FINAL DRAINAGE REPORT

for:

STONECREEK SUBDIVISION
SECTION 3 - REMAINING SECTIONS

Prepared For:

JAGOE LAND CORPORATION
4215 BENTTREE DRIVE
OWENSBORO, KY 42304-3019

By:

MORLEY AND ASSOCIATES, INC.
600 S.E. SIXTH STREET
EVANSVILLE, IN 47713-1222
(812) 464-9585

David W. Schminke

SEPTEMBER 2000

BACK PORTION

Morley and Associates INC.
CONSULTING ENGINEERS ◆ LAND SURVEYORS ◆ ARCHITECTS

600 Southeast Sixth Street
Evansville, Indiana 47713-1222
Phone: (812) 464-9585 ◆ FAX: (812) 464-2514
E-mail: *morley@evansville.net*

LETTER OF TRANSMITTAL

DATE	JANUARY 18, 2001	JOB NO.	4255-4(G)
ATT.	MR. BILL JEFFERS		
RE:	STONECREEK SUBDIVISION SECTION 3 - REMAINING **FLOODWAY PERMIT**		

TO: **VANDERBURGH COUNTY SURVEYOR'S OFFICE**
ROOM 325, CIVIC CENTER COMPLEX
EVANSVILLE, IN 47708

WE ARE SENDING YOU BY:

X MESSENGER	____ US MAIL	____ UPS	____ OVERNIGHT SERVICE	____ FAX	
____ FOR PICK UP	____ US MAIL, CERTIFIED				
____ SHOP DRAWINGS	____ PRINTS	____ COPIES	____ PLANS	____ SPECIFICATIONS	
____ COPY OF LETTER	____ CHANGE ORDER	____ REPORT	____ OTHER		

COPIES	DATE	NO	DESCRIPTION
1	1-16-01	1	Certificate of Approval – Construction in a Floodway

THESE ARE TRANSMITTED AS CHECKED BELOW:

____ For Approval	____ Approved as Submitted	____ Resubmit __ Copies for Approval
XX For Your Use	____ Approved as Noted	____ Submit __ Copies for Distribution
____ As Requested	____ Returned for Corrections	____ Return __ Corrected Copies
____ For Review & Comment	____ Other	

REMARKS:

Bill,
Attached is the construction in a floodway permit for Stonecreek Subdivision – Section 3 Remaining. The drainage plan approval was based off of the condition that the developer, Jagoe Homes, Inc., have the permit in hand before any construction would begin. If you have any questions, please give me a call.

Thank You

COPY TO:
Mr. Tom Hansen – Jagoe Land Corp.
File

SIGNED:
Ronald S. London
Ronald S. London, Civil Engineer

If enclosures are not as noted, kindly notify us at once. Thank you!

WWW: http://www.evansville.net/~morle

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

MAILED

JAN 16 2001

CERTIFICATE OF APPROVAL
CONSTRUCTION IN A FLOODWAY

APPLICATION # : FW-20876

STREAM : Firlick Creek

APPLICANT : Jagoe Land Corporation
Tom Hansen
P.O. Box 23019
Owensboro, KY 42304

AGENT : Morley & Associates, Inc.
Ronald S. London
600 S.E. Sixth Street
Evansville, IN 47713

AUTHORITY : IC 14-28-1 with 310 IAC 6-1

DESCRIPTION : Two retention basins approximately 565' x 80' and 1,200' x 180' will be excavated with the excavated material being placed outside the floodway. Two riprap lined spillways and four precast concrete headwalls with flapgates will be constructed along the retention basins. Two sanitary sewer mains will be extended to existing manholes. These activities are associated with the proposed Stonecreek residential subdivision which will be located landward of the floodway. Details of the project are contained in plans and information received at the Division of Water on October 13, 2000.

LOCATION : DOWNSTREAM: Along the east bank of Firlick Creek approximately 600' north of Kansas Road and 1,300' west of State Route 57 extending 2,700' north near Evansville, Center Township, Vanderburgh County
SW¼, NE¼, SE¼, Section 22, T 5S, R 10W, Evansville North Quadrangle
UTM Coordinates: Downstream 4213060 North, 455060 East
UPSTREAM:
UTM Coordinates: Upstream 4213870 North, 454965 East

APPROVED BY : James J. Hebenstreit, P.E., Assistant Director
Division of Water

APPROVED ON : January 16, 2001

Attachments: Notice Of Right To Administrative Review
General Conditions
Special Conditions
Service List

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

GENERAL CONDITIONS

APPLICATION #: FW- 20876

(1) If any archaeological artifacts or human remains are uncovered during construction, federal law and regulations (16 USC 470, et seq.; 36 CFR 800.11, et al) and State Law (IC 14-21-1) require that work must stop and that the discovery must be reported to the Division of Historic Preservation and Archaeology within 2 business days.

Division of Historic Preservation and Archaeology
Room W274
402 West Washington Street
Indiananpolis, IN 46204

Telephone: (317) 232-1646, FAX: (317) 232-8036

(2) This permit must be posted and maintained at the project site until the project is completed.

(3) This permit does not relieve the permittee of the responsibility for obtaining additional permits, approvals, easements, etc. as required by other federal, state, or local regulatory agencies.These agencies include, but are not limited to:

Agency	Telephone Number
US Army Corps of Engineers, Louisville District	(502) 315-6733
Vanderburgh County Drainage Board	(812) 435-5210
Indiana Department of Environmental Management	(317) 233-2471
Local city or county planning or zoning commission	

(4) This permit must not be construed as a waiver of any local ordinance or other state or federal law.

(5) This permit does not relieve the permittee of any liability for the effects which the project may have upon the safety of the life or property of others.

(6) This permit may be revoked by the Department of Natural Resources for violation of any condition, limitation or applicable statute or rule.

(7) This permit shall not be assignable or transferable without the prior written approval of the Department of Natural Resources. To initiate a transfer contact:

Mr. Michael W. Neyer, PE, Director
Division of Water
Room W264
402 West Washington Street
Indianapolis, IN 46204

Telephone: (317) 232-4160, Toll Free: (877) 928-3755
FAX: (317) 233-4579

(8) The Department of Natural Resources shall have the right to enter upon the site of the permitted activity for the purpose of inspecting the authorized work.

(9) The receipt and acceptance of this permit by the applicant or authorized agent shall be considered as acceptance of the conditions and limitations stated on the pages entitled "General Conditions" and "Special Conditions".

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SERVICE LIST

APPLICATION #: FW- 20876

Jagoe Land Corporation
Tom Hansen
P.O. Box 23019
Owensboro, KY 42304

Morley & Associates, Inc.
Ronald S. London
600 S.E. Sixth Street
Evansville, IN 47713

Debra J Smith
IDNR, Division of Water
Floodplain Management Section

US Army Corps of Engineers, Louisville District
Regulatory Functions Branch
c/o Mr. Jim Townsend
PO Box 59
Louisville, KY 40201-0059

Vanderburgh County Drainage Board
County Surveyor
Civic Center Complex, Room 325
1 NW Martin Luther King Jr. Boulevard
Evansville, IN 47708-1860

Evansville Area Plan Commission
Civic Center Complex, Room 312
1 NW Martin Luther King Jr Boulevard
Evansville, IN 47708

Indiana Department of Natural Resources
Division of Law Enforcement
South Region Headquarters Dist 7
4850 South SR 446
Bloomington, IN 47401

Vanderburgh County Area Plan Commission
Civic Center Complex, Room 312
1 NW Martin Luther King, Jr. Boulevard
Evansville, IN 47708

Vanderburgh County Soil and Water Conservation District
12445 Hwy 41 North
Evansville, IN 47711-7021

Staff Assignment:

Administrative	: Debra K. Lowe
Technical	: Eric L Greulich
Environmental	: William R. Maudlin

Stonecreek Subdivision
Section 3 - Remaining Sections

The site is located at the intersection of Kansas and Seib Road in Center Township, Vanderburgh County.

The site consists of flat to hilly ground that has been previously cultivated. The entire site drains directly to Firlick Creek. The approved Floodway boundary is depicted on the enclosed utility/drainage plan drawings along with the 100 yr./25 yr. storm elevations provided by the Indiana Department of Natural Resources, Division of Water.

Two retention basins will be constructed on site to provide more than adequate storm water detention. Storm water runoff will be conveyed to the basin via storm sewers, swales, and overland flow. Due to the topography, storm runoff from part of the site will be allowed to exit the property undetained. Two separate discharge points were determined for this site, UN-1 and UN-2, and an allowable discharge was figured for each using a peak runoff rate for the 10 year storm under undeveloped conditions. The total allowable discharge for UN-1 and UN-2 were 28.30 cfs and 13.65 cfs, respectively. When taking into account the undetained runoff leaving the site, the allowable discharge rate was reduced to 3.19 cfs (UN-1) and 12.5 cfs (UN-2).

Retention basin #4 was placed within and will capture and release the allowable discharge for the discharge area of UN-1. The required storm water detention volume from the Form 800, using a discharge rate of 3.00 cfs, was calculated to be 86,661 cubic feet for the 25 year storm. The storage volume available within basin #4 was calculated to be 144,613 cubic feet which is 40% more than required. Retention basin #4 utilizes a 24" RCP as the primary spillway outlet at elevation 390.50 which is the permanent pool elevation of the large borrow basin #2 that it will be directly draining into.

Retention basin #5 will be capturing and detaining the runoff for the discharge area of UN-2. The required storm water detention volume from the Form 800, using a discharge rate of 5 cfs (allowable discharge = 12.5 cfs), was calculated to be 68,190 cubic feet for the 25 year storm. The storage volume available within basin #5 was calculated to be 92,606 cubic feet which is 26% more than required. Retention basin #5 utilizes a 21" RCP as the primary spillway outlet at elevation 395.15.

The borrow basin #2 which is located within the floodway boundary will not be used for any retention purposes. The borrow basin will have a riprapped spillway draining directly to Firlick Creek. Before any construction can occur within the Floodway, a construction in a floodway permit will have to be obtained from the Indiana Department of Natural Resources, Division of Water.

TABLE 803

UNDEVELOPED RUNOFF COEFFICIENTS (C_u)

SURFACE TYPE:

WOODLAND, TURFED MEADOWS
ROUGH PASTURE, FALLOW BRUSH:

SLOPE:	
Less than 2%	C = 0.12
2% to 5%	C = 0.24
5+% to 10%	C = 0.36
Over 10%	C = 0.48

CULTIVATED FIELDS:

Less than 2%	C = 0.20
2% to 5%	C = 0.35
5+% to 10%	C = 0.50
Over 10%	C = 0.65

TABLE 804

DEVELOPED RUNOFF COEFFICIENTS (C_d)

SURFACE TYPE:

PAVEMENT, ROOFTOP
OTHER IMPERVIOUS SURFACES:

Less than 2%	C = 0.92
2% to 5%	C = 0.94
5+% to 10%	C = 0.96
Over 10%	C = 0.98

LAWNS WITH TURF:

Less than 2%	C = 0.15
2% to 5%	C = 0.25
5+% to 10%	C = 0.40
Over 10%	C = 0.55

ALL WATER SURFACES
BASINS, PONDS & LAKES:

C = 1.00

Table 3.2.4 (cont'd)

Kerby (1959)

$$t_c = K\ (L\ N\ s^{-0.5})^{0.467}$$

where K is equal to 0.83 (US Customary units) or 1.44 (Metric units), L is the length of flow in ft (m), s is the average slope of overland flow, ft/ft (m/m), and N is the retardance roughness coefficient given in Table 3.2.5.

The length used in the equation is the straight-line distance from the most distant point of the watershed to the outlet, measured parallel to the slope of the land until a well-defined channel is reached. Watersheds of less than 10 acres were used to calibrate the model; slopes were less than 1%; N values were 0.8 and less and surface flow dominated (McCuen, 1989).

Izzard (1946)

$$t_c = \frac{K(Bi + c')\ L^{\frac{1}{3}}}{s^{\frac{1}{3}}\ i^{\frac{2}{3}}}$$

where K is equal to 41.025 for U.S. customary units (113.391 for metric), B is equal to 0.0007 for U.S custumary units (0.00027 for metric), c′ is the retardance coefficient given in Table 3.2.7, *i* is the rainfall intensity, in/hr (cm/hr), L is the length of flow path in ft (m), and s is the slope of overland flow path, ft/ft (m/m).

The product of *i* and L must be less than 500 in-ft/hr (390 cm-m/hr) to consider using this formula. In addition, well defined channels should not be present. This method was developed in laboratory experiments for the overland flow on roadway and turf surfaces.

