



TRANSMITTAL

TO: FROM: Jerry Kingsley
Vicky Huang, P.E. DATE: 10/6/2005
COMPANY: City of Wichita
ADDRESS: PROJECT: Copper Gate North Addition - Phase I
Engineering Dept. - 7th Floor
CITY/STATE: PROJECT NUMBER:
Wichita

RE:

VIA: DELIVERY

We are sending you ATTACHED UNDER SEPARATE COVER
 PLANS PRINTS SHOP DRAWINGS SAMPLES SPECS
 COPY OF LETTER CHANGE ORDER DISK OTHER

COPIES	DATE	DESCRIPTION
1	10/06/05	Grading Plan
1	10/06/05	Disk with PDF files of Grading Plan

URGENT FOR APPROVAL FOR YOUR INFO FOR REVIEW & COMMENT
 APPROVED, AS NOTED REVISE AS NOTED REVISE AND RETURN
 AS REQUESTED PLEASE REPLY FOR BIDS DUE

NOTES/ COMMENTS:

SIGNED: 
Jerry Kingsley
Copy: file

B a u g h m a n
C o m p a n y , P . A .
315 Ellis Street
Wichita, Kansas 67203
P 316.262.7271
F 316.262.0149



Baughman

TRANSMITTAL

TO:	FROM:
Vicky Huang	Trevor Kurth
COMPANY:	DATE:
City of Wichita	9/21/05
ADDRESS:	PROJECT:
	Ridge Plaza 8 th Lot Split
CITY/STATE:	PROJECT NUMBER:
Wichita, KS	
RE:	
Ridge Plaza 8 th Lot Split Drainage Plan	

VIA: DELIVERY

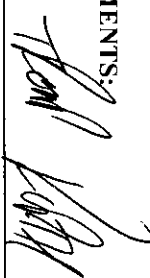
We are sending you ATTACHED UNDER SEPARATE COVER

PLANS PRINTS SHOP DRAWINGS SAMPLES SPECS
 COPY OF LETTER CHANGE ORDER DISK OTHER

COPIES	DATE	DESCRIPTION
2	9-21-05	Ridge Plaza 8 th Lot Split Drainage Plan

URGENT FOR APPROVAL FOR YOUR INFO FOR REVIEW & COMMENT
 APPROVED AS NOTED REVISE AS NOTED REVISE AND RETURN
 AS REQUESTED PLEASE REPLY FOR BIDS DUE

NOTES/ COMMENTS:

SIGNED:  _____
 Trevor R. Kurth, I.E.

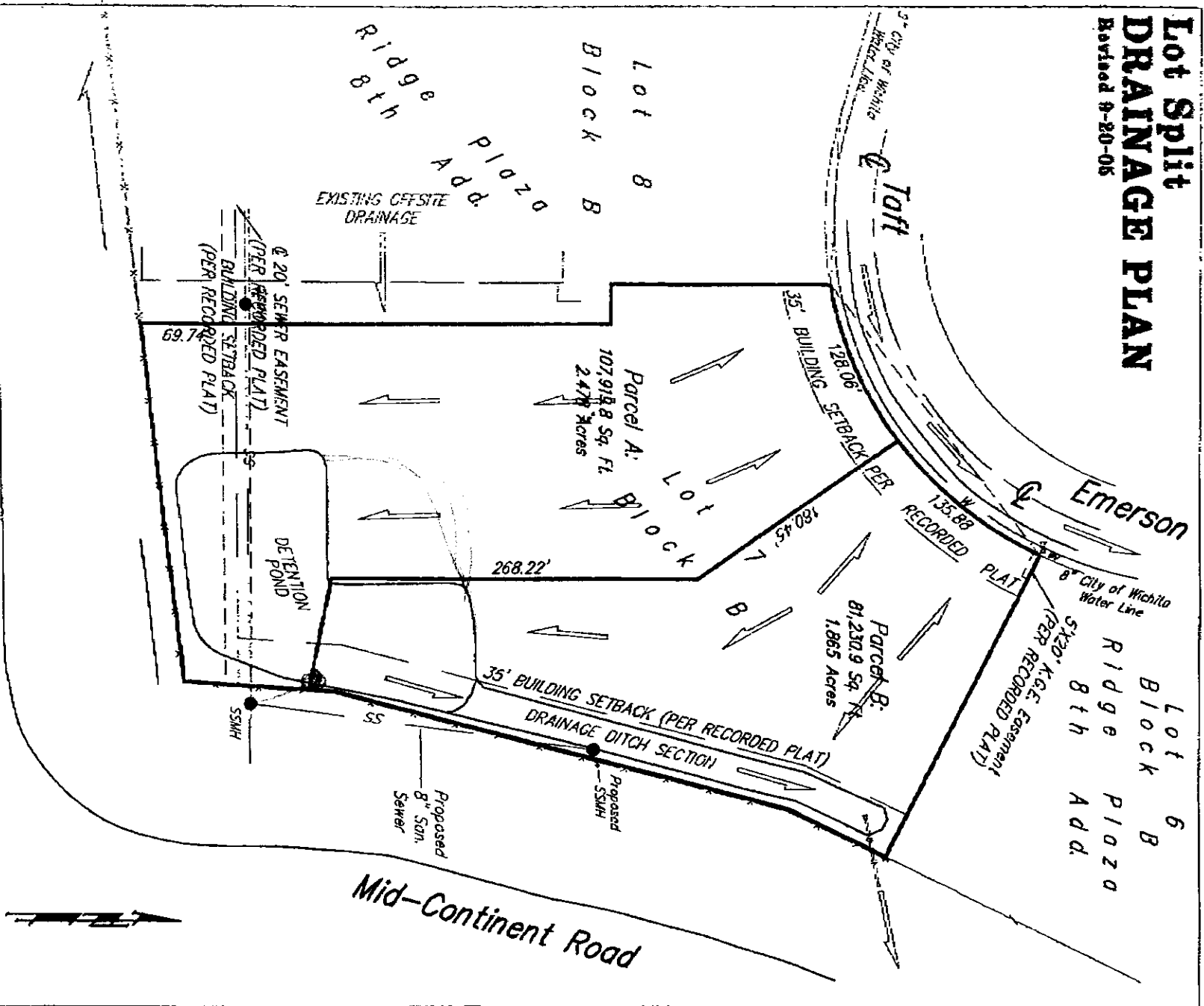
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 Company, P.A.
 315 Ellis Street
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RECEIVED
 SEP 23 2005
 CITY - ENGINEERING

