------------------                          C=    .875
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  3.00 hrs
                         Storm time step    =  5.00 min
                         Time to peak ratio =   .33

               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
                .08   3.900 |    .83  31.054 |   1.58  13.926 |   2.33   5.406
                .17   4.339 |    .92  74.372 |   1.67  11.933 |   2.42   5.053
                .25   4.890 |   1.00 190.819 |   1.75  10.414 |   2.50   4.743
                .33   5.600 |   1.08  95.075 |   1.83   9.222 |   2.58   4.468
                .42   6.545 |   1.17  53.763 |   1.92   8.265 |   2.67   4.224
                .50   7.861 |   1.25  35.883 |   2.00   7.482 |   2.75   4.005
                .58   9.802 |   1.33  26.308 |   2.08   6.831 |   2.83   3.808
                .67  12.908 |   1.42  20.486 |   2.17   6.281 |   2.92   3.629
                .75  18.531 |   1.50  16.634 |   2.25   5.811 |   3.00   3.466

------------------------------------------------------------------------------
001:0061------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    1.04   Curve Number   (CN)=32.00
| 01:EX1    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .500

      Unit Hyd Qpeak  (cms)=     .079

      PEAK FLOW       (cms)=     .011 (i)
      TIME TO PEAK    (hrs)=    1.667
      RUNOFF VOLUME    (mm)=    5.349
      TOTAL RAINFALL   (mm)=   61.478
      RUNOFF COEFFICIENT   =     .087

      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0062------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    1.04   Curve Number   (CN)=32.00
| 02:EX2    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .500

      Unit Hyd Qpeak  (cms)=     .079

      PEAK FLOW       (cms)=     .011 (i)
      TIME TO PEAK    (hrs)=    1.667
      RUNOFF VOLUME    (mm)=    5.349
      TOTAL RAINFALL   (mm)=   61.478
      RUNOFF COEFFICIENT   =     .087

      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0063------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .27
| 03:C201   DT= 1.00 |   Total Imp(%)=   28.00   Dir. Conn.(%)=    5.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=        .08          .19
      Dep. Storage     (mm)=       2.00         5.00
      Average Slope     (%)=       1.80         1.80
      Length            (m)=      40.00        10.00
      Mannings n             =     .013         .025

      Max.eff.Inten.(mm/hr)=     190.82        61.95
                   over (min)       1.00         2.00
      Storage Coeff.  (min)=        .95 (ii)    1.92 (ii)
      Unit Hyd. Tpeak (min)=       1.00         2.00
      Unit Hyd. peak  (cms)=       1.10          .57
                                                        *TOTALS*
      PEAK FLOW       (cms)=        .01          .03          .034 (iii)
      TIME TO PEAK    (hrs)=       1.00         1.02         1.000
      RUNOFF VOLUME    (mm)=      59.48        15.46        17.666
      TOTAL RAINFALL   (mm)=      61.48        61.48        61.478
      RUNOFF COEFFICIENT   =       .97          .25          .287

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  55.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
```

```
01271>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01272>
01273> ---------------------------------------------------------------------------
01274> 001:0064-----------------------------------------------------------------
01275> ----------------------
01276> | ADD HYD (201trench ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
01277> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
01278>                        ID1 01:EX1           1.04     .011    1.67   5.35    .000
01279>                       +ID2 03:C201          .27      .034    1.00  17.67    .000
01280>                        ========================================================
01281>                        SUM 10:201trench     1.31     .035    1.00   7.89    .000
01282>
01283>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01284>
01285> ---------------------------------------------------------------------------
01286> 001:0065-----------------------------------------------------------------
01287> ----------------------
01288> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .001  (cms)
01289> | TotalHyd 10:201tre |   Number of inlets in system [NINLET] =      1
01290> ----------------------   Total minor system capacity         =    .001  (cms)
01291>                          Total major system storage [TMJSTO] =     108.(cu.m.)
01292>
01293>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
01294>                                    (ha)     (cms)     (hrs)     (mm)    (cms)
01295>      TOTAL HYD.   10:201tre        1.31      .035     1.000    7.887     .000
01296>      ==========================================================================
01297>      MAJOR SYST   01:201OVL         .00      .000      .000     .000     .000
01298>      MINOR SYST   03:INFIL        1.31      .001      .717    7.891     .000
01299>
01300>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01301>
01302>      Maximum MAJOR SYSTEM storage used =      93.(cu.m.)
01303>
01304> ---------------------------------------------------------------------------
01305> 001:0066-----------------------------------------------------------------
01306> ----------------------
01307> | CALIB NASHYD       |   Area    (ha)=     .12   Curve Number   (CN)=55.00
01308> | 04:202    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
01309> ----------------------   U.H. Tp(hrs)=    .500
01310>
01311>      Unit Hyd Qpeak  (cms)=     .009
01312>
01313>      PEAK FLOW       (cms)=     .003 (i)
01314>      TIME TO PEAK    (hrs)=    1.667
01315>      RUNOFF VOLUME    (mm)=   12.060
01316>      TOTAL RAINFALL   (mm)=   61.478
01317>      RUNOFF COEFFICIENT   =     .196
01318>
01319>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01320>
01321> ---------------------------------------------------------------------------
01322> 001:0067-----------------------------------------------------------------
01323> ----------------------
01324> | ADD HYD (202trench ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
01325> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
01326>                        ID1 02:EX2           1.04     .011    1.67   5.35    .000
01327>                       +ID2 04:202           .12      .003    1.67  12.06    .000
01328>                        ========================================================
01329>                        SUM 09:202trench     1.16     .013    1.67   6.04    .000
01330>
01331>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01332>
01333> ---------------------------------------------------------------------------
01334> 001:0068-----------------------------------------------------------------
01335> ----------------------
01336> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .000  (cms)
01337> | TotalHyd 09:202tre |   Number of inlets in system [NINLET] =      1
01338> ----------------------   Total minor system capacity         =    .000  (cms)
01339>                          Total major system storage [TMJSTO] =      7.(cu.m.)
01340>
01341>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
01342>                                    (ha)     (cms)     (hrs)     (mm)    (cms)
01343>      TOTAL HYD.   09:202tre        1.16      .013     1.667    6.043     .000
01344>      ==========================================================================
01345>      MAJOR SYST   02:202OVL         .97      .013     1.667    6.043     .000
01346>      MINOR SYST   04:INFIL         .19      .000     1.000    6.084     .000
01347>
01348>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01349>
01350>      Maximum MAJOR SYSTEM storage used =       7.(cu.m.)
01351>
01352> ---------------------------------------------------------------------------
01353> 001:0069-----------------------------------------------------------------
01354> ----------------------
01355> | CALIB NASHYD       |   Area    (ha)=     .18   Curve Number   (CN)=55.00
01356> | 05:203    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
01357> ----------------------   U.H. Tp(hrs)=    .500
01358>
01359>      Unit Hyd Qpeak  (cms)=     .014
01360>
01361>      PEAK FLOW       (cms)=     .004 (i)
01362>      TIME TO PEAK    (hrs)=    1.667
01363>      RUNOFF VOLUME    (mm)=   12.064
01364>      TOTAL RAINFALL   (mm)=   61.478
01365>      RUNOFF COEFFICIENT   =     .196
01366>
01367>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01368>
01369> ---------------------------------------------------------------------------
01370> 001:0070-----------------------------------------------------------------
01371> ----------------------
01372> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .000  (cms)
01373> | TotalHyd 05:203    |   Number of inlets in system [NINLET] =      1
01374> ----------------------   Total minor system capacity         =    .000  (cms)
01375>                          Total major system storage [TMJSTO] =     40.(cu.m.)
01376>
01377>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
01378>                                    (ha)     (cms)     (hrs)     (mm)    (cms)
01379>      TOTAL HYD.   05:203           .18      .004     1.667   12.064     .000
01380>      ==========================================================================
01381>      MAJOR SYST   03:203OVL         .00      .000      .000     .000     .000
01382>      MINOR SYST   04:INFIL         .18      .000     1.083   12.077     .000
01383>
01384>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01385>
01386>      Maximum MAJOR SYSTEM storage used =      18.(cu.m.)