Table 3.2.5
Values of N for Kerby's Formula (Kerby, 1959)

Type of Surface	N
Smooth impervious surface	0.02
Smooth bare packed soil	0.10
Poor grass, cultivated row crops or moderately rough bare surface	0.20
Deciduous timberland	0.60
Pasture or Overage grass	0.40
Conifer timberland, deciduous timberland with deep forest litter or dense grass	0.80

TABLE 807

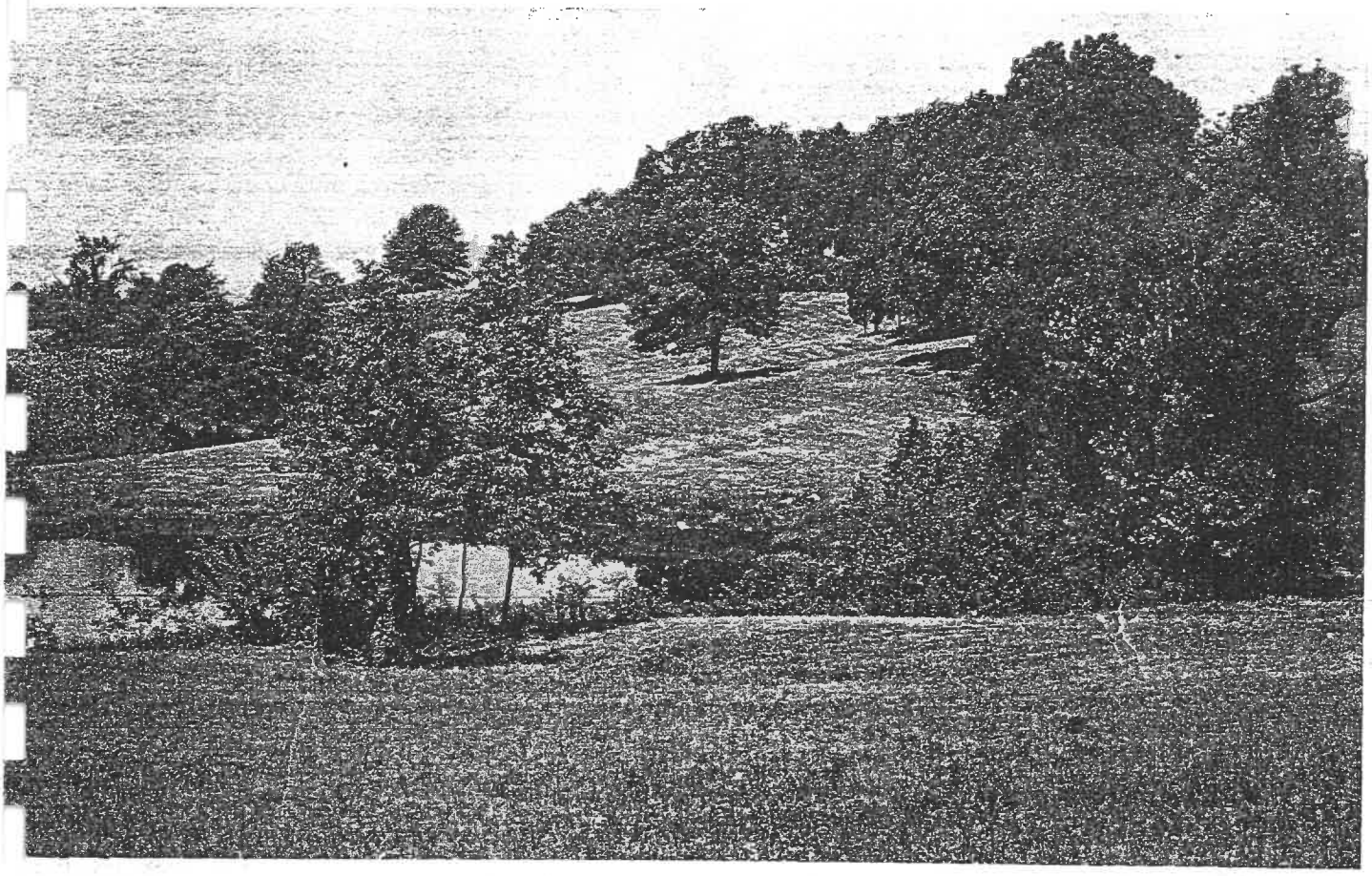
RAINFALL INTENSITY-DURATION-FREQUENCY TABLE FOR EVANSVILLE

INTENSITY IN INCHES PER HOUR

STORM DURATION	STORM RETURN PERIOD IN YEARS				
	5	10	25	50	100
5 MIN	6.063	6.625	7.208	7.936	8.469
10 MIN	4.863	5.380	5.925	6.616	7.126
15 MIN	4.029	4.515	5.033	5.697	6.194
30 MIN	2.837	3.226	3.646	4.194	4.608
60 MIN	1.549	1.819	2.078	2.412	2.663
2.0 HRS	1.053	1.230	1.400	1.620	1.785
3.0 HRS	0.774	0.899	1.019	1.175	1.291
4.0 HRS	0.632	0.736	0.836	0.965	1.062
5.0 HRS	0.524	0.606	0.684	0.785	0.861
6.0 HRS	0.453	0.522	0.589	0.676	0.741
7.0 HRS	0.399	0.459	0.516	0.591	0.647
8.0 HRS	0.358	0.412	0.463	0.530	0.581
9.0 HRS	0.323	0.370	0.415	0.472	0.516
10 HRS	0.297	0.339	0.379	0.431	0.470
11 HRS	0.276	0.314	0.351	0.399	0.435
12 HRS	0.259	0.296	0.331	0.376	0.410
13 HRS	0.245	0.280	0.314	0.357	0.390
14 HRS	0.233	0.267	0.299	0.341	0.372
15 HRS	0.220	0.252	0.281	0.320	0.349
16 HRS	0.209	0.238	0.266	0.302	0.329
17 HRS	0.198	0.225	0.251	0.284	0.310

SOIL SURVEY OF

Vanderburgh County, Indiana



United States Department of Agriculture
Soil Conservation Service
In cooperation with

Purdue University Agricultural
Experiment Station

GUIDE TO MAPPING UNITS

For a full description of a mapping unit, read both the description of the mapping unit and that of the soil series to which the mapping unit belongs. Other information is given in tables as follows:

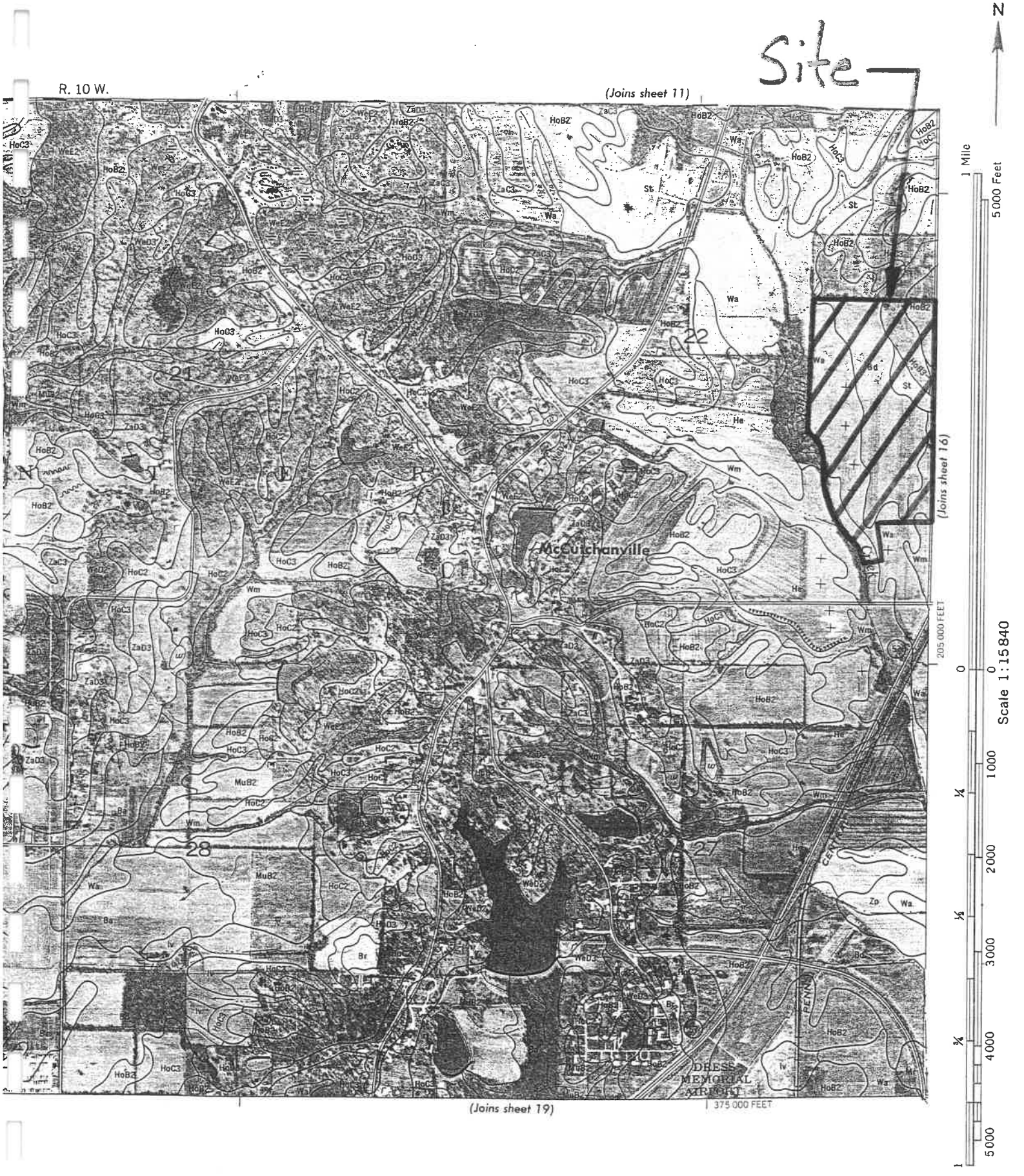
Acreage and extent, table 1, page 11.
Predicted yields, table 2, page 40.
Tree and shrub groups, table 3, page 50.
Wildlife, table 4, page 52.
Recreation, table 5, page 54.
Engineering, tables 6, 7, and 8, pages 58, 60, and 66.

Map symbol	Mapping unit	Described on page	Capability unit		Tree and shrub group
			Symbol	Page	Number
1B2	Alford silt loam, 2 to 6 percent slopes, eroded	11	IIe-3	41	III
1C2	Alford silt loam, 6 to 12 percent slopes, eroded	11	IIIe-3	43	III
A1C3	Alford silt loam, 6 to 12 percent slopes, severely eroded	12	IVe-3	45	III
A1D3	Alford silt loam, 12 to 18 percent slopes, severely eroded	12	VIe-1	46	III
a	Bartle silt loam	15	IIw-3	42	II
Bd	Birds silt loam	16	IIIw-10	44	I
Bo	Bonnie silt loam	16	IIIw-10	44	I
r	Borrow pits	16	VIIe-3	46	IV
v	Evansville silt loam	17	IIw-1	41	I
Gn	Ginat silt loam	17	IIIw-12	45	I
Gu	Gullied land	17	VIIe-4	47	IV
e	Henshaw silt loam	19	IIw-2	42	II
oA	Hosmer silt loam, 0 to 2 percent slopes	20	IIw-3	43	II
HoB2	Hosmer silt loam, 2 to 6 percent slopes, eroded	20	IIe-7	41	II
HoB3	Hosmer silt loam, 2 to 6 percent slopes, severely eroded	20	IIIe-7	43	II
oC2	Hosmer silt loam, 6 to 12 percent slopes, eroded	20	IIIe-7	43	II
oC3	Hosmer silt loam, 6 to 12 percent slopes, severely eroded	21	IVe-7	45	II
HoD3	Hosmer silt loam, 12 to 18 percent slopes, severely eroded	21	VIe-1	46	II
-	Huntington silty clay loam	22	I-2	41	III
-	Huntington fine sandy loam, sandy variant	22	I-2	41	III
IoA	Iona silt loam, 0 to 2 percent slopes	23	I-1	41	III
Io82	Iona silt loam, 2 to 6 percent slopes, eroded	23	IIe-3	41	III
v	Iva silt loam	23	IIw-2	42	II
n	Lindside silty clay loam	24	I-2	41	III
Ma	Made land	24	VIIe-3	46	IV
Mk82	Markland silt loam, 2 to 6 percent slopes, eroded	24	IIIe-11	43	II
kC2	Markland silt loam, 6 to 18 percent slopes, eroded	24	IVe-11	45	II
lC3	Markland silty clay loam, 6 to 18 percent slopes, severely eroded	25	VIe-1	46	II
Mr	McGary silt loam	26	IIIw-6	44	II
uA	Muren silt loam, 0 to 2 percent slopes	27	I-1	41	III
u82	Muren silt loam, 2 to 6 percent slopes, eroded	27	IIe-3	41	III
Nw	Newark silty clay loam	28	IIw-7	43	I
Pa	Patton silty clay loam	28	IIw-1	41	I
t8	Princeton fine sandy loam, 2 to 6 percent slopes	28	IIe-11	41	III
a	Ragsdale silt loam	29	IIw-1	41	I
Rh	Rahm silty clay loam	29	IIw-7	43	I
Rs	Reesville silt loam	30	IIw-2	42	II
cA	Sciotoville silt loam, 0 to 2 percent slopes	30	IIw-3	43	II
c82	Sciotoville silt loam, 2 to 6 percent slopes, eroded	31	IIe-7	41	II
St	Stendal silt loam	31	IIw-7	43	I
Un82	Uniontown silt loam, 2 to 6 percent slopes, eroded	32	IIe-3	41	III
a	Wakeland silt loam	32	IIw-7	43	I
b	Weinbach silt loam	33	IIw-3	42	II
WeD2	Wellston silt loam, 12 to 18 percent slopes, eroded	34	IVe-3	45	III
WeD3	Wellston silt loam, 12 to 18 percent slopes, severely eroded	34	VIe-1	46	III
eE2	Wellston silt loam, 18 to 25 percent slopes, eroded	34	VIe-1	46	III

Map symbol	Mapping unit	Described on page	Capability unit		Tree and shrub group
			Symbol	Page	Number
WeF	Wellston silt loam, 25 to 50 percent slopes	34	VIIe-1	46	III
WhA	Wheeling loam, 0 to 2 percent slopes	35	I-1	41	III
Wh32	Wheeling loam, 2 to 6 percent slopes, eroded	35	IIe-3	41	III
Wm	Wilbur silt loam	36	I-2	41	III
Wo	Woodmere silty clay loam	36	I-2	41	III
ZaC2	Zanesville silt loam, 6 to 12 percent slopes, eroded	37	IIIe-7	43	II
ZaC3	Zanesville silt loam, 6 to 12 percent slopes, severely eroded	37	IVe-7	45	II
ZaD2	Zanesville silt loam, 12 to 18 percent slopes, eroded	38	IVe-7	45	II
ZaD3	Zanesville silt loam, 12 to 18 percent slopes, severely eroded	38	VIe-1	46	II
Zp	Zipp silty clay	38	IIIw-2	44	I

INDIANA — SHEET NUMBER 15

15




UN-1
48.8 AC.
L=2600'
ΔH=52'
S=2.00%
Q(10)=28.30
UN-2
12.8 AC.
L=1600'
ΔH=45'
S=2.81%
Q(10)=13.65
SECTION 2
388
395
440
397.5
395.7
393.6
398.6
396.3
395.5
395.7
397.6

Undeveloped Drainage Sub-Basins

Sub-basin No.: UN-1 | Total Area = 2,125,728 S.F. = 48.80 Ac.