Lot Split DRAINAGE PLAN

Revised 9-20-05



Kelllogg/U.S. Highway 54

Scale: 1"=100'

SSMH = Sanitary Sewer Manhole

WV = Water Valve

Force Line

Sanitary Sewer Line

Water Line

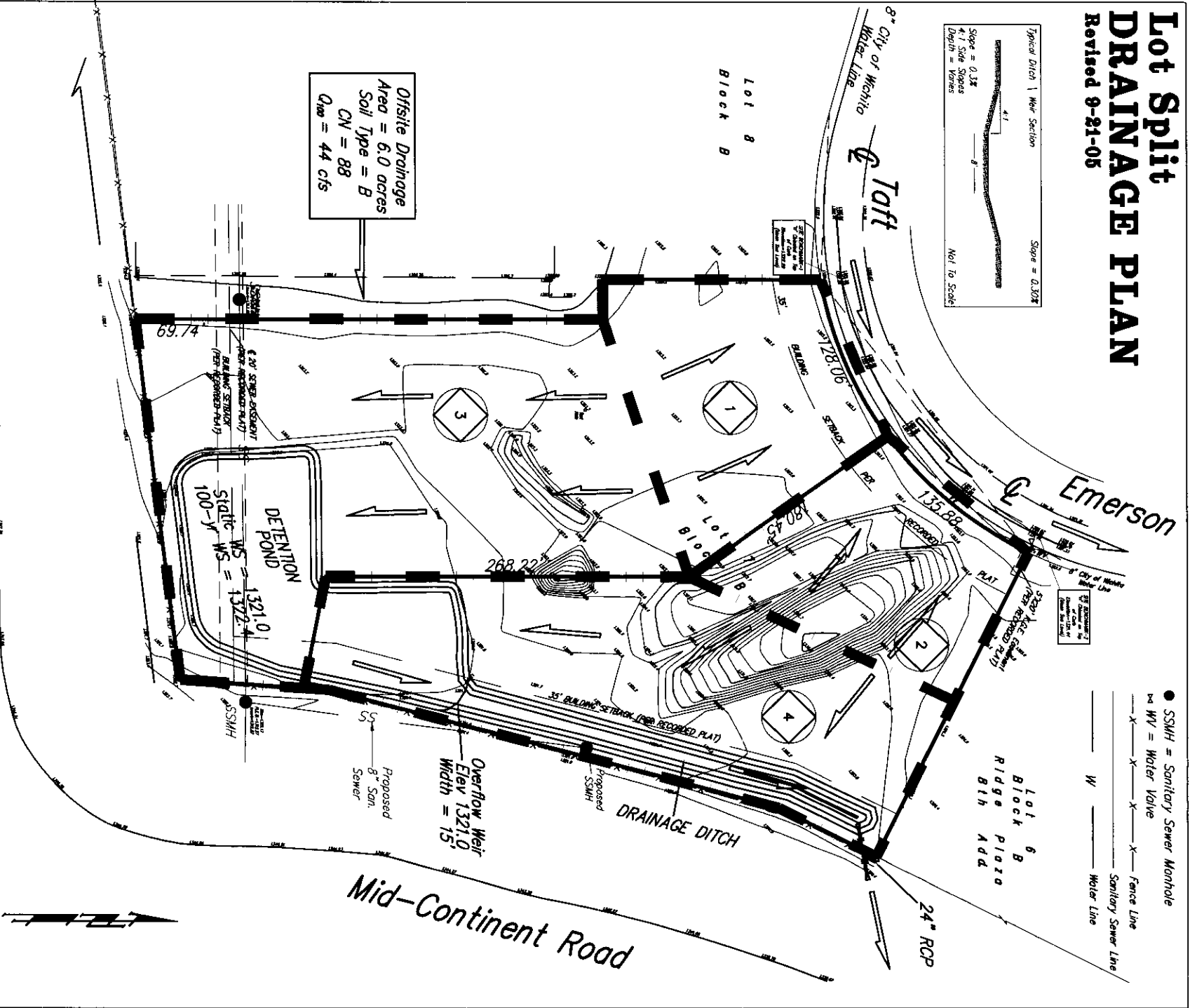
B Baughman Company, P.A.
 315 Ellis St. Wichita, KS 67211 P 316-262-7171 F 316-262-0149
 ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