01387>
01388> ---------------------------------------------------------------------------
01389> 001:0071-----------------------------------------------------------------
01390> ----------------------
01391> | CALIB STANDHYD     |   Area    (ha)=     .31
01392> | 06:C204   DT= 1.00 |   Total Imp(%)=   31.00   Dir. Conn.(%)=    5.00
01393> ----------------------
01394>                              IMPERVIOUS    PERVIOUS (i)
01395>      Surface Area     (ha)=        .10          .21
01396>      Dep. Storage     (mm)=       2.00         5.00
01397>      Average Slope     (%)=       1.80         1.80
01398>      Length            (m)=      40.00        10.00
01399>      Mannings n            =       .013         .025
01400>
01401>      Max.eff.Inten.(mm/hr)=     190.82        67.24
01402>                  over (min)        1.00         2.00
01403>      Storage Coeff.  (min)=        .95 (ii)    1.89 (ii)
01404>      Unit Hyd. Tpeak (min)=       1.00         2.00
01405>      Unit Hyd. peak  (cms)=       1.10          .58
01406>                                                          *TOTALS*
01407>      PEAK FLOW       (cms)=        .01          .03          .041 (iii)
01408>      TIME TO PEAK    (hrs)=       1.00         1.02         1.000
01409>      RUNOFF VOLUME    (mm)=      59.48        16.03        18.199
01410>      TOTAL RAINFALL   (mm)=      61.48        61.48        61.478
01411>      RUNOFF COEFFICIENT   =        .97          .26          .296
01412>
01413>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01414>            CN* =  55.0    Ia = Dep. Storage  (Above)
01415>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01416>            THAN THE STORAGE COEFFICIENT.
01417>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01418>
01419> ---------------------------------------------------------------------------
01420> 001:0072-----------------------------------------------------------------
01421> ----------------------
01422> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .001  (cms)
01423> | TotalHyd 06:C204   |   Number of inlets in system [NINLET] =      1
01424> ----------------------   Total minor system capacity         =    .001  (cms)
01425>                          Total major system storage [TMJSTO] =     108.(cu.m.)
01426>
01427>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
01428>                                    (ha)     (cms)     (hrs)     (mm)    (cms)
01429>      TOTAL HYD.   06:C204           .31      .041     1.000   18.199     .000
01430>      ==========================================================================
01431>      MAJOR SYST   05:204OVL         .00      .000      .000     .000     .000
01432>      MINOR SYST   04:INFIL         .31      .001      .700   18.202     .000
01433>
01434>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01435>
01436>      Maximum MAJOR SYSTEM storage used =      49.(cu.m.)
01437>
01438> ---------------------------------------------------------------------------
01439> 001:0073-----------------------------------------------------------------
01440> ----------------------
01441> | CALIB STANDHYD     |   Area    (ha)=    1.13
01442> | 07:C205   DT= 1.00 |   Total Imp(%)=   67.00   Dir. Conn.(%)=   35.00
01443> ----------------------
01444>                              IMPERVIOUS    PERVIOUS (i)
01445>      Surface Area     (ha)=        .76          .37
01446>      Dep. Storage     (mm)=       2.00         5.00
01447>      Average Slope     (%)=       1.80         1.80
01448>      Length            (m)=      40.00        10.00
01449>      Mannings n            =       .013         .025
01450>
01451>      Max.eff.Inten.(mm/hr)=     190.82       130.68
01452>                  over (min)        1.00         2.00
01453>      Storage Coeff.  (min)=        .95 (ii)    1.67 (ii)
01454>      Unit Hyd. Tpeak (min)=       1.00         2.00
01455>      Unit Hyd. peak  (cms)=       1.10          .62
01456>                                                          *TOTALS*
01457>      PEAK FLOW       (cms)=        .21          .12          .324 (iii)
01458>      TIME TO PEAK    (hrs)=       1.00         1.00         1.000
01459>      RUNOFF VOLUME    (mm)=      59.48        21.12        34.548
01460>      TOTAL RAINFALL   (mm)=      61.48        61.48        61.478
01461>      RUNOFF COEFFICIENT   =        .97          .34          .562
01462>
01463>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01464>            CN* =  55.0    Ia = Dep. Storage  (Above)
01465>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01466>            THAN THE STORAGE COEFFICIENT.
01467>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01468>
01469> ---------------------------------------------------------------------------
01470> 001:0074-----------------------------------------------------------------
01471> ----------------------
01472> | ADD HYD (to205     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
01473> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
01474>                        ID1 01:201OVLD       .00      .000     .00    .00    .000
01475>                       +ID2 02:202OVLD       .97      .013    1.67   6.04    .000
01476>                       +ID3 03:203OVLD       .00      .000     .00    .00    .000
01477>                       +ID4 05:204OVLD       .00      .000     .00    .00    .000
01478>                       +ID5 07:C205         1.13      .324    1.00  34.55    .000
01479>                        ========================================================
01480>                        SUM 10:to205         2.10      .324    1.00  21.39    .000
01481>
01482>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01483>
01484> ---------------------------------------------------------------------------
01485> 001:0075-----------------------------------------------------------------
01486> ----------------------
01487> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .023  (cms)
01488> | TotalHyd 10:to205  |   Number of inlets in system [NINLET] =      1
01489> ----------------------   Total minor system capacity         =    .023  (cms)
01490>                          Total major system storage [TMJSTO] =     761.(cu.m.)
01491>
01492>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
01493>                                    (ha)     (cms)     (hrs)     (mm)    (cms)
01494>      TOTAL HYD.   10:to205         2.10      .324     1.000   21.386     .000
01495>      ==========================================================================
01496>      MAJOR SYST   01:205OVL         .00      .000      .000     .000     .000
01497>      MINOR SYST   02:INFIL        2.10      .023      .767   21.410     .000
01498>
01499>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01500>
01501>      Maximum MAJOR SYSTEM storage used =     257.(cu.m.)
01502>
01503> ---------------------------------------------------------------------------
01504> 001:0076-----------------------------------------------------------------
01505> ----------------------
01506> | CALIB NASHYD       |   Area    (ha)=     .09   Curve Number   (CN)=32.00
01507> | 07:EX3    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
01508> ----------------------   U.H. Tp(hrs)=    .500
01509>
01510>      Unit Hyd Qpeak  (cms)=     .007
01511>
01512>      PEAK FLOW       (cms)=     .001 (i)
01513>      TIME TO PEAK    (hrs)=    1.667
01514>      RUNOFF VOLUME    (mm)=    5.339
01515>      TOTAL RAINFALL   (mm)=   61.478
01516>      RUNOFF COEFFICIENT   =     .087
01517>
01518>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01519>
01520> ---------------------------------------------------------------------------
01521> 001:0077-----------------------------------------------------------------
01522> ----------------------
01523> | CALIB NASHYD       |   Area    (ha)=     .05   Curve Number   (CN)=55.00
01524> | 04:206    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
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```
01525> ----------------------   U.H. Tp(hrs)=    .250
01526>
01527>      Unit Hyd Qpeak  (cms)=     .008
01528>
01529>      PEAK FLOW       (cms)=     .002 (i)
01530>      TIME TO PEAK    (hrs)=    1.333
01531>      RUNOFF VOLUME    (mm)=   12.055
01532>      TOTAL RAINFALL   (mm)=   61.478
01533>      RUNOFF COEFFICIENT   =     .196
01534>
01535>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01536>
01537> ---------------------------------------------------------------------------
01538> 001:0078-----------------------------------------------------------------
01539> ------------------------
01540> | ADD HYD (toDitch   ) | ID: NHYD        AREA     QPEAK   TPEAK   R.V.    DWF
01541> ------------------------                 (ha)     (cms)   (hrs)   (mm)   (cms)
01542>                       ID1 04:206          .05      .002    1.33  12.05    .000
01543>                      +ID2 07:EX3          .09      .001    1.67   5.34    .000
01544>                       ========================================================
01545>                       SUM 10:toDitch       .14      .002    1.42   7.74    .000
01546>
01547>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01548>
01549> ---------------------------------------------------------------------------