Surface									C	N
Structures	0	Total	0	S.F.	=	0	S.F. =	0.00	Ac.	0.92	0.02
Drives	0	Total	0	S.F.	=	0	S.F. =	0.00	Ac.	0.92	0.02
Pavement	1830	L.F.	12.0	Width	=	21,960	S.F. =	0.50	Ac.	0.92	0.02
Patios	0	Total	0	S.F.	=	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	0	L.F.	0	Width	=	0	S.F. =	0.00	Ac.	0.92	0.02
Lawn (0-2%)				S.F.	=			0.00	Ac.	0.15	0.40
Lawn (2-5%)				S.F.	=			0.00	Ac.	0.25	0.40
Lawn (5-10%)				S.F.	=			0.00	Ac.	0.40	0.40
Lawn (>10%)				S.F.	=			0.00	Ac.	0.55	0.40
Woods			40,000	S.F.	=			0.92	Ac.	0.12	0.60
Cultivated field			2,063,768	S.F.	=			47.38	Ac.	0.20	0.20

Weighted c =	0.206		
Weighted N =	0.206		
L =	2,600	Ft.	
H =	52.0	Ft.	
S =	0.0200	Ft./Ft.	
tc =	38.75	Minutes	(Min. 5 minutes)
I(10) =	2.816	In./Hr.	
Q(10) =	28.30	CFS	

Undeveloped Drainage Sub-Basins

Sub-basin No.: UN-2 | Total Area = 557,568 S.F. = 12.80 Ac.

Surface									C	N
Structures	0	Total	0	S.F.	=	0	S.F. =	0.00	Ac.	0.92	0.02
Drives	0	Total	0	S.F.	=	0	S.F. =	0.00	Ac.	0.92	0.02
Pavement	0	L.F.	0.0	Width	=	0	S.F. =	0.00	Ac.	0.92	0.02
Patios	6	Total	0	S.F.	=	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	0	L.F.	0	Width	=	0	S.F. =	0.00	Ac.	0.92	0.02
Lawn (0-2%)				S.F.	=			0.00	Ac.	0.15	0.40
Lawn (2-5%)				S.F.	=			0.00	Ac.	0.25	0.40
Lawn (5-10%)				S.F.	=			0.00	Ac.	0.40	0.40
Lawn (>10%)				S.F.	=			0.00	Ac.	0.55	0.40
Woods			45,000	S.F.	=			1.03	Ac.	0.12	0.60
Cultivated field			512,568	S.F.	=			11.77	Ac.	0.35	0.20

Weighted c =	0.331		
Weighted N =	0.232		
L =	1,600	Ft.	
H =	45.0	Ft.	
S =	0.0281	Ft./Ft.	
tc =	30.19	Minutes	(Min. 5 minutes)
I(10) =	3.217	In./Hr.	
Q(10) =	13.65	CFS	

Retention Basin #4

Undeveloped Conditions

→ 10 year peak discharge =
$Q_{10} = 28.30$ cfs

Developed Conditions

→ Weighted Runoff Coefficient, C_d =

Detention Requirements

→ Retention basin #4 will receive stormwater runoff from all sub-basins except for the following which will exit the site undetained.

Sub-basin	$Q_{(25)}$
#60	21.24
#59	2.63
#58	1.24
	25.11

Allowable Discharge Rate

→ 28.30 − 25.11 = 3.19 cfs

VANDERBURGH COUNTY DRAINAGE BOARD
FORM 800

PROJECT: Stonecreek Subdivision - Section 3 (Basin 4) DETENTION FACILITY DESIGN RETURN PERIOD: 25 YRS
DESIGNER: MORLEY & ASSOC. RELEASE RATE RETURN PERIOD: 10 YRS

WATERSHED AREA:	23.16	ACRES
TIME OF CONCENTRATION (UNDEVELOPED WATERSHED):	38.75	MINUTES
RAINFALL INTENSITY (Iu):	2.816	INCHES/HR
UNDEVELOPED RUNOFF COEFFICIENT (Cu):	0.21	
UNDEVELOPED RUNOFF RATE (O = Cu*Iu*A):	13.44	CFS
DEVELOPED RUNOFF COEFFICIENT (Cd):	0.448	

STORM DURATION Td (HRS)	RAINFALL INTENSITY Id (INCH/HR)	INFLOW RATE I(Td) (Cd*Id*A) (CFS)	OUTFLOW RATE O (Cu*Iu*A) (CFS)	STORAGE RATE I(Td)-O (CFS)	REQUIRED STORAGE Td)-O)*Td/12 (ACRE-FT)
0.08	7.208	74.79	3.19	71.60	0.497
0.17	5.925	61.48	3.19	58.29	0.810
0.25	5.033	52.22	3.19	49.03	1.021
0.33	4.571	47.42	3.19	44.23	1.229
0.42	4.108	42.63	3.19	39.44	1.369
0.50	3.646	37.83	3.19	34.64	1.443
0.58	3.385	35.12	3.19	31.93	1.552
0.67	3.123	32.41	3.19	29.22	1.623
0.75	2.862	29.70	3.19	26.51	1.657
0.83	2.601	26.98	3.19	23.79	1.652
0.92	2.339	24.27	3.19	21.08	1.610
1.00	2.078	21.56	3.19	18.37	1.531
1.25	1.909	19.80	3.19	16.61	1.730
1.50	1.739	18.04	3.19	14.85	1.857
1.75	1.570	16.28	3.19	13.09	1.910
2.00	1.400	14.53	3.19	11.34	1.889
2.50	1.210	12.55	3.19	9.36	1.950
3.00	1.019	10.57	3.19	7.38	1.846
4.00	0.836	8.67	3.19	5.48	1.828

PEAK STORAGE (ACRE/FT):	1.95
PEAK STORAGE (CUBIC FT):	84,936

① Watershed Area = Dev. Sub-Basins #1 - #19 and #25 - #33

② Developed Runoff Coefficient = weighted runoff coef. from Sub-basins above

Retention Basin #4 Area/Volume

① Required Storage Volume from Form 800
25 year = 84,936 cu.ft. @ 394.5'

	Elevation	Water Surface Area (S.F.)	Storage Capacity Volume (C.F.)
Pool	392.00	27868	
	393.00	32478	30173
	394.00	37189	65007
	395.00	42000	104602
E.S.	396.00	46913	149059

Primary Spillway

24" RCP - 350' Long @ 0.42%
Allowable Discharge = 3 cfs

For Headwater Depth = 3.9' @ 395.9
25 yr. storage volume = 144613 cu.ft

→ required storage per Form 800
@ outflow rate = 3 cfs
= 86661 cu. ft.

excess storage volume = 57952 cu. ft.

VANDERBURGH COUNTY DRAINAGE BOARD
FORM 800

PROJECT: Stonecreek Subdivision - Section 3 (Basin 4)
DETENTION FACILITY DESIGN RETURN PERIOD: 25 YRS
DESIGNER: MORLEY & ASSOC.
RELEASE RATE RETURN PERIOD: 10 YRS

WATERSHED AREA:	23.16	ACRES
TIME OF CONCENTRATION (UNDEVELOPED WATERSHED):	38.75	MINUTES
RAINFALL INTENSITY (Iu):	2.816	INCHES/HR
UNDEVELOPED RUNOFF COEFFICIENT (Cu):	0.21	
UNDEVELOPED RUNOFF RATE (O = Cu*Iu*A):	13.44	CFS
DEVELOPED RUNOFF COEFFICIENT (Cd):	0.448	

STORM DURATION Td (HRS)	RAINFALL INTENSITY Id (INCH/HR)	INFLOW RATE I(Td) (Cd*Id*A) (CFS)	OUTFLOW RATE O (Cu*Iu*A) (CFS)	STORAGE RATE I(Td)-O (CFS)	REQUIRED STORAGE Td)-O)*Td/12 (ACRE-FT)
0.08	7.208	74.79	3.00	71.79	0.499
0.17	5.925	61.48	3.00	58.48	0.812
0.25	5.033	52.22	3.00	49.22	1.025
0.33	4.571	47.42	3.00	44.42	1.234
0.42	4.108	42.63	3.00	39.63	1.376
0.50	3.646	37.83	3.00	34.83	1.451
0.58	3.385	35.12	3.00	32.12	1.561
0.67	3.123	32.41	3.00	29.41	1.634
0.75	2.862	29.70	3.00	26.70	1.668
0.83	2.601	26.98	3.00	23.98	1.666
0.92	2.339	24.27	3.00	21.27	1.625
1.00	2.078	21.56	3.00	18.56	1.547
1.25	1.909	19.80	3.00	16.80	1.750
1.50	1.739	18.04	3.00	15.04	1.880
1.75	1.570	16.28	3.00	13.28	1.937
2.00	1.400	14.53	3.00	11.53	1.921
2.50	1.210	12.55	3.00	9.55	1.989
3.00	1.019	10.57	3.00	7.57	1.893
4.00	0.836	8.67	3.00	5.67	1.891

PEAK STORAGE (ACRE/FT):	1.99
PEAK STORAGE (CUBIC FT):	86,661

PROJECT NO. 4255-4 Stonecreek - Section 3
Primary Spillway - Retention Basin #4

DESIGNER -RSL-

DATE 8-7-00

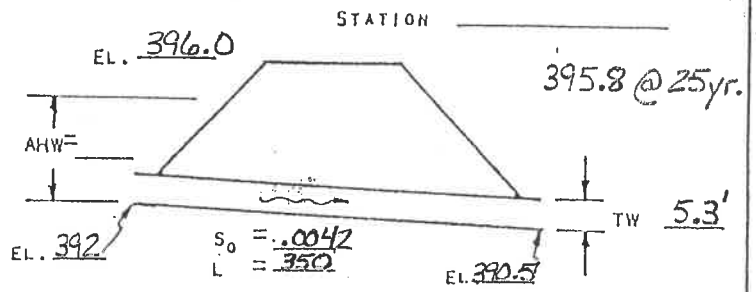
HYDROLOGIC AND CHANNEL INFORMATION

Q_1 = 3 cfs
Q_2 = ____

TW_1 = ____
TW_2 = ____

Q_1 = DESIGN DISCHARGE, SAY Q_{10}
Q_2 = CHECK DISCHARGE, SAY Q50

SKETCH

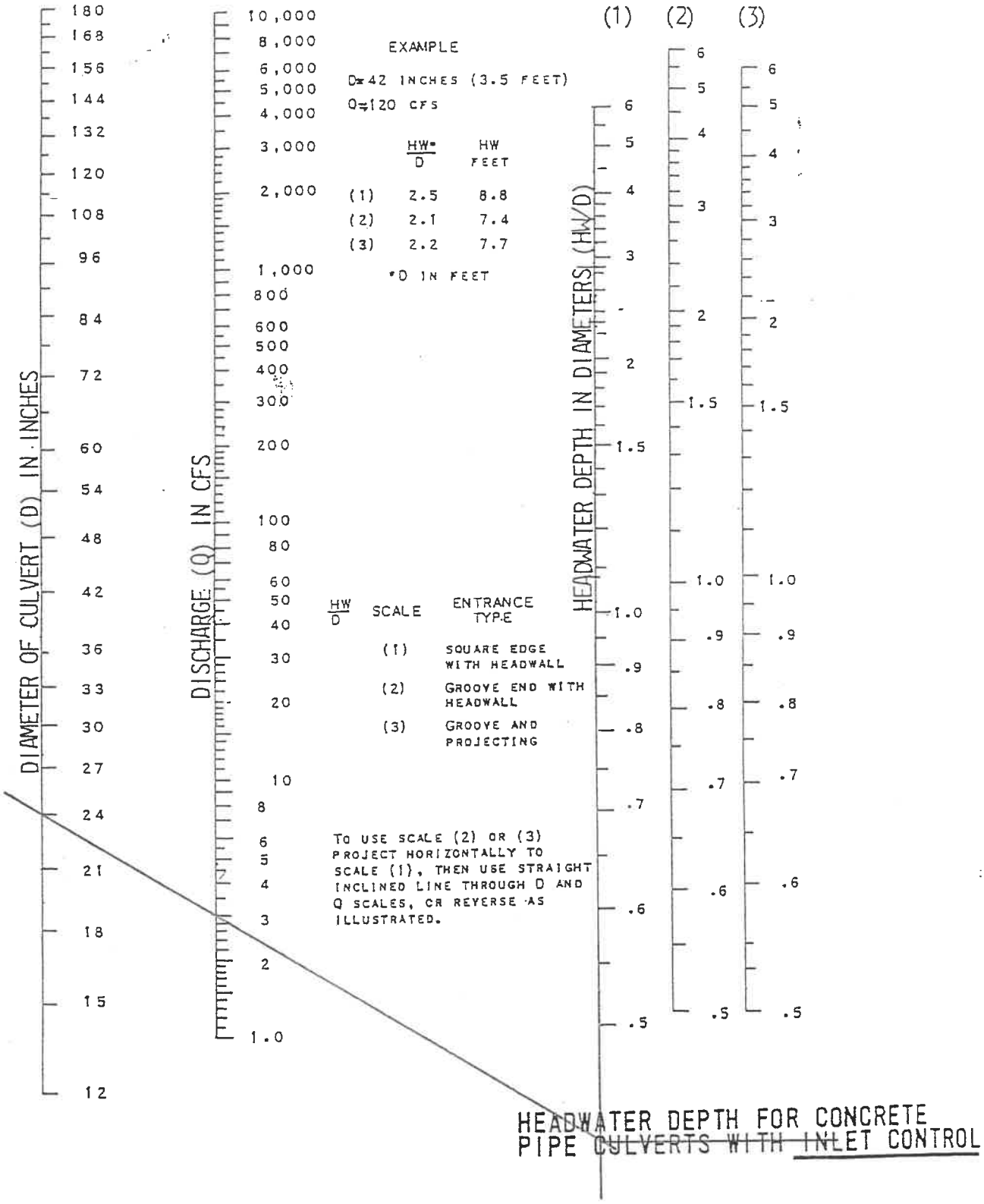


MEAN STREAM VELOCITY = ____
MAX. STREAM VELOCITY = ____

CULVERT DESCRIPTION (ENTRANCE TYPE)	Q	SIZE	HEADWATER COMPUTATION: INLET CONT. HW/D	INLET CONT. HW	OUTLET CONTROL HW=H+h_o-LS_o: K_e	H	d_c	$\frac{dc+D}{2}$	TW	h_o	LS_o	HW	CONTROLLING HW	OUTLET VELOCITY	COST	COMMENTS
	3	24"	.4	.8	.5	.1	.6	1.3	5.3	5.3	1.5	3.9				