F:\HYDRO\Projects\RidgePlaza8th\vdgplaza08017.dwg

Project No. 05-07-P702

Lot Split DRAINAGE PLAN

Revised 9-21-05



Offsite Drainage
Area = 6.0 acres
Soil Type = B
CN = 88
Q₁₀₀ = 44 cfs

Existing Intensity Rational C	2-yr		5-yr		100-yr	
	Intensity	Rational C	Intensity	Rational C	Intensity	Rational C
	3.83	0.4	4.56	0.45	7.37	0.66
					3.83	0.68
					4.56	0.7
					7.37	0.95

Basin ID	Area		Existing Flowrates		Developed Flowrates	
	acres	cfs	2-yr	5-yr	2-yr	5-yr
1	0.7	1.1	0.7	1.4	1.8	2.2
2	0.6	0.9	1.2	2.7	1.5	1.8
3	1.8	2.8	3.7	8.6	4.7	5.7
4	1.3	2.0	2.7	3.4	4.1	8.1
TOTAL	4.4	6.7	8.9	21	11.4	27

Kellogg/U.S. Highway 54

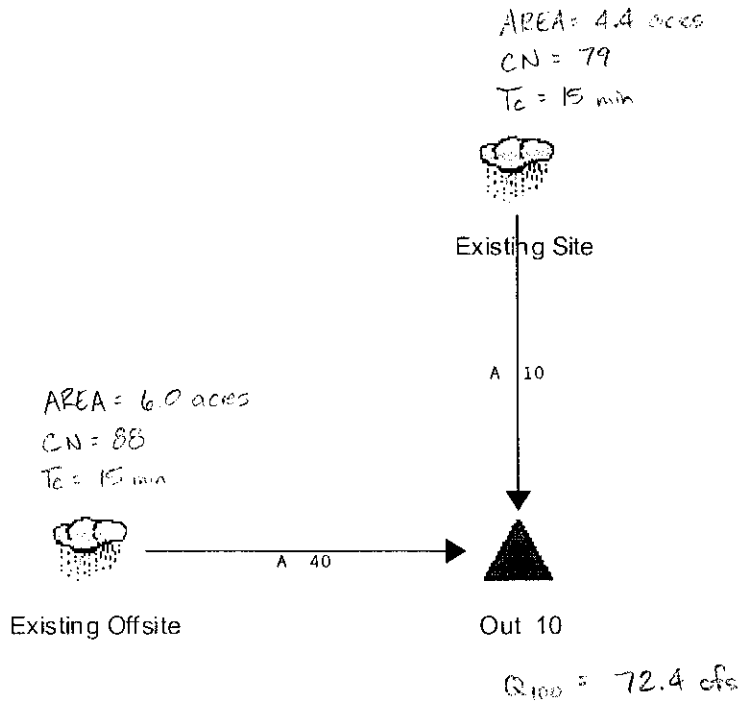
Scale: 1"=100'

Baughman **Company, P.A.**
315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149
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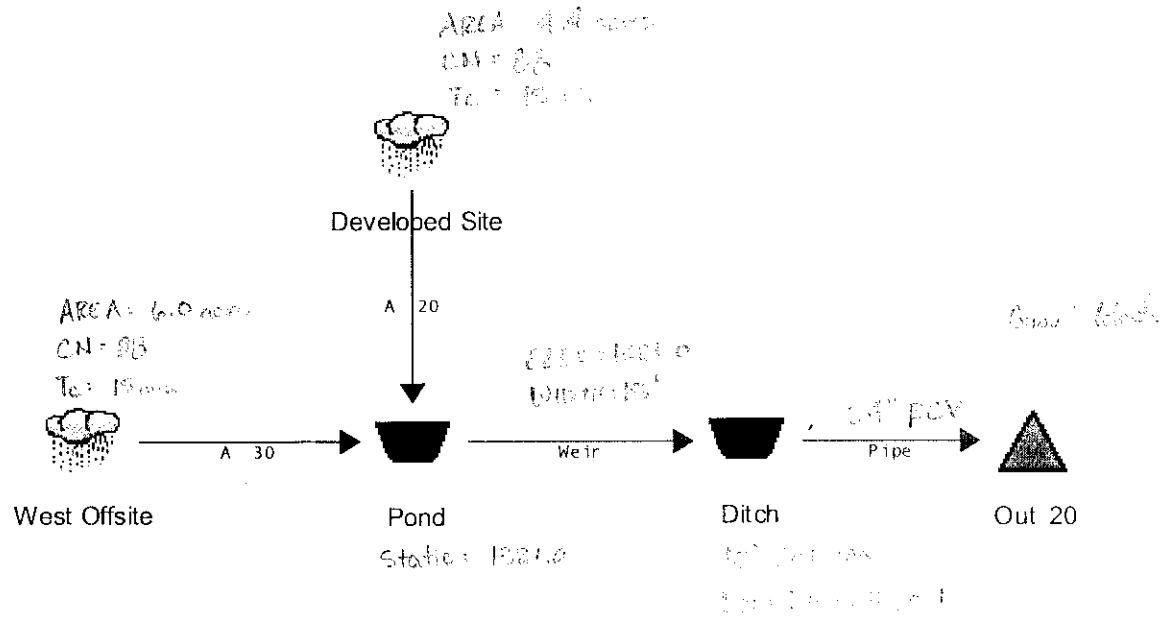
F:\HYDRO\Projects\RidgePlazaB1th\rdgplazaB1th.dwg

