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PRDA 1..... 25 YR
Unit Hyd. Summary ..... 5.05

PRDA 1..... 50 YR
Unit Hyd. Summary ..... 5.06

PRDA 1..... 100 YR
Unit Hyd. Summary ..... 5.07

********** HYG ADDITION **********

DP 1..... 2 YR
Node: Addition Summary ..... 6.01

DP 1..... 10 YR
Node: Addition Summary ..... 6.04

DP 1..... 25 YR
Node: Addition Summary ..... 6.07

DP 1..... 50 YR
Node: Addition Summary ..... 6.10

DP 1..... 100 YR
Node: Addition Summary ..... 6.13

MASTER DESIGN STORM SUMMARY

Network Storm Collection: Litchfield Co.

| Return Event | Total Depth in | Rainfall Type | RNF ID |
|---|---|---|---|
| 2 YR | 3.2000 | Synthetic Curve | TypeIII 24hr |
| 10 YR | 4.7000 | Synthetic Curve | TypeIII 24hr |
| 25 YR | 5.5000 | Synthetic Curve | TypeIII 24hr |
| 50 YR | 6.2000 | Synthetic Curve | TypeIII 24hr |
| 100 YR | 7.0000 | Synthetic Curve | TypeIII 24hr |

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

| Node ID | Type | Return Event | HYG Vol ac-ft | Trun | Qpeak hrs | Qpeak cfs | Max WSEL ft | Max Pond Storage ac-ft |
|---|---|---|---|---|---|---|---|---|
| *DP 1 | JCT | 2 | .351 | | 12.4500 | 1.95 | | |
| *DP 1 | JCT | 10 | .942 | | 12.4000 | 6.83 | | |
| *DP 1 | JCT | 25 | 1.326 | | 12.3500 | 10.12 | | |
| *DP 1 | JCT | 50 | 1.691 | | 12.3500 | 13.23 | | |
| *DP 1 | JCT | 100 | 2.135 | | 12.3500 | 16.99 | | |
| PRDA 1 | AREA | 2 | .351 | | 12.4500 | 1.95 | | |
| PRDA 1 | AREA | 10 | .942 | | 12.4000 | 6.83 | | |
| PRDA 1 | AREA | 25 | 1.326 | | 12.3500 | 10.12 | | |
| PRDA 1 | AREA | 50 | 1.691 | | 12.3500 | 13.23 | | |
| PRDA 1 | AREA | 100 | 2.135 | | 12.3500 | 16.99 | | |

File.... C:\Program Files\Haestad\PPKW\PPW\
Title... Project Date: 4/16/2009
Project Engineer: Curtis Jones
Project Title: Watershed
Project Comments:

DESIGN STORMS SUMMARY

Design Storm File,ID = Litchfield Co.

Storm Tag Name = 2 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 2 yr
Total Rainfall Depth= 3.2000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 10 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 10 yr
Total Rainfall Depth= 4.7000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 25 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 25 yr
Total Rainfall Depth= 5.5000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 50 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 50 yr
Total Rainfall Depth= 6.2000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 100 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 100 yr
Total Rainfall Depth= 7.0000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

DESIGN STORMS SUMMARY

Design Storm File,ID = Litchfield Co.

Storm Tag Name = 2 YR
---
Data Type, File, ID = Synthetic Storm  TypeIII 24hr
Storm Frequency = 2 yr
Total Rainfall Depth= 3.2000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs  Step= .1000 hrs  End= 24.0000 hrs

Storm Tag Name = 10 YR
---
Data Type, File, ID = Synthetic Storm  TypeIII 24hr
Storm Frequency = 10 yr
Total Rainfall Depth= 4.7000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs  Step= .1000 hrs  End= 24.0000 hrs

Storm Tag Name = 25 YR
---
Data Type, File, ID = Synthetic Storm  TypeIII 24hr
Storm Frequency = 25 yr
Total Rainfall Depth= 5.5000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs  Step= .1000 hrs  End= 24.0000 hrs

Storm Tag Name = 50 YR
---
Data Type, File, ID = Synthetic Storm  TypeIII 24hr
Storm Frequency = 50 yr
Total Rainfall Depth= 6.2000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs  Step= .1000 hrs  End= 24.0000 hrs

Storm Tag Name = 100 YR
---
Data Type, File, ID = Synthetic Storm  TypeIII 24hr
Storm Frequency = 100 yr
Total Rainfall Depth= 7.0000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs  Step= .1000 hrs  End= 24.0000 hrs

File.... C:\Program Files\Haestad\PPKW\PPW\3092 PRDA 1.PPW

TIME OF CONCENTRATION CALCULATOR

Segment #1: Tc: TR-55 Sheet

| | | |
|---|---|---|
| Mannings n | .3000 | |
| Hydraulic Length | 250.00 | ft |
| 2yr, 24hr P | 3.2000 | in |
| Slope | .056000 | ft/ft |
| Avg.Velocity | .18 | ft/sec |

Segment #1 Time: .3920 hrs

Segment #2: Tc: TR-55 Shallow

| | | |
|---|---|---|
| Hydraulic Length | 865.00 | ft |
| Slope | .175000 | ft/ft |
| Unpaved | | |
| Avg.Velocity | 6.75 | ft/sec |

Segment #2 Time: .0356 hrs

Segment #3: Tc: TR-55 Channel

| | | |
|---|---|---|
| Flow Area | 2.5000 | sq.ft |
| Wetted Perimeter | 5.50 | ft |
| Hydraulic Radius | .45 | ft |
| Slope | .028000 | ft/ft |
| Mannings n | .0400 | |
| Hydraulic Length | 410.00 | ft |
| Avg.Velocity | 3.68 | ft/sec |

Segment #3 Time: .0309 hrs

Total Tc: .4585 hrs

File.... C:\Program Files\Haestad\PPKW\PPW\3092 PRDA 1.PPW

---

Tc Equations used...

---

==== SCS TR-55 Sheet Flow ==========

Tc = (.007 * ((n * Lf)**0.8)) / ((P**.5) * (Sf**.4))

Where: Tc = Time of concentration, hrs
n = Mannings n
Lf = Flow length, ft
P = 2yr, 24hr Rain depth, inches
Sf = Slope, %

==== SCS TR-55 Shallow Concentrated Flow ==========

Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved surface:
V = 20.3282 * (Sf**0.5)

Tc = (Lf / V) / (3600sec/hr)

Where: V = Velocity, ft/sec
Sf = Slope, ft/ft
Tc = Time of concentration, hrs
Lf = Flow length, ft

File.... C:\Program Files\Haestad\PPKW\PPW\3092 PRDA 1.PPW

==== SCS Channel Flow ==========

R = Aq / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

Tc = (Lf / V) / (3600sec/hr)

Where: R = Hydraulic radius
Aq = Flow area, sq.ft.
Wp = Wetted perimeter, ft
V = Velocity, ft/sec
Sf = Slope, ft/ft
n = Mannings n
Tc = Time of concentration, hrs
Lf = Flow length, ft

File.... C:\Program Files\Haestad\PPKW\PPW\3092 PRDA 1.PPW

RUNOFF CURVE NUMBER DATA

| Soil/Surface Description | CN | Area acres | Impervious Adjustment %C | %UC | Adjusted CN |
|---|---|---|---|---|---|
| Soil Type B - Wooded | 55 | 4.290 | | | 55.00 |
| Soil Type B - Grass/Meadow | 60 | 2.560 | | | 60.00 |
| Soil Type C - Wooded | 70 | 1.600 | | | 70.00 |
| Soil Type C - Grass/Meadow | 72 | .750 | | | 72.00 |
| Impervious | 98 | .280 | | | 98.00 |
| COMPOSITE AREA & WEIGHTED CN ---> | | 9.480 | | | 61.50 (61) |

# SCS UNIT HYDROGRAPH METHOD
(Computational Notes)

DEFINITION OF TERMS: ----------

At = Total area (acres): At = Ai+Ap
Ai = Impervious area (acres)
Ap = Pervious area (acres)
CNi = Runoff curve number for impervious area
CNp = Runoff curve number for pervious area
fLoss = f loss constant infiltration (depth/time)
gKs = Saturated Hydraulic Conductivity (depth/time)
Md = Volumetric Moisture Deficit
Psi = Capillary Suction (length)
hK = Horton Infiltration Decay Rate (time^-1)
fo = Initial Infiltration Rate (depth/time)
fc = Ultimate(capacity)Infiltration Rate (depth/time)
Ia = Initial Abstraction (length)
dt = Computational increment (duration of unit excess rainfall)
Default dt is smallest value of 0.1333Tc, rtm, and th
(Smallest dt is then adjusted to match up with Tp)
UDdt = User specified override computational main time increment
(only used if UDdt is => .1333Tc)
D(t) = Point on distribution curve (fraction of P) for time step t

K = 2 / (1 + (Tr/Tp)): default K = 0.75: (for Tr/Tp = 1.67)
Ks = Hydrograph shape factor
= Unit Conversions * K:
= ((1hr/3600sec) * (1ft/12in) * ((5280ft)**2/sq.mi)) * K
Default Ks = 645.333 * 0.75 = 484

Lag = Lag time from center of excess runoff (dt) to Tp: Lag = 0.6Tc
P = Total precipitation depth, inches
Pa(t) = Accumulated rainfall at time step t
Pi(t) = Incremental rainfall at time step t
qp = Peak discharge (cfs) for 1in. runoff, for 1hr, for 1 sq.mi.
= (Ks * A * Q) / Tp (where Q = 1in. runoff, A=sq.mi.)
Qu(t) = Unit hydrograph ordinate (cfs) at time step t
Q(t) = Final hydrograph ordinate (cfs) at time step t
Rai(t) = Accumulated runoff (inches) at time step t for impervious area
Rap(t) = Accumulated runoff (inches) at time step t for pervious area
Rii(t) = Incremental runoff (inches) at time step t for impervious area
Rip(t) = Incremental runoff (inches) at time step t for pervious area
R(t) = Incremental weighted total runoff (inches)
Rtm = Time increment for rainfall table
Si = S for impervious area: Si = (1000/CNi) - 10
Sp = S for pervious area: Sp = (1000/CNp) - 10
t = Time step (row) number
Tc = Time of concentration
Tb = Time (hrs) of entire unit hydrograph: Tb = Tp + Tr
Tp = Time (hrs) to peak of a unit hydrograph: Tp = (dt/2) + Lag
Tr = Time (hrs) of receding limb of unit hydrograph: Tr = ratio of Tp

SCS UNIT HYDROGRAPH METHOD
(Computational Notes)

PRECIPITATION: ----------
Column (1): Time for time step t
Column (2): D(t) = Point on distribution curve for time step t
Column (3): Pi(t) = Pa(t) - Pa(t-1): Col.(4) - Preceding Col.(4)
Column (4): Pa(t) = D(t) x P: Col.(2) x P

PERVIOUS AREA RUNOFF (using SCS Runoff CN Method) ----------
Column (5): Rap(t) = Accumulated pervious runoff for time step t
If (Pa(t) is <= 0.2Sp) then use: Rap(t) = 0.0
If (Pa(t) is > 0.2Sp) then use:

Rap(t) = (Col.(4)-0.2Sp)**2 / (Col.(4)+0.8Sp)

Column (6): Rip(t) = Incremental pervious runoff for time step t
Rip(t) = Rap(t) - Rap(t-1)
Rip(t) = Col.(5) for current row - Col.(5) for preceding row.

IMPERVIOUS AREA RUNOFF ----------
Column (7 & 8)... Did not specify to use impervious areas.

INCREMENTAL WEIGHTED RUNOFF: ----------
Column (9): R(t) = (Ap/At) x Rip(t) + (Ai/At) x Rii(t)
R(t) = (Ap/At) x Col.(6) + (Ai/At) x Col.(8)

SCS UNIT HYDROGRAPH METHOD: ----------
Column (10): Q(t) is computed with the SCS unit hydrograph method
using R() and Qu().

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm
Duration = 24.0000 hrs Rain Depth = 3.2000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - PRDA 1 2 YR
Tc = .4585 hrs
Drainage Area = 9.480 acres Runoff CN= 61

==========

| | | |
|---|---|---|
| Computational Time Increment | = | .06114 hrs |
| Computed Peak Time | = | 12.4716 hrs |
| Computed Peak Flow | = | 1.97 cfs |
| Time Increment for HYG File | = | .0500 hrs |
| Peak Time, Interpolated Output | = | 12.4500 hrs |
| Peak Flow, Interpolated Output | = | 1.95 cfs |

==========

DRAINAGE AREA

ID:PRDA 1
CN = 61
Area = 9.480 acres
S = 6.3934 in
0.2S = 1.2787 in

Cumulative Runoff

.4440 in
.351 ac-ft

HYG Volume... .351 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .45852 hrs (ID: PRDA 1)
Computational Incr, Tm = .06114 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

| | | |
|---|---|---|
| Unit peak, | qp = | 23.43 cfs |
| Unit peak time | Tp = | .30568 hrs |
| Unit receding limb, | Tr = | 1.22271 hrs |
| Total unit time, | Tb = | 1.52839 hrs |

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 10 year storm
Duration = 24.0000 hrs Rain Depth = 4.7000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - PRDA 1 10 YR
Tc = .4585 hrs
Drainage Area = 9.480 acres Runoff CN= 61

==========
Computational Time Increment = .06114 hrs
Computed Peak Time = 12.4105 hrs
Computed Peak Flow = 6.83 cfs

Time Increment for HYG File = .0500 hrs
Peak Time, Interpolated Output = 12.4000 hrs
Peak Flow, Interpolated Output = 6.83 cfs
==========

DRAINAGE AREA
---
ID:PRDA 1
CN = 61
Area = 9.480 acres
S = 6.3934 in
0.2S = 1.2787 in

Cumulative Runoff
---
1.1926 in
.942 ac-ft

HYG Volume... .942 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .45852 hrs (ID: PRDA 1)
Computational Incr, Tm = .06114 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 23.43 cfs
Unit peak time Tp = .30568 hrs
Unit receding limb, Tr = 1.22271 hrs
Total unit time, Tb = 1.52839 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm
Duration = 24.0000 hrs Rain Depth = 5.5000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - PRDA 1 25 YR
Tc = .4585 hrs
Drainage Area = 9.480 acres Runoff CN= 61

==========
Computational Time Increment = .06114 hrs
Computed Peak Time = 12.3494 hrs
Computed Peak Flow = 10.12 cfs

Time Increment for HYG File = .0500 hrs
Peak Time, Interpolated Output = 12.3500 hrs
Peak Flow, Interpolated Output = 10.12 cfs
==========

DRAINAGE AREA
---
ID:PRDA 1
CN = 61
Area = 9.480 acres
S = 6.3934 in
0.2S = 1.2787 in

Cumulative Runoff
---
1.6787 in
1.326 ac-ft

HYG Volume... 1.326 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .45852 hrs (ID: PRDA 1)
Computational Incr, Tm = .06114 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 23.43 cfs
Unit peak time Tp = .30568 hrs
Unit receding limb, Tr = 1.22271 hrs
Total unit time, Tb = 1.52839 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 50 year storm
Duration = 24.0000 hrs Rain Depth = 6.2000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - PRDA 1 50 YR
Tc = .4585 hrs
Drainage Area = 9.480 acres Runoff CN= 61

==========

| | | |
|---|---|---|
| Computational Time Increment | = | .06114 hrs |
| Computed Peak Time | = | 12.3494 hrs |
| Computed Peak Flow | = | 13.23 cfs |
| Time Increment for HYG File | = | .0500 hrs |
| Peak Time, Interpolated Output | = | 12.3500 hrs |
| Peak Flow, Interpolated Output | = | 13.23 cfs |

==========

DRAINAGE AREA

ID:PRDA 1
CN = 61
Area = 9.480 acres
S = 6.3934 in
0.2S = 1.2787 in

Cumulative Runoff

2.1405 in
1.691 ac-ft

HYG Volume... 1.691 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .45852 hrs (ID: PRDA 1)
Computational Incr, Tm = .06114 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

| | | |
|---|---|---|
| Unit peak, | qp = | 23.43 cfs |
| Unit peak time | Tp = | .30568 hrs |
| Unit receding limb, | Tr = | 1.22271 hrs |
| Total unit time, | Tb = | 1.52839 hrs |

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.0000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - PRDA 1 100 YR
Tc = .4585 hrs
Drainage Area = 9.480 acres Runoff CN= 61