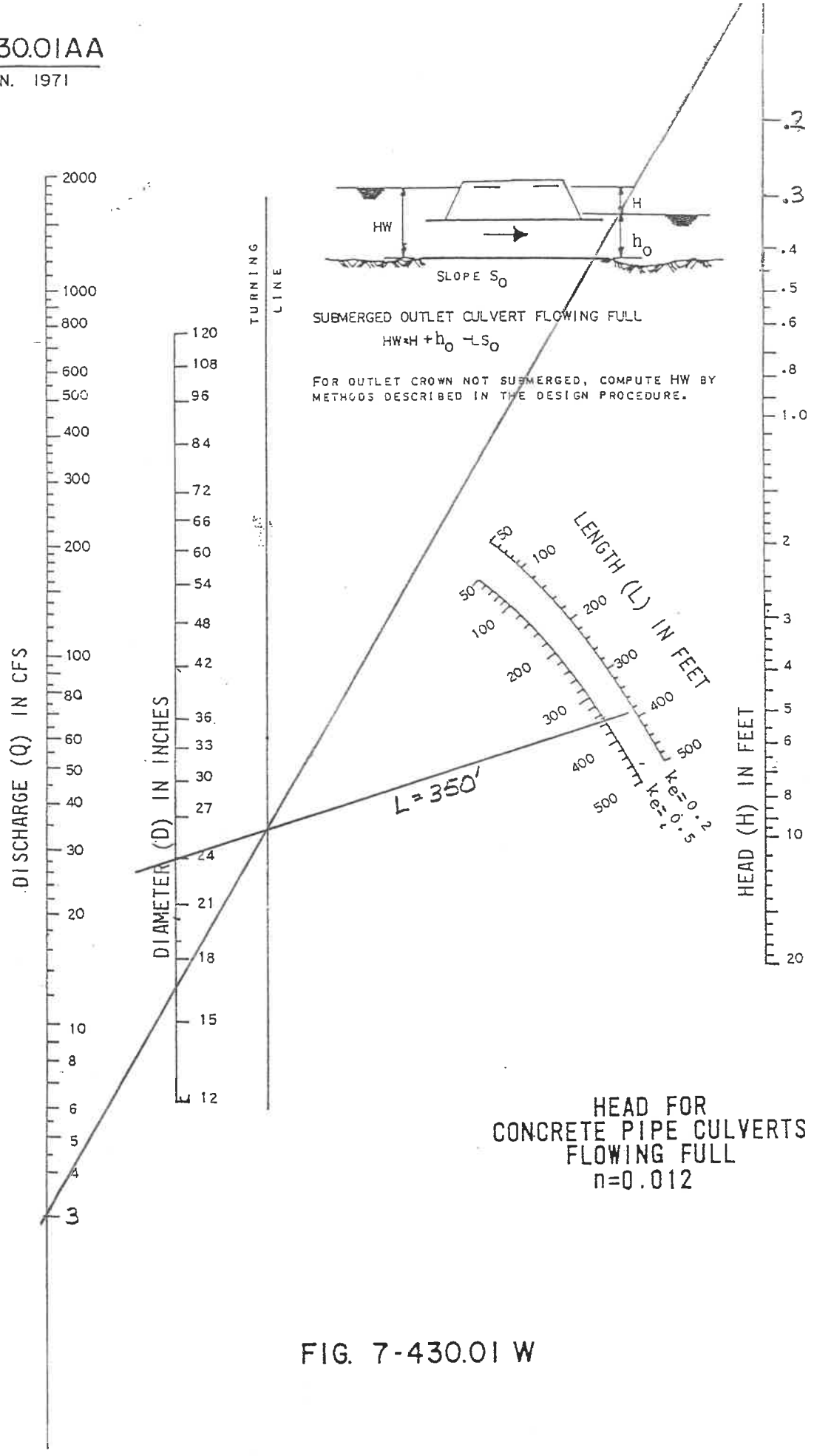
SUMMARY AND RECOMMENDATIONS

FIG. 7-430.01 A



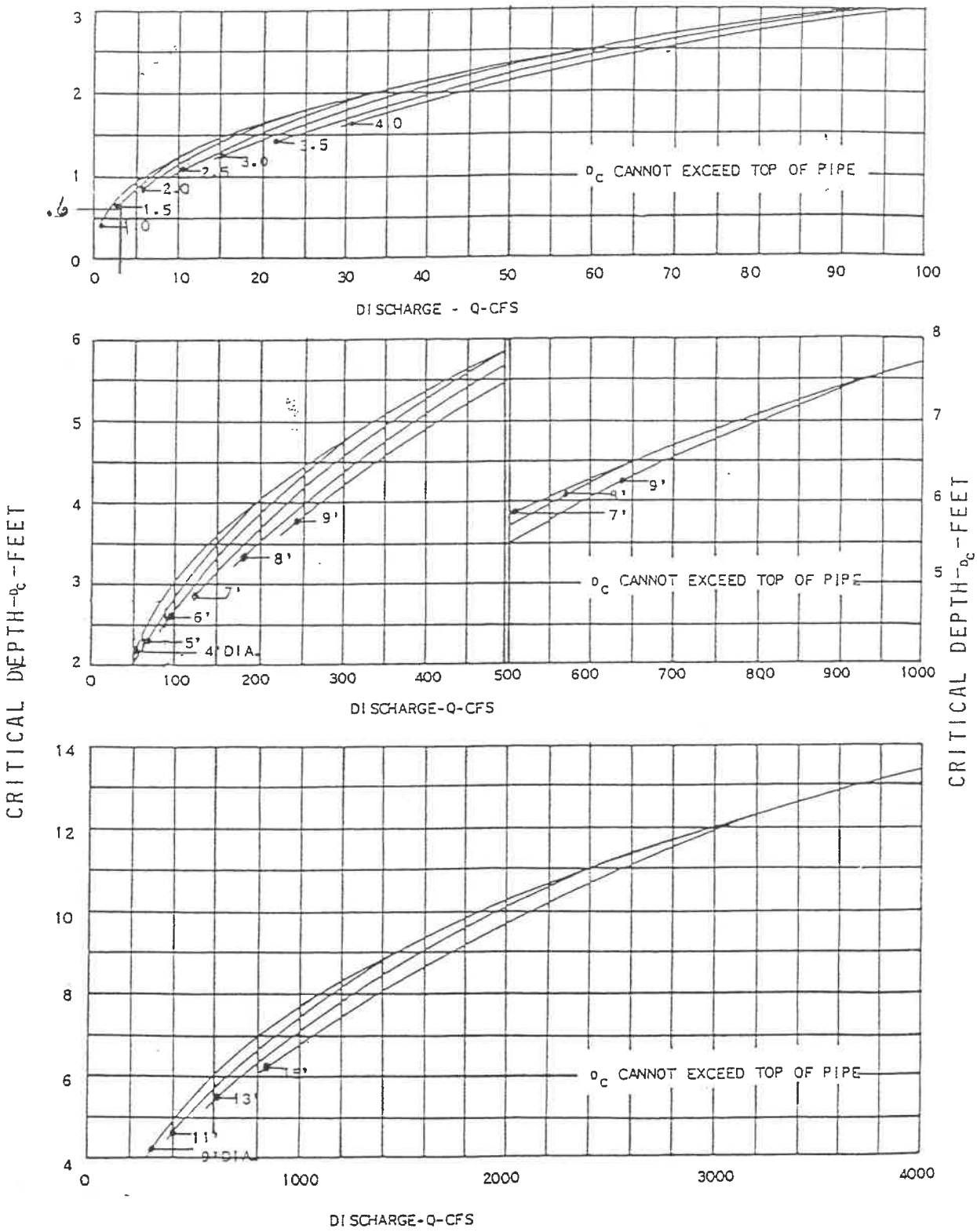
HEADWATER DEPTH FOR CONCRETE PIPE ~~CULVERTS WITH INLET~~ CONTROL

FIG. 7-430.01 F



HEAD FOR
CONCRETE PIPE CULVERTS
FLOWING FULL
n=0.012

FIG. 7-430.01 W



CRITICAL DEPTH
CIRCULAR PIPE

FIG. 7-430.01 L

Retention Basin #5

Undeveloped Conditions

→ 10 year peak discharge =
$Q_{10} = 13.65$ cfs

Developed Conditions

→ Weighted Runoff Coefficient, $C_d = .443$

Detention Requirements

→ Retention basin #5 will receive stormwater runoff from all sub-basins except for the following which will exit the site undetained.

Sub-basin	$Q_{(25)}$
#57	1.15

Allowable Discharge Rate

→ 13.65 cfs - 1.15 cfs = 12.5 cfs

VANDERBURGH COUNTY DRAINAGE BOARD
FORM 800

PROJECT: Stonecreek Subdivision - Section 3 (Basin 5)
DETENTION FACILITY DESIGN RETURN PERIOD: 25 YRS
DESIGNER: MORLEY & ASSOC.
RELEASE RATE RETURN PERIOD: 10 YRS

WATERSHED AREA:	22.63	ACRES
TIME OF CONCENTRATION (UNDEVELOPED WATERSHED):	30.2	MINUTES
RAINFALL INTENSITY (Iu):	3.217	INCHES/HR
UNDEVELOPED RUNOFF COEFFICIENT (Cu):	0.33	
UNDEVELOPED RUNOFF RATE (O = Cu*Iu*A):	24.02	CFS
DEVELOPED RUNOFF COEFFICIENT (Cd):	0.443	

STORM DURATION Td (HRS)	RAINFALL INTENSITY Id (INCH/HR)	INFLOW RATE I(Td) (Cd*Id*A) (CFS)	OUTFLOW RATE O (Cu*Iu*A) (CFS)	STORAGE RATE I(Td)-O (CFS)	REQUIRED STORAGE Td)-O)*Td/12 (ACRE-FT)
0.08	7.208	72.26	12.50	59.76	0.415
0.17	5.925	59.40	12.50	46.90	0.651
0.25	5.033	50.46	12.50	37.96	0.791
0.33	4.571	45.82	12.50	33.32	0.926
0.42	4.108	41.19	12.50	28.69	0.996
0.50	3.646	36.55	12.50	24.05	1.002
0.58	3.385	33.93	12.50	21.43	1.042
0.67	3.123	31.31	12.50	18.81	1.045
0.75	2.862	28.69	12.50	16.19	1.012
0.83	2.601	26.07	12.50	13.57	0.942
0.92	2.339	23.45	12.50	10.95	0.837
1.00	2.078	20.83	12.50	8.33	0.694
1.25	1.909	19.13	12.50	6.63	0.691
1.50	1.739	17.43	12.50	4.93	0.617
1.75	1.570	15.73	12.50	3.23	0.472
2.00	1.400	14.04	12.50	1.54	0.256
2.50	1.210	12.13	12.50	-0.37	-0.078
3.00	1.019	10.22	12.50	-2.28	-0.571
4.00	0.836	8.38	12.50	-4.12	-1.373

PEAK STORAGE (ACRE/FT):	1.05
PEAK STORAGE (CUBIC FT):	45,524

① Watershed Area = Dev. Sub-Basins #20 - #24 and #34 - #56

② Developed Runoff Coefficient = weighted runoff coef. from Sub-basins above

Retention Basin #5 Area/Volume

① Required Storage Volume from Form 800
25 year = 45524 cu. ft. @ 398.1'

	Elevation	Water Surface Area (S.F.)	Storage Capacity Volume (C.F.)
Pool	396.00	18247	
	397.00	21600	19924
	398.00	25054	43251
	399.00	28609	70083
E.S.	400.00	32264	100520

Primary Spillway

21" RCP - 345' Long @ 0.25%
Allowable Discharge = 5 cfs

For Headwater Depth = 3.74' @ 399.74
25 yr. storage volume = 92606 cu. ft.

→ required storage per Form 800
@ outflow rate = 5 cfs
= 68190 cu. ft.

excess storage volume = 24416 cu. ft.

VANDERBURGH COUNTY DRAINAGE BOARD
FORM 800

PROJECT: Stonecreek Subdivision - Section 3 (Basin 5) DETENTION FACILITY DESIGN RETURN PERICD: 25 YRS
DESIGNER: MORLEY & ASSOC. RELEASE RATE RETURN PERIOD: 10 YRS

WATERSHED AREA:	22.63	ACRES
TIME OF CONCENTRATION (UNDEVELOPED WATERSHED):	30.2	MINUTES
RAINFALL INTENSITY (Iu):	3.217	INCHES/HR
UNDEVELOPED RUNOFF COEFFICIENT (Cu):	0.33	
UNDEVELOPED RUNOFF RATE (O = Cu*Iu*A):	24.02	CFS
DEVELOPED RUNOFF COEFFICIENT (Cd):	0.443	

STORM DURATION Td (HRS)	RAINFALL INTENSITY Id (INCH/HR)	INFLOW RATE I(Td) (Cd*Id*A) (CFS)	OUTFLOW RATE O (Cu*Iu*A) (CFS)	STORAGE RATE I(Td)-O (CFS)	REQUIRED STORAGE Td)-O)*Td/12 (ACRE-FT)
0.08	7.208	72.26	5.00	67.26	0.467
0.17	5.925	59.40	5.00	54.40	0.756
0.25	5.033	50.46	5.00	45.46	0.947
0.33	4.571	45.82	5.00	40.82	1.134
0.42	4.108	41.19	5.00	36.19	1.256
0.50	3.646	36.55	5.00	31.55	1.315
0.58	3.385	33.93	5.00	28.93	1.406
0.67	3.123	31.31	5.00	26.31	1.462
0.75	2.862	28.69	5.00	23.69	1.481
0.83	2.601	26.07	5.00	21.07	1.463
0.92	2.339	23.45	5.00	18.45	1.410
1.00	2.078	20.83	5.00	15.83	1.319
1.25	1.909	19.13	5.00	14.13	1.472
1.50	1.739	17.43	5.00	12.43	1.554
1.75	1.570	15.73	5.00	10.73	1.565
2.00	1.400	14.04	5.00	9.04	1.506
2.50	1.210	12.13	5.00	7.13	1.484
3.00	1.019	10.22	5.00	5.22	1.304
4.00	0.836	8.38	5.00	3.38	1.127