Project No. 05-07-P702

EXISTING



DEVELOPED



Job File: F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE.PPW
Rain Dir: C:\HAESTAD\PPKW\RAINFALL\

=====
JOB TITLE
=====

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

S/N: 121201A06A8A
PondPack Ver. 7.5 (767)

Baughman Company PA
Compute Time: 15:16:15

Date: 09/21/2005

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Design Storms 2.02

***** OUTLET STRUCTURES *****

DITCH\PIPE..... Outlet Input Data 3.01

PIPE..... Outlet Input Data 3.03

MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID SEDGWICK.RNQ Sedgwick24

Return Event	Total Depth In	Rainfall Type	RNF File	RNF ID
5y24h	4.5000	Synthetic Curve	SCSTYPES	TypeII 24hr
25y24h	6.1000	Synthetic Curve	SCS	SCSII
100y24	7.9000	Synthetic Curve	SCSTYPES	TypeII 24hr
2y24h	3.5000	Synthetic Curve	SCSTYPES	TypeII 24hr

MASTER NETWORK SUMMARY
 SCS Unit Hydrograph Method

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

Storage Node ID	Return Type Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Pond ac-ft
DEVELOPED SITE	AREA 5	1.172		12.0500	16.60		
DEVELOPED SITE	AREA 25	1.731		12.0000	10.56		
DEVELOPED SITE	AREA 100	2.373		12.0500	32.34		
DEVELOPED SITE	AREA 2	.832		12.0500	11.95		
DITCH	IN POND 5	2.770		12.1000	32.28		
DITCH	IN POND 25	4.093		12.0500	24.57		
DITCH	IN POND 100	5.608		12.1000	66.63		
DITCH	IN POND 2	1.966		12.1500	22.60		
DITCH	OUT POND 5	2.770		12.1500	32.31	1321.65	.094
DITCH	OUT POND 25	4.093		12.0500	24.54	1321.44	.078
DITCH	OUT POND 100	5.608		12.1500	65.61	1322.32	.149
DITCH	OUT POND 2	1.966		12.1500	22.45	1321.38	.074
EXISTING OFFSITE	AREA 5	1.598		12.0500	22.64		
EXISTING OFFSITE	AREA 25	2.361		12.0000	14.40		
EXISTING OFFSITE	AREA 100	3.235		12.0500	44.10		
EXISTING OFFSITE	AREA 2	1.134		12.0500	16.29		
EXISTING SITE	AREA 5	.871		12.0500	12.67		
EXISTING SITE	AREA 25	1.382		12.0000	9.00		
EXISTING SITE	AREA 100	1.985		12.0500	28.30		

Name..... Watershed
 File..... F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE.PPW

MASTER NETWORK SUMMARY
 SCS Unit Hydrograph Method

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

Storage Node ID	Return Type Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Pond Max ac-ft
EXISTING SITE	AREA 2	.574		12.0500	8.32		
*OUT 10	JCT 5	2.470		12.0500	35.30		
*OUT 10	JCT 25	3.743		12.0000	23.40		
*OUT 10	JCT 100	5.221		12.0500	72.39		
*OUT 10	JCT 2	1.709		12.0500	24.61		
*OUT 20	JCT 5	2.770		12.1500	32.31		
*OUT 20	JCT 25	4.093		12.0500	24.54		Out
*OUT 20	JCT 100	5.608		12.1500	65.61		
*OUT 20	JCT 2	1.966		12.1500	22.45		
POND	IN POND 5	2.770		12.0500	39.23		
POND	IN POND 25	4.093		12.0000	24.96		
POND	IN POND 100	5.608		12.0500	76.44		
POND	IN POND 2	1.966		12.0500	28.24		
POND	OUT POND 5	2.770		12.1000	32.28	1321.87	.383
POND	OUT POND 25	4.093		12.0500	24.57	1321.71	.310
POND	OUT POND 100	5.608		12.1000	66.63	1322.42	.669
POND	OUT POND 2	1.966		12.1500	22.60	1321.68	.292
WEST OFFSITE	AREA 5	1.598		12.0500	22.64		
WEST OFFSITE	AREA 25	2.361		12.0000	14.40		
WEST OFFSITE	AREA 100	3.235		12.0500	44.10		
WEST OFFSITE	AREA 2	1.134		12.0500	16.29		

Name..... Sedgwick24

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

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

DESIGN STORMS SUMMARY

Design Storm File, ID = SEDGWICK.RNQ Sedgwick24

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

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 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 = 25y24h
Description: Sedgwick County - 25 year - 24hour

Data Type, File, ID = Synthetic Storm SCS.RNF SCSII
Storm Frequency = 25 yr
Total Rainfall Depth= 6.1000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= 1.0000 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 TypeII 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