==========

| | | |
|---|---|---|
| Computational Time Increment | = | .06114 hrs |
| Computed Peak Time | = | 12.3494 hrs |
| Computed Peak Flow | = | 16.99 cfs |
| Time Increment for HYG File | = | .0500 hrs |
| Peak Time, Interpolated Output | = | 12.3500 hrs |
| Peak Flow, Interpolated Output | = | 16.99 cfs |

==========

DRAINAGE AREA

ID:PRDA 1
CN = 61
Area = 9.480 acres
S = 6.3934 in
0.2S = 1.2787 in

Cumulative Runoff

2.7019 in
2.135 ac-ft

HYG Volume... 2.135 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .45852 hrs (ID: PRDA 1)
Computational Incr, Tm = .06114 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

| | | |
|---|---|---|
| Unit peak, | qp = | 23.43 cfs |
| Unit peak time | Tp = | .30568 hrs |
| Unit receding limb, | Tr = | 1.22271 hrs |
| Total unit time, | Tb = | 1.52839 hrs |

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 1

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 1 | PRDA 1 | | PRDA 1 | 2 YR |

INFLOWS TO: DP 1

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | PRDA 1 | 2 YR | .351 | 12.4500 | 1.95 |

TOTAL FLOW INTO: DP 1

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 1 | 2 YR | .351 | 12.4500 | 1.95 |

TOTAL NODE INFLOW...
HYG file =
HYG ID = DP 1
HYG Tag = 2 YR

| | |
|---|---|
| Peak Discharge = | 1.95 cfs |
| Time to Peak = | 12.4500 hrs |
| HYG Volume = | .351 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 11.8500 | .00 | .00 | .02 | .06 | .16 |
| 12.1000 | .34 | .62 | .94 | 1.26 | 1.55 |
| 12.3500 | 1.77 | 1.90 | 1.95 | 1.94 | 1.89 |
| 12.6000 | 1.80 | 1.68 | 1.55 | 1.42 | 1.30 |
| 12.8500 | 1.19 | 1.10 | 1.02 | .96 | .90 |
| 13.1000 | .85 | .81 | .77 | .73 | .71 |
| 13.3500 | .68 | .66 | .64 | .63 | .61 |
| 13.6000 | .60 | .59 | .58 | .57 | .56 |
| 13.8500 | .56 | .55 | .54 | .53 | .52 |
| 14.1000 | .51 | .51 | .50 | .49 | .48 |
| 14.3500 | .48 | .47 | .47 | .46 | .46 |
| 14.6000 | .45 | .45 | .44 | .44 | .44 |
| 14.8500 | .43 | .43 | .42 | .42 | .41 |
| 15.1000 | .41 | .41 | .40 | .40 | .39 |
| 15.3500 | .39 | .38 | .38 | .37 | .37 |
| 15.6000 | .36 | .36 | .35 | .35 | .34 |
| 15.8500 | .34 | .33 | .33 | .32 | .32 |
| 16.1000 | .31 | .31 | .30 | .30 | .29 |
| 16.3500 | .29 | .28 | .28 | .28 | .27 |
| 16.6000 | .27 | .27 | .27 | .26 | .26 |
| 16.8500 | .26 | .26 | .25 | .25 | .25 |
| 17.1000 | .25 | .24 | .24 | .24 | .24 |
| 17.3500 | .24 | .23 | .23 | .23 | .23 |
| 17.6000 | .22 | .22 | .22 | .22 | .21 |
| 17.8500 | .21 | .21 | .21 | .20 | .20 |
| 18.1000 | .20 | .19 | .19 | .19 | .19 |
| 18.3500 | .19 | .19 | .18 | .18 | .18 |
| 18.6000 | .18 | .18 | .18 | .18 | .18 |
| 18.8500 | .18 | .18 | .18 | .17 | .17 |
| 19.1000 | .17 | .17 | .17 | .17 | .17 |
| 19.3500 | .17 | .17 | .17 | .17 | .17 |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 19.6000 | .17 | .17 | .16 | .16 | .16 |
| 19.8500 | .16 | .16 | .16 | .16 | .16 |
| 20.1000 | .16 | .16 | .16 | .16 | .16 |
| 20.3500 | .16 | .15 | .15 | .15 | .15 |
| 20.6000 | .15 | .15 | .15 | .15 | .15 |
| 20.8500 | .15 | .15 | .15 | .15 | .15 |
| 21.1000 | .15 | .15 | .15 | .14 | .14 |
| 21.3500 | .14 | .14 | .14 | .14 | .14 |
| 21.6000 | .14 | .14 | .14 | .14 | .14 |
| 21.8500 | .14 | .14 | .14 | .14 | .14 |
| 22.1000 | .13 | .13 | .13 | .13 | .13 |
| 22.3500 | .13 | .13 | .13 | .13 | .13 |
| 22.6000 | .13 | .13 | .13 | .13 | .13 |
| 22.8500 | .13 | .12 | .12 | .12 | .12 |
| 23.1000 | .12 | .12 | .12 | .12 | .12 |
| 23.3500 | .12 | .12 | .12 | .12 | .12 |
| 23.6000 | .12 | .12 | .11 | .11 | .11 |
| 23.8500 | .11 | .11 | .11 | .11 | .11 |
| 24.1000 | .10 | .10 | .09 | .07 | .06 |
| 24.3500 | .05 | .04 | .03 | .02 | .02 |
| 24.6000 | .01 | .01 | .01 | .01 | .00 |
| 24.8500 | .00 | .00 | .00 | .00 | .00 |
| 25.1000 | .00 | | | | |

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 1

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 1 | PRDA 1 | | PRDA 1 | 10 YR |

INFLOWS TO: DP 1

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | PRDA 1 | 10 YR | .942 | 12.4000 | 6.83 |

TOTAL FLOW INTO: DP 1

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 1 | 10 YR | .942 | 12.4000 | 6.83 |

TOTAL NODE INFLOW...
HYG file =
HYG ID  = DP 1
HYG Tag  = 10 YR

| | |
|---|---|
| Peak Discharge = | 6.83 cfs |
| Time to Peak = | 12.4000 hrs |
| HYG Volume = | .942 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 11.3000 | .00 | .00 | .00 | .01 | .02 |
| 11.5500 | .03 | .05 | .09 | .14 | .22 |
| 11.8000 | .33 | .49 | .72 | 1.04 | 1.51 |
| 12.0500 | 2.16 | 3.04 | 4.05 | 5.05 | 5.90 |
| 12.3000 | 6.50 | 6.83 | 6.83 | 6.64 | 6.31 |
| 12.5500 | 5.89 | 5.42 | 4.94 | 4.46 | 4.01 |
| 12.8000 | 3.60 | 3.25 | 2.94 | 2.70 | 2.50 |
| 13.0500 | 2.32 | 2.17 | 2.03 | 1.92 | 1.82 |
| 13.3000 | 1.74 | 1.67 | 1.60 | 1.55 | 1.51 |
| 13.5500 | 1.47 | 1.44 | 1.41 | 1.38 | 1.35 |
| 13.8000 | 1.33 | 1.30 | 1.28 | 1.26 | 1.24 |
| 14.0500 | 1.21 | 1.19 | 1.17 | 1.15 | 1.13 |
| 14.3000 | 1.11 | 1.10 | 1.08 | 1.07 | 1.05 |
| 14.5500 | 1.04 | 1.03 | 1.02 | 1.01 | 1.00 |
| 14.8000 | .98 | .97 | .96 | .95 | .94 |
| 15.0500 | .93 | .92 | .91 | .90 | .88 |
| 15.3000 | .87 | .86 | .85 | .84 | .83 |
| 15.5500 | .81 | .80 | .79 | .78 | .77 |
| 15.8000 | .75 | .74 | .73 | .72 | .71 |
| 16.0500 | .69 | .68 | .67 | .66 | .65 |
| 16.3000 | .64 | .63 | .62 | .61 | .60 |
| 16.5500 | .60 | .59 | .59 | .58 | .57 |
| 16.8000 | .57 | .56 | .56 | .55 | .55 |
| 17.0500 | .54 | .54 | .53 | .52 | .52 |
| 17.3000 | .51 | .51 | .50 | .50 | .49 |
| 17.5500 | .49 | .48 | .47 | .47 | .46 |
| 17.8000 | .46 | .45 | .45 | .44 | .43 |
| 18.0500 | .43 | .42 | .42 | .41 | .41 |
| 18.3000 | .40 | .40 | .40 | .39 | .39 |
| 18.5500 | .39 | .39 | .38 | .38 | .38 |
| 18.8000 | .38 | .38 | .37 | .37 | .37 |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 19.0500 | .37 | .37 | .37 | .36 | .36 |
| 19.3000 | .36 | .36 | .36 | .36 | .35 |
| 19.5500 | .35 | .35 | .35 | .35 | .35 |
| 19.8000 | .34 | .34 | .34 | .34 | .34 |
| 20.0500 | .34 | .33 | .33 | .33 | .33 |
| 20.3000 | .33 | .33 | .33 | .32 | .32 |
| 20.5500 | .32 | .32 | .32 | .32 | .32 |
| 20.8000 | .31 | .31 | .31 | .31 | .31 |
| 21.0500 | .31 | .31 | .31 | .30 | .30 |
| 21.3000 | .30 | .30 | .30 | .30 | .30 |
| 21.5500 | .30 | .29 | .29 | .29 | .29 |
| 21.8000 | .29 | .29 | .29 | .29 | .28 |
| 22.0500 | .28 | .28 | .28 | .28 | .28 |
| 22.3000 | .28 | .27 | .27 | .27 | .27 |
| 22.5500 | .27 | .27 | .27 | .27 | .26 |
| 22.8000 | .26 | .26 | .26 | .26 | .26 |
| 23.0500 | .26 | .25 | .25 | .25 | .25 |
| 23.3000 | .25 | .25 | .25 | .24 | .24 |
| 23.5500 | .24 | .24 | .24 | .24 | .24 |
| 23.8000 | .24 | .23 | .23 | .23 | .23 |
| 24.0500 | .22 | .22 | .20 | .18 | .15 |
| 24.3000 | .13 | .10 | .08 | .06 | .05 |
| 24.5500 | .04 | .03 | .02 | .02 | .01 |
| 24.8000 | .01 | .01 | .01 | .00 | .00 |
| 25.0500 | .00 | .00 | .00 | .00 | |

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 1

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 1 | PRDA 1 | | PRDA 1 | 25 YR |

INFLOWS TO: DP 1

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | PRDA 1 | 25 YR | 1.326 | 12.3500 | 10.12 |

TOTAL FLOW INTO: DP 1

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 1 | 25 YR | 1.326 | 12.3500 | 10.12 |

TOTAL NODE INFLOW...
HYG file =
HYG ID  = DP 1
HYG Tag  = 25 YR

| | |
|---|---|
| Peak Discharge = | 10.12 cfs |
| Time to Peak = | 12.3500 hrs |
| HYG Volume = | 1.326 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 10.8500 | .00 | .00 | .01 | .01 | .02 |
| 11.1000 | .03 | .05 | .06 | .08 | .11 |
| 11.3500 | .14 | .17 | .21 | .25 | .30 |
| 11.6000 | .36 | .44 | .55 | .70 | .90 |
| 11.8500 | 1.18 | 1.56 | 2.09 | 2.81 | 3.77 |
| 12.1000 | 5.06 | 6.50 | 7.88 | 9.01 | 9.78 |
| 12.3500 | 10.12 | 10.01 | 9.64 | 9.08 | 8.41 |
| 12.6000 | 7.69 | 6.97 | 6.26 | 5.60 | 5.02 |
| 12.8500 | 4.50 | 4.07 | 3.72 | 3.43 | 3.18 |
| 13.1000 | 2.96 | 2.77 | 2.61 | 2.47 | 2.35 |
| 13.3500 | 2.25 | 2.17 | 2.09 | 2.03 | 1.98 |
| 13.6000 | 1.93 | 1.89 | 1.85 | 1.81 | 1.78 |
| 13.8500 | 1.75 | 1.71 | 1.68 | 1.65 | 1.62 |
| 14.1000 | 1.59 | 1.56 | 1.53 | 1.51 | 1.48 |
| 14.3500 | 1.46 | 1.44 | 1.42 | 1.40 | 1.39 |
| 14.6000 | 1.37 | 1.35 | 1.34 | 1.32 | 1.31 |
| 14.8500 | 1.29 | 1.28 | 1.26 | 1.25 | 1.23 |
| 15.1000 | 1.22 | 1.20 | 1.18 | 1.17 | 1.15 |
| 15.3500 | 1.14 | 1.12 | 1.11 | 1.09 | 1.08 |
| 15.6000 | 1.06 | 1.04 | 1.03 | 1.01 | .99 |
| 15.8500 | .98 | .96 | .95 | .93 | .91 |
| 16.1000 | .90 | .88 | .87 | .85 | .84 |
| 16.3500 | .83 | .81 | .80 | .80 | .79 |
| 16.6000 | .78 | .77 | .76 | .75 | .75 |
| 16.8500 | .74 | .73 | .72 | .72 | .71 |
| 17.1000 | .70 | .69 | .69 | .68 | .67 |
| 17.3500 | .67 | .66 | .65 | .64 | .64 |
| 17.6000 | .63 | .62 | .61 | .61 | .60 |
| 17.8500 | .59 | .58 | .58 | .57 | .56 |
| 18.1000 | .55 | .55 | .54 | .53 | .53 |
| 18.3500 | .52 | .52 | .51 | .51 | .51 |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 18.6000 | .50 | .50 | .50 | .50 | .49 |
| 18.8500 | .49 | .49 | .49 | .48 | .48 |
| 19.1000 | .48 | .48 | .48 | .47 | .47 |
| 19.3500 | .47 | .47 | .46 | .46 | .46 |
| 19.6000 | .46 | .46 | .45 | .45 | .45 |
| 19.8500 | .45 | .44 | .44 | .44 | .44 |
| 20.1000 | .44 | .43 | .43 | .43 | .43 |
| 20.3500 | .43 | .42 | .42 | .42 | .42 |
| 20.6000 | .42 | .41 | .41 | .41 | .41 |
| 20.8500 | .41 | .41 | .40 | .40 | .40 |
| 21.1000 | .40 | .40 | .40 | .39 | .39 |
| 21.3500 | .39 | .39 | .39 | .39 | .38 |
| 21.6000 | .38 | .38 | .38 | .38 | .38 |
| 21.8500 | .37 | .37 | .37 | .37 | .37 |
| 22.1000 | .37 | .36 | .36 | .36 | .36 |
| 22.3500 | .36 | .35 | .35 | .35 | .35 |
| 22.6000 | .35 | .35 | .34 | .34 | .34 |
| 22.8500 | .34 | .34 | .34 | .33 | .33 |
| 23.1000 | .33 | .33 | .33 | .32 | .32 |
| 23.3500 | .32 | .32 | .32 | .32 | .31 |
| 23.6000 | .31 | .31 | .31 | .31 | .31 |
| 23.8500 | .30 | .30 | .30 | .30 | .29 |
| 24.1000 | .28 | .26 | .23 | .20 | .17 |
| 24.3500 | .13 | .10 | .08 | .06 | .05 |
| 24.6000 | .03 | .03 | .02 | .02 | .01 |
| 24.8500 | .01 | .01 | .01 | .00 | .00 |
| 25.1000 | .00 | .00 | .00 | .00 | |

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 1

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 1 | PRDA 1 | | PRDA 1 | 50 YR |

INFLOWS TO: DP 1

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | PRDA 1 | 50 YR | 1.691 | 12.3500 | 13.23 |

TOTAL FLOW INTO: DP 1

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 1 | 50 YR | 1.691 | 12.3500 | 13.23 |

