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MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID SEDGWICK.RN Sedgwick24

Return Event	Total Depth in	Rainfall Type	RNF File	RNF ID
2y24h	3.5000	Synthetic Curve	SCSTYPES	Type I 24hr
5y24h	4.5000	Synthetic Curve	SCSTYPES	Type I 24hr
100y24	7.9000	Synthetic Curve	SCSTYPES	Type I 24hr

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

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

Storage Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond ac-ft
DEVELOPED LOTS	AREA	2	2.712		12.0500	38.69		
DEVELOPED LOTS	AREA	5	4.272		12.0500	61.94		
DEVELOPED LOTS	AREA	100	10.316		12.0500	148.67		
EAST POND IN	POND	2	2.712		12.0500	38.69		
EAST POND IN	POND	5	4.272		12.0500	61.94		
EAST POND IN	POND	100	10.316		12.0500	148.67		
EAST POND OUT	POND	2	2.711		12.7000	4.90	1331.20	1.202
EAST POND OUT	POND	5	4.270		12.5500	10.12	1331.83	1.901
EAST POND OUT	POND	100	10.314		12.5000	25.50	1333.95	4.818
*EXISTING SWS	JCT	2	2.711		12.7000	4.90		
*EXISTING SWS	JCT	5	4.270		12.5500	10.12		
*EXISTING SWS	JCT	100	10.314		12.5000	25.50		

Type... Design Storms
Name... Sedgwick24

File... C:\HAESTAD\PPKW\RAINFALL\SEDGWICK.RNO
Title...

JOB TITLE NOT SPECIFIED
Click Project Summary on the File Menu to enter title

DESIGN STORMS SUMMARY

Design Storm File, ID = SEDGWICK.RNO Sedgwick24

Storm Tag Name = 2y24h

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeI 24hr
Storm Frequency = 2 yr
Total Rainfall Depth= 3.5000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 5y24h
Description: Sedgwick County 5-yr 24 hour Duration

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeI 24hr
Storm Frequency = 5 yr
Total Rainfall Depth= 4.5000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 100y24
Description: Sedgwick County 100-yr 24 hour Duration

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeI 24hr
Storm Frequency = 100 yr
Total Rainfall Depth= 7.9000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

File. . . . F:\HYDRO\PROJECTS\NORTHGATE\PONDPACK\EAST POND.PPW

Elevation (ft)	Planimeter (sq. in)	Area (acres)	A1+A2+sqr(A1*A2) (acres)	Volume (ac-ft)	Volume Sum (ac-ft)
1330.00	-----	1.0000	.0000	.000	.000
1331.00	-----	1.0000	3.0000	1.000	1.000
1332.00	-----	1.2000	3.2954	1.098	2.098
1333.00	-----	1.4000	3.8961	1.299	3.397
1334.00	-----	1.6000	4.4967	1.499	4.896

POND VOLUME EQUATIONS

* Incremental volume computed by the Conic Method for Reservoir Volumes.

$$\text{Volume} = (1/3) * (\text{EL2}-\text{EL1}) * (\text{Area1} + \text{Area2} + \text{sq. rt.}(\text{Area1}*\text{Area2}))$$

where: EL1, EL2 = Lower and upper elevations of the increment
 Area1, Area2 = Areas computed for EL1, EL2, respectively
 Volume = Incremental volume between EL1 and EL2

Type... Outlet Input Data
Name... OUTLET

File... F:\HYDRO\PROJECTS\NORTHGATE\PONDPACK\EAST POND.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev. = 1330.00 ft
Increment = .50 ft
Max. Elev. = 1334.00 ft

OUTLET CONNECTIVITY

---> Forward Flow Only (UpStream to DnStream)
<--- Reverse Flow Only (DnStream to UpStream)
<---> Forward and Reverse Both Allowed

Structure	No.	Outfall	E1, ft	E2, ft
----- Culvert-Circular TW SETUP, DS Channel	CV	---> TW	1330.000	1334.000

File... F:\HYDRO\PROJECTS\NORTHGATE\PONDPACK\EAST POND.PPW

OUTLET STRUCTURE INPUT DATA

Structure ID = CV
Structure Type = Culvert-Circular

No. Barrels = 1
Barrel Diameter = 2.0000 ft
Upstream Invert = 1330.00 ft
Dnstream Invert = 1329.30 ft
Horiz. Length = 55.00 ft
Barrel Length = 55.00 ft
Barrel Slope = .01273 ft/ft

OUTLET CONTROL DATA...

Mannings n = .0130
Ke = .5000 (forward entrance loss)
Kb = .012411 (per ft of full flow)
Kr = .5000 (reverse entrance loss)
HW Convergence = .001 +/- ft

INLET CONTROL DATA...

Equation form = 1
Inlet Control K = .0098
Inlet Control M = 2.0000
Inlet Control c = .03980
Inlet Control Y = .6700
T1 ratio (HW/D) = 1.154
T2 ratio (HW/D) = 1.300
Slope Factor = -.500

Use unsubmerged inlet control Form 1 equ. below T1 elev.
Use submerged inlet control Form 1 equ. above T2 elev.

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

At T1 Elev = 1332.31 ft ---> Flow = 15.55 cfs
At T2 Elev = 1332.60 ft ---> Flow = 17.77 cfs

Structure ID = TW
Structure Type = TW SETUP, DS Channel

FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...

Maximum Iterations = 30
Min. TW tolerance = .01 ft
Max. TW tolerance = .01 ft
Min. HW tolerance = .01 ft
Max. HW tolerance = .01 ft
Min. Q tolerance = .10 cfs
Max. Q tolerance = .10 cfs

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----- S -----
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----- W -----
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