Storm Tag Name = 2y24h
Description: Sedgwick County 2-yr 24 hour Duration

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 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

Type..... Design Storms
Name..... Sedgwick24
File..... C:\HAESTAD\PPKW\RAINFALL\SEDGWICK.RNQ
Storm... TypeII 24hr Tag: 5y24h

DESIGN STORMS SUMMARY

Design Storm File, ID = SEDGWICK.RNQ Sedgwick24

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

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 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 = 25y24h
Description: Sedgwick County - 25 year - 24hour

Data Type, File, ID = Synthetic Storm SCS.RNF SCSII
Storm Frequency = 25 yr
Total Rainfall Depth= 6.1000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= 1.0000 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 TypeII 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

Storm Tag Name = 2y24h
Description: Sedgwick County 2-yr 24 hour Duration

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 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

Name... DITCH\PIPE

File... F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev. = 1321.00 ft
 Increment = .50 ft
 Max. Elev. = 1324.00 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
Weir-Rectangular	WR	----	TW	1321.000 1324.000
TW SETUP, DS Channel				

Name.... DITCH\PIPE

File.... F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE.PPW

OUTLET STRUCTURE INPUT DATA

```

Structure ID      = WR
Structure Type    = Weir-Rectangular
-----
# of Openings    =      1
Crest Elev.      = 1321.00 ft
Weir Length      = 15.00 ft
Weir Coeff.      = 2.600000

```

Weir TW effects (Use adjustment equation)

```

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

```

Name.... PIPE

File.... F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev. =	1320.10 ft
Increment =	.50 ft
Max. Elev. =	1323.00 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	CV	---->	TW 1320.100	1323.000
TW SETUP, DS Channel				

Name..... PIPE

File..... F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE.PPW

OUTLET STRUCTURE INPUT DATA

```

Structure ID      = CV
Structure Type    = Culvert-Circular
-----
No. Barrels      = 1
Barrel Diameter  = 24.0000 ft
Upstream Invert  = 1320.10 ft
Dnstream Invert  = 1320.00 ft
Horiz. Length    = 30.00 ft
Barrel Length    = 30.00 ft
Barrel Slope     = .00333 ft/ft

```

OUTLET CONTROL DATA...

```

Mannings n      = .0130
Ke               = .5000 (forward entrance loss)
Kb               = .000452 (per ft of full flow)
Kr               = .5000 (reverse entrance loss)
HW Convergence  = .001 +/- ft

```

INLET CONTROL DATA...

```

Equation form   = 1
Inlet Control K = .0078
Inlet Control M = 2.0000
Inlet Control C = .02920
Inlet Control Y = .7400
T1 ratio (HW/D) = 1.134
T2 ratio (HW/D) = 1.206
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 = 1347.32 ft ---> Flow = 7756.86 cfs
 At T2 Elev = 1349.03 ft ---> Flow = 8864.98 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

```

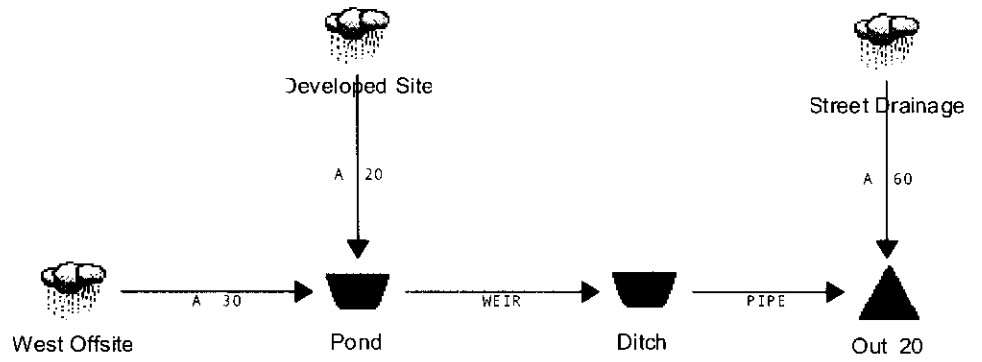
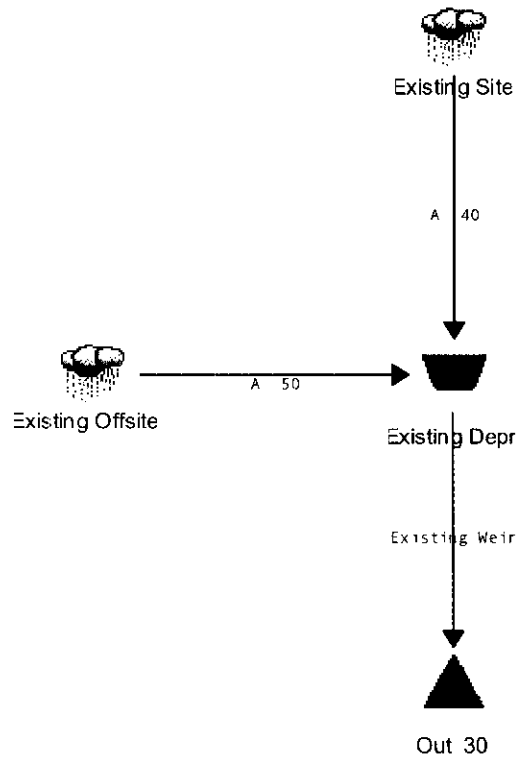
S/N: 121201A06A8A
PondPack Ver. 7.5 (767)