TOTAL NODE INFLOW...
HYG file =
HYG ID  = DP 1
HYG Tag  = 50 YR

| | |
|---|---|
| Peak Discharge = | 13.23 cfs |
| Time to Peak = | 12.3500 hrs |
| HYG Volume = | 1.691 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 10.4000 | .00 | .00 | .00 | .01 | .01 |
| 10.6500 | .02 | .03 | .05 | .06 | .08 |
| 10.9000 | .10 | .12 | .15 | .17 | .20 |
| 11.1500 | .23 | .26 | .29 | .33 | .38 |
| 11.4000 | .43 | .48 | .54 | .61 | .70 |
| 11.6500 | .82 | .98 | 1.20 | 1.48 | 1.88 |
| 11.9000 | 2.41 | 3.12 | 4.08 | 5.35 | 7.02 |
| 12.1500 | 8.86 | 10.59 | 11.98 | 12.88 | 13.23 |
| 12.4000 | 13.00 | 12.45 | 11.67 | 10.76 | 9.81 |
| 12.6500 | 8.85 | 7.93 | 7.08 | 6.32 | 5.67 |
| 12.9000 | 5.11 | 4.67 | 4.29 | 3.97 | 3.69 |
| 13.1500 | 3.45 | 3.24 | 3.07 | 2.92 | 2.79 |
| 13.4000 | 2.68 | 2.59 | 2.51 | 2.44 | 2.38 |
| 13.6500 | 2.33 | 2.28 | 2.23 | 2.19 | 2.15 |
| 13.9000 | 2.11 | 2.07 | 2.03 | 1.99 | 1.95 |
| 14.1500 | 1.92 | 1.88 | 1.85 | 1.82 | 1.79 |
| 14.4000 | 1.77 | 1.74 | 1.72 | 1.70 | 1.68 |
| 14.6500 | 1.66 | 1.64 | 1.62 | 1.60 | 1.58 |
| 14.9000 | 1.56 | 1.54 | 1.52 | 1.50 | 1.48 |
| 15.1500 | 1.47 | 1.45 | 1.43 | 1.41 | 1.39 |
| 15.4000 | 1.37 | 1.35 | 1.33 | 1.31 | 1.29 |
| 15.6500 | 1.27 | 1.25 | 1.23 | 1.21 | 1.19 |
| 15.9000 | 1.17 | 1.15 | 1.13 | 1.11 | 1.09 |
| 16.1500 | 1.07 | 1.05 | 1.04 | 1.02 | 1.00 |
| 16.4000 | .99 | .98 | .97 | .96 | .95 |
| 16.6500 | .94 | .93 | .92 | .91 | .90 |
| 16.9000 | .89 | .88 | .87 | .86 | .85 |
| 17.1500 | .84 | .83 | .83 | .82 | .81 |
| 17.4000 | .80 | .79 | .78 | .77 | .76 |
| 17.6500 | .75 | .74 | .73 | .72 | .72 |
| 17.9000 | .71 | .70 | .69 | .68 | .67 |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 18.1500 | .66 | .65 | .64 | .64 | .63 |
| 18.4000 | .63 | .62 | .62 | .61 | .61 |
| 18.6500 | .61 | .60 | .60 | .60 | .60 |
| 18.9000 | .59 | .59 | .59 | .58 | .58 |
| 19.1500 | .58 | .58 | .57 | .57 | .57 |
| 19.4000 | .57 | .56 | .56 | .56 | .55 |
| 19.6500 | .55 | .55 | .55 | .54 | .54 |
| 19.9000 | .54 | .54 | .53 | .53 | .53 |
| 20.1500 | .52 | .52 | .52 | .52 | .51 |
| 20.4000 | .51 | .51 | .51 | .51 | .50 |
| 20.6500 | .50 | .50 | .50 | .49 | .49 |
| 20.9000 | .49 | .49 | .49 | .48 | .48 |
| 21.1500 | .48 | .48 | .48 | .47 | .47 |
| 21.4000 | .47 | .47 | .47 | .46 | .46 |
| 21.6500 | .46 | .46 | .45 | .45 | .45 |
| 21.9000 | .45 | .45 | .44 | .44 | .44 |
| 22.1500 | .44 | .44 | .43 | .43 | .43 |
| 22.4000 | .43 | .43 | .42 | .42 | .42 |
| 22.6500 | .42 | .42 | .41 | .41 | .41 |
| 22.9000 | .41 | .40 | .40 | .40 | .40 |
| 23.1500 | .40 | .39 | .39 | .39 | .39 |
| 23.4000 | .38 | .38 | .38 | .38 | .38 |
| 23.6500 | .37 | .37 | .37 | .37 | .37 |
| 23.9000 | .36 | .36 | .36 | .35 | .34 |
| 24.1500 | .32 | .28 | .24 | .20 | .16 |
| 24.4000 | .12 | .09 | .07 | .05 | .04 |
| 24.6500 | .03 | .02 | .02 | .01 | .01 |
| 24.9000 | .01 | .01 | .00 | .00 | .00 |
| 25.1500 | .00 | .00 | .00 | | |

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 1

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 1 | PRDA 1 | | PRDA 1 | 100 YR |

INFLOWS TO: DP 1

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | PRDA 1 | 100 YR | 2.135 | 12.3500 | 16.99 |

TOTAL FLOW INTO: DP 1

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 1 | 100 YR | 2.135 | 12.3500 | 16.99 |

TOTAL NODE INFLOW...
HYG file =
HYG ID  = DP 1
HYG Tag  = 100 YR

| | |
|---|---|
| Peak Discharge = | 16.99 cfs |
| Time to Peak = | 12.3500 hrs |
| HYG Volume = | 2.135 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 9.9500 | .00 | .00 | .00 | .01 | .01 |
| 10.2000 | .02 | .03 | .04 | .06 | .08 |
| 10.4500 | .09 | .11 | .13 | .16 | .18 |
| 10.7000 | .21 | .23 | .26 | .29 | .32 |
| 10.9500 | .35 | .38 | .42 | .45 | .49 |
| 11.2000 | .54 | .58 | .64 | .70 | .77 |
| 11.4500 | .85 | .93 | 1.03 | 1.15 | 1.31 |
| 11.7000 | 1.53 | 1.83 | 2.23 | 2.77 | 3.47 |
| 11.9500 | 4.41 | 5.67 | 7.31 | 9.43 | 11.74 |
| 12.2000 | 13.89 | 15.58 | 16.63 | 16.99 | 16.61 |
| 12.4500 | 15.83 | 14.77 | 13.57 | 12.33 | 11.10 |
| 12.7000 | 9.93 | 8.84 | 7.88 | 7.05 | 6.34 |
| 12.9500 | 5.78 | 5.31 | 4.90 | 4.55 | 4.25 |
| 13.2000 | 3.99 | 3.77 | 3.58 | 3.42 | 3.29 |
| 13.4500 | 3.17 | 3.07 | 2.99 | 2.91 | 2.84 |
| 13.7000 | 2.78 | 2.73 | 2.67 | 2.62 | 2.57 |
| 13.9500 | 2.52 | 2.47 | 2.43 | 2.38 | 2.34 |
| 14.2000 | 2.29 | 2.25 | 2.21 | 2.18 | 2.15 |
| 14.4500 | 2.12 | 2.09 | 2.06 | 2.04 | 2.01 |
| 14.7000 | 1.99 | 1.96 | 1.94 | 1.92 | 1.89 |
| 14.9500 | 1.87 | 1.85 | 1.82 | 1.80 | 1.78 |
| 15.2000 | 1.75 | 1.73 | 1.71 | 1.68 | 1.66 |
| 15.4500 | 1.63 | 1.61 | 1.59 | 1.56 | 1.54 |
| 15.7000 | 1.51 | 1.49 | 1.46 | 1.44 | 1.42 |
| 15.9500 | 1.39 | 1.37 | 1.34 | 1.32 | 1.29 |
| 16.2000 | 1.27 | 1.25 | 1.23 | 1.21 | 1.20 |
| 16.4500 | 1.18 | 1.17 | 1.15 | 1.14 | 1.13 |
| 16.7000 | 1.12 | 1.11 | 1.09 | 1.08 | 1.07 |
| 16.9500 | 1.06 | 1.05 | 1.04 | 1.03 | 1.02 |
| 17.2000 | 1.01 | .99 | .98 | .97 | .96 |
| 17.4500 | .95 | .94 | .93 | .92 | .91 |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 17.7000 | .89 | .88 | .87 | .86 | .85 |
| 17.9500 | .84 | .83 | .82 | .81 | .80 |
| 18.2000 | .79 | .78 | .77 | .76 | .75 |
| 18.4500 | .75 | .74 | .74 | .73 | .73 |
| 18.7000 | .73 | .72 | .72 | .72 | .71 |
| 18.9500 | .71 | .71 | .70 | .70 | .70 |
| 19.2000 | .69 | .69 | .69 | .68 | .68 |
| 19.4500 | .68 | .67 | .67 | .67 | .66 |
| 19.7000 | .66 | .66 | .65 | .65 | .65 |
| 19.9500 | .64 | .64 | .64 | .63 | .63 |
| 20.2000 | .63 | .62 | .62 | .62 | .61 |
| 20.4500 | .61 | .61 | .61 | .60 | .60 |
| 20.7000 | .60 | .60 | .59 | .59 | .59 |
| 20.9500 | .59 | .58 | .58 | .58 | .58 |
| 21.2000 | .57 | .57 | .57 | .57 | .56 |
| 21.4500 | .56 | .56 | .56 | .55 | .55 |
| 21.7000 | .55 | .55 | .54 | .54 | .54 |
| 21.9500 | .54 | .53 | .53 | .53 | .53 |
| 22.2000 | .52 | .52 | .52 | .52 | .51 |
| 22.4500 | .51 | .51 | .50 | .50 | .50 |
| 22.7000 | .50 | .49 | .49 | .49 | .49 |
| 22.9500 | .48 | .48 | .48 | .48 | .47 |
| 23.2000 | .47 | .47 | .47 | .46 | .46 |
| 23.4500 | .46 | .46 | .45 | .45 | .45 |
| 23.7000 | .45 | .44 | .44 | .44 | .43 |
| 23.9500 | .43 | .43 | .42 | .40 | .38 |
| 24.2000 | .34 | .29 | .24 | .19 | .15 |
| 24.4500 | .11 | .09 | .07 | .05 | .04 |
| 24.7000 | .03 | .02 | .02 | .01 | .01 |
| 24.9500 | .01 | .01 | .00 | .00 | .00 |
| 25.2000 | .00 | .00 | .00 | | |

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Node: Addition Summary ..... 6.10

DP 2..... 100 YR
Node: Addition Summary ..... 6.13

Name.... Watershed
File.... C:\Program Files\Haestad\PPKW\PPW\3092 EXDA 2.PPW

MASTER DESIGN STORM SUMMARY

Network Storm Collection: Litchfield Co.

| Return Event | Total Depth in | Rainfall Type | RNF ID |
|---|---|---|---|
| 2 YR | 3.2000 | Synthetic Curve | TypeIII 24hr |
| 10 YR | 4.7000 | Synthetic Curve | TypeIII 24hr |
| 25 YR | 5.5000 | Synthetic Curve | TypeIII 24hr |
| 50 YR | 6.2000 | Synthetic Curve | TypeIII 24hr |
| 100 YR | 7.0000 | Synthetic Curve | TypeIII 24hr |

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

| Node ID | Type | Return Event | HYG Vol ac-ft | Trun | Qpeak hrs | Qpeak cfs | Max WSEL ft | Max Pond Storage ac-ft |
|---|---|---|---|---|---|---|---|---|
| *DP 2 | JCT | 2 | .789 | | 12.4000 | 4.97 | | |
| *DP 2 | JCT | 10 | 2.062 | | 12.3000 | 16.52 | | |
| *DP 2 | JCT | 25 | 2.881 | | 12.3000 | 24.08 | | |
| *DP 2 | JCT | 50 | 3.656 | | 12.3000 | 31.18 | | |
| *DP 2 | JCT | 100 | 4.596 | | 12.3000 | 39.73 | | |
| EXDA 2 | AREA | 2 | .789 | | 12.4000 | 4.97 | | |
| EXDA 2 | AREA | 10 | 2.062 | | 12.3000 | 16.52 | | |
| EXDA 2 | AREA | 25 | 2.881 | | 12.3000 | 24.08 | | |
| EXDA 2 | AREA | 50 | 3.656 | | 12.3000 | 31.18 | | |
| EXDA 2 | AREA | 100 | 4.596 | | 12.3000 | 39.73 | | |

Name.... Litchfield Co.

File.... C:\Program Files\Haestad\PPKW\PPW\
Title... Project Date: 4/16/2009
Project Engineer: Curtis Jones
Project Title: Watershed
Project Comments:

DESIGN STORMS SUMMARY

Design Storm File,ID = Litchfield Co.

Storm Tag Name = 2 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 2 yr
Total Rainfall Depth= 3.2000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 10 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 10 yr
Total Rainfall Depth= 4.7000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 25 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 25 yr
Total Rainfall Depth= 5.5000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 50 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 50 yr
Total Rainfall Depth= 6.2000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 100 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 100 yr
Total Rainfall Depth= 7.0000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

DESIGN STORMS SUMMARY

Design Storm File,ID = Litchfield Co.

Storm Tag Name = 2 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 2 yr
Total Rainfall Depth= 3.2000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 10 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 10 yr
Total Rainfall Depth= 4.7000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 25 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 25 yr
Total Rainfall Depth= 5.5000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 50 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 50 yr
Total Rainfall Depth= 6.2000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 100 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 100 yr
Total Rainfall Depth= 7.0000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

File.... C:\Program Files\Haestad\PPKW\PPW\3092 EXDA 2.PPW

TIME OF CONCENTRATION CALCULATOR

Segment #1: Tc: TR-55 Sheet

| | | |
|---|---|---|
| Mannings n | .4000 | |
| Hydraulic Length | 225.00 | ft |
| 2yr, 24hr P | 3.2000 | in |
| Slope | .120000 | ft/ft |
| Avg.Velocity | .19 | ft/sec |

Segment #1 Time: .3344 hrs

Segment #2: Tc: TR-55 Shallow

| | | |
|---|---|---|
| Hydraulic Length | 250.00 | ft |
| Slope | .152000 | ft/ft |
| Unpaved | | |
| Avg.Velocity | 6.29 | ft/sec |

Segment #2 Time: .0110 hrs

Segment #3: Tc: TR-55 Channel

| | | |
|---|---|---|
| Flow Area | 2.5000 | sq.ft |
| Wetted Perimeter | 5.50 | ft |
| Hydraulic Radius | .45 | ft |
| Slope | .115000 | ft/ft |
| Mannings n | .0400 | |
| Hydraulic Length | 800.00 | ft |
| Avg.Velocity | 7.47 | ft/sec |

Segment #3 Time: .0298 hrs

Total Tc: .3752 hrs

Name.... EXDA 2

File.... C:\Program Files\Haestad\PPKW\PPW\3092 EXDA 2.PPW

---

Tc Equations used...