01550> 001:0079-----------------------------------------------------------------
01551> --------------------
01552> | CHICAGO STORM    |    IDF curve parameters: A=2270.665
01553> | Ptotal= 68.72 mm |                          B=    9.984
01554> --------------------                          C=     .876
01555>                       used in:   INTENSITY =  A / (t + B)^C
01556>
01557>                       Duration of storm  =  3.00 hrs
01558>                       Storm time step    =  5.00 min
01559>                       Time to peak ratio =   .33
01560>
01561>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
01562>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
01563>               .08   4.355 |    .83  34.855 |   1.58  15.620 |   2.33   6.045
01564>               .17   4.848 |    .92  83.238 |   1.67  13.380 |   2.42   5.648
01565>               .25   5.466 |   1.00 211.984 |   1.75  11.672 |   2.50   5.300
01566>               .33   6.262 |   1.08 106.298 |   1.83  10.332 |   2.58   4.992
01567>               .42   7.324 |   1.17  60.284 |   1.92   9.257 |   2.67   4.718
01568>               .50   8.802 |   1.25  40.273 |   2.00   8.377 |   2.75   4.473
01569>               .58  10.984 |   1.33  29.532 |   2.08   7.645 |   2.83   4.251
01570>               .67  14.476 |   1.42  22.993 |   2.17   7.027 |   2.92   4.051
01571>               .75  20.797 |   1.50  18.664 |   2.25   6.500 |   3.00   3.869
01572>
01573> ---------------------------------------------------------------------------
01574> 001:0080-----------------------------------------------------------------
01575> ----------------------
01576> | CALIB NASHYD       |   Area    (ha)=    1.04   Curve Number   (CN)=32.00
01577> | 01:EX1    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
01578> ----------------------   U.H. Tp(hrs)=    .500
01579>
01580>      Unit Hyd Qpeak  (cms)=     .079
01581>
01582>      PEAK FLOW       (cms)=     .013 (i)
01583>      TIME TO PEAK    (hrs)=    1.667
01584>      RUNOFF VOLUME    (mm)=    6.727
01585>      TOTAL RAINFALL   (mm)=   68.716
01586>      RUNOFF COEFFICIENT   =     .098
01587>
01588>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01589>
01590> ---------------------------------------------------------------------------
01591> 001:0081-----------------------------------------------------------------
01592> ----------------------
01593> | CALIB NASHYD       |   Area    (ha)=    1.04   Curve Number   (CN)=32.00
01594> | 02:EX2    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
01595> ----------------------   U.H. Tp(hrs)=    .500
01596>
01597>      Unit Hyd Qpeak  (cms)=     .079
01598>
01599>      PEAK FLOW       (cms)=     .013 (i)
01600>      TIME TO PEAK    (hrs)=    1.667
01601>      RUNOFF VOLUME    (mm)=    6.727
01602>      TOTAL RAINFALL   (mm)=   68.716
01603>      RUNOFF COEFFICIENT   =     .098
01604>
01605>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01606>
01607> ---------------------------------------------------------------------------
01608> 001:0082-----------------------------------------------------------------
01609> ----------------------
01610> | CALIB STANDHYD     |   Area    (ha)=     .27
01611> | 03:C201   DT= 1.00 |   Total Imp(%)=   28.00   Dir. Conn.(%)=    5.00
01612> ----------------------
01613>                              IMPERVIOUS    PERVIOUS (i)
01614>      Surface Area     (ha)=        .08          .19
01615>      Dep. Storage     (mm)=       2.00         5.00
01616>      Average Slope     (%)=       1.80         1.80
01617>      Length            (m)=      40.00        10.00
01618>      Mannings n            =       .013         .025
01619>
01620>      Max.eff.Inten.(mm/hr)=     211.98        76.08
01621>                 over (min)        1.00         2.00
01622>      Storage Coeff.  (min)=        .92 (ii)    1.80 (ii)
01623>      Unit Hyd. Tpeak (min)=       1.00         2.00
01624>      Unit Hyd. peak  (cms)=       1.13          .60
01625>                                                          *TOTALS*
01626>      PEAK FLOW       (cms)=        .01          .03          .042 (iii)
01627>      TIME TO PEAK    (hrs)=       1.00         1.02         1.000
01628>      RUNOFF VOLUME    (mm)=      66.71        18.95        21.340
01629>      TOTAL RAINFALL   (mm)=      68.72        68.72        68.716
01630>      RUNOFF COEFFICIENT   =        .97          .28          .311
01631>
01632>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01633>            CN* =  55.0    Ia = Dep. Storage  (Above)
01634>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01635>            THAN THE STORAGE COEFFICIENT.
01636>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01637>
01638> ---------------------------------------------------------------------------
01639> 001:0083-----------------------------------------------------------------
01640> ------------------------
01641> | ADD HYD (201trench ) | ID: NHYD        AREA     QPEAK   TPEAK   R.V.    DWF
01642> ------------------------                 (ha)     (cms)   (hrs)   (mm)   (cms)
01643>                       ID1 01:EX1          1.04     .013    1.67   6.73    .000
01644>                      +ID2 03:C201          .27     .042    1.00  21.34    .000
01645>                       ========================================================
01646>                       SUM 10:201trench    1.31     .043    1.00   9.74    .000
01647>
01648>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01649>
01650> ---------------------------------------------------------------------------
01651> 001:0084-----------------------------------------------------------------
01652> ----------------------
01653> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .001  (cms)
01654> | TotalHyd 10:201tre |   Number of inlets in system [NINLET] =      1
01655> ----------------------   Total minor system capacity         =    .001  (cms)
01656>                          Total major system storage [TMJSTO] =    108.(cu.m.)
01657>
01658>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
01659>                                    (ha)     (cms)     (hrs)     (mm)    (cms)
01660>      TOTAL HYD.   10:201tre        1.31      .043     1.000    9.738     .000
01661>      ======================================================================
01662>      MAJOR SYST   01:201OVL         .09      .006     2.817    9.738     .000
01663>      MINOR SYST   03:INFIL         1.22      .001      .683    9.739     .000
01664>
01665>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01666>
01667>      Maximum MAJOR SYSTEM storage used =     108.(cu.m.)
01668>
01669> ---------------------------------------------------------------------------
01670> 001:0085-----------------------------------------------------------------
01671> ----------------------
01672> | CALIB NASHYD       |   Area    (ha)=     .12   Curve Number   (CN)=55.00
01673> | 04:202    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
01674> ----------------------   U.H. Tp(hrs)=    .500
01675>
01676>      Unit Hyd Qpeak  (cms)=     .009
01677>
01678>      PEAK FLOW       (cms)=     .003 (i)
01679>      TIME TO PEAK    (hrs)=    1.667
01680>      RUNOFF VOLUME    (mm)=   14.943
01681>      TOTAL RAINFALL   (mm)=   68.716
01682>      RUNOFF COEFFICIENT   =     .217
01683>
01684>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01685>
01686> ---------------------------------------------------------------------------
01687> 001:0086-----------------------------------------------------------------
01688> ------------------------
01689> | ADD HYD (202trench ) | ID: NHYD        AREA     QPEAK   TPEAK   R.V.    DWF
01690> ------------------------                 (ha)     (cms)   (hrs)   (mm)   (cms)
01691>                       ID1 02:EX2          1.04     .013    1.67   6.73    .000
01692>                      +ID2 04:202           .12     .003    1.67  14.94    .000
01693>                       ========================================================
01694>                       SUM 09:202trench    1.16     .017    1.67   7.58    .000
01695>
01696>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01697>
01698> ---------------------------------------------------------------------------
01699> 001:0087-----------------------------------------------------------------
01700> ----------------------
01701> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .000  (cms)
01702> | TotalHyd 09:202tre |   Number of inlets in system [NINLET] =      1
01703> ----------------------   Total minor system capacity         =    .000  (cms)
01704>                          Total major system storage [TMJSTO] =      7.(cu.m.)
01705>
01706>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
01707>                                    (ha)     (cms)     (hrs)     (mm)    (cms)
01708>      TOTAL HYD.   09:202tre        1.16      .017     1.667    7.577     .000
01709>      ======================================================================
01710>      MAJOR SYST   02:202OVL        1.01      .016     1.667    7.577     .000
01711>      MINOR SYST   04:INFIL         .15      .000     1.000    7.638     .000
01712>
01713>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01714>
01715>      Maximum MAJOR SYSTEM storage used =       7.(cu.m.)