Baughman Company PA
Compute Time: 15:16:15

Date: 09/21/2005

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```
----- D -----  
DITCH\PIPE... 3.01  
----- P -----  
PIPE... 3.03  
----- S -----  
Sedgwick24... 2.01, 2.02  
----- W -----  
Watershed... 1.01
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Job File: F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE_REVISSED.PPW
Rain Dir: C:\HAESTAD\PPKW\RAINFALL\

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

S/N: 121201A06A8A
PondPack Ver. 7.5 (767)

Baughman Company PA
Compute Time: 13:49:42

Date: 09/26/2005

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***** OUTLET STRUCTURES *****

DITCH\PIPE..... Outlet Input Data 3.01

EXISTING WEIR... Outlet Input Data 3.03

PIPE..... Outlet Input Data 3.05

Name..... Watershed
 File..... F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE_REVISSED.PPW

MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID SEDGWICK.RNQ Sedgwick24

Return Event	Total Depth in	Rainfall Type	RNF File	RNF ID
5y24h	4.5000	Synthetic Curve	SCSTYPES	TypeII 24hr
25y24h	6.1000	Synthetic Curve	SCS	SCSII
100y24	7.9000	Synthetic Curve	SCSTYPES	TypeII 24hr
2y24h	3.5000	Synthetic Curve	SCSTYPES	TypeII 24hr

MASTER NETWORK SUMMARY
 SCS Unit Hydrograph Method

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

Storage Node ID	Type Event	Return HYG Vol ac-ft	Trun hrs	Qpeak cfs	Max WSEL ft	Pond ac-ft	Max
DEVELOPED SITE	AREA	5 .826	12.0500	11.70			
DEVELOPED SITE	AREA	25 1.220	12.0000	7.44			
DEVELOPED SITE	AREA	100 1.672	12.0500	22.78			
DEVELOPED SITE	AREA	2 .586	12.0500	8.42			
DITCH	IN POND	5 2.424	12.1000	28.01			
DITCH	IN POND	25 3.581	12.0500	21.49			
DITCH	IN POND	100 4.907	12.1000	58.02			
DITCH	IN POND	2 1.720	12.1500	19.46			
DITCH	OUT POND	5 2.424	12.1500	27.99	1321.54		.086
DITCH	OUT POND	25 3.581	12.0500	21.47	1321.35		.072
DITCH	OUT POND	100 4.907	12.1500	57.21	1322.18		.137
DITCH	OUT POND	2 1.720	12.1500	19.25	1321.28		.067
EXISTING DEPRIN	POND	5 2.470	12.0500	35.30			
EXISTING DEPRIN	POND	25 3.743	12.0000	23.40			
EXISTING DEPRIN	POND	100 5.221	12.0500	72.39			
EXISTING DEPRIN	POND	2 1.709	12.0500	24.61			
EXISTING DEPROUT	POND	5 2.470	12.1000	32.24	1321.22		.172
EXISTING DEPROUT	POND	25 3.743	12.0500	23.11	1321.16		.120
EXISTING DEPROUT	POND	100 5.221	12.1000	66.50	1321.45		.391

Name..... Watershed
 File..... F:\HYDRO\PROJECTS\BRIDGE PLAZA 8TH\VALUEPLACE_REVISSED.PPW

MASTER NETWORK SUMMARY
 SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diverision;)
 (Trun= HYG Truncation: Blank=None; L=Left; R=Right; LR=Left&rt)

Storage Node ID	Type Event	Return	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Pond ac-ft	Max
EXISTING DEPROUT	POND	2	1.709		12.1000	22.39	1321.15		.116
EXISTING OFFSITE	AREA	5	1.598		12.0500	22.64			
EXISTING OFFSITE	AREA	25	2.361		12.0000	14.40			
EXISTING OFFSITE	AREA	100	3.235		12.0500	44.10			
EXISTING OFFSITE	AREA	2	1.134		12.0500	16.29			
EXISTING SITE	AREA	5	.871		12.0500	12.67			
EXISTING SITE	AREA	25	1.382		12.0000	9.00			
EXISTING SITE	AREA	100	1.985		12.0500	28.30			
EXISTING SITE	AREA	2	.574		12.0500	8.32			
*OUT 20	JCT	5	2.770		12.1500	31.52			
*OUT 20	JCT	25	4.093		12.0500	24.51			
*OUT 20	JCT	100	5.608		12.1000	65.38			
*OUT 20	JCT	2	1.966		12.1500	21.81			
*OUT 30	JCT	5	2.470		12.1000	32.24			
*OUT 30	JCT	25	3.743		12.0500	23.11			
*OUT 30	JCT	100	5.221		12.1000	66.50			
*OUT 30	JCT	2	1.709		12.1000	22.39			
POND	IN POND	5	2.424		12.0500	34.33			
POND	IN POND	25	3.581		12.0000	21.84			
POND	IN POND	100	4.907		12.0500	66.88			
POND	IN POND	2	1.720		12.0500	24.71			
POND	OUT POND	5	2.424		12.1000	28.01	1321.78		.343
POND	OUT POND	25	3.581		12.0500	21.49	1321.65		.282
POND	OUT POND	100	4.907		12.1000	58.02	1322.29		.599
POND	OUT POND	2	1.720		12.1500	19.46	1321.61		.263
STREET DRAINAGE	AREA	5	.346		12.0500	4.90			
STREET DRAINAGE	AREA	25	.512		12.0000	3.12			
STREET DRAINAGE	AREA	100	.701		12.0500	9.55			