---

==== SCS TR-55 Sheet Flow ==========

Tc = (.007 * ((n * Lf)**0.8)) / ((P**.5) * (Sf**.4))

Where: Tc = Time of concentration, hrs
n = Mannings n
Lf = Flow length, ft
P = 2yr, 24hr Rain depth, inches
Sf = Slope, %

==== SCS TR-55 Shallow Concentrated Flow ==========

Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved surface:
V = 20.3282 * (Sf**0.5)

Tc = (Lf / V) / (3600sec/hr)

Where: V = Velocity, ft/sec
Sf = Slope, ft/ft
Tc = Time of concentration, hrs
Lf = Flow length, ft

File.... C:\Program Files\Haestad\PPKW\PPW\3092 EXDA 2.PPW

==== SCS Channel Flow ==========

R = Aq / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

Tc = (Lf / V) / (3600sec/hr)

Where: R = Hydraulic radius
Aq = Flow area, sq.ft.
Wp = Wetted perimeter, ft
V = Velocity, ft/sec
Sf = Slope, ft/ft
n = Mannings n
Tc = Time of concentration, hrs
Lf = Flow length, ft

File.... C:\Program Files\Haestad\PPKW\PPW\3092 EXDA 2.PPW

RUNOFF CURVE NUMBER DATA

| Soil/Surface Description | CN | Area acres | Impervious Adjustment %C | %UC | Adjusted CN |
|---|---|---|---|---|---|
| Soil Type B - Wooded | 55 | 10.670 | | | 55.00 |
| Soil Type B - Grass/Meadow | 60 | 2.540 | | | 60.00 |
| Soil Type C - Wooded | 70 | 3.900 | | | 70.00 |
| Soil Type C - Grass/Meadow | 72 | .270 | | | 72.00 |
| Soil Type D - Wooded | 79 | 1.810 | | | 79.00 |
| Impervious | 98 | .500 | | | 98.00 |
| COMPOSITE AREA & WEIGHTED CN ---> | | 19.690 | | | 62.15 (62) |

# SCS UNIT HYDROGRAPH METHOD
(Computational Notes)

DEFINITION OF TERMS: ----------

At = Total area (acres): At = Ai+Ap
Ai = Impervious area (acres)
Ap = Pervious area (acres)
CNi = Runoff curve number for impervious area
CNp = Runoff curve number for pervious area
fLoss = f loss constant infiltration (depth/time)
gKs = Saturated Hydraulic Conductivity (depth/time)
Md = Volumetric Moisture Deficit
Psi = Capillary Suction (length)
hK = Horton Infiltration Decay Rate (time^-1)
fo = Initial Infiltration Rate (depth/time)
fc = Ultimate(capacity)Infiltration Rate (depth/time)
Ia = Initial Abstraction (length)
dt = Computational increment (duration of unit excess rainfall)
Default dt is smallest value of 0.1333Tc, rtm, and th
(Smallest dt is then adjusted to match up with Tp)
UDdt = User specified override computational main time increment
(only used if UDdt is => .1333Tc)
D(t) = Point on distribution curve (fraction of P) for time step t

K = 2 / (1 + (Tr/Tp)): default K = 0.75: (for Tr/Tp = 1.67)
Ks = Hydrograph shape factor
= Unit Conversions * K:
= ((1hr/3600sec) * (1ft/12in) * ((5280ft)**2/sq.mi)) * K
Default Ks = 645.333 * 0.75 = 484

Lag = Lag time from center of excess runoff (dt) to Tp: Lag = 0.6Tc
P = Total precipitation depth, inches
Pa(t) = Accumulated rainfall at time step t
Pi(t) = Incremental rainfall at time step t
qp = Peak discharge (cfs) for 1in. runoff, for 1hr, for 1 sq.mi.
= (Ks * A * Q) / Tp (where Q = 1in. runoff, A=sq.mi.)
Qu(t) = Unit hydrograph ordinate (cfs) at time step t
Q(t) = Final hydrograph ordinate (cfs) at time step t
Rai(t) = Accumulated runoff (inches) at time step t for impervious area
Rap(t) = Accumulated runoff (inches) at time step t for pervious area
Rii(t) = Incremental runoff (inches) at time step t for impervious area
Rip(t) = Incremental runoff (inches) at time step t for pervious area
R(t) = Incremental weighted total runoff (inches)
Rtm = Time increment for rainfall table
Si = S for impervious area: Si = (1000/CNi) - 10
Sp = S for pervious area: Sp = (1000/CNp) - 10
t = Time step (row) number
Tc = Time of concentration
Tb = Time (hrs) of entire unit hydrograph: Tb = Tp + Tr
Tp = Time (hrs) to peak of a unit hydrograph: Tp = (dt/2) + Lag
Tr = Time (hrs) of receding limb of unit hydrograph: Tr = ratio of Tp

SCS UNIT HYDROGRAPH METHOD
(Computational Notes)

PRECIPITATION: ----------
Column (1): Time for time step t
Column (2): D(t) = Point on distribution curve for time step t
Column (3): Pi(t) = Pa(t) - Pa(t-1): Col.(4) - Preceding Col.(4)
Column (4): Pa(t) = D(t) x P: Col.(2) x P

PERVIOUS AREA RUNOFF (using SCS Runoff CN Method) ----------
Column (5): Rap(t) = Accumulated pervious runoff for time step t
If (Pa(t) is <= 0.2Sp) then use: Rap(t) = 0.0
If (Pa(t) is > 0.2Sp) then use:

$$Rap(t) = \frac{(Col.(4)-0.2Sp)^2}{(Col.(4)+0.8Sp)}$$

Column (6): Rip(t) = Incremental pervious runoff for time step t
Rip(t) = Rap(t) - Rap(t-1)
Rip(t) = Col.(5) for current row - Col.(5) for preceding row.

IMPERVIOUS AREA RUNOFF ----------
Column (7 & 8)... Did not specify to use impervious areas.

INCREMENTAL WEIGHTED RUNOFF: ----------
Column (9): R(t) = (Ap/At) x Rip(t) + (Ai/At) x Rii(t)
R(t) = (Ap/At) x Col.(6) + (Ai/At) x Col.(8)

SCS UNIT HYDROGRAPH METHOD: ----------
Column (10): Q(t) is computed with the SCS unit hydrograph method
using R() and Qu().

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm
Duration = 24.0000 hrs Rain Depth = 3.2000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - EXDA 2 2 YR
Tc = .3752 hrs
Drainage Area = 19.690 acres Runoff CN= 62

==========

| | | |
|---|---|---|
| Computational Time Increment | = | .05002 hrs |
| Computed Peak Time | = | 12.4060 hrs |
| Computed Peak Flow | = | 4.97 cfs |
| Time Increment for HYG File | = | .0500 hrs |
| Peak Time, Interpolated Output | = | 12.4000 hrs |
| Peak Flow, Interpolated Output | = | 4.97 cfs |

==========

DRAINAGE AREA

ID:EXDA 2
CN = 62
Area = 19.690 acres
S = 6.1290 in
0.2S = 1.2258 in

Cumulative Runoff

.4810 in
.789 ac-ft

HYG Volume... .789 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .37518 hrs (ID: EXDA 2)
Computational Incr, Tm = .05002 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

| | | |
|---|---|---|
| Unit peak, | qp = | 59.46 cfs |
| Unit peak time | Tp = | .25012 hrs |
| Unit receding limb, | Tr = | 1.00048 hrs |
| Total unit time, | Tb = | 1.25060 hrs |

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 10 year storm
Duration = 24.0000 hrs Rain Depth = 4.7000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - EXDA 2 10 YR
Tc = .3752 hrs
Drainage Area = 19.690 acres Runoff CN= 62

==========
Computational Time Increment = .05002 hrs
Computed Peak Time = 12.3059 hrs
Computed Peak Flow = 16.57 cfs

Time Increment for HYG File = .0500 hrs
Peak Time, Interpolated Output = 12.3000 hrs
Peak Flow, Interpolated Output = 16.52 cfs
==========

DRAINAGE AREA
---
ID:EXDA 2
CN = 62
Area = 19.690 acres
S = 6.1290 in
0.2S = 1.2258 in

Cumulative Runoff
---
1.2569 in
2.062 ac-ft

HYG Volume... 2.062 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .37518 hrs (ID: EXDA 2)
Computational Incr, Tm = .05002 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 59.46 cfs
Unit peak time Tp = .25012 hrs
Unit receding limb, Tr = 1.00048 hrs
Total unit time, Tb = 1.25060 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm
Duration = 24.0000 hrs Rain Depth = 5.5000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - EXDA 2 25 YR
Tc = .3752 hrs
Drainage Area = 19.690 acres Runoff CN= 62

==========
Computational Time Increment = .05002 hrs
Computed Peak Time = 12.3059 hrs
Computed Peak Flow = 24.12 cfs

Time Increment for HYG File = .0500 hrs
Peak Time, Interpolated Output = 12.3000 hrs
Peak Flow, Interpolated Output = 24.08 cfs
==========

DRAINAGE AREA
---
ID:EXDA 2
CN = 62
Area = 19.690 acres
S = 6.1290 in
0.2S = 1.2258 in

Cumulative Runoff
---
1.7561 in
2.881 ac-ft

HYG Volume... 2.881 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .37518 hrs (ID: EXDA 2)
Computational Incr, Tm = .05002 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 59.46 cfs
Unit peak time Tp = .25012 hrs
Unit receding limb, Tr = 1.00048 hrs
Total unit time, Tb = 1.25060 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 50 year storm
Duration = 24.0000 hrs Rain Depth = 6.2000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - EXDA 2 50 YR
Tc = .3752 hrs
Drainage Area = 19.690 acres Runoff CN= 62

==========
Computational Time Increment = .05002 hrs
Computed Peak Time = 12.3059 hrs
Computed Peak Flow = 31.21 cfs

Time Increment for HYG File = .0500 hrs
Peak Time, Interpolated Output = 12.3000 hrs
Peak Flow, Interpolated Output = 31.18 cfs
==========

DRAINAGE AREA
---
ID:EXDA 2
CN = 62
Area = 19.690 acres
S = 6.1290 in
0.2S = 1.2258 in

Cumulative Runoff
---
2.2284 in
3.656 ac-ft

HYG Volume... 3.656 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .37518 hrs (ID: EXDA 2)
Computational Incr, Tm = .05002 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 59.46 cfs
Unit peak time Tp = .25012 hrs
Unit receding limb, Tr = 1.00048 hrs
Total unit time, Tb = 1.25060 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.0000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - EXDA 2 100 YR
Tc = .3752 hrs
Drainage Area = 19.690 acres Runoff CN= 62

==========

| | | |
|---|---|---|
| Computational Time Increment | = | .05002 hrs |
| Computed Peak Time | = | 12.3059 hrs |
| Computed Peak Flow | = | 39.73 cfs |
| Time Increment for HYG File | = | .0500 hrs |
| Peak Time, Interpolated Output | = | 12.3000 hrs |
| Peak Flow, Interpolated Output | = | 39.73 cfs |

==========

DRAINAGE AREA
---
ID:EXDA 2
CN = 62
Area = 19.690 acres
S = 6.1290 in
0.2S = 1.2258 in

Cumulative Runoff
---
2.8010 in
4.596 ac-ft

HYG Volume... 4.596 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .37518 hrs (ID: EXDA 2)
Computational Incr, Tm = .05002 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

| | | |
|---|---|---|
| Unit peak, | qp = | 59.46 cfs |
| Unit peak time | Tp = | .25012 hrs |
| Unit receding limb, | Tr = | 1.00048 hrs |
| Total unit time, | Tb = | 1.25060 hrs |

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 2

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 2 | EXDA 2 | | EXDA 2 | 2 YR |

INFLOWS TO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | EXDA 2 | 2 YR | .789 | 12.4000 | 4.97 |

TOTAL FLOW INTO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 2 | 2 YR | .789 | 12.4000 | 4.97 |

TOTAL NODE INFLOW...
HYG file =
HYG ID = DP 2
HYG Tag = 2 YR

| | |
|---|---|
| Peak Discharge = | 4.97 cfs |
| Time to Peak = | 12.4000 hrs |
| HYG Volume = | .789 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 11.8000 | .00 | .00 | .02 | .09 | .29 |
| 12.0500 | .73 | 1.46 | 2.38 | 3.36 | 4.16 |
| 12.3000 | 4.68 | 4.93 | 4.97 | 4.84 | 4.61 |
| 12.5500 | 4.31 | 3.96 | 3.58 | 3.21 | 2.88 |
| 12.8000 | 2.61 | 2.38 | 2.21 | 2.06 | 1.94 |
| 13.0500 | 1.83 | 1.73 | 1.65 | 1.58 | 1.51 |
| 13.3000 | 1.46 | 1.42 | 1.39 | 1.36 | 1.34 |
| 13.5500 | 1.32 | 1.30 | 1.28 | 1.26 | 1.24 |
| 13.8000 | 1.22 | 1.21 | 1.19 | 1.17 | 1.15 |
| 14.0500 | 1.13 | 1.11 | 1.09 | 1.08 | 1.06 |
| 14.3000 | 1.05 | 1.04 | 1.02 | 1.01 | 1.00 |
| 14.5500 | .99 | .98 | .98 | .97 | .96 |
| 14.8000 | .95 | .94 | .93 | .92 | .91 |
| 15.0500 | .90 | .89 | .88 | .87 | .86 |
| 15.3000 | .85 | .84 | .83 | .81 | .80 |
| 15.5500 | .79 | .78 | .77 | .76 | .75 |
| 15.8000 | .74 | .72 | .71 | .70 | .69 |
| 16.0500 | .68 | .66 | .65 | .64 | .63 |
| 16.3000 | .63 | .62 | .61 | .60 | .60 |
| 16.5500 | .59 | .59 | .58 | .58 | .57 |
| 16.8000 | .57 | .56 | .56 | .55 | .54 |
| 17.0500 | .54 | .53 | .53 | .52 | .52 |
| 17.3000 | .51 | .51 | .50 | .50 | .49 |
| 17.5500 | .49 | .48 | .47 | .47 | .46 |
| 17.8000 | .46 | .45 | .45 | .44 | .43 |
| 18.0500 | .43 | .42 | .42 | .41 | .41 |
| 18.3000 | .41 | .40 | .40 | .40 | .40 |
| 18.5500 | .39 | .39 | .39 | .39 | .39 |
| 18.8000 | .39 | .38 | .38 | .38 | .38 |
| 19.0500 | .38 | .38 | .37 | .37 | .37 |
| 19.3000 | .37 | .37 | .37 | .36 | .36 |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 19.5500 | .36 | .36 | .36 | .36 | .36 |
| 19.8000 | .35 | .35 | .35 | .35 | .35 |
| 20.0500 | .35 | .34 | .34 | .34 | .34 |
| 20.3000 | .34 | .34 | .33 | .33 | .33 |
| 20.5500 | .33 | .33 | .33 | .33 | .33 |
| 20.8000 | .32 | .32 | .32 | .32 | .32 |
| 21.0500 | .32 | .32 | .32 | .31 | .31 |
| 21.3000 | .31 | .31 | .31 | .31 | .31 |
| 21.5500 | .31 | .30 | .30 | .30 | .30 |
| 21.8000 | .30 | .30 | .30 | .30 | .29 |
| 22.0500 | .29 | .29 | .29 | .29 | .29 |
| 22.3000 | .29 | .28 | .28 | .28 | .28 |
| 22.5500 | .28 | .28 | .28 | .28 | .27 |
| 22.8000 | .27 | .27 | .27 | .27 | .27 |
| 23.0500 | .27 | .26 | .26 | .26 | .26 |
| 23.3000 | .26 | .26 | .26 | .25 | .25 |
| 23.5500 | .25 | .25 | .25 | .25 | .25 |
| 23.8000 | .25 | .24 | .24 | .24 | .24 |
| 24.0500 | .23 | .22 | .20 | .16 | .13 |
| 24.3000 | .10 | .07 | .05 | .04 | .03 |
| 24.5500 | .02 | .01 | .01 | .01 | .00 |
| 24.8000 | .00 | .00 | .00 | .00 | .00 |

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 2

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 2 | EXDA 2 | | EXDA 2 | 10 YR |

INFLOWS TO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | EXDA 2 | 10 YR | 2.062 | 12.3000 | 16.52 |

TOTAL FLOW INTO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 2 | 10 YR | 2.062 | 12.3000 | 16.52 |