01716>
01717> ---------------------------------------------------------------------------
01718> 001:0088-----------------------------------------------------------------
01719> ----------------------
01720> | CALIB NASHYD       |   Area    (ha)=     .18   Curve Number   (CN)=55.00
01721> | 05:203    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
01722> ----------------------   U.H. Tp(hrs)=    .500
01723>
01724>      Unit Hyd Qpeak  (cms)=     .014
01725>
01726>      PEAK FLOW       (cms)=     .005 (i)
01727>      TIME TO PEAK    (hrs)=    1.667
01728>      RUNOFF VOLUME    (mm)=   14.947
01729>      TOTAL RAINFALL   (mm)=   68.716
01730>      RUNOFF COEFFICIENT   =     .218
01731>
01732>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01733>
01734> ---------------------------------------------------------------------------
01735> 001:0089-----------------------------------------------------------------
01736> ----------------------
01737> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .000  (cms)
01738> | TotalHyd 05:203    |   Number of inlets in system [NINLET] =      1
01739> ----------------------   Total minor system capacity         =    .000  (cms)
01740>                          Total major system storage [TMJSTO] =     40.(cu.m.)
01741>
01742>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
01743>                                    (ha)     (cms)     (hrs)     (mm)    (cms)
01744>      TOTAL HYD.   05:203           .18      .005     1.667   14.947     .000
01745>      ======================================================================
01746>      MAJOR SYST   03:203OVL         .00      .000      .000     .000     .000
01747>      MINOR SYST   04:INFIL         .18      .000     1.000   14.947     .000
01748>
01749>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01750>
01751>      Maximum MAJOR SYSTEM storage used =      23.(cu.m.)
01752>
01753> ---------------------------------------------------------------------------
01754> 001:0090-----------------------------------------------------------------
01755> ----------------------
01756> | CALIB STANDHYD     |   Area    (ha)=     .31
01757> | 06:C204   DT= 1.00 |   Total Imp(%)=   31.00   Dir. Conn.(%)=    5.00
01758> ----------------------
01759>                              IMPERVIOUS    PERVIOUS (i)
01760>      Surface Area     (ha)=        .10          .21
01761>      Dep. Storage     (mm)=       2.00         5.00
01762>      Average Slope     (%)=       1.80         1.80
01763>      Length            (m)=      40.00        10.00
01764>      Mannings n            =       .013         .025
01765>
01766>      Max.eff.Inten.(mm/hr)=     211.98        82.44
01767>                 over (min)        1.00         2.00
01768>      Storage Coeff.  (min)=        .92 (ii)    1.78 (ii)
01769>      Unit Hyd. Tpeak (min)=       1.00         2.00
01770>      Unit Hyd. peak  (cms)=       1.13          .60
01771>                                                          *TOTALS*
01772>      PEAK FLOW       (cms)=        .01          .04          .050 (iii)
01773>      TIME TO PEAK    (hrs)=       1.00         1.02         1.000
01774>      RUNOFF VOLUME    (mm)=      66.71        19.61        21.964
01775>      TOTAL RAINFALL   (mm)=      68.72        68.72        68.716
01776>      RUNOFF COEFFICIENT   =        .97          .29          .320
01777>
01778>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```

```
01779>           CN* =  55.0    Ia = Dep. Storage  (Above)
01780>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01781>            THAN THE STORAGE COEFFICIENT.
01782>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01783>
01784> ------------------------------------------------------------------------------
01785> 001:0091--------------------------------------------------------------------
01786> ----------------------
01787> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .001  (cms)
01788> | TotalHyd 06:C204   |   Number of inlets in system [NINLET] =       1
01789> ----------------------   Total minor system capacity        =    .001  (cms)
01790>                          Total major system storage [TMJSTO] =     108.(cu.m.)
01791>
01792>                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
01793>                                   (ha)     (cms)     (hrs)     (mm)    (cms)
01794>      TOTAL HYD.   06:C204          .31      .050     1.000   21.964     .000
01795>      ======================================================================
01796>      MAJOR SYST   05:204OVL         .00      .000      .000     .000     .000
01797>      MINOR SYST   04:INFIL         .31      .001      .683   21.978     .000
01798>
01799>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01800>
01801>      Maximum MAJOR SYSTEM storage used =      60.(cu.m.)
01802>
01803> ------------------------------------------------------------------------------
01804> 001:0092--------------------------------------------------------------------
01805> ----------------------
01806> | CALIB STANDHYD     |   Area    (ha)=    1.13
01807> | 07:C205    DT= 1.00 |   Total Imp(%)=   67.00   Dir. Conn.(%)=   35.00
01808> ----------------------
01809>                              IMPERVIOUS    PERVIOUS (i)
01810>      Surface Area     (ha)=        .76         .37
01811>      Dep. Storage     (mm)=       2.00        5.00
01812>      Average Slope     (%)=       1.80        1.80
01813>      Length            (m)=      40.00       10.00
01814>      Mannings n           =       .013        .025
01815>
01816>      Max.eff.Inten.(mm/hr)=     211.98      158.06
01817>                  over (min)       1.00        2.00
01818>      Storage Coeff.  (min)=        .92 (ii)    1.58 (ii)
01819>      Unit Hyd. Tpeak (min)=       1.00        2.00
01820>      Unit Hyd. peak  (cms)=       1.13         .65
01821>                                                        *TOTALS*
01822>      PEAK FLOW       (cms)=        .23         .14          .374 (iii)
01823>      TIME TO PEAK    (hrs)=       1.00        1.00         1.000
01824>      RUNOFF VOLUME    (mm)=      66.72       25.51        39.931
01825>      TOTAL RAINFALL   (mm)=      68.72       68.72        68.716
01826>      RUNOFF COEFFICIENT   =        .97         .37          .581
01827>
01828>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01829>            CN* =  55.0    Ia = Dep. Storage  (Above)
01830>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01831>            THAN THE STORAGE COEFFICIENT.
01832>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01833>
01834> ------------------------------------------------------------------------------
01835> 001:0093--------------------------------------------------------------------
01836> ----------------------
01837> | ADD HYD (to205     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
01838> ----------------------                    (ha)     (cms)  (hrs)   (mm)   (cms)
01839>                        ID1 01:201OVLD       .09     .006    2.82   9.74    .000
01840>                       +ID2 02:202OVLD      1.01     .016    1.67   7.58    .000
01841>                       +ID3 03:203OVLD       .00     .000     .00    .00    .000
01842>                       +ID4 05:204OVLD       .00     .000     .00    .00    .000
01843>                       +ID5 07:C205         1.13     .374    1.00  39.93    .000
01844>                        ===================================================
01845>                        SUM 10:to205         2.22     .374    1.00  24.10    .000
01846>
01847>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01848>
01849> ------------------------------------------------------------------------------
01850> 001:0094--------------------------------------------------------------------
01851> ----------------------
01852> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .023  (cms)
01853> | TotalHyd 10:to205  |   Number of inlets in system [NINLET] =       1
01854> ----------------------   Total minor system capacity        =    .023  (cms)
01855>                          Total major system storage [TMJSTO] =     761.(cu.m.)
01856>
01857>                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
01858>                                   (ha)     (cms)     (hrs)     (mm)    (cms)
01859>      TOTAL HYD.   10:to205        2.22      .374     1.000   24.101     .000
01860>      ======================================================================
01861>      MAJOR SYST   01:205OVL         .00      .000      .000     .000     .000
01862>      MINOR SYST   02:INFIL        2.22      .023      .700   24.146     .000
01863>
01864>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01865>
01866>      Maximum MAJOR SYSTEM storage used =     322.(cu.m.)