PEAK STORAGE (ACRE/FT):	1.57
PEAK STORAGE (CUBIC FT):	68,190

PROJECT NO. 4255-4 Stonecreek - Section 3
Primary Spillway - Retention Basin #5

DESIGNER -RSL-

DATE 8-3-00

HYDROLOGIC AND CHANNEL INFORMATION

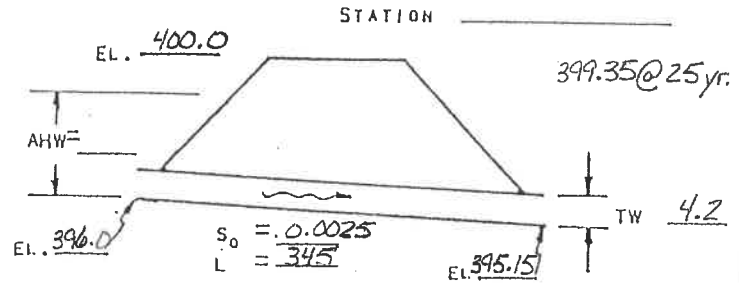
Q_1 = 5 cfs TW_1 = _____

Q_2 = _____ TW_2 = _____

Q_1 = DESIGN DISCHARGE, SAY Q_{10}

Q_2 = CHECK DISCHARGE, SAY Q_{50}

SKETCH



MEAN STREAM VELOCITY = _____

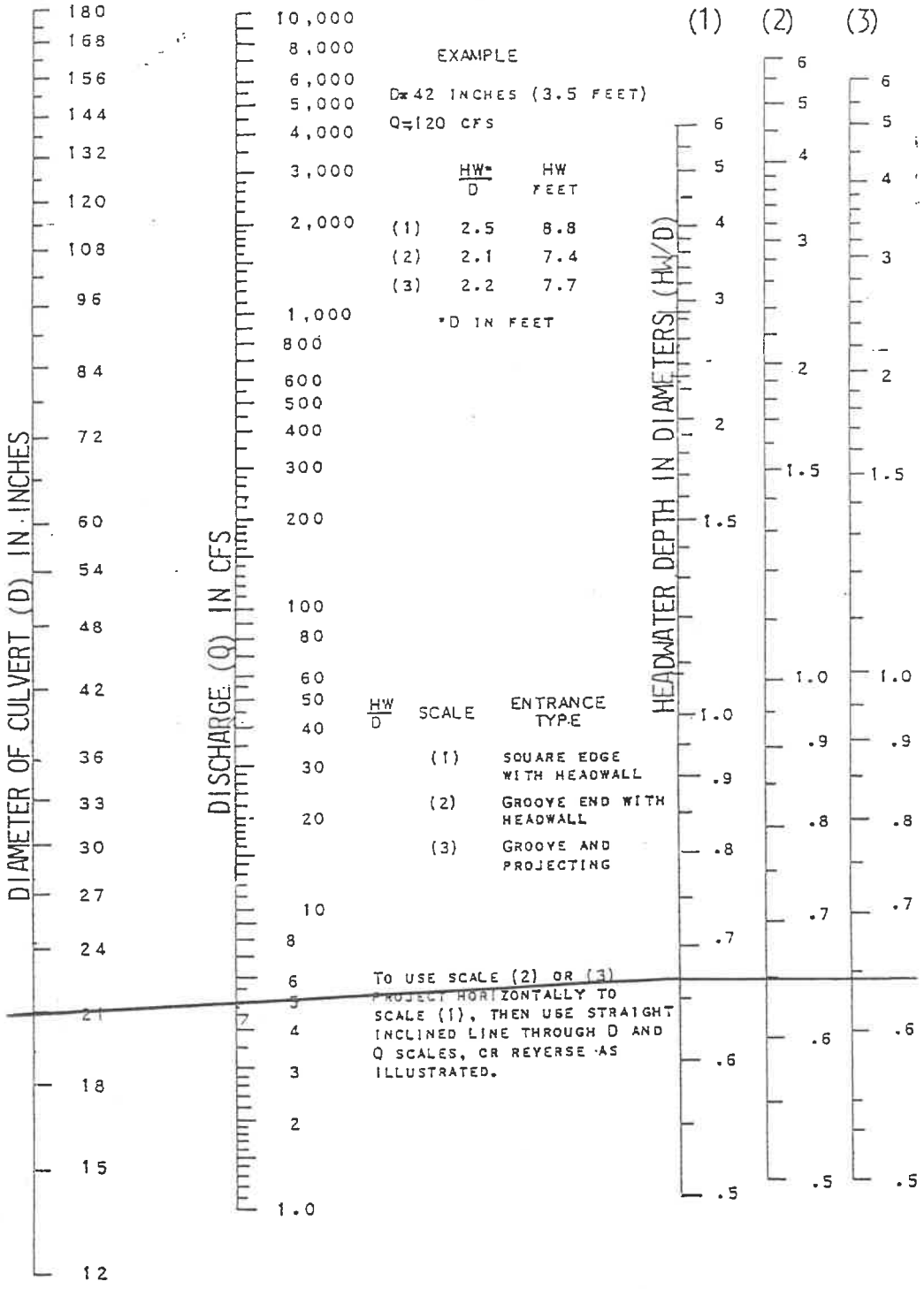
MAX. STREAM VELOCITY = _____

CULVERT DESCRIPTION (ENTRANCE TYPE)	Q	SIZE	HEADWATER COMPUTATION: INLET CONT. HW/D	INLET CONT. HW	OUTLET CONTROL HW=H+h_o-LS_o: K_e	H	d_c	$\frac{dc+D}{2}$	TW	h_o	LS_o	HW	CONTROLLING HW	OUTLET VELOCITY	COST	COMMENTS
	5	21"	.65	1.14	.5	.4	.8	1.3	4.2	4.2	.86	3.74				