TOTAL NODE INFLOW...
HYG file =
HYG ID = DP 2
HYG Tag = 10 YR

| | |
|---|---|
| Peak Discharge = | 16.52 cfs |
| Time to Peak = | 12.3000 hrs |
| HYG Volume = | 2.062 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 11.2000 | .00 | .00 | .01 | .03 | .06 |
| 11.4500 | .10 | .15 | .21 | .30 | .42 |
| 11.7000 | .59 | .85 | 1.20 | 1.69 | 2.34 |
| 11.9500 | 3.27 | 4.64 | 6.64 | 9.21 | 11.95 |
| 12.2000 | 14.37 | 15.94 | 16.52 | 16.30 | 15.55 |
| 12.4500 | 14.50 | 13.34 | 12.11 | 10.85 | 9.61 |
| 12.7000 | 8.47 | 7.48 | 6.68 | 6.02 | 5.51 |
| 12.9500 | 5.09 | 4.74 | 4.43 | 4.17 | 3.94 |
| 13.2000 | 3.74 | 3.58 | 3.44 | 3.33 | 3.24 |
| 13.4500 | 3.17 | 3.10 | 3.04 | 2.99 | 2.94 |
| 13.7000 | 2.89 | 2.84 | 2.79 | 2.74 | 2.70 |
| 13.9500 | 2.65 | 2.60 | 2.55 | 2.51 | 2.46 |
| 14.2000 | 2.42 | 2.38 | 2.35 | 2.31 | 2.28 |
| 14.4500 | 2.26 | 2.23 | 2.21 | 2.18 | 2.16 |
| 14.7000 | 2.13 | 2.11 | 2.09 | 2.06 | 2.04 |
| 14.9500 | 2.02 | 1.99 | 1.97 | 1.94 | 1.92 |
| 15.2000 | 1.89 | 1.87 | 1.84 | 1.82 | 1.79 |
| 15.4500 | 1.77 | 1.74 | 1.72 | 1.69 | 1.67 |
| 15.7000 | 1.64 | 1.61 | 1.59 | 1.56 | 1.53 |
| 15.9500 | 1.51 | 1.48 | 1.45 | 1.43 | 1.40 |
| 16.2000 | 1.38 | 1.36 | 1.34 | 1.32 | 1.31 |
| 16.4500 | 1.29 | 1.28 | 1.26 | 1.25 | 1.24 |
| 16.7000 | 1.23 | 1.22 | 1.20 | 1.19 | 1.18 |
| 16.9500 | 1.17 | 1.16 | 1.14 | 1.13 | 1.12 |
| 17.2000 | 1.11 | 1.10 | 1.08 | 1.07 | 1.06 |
| 17.4500 | 1.05 | 1.04 | 1.02 | 1.01 | 1.00 |
| 17.7000 | .99 | .98 | .96 | .95 | .94 |
| 17.9500 | .93 | .91 | .90 | .89 | .88 |
| 18.2000 | .87 | .86 | .85 | .84 | .84 |
| 18.4500 | .83 | .83 | .82 | .82 | .82 |
| 18.7000 | .81 | .81 | .81 | .80 | .80 |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 18.9500 | .79 | .79 | .79 | .78 | .78 |
| 19.2000 | .78 | .77 | .77 | .77 | .76 |
| 19.4500 | .76 | .76 | .75 | .75 | .74 |
| 19.7000 | .74 | .74 | .73 | .73 | .73 |
| 19.9500 | .72 | .72 | .72 | .71 | .71 |
| 20.2000 | .71 | .70 | .70 | .70 | .69 |
| 20.4500 | .69 | .69 | .68 | .68 | .68 |
| 20.7000 | .68 | .67 | .67 | .67 | .66 |
| 20.9500 | .66 | .66 | .66 | .65 | .65 |
| 21.2000 | .65 | .65 | .64 | .64 | .64 |
| 21.4500 | .63 | .63 | .63 | .63 | .62 |
| 21.7000 | .62 | .62 | .61 | .61 | .61 |
| 21.9500 | .61 | .60 | .60 | .60 | .60 |
| 22.2000 | .59 | .59 | .59 | .58 | .58 |
| 22.4500 | .58 | .57 | .57 | .57 | .57 |
| 22.7000 | .56 | .56 | .56 | .56 | .55 |
| 22.9500 | .55 | .55 | .54 | .54 | .54 |
| 23.2000 | .53 | .53 | .53 | .53 | .52 |
| 23.4500 | .52 | .52 | .51 | .51 | .51 |
| 23.7000 | .51 | .50 | .50 | .50 | .49 |
| 23.9500 | .49 | .49 | .47 | .45 | .40 |
| 24.2000 | .34 | .27 | .20 | .14 | .10 |
| 24.4500 | .07 | .05 | .04 | .03 | .02 |
| 24.7000 | .01 | .01 | .01 | .00 | .00 |
| 24.9500 | .00 | .00 | .00 | | |

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 2

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 2 | EXDA 2 | | EXDA 2 | 25 YR |

INFLOWS TO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | EXDA 2 | 25 YR | 2.881 | 12.3000 | 24.08 |

TOTAL FLOW INTO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 2 | 25 YR | 2.881 | 12.3000 | 24.08 |

TOTAL NODE INFLOW...
HYG file =
HYG ID = DP 2
HYG Tag = 25 YR

| | |
|---|---|
| Peak Discharge = | 24.08 cfs |
| Time to Peak = | 12.3000 hrs |
| HYG Volume = | 2.881 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 10.6500 | .00 | .00 | .01 | .02 | .03 |
| 10.9000 | .05 | .08 | .12 | .15 | .20 |
| 11.1500 | .24 | .30 | .36 | .43 | .51 |
| 11.4000 | .59 | .69 | .80 | .93 | 1.08 |
| 11.6500 | 1.31 | 1.62 | 2.07 | 2.69 | 3.49 |
| 11.9000 | 4.52 | 5.95 | 7.99 | 10.90 | 14.56 |
| 12.1500 | 18.36 | 21.59 | 23.56 | 24.08 | 23.49 |
| 12.4000 | 22.20 | 20.52 | 18.74 | 16.91 | 15.08 |
| 12.6500 | 13.29 | 11.68 | 10.28 | 9.14 | 8.22 |
| 12.9000 | 7.49 | 6.90 | 6.41 | 5.99 | 5.62 |
| 13.1500 | 5.30 | 5.03 | 4.80 | 4.61 | 4.46 |
| 13.4000 | 4.34 | 4.23 | 4.14 | 4.06 | 3.98 |
| 13.6500 | 3.91 | 3.84 | 3.78 | 3.71 | 3.65 |
| 13.9000 | 3.58 | 3.52 | 3.45 | 3.39 | 3.32 |
| 14.1500 | 3.26 | 3.20 | 3.15 | 3.10 | 3.06 |
| 14.4000 | 3.02 | 2.98 | 2.95 | 2.91 | 2.88 |
| 14.6500 | 2.85 | 2.82 | 2.78 | 2.75 | 2.72 |
| 14.9000 | 2.69 | 2.65 | 2.62 | 2.59 | 2.56 |
| 15.1500 | 2.52 | 2.49 | 2.46 | 2.42 | 2.39 |
| 15.4000 | 2.36 | 2.32 | 2.29 | 2.25 | 2.22 |
| 15.6500 | 2.18 | 2.15 | 2.11 | 2.08 | 2.04 |
| 15.9000 | 2.01 | 1.97 | 1.94 | 1.90 | 1.87 |
| 16.1500 | 1.83 | 1.80 | 1.78 | 1.75 | 1.73 |
| 16.4000 | 1.71 | 1.69 | 1.67 | 1.65 | 1.64 |
| 16.6500 | 1.62 | 1.60 | 1.59 | 1.57 | 1.56 |
| 16.9000 | 1.54 | 1.52 | 1.51 | 1.49 | 1.48 |
| 17.1500 | 1.46 | 1.45 | 1.43 | 1.41 | 1.40 |
| 17.4000 | 1.38 | 1.37 | 1.35 | 1.33 | 1.32 |
| 17.6500 | 1.30 | 1.29 | 1.27 | 1.25 | 1.24 |
| 17.9000 | 1.22 | 1.21 | 1.19 | 1.17 | 1.16 |
| 18.1500 | 1.14 | 1.13 | 1.12 | 1.11 | 1.10 |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 18.4000 | 1.09 | 1.08 | 1.08 | 1.07 | 1.07 |
| 18.6500 | 1.06 | 1.06 | 1.05 | 1.05 | 1.04 |
| 18.9000 | 1.04 | 1.03 | 1.03 | 1.02 | 1.02 |
| 19.1500 | 1.01 | 1.01 | 1.00 | 1.00 | .99 |
| 19.4000 | .99 | .98 | .98 | .98 | .97 |
| 19.6500 | .97 | .96 | .96 | .95 | .95 |
| 19.9000 | .94 | .94 | .93 | .93 | .92 |
| 20.1500 | .92 | .91 | .91 | .91 | .90 |
| 20.4000 | .90 | .89 | .89 | .89 | .88 |
| 20.6500 | .88 | .88 | .87 | .87 | .86 |
| 20.9000 | .86 | .86 | .85 | .85 | .85 |
| 21.1500 | .84 | .84 | .84 | .83 | .83 |
| 21.4000 | .82 | .82 | .82 | .81 | .81 |
| 21.6500 | .81 | .80 | .80 | .79 | .79 |
| 21.9000 | .79 | .78 | .78 | .78 | .77 |
| 22.1500 | .77 | .77 | .76 | .76 | .75 |
| 22.4000 | .75 | .75 | .74 | .74 | .74 |
| 22.6500 | .73 | .73 | .72 | .72 | .72 |
| 22.9000 | .71 | .71 | .71 | .70 | .70 |
| 23.1500 | .69 | .69 | .69 | .68 | .68 |
| 23.4000 | .67 | .67 | .67 | .66 | .66 |
| 23.6500 | .66 | .65 | .65 | .64 | .64 |
| 23.9000 | .64 | .63 | .63 | .61 | .58 |
| 24.1500 | .52 | .43 | .34 | .26 | .19 |
| 24.4000 | .13 | .10 | .07 | .05 | .04 |
| 24.6500 | .03 | .02 | .01 | .01 | .01 |
| 24.9000 | .00 | .00 | .00 | .00 | .00 |

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 2

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 2 | EXDA 2 | | EXDA 2 | 50 YR |

INFLOWS TO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | EXDA 2 | 50 YR | 3.656 | 12.3000 | 31.18 |

TOTAL FLOW INTO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 2 | 50 YR | 3.656 | 12.3000 | 31.18 |

TOTAL NODE INFLOW...
HYG file =
HYG ID = DP 2
HYG Tag = 50 YR

| | |
|---|---|
| Peak Discharge = | 31.18 cfs |
| Time to Peak = | 12.3000 hrs |
| HYG Volume = | 3.656 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 10.2500 | .00 | .00 | .01 | .02 | .04 |
| 10.5000 | .06 | .09 | .13 | .16 | .21 |
| 10.7500 | .25 | .30 | .35 | .40 | .45 |
| 11.0000 | .51 | .57 | .63 | .70 | .78 |
| 11.2500 | .87 | .97 | 1.08 | 1.21 | 1.34 |
| 11.5000 | 1.49 | 1.67 | 1.90 | 2.21 | 2.66 |
| 11.7500 | 3.30 | 4.16 | 5.28 | 6.67 | 8.57 |
| 12.0000 | 11.25 | 15.01 | 19.68 | 24.45 | 28.43 |
| 12.2500 | 30.74 | 31.18 | 30.22 | 28.40 | 26.12 |
| 12.5000 | 23.75 | 21.36 | 18.99 | 16.69 | 14.63 |
| 12.7500 | 12.84 | 11.39 | 10.23 | 9.31 | 8.56 |
| 13.0000 | 7.94 | 7.41 | 6.95 | 6.54 | 6.20 |
| 13.2500 | 5.91 | 5.68 | 5.49 | 5.33 | 5.20 |
| 13.5000 | 5.09 | 4.98 | 4.89 | 4.80 | 4.71 |
| 13.7500 | 4.63 | 4.55 | 4.47 | 4.39 | 4.31 |
| 14.0000 | 4.22 | 4.14 | 4.06 | 3.99 | 3.92 |
| 14.2500 | 3.85 | 3.79 | 3.74 | 3.69 | 3.64 |
| 14.5000 | 3.60 | 3.55 | 3.51 | 3.47 | 3.43 |
| 14.7500 | 3.39 | 3.35 | 3.31 | 3.27 | 3.23 |
| 15.0000 | 3.19 | 3.15 | 3.11 | 3.07 | 3.03 |
| 15.2500 | 2.99 | 2.95 | 2.90 | 2.86 | 2.82 |
| 15.5000 | 2.78 | 2.74 | 2.69 | 2.65 | 2.61 |
| 15.7500 | 2.57 | 2.52 | 2.48 | 2.44 | 2.39 |
| 16.0000 | 2.35 | 2.31 | 2.26 | 2.22 | 2.19 |
| 16.2500 | 2.15 | 2.12 | 2.09 | 2.07 | 2.04 |
| 16.5000 | 2.02 | 2.00 | 1.98 | 1.96 | 1.94 |
| 16.7500 | 1.92 | 1.90 | 1.88 | 1.86 | 1.84 |
| 17.0000 | 1.83 | 1.81 | 1.79 | 1.77 | 1.75 |
| 17.2500 | 1.73 | 1.71 | 1.69 | 1.67 | 1.65 |
| 17.5000 | 1.63 | 1.61 | 1.59 | 1.57 | 1.55 |
| 17.7500 | 1.53 | 1.52 | 1.50 | 1.48 | 1.46 |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 18.0000 | 1.44 | 1.42 | 1.40 | 1.38 | 1.36 |
| 18.2500 | 1.35 | 1.34 | 1.32 | 1.32 | 1.31 |
| 18.5000 | 1.30 | 1.29 | 1.29 | 1.28 | 1.27 |
| 18.7500 | 1.27 | 1.26 | 1.26 | 1.25 | 1.24 |
| 19.0000 | 1.24 | 1.23 | 1.23 | 1.22 | 1.22 |
| 19.2500 | 1.21 | 1.20 | 1.20 | 1.19 | 1.19 |
| 19.5000 | 1.18 | 1.18 | 1.17 | 1.16 | 1.16 |
| 19.7500 | 1.15 | 1.15 | 1.14 | 1.14 | 1.13 |
| 20.0000 | 1.12 | 1.12 | 1.11 | 1.11 | 1.10 |
| 20.2500 | 1.10 | 1.09 | 1.09 | 1.08 | 1.08 |
| 20.5000 | 1.07 | 1.07 | 1.06 | 1.06 | 1.05 |
| 20.7500 | 1.05 | 1.04 | 1.04 | 1.04 | 1.03 |
| 21.0000 | 1.03 | 1.02 | 1.02 | 1.01 | 1.01 |
| 21.2500 | 1.01 | 1.00 | 1.00 | .99 | .99 |
| 21.5000 | .98 | .98 | .97 | .97 | .96 |
| 21.7500 | .96 | .96 | .95 | .95 | .94 |
| 22.0000 | .94 | .93 | .93 | .92 | .92 |
| 22.2500 | .92 | .91 | .91 | .90 | .90 |
| 22.5000 | .89 | .89 | .88 | .88 | .88 |
| 22.7500 | .87 | .87 | .86 | .86 | .85 |
| 23.0000 | .85 | .84 | .84 | .83 | .83 |
| 23.2500 | .82 | .82 | .81 | .81 | .81 |
| 23.5000 | .80 | .80 | .79 | .79 | .78 |
| 23.7500 | .78 | .77 | .77 | .76 | .76 |
| 24.0000 | .75 | .74 | .69 | .62 | .52 |
| 24.2500 | .41 | .31 | .22 | .16 | .11 |
| 24.5000 | .08 | .06 | .04 | .03 | .02 |
| 24.7500 | .02 | .01 | .01 | .01 | .00 |
| 25.0000 | .00 | .00 | .00 | | |

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 2

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 2 | EXDA 2 | | EXDA 2 | 100 YR |

INFLOWS TO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | EXDA 2 | 100 YR | 4.596 | 12.3000 | 39.73 |

TOTAL FLOW INTO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 2 | 100 YR | 4.596 | 12.3000 | 39.73 |