01867>
01868> ------------------------------------------------------------------------------
01869> 001:0095--------------------------------------------------------------------
01870> ----------------------
01871> | CALIB NASHYD       |   Area    (ha)=     .09   Curve Number   (CN)=32.00
01872> | 07:EX3     DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
01873> ----------------------   U.H. Tp(hrs)=    .500
01874>
01875>      Unit Hyd Qpeak  (cms)=     .007
01876>
01877>      PEAK FLOW       (cms)=     .001 (i)
01878>      TIME TO PEAK    (hrs)=    1.667
01879>      RUNOFF VOLUME    (mm)=    6.714
01880>      TOTAL RAINFALL   (mm)=   68.716
01881>      RUNOFF COEFFICIENT   =     .098
01882>
01883>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01884>
01885> ------------------------------------------------------------------------------
01886> 001:0096--------------------------------------------------------------------
01887> ----------------------
01888> | CALIB NASHYD       |   Area    (ha)=     .05   Curve Number   (CN)=55.00
01889> | 04:206     DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
01890> ----------------------   U.H. Tp(hrs)=    .250
01891>
01892>      Unit Hyd Qpeak  (cms)=     .008
01893>
01894>      PEAK FLOW       (cms)=     .002 (i)
01895>      TIME TO PEAK    (hrs)=    1.333
01896>      RUNOFF VOLUME    (mm)=   14.941
01897>      TOTAL RAINFALL   (mm)=   68.716
01898>      RUNOFF COEFFICIENT   =     .217
01899>
01900>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01901>
01902> ------------------------------------------------------------------------------
01903> 001:0097--------------------------------------------------------------------
01904> ----------------------
01905> | ADD HYD (toDitch   ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
01906> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
01907>                        ID1 04:206           .05     .002    1.33  14.94    .000
01908>                       +ID2 07:EX3           .09     .001    1.67   6.71    .000
01909>                        ===================================================
01910>                        SUM 10:toDitch        .14     .003    1.42   9.65    .000
01911>
01912>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01913>
01914> ------------------------------------------------------------------------------
01915> 001:0098--------------------------------------------------------------------
01916> --------------------
01917> | CHICAGO STORM    |    IDF curve parameters: A=2619.363
01918> | Ptotal= 75.83 mm |                          B=  10.500
01919> --------------------                          C=    .884
01920>                          used in:   INTENSITY =  A / (t + B)^C
01921>
01922>                          Duration of storm  =  3.00 hrs
01923>                          Storm time step    =  5.00 min
01924>                          Time to peak ratio =   .33
01925>
01926>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
01927>                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
01928>                .08   4.669 |    .83  38.909 |   1.58  17.257 |   2.33   6.536
01929>                .17   5.212 |    .92  92.768 |   1.67  14.738 |   2.42   6.097
01930>                .25   5.895 |   1.00 232.243 |   1.75  12.820 |   2.50   5.712
01931>                .33   6.777 |   1.08 118.260 |   1.83  11.318 |   2.58   5.372
01932>                .42   7.958 |   1.17  67.393 |   1.92  10.115 |   2.67   5.069
01933>                .50   9.607 |   1.25  45.001 |   2.00   9.132 |   2.75   4.799
01934>                .58  12.049 |   1.33  32.924 |   2.08   8.315 |   2.83   4.555
01935>                .67  15.971 |   1.42  25.560 |   2.17   7.627 |   2.92   4.335
01936>                .75  23.085 |   1.50  20.683 |   2.25   7.041 |   3.00   4.135
01937>
01938> ------------------------------------------------------------------------------
01939> 001:0099--------------------------------------------------------------------
01940> ----------------------
01941> | CALIB NASHYD       |   Area    (ha)=    1.04   Curve Number   (CN)=32.00
01942> | 01:EX1     DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
01943> ----------------------   U.H. Tp(hrs)=    .500
01944>
01945>      Unit Hyd Qpeak  (cms)=     .079
01946>
01947>      PEAK FLOW       (cms)=     .016 (i)
01948>      TIME TO PEAK    (hrs)=    1.667
01949>      RUNOFF VOLUME    (mm)=    8.215
01950>      TOTAL RAINFALL   (mm)=   75.828
01951>      RUNOFF COEFFICIENT   =     .108
01952>
01953>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01954>
01955> ------------------------------------------------------------------------------
01956> 001:0100--------------------------------------------------------------------
01957> ----------------------
01958> | CALIB NASHYD       |   Area    (ha)=    1.04   Curve Number   (CN)=32.00
01959> | 02:EX2     DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
01960> ----------------------   U.H. Tp(hrs)=    .500
01961>
01962>      Unit Hyd Qpeak  (cms)=     .079
01963>
01964>      PEAK FLOW       (cms)=     .016 (i)
01965>      TIME TO PEAK    (hrs)=    1.667
01966>      RUNOFF VOLUME    (mm)=    8.215
01967>      TOTAL RAINFALL   (mm)=   75.828
01968>      RUNOFF COEFFICIENT   =     .108
01969>
01970>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01971>
01972> ------------------------------------------------------------------------------
01973> 001:0101--------------------------------------------------------------------
01974> ----------------------
01975> | CALIB STANDHYD     |   Area    (ha)=     .27
01976> | 03:C201    DT= 1.00 |   Total Imp(%)=   28.00   Dir. Conn.(%)=    5.00
01977> ----------------------
01978>                              IMPERVIOUS    PERVIOUS (i)
01979>      Surface Area     (ha)=        .08         .19
01980>      Dep. Storage     (mm)=       2.00        5.00
01981>      Average Slope     (%)=       1.80        1.80
01982>      Length            (m)=      40.00       10.00
01983>      Mannings n           =       .013        .025
01984>
01985>      Max.eff.Inten.(mm/hr)=     232.24       90.74
01986>                  over (min)       1.00        2.00
01987>      Storage Coeff.  (min)=        .88 (ii)    1.71 (ii)
01988>      Unit Hyd. Tpeak (min)=       1.00        2.00
01989>      Unit Hyd. peak  (cms)=       1.15         .62
01990>                                                        *TOTALS*
01991>      PEAK FLOW       (cms)=        .01         .04          .050 (iii)
01992>      TIME TO PEAK    (hrs)=       1.00        1.02         1.000
01993>      RUNOFF VOLUME    (mm)=      73.83       22.61        25.169
01994>      TOTAL RAINFALL   (mm)=      75.83       75.83        75.828
01995>      RUNOFF COEFFICIENT   =        .97         .30          .332
01996>
01997>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01998>            CN* =  55.0    Ia = Dep. Storage  (Above)
01999>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02000>            THAN THE STORAGE COEFFICIENT.
02001>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02002>
02003> ------------------------------------------------------------------------------
02004> 001:0102--------------------------------------------------------------------
02005> ----------------------
02006> | ADD HYD (201trench ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
02007> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
02008>                        ID1 01:EX1           1.04     .016    1.67   8.22    .000
02009>                       +ID2 03:C201          .27      .050    1.00  25.17    .000
02010>                        ===================================================
02011>                        SUM 10:201trench     1.31     .051    1.00  11.71    .000
02012>
02013>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02014>
02015> ------------------------------------------------------------------------------
02016> 001:0103--------------------------------------------------------------------
02017> ----------------------
02018> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .001  (cms)
02019> | TotalHyd 10:201tre |   Number of inlets in system [NINLET] =       1
02020> ----------------------   Total minor system capacity        =    .001  (cms)
02021>                          Total major system storage [TMJSTO] =     108.(cu.m.)
02022>
02023>                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
02024>                                   (ha)     (cms)     (hrs)     (mm)    (cms)
02025>      TOTAL HYD.   10:201tre        1.31      .051     1.000   11.709     .000
02026>      ======================================================================
02027>      MAJOR SYST   01:201OVL         .29      .014      .683   11.709     .000
02028>      MINOR SYST   03:INFIL        1.02      .001      .683   11.713     .000
02029>
02030>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02031>
02032>      Maximum MAJOR SYSTEM storage used =     108.(cu.m.)
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02033>
02034> ------------------------------------------------------------------------------
02035> 001:0104------------------------------------------------------------------------
02036> ----------------------
02037> | CALIB NASHYD       |   Area    (ha)=     .12   Curve Number   (CN)=55.00
02038> | 04:202    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
02039> ----------------------   U.H. Tp(hrs)=    .500
02040>
02041>      Unit Hyd Qpeak  (cms)=     .009
02042>
02043>      PEAK FLOW       (cms)=     .004 (i)
02044>      TIME TO PEAK    (hrs)=    1.667
02045>      RUNOFF VOLUME    (mm)=   17.997
02046>      TOTAL RAINFALL   (mm)=   75.828
02047>      RUNOFF COEFFICIENT   =     .237
02048>
02049>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02050>
02051> ------------------------------------------------------------------------------
02052> 001:0105------------------------------------------------------------------------
02053> ------------------------
02054> | ADD HYD (202trench ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
02055> ------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
02056>                       ID1 02:EX2           1.04     .016    1.67   8.22    .000
02057>                      +ID2 04:202           .12      .004    1.67  18.00    .000
02058>                       ========================================================
02059>                       SUM 09:202trench     1.16     .021    1.67   9.23    .000
02060>
02061>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02062>
02063> ------------------------------------------------------------------------------
02064> 001:0106------------------------------------------------------------------------
02065> ----------------------
02066> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .000  (cms)
02067> | TotalHyd 09:202tre |   Number of inlets in system [NINLET] =       1
02068> ----------------------   Total minor system capacity        =    .000  (cms)
02069>                          Total major system storage [TMJSTO] =      7.(cu.m.)