✓ 19083

Name..... Watershed
 File..... F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE_REVISSED.PPW

MASTER NETWORK SUMMARY
 SCS Unit Hydrograph Method

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

Storage Node ID	Type Event	Return	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Pond ac-ft	Max
STREET DRAINAGE AREA									
	2		.246		12.0500	3.53			
WEST OFFSITE AREA									
	5		1.598		12.0500	22.64			
WEST OFFSITE AREA									
	25		2.361		12.0000	14.40			
WEST OFFSITE AREA									
	100		3.235		12.0500	44.10			
WEST OFFSITE AREA									
	2		1.134		12.0500	16.29			

Type..... Design Storms

Name..... Sedgwick24

Page 2.01

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

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

DESIGN STORMS SUMMARY

Design Storm File, ID = SEDGWICK.RNQ Sedgwick24

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

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 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 = 25y24h
Description: Sedgwick County - 25 year - 24hour

Data Type, File, ID = Synthetic Storm SCS.RNF SCIII
Storm Frequency = 25 yr
Total Rainfall Depth= 6.1000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= 1.0000 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 TypeII 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

Storm Tag Name = 2y24h
Description: Sedgwick County 2-yr 24 hour Duration

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 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

Type.... Design Storms
Name..... Sedgwick24
File..... C:\HAESTAD\PPKW\RAINFALL\SEDGWICK.RNQ
Storm... TypeII 24hr Tag: 5y24h

DESIGN STORMS SUMMARY

Design Storm File.ID = SEDGWICK.RNQ Sedgwick24

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

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 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 = 25y24h
Description: Sedgwick County - 25 year - 24hour

Data Type, File, ID = Synthetic Storm SCS.RNF SCSTypes II
Storm Frequency = 25 yr
Total Rainfall Depth= 6.1000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= 1.0000 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 TypeII 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

Storm Tag Name = 2y24h
Description: Sedgwick County 2-yr 24 hour Duration

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeII 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

Type..... Outlet Input Data
Name..... DITCH\PIPE

File..... F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE_REVISIED.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev. = 1321.00 ft
Increment = .50 ft
Max. Elev. = 1324.00 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
Weir-Rectangular	WR	----	1321.000	1324.000
TW SETUP, DS Channel		----> TW	1321.000	1324.000

Type..... Outlet Input Data

Page 3.02

Name..... DITCH\PIPE

File..... F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE_REVISSED.PPW

OUTLET STRUCTURE INPUT DATA

Structure ID = WR
Structure Type = Weir-Rectangular

of Openings = 1
Crest Elev. = 1321.00 ft
Weir Length = 15.00 ft
Weir Coeff. = 2.600000

Weir TW effects (Use adjustment equation)

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

Type..... Outlet Input Data

Page 3.03

Name..... EXISTING WEIR

File..... F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE_REVISIED.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev. =	1321.00	ft
Increment =	.50	ft
Max. Elev. =	1323.00	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	
Weir-Rectangular	WR	---->	TW	1321.000	1323.000
TW SETUP, DS Channel					

Type..... Outlet Input Data

Page 3.04

Name..... EXISTING WEIR

File..... F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE_REVISSED.PPW

OUTLET STRUCTURE INPUT DATA

```
Structure ID      = WR
Structure Type    = Weir-Rectangular
-----
# of Openings     =      1
Crest Elev.      = 1321.00 ft
Weir length      =  80.00 ft
Weir Coeff.      =  2.600000

Weir TW effects  (Use adjustment equation)
```

```
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
```

Type..... Outlet Input Data

Name..... PIPE

File..... F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE_REVISSED.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev. =	1320.10 ft
Increment =	.50 ft
Max. Elev. =	1323.00 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	CV	---> TW	1320.100	1323.000
TW SETUP, DS Channel				

Name..... PIPE

File..... F:\HYDRO\PROJECTS\RIDGE PLAZA 8TH\VALUEPLACE_REVISSED.PPW

OUTLET STRUCTURE INPUT DATA

```

Structure ID      = CV
Structure Type    = Culvert-Circular
-----
No. Barrels      = 1
Barrel Diameter  = 24.0000 ft
Upstream Invert  = 1320.10 ft
Dnstream Invert  = 1320.00 ft
Horiz. Length    = 30.00 ft
Barrel Length    = 30.00 ft
Barrel Slope     = .00333 ft/ft

```

OUTLET CONTROL DATA...

```

Mannings n      = .0130
Ke               = .5000 (forward entrance loss)
Kb              = .000452 (per ft of full flow)
Kr              = .5000 (reverse entrance loss)
HW Convergence  = .001 +/- ft