TOTAL NODE INFLOW...
HYG file =
HYG ID  = DP 2
HYG Tag  = 100 YR

| | |
|---|---|
| Peak Discharge = | 39.73 cfs |
| Time to Peak = | 12.3000 hrs |
| HYG Volume = | 4.596 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 9.7500 | .00 | .00 | .00 | .01 | .02 |
| 10.0000 | .04 | .06 | .09 | .12 | .15 |
| 10.2500 | .19 | .23 | .27 | .32 | .36 |
| 10.5000 | .41 | .47 | .52 | .58 | .64 |
| 10.7500 | .70 | .77 | .83 | .90 | .98 |
| 11.0000 | 1.05 | 1.13 | 1.21 | 1.31 | 1.41 |
| 11.2500 | 1.53 | 1.67 | 1.82 | 1.99 | 2.18 |
| 11.5000 | 2.39 | 2.63 | 2.93 | 3.37 | 3.98 |
| 11.7500 | 4.86 | 6.02 | 7.52 | 9.36 | 11.83 |
| 12.0000 | 15.28 | 20.07 | 25.94 | 31.87 | 36.71 |
| 12.2500 | 39.40 | 39.73 | 38.29 | 35.82 | 32.80 |
| 12.5000 | 29.73 | 26.65 | 23.63 | 20.72 | 18.12 |
| 12.7500 | 15.88 | 14.07 | 12.61 | 11.45 | 10.52 |
| 13.0000 | 9.74 | 9.08 | 8.51 | 8.00 | 7.58 |
| 13.2500 | 7.22 | 6.93 | 6.69 | 6.50 | 6.34 |
| 13.5000 | 6.20 | 6.07 | 5.95 | 5.84 | 5.73 |
| 13.7500 | 5.63 | 5.53 | 5.43 | 5.33 | 5.23 |
| 14.0000 | 5.13 | 5.03 | 4.93 | 4.84 | 4.75 |
| 14.2500 | 4.67 | 4.59 | 4.53 | 4.47 | 4.41 |
| 14.5000 | 4.36 | 4.30 | 4.25 | 4.20 | 4.15 |
| 14.7500 | 4.10 | 4.05 | 4.00 | 3.95 | 3.90 |
| 15.0000 | 3.86 | 3.81 | 3.76 | 3.71 | 3.66 |
| 15.2500 | 3.61 | 3.56 | 3.50 | 3.45 | 3.40 |
| 15.5000 | 3.35 | 3.30 | 3.25 | 3.20 | 3.14 |
| 15.7500 | 3.09 | 3.04 | 2.99 | 2.94 | 2.88 |
| 16.0000 | 2.83 | 2.78 | 2.73 | 2.68 | 2.63 |
| 16.2500 | 2.59 | 2.55 | 2.52 | 2.49 | 2.46 |
| 16.5000 | 2.43 | 2.41 | 2.38 | 2.36 | 2.33 |
| 16.7500 | 2.31 | 2.29 | 2.26 | 2.24 | 2.22 |
| 17.0000 | 2.19 | 2.17 | 2.15 | 2.12 | 2.10 |
| 17.2500 | 2.08 | 2.05 | 2.03 | 2.01 | 1.98 |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 17.5000 | 1.96 | 1.94 | 1.91 | 1.89 | 1.87 |
| 17.7500 | 1.84 | 1.82 | 1.79 | 1.77 | 1.75 |
| 18.0000 | 1.72 | 1.70 | 1.68 | 1.65 | 1.63 |
| 18.2500 | 1.62 | 1.60 | 1.59 | 1.58 | 1.57 |
| 18.5000 | 1.56 | 1.55 | 1.54 | 1.53 | 1.53 |
| 18.7500 | 1.52 | 1.51 | 1.51 | 1.50 | 1.49 |
| 19.0000 | 1.48 | 1.48 | 1.47 | 1.46 | 1.46 |
| 19.2500 | 1.45 | 1.44 | 1.44 | 1.43 | 1.42 |
| 19.5000 | 1.42 | 1.41 | 1.40 | 1.39 | 1.39 |
| 19.7500 | 1.38 | 1.37 | 1.37 | 1.36 | 1.35 |
| 20.0000 | 1.34 | 1.34 | 1.33 | 1.32 | 1.32 |
| 20.2500 | 1.31 | 1.31 | 1.30 | 1.29 | 1.29 |
| 20.5000 | 1.28 | 1.28 | 1.27 | 1.27 | 1.26 |
| 20.7500 | 1.25 | 1.25 | 1.24 | 1.24 | 1.23 |
| 21.0000 | 1.23 | 1.22 | 1.22 | 1.21 | 1.21 |
| 21.2500 | 1.20 | 1.20 | 1.19 | 1.19 | 1.18 |
| 21.5000 | 1.18 | 1.17 | 1.16 | 1.16 | 1.15 |
| 21.7500 | 1.15 | 1.14 | 1.14 | 1.13 | 1.13 |
| 22.0000 | 1.12 | 1.12 | 1.11 | 1.11 | 1.10 |
| 22.2500 | 1.09 | 1.09 | 1.08 | 1.08 | 1.07 |
| 22.5000 | 1.07 | 1.06 | 1.06 | 1.05 | 1.05 |
| 22.7500 | 1.04 | 1.03 | 1.03 | 1.02 | 1.02 |
| 23.0000 | 1.01 | 1.01 | 1.00 | 1.00 | .99 |
| 23.2500 | .98 | .98 | .97 | .97 | .96 |
| 23.5000 | .96 | .95 | .95 | .94 | .94 |
| 23.7500 | .93 | .92 | .92 | .91 | .91 |
| 24.0000 | .90 | .88 | .83 | .74 | .62 |
| 24.2500 | .49 | .37 | .27 | .19 | .14 |
| 24.5000 | .10 | .07 | .05 | .04 | .03 |
| 24.7500 | .02 | .01 | .01 | .01 | .00 |
| 25.0000 | .00 | .00 | .00 | | |

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PRDA 2..... 10 YR
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********** HYG ADDITION **********

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Node: Addition Summary ..... 6.04

DP 2..... 25 YR
Node: Addition Summary ..... 6.07

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Node: Addition Summary ..... 6.10

DP 2..... 100 YR
Node: Addition Summary ..... 6.13

## MASTER DESIGN STORM SUMMARY

Network Storm Collection: Litchfield Co.

| Return Event | Total Depth in | Rainfall Type | RNF ID |
|---|---|---|---|
| 2 YR | 3.2000 | Synthetic Curve | TypeIII 24hr |
| 10 YR | 4.7000 | Synthetic Curve | TypeIII 24hr |
| 25 YR | 5.5000 | Synthetic Curve | TypeIII 24hr |
| 50 YR | 6.2000 | Synthetic Curve | TypeIII 24hr |
| 100 YR | 7.0000 | Synthetic Curve | TypeIII 24hr |

## MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

| Node ID | Type | Return Event | HYG Vol ac-ft | Trun | Qpeak hrs | Qpeak cfs | Max WSEL ft | Max Pond Storage ac-ft |
|---|---|---|---|---|---|---|---|---|
| *DP 2 | JCT | 2 | .829 | | 12.3500 | 5.65 | | |
| *DP 2 | JCT | 10 | 2.058 | | 12.3000 | 16.92 | | |
| *DP 2 | JCT | 25 | 2.836 | | 12.3000 | 24.07 | | |
| *DP 2 | JCT | 50 | 3.566 | | 12.3000 | 30.72 | | |
| *DP 2 | JCT | 100 | 4.447 | | 12.3000 | 38.68 | | |
| PRDA 2 | AREA | 2 | .829 | | 12.3500 | 5.65 | | |
| PRDA 2 | AREA | 10 | 2.058 | | 12.3000 | 16.92 | | |
| PRDA 2 | AREA | 25 | 2.836 | | 12.3000 | 24.07 | | |
| PRDA 2 | AREA | 50 | 3.566 | | 12.3000 | 30.72 | | |
| PRDA 2 | AREA | 100 | 4.447 | | 12.3000 | 38.68 | | |

File.... C:\Program Files\Haestad\PPKW\PPW\
Title... Project Date: 4/16/2009
Project Engineer: Curtis Jones
Project Title: Watershed
Project Comments:

DESIGN STORMS SUMMARY

Design Storm File,ID = Litchfield Co.

Storm Tag Name = 2 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 2 yr
Total Rainfall Depth= 3.2000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 10 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 10 yr
Total Rainfall Depth= 4.7000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 25 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 25 yr
Total Rainfall Depth= 5.5000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 50 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 50 yr
Total Rainfall Depth= 6.2000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 100 YR
---
Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 100 yr
Total Rainfall Depth= 7.0000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

DESIGN STORMS SUMMARY

Design Storm File,ID = Litchfield Co.

Storm Tag Name = 2 YR
---
Data Type, File, ID = Synthetic Storm  TypeIII 24hr
Storm Frequency = 2 yr
Total Rainfall Depth= 3.2000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs  Step= .1000 hrs  End= 24.0000 hrs

Storm Tag Name = 10 YR
---
Data Type, File, ID = Synthetic Storm  TypeIII 24hr
Storm Frequency = 10 yr
Total Rainfall Depth= 4.7000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs  Step= .1000 hrs  End= 24.0000 hrs

Storm Tag Name = 25 YR
---
Data Type, File, ID = Synthetic Storm  TypeIII 24hr
Storm Frequency = 25 yr
Total Rainfall Depth= 5.5000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs  Step= .1000 hrs  End= 24.0000 hrs

Storm Tag Name = 50 YR
---
Data Type, File, ID = Synthetic Storm  TypeIII 24hr
Storm Frequency = 50 yr
Total Rainfall Depth= 6.2000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs  Step= .1000 hrs  End= 24.0000 hrs

Storm Tag Name = 100 YR
---
Data Type, File, ID = Synthetic Storm  TypeIII 24hr
Storm Frequency = 100 yr
Total Rainfall Depth= 7.0000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs  Step= .1000 hrs  End= 24.0000 hrs

File.... C:\Program Files\Haestad\PPKW\PPW\3092 PRDA 2.PPW

TIME OF CONCENTRATION CALCULATOR

Segment #1: Tc: TR-55 Sheet

| | | |
|---|---|---|
| Mannings n | .4000 | |
| Hydraulic Length | 225.00 | ft |
| 2yr, 24hr P | 3.2000 | in |
| Slope | .120000 | ft/ft |
| Avg.Velocity | .19 | ft/sec |

Segment #1 Time: .3344 hrs

Segment #2: Tc: TR-55 Shallow

| | | |
|---|---|---|
| Hydraulic Length | 250.00 | ft |
| Slope | .152000 | ft/ft |
| Unpaved | | |
| Avg.Velocity | 6.29 | ft/sec |

Segment #2 Time: .0110 hrs

Segment #3: Tc: TR-55 Channel

| | | |
|---|---|---|
| Flow Area | 2.5000 | sq.ft |
| Wetted Perimeter | 5.50 | ft |
| Hydraulic Radius | .45 | ft |
| Slope | .115000 | ft/ft |
| Mannings n | .0400 | |
| Hydraulic Length | 800.00 | ft |
| Avg.Velocity | 7.47 | ft/sec |

Segment #3 Time: .0298 hrs

Total Tc: .3752 hrs

File.... C:\Program Files\Haestad\PPKW\PPW\3092 PRDA 2.PPW

---

Tc Equations used...

---

==== SCS TR-55 Sheet Flow ==========

Tc = (.007 * ((n * Lf)**0.8)) / ((P**.5) * (Sf**.4))

Where: Tc = Time of concentration, hrs
n = Mannings n
Lf = Flow length, ft
P = 2yr, 24hr Rain depth, inches
Sf = Slope, %

==== SCS TR-55 Shallow Concentrated Flow ==========

Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved surface:
V = 20.3282 * (Sf**0.5)

Tc = (Lf / V) / (3600sec/hr)

Where: V = Velocity, ft/sec
Sf = Slope, ft/ft
Tc = Time of concentration, hrs
Lf = Flow length, ft

File.... C:\Program Files\Haestad\PPKW\PPW\3092 PRDA 2.PPW

==== SCS Channel Flow ==========

R = Aq / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

Tc = (Lf / V) / (3600sec/hr)

Where: R = Hydraulic radius
Aq = Flow area, sq.ft.
Wp = Wetted perimeter, ft
V = Velocity, ft/sec
Sf = Slope, ft/ft
n = Mannings n
Tc = Time of concentration, hrs
Lf = Flow length, ft

File.... C:\Program Files\Haestad\PPKW\PPW\3092 PRDA 2.PPW

RUNOFF CURVE NUMBER DATA

| Soil/Surface Description | CN | Area acres | Impervious Adjustment %C | %UC | Adjusted CN |
|---|---|---|---|---|---|
| Soil Type B - Wooded | 55 | 7.660 | | | 55.00 |
| Soil Type B - Grass/Meadow | 60 | 3.340 | | | 60.00 |
| Soil Type C - Wooded | 70 | 3.600 | | | 70.00 |
| Soil Type C - Grass/Meadow | 72 | .510 | | | 72.00 |
| Soil Type D - Wooded | 79 | 1.810 | | | 79.00 |
| Impervious | 98 | .860 | | | 98.00 |
| COMPOSITE AREA & WEIGHTED CN ---> | | 17.780 | | | 63.99 (64) |

# SCS UNIT HYDROGRAPH METHOD
(Computational Notes)

DEFINITION OF TERMS: ----------

At = Total area (acres): At = Ai+Ap
Ai = Impervious area (acres)
Ap = Pervious area (acres)
CNi = Runoff curve number for impervious area
CNp = Runoff curve number for pervious area
fLoss = f loss constant infiltration (depth/time)
gKs = Saturated Hydraulic Conductivity (depth/time)
Md = Volumetric Moisture Deficit
Psi = Capillary Suction (length)
hK = Horton Infiltration Decay Rate (time^-1)
fo = Initial Infiltration Rate (depth/time)
fc = Ultimate(capacity)Infiltration Rate (depth/time)
Ia = Initial Abstraction (length)
dt = Computational increment (duration of unit excess rainfall)
Default dt is smallest value of 0.1333Tc, rtm, and th
(Smallest dt is then adjusted to match up with Tp)
UDdt = User specified override computational main time increment
(only used if UDdt is => .1333Tc)
D(t) = Point on distribution curve (fraction of P) for time step t

K = 2 / (1 + (Tr/Tp)): default K = 0.75: (for Tr/Tp = 1.67)
Ks = Hydrograph shape factor
= Unit Conversions * K:
= ((1hr/3600sec) * (1ft/12in) * ((5280ft)**2/sq.mi)) * K
Default Ks = 645.333 * 0.75 = 484

Lag = Lag time from center of excess runoff (dt) to Tp: Lag = 0.6Tc
P = Total precipitation depth, inches
Pa(t) = Accumulated rainfall at time step t
Pi(t) = Incremental rainfall at time step t
qp = Peak discharge (cfs) for 1in. runoff, for 1hr, for 1 sq.mi.
= (Ks * A * Q) / Tp (where Q = 1in. runoff, A=sq.mi.)
Qu(t) = Unit hydrograph ordinate (cfs) at time step t
Q(t) = Final hydrograph ordinate (cfs) at time step t
Rai(t) = Accumulated runoff (inches) at time step t for impervious area
Rap(t) = Accumulated runoff (inches) at time step t for pervious area
Rii(t) = Incremental runoff (inches) at time step t for impervious area
Rip(t) = Incremental runoff (inches) at time step t for pervious area
R(t) = Incremental weighted total runoff (inches)
Rtm = Time increment for rainfall table
Si = S for impervious area: Si = (1000/CNi) - 10
Sp = S for pervious area: Sp = (1000/CNp) - 10
t = Time step (row) number
Tc = Time of concentration
Tb = Time (hrs) of entire unit hydrograph: Tb = Tp + Tr
Tp = Time (hrs) to peak of a unit hydrograph: Tp = (dt/2) + Lag
Tr = Time (hrs) of receding limb of unit hydrograph: Tr = ratio of Tp

SCS UNIT HYDROGRAPH METHOD
(Computational Notes)

PRECIPITATION: ----------
Column (1): Time for time step t
Column (2): D(t) = Point on distribution curve for time step t
Column (3): Pi(t) = Pa(t) - Pa(t-1): Col.(4) - Preceding Col.(4)
Column (4): Pa(t) = D(t) x P: Col.(2) x P

PERVIOUS AREA RUNOFF (using SCS Runoff CN Method) ----------
Column (5): Rap(t) = Accumulated pervious runoff for time step t
If (Pa(t) is <= 0.2Sp) then use: Rap(t) = 0.0
If (Pa(t) is > 0.2Sp) then use:

Rap(t) = (Col.(4)-0.2Sp)**2 / (Col.(4)+0.8Sp)

Column (6): Rip(t) = Incremental pervious runoff for time step t
Rip(t) = Rap(t) - Rap(t-1)
Rip(t) = Col.(5) for current row - Col.(5) for preceding row.

IMPERVIOUS AREA RUNOFF ----------
Column (7 & 8)... Did not specify to use impervious areas.

INCREMENTAL WEIGHTED RUNOFF: ----------
Column (9): R(t) = (Ap/At) x Rip(t) + (Ai/At) x Rii(t)
R(t) = (Ap/At) x Col.(6) + (Ai/At) x Col.(8)

SCS UNIT HYDROGRAPH METHOD: ----------
Column (10): Q(t) is computed with the SCS unit hydrograph method
using R() and Qu().