SUMMARY AND RECOMMENDATIONS

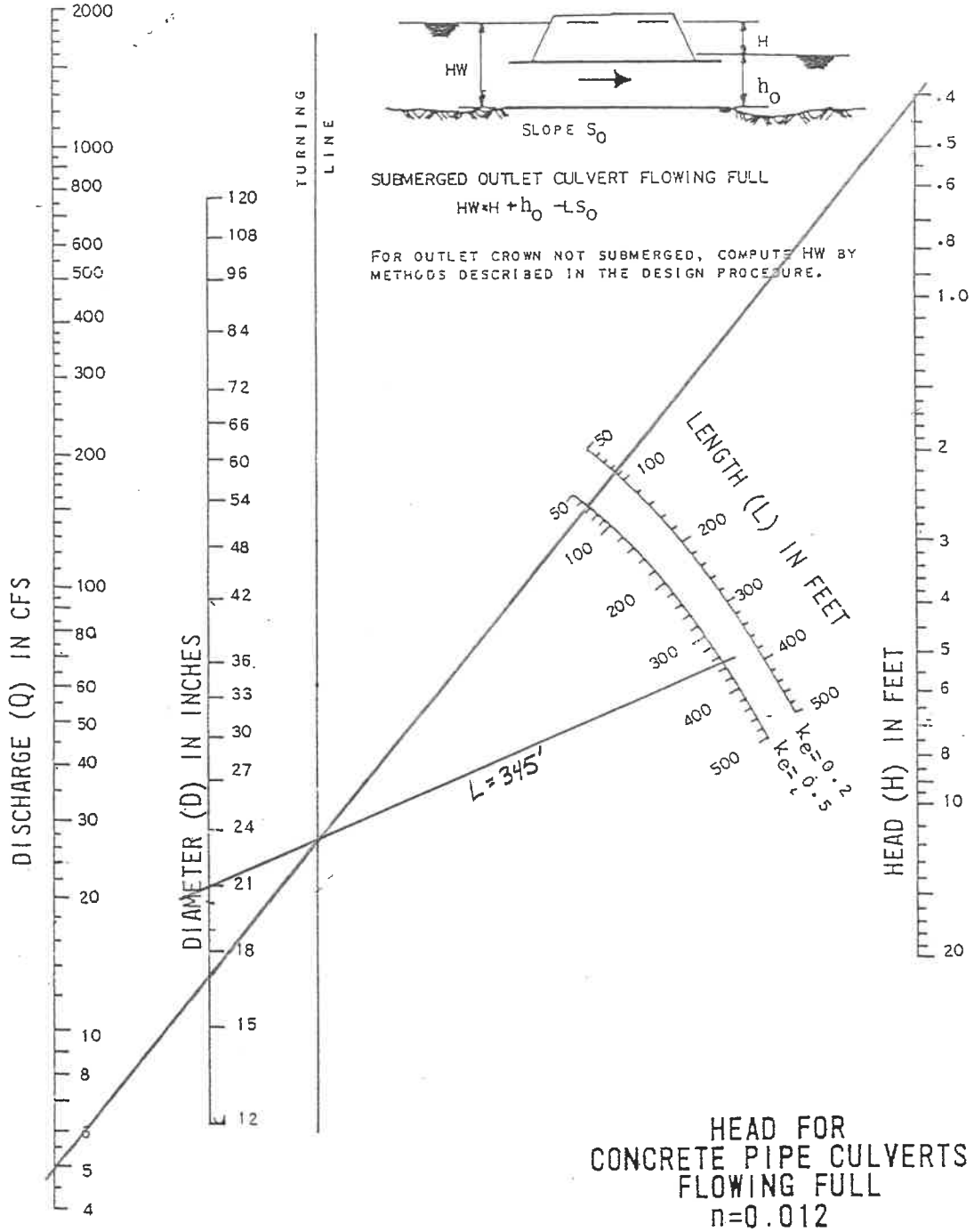
FIG. 7-430.01 A

7-430.01F
JAN. 1971



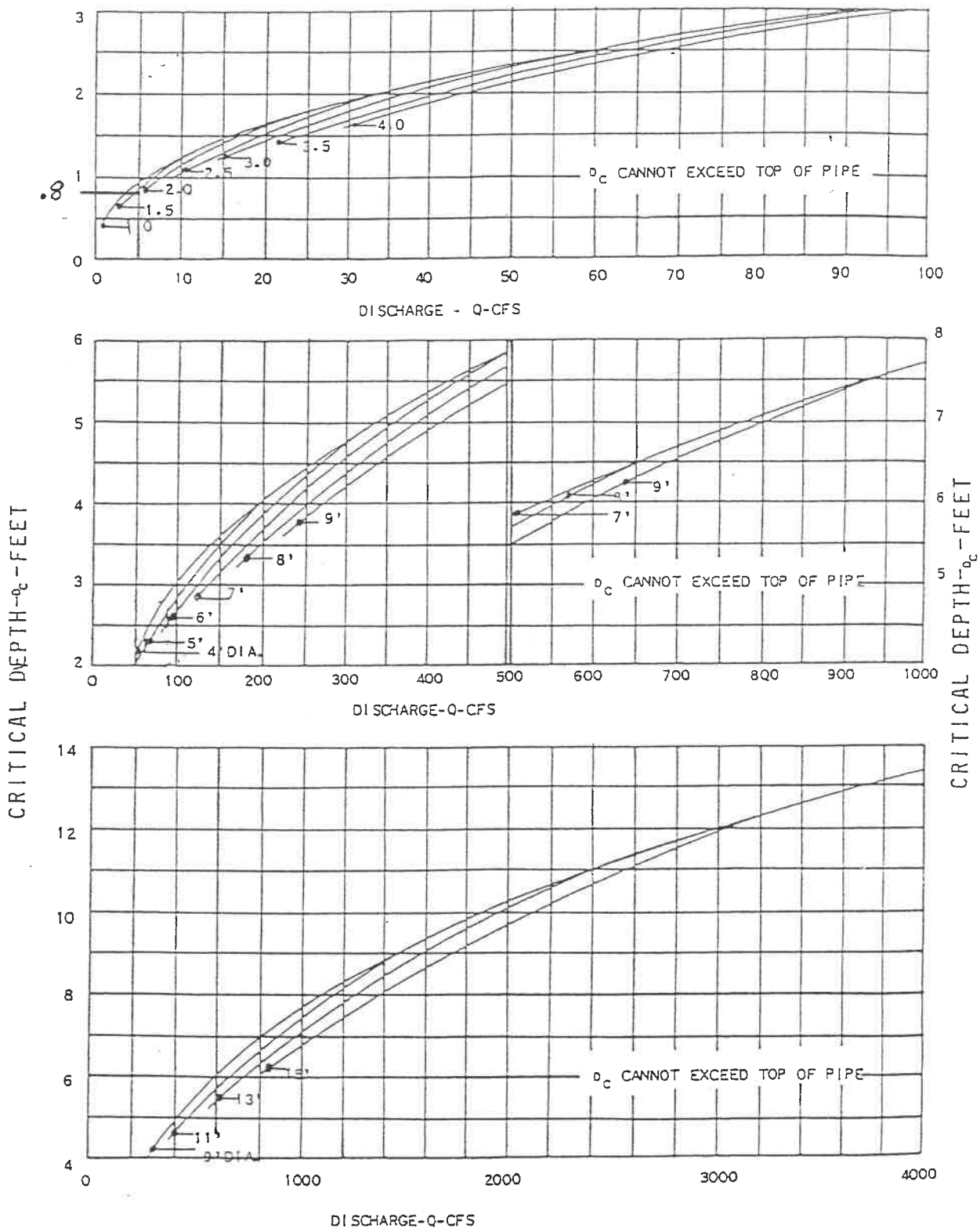
HEADWATER DEPTH FOR CONCRETE PIPE CULVERTS WITH INLET CONTROL

FIG. 7-430.01F



HEAD FOR
CONCRETE PIPE CULVERTS
FLOWING FULL
n=0.012

FIG. 7-430.01 W



CRITICAL DEPTH
CIRCULAR PIPE

FIG. 7-430.01 L

PROJECT NO. 4255-4 Stonecreek - Section 3
P-873

DESIGNER -RSL-

DATE 1-25-00

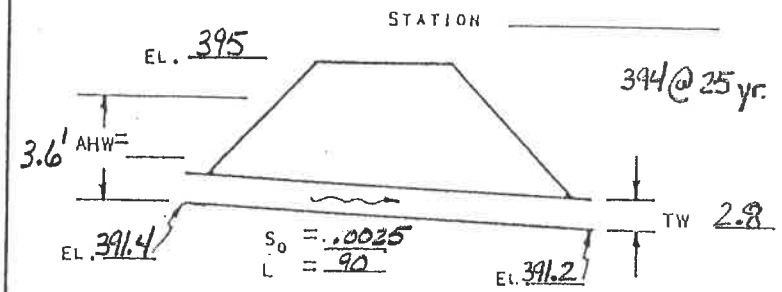
HYDROLOGIC AND CHANNEL INFORMATION

Q_1 = 8 cfs
Q_2 = ____

TW_1 = ____
TW_2 = ____

Q_1 = DESIGN DISCHARGE, SAY Q_{10}
Q_2 = CHECK DISCHARGE, SAY Q_{50}

SKETCH



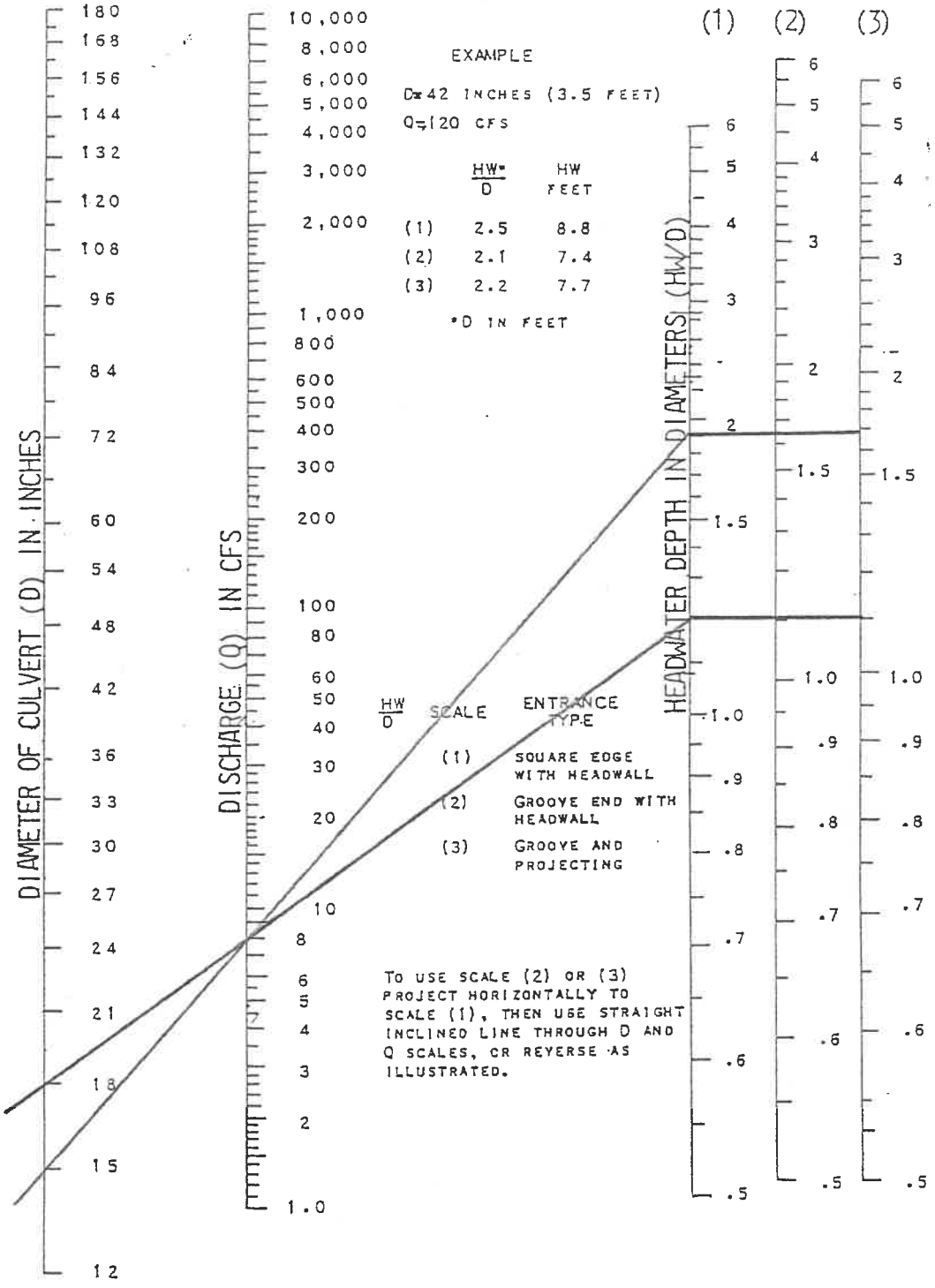
MEAN STREAM VELOCITY = ____
MAX. STREAM VELOCITY = ____

CULVERT DESCRIPTION (ENTRANCE TYPE)	Q	SIZE	HEADWATER COMPUTATION: INLET CONT. HW/D	INLET CONT. HW	OUTLET CONTROL HW=H+h_o-LS_o: K_e	H	d_c	$\frac{dc+D}{2}$	TW	h_o	LS_o	HW	CONTROLLING HW	OUTLET VELOCITY	COST	COMMENTS
	8	15"	1.7	2.1												
	8	18"	1.1	1.65	0.5	1.0	1.1	1.3	2.8	2.8	.23	3.57				

SUMMARY AND RECOMMENDATIONS

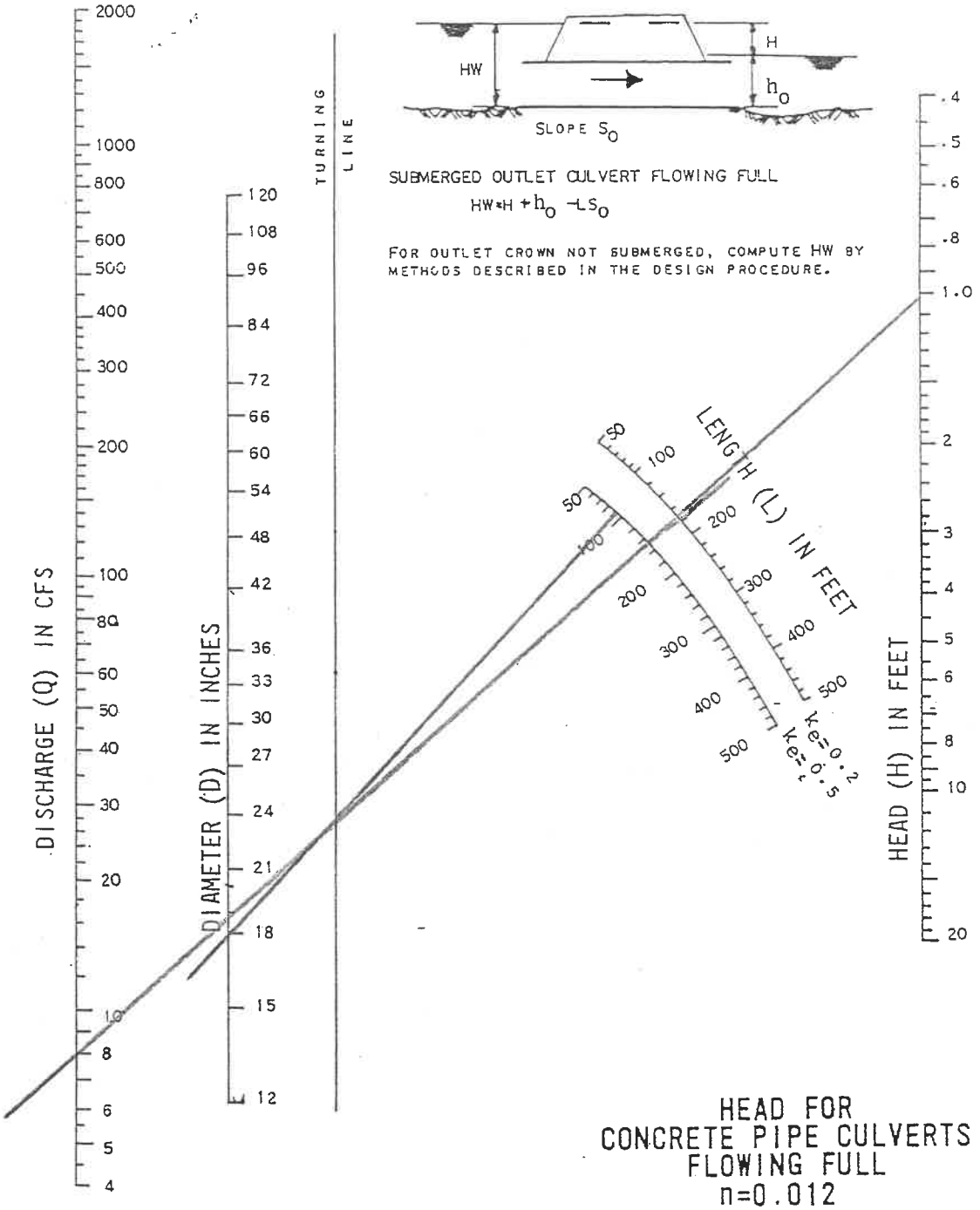
FIG. 7-430.01 A

7-430.01F
JAN. 1971



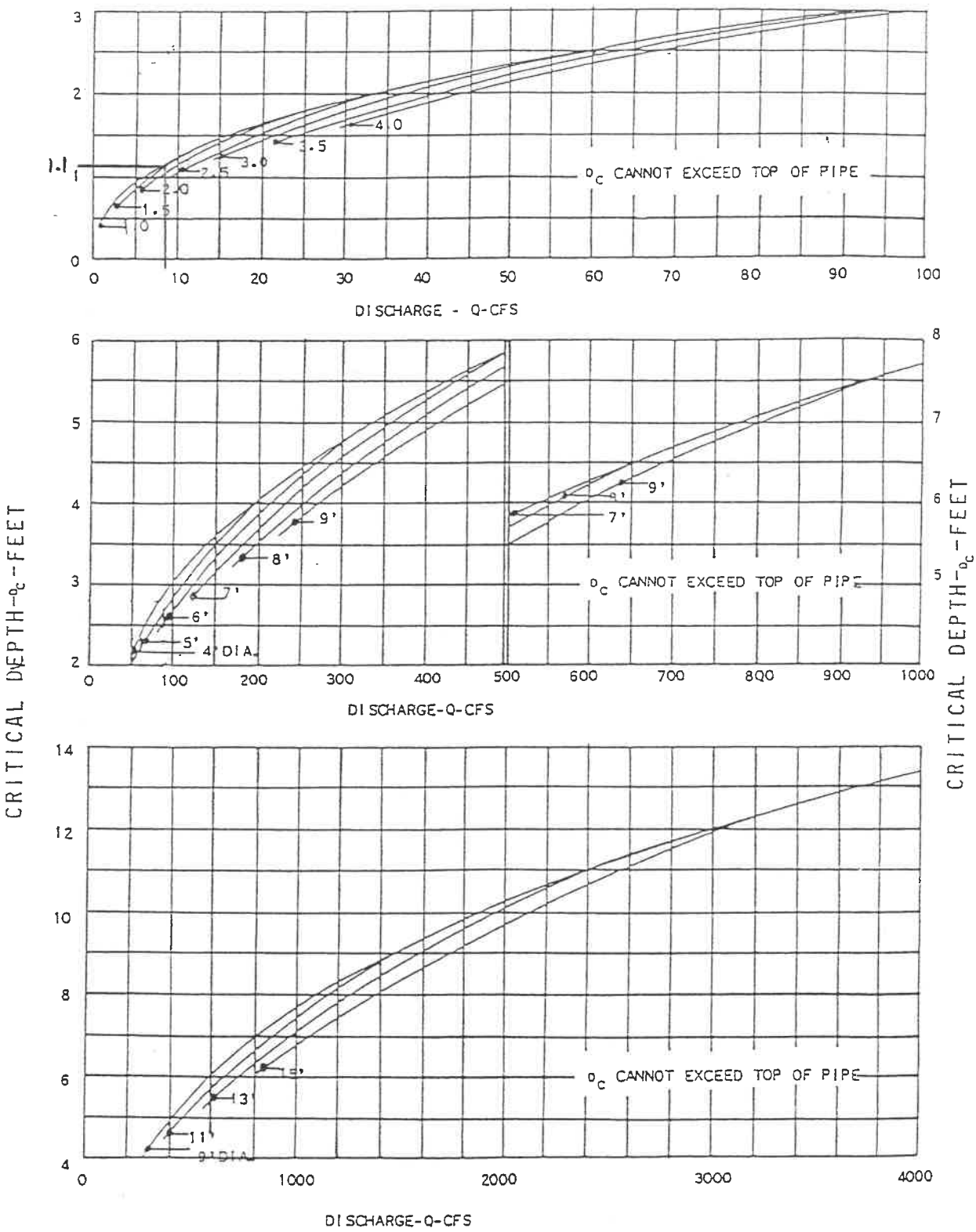
HEADWATER DEPTH FOR CONCRETE PIPE CULVERTS WITH INLET CONTROL

FIG. 7-430.01F



HEAD FOR
CONCRETE PIPE CULVERTS
FLOWING FULL
n=0.012

FIG. 7-430.01 W



CRITICAL DEPTH
CIRCULAR PIPE

FIG. 7-430.01 L

MORLEY AND ASSOCIATES INC.