02070>
02071>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
02072>                                    (ha)     (cms)     (hrs)     (mm)    (cms)
02073>      TOTAL HYD.   09:202tre       1.16      .021     1.667    9.227     .000
02074>      ============================================================================
02075>      MAJOR SYST   02:202OVL       1.03      .020     1.667    9.227     .000
02076>      MINOR SYST   04:INFIL         .13      .000     1.000    9.250     .000
02077>
02078>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02079>
02080>      Maximum MAJOR SYSTEM storage used =      7.(cu.m.)
02081>
02082> ------------------------------------------------------------------------------
02083> 001:0107------------------------------------------------------------------------
02084> ----------------------
02085> | CALIB NASHYD       |   Area    (ha)=     .18   Curve Number   (CN)=55.00
02086> | 05:203    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
02087> ----------------------   U.H. Tp(hrs)=    .500
02088>
02089>      Unit Hyd Qpeak  (cms)=     .014
02090>
02091>      PEAK FLOW       (cms)=     .006 (i)
02092>      TIME TO PEAK    (hrs)=    1.667
02093>      RUNOFF VOLUME    (mm)=   17.999
02094>      TOTAL RAINFALL   (mm)=   75.828
02095>      RUNOFF COEFFICIENT   =     .237
02096>
02097>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02098>
02099> ------------------------------------------------------------------------------
02100> 001:0108------------------------------------------------------------------------
02101> ----------------------
02102> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .000  (cms)
02103> | TotalHyd 05:203    |   Number of inlets in system [NINLET] =       1
02104> ----------------------   Total minor system capacity        =    .000  (cms)
02105>                          Total major system storage [TMJSTO] =     40.(cu.m.)
02106>
02107>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
02108>                                    (ha)     (cms)     (hrs)     (mm)    (cms)
02109>      TOTAL HYD.   05:203           .18      .006     1.667   17.999     .000
02110>      ============================================================================
02111>      MAJOR SYST   03:203OVL        .00      .000      .000     .000     .000
02112>      MINOR SYST   04:INFIL         .18      .000     1.000   18.044     .000
02113>
02114>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02115>
02116>      Maximum MAJOR SYSTEM storage used =      28.(cu.m.)
02117>
02118> ------------------------------------------------------------------------------
02119> 001:0109------------------------------------------------------------------------
02120> ----------------------
02121> | CALIB STANDHYD     |   Area    (ha)=     .31
02122> | 06:C204   DT= 1.00 |   Total Imp(%)=   31.00   Dir. Conn.(%)=    5.00
02123> ----------------------
02124>                                IMPERVIOUS    PERVIOUS (i)
02125>      Surface Area     (ha)=         .10          .21
02126>      Dep. Storage     (mm)=        2.00         5.00
02127>      Average Slope     (%)=        1.80         1.80
02128>      Length            (m)=       40.00        10.00
02129>      Mannings n             =       .013         .025
02130>
02131>      Max.eff.Inten.(mm/hr)=     232.24        98.18
02132>                  over (min)        1.00         2.00
02133>      Storage Coeff.  (min)=        .88 (ii)    1.68 (ii)
02134>      Unit Hyd. Tpeak (min)=       1.00         2.00
02135>      Unit Hyd. peak  (cms)=       1.15          .62
02136>                                                          *TOTALS*
02137>      PEAK FLOW       (cms)=        .01          .05          .059 (iii)
02138>      TIME TO PEAK    (hrs)=       1.00         1.02         1.000
02139>      RUNOFF VOLUME    (mm)=      73.83        23.36        25.883
02140>      TOTAL RAINFALL   (mm)=      75.83        75.83        75.828
02141>      RUNOFF COEFFICIENT   =        .97          .31          .341
02142>
02143>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02144>            CN* =  55.0    Ia = Dep. Storage  (Above)
02145>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02146>            THAN THE STORAGE COEFFICIENT.
02147>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02148>
02149> ------------------------------------------------------------------------------
02150> 001:0110------------------------------------------------------------------------
02151> ----------------------
02152> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .001  (cms)
02153> | TotalHyd 06:C204   |   Number of inlets in system [NINLET] =       1
02154> ----------------------   Total minor system capacity        =    .001  (cms)
02155>                          Total major system storage [TMJSTO] =    108.(cu.m.)
02156>
02157>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
02158>                                    (ha)     (cms)     (hrs)     (mm)    (cms)
02159>      TOTAL HYD.   06:C204           .31      .059     1.000   25.883     .000
02160>      ============================================================================
02161>      MAJOR SYST   05:204OVL        .00      .000      .000     .000     .000
02162>      MINOR SYST   04:INFIL         .31      .001      .633   25.893     .000
02163>
02164>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02165>
02166>      Maximum MAJOR SYSTEM storage used =      73.(cu.m.)
02167>
02168> ------------------------------------------------------------------------------
02169> 001:0111------------------------------------------------------------------------
02170> ----------------------
02171> | CALIB STANDHYD     |   Area    (ha)=    1.13
02172> | 07:C205   DT= 1.00 |   Total Imp(%)=   67.00   Dir. Conn.(%)=   35.00
02173> ----------------------
02174>                                IMPERVIOUS    PERVIOUS (i)
02175>      Surface Area     (ha)=         .76          .37
02176>      Dep. Storage     (mm)=        2.00         5.00
02177>      Average Slope     (%)=        1.80         1.80
02178>      Length            (m)=       40.00        10.00
02179>      Mannings n             =       .013         .025
02180>
02181>      Max.eff.Inten.(mm/hr)=     232.24       193.69
02182>                  over (min)        1.00         1.00
02183>      Storage Coeff.  (min)=        .88 (ii)    1.49 (ii)
02184>      Unit Hyd. Tpeak (min)=       1.00         1.00
02185>      Unit Hyd. peak  (cms)=       1.15          .83
02186>                                                          *TOTALS*
02187>      PEAK FLOW       (cms)=        .25          .18          .436 (iii)
02188>      TIME TO PEAK    (hrs)=       1.00         1.00         1.000
02189>      RUNOFF VOLUME    (mm)=      73.83        30.04        45.367
02190>      TOTAL RAINFALL   (mm)=      75.83        75.83        75.828
02191>      RUNOFF COEFFICIENT   =        .97          .40          .598
02192>
02193>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02194>            CN* =  55.0    Ia = Dep. Storage  (Above)
02195>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02196>            THAN THE STORAGE COEFFICIENT.
02197>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02198>
02199> ------------------------------------------------------------------------------
02200> 001:0112------------------------------------------------------------------------
02201> ----------------------
02202> | ADD HYD (to205     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
02203> ----------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
02204>                       ID1 01:201OVLD        .29     .014    2.18  11.71    .000
02205>                      +ID2 02:202OVLD       1.03     .020    1.67   9.23    .000
02206>                      +ID3 03:203OVLD        .00     .000     .00    .00    .000
02207>                      +ID4 05:204OVLD        .00     .000     .00    .00    .000
02208>                      +ID5 07:C205          1.13     .436    1.00  45.37    .000
02209>                       ========================================================
02210>                       SUM 10:to205          2.45     .436    1.00  26.16    .000
02211>
02212>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02213>
02214> ------------------------------------------------------------------------------
02215> 001:0113------------------------------------------------------------------------
02216> ----------------------
02217> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .023  (cms)
02218> | TotalHyd 10:to205  |   Number of inlets in system [NINLET] =       1
02219> ----------------------   Total minor system capacity        =    .023  (cms)
02220>                          Total major system storage [TMJSTO] =     761.(cu.m.)
02221>
02222>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
02223>                                    (ha)     (cms)     (hrs)     (mm)    (cms)
02224>      TOTAL HYD.   10:to205         2.45      .436     1.000   26.163     .000
02225>      ============================================================================
02226>      MAJOR SYST   01:205OVL        .00      .000      .000     .000     .000
02227>      MINOR SYST   02:INFIL        2.45      .023      .683   26.163     .000
02228>
02229>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02230>
02231>      Maximum MAJOR SYSTEM storage used =     414.(cu.m.)