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm
Duration = 24.0000 hrs Rain Depth = 3.2000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - PRDA 2 2 YR
Tc = .3752 hrs
Drainage Area = 17.780 acres Runoff CN= 64

==========

| | | |
|---|---|---|
| Computational Time Increment | = | .05002 hrs |
| Computed Peak Time | = | 12.3559 hrs |
| Computed Peak Flow | = | 5.66 cfs |
| Time Increment for HYG File | = | .0500 hrs |
| Peak Time, Interpolated Output | = | 12.3500 hrs |
| Peak Flow, Interpolated Output | = | 5.65 cfs |

==========

DRAINAGE AREA

ID:PRDA 2
CN = 64
Area = 17.780 acres
S = 5.6250 in
0.2S = 1.1250 in

Cumulative Runoff

.5592 in
.829 ac-ft

HYG Volume... .829 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .37518 hrs (ID: PRDA 2)
Computational Incr, Tm = .05002 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

| | | |
|---|---|---|
| Unit peak, | qp = | 53.70 cfs |
| Unit peak time | Tp = | .25012 hrs |
| Unit receding limb, | Tr = | 1.00048 hrs |
| Total unit time, | Tb = | 1.25060 hrs |

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 10 year storm
Duration = 24.0000 hrs Rain Depth = 4.7000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - PRDA 2 10 YR
Tc = .3752 hrs
Drainage Area = 17.780 acres Runoff CN= 64

==========

| | | |
|---|---|---|
| Computational Time Increment | = | .05002 hrs |
| Computed Peak Time | = | 12.3059 hrs |
| Computed Peak Flow | = | 16.96 cfs |
| Time Increment for HYG File | = | .0500 hrs |
| Peak Time, Interpolated Output | = | 12.3000 hrs |
| Peak Flow, Interpolated Output | = | 16.92 cfs |

==========

DRAINAGE AREA

ID:PRDA 2
CN = 64
Area = 17.780 acres
S = 5.6250 in
0.2S = 1.1250 in

Cumulative Runoff

1.3892 in
2.058 ac-ft

HYG Volume... 2.058 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .37518 hrs (ID: PRDA 2)
Computational Incr, Tm = .05002 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

| | | |
|---|---|---|
| Unit peak, | qp = | 53.70 cfs |
| Unit peak time | Tp = | .25012 hrs |
| Unit receding limb, | Tr = | 1.00048 hrs |
| Total unit time, | Tb = | 1.25060 hrs |

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm
Duration = 24.0000 hrs Rain Depth = 5.5000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - PRDA 2 25 YR
Tc = .3752 hrs
Drainage Area = 17.780 acres Runoff CN= 64

==========

| | | |
|---|---|---|
| Computational Time Increment | = | .05002 hrs |
| Computed Peak Time | = | 12.3059 hrs |
| Computed Peak Flow | = | 24.09 cfs |
| Time Increment for HYG File | = | .0500 hrs |
| Peak Time, Interpolated Output | = | 12.3000 hrs |
| Peak Flow, Interpolated Output | = | 24.07 cfs |

==========

DRAINAGE AREA

ID:PRDA 2
CN = 64
Area = 17.780 acres
S = 5.6250 in
0.2S = 1.1250 in

Cumulative Runoff

1.9141 in
2.836 ac-ft

HYG Volume... 2.836 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .37518 hrs (ID: PRDA 2)
Computational Incr, Tm = .05002 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

| | | |
|---|---|---|
| Unit peak, | qp = | 53.70 cfs |
| Unit peak time | Tp = | .25012 hrs |
| Unit receding limb, | Tr = | 1.00048 hrs |
| Total unit time, | Tb = | 1.25060 hrs |

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 50 year storm
Duration = 24.0000 hrs Rain Depth = 6.2000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - PRDA 2 50 YR
Tc = .3752 hrs
Drainage Area = 17.780 acres Runoff CN= 64

==========

| | | |
|---|---|---|
| Computational Time Increment | = | .05002 hrs |
| Computed Peak Time | = | 12.3059 hrs |
| Computed Peak Flow | = | 30.73 cfs |
| Time Increment for HYG File | = | .0500 hrs |
| Peak Time, Interpolated Output | = | 12.3000 hrs |
| Peak Flow, Interpolated Output | = | 30.72 cfs |

==========

DRAINAGE AREA

ID:PRDA 2
CN = 64
Area = 17.780 acres
S = 5.6250 in
0.2S = 1.1250 in

Cumulative Runoff

2.4071 in
3.566 ac-ft

HYG Volume... 3.566 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .37518 hrs (ID: PRDA 2)
Computational Incr, Tm = .05002 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

| | | |
|---|---|---|
| Unit peak, | qp = | 53.70 cfs |
| Unit peak time | Tp = | .25012 hrs |
| Unit receding limb, | Tr = | 1.00048 hrs |
| Total unit time, | Tb = | 1.25060 hrs |

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 7.0000 in
Rain Dir = C:\Program Files\Haestad\PPKW\PPW\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = C:\Program Files\Haestad\PPKW\PPW\
HYG File - ID = - PRDA 2 100 YR
Tc = .3752 hrs
Drainage Area = 17.780 acres Runoff CN= 64

==========
Computational Time Increment = .05002 hrs
Computed Peak Time = 12.2559 hrs
Computed Peak Flow = 38.77 cfs

Time Increment for HYG File = .0500 hrs
Peak Time, Interpolated Output = 12.3000 hrs
Peak Flow, Interpolated Output = 38.68 cfs
==========

DRAINAGE AREA
---
ID:PRDA 2
CN = 64
Area = 17.780 acres
S = 5.6250 in
0.2S = 1.1250 in

Cumulative Runoff
---
3.0014 in
4.447 ac-ft

HYG Volume... 4.447 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .37518 hrs (ID: PRDA 2)
Computational Incr, Tm = .05002 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 53.70 cfs
Unit peak time Tp = .25012 hrs
Unit receding limb, Tr = 1.00048 hrs
Total unit time, Tb = 1.25060 hrs

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 2

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 2 | PRDA 2 | | PRDA 2 | 2 YR |

INFLOWS TO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | PRDA 2 | 2 YR | .829 | 12.3500 | 5.65 |

TOTAL FLOW INTO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 2 | 2 YR | .829 | 12.3500 | 5.65 |

TOTAL NODE INFLOW...
HYG file =
HYG ID = DP 2
HYG Tag = 2 YR

| | |
|---|---|
| Peak Discharge = | 5.65 cfs |
| Time to Peak = | 12.3500 hrs |
| HYG Volume = | .829 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 11.7500 | .00 | .01 | .03 | .10 | .27 |
| 12.0000 | .62 | 1.24 | 2.13 | 3.19 | 4.23 |
| 12.2500 | 5.02 | 5.49 | 5.65 | 5.58 | 5.36 |
| 12.5000 | 5.05 | 4.67 | 4.26 | 3.82 | 3.41 |
| 12.7500 | 3.05 | 2.74 | 2.50 | 2.30 | 2.14 |
| 13.0000 | 2.01 | 1.89 | 1.79 | 1.70 | 1.62 |
| 13.2500 | 1.55 | 1.50 | 1.46 | 1.42 | 1.39 |
| 13.5000 | 1.37 | 1.34 | 1.32 | 1.30 | 1.28 |
| 13.7500 | 1.26 | 1.24 | 1.22 | 1.21 | 1.19 |
| 14.0000 | 1.17 | 1.15 | 1.13 | 1.11 | 1.09 |
| 14.2500 | 1.07 | 1.06 | 1.05 | 1.03 | 1.02 |
| 14.5000 | 1.01 | 1.00 | .99 | .98 | .97 |
| 14.7500 | .96 | .95 | .94 | .93 | .92 |
| 15.0000 | .91 | .90 | .89 | .88 | .87 |
| 15.2500 | .86 | .85 | .84 | .83 | .82 |
| 15.5000 | .81 | .79 | .78 | .77 | .76 |
| 15.7500 | .75 | .74 | .72 | .71 | .70 |
| 16.0000 | .69 | .68 | .66 | .65 | .64 |
| 16.2500 | .63 | .62 | .62 | .61 | .60 |
| 16.5000 | .60 | .59 | .59 | .58 | .57 |
| 16.7500 | .57 | .56 | .56 | .55 | .55 |
| 17.0000 | .54 | .54 | .53 | .53 | .52 |
| 17.2500 | .52 | .51 | .50 | .50 | .49 |
| 17.5000 | .49 | .48 | .48 | .47 | .47 |
| 17.7500 | .46 | .45 | .45 | .44 | .44 |
| 18.0000 | .43 | .43 | .42 | .42 | .41 |
| 18.2500 | .41 | .40 | .40 | .40 | .39 |
| 18.5000 | .39 | .39 | .39 | .39 | .39 |
| 18.7500 | .38 | .38 | .38 | .38 | .38 |
| 19.0000 | .38 | .37 | .37 | .37 | .37 |
| 19.2500 | .37 | .37 | .36 | .36 | .36 |

Name.... DP 2 Event: 2 yr
File.... C:\Program Files\Haestad\PPKW\PPW\3092 PRDA 2.PPW
Storm... TypeIII 24hr Tag: 2 YR

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 19.5000 | .36 | .36 | .36 | .35 | .35 |
| 19.7500 | .35 | .35 | .35 | .35 | .34 |
| 20.0000 | .34 | .34 | .34 | .34 | .34 |
| 20.2500 | .34 | .33 | .33 | .33 | .33 |
| 20.5000 | .33 | .33 | .33 | .32 | .32 |
| 20.7500 | .32 | .32 | .32 | .32 | .32 |
| 21.0000 | .32 | .31 | .31 | .31 | .31 |
| 21.2500 | .31 | .31 | .31 | .31 | .30 |
| 21.5000 | .30 | .30 | .30 | .30 | .30 |
| 21.7500 | .30 | .30 | .29 | .29 | .29 |
| 22.0000 | .29 | .29 | .29 | .29 | .28 |
| 22.2500 | .28 | .28 | .28 | .28 | .28 |
| 22.5000 | .28 | .28 | .27 | .27 | .27 |
| 22.7500 | .27 | .27 | .27 | .27 | .26 |
| 23.0000 | .26 | .26 | .26 | .26 | .26 |
| 23.2500 | .26 | .25 | .25 | .25 | .25 |
| 23.5000 | .25 | .25 | .25 | .25 | .24 |
| 23.7500 | .24 | .24 | .24 | .24 | .24 |
| 24.0000 | .24 | .23 | .22 | .19 | .16 |
| 24.2500 | .13 | .10 | .07 | .05 | .04 |
| 24.5000 | .03 | .02 | .01 | .01 | .01 |
| 24.7500 | .00 | .00 | .00 | .00 | .00 |
| 25.0000 | .00 | | | | |

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 2

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 2 | PRDA 2 | | PRDA 2 | 10 YR |

INFLOWS TO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | PRDA 2 | 10 YR | 2.058 | 12.3000 | 16.92 |

TOTAL FLOW INTO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 2 | 10 YR | 2.058 | 12.3000 | 16.92 |

TOTAL NODE INFLOW...
HYG file =
HYG ID = DP 2
HYG Tag = 10 YR

| | |
|---|---|
| Peak Discharge = | 16.92 cfs |
| Time to Peak = | 12.3000 hrs |
| HYG Volume = | 2.058 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 10.9000 | .00 | .00 | .01 | .01 | .03 |
| 11.1500 | .05 | .08 | .11 | .15 | .20 |
| 11.4000 | .25 | .31 | .38 | .47 | .57 |
| 11.6500 | .71 | .92 | 1.21 | 1.62 | 2.16 |
| 11.9000 | 2.85 | 3.84 | 5.26 | 7.31 | 9.91 |
| 12.1500 | 12.63 | 14.99 | 16.46 | 16.92 | 16.58 |
| 12.4000 | 15.74 | 14.59 | 13.37 | 12.10 | 10.81 |
| 12.6500 | 9.55 | 8.40 | 7.40 | 6.59 | 5.94 |
| 12.9000 | 5.42 | 5.00 | 4.65 | 4.34 | 4.08 |
| 13.1500 | 3.85 | 3.65 | 3.49 | 3.36 | 3.25 |
| 13.4000 | 3.16 | 3.08 | 3.02 | 2.96 | 2.91 |
| 13.6500 | 2.85 | 2.81 | 2.76 | 2.71 | 2.66 |
| 13.9000 | 2.62 | 2.57 | 2.52 | 2.48 | 2.43 |
| 14.1500 | 2.39 | 2.34 | 2.31 | 2.27 | 2.24 |
| 14.4000 | 2.21 | 2.18 | 2.16 | 2.13 | 2.11 |
| 14.6500 | 2.09 | 2.06 | 2.04 | 2.02 | 1.99 |
| 14.9000 | 1.97 | 1.95 | 1.92 | 1.90 | 1.88 |
| 15.1500 | 1.85 | 1.83 | 1.80 | 1.78 | 1.75 |
| 15.4000 | 1.73 | 1.71 | 1.68 | 1.66 | 1.63 |
| 15.6500 | 1.60 | 1.58 | 1.55 | 1.53 | 1.50 |
| 15.9000 | 1.48 | 1.45 | 1.42 | 1.40 | 1.37 |
| 16.1500 | 1.35 | 1.33 | 1.31 | 1.29 | 1.27 |
| 16.4000 | 1.26 | 1.24 | 1.23 | 1.22 | 1.20 |
| 16.6500 | 1.19 | 1.18 | 1.17 | 1.16 | 1.15 |
| 16.9000 | 1.13 | 1.12 | 1.11 | 1.10 | 1.09 |
| 17.1500 | 1.08 | 1.06 | 1.05 | 1.04 | 1.03 |
| 17.4000 | 1.02 | 1.01 | 1.00 | .98 | .97 |
| 17.6500 | .96 | .95 | .94 | .92 | .91 |
| 17.9000 | .90 | .89 | .88 | .86 | .85 |
| 18.1500 | .84 | .83 | .82 | .82 | .81 |
| 18.4000 | .80 | .80 | .79 | .79 | .79 |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 18.6500 | .78 | .78 | .78 | .77 | .77 |
| 18.9000 | .76 | .76 | .76 | .75 | .75 |
| 19.1500 | .75 | .74 | .74 | .74 | .73 |
| 19.4000 | .73 | .73 | .72 | .72 | .72 |
| 19.6500 | .71 | .71 | .71 | .70 | .70 |
| 19.9000 | .70 | .69 | .69 | .68 | .68 |
| 20.1500 | .68 | .67 | .67 | .67 | .67 |
| 20.4000 | .66 | .66 | .66 | .65 | .65 |
| 20.6500 | .65 | .65 | .64 | .64 | .64 |
| 20.9000 | .64 | .63 | .63 | .63 | .63 |
| 21.1500 | .62 | .62 | .62 | .61 | .61 |
| 21.4000 | .61 | .61 | .60 | .60 | .60 |
| 21.6500 | .60 | .59 | .59 | .59 | .58 |
| 21.9000 | .58 | .58 | .58 | .57 | .57 |
| 22.1500 | .57 | .57 | .56 | .56 | .56 |
| 22.4000 | .55 | .55 | .55 | .55 | .54 |
| 22.6500 | .54 | .54 | .54 | .53 | .53 |
| 22.9000 | .53 | .52 | .52 | .52 | .52 |
| 23.1500 | .51 | .51 | .51 | .50 | .50 |
| 23.4000 | .50 | .50 | .49 | .49 | .49 |
| 23.6500 | .49 | .48 | .48 | .48 | .47 |
| 23.9000 | .47 | .47 | .46 | .45 | .43 |
| 24.1500 | .38 | .32 | .25 | .19 | .14 |
| 24.4000 | .10 | .07 | .05 | .04 | .03 |
| 24.6500 | .02 | .01 | .01 | .01 | .00 |
| 24.9000 | .00 | .00 | .00 | .00 | |

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 2

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 2 | PRDA 2 | | PRDA 2 | 25 YR |

INFLOWS TO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | PRDA 2 | 25 YR | 2.836 | 12.3000 | 24.07 |

TOTAL FLOW INTO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 2 | 25 YR | 2.836 | 12.3000 | 24.07 |