```

INLET CONTROL DATA...

```

Equation form   = 1
Inlet Control K = .0078
Inlet Control M = 2.0000
Inlet Control C = .02920
Inlet Control Y = .7400
T1 ratio (HW/D) = 1.134
T2 ratio (HW/D) = 1.206
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 = 1347.32 ft ----> Flow = 7756.86 cfs
 At T2 Elev = 1349.03 ft ----> Flow = 8864.98 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

```

S/N: 121201A06A8A
PondPack Ver. 7.5 (767)

Baughman Company PA
Compute Time: 13:49:42

Date: 09/26/2005

Index of Starting Page Numbers for ID Names

```
-----D-----  
DITCH\PIPE... 3.01  
-----E-----  
EXISTING WEIR... 3.03  
-----P-----  
PIPE... 3.05  
-----S-----  
Sedgwick24... 2.01, 2.02  
-----W-----  
Watershed... 1.01
```

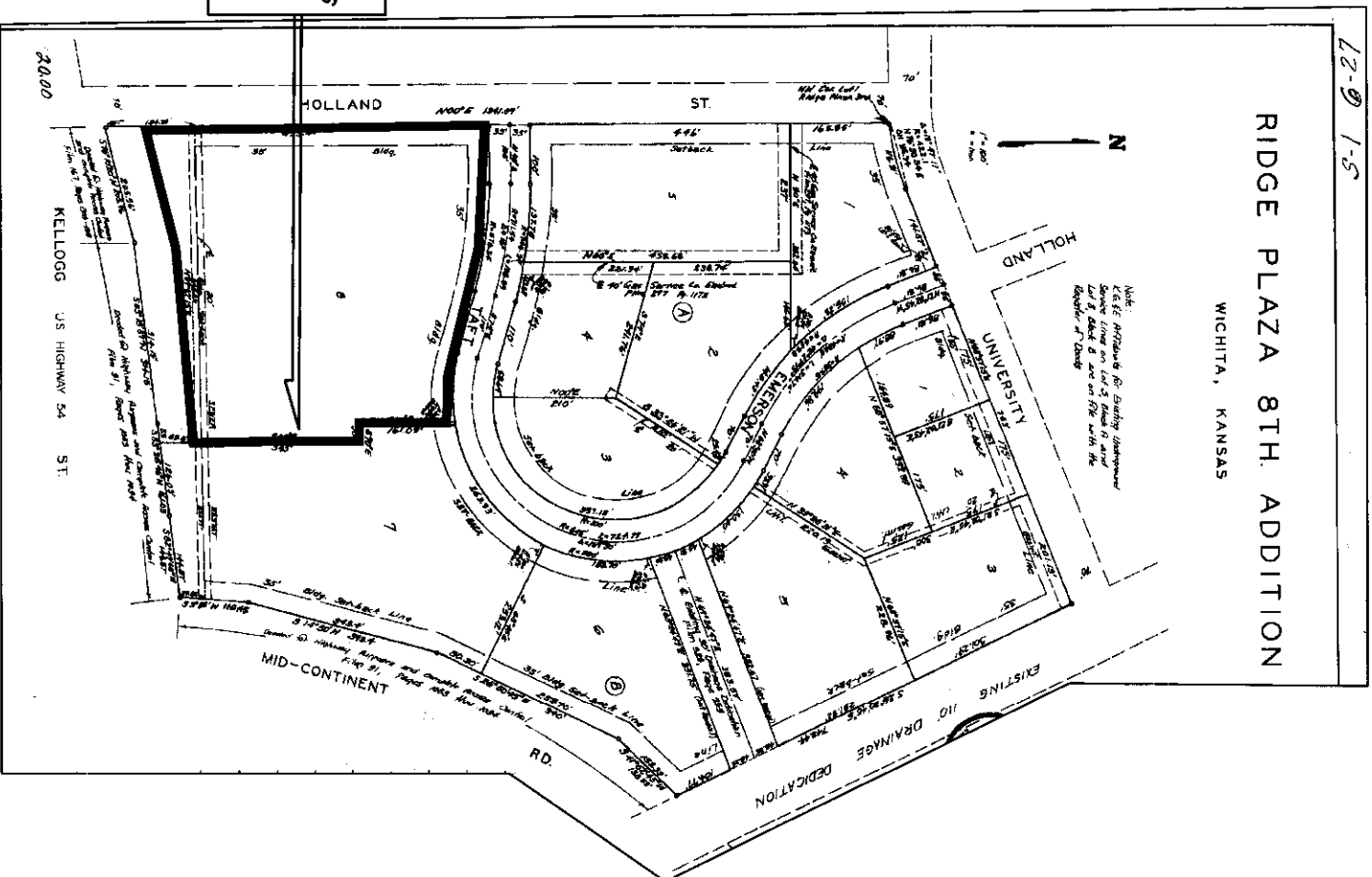

OFFSITE DRAINAGE EXHIBIT RIDGE PLAZA 8TH LOT 2 WICHITA, SEDGWICK COUNTY, KANSAS

Scale: 1"=500'



S-1 @ 27

RIDGE PLAZA 8TH ADDITION
WICHITA, KANSAS



Offsite Drainage
 Area = 6.0 acres
 Soil Type = B
 CN = 88
 Q₁₀₀ = 44 cfs

20.00
 KELLOGG US HIGHWAY 54 ST.