02232>
02233> ------------------------------------------------------------------------------
02234> 001:0114------------------------------------------------------------------------
02235> ----------------------
02236> | CALIB NASHYD       |   Area    (ha)=     .09   Curve Number   (CN)=32.00
02237> | 07:EX3    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
02238> ----------------------   U.H. Tp(hrs)=    .500
02239>
02240>      Unit Hyd Qpeak  (cms)=     .007
02241>
02242>      PEAK FLOW       (cms)=     .001 (i)
02243>      TIME TO PEAK    (hrs)=    1.667
02244>      RUNOFF VOLUME    (mm)=    8.205
02245>      TOTAL RAINFALL   (mm)=   75.828
02246>      RUNOFF COEFFICIENT   =     .108
02247>
02248>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02249>
02250> ------------------------------------------------------------------------------
02251> 001:0115------------------------------------------------------------------------
02252> ----------------------
02253> | CALIB NASHYD       |   Area    (ha)=     .05   Curve Number   (CN)=55.00
02254> | 04:206    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
02255> ----------------------   U.H. Tp(hrs)=    .250
02256>
02257>      Unit Hyd Qpeak  (cms)=     .008
02258>
02259>      PEAK FLOW       (cms)=     .003 (i)
02260>      TIME TO PEAK    (hrs)=    1.333
02261>      RUNOFF VOLUME    (mm)=   17.992
02262>      TOTAL RAINFALL   (mm)=   75.828
02263>      RUNOFF COEFFICIENT   =     .237
02264>
02265>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02266>
02267> ------------------------------------------------------------------------------
02268> 001:0116------------------------------------------------------------------------
02269> ----------------------
02270> | ADD HYD (toDitch   ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
02271> ----------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
02272>                       ID1 04:206            .05     .003    1.33  17.99    .000
02273>                      +ID2 07:EX3            .09     .001    1.67   8.20    .000
02274>                       ========================================================
02275>                       SUM 10:toDitch         .14     .004    1.42  11.70    .000
02276>
02277>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02278>
02279> ------------------------------------------------------------------------------
02280> 001:0117------------------------------------------------------------------------
02281> --------------------
02282> | CHICAGO STORM    |    IDF curve parameters: A=3048.220
02283> | Ptotal= 86.60 mm |                          B=  10.030
02284> --------------------                          C=    .888
02285>                          used in:   INTENSITY =  A / (t + B)^C
02286>
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                        Duration of storm  =  3.00 hrs
                        Storm time step    =  5.00 min
                        Time to peak ratio =   .33

              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
               .08   5.146 |    .83  43.789 |   1.58  19.207 |   2.33   7.218
               .17   5.748 |    .92 106.492 |   1.67  16.378 |   2.42   6.730
               .25   6.505 |   1.00 274.730 |   1.75  14.228 |   2.50   6.302
               .33   7.486 |   1.08 136.493 |   1.83  12.548 |   2.58   5.925
               .42   8.799 |   1.17  76.628 |   1.92  11.204 |   2.67   5.589
               .50  10.637 |   1.25  50.754 |   2.00  10.107 |   2.75   5.289
               .58  13.366 |   1.33  36.943 |   2.08   9.197 |   2.83   5.020
               .67  17.763 |   1.42  28.579 |   2.17   8.431 |   2.92   4.776
               .75  25.782 |   1.50  23.067 |   2.25   7.779 |   3.00   4.554

001:0118----------------------------------------------------------------------
| CALIB NASHYD      |   Area    (ha)=    1.04   Curve Number   (CN)=32.00
| 01:EX1    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
                      |   U.H. Tp(hrs)=    .500

     Unit Hyd Qpeak  (cms)=     .079

     PEAK FLOW       (cms)=     .022 (i)
     TIME TO PEAK    (hrs)=    1.667
     RUNOFF VOLUME    (mm)=   10.716
     TOTAL RAINFALL   (mm)=   86.599
     RUNOFF COEFFICIENT   =     .124

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0119----------------------------------------------------------------------
| CALIB NASHYD      |   Area    (ha)=    1.04   Curve Number   (CN)=32.00
| 02:EX2    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
                      |   U.H. Tp(hrs)=    .500

     Unit Hyd Qpeak  (cms)=     .079

     PEAK FLOW       (cms)=     .022 (i)
     TIME TO PEAK    (hrs)=    1.667
     RUNOFF VOLUME    (mm)=   10.716
     TOTAL RAINFALL   (mm)=   86.599
     RUNOFF COEFFICIENT   =     .124

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0120----------------------------------------------------------------------
| CALIB STANDHYD    |   Area    (ha)=     .27
| 03:C201   DT= 1.00 |   Total Imp(%)=   28.00   Dir. Conn.(%)=    5.00

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .08         .19
     Dep. Storage     (mm)=      2.00        5.00
     Average Slope     (%)=      1.80        1.80
     Length            (m)=     40.00       10.00
     Mannings n             =      .013        .025

     Max.eff.Inten.(mm/hr)=     274.73      120.91
                   over (min)       1.00        2.00
     Storage Coeff.  (min)=       .82 (ii)    1.56 (ii)
     Unit Hyd. Tpeak (min)=      1.00        2.00
     Unit Hyd. peak  (cms)=      1.19         .65
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .01         .06          .067 (iii)
     TIME TO PEAK    (hrs)=      1.00        1.00         1.000
     RUNOFF VOLUME    (mm)=     84.60       28.54        31.339
     TOTAL RAINFALL   (mm)=     86.60       86.60        86.599
     RUNOFF COEFFICIENT   =       .98         .33          .362

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  55.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0121----------------------------------------------------------------------
| ADD HYD (201trench ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
                       |                  (ha)     (cms)   (hrs)  (mm)   (cms)
                       ID1 01:EX1          1.04     .022    1.67  10.72    .000
                      +ID2 03:C201          .27     .067    1.00  31.34    .000
                       ==========================================================
                       SUM 10:201trench     1.31     .068    1.00  14.97    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0122----------------------------------------------------------------------
| COMPUTE DUALHYD   |   Average inlet capacities   [CINLET] =    .001  (cms)
| TotalHyd 10:201tre |   Number of inlets in system [NINLET] =      1
                     |   Total minor system capacity        =    .001  (cms)
                     |   Total major system storage [TMJSTO] =    108.(cu.m.)

                ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                (ha)     (cms)     (hrs)     (mm)    (cms)
     TOTAL HYD.   10:201tre       1.31     .068     1.000   14.966     .000
     ======================================================================
     MAJOR SYST   01:201OVL         .51     .026     1.783   14.966     .000
     MINOR SYST   03:INFIL         .80     .001      .633   14.967     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

     Maximum MAJOR SYSTEM storage used =     108.(cu.m.)

001:0123----------------------------------------------------------------------
| CALIB NASHYD      |   Area    (ha)=     .12   Curve Number   (CN)=55.00
| 04:202    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
                      |   U.H. Tp(hrs)=    .500

     Unit Hyd Qpeak  (cms)=     .009

     PEAK FLOW       (cms)=     .006 (i)
     TIME TO PEAK    (hrs)=    1.667
     RUNOFF VOLUME    (mm)=   22.998
     TOTAL RAINFALL   (mm)=   86.599
     RUNOFF COEFFICIENT   =     .266

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0124----------------------------------------------------------------------
| ADD HYD (202trench ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
                       |                  (ha)     (cms)   (hrs)  (mm)   (cms)
                       ID1 02:EX2          1.04     .022    1.67  10.72    .000
                      +ID2 04:202           .12     .006    1.67  23.00    .000
                       ==========================================================
                       SUM 09:202trench     1.16     .027    1.67  11.99    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0125----------------------------------------------------------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .000  (cms)
| TotalHyd 09:202tre |   Number of inlets in system [NINLET] =      1
                     |   Total minor system capacity        =    .000  (cms)
                     |   Total major system storage [TMJSTO] =      7.(cu.m.)

                ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                (ha)     (cms)     (hrs)     (mm)    (cms)
     TOTAL HYD.   09:202tre       1.16     .027     1.667   11.986     .000
     ======================================================================
     MAJOR SYST   02:202OVL        1.06     .027     1.667   11.986     .000
     MINOR SYST   04:INFIL         .10     .000      .917   12.040     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

     Maximum MAJOR SYSTEM storage used =       7.(cu.m.)