TOTAL NODE INFLOW...
HYG file =
HYG ID  = DP 2
HYG Tag  = 25 YR

| | |
|---|---|
| Peak Discharge = | 24.07 cfs |
| Time to Peak = | 12.3000 hrs |
| HYG Volume = | 2.836 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 10.3500 | .00 | .00 | .01 | .01 | .03 |
| 10.6000 | .04 | .07 | .09 | .12 | .16 |
| 10.8500 | .19 | .23 | .27 | .32 | .36 |
| 11.1000 | .41 | .46 | .52 | .59 | .66 |
| 11.3500 | .75 | .84 | .95 | 1.06 | 1.19 |
| 11.6000 | 1.36 | 1.60 | 1.94 | 2.43 | 3.08 |
| 11.8500 | 3.92 | 4.98 | 6.44 | 8.50 | 11.41 |
| 12.1000 | 15.02 | 18.74 | 21.85 | 23.68 | 24.07 |
| 12.3500 | 23.36 | 21.99 | 20.25 | 18.44 | 16.59 |
| 12.6000 | 14.76 | 12.99 | 11.39 | 10.01 | 8.88 |
| 12.8500 | 7.98 | 7.26 | 6.68 | 6.20 | 5.79 |
| 13.1000 | 5.43 | 5.11 | 4.85 | 4.62 | 4.44 |
| 13.3500 | 4.29 | 4.17 | 4.07 | 3.98 | 3.90 |
| 13.6000 | 3.83 | 3.76 | 3.69 | 3.63 | 3.56 |
| 13.8500 | 3.50 | 3.44 | 3.37 | 3.31 | 3.25 |
| 14.1000 | 3.18 | 3.13 | 3.07 | 3.02 | 2.97 |
| 14.3500 | 2.93 | 2.89 | 2.86 | 2.82 | 2.79 |
| 14.6000 | 2.76 | 2.72 | 2.69 | 2.66 | 2.63 |
| 14.8500 | 2.60 | 2.57 | 2.54 | 2.50 | 2.47 |
| 15.1000 | 2.44 | 2.41 | 2.38 | 2.34 | 2.31 |
| 15.3500 | 2.28 | 2.25 | 2.21 | 2.18 | 2.15 |
| 15.6000 | 2.12 | 2.08 | 2.05 | 2.02 | 1.98 |
| 15.8500 | 1.95 | 1.91 | 1.88 | 1.85 | 1.81 |
| 16.1000 | 1.78 | 1.75 | 1.72 | 1.69 | 1.67 |
| 16.3500 | 1.64 | 1.62 | 1.61 | 1.59 | 1.57 |
| 16.6000 | 1.56 | 1.54 | 1.52 | 1.51 | 1.49 |
| 16.8500 | 1.48 | 1.46 | 1.45 | 1.43 | 1.42 |
| 17.1000 | 1.40 | 1.39 | 1.37 | 1.36 | 1.34 |
| 17.3500 | 1.33 | 1.31 | 1.30 | 1.28 | 1.27 |
| 17.6000 | 1.25 | 1.24 | 1.22 | 1.21 | 1.19 |
| 17.8500 | 1.18 | 1.16 | 1.14 | 1.13 | 1.11 |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 18.1000 | 1.10 | 1.08 | 1.07 | 1.06 | 1.05 |
| 18.3500 | 1.04 | 1.03 | 1.03 | 1.02 | 1.02 |
| 18.6000 | 1.01 | 1.01 | 1.00 | 1.00 | .99 |
| 18.8500 | .99 | .98 | .98 | .97 | .97 |
| 19.1000 | .97 | .96 | .96 | .95 | .95 |
| 19.3500 | .94 | .94 | .93 | .93 | .92 |
| 19.6000 | .92 | .92 | .91 | .91 | .90 |
| 19.8500 | .90 | .89 | .89 | .88 | .88 |
| 20.1000 | .87 | .87 | .87 | .86 | .86 |
| 20.3500 | .85 | .85 | .85 | .84 | .84 |
| 20.6000 | .84 | .83 | .83 | .83 | .82 |
| 20.8500 | .82 | .81 | .81 | .81 | .80 |
| 21.1000 | .80 | .80 | .79 | .79 | .79 |
| 21.3500 | .78 | .78 | .78 | .77 | .77 |
| 21.6000 | .77 | .76 | .76 | .76 | .75 |
| 21.8500 | .75 | .75 | .74 | .74 | .74 |
| 22.1000 | .73 | .73 | .72 | .72 | .72 |
| 22.3500 | .71 | .71 | .71 | .70 | .70 |
| 22.6000 | .70 | .69 | .69 | .69 | .68 |
| 22.8500 | .68 | .67 | .67 | .67 | .66 |
| 23.1000 | .66 | .66 | .65 | .65 | .65 |
| 23.3500 | .64 | .64 | .63 | .63 | .63 |
| 23.6000 | .62 | .62 | .62 | .61 | .61 |
| 23.8500 | .61 | .60 | .60 | .59 | .58 |
| 24.1000 | .55 | .49 | .41 | .32 | .24 |
| 24.3500 | .18 | .13 | .09 | .07 | .05 |
| 24.6000 | .03 | .02 | .02 | .01 | .01 |
| 24.8500 | .01 | .00 | .00 | .00 | .00 |
| 25.1000 | .00 | | | | |

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 2

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 2 | PRDA 2 | | PRDA 2 | 50 YR |

INFLOWS TO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | PRDA 2 | 50 YR | 3.566 | 12.3000 | 30.72 |

TOTAL FLOW INTO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 2 | 50 YR | 3.566 | 12.3000 | 30.72 |

TOTAL NODE INFLOW...
HYG file =
HYG ID = DP 2
HYG Tag = 50 YR

| | |
|---|---|
| Peak Discharge = | 30.72 cfs |
| Time to Peak = | 12.3000 hrs |
| HYG Volume = | 3.566 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 9.9000 | .00 | .00 | .01 | .01 | .02 |
| 10.1500 | .04 | .06 | .08 | .11 | .14 |
| 10.4000 | .17 | .21 | .24 | .28 | .32 |
| 10.6500 | .37 | .41 | .46 | .51 | .56 |
| 10.9000 | .61 | .67 | .73 | .79 | .85 |
| 11.1500 | .92 | 1.00 | 1.09 | 1.20 | 1.32 |
| 11.4000 | 1.45 | 1.59 | 1.74 | 1.93 | 2.16 |
| 11.6500 | 2.49 | 2.96 | 3.62 | 4.51 | 5.65 |
| 11.9000 | 7.05 | 8.96 | 11.62 | 15.32 | 19.88 |
| 12.1500 | 24.50 | 28.29 | 30.42 | 30.72 | 29.66 |
| 12.4000 | 27.78 | 25.47 | 23.10 | 20.73 | 18.39 |
| 12.6500 | 16.14 | 14.12 | 12.39 | 10.97 | 9.84 |
| 12.9000 | 8.94 | 8.22 | 7.62 | 7.10 | 6.65 |
| 13.1500 | 6.26 | 5.93 | 5.65 | 5.42 | 5.24 |
| 13.4000 | 5.09 | 4.96 | 4.85 | 4.75 | 4.66 |
| 13.6500 | 4.57 | 4.49 | 4.41 | 4.33 | 4.25 |
| 13.9000 | 4.18 | 4.10 | 4.02 | 3.94 | 3.86 |
| 14.1500 | 3.79 | 3.72 | 3.66 | 3.60 | 3.55 |
| 14.4000 | 3.50 | 3.46 | 3.42 | 3.38 | 3.34 |
| 14.6500 | 3.30 | 3.26 | 3.22 | 3.18 | 3.14 |
| 14.9000 | 3.10 | 3.06 | 3.03 | 2.99 | 2.95 |
| 15.1500 | 2.91 | 2.87 | 2.83 | 2.79 | 2.75 |
| 15.4000 | 2.71 | 2.67 | 2.63 | 2.59 | 2.55 |
| 15.6500 | 2.51 | 2.47 | 2.43 | 2.39 | 2.35 |
| 15.9000 | 2.31 | 2.26 | 2.22 | 2.18 | 2.14 |
| 16.1500 | 2.10 | 2.07 | 2.04 | 2.01 | 1.98 |
| 16.4000 | 1.95 | 1.93 | 1.91 | 1.89 | 1.87 |
| 16.6500 | 1.85 | 1.83 | 1.82 | 1.80 | 1.78 |
| 16.9000 | 1.76 | 1.74 | 1.72 | 1.71 | 1.69 |
| 17.1500 | 1.67 | 1.65 | 1.63 | 1.61 | 1.60 |
| 17.4000 | 1.58 | 1.56 | 1.54 | 1.52 | 1.50 |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 17.6500 | 1.49 | 1.47 | 1.45 | 1.43 | 1.41 |
| 17.9000 | 1.39 | 1.37 | 1.36 | 1.34 | 1.32 |
| 18.1500 | 1.30 | 1.29 | 1.27 | 1.26 | 1.25 |
| 18.4000 | 1.24 | 1.23 | 1.23 | 1.22 | 1.21 |
| 18.6500 | 1.21 | 1.20 | 1.20 | 1.19 | 1.18 |
| 18.9000 | 1.18 | 1.17 | 1.17 | 1.16 | 1.16 |
| 19.1500 | 1.15 | 1.15 | 1.14 | 1.14 | 1.13 |
| 19.4000 | 1.12 | 1.12 | 1.11 | 1.11 | 1.10 |
| 19.6500 | 1.10 | 1.09 | 1.09 | 1.08 | 1.07 |
| 19.9000 | 1.07 | 1.06 | 1.06 | 1.05 | 1.05 |
| 20.1500 | 1.04 | 1.04 | 1.03 | 1.03 | 1.02 |
| 20.4000 | 1.02 | 1.01 | 1.01 | 1.00 | 1.00 |
| 20.6500 | 1.00 | .99 | .99 | .98 | .98 |
| 20.9000 | .97 | .97 | .97 | .96 | .96 |
| 21.1500 | .95 | .95 | .95 | .94 | .94 |
| 21.4000 | .93 | .93 | .92 | .92 | .92 |
| 21.6500 | .91 | .91 | .90 | .90 | .90 |
| 21.9000 | .89 | .89 | .88 | .88 | .87 |
| 22.1500 | .87 | .87 | .86 | .86 | .85 |
| 22.4000 | .85 | .84 | .84 | .84 | .83 |
| 22.6500 | .83 | .82 | .82 | .81 | .81 |
| 22.9000 | .81 | .80 | .80 | .79 | .79 |
| 23.1500 | .78 | .78 | .77 | .77 | .77 |
| 23.4000 | .76 | .76 | .75 | .75 | .75 |
| 23.6500 | .74 | .74 | .73 | .73 | .72 |
| 23.9000 | .72 | .71 | .71 | .69 | .65 |
| 24.1500 | .58 | .49 | .39 | .29 | .21 |
| 24.4000 | .15 | .11 | .08 | .06 | .04 |
| 24.6500 | .03 | .02 | .01 | .01 | .01 |
| 24.9000 | .00 | .00 | .00 | .00 | .00 |

SUMMARY FOR HYDROGRAPH ADDITION
at Node: DP 2

HYG Directory: C:\Program Files\Haestad\PPKW\PPW\

| Upstream Link ID | Upstream Node ID | HYG file | HYG ID | HYG tag |
|---|---|---|---|---|
| TO DP 2 | PRDA 2 | | PRDA 2 | 100 YR |

INFLOWS TO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | PRDA 2 | 100 YR | 4.447 | 12.3000 | 38.68 |

TOTAL FLOW INTO: DP 2

| HYG file | HYG ID | HYG tag | Volume ac-ft | Peak Time hrs | Peak Flow cfs |
|---|---|---|---|---|---|
| | DP 2 | 100 YR | 4.447 | 12.3000 | 38.68 |

TOTAL NODE INFLOW...
HYG file =
HYG ID = DP 2
HYG Tag = 100 YR

| | |
|---|---|
| Peak Discharge = | 38.68 cfs |
| Time to Peak = | 12.3000 hrs |
| HYG Volume = | 4.447 ac-ft |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 9.4500 | .00 | .00 | .01 | .02 | .03 |
| 9.7000 | .05 | .07 | .09 | .12 | .14 |
| 9.9500 | .17 | .21 | .24 | .27 | .31 |
| 10.2000 | .35 | .39 | .43 | .47 | .52 |
| 10.4500 | .57 | .62 | .67 | .73 | .79 |
| 10.7000 | .85 | .91 | .98 | 1.05 | 1.12 |
| 10.9500 | 1.19 | 1.26 | 1.34 | 1.42 | 1.52 |
| 11.2000 | 1.62 | 1.74 | 1.88 | 2.04 | 2.21 |
| 11.4500 | 2.40 | 2.61 | 2.85 | 3.16 | 3.60 |
| 11.7000 | 4.23 | 5.12 | 6.29 | 7.79 | 9.62 |
| 11.9500 | 12.06 | 15.43 | 20.10 | 25.78 | 31.45 |
| 12.2000 | 36.04 | 38.51 | 38.68 | 37.17 | 34.66 |
| 12.4500 | 31.67 | 28.64 | 25.62 | 22.68 | 19.86 |
| 12.7000 | 17.35 | 15.19 | 13.43 | 12.03 | 10.92 |
| 12.9500 | 10.02 | 9.27 | 8.63 | 8.08 | 7.60 |
| 13.2000 | 7.19 | 6.85 | 6.57 | 6.35 | 6.16 |
| 13.4500 | 6.00 | 5.87 | 5.74 | 5.63 | 5.52 |
| 13.7000 | 5.42 | 5.32 | 5.23 | 5.13 | 5.04 |
| 13.9500 | 4.94 | 4.84 | 4.75 | 4.66 | 4.57 |
| 14.2000 | 4.48 | 4.41 | 4.34 | 4.27 | 4.21 |
| 14.4500 | 4.16 | 4.11 | 4.06 | 4.01 | 3.96 |
| 14.7000 | 3.91 | 3.87 | 3.82 | 3.77 | 3.73 |
| 14.9500 | 3.68 | 3.63 | 3.58 | 3.54 | 3.49 |
| 15.2000 | 3.44 | 3.39 | 3.35 | 3.30 | 3.25 |
| 15.4500 | 3.20 | 3.15 | 3.11 | 3.06 | 3.01 |
| 15.7000 | 2.96 | 2.91 | 2.86 | 2.81 | 2.76 |
| 15.9500 | 2.71 | 2.66 | 2.61 | 2.56 | 2.52 |
| 16.2000 | 2.47 | 2.43 | 2.40 | 2.37 | 2.34 |
| 16.4500 | 2.31 | 2.29 | 2.26 | 2.24 | 2.21 |
| 16.7000 | 2.19 | 2.17 | 2.15 | 2.13 | 2.10 |
| 16.9500 | 2.08 | 2.06 | 2.04 | 2.02 | 1.99 |

HYDROGRAPH ORDINATES (cfs)
Output Time increment = .0500 hrs
Time on left represents time for first value in each row.

| Time hrs | | | | | |
|---|---|---|---|---|---|
| 17.2000 | 1.97 | 1.95 | 1.93 | 1.91 | 1.88 |
| 17.4500 | 1.86 | 1.84 | 1.82 | 1.80 | 1.77 |
| 17.7000 | 1.75 | 1.73 | 1.71 | 1.68 | 1.66 |
| 17.9500 | 1.64 | 1.62 | 1.59 | 1.57 | 1.55 |
| 18.2000 | 1.53 | 1.52 | 1.50 | 1.49 | 1.48 |
| 18.4500 | 1.47 | 1.46 | 1.45 | 1.45 | 1.44 |
| 18.7000 | 1.43 | 1.42 | 1.42 | 1.41 | 1.40 |
| 18.9500 | 1.40 | 1.39 | 1.39 | 1.38 | 1.37 |
| 19.2000 | 1.37 | 1.36 | 1.35 | 1.35 | 1.34 |
| 19.4500 | 1.33 | 1.33 | 1.32 | 1.31 | 1.31 |
| 19.7000 | 1.30 | 1.29 | 1.29 | 1.28 | 1.27 |
| 19.9500 | 1.27 | 1.26 | 1.25 | 1.25 | 1.24 |
| 20.2000 | 1.23 | 1.23 | 1.22 | 1.22 | 1.21 |
| 20.4500 | 1.21 | 1.20 | 1.20 | 1.19 | 1.19 |
| 20.7000 | 1.18 | 1.17 | 1.17 | 1.16 | 1.16 |
| 20.9500 | 1.15 | 1.15 | 1.14 | 1.14 | 1.14 |
| 21.2000 | 1.13 | 1.13 | 1.12 | 1.12 | 1.11 |
| 21.4500 | 1.10 | 1.10 | 1.09 | 1.09 | 1.08 |
| 21.7000 | 1.08 | 1.07 | 1.07 | 1.06 | 1.06 |
| 21.9500 | 1.05 | 1.05 | 1.04 | 1.04 | 1.03 |
| 22.2000 | 1.03 | 1.02 | 1.02 | 1.01 | 1.01 |
| 22.4500 | 1.00 | 1.00 | .99 | .99 | .98 |
| 22.7000 | .98 | .97 | .97 | .96 | .96 |
| 22.9500 | .95 | .95 | .94 | .94 | .93 |
| 23.2000 | .93 | .92 | .91 | .91 | .90 |
| 23.4500 | .90 | .90 | .89 | .89 | .88 |
| 23.7000 | .87 | .87 | .86 | .86 | .85 |
| 23.9500 | .85 | .84 | .82 | .77 | .69 |
| 24.2000 | .58 | .46 | .34 | .25 | .18 |
| 24.4500 | .13 | .09 | .07 | .05 | .03 |
| 24.7000 | .02 | .02 | .01 | .01 | .01 |
| 24.9500 | .00 | .00 | .00 | .00 | |