STORM DESIGN SHEET - RATIONAL METHOD

PROJECT: Stonecreek Subdivision - Section 3
OUR PROJECT # 4255-4(G) DATE 8-3-00
MANNINGS n 0.011 DESIGN PERIOD 25 YEARS

LINE NO.	UPSTREAM MANHOLE	DOWNSTREAM MANHOLE	LENGTH (ft)	Cj	Aj (ac.)	CjAj	SUM CjAj	Tj (min)	Tcum (min)	I (in/hr)	Q (cfs)	PIPE DIA. (in)	PIPE SLOPE (ft/ft)	PIPE CAP. (cfs)	VELOCITY (ft/sec)	TRAVEL TIME (min)
1	878	880	47	0.483	0.62	0.299	0.299	16.20	16.20	4.922	1.47	12	0.0040	2.66	3.39	0.23
2	881	883	26	0.581	0.13	0.076	0.076	10.96	10.96	5.754	0.44	12	0.0015	1.63	2.08	0.21
3	883	889	146	0.607	0.12	0.073	0.149	10.54	11.17	5.716	0.85	12	0.0020	1.88	2.40	1.01
4	885	887	26	0.492	1.33	0.654	0.654	28.11	28.11	3.821	2.50	12	0.0055	3.12	3.98	0.11
5	887	889	32	0.525	0.80	0.420	1.074	19.63	28.22	3.810	4.09	15	0.0041	4.89	3.98	0.13
6	889	899	94				1.223		28.35	3.799	4.65	18	0.0027	6.45	3.65	0.43
7	891	893	26	0.546	0.58	0.317	0.317	16.66	16.66	4.879	1.55	12	0.0025	2.10	2.68	0.16
8	893	897	204	0.573	0.31	0.178	0.494	12.17	16.82	4.865	2.40	15	0.0015	2.96	2.41	1.41
9	895	897	50	0.509	0.56	0.285	0.285	17.14	17.14	4.835	1.38	12	0.0020	1.88	2.40	0.35
10	897	899	155				0.779		17.49	4.803	3.74	15	0.0040	4.83	3.94	0.66
11	899	1001	204	0.243	0.99	0.241	2.243	24.12	28.78	3.759	8.43	21	0.0032	10.59	4.40	0.77
12	1002	1004	26	0.495	0.74	0.366	0.366	18.51	18.51	4.708	1.72	12	0.0030	2.31	2.94	0.15
13	1004	1006	135	0.555	0.63	0.350	0.716	17.35	18.66	4.879	3.49	15	0.0035	4.51	3.68	0.61
14	1007	1009	26	0.479	0.80	0.383	0.383	19.10	19.10	4.654	1.78	12	0.0100	4.21	5.36	0.08
15	1009	1022	12	0.568	0.46	0.261	0.644	16.51	19.18	4.647	2.99	15	0.0183	10.32	8.42	0.02
16	1011	1013	26	0.461	1.28	0.590	0.590	25.03	25.03	4.106	2.42	12	0.0100	4.21	5.36	0.08
17	1013	1015	18	0.522	0.86	0.449	1.039	20.79	25.11	4.098	4.26	15	0.0050	5.40	4.40	0.07
18	1015	1020	185	0.304	1.47	0.447	1.486	30.37	30.37	3.627	5.39	18	0.0035	7.34	4.16	0.74
19	1017	1019	26	0.497	0.14	0.070	0.070	9.69	9.69	6.005	0.42	12	0.0110	4.41	5.62	0.08
20	1019	1020	27	0.543	0.09	0.049	0.119	8.24	9.77	5.984	0.71	12	0.0110	4.41	5.62	0.08
21	1020	1022	212				1.605		31.11	3.589	5.76	18	0.0040	7.85	4.44	0.80
22	1022	1024	123				2.249		31.91	3.547	7.98	21	0.0127	21.10	8.77	0.23

MORLEY AND ASSOCIATES INC.

STORM DESIGN SHEET - RATIONAL METHOD

PROJECT: **Stonecreek Subdivision - Section 3**

OUR PROJECT # 4255-4(G) DATE 8-3-00

MANNINGS n 0.011 DESIGN PERIOD 25 YEARS

LINE NO.	UPSTREAM MANHOLE	DOWNSTREAM MANHOLE	LENGTH (ft)	Cj	Aj (ac.)	CjAj	SUM CjAj	Tj (min)	Tcum (min)	I (in/hr)	Q (cfs)	PIPE DIA. (in)	PIPE SLOPE (ft/ft)	PIPE CAP. (cfs)	VELOCITY (ft/sec)	TRAVEL TIME (min)
23	1038	1040	26	0.549	0.61	0.335	0.335	14.60	14.60	5.104	1.71	12	0.0100	4.21	5.36	0.08
24	1040	1042	136	0.598	0.28	0.167	0.502	10.86	14.68	5.090	2.56	12	0.0122	4.65	5.92	0.38
25	1042	1044	161	0.306	1.24	0.379	0.882	15.54	15.54	4.983	4.39	18	0.0020	5.55	3.14	0.85
26	1044	1050	157	0.427	1.38	0.589	1.471	18.48	18.48	4.711	6.93	21	0.0025	9.36	3.89	0.67
27	1046	1048	132	0.439	1.24	0.544	0.544	19.24	19.24	4.641	2.52	12	0.0085	3.88	4.94	0.45
28	1048	1050	60	0.298	1.26	0.375	0.919	20.40	20.40	4.534	4.17	15	0.0100	7.63	6.22	0.16
29	1050	1052	124	0.298	1.26	0.375	2.766	20.40	20.56	4.519	12.50	24	0.0035	15.81	5.04	0.41
30	1052	1054	26	0.529	0.79	0.418	3.184	18.59	20.97	4.481	14.27	24	0.0045	17.93	5.71	0.08
31	1054	1056	50	0.540	0.61	0.329	3.513	17.62	21.05	4.474	15.72	24	0.0055	19.82	6.31	0.13
32	1056	1060	191				3.513		21.18	4.462	15.68	24	0.0055	19.82	6.31	0.50
33	1058	1060	46	0.485	0.61	0.296	0.296	17.45	17.45	4.806	1.42	12	0.0360	7.99	10.17	0.08
34	1060	1062	24	0.366	0.23	0.084	3.894	16.58	21.68	4.415	17.19	24	0.0065	21.55	6.86	0.06

MORLEY AND ASSOCIATES INC.

STORM DESIGN SHEET - RATIONAL METHOD

PROJECT: Stonecreek Subdivision - Section 3

OUR PROJECT # 4255-4(G) DATE 8-3-00

MANNINGS n 0.011 DESIGN PERIOD 25 YEARS

LINE NO.	UPSTREAM MANHOLE	DOWNSTREAM MANHOLE	LENGTH (ft)	Cj	Aj (ac.)	CjAj	SUM CjAj	Tj (min)	Tcum (min)	I (in/hr)	Q (cfs)	PIPE DIA. (in)	PIPE SLOPE (ft/ft)	PIPE CAP. (cfs)	VELOCITY (ft/sec)	TRAVEL TIME (min)
35	1025	1027	26	0.468	0.96	0.449	0.449	17.72	17.72	4.781	2.15	12	0.0040	2.66	3.39	0.13
36	1027	1029	124	0.594	0.29	0.172	0.621	11.08	17.85	4.769	2.96	12	0.0060	3.26	4.15	0.50
37	1030	1032	36	0.501	1.35	0.676	0.676	19.25	19.25	4.640	3.14	15	0.0030	4.18	3.41	0.18
38	1032	1035	137	0.603	0.42	0.253	0.930	14.50	19.43	4.624	4.30	15	0.0310	13.44	10.95	0.21
39	1035	1065	152	0.345	2.07	0.714	2.265	22.79	22.79	4.313	9.77	18	0.0316	22.06	12.49	0.20
40	1063	1065	70	0.533	0.28	0.149	0.149	12.99	12.99	5.392	0.80	12	0.0170	5.49	6.99	0.17
41	1065	1067	36	0.496	1.22	0.605	3.019	18.91	22.99	4.294	12.97	24	0.0060	20.70	6.59	0.09
42	1067	1069	135	0.468	0.88	0.412	3.431	19.43	23.08	4.286	14.71	24	0.0065	21.55	6.86	0.33
43	1069	1071	154	0.295	1.17	0.345	3.776	19.59	23.41	4.255	16.07	24	0.0070	22.36	7.12	0.36
44	1071	1077	30	0.475	1.05	0.499	4.275	18.35	23.77	4.222	18.05	24	0.0075	23.15	7.37	0.07
45	1073	1075	26	0.537	0.35	0.188	0.188	18.18	18.18	4.739	0.89	12	0.0050	2.98	3.79	0.11
46	1075	1077	74	0.541	0.14	0.076	0.264	11.15	18.29	4.729	1.25	12	0.0099	4.19	5.34	0.23
47	1077	1079	104	0.457	0.83	0.379	4.918	18.81	23.84	4.216	20.74	30	0.0032	27.41	5.59	0.31
48	1079	1081	23				4.918		24.15	4.187	20.59	30	0.0035	28.67	5.84	0.07

MORLEY AND ASSOCIATES INC.

STORM DESIGN SHEET - RATIONAL METHOD

PROJECT: Stonecreek Subdivision - Section 3
OUR PROJECT # 4255-4(G)
MANNINGS n 0.011
DATE 8-3-00
DESIGN PERIOD 25 YEARS

LINE NO.	UPSTREAM MANHOLE	DOWNSTREAM MANHOLE	LENGTH (ft)	Cj	Aj (ac.)	CjAj	SUM CjAj	Tj (min)	Tcum (min)	I (in/hr)	Q (cfs)	PIPE DIA. (in)	PIPE SLOPE (ft/ft)	PIPE CAP. (cfs)	VELOCITY (ft/sec)	TRAVEL TIME (min)
49	1082	1084	26	0.577	0.21	0.121	0.121	13.78	13.78	5.251	0.64	12	0.0050	2.98	3.79	0.11
50	1084	1086	84	0.695	0.14	0.097	0.218	12.32	13.89	5.231	1.14	12	0.0086	3.90	4.97	0.28
51	1086	1088	23				0.218		14.18	5.179	1.13	12	0.0086	3.90	4.97	0.08
52	1089	1091	26	0.424	1.16	0.492	0.492	22.68	22.68	4.323	2.13	15	0.0020	3.41	2.78	0.16
53	1091	1092	23	0.459	1.00	0.459	0.951	21.63	22.84	4.308	4.10	18	0.0040	7.85	4.44	0.09
54	1092	1094	112				0.951		22.92	4.301	4.09	18	0.0045	8.32	4.71	0.40
55	1095	1097	138	0.277	0.80	0.222	0.222	28.42	28.42	3.792	0.84	12	0.0070	3.52	4.49	0.51
56	1097	1101	64	0.454	1.28	0.581	0.803	23.64	28.93	3.745	3.01	15	0.0070	6.39	5.21	0.20
57	1099	1101	52	0.553	0.20	0.111	0.111	10.37	10.37	5.859	0.65	12	0.0142	5.02	6.39	0.14
58	1101	1103	51	0.489	0.85	0.416	1.330	23.76	29.14	3.726	4.95	18	0.0030	6.80	3.85	0.22
59	1103	1105	133				1.330		29.36	3.705	4.93	18	0.0030	6.80	3.85	0.58
60	1105	1107	37	0.323	0.13	0.042	1.372	9.86	29.93	3.653	5.01	18	0.0035	7.34	4.16	0.15
61	1108	1110	133	0.348	0.89	0.310	0.310	24.44	24.44	4.160	1.29	12	0.0015	1.63	2.08	1.07
62	1110	1112	26	0.449	1.55	0.696	1.006	19.64	25.51	4.061	4.09	15	0.0045	5.12	4.17	0.10
63	1112	1114	140	0.516	0.89	0.459	1.465	16.30	25.61	4.052	5.94	15	0.0100	7.63	6.22	0.38
64	1114	1116	200	0.353	0.54	0.191	1.656	16.22	25.99	4.003	6.63	18	0.0100	12.41	7.03	0.47
65	1116	1116B	109	0.353	0.54	0.191	1.846	16.22	26.46	3.973	7.34	18	0.0328	22.48	12.72	0.14
66	1124	1126	136	0.449	0.68	0.305	0.305	25.69	25.69	4.045	1.24	12	0.0542	9.80	12.48	0.18
67	1126	1128	90				0.305		25.87	4.028	1.23	12	0.0542	9.80	12.48	0.12

Developed Drainage Sub-Basins

Sub-basin No.:	1		Total Area =	27,007	S.F. =	0.62	Ac.		
Surface								C	N
Structures	2.5	Total	1,500 S.F. =	3,750	S.F. =	0.09	Ac.	0.92	0.02
Drives	5	Total	500 S.F. =	2,500	S.F. =	0.06	Ac.	0.92	0.02
Pavement	280	L.F.	14.5 Width =	4,060	S.F. =	0.09	Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	340	L.F.	4 Width =	1,360	S.F. =	0.03	Ac.	0.92	0.02
Lawn (0-2%)			15,337 S.F. =			0.35	Ac.	0.15	0.40
Lawn (2-5%)			S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)			S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)			S.F. =			0.00	Ac.	0.55	0.40
Water			S.F. =			0.00	Ac.	1.00	0.00
Misc.			S.F. =			0.00	Ac.	0.12	0.60

Weighted c =	0.483		
Weighted N =	0.236		
L =	240	Ft.	
H =	2.3	Ft.	
S =	0.0094	Ft./Ft.	
tc =	16.20	Minutes	(Min. 5 minutes)
I(25) =	4.922	In./Hr.	
Q(25) =	1.47	CFS	

Developed Drainage Sub-Basins

Sub-basin No.:	2		Total Area =	5,663	S.F. =	0.13	Ac.		
Surface								C	N
Structures	0.5	Total	1,500 S.F. =	750	S.F. =	0.02	Ac.	0.92	0.02
Drives	0	Total	500 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Pavement	135	L.F.	14.5 Width =	1,958	S.F. =	0.04	Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	115	L.F.	4 Width =	460	S.F. =	0.01	Ac.	0.92	0.02
Lawn (0-2%)			2,496 S.F. =			0.06	Ac.	0.15	0.40
Lawn (2-5%)			S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)			S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)			S.F. =			0.00	Ac.	0.55	0.40
Water			S.F. =			0.00	Ac.	1.00	0.00
Misc.			S.F. =			0.00	Ac.	0.92	0.02

Weighted c =	0.581		
Weighted N =	0.187		
L =	160	Ft.	
H =	2.3	Ft.	
S =	0.0141	Ft./Ft.	
tc =	10.96	Minutes	(Min. 5 minutes)
I(25) =	5.754	In./Hr.	
Q(25) =	0.43	CFS	

Developed Drainage Sub-Basins

Sub-basin No.:	3	Total Area =	5,337 S.F. =	0.12 Ac.		

Surface								C	N
Structures	0.5	Total	1,500 S.F. =	750 S.F. =	0.02	Ac.		0.92	0.02
Drives	0	Total	500 S.F. =	0 S.F. =	0.00	Ac.		0.92	0.02
Pavement	135	L.F.	14.5 Width =	1,958 S.F. =	0.04	Ac.		0.92	0.02
Patios	0	Total	150 S.F. =	0 S.F. =	0.00	Ac.		0.92	0.02
Sidewalks	115	L.F.	4 Width =	460 S.F. =	0.01	Ac.		0.92	0.02
Lawn (0-2%)			2,170 S.F. =		0.05	Ac.		0.15	0.40
Lawn (2-5%)			S.F. =		0.00	Ac.		0.25	0.40
Lawn (5-10%)			S.F. =		0.00	Ac.		0.40	0.40
Lawn (>10%)			S.F. =		0.00	Ac.		0.55	0.40
Water			S.F. =		0.00	Ac.		1.00	0.00
Misc.			S.F. =		0.00	Ac.		0.12	0.60

Weighted c =	0.607	
Weighted N =	0.174	
L =	160	Ft.
H =	2.3	Ft.
S =	0.0144	Ft./Ft.
tc =	10.54	Minutes
I(25) =	5.829	In./Hr.
Q(25) =	0.43	CFS

(Min. 5 minutes)

Developed Drainage Sub-Basins

Sub-basin No.:	4	Total Area =	57,935 S.F. =	1.33 Ac.		