001:0126----------------------------------------------------------------------
| CALIB NASHYD      |   Area    (ha)=     .18   Curve Number   (CN)=55.00
| 05:203    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
                      |   U.H. Tp(hrs)=    .500

     Unit Hyd Qpeak  (cms)=     .014

     PEAK FLOW       (cms)=     .008 (i)
     TIME TO PEAK    (hrs)=    1.667
     RUNOFF VOLUME    (mm)=   23.002
     TOTAL RAINFALL   (mm)=   86.599
     RUNOFF COEFFICIENT   =     .266

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0127----------------------------------------------------------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .000  (cms)
| TotalHyd 05:203    |   Number of inlets in system [NINLET] =      1
                     |   Total minor system capacity        =    .000  (cms)
                     |   Total major system storage [TMJSTO] =     40.(cu.m.)

                ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                (ha)     (cms)     (hrs)     (mm)    (cms)
     TOTAL HYD.   05:203          .18     .008     1.667   23.002     .000
     ======================================================================
     MAJOR SYST   03:203OVL        .00     .000      .000     .000     .000
     MINOR SYST   04:INFIL         .18     .000     1.000   23.011     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

     Maximum MAJOR SYSTEM storage used =      37.(cu.m.)

001:0128----------------------------------------------------------------------
| CALIB STANDHYD     |   Area    (ha)=     .31
| 06:C204   DT= 1.00 |   Total Imp(%)=   31.00   Dir. Conn.(%)=    5.00

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .10         .21
     Dep. Storage     (mm)=      2.00        5.00
     Average Slope     (%)=      1.80        1.80
     Length            (m)=     40.00       10.00
     Mannings n             =      .013        .025

     Max.eff.Inten.(mm/hr)=     274.73      130.56
                   over (min)       1.00        2.00
     Storage Coeff.  (min)=       .82 (ii)    1.54 (ii)
     Unit Hyd. Tpeak (min)=      1.00        2.00
     Unit Hyd. peak  (cms)=      1.19         .65
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .01         .07          .079 (iii)
     TIME TO PEAK    (hrs)=      1.00        1.00         1.000
     RUNOFF VOLUME    (mm)=     84.60       29.43        32.187
     TOTAL RAINFALL   (mm)=     86.60       86.60        86.599
     RUNOFF COEFFICIENT   =       .98         .34          .372

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  55.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0129----------------------------------------------------------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .001  (cms)
| TotalHyd 06:C204   |   Number of inlets in system [NINLET] =      1
                     |   Total minor system capacity        =    .001  (cms)
                     |   Total major system storage [TMJSTO] =    108.(cu.m.)

                ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                (ha)     (cms)     (hrs)     (mm)    (cms)
     TOTAL HYD.   06:C204         .31     .079     1.000   32.187     .000
     ======================================================================
     MAJOR SYST   05:204OVL        .00     .000      .000     .000     .000
     MINOR SYST   04:INFIL         .31     .001      .600   32.188     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

     Maximum MAJOR SYSTEM storage used =      92.(cu.m.)

001:0130----------------------------------------------------------------------
| CALIB STANDHYD     |   Area    (ha)=    1.13
| 07:C205   DT= 1.00 |   Total Imp(%)=   67.00   Dir. Conn.(%)=   35.00

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .76         .37
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02541>      Dep. Storage     (mm)=       2.00         5.00
02542>      Average Slope     (%)=       1.80         1.80
02543>      Length            (m)=      40.00        10.00
02544>      Mannings n           =       .013         .025
02545>
02546>      Max.eff.Inten.(mm/hr)=     274.73       252.70
02547>                over (min)        1.00         1.00
02548>      Storage Coeff.  (min)=        .82 (ii)    1.37 (ii)
02549>      Unit Hyd. Tpeak (min)=       1.00         1.00
02550>      Unit Hyd. peak  (cms)=       1.19          .88
02551>                                                        *TOTALS*
02552>      PEAK FLOW       (cms)=        .30          .24          .541 (iii)
02553>      TIME TO PEAK    (hrs)=       1.00         1.00         1.000
02554>      RUNOFF VOLUME    (mm)=      84.60        37.28        53.839
02555>      TOTAL RAINFALL   (mm)=      86.60        86.60        86.599
02556>      RUNOFF COEFFICIENT   =        .98          .43          .622
02557>
02558>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02559>            CN* =  55.0    Ia = Dep. Storage  (Above)
02560>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02561>            THAN THE STORAGE COEFFICIENT.
02562>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02563>
02564> ------------------------------------------------------------------------------
02565> 001:0131--------------------------------------------------------------------------
02566> ------------------------
02567> | ADD HYD (to205     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
02568> ----------------------- (ha)     (cms)   (hrs)   (mm)   (cms)
02569>                        ID1 01:201OVLD        .51     .026    1.78  14.97    .000
02570>                      +ID2 02:202OVLD        1.06     .027    1.67  11.99    .000
02571>                      +ID3 03:203OVLD         .00     .000     .00    .00    .000
02572>                      +ID4 05:204OVLD         .00     .000     .00    .00    .000
02573>                      +ID5 07:C205           1.13     .541    1.00  53.84    .000
02574>                       ============================================================
02575>                       SUM 10:to205          2.70     .541    1.00  30.05    .000
02576>
02577>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02578>
02579> ------------------------------------------------------------------------------
02580> 001:0132--------------------------------------------------------------------------
02581> ----------------------
02582> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .023  (cms)
02583> | TotalHyd 10:to205  |   Number of inlets in system [NINLET] =       1
02584> ----------------------   Total minor system capacity         =    .023  (cms)
02585>                          Total major system storage [TMJSTO] =     761.(cu.m.)
02586>
02587>                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
02588>                                   (ha)     (cms)     (hrs)     (mm)    (cms)
02589>      TOTAL HYD.   10:to205        2.70      .541     1.000   30.053     .000
02590>      ================================================================================
02591>      MAJOR SYST   01:205OVL         .00      .000      .000     .000     .000
02592>      MINOR SYST   02:INFIL        2.70      .023      .683   30.072     .000
02593>
02594>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02595>
02596>      Maximum MAJOR SYSTEM storage used =     576.(cu.m.)
02597>
02598> ------------------------------------------------------------------------------
02599> 001:0133--------------------------------------------------------------------------
02600> ----------------------
02601> | CALIB NASHYD       |   Area    (ha)=     .09   Curve Number   (CN)=32.00
02602> | 07:EX3    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
02603> ----------------------   U.H. Tp(hrs)=    .500
02604>
02605>      Unit Hyd Qpeak  (cms)=     .007
02606>
02607>      PEAK FLOW       (cms)=     .002 (i)
02608>      TIME TO PEAK    (hrs)=    1.667
02609>      RUNOFF VOLUME    (mm)=   10.706
02610>      TOTAL RAINFALL   (mm)=   86.599
02611>      RUNOFF COEFFICIENT   =     .124
02612>
02613>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02614>
02615> ------------------------------------------------------------------------------
02616> 001:0134--------------------------------------------------------------------------
02617> ----------------------
02618> | CALIB NASHYD       |   Area    (ha)=     .05   Curve Number   (CN)=55.00
02619> | 04:206    DT= 5.00 |   Ia      (mm)=   5.000   # of Linear Res.(N)= 3.00
02620> ----------------------   U.H. Tp(hrs)=    .250
02621>
02622>      Unit Hyd Qpeak  (cms)=     .008
02623>
02624>      PEAK FLOW       (cms)=     .004 (i)
02625>      TIME TO PEAK    (hrs)=    1.333
02626>      RUNOFF VOLUME    (mm)=   22.993
02627>      TOTAL RAINFALL   (mm)=   86.599
02628>      RUNOFF COEFFICIENT   =     .266
02629>
02630>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02631>
02632> ------------------------------------------------------------------------------
02633> 001:0135--------------------------------------------------------------------------
02634> ------------------------
02635> | ADD HYD (toDitch   ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
02636> ------------------------ (ha)     (cms)   (hrs)   (mm)   (cms)
02637>                        ID1 04:206           .05     .004    1.33  22.99    .000
02638>                      +ID2 07:EX3            .09     .002    1.67  10.71    .000
02639>                       ============================================================
02640>                       SUM 10:toDitch        .14     .005    1.33  15.09    .000
02641>
02642>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02643>
02644> ------------------------------------------------------------------------------
02645> 001:0136--------------------------------------------------------------------------
02646>       FINISH
02647> ------------------------------------------------------------------------------
02648> ********************************************************************************
02649>      WARNINGS / ERRORS / NOTES
02650>      ------------------------
02651>    Simulation ended on 2021-07-14     at 12:15:15
02652> ================================================================================
02653>
02654>
```