Surface								C	N
Structures	3.25	Total	1,500 S.F. =	4,875 S.F. =	0.11	Ac.		0.92	0.02
Structures	3.5	Total	1,100 S.F. =	3,850 S.F. =	0.09	Ac.		0.92	0.02
Drives	6.5	Total	500 S.F. =	3,250 S.F. =	0.07	Ac.		0.92	0.02
Drives	7	Total	200 S.F. =	1,400 S.F. =	0.03	Ac.		0.92	0.02
Pavement	666	L.F.	14.5 Width =	9,657 S.F. =	0.22	Ac.		0.92	0.02
Patios	0	Total	150 S.F. =	0 S.F. =	0.00	Ac.		0.92	0.02
Sidewalks	666	L.F.	4 Width =	2,664 S.F. =	0.06	Ac.		0.92	0.02
Lawn (0-2%)			32,239 S.F. =		0.74	Ac.		0.15	0.40
Lawn (2-5%)			S.F. =		0.00	Ac.		0.25	0.40
Lawn (5-10%)			S.F. =		0.00	Ac.		0.40	0.40
Lawn (>10%)			S.F. =		0.00	Ac.		0.55	0.40
Water			S.F. =		0.00	Ac.		1.00	0.00
Misc.			S.F. =		0.00	Ac.		0.92	0.02

Weighted c =	0.492	
Weighted N =	0.231	
L =	740	Ft.
H =	6.0	Ft.
S =	0.0081	Ft./Ft.
tc =	28.11	Minutes
I(25) =	3.821	In./Hr.
Q(25) =	2.50	CFS

(Min. 5 minutes)

Developed Drainage Sub-Basins

Sub-basin No.: 5			Total Area =		34,848 S.F. =	0.80 Ac.		
Surface							C	N
Structures	2.5	Total	1,500	S.F. =	3,750 S.F. =	0.09 Ac.	0.92	0.02
Structures	0.5	Total	1,100	S.F. =	550 S.F. =	0.01 Ac.	0.92	0.02
Drives	6	Total	500	S.F. =	3,000 S.F. =	0.07 Ac.	0.92	0.02
Pavement	530	L.F.	14.5	Width =	7,685 S.F. =	0.18 Ac.	0.92	0.02
Patios	0	Total	150	S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	500	L.F.	4	Width =	2,000 S.F. =	0.05 Ac.	0.92	0.02
Lawn (0-2%)			17,863	S.F. =		0.41 Ac.	0.15	0.40
Lawn (2-5%)				S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)				S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)				S.F. =		0.00 Ac.	0.55	0.40
Water				S.F. =		0.00 Ac.	1.00	0.00
Misc.				S.F. =		0.00 Ac.	0.12	0.60

Weighted c =	0.525		
Weighted N =	0.215		
L =	400	Ft.	
H =	3.8	Ft.	
S =	0.0095	Ft./Ft.	
tc =	19.63	Minutes	(Min. 5 minutes)
I(25) =	4.605	In./Hr.	
Q(25) =	1.94	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 6			Total Area =		25,193 S.F. =	0.58 Ac.		
Surface							C	N
Structures	3.5	Total	1,100	S.F. =	3,850 S.F. =	0.09 Ac.	0.92	0.02
Drives	7	Total	200	S.F. =	1,400 S.F. =	0.03 Ac.	0.92	0.02
Pavement	425	L.F.	14.5	Width =	6,163 S.F. =	0.14 Ac.	0.92	0.02
Patios	0	Total	150	S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	385	L.F.	4	Width =	1,540 S.F. =	0.04 Ac.	0.92	0.02
Lawn (0-2%)			12,241	S.F. =		0.28 Ac.	0.15	0.40
Lawn (2-5%)				S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)				S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)				S.F. =		0.00 Ac.	0.55	0.40
Water				S.F. =		0.00 Ac.	1.00	0.00
Misc.				S.F. =		0.00 Ac.	0.12	0.60

Weighted c =	0.546		
Weighted N =	0.205		
L =	315	Ft.	
H =	3.4	Ft.	
S =	0.0108	Ft./Ft.	
tc =	16.66	Minutes	(Min. 5 minutes)
I(25) =	4.879	In./Hr.	
Q(25) =	1.54	CFS	

Developed Drainage Sub-Basins

Sub-basin No.:	7	Total Area =	13,504	S.F. =	0.31	Ac.

Surface											C	N
Structures	1.5	Total	1,100	S.F.	=	1,650	S.F. =	0.04	Ac.		0.92	0.02
Drives	3	Total	200	S.F.	=	600	S.F. =	0.01	Ac.		0.92	0.02
Pavement	290	L.F.	14.5	Width	=	4,205	S.F. =	0.10	Ac.		0.92	0.02
Patios	0	Total	150	S.F.	=	0	S.F. =	0.00	Ac.		0.92	0.02
Sidewalks	240	L.F.	4	Width	=	960	S.F. =	0.02	Ac.		0.92	0.02
Lawn (0-2%)			6,089	S.F.	=			0.14	Ac.		0.15	0.40
Lawn (2-5%)				S.F.	=			0.00	Ac.		0.25	0.40
Lawn (5-10%)				S.F.	=			0.00	Ac.		0.40	0.40
Lawn (>10%)				S.F.	=			0.00	Ac.		0.55	0.40
Water				S.F.	=			0.00	Ac.		1.00	0.00
Misc.				S.F.	=			0.00	Ac.		0.12	0.60

Weighted C =	0.573	
Weighted N =	0.191	
L =	190	Ft.
H =	2.5	Ft.
S =	0.0132	Ft./Ft.
tc =	12.17	Minutes (Min. 5 minutes)
I(25) =	5.538	In./Hr.
Q(25) =	0.98	CFS

Developed Drainage Sub-Basins

Sub-basin No.:	8	Total Area =	24,394	S.F. =	0.56	Ac.

Surface											C	N
Structures	3.75	Total	1,100	S.F.	=	4,125	S.F. =	0.09	Ac.		0.92	0.02
Drives	8.5	Total	200	S.F.	=	1,700	S.F. =	0.04	Ac.		0.92	0.02
Pavement	300	L.F.	14.5	Width	=	4,350	S.F. =	0.10	Ac.		0.92	0.02
Patios	0	Total	150	S.F.	=	0	S.F. =	0.00	Ac.		0.92	0.02
Sidewalks	300	L.F.	4	Width	=	1,200	S.F. =	0.03	Ac.		0.92	0.02
Lawn (0-2%)			13,019	S.F.	=			0.30	Ac.		0.15	0.40
Lawn (2-5%)				S.F.	=			0.00	Ac.		0.25	0.40
Lawn (5-10%)				S.F.	=			0.00	Ac.		0.40	0.40
Lawn (>10%)				S.F.	=			0.00	Ac.		0.55	0.40
Water				S.F.	=			0.00	Ac.		1.00	0.00
Misc.				S.F.	=			0.00	Ac.		0.92	0.02

Weighted C =	0.509	
Weighted N =	0.223	
L =	310	Ft.
H =	3.4	Ft.
S =	0.0110	Ft./Ft.
tc =	17.14	Minutes (Min. 5 minutes)
I(25) =	4.835	In./Hr.
Q(25) =	1.38	CFS

Developed Drainage Sub-Basins

Sub-basin No.: 9			Total Area =		43,124 S.F. =		0.99 Ac.		
Surface								C	N
Structures	3.5	Total	1,500	S.F. =	5,250	S.F. =	0.12 Ac.	0.92	0.02
Structures	4.25	Total	1,100	S.F. =	4,675	S.F. =	0.11 Ac.	0.92	0.02
Drives	0	Total	200	S.F. =	0	S.F. =	0.00 Ac.	0.92	0.02
Pavement	0	L.F.	14.5	Width =	0	S.F. =	0.00 Ac.	0.92	0.02
Patios	6.5	Total	150	S.F. =	975	S.F. =	0.02 Ac.	0.92	0.02
Patios	7.5	Total	75	S.F. =	563	S.F. =	0.01 Ac.	0.92	0.02
Sidewalks	0	L.F.	4	Width =	0	S.F. =	0.00 Ac.	0.92	0.02
Lawn (0-2%)			31,662	S.F. =			0.73 Ac.	0.15	0.40
Lawn (2-5%)				S.F. =			0.00 Ac.	0.25	0.40
Lawn (5-10%)				S.F. =			0.00 Ac.	0.40	0.40
Lawn (>10%)				S.F. =			0.00 Ac.	0.55	0.40
Water				S.F. =			0.00 Ac.	1.00	0.00
Misc.				S.F. =			0.00 Ac.	0.12	0.60

Weighted c =	0.243	
Weighted N =	0.297	
L =	400	Ft.
H =	3.0	Ft.
S =	0.0075	Ft./Ft.
tc =	24.12	Minutes
I(25) =	4.190	In./Hr.
Q(25) =	1.01	CFS

(Min. 5 minutes)

Developed Drainage Sub-Basins

Sub-basin No.: 10			Total Area =		26,572 S.F. =		0.61 Ac.		
Surface								C	N
Structures	4	Total	1,100	S.F. =	4,400	S.F. =	0.10 Ac.	0.92	0.02
Drives	8	Total	200	S.F. =	1,600	S.F. =	0.04 Ac.	0.92	0.02
Pavement	300	L.F.	14.5	Width =	4,350	S.F. =	0.10 Ac.	0.92	0.02
Patios	0	Total	150	S.F. =	0	S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	300	L.F.	4	Width =	1,200	S.F. =	0.03 Ac.	0.92	0.02
Lawn (0-2%)			15,022	S.F. =			0.34 Ac.	0.15	0.40
Lawn (2-5%)				S.F. =			0.00 Ac.	0.25	0.40
Lawn (5-10%)				S.F. =			0.00 Ac.	0.40	0.40
Lawn (>10%)				S.F. =			0.00 Ac.	0.55	0.40
Water				S.F. =			0.00 Ac.	1.00	0.00
Misc.				S.F. =			0.00 Ac.	0.92	0.02

Weighted c =	0.485	
Weighted N =	0.235	
L =	310	Ft.
H =	3.5	Ft.
S =	0.0113	Ft./Ft.
tc =	17.45	Minutes
I(25) =	4.806	In./Hr.
Q(25) =	1.42	CFS

(Min. 5 minutes)

Developed Drainage Sub-Basins

Sub-basin No.: 11			Total Area =		32,234 S.F. =	0.74 Ac.		
Surface							C	N
Structures	3	Total	1,500	S.F. =	4,500 S.F. =	0.10 Ac.	0.92	0.02
Drives	6	Total	500	S.F. =	3,000 S.F. =	0.07 Ac.	0.92	0.02
Pavement	375	L.F.	14.5	Width =	5,438 S.F. =	0.12 Ac.	0.92	0.02
Patios	0	Total	150	S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	375	L.F.	4	Width =	1,500 S.F. =	0.03 Ac.	0.92	0.02
Lawn (0-2%)			17,797	S.F. =		0.41 Ac.	0.15	0.40
Lawn (2-5%)				S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)				S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)				S.F. =		0.00 Ac.	0.55	0.40
Water				S.F. =		0.00 Ac.	1.00	0.00
Misc.				S.F. =		0.00 Ac.	0.12	0.60

Weighted c =	0.495		
Weighted N =	0.230		
L =	325	Ft.	
H =	3.0	Ft.	
S =	0.0092	Ft./Ft.	
tc =	18.51	Minutes	(Min. 5 minutes)
I(25) =	4.708	In./Hr.	
Q(25) =	1.72	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 12			Total Area =		27,443 S.F. =	0.63 Ac.		
Surface							C	N
Structures	3	Total	1,500	S.F. =	4,500 S.F. =	0.10 Ac.	0.92	0.02
Drives	6	Total	500	S.F. =	3,000 S.F. =	0.07 Ac.	0.92	0.02
Pavement	375	L.F.	14.5	Width =	5,438 S.F. =	0.12 Ac.	0.92	0.02
Patios	0	Total	150	S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	375	L.F.	4	Width =	1,500 S.F. =	0.03 Ac.	0.92	0.02
Lawn (0-2%)			13,006	S.F. =		0.30 Ac.	0.15	0.40
Lawn (2-5%)				S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)				S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)				S.F. =		0.00 Ac.	0.55	0.40
Water				S.F. =		0.00 Ac.	1.00	0.00
Misc.				S.F. =		0.00 Ac.	0.12	0.60

Weighted c =	0.555		
Weighted N =	0.200		
L =	325	Ft.	
H =	3.0	Ft.	
S =	0.0092	Ft./Ft.	
tc =	17.35	Minutes	(Min. 5 minutes)
I(25) =	4.816	In./Hr.	
Q(25) =	1.68	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 13			Total Area =		34,848 S.F. =	0.80 Ac.		
Surface							C	N
Structures	3.25	Total	1,500	S.F. =	4,875 S.F. =	0.11 Ac.	0.92	0.02
Drives	6.5	Total	500	S.F. =	3,250 S.F. =	0.07 Ac.	0.92	0.02
Pavement	366	L.F.	14.5	Width =	5,307 S.F. =	0.12 Ac.	0.92	0.02
Patios	0	Total	150	S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	366	L.F.	4	Width =	1,464 S.F. =	0.03 Ac.	0.92	0.02
Lawn (0-2%)			19,952	S.F. =		0.46 Ac.	0.15	0.40
Lawn (2-5%)				S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)				S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)				S.F. =		0.00 Ac.	0.55	0.40
Water				S.F. =		0.00 Ac.	1.00	0.00
Misc.				S.F. =		0.00 Ac.	0.12	0.60

Weighted c =	0.479		
Weighted N =	0.238		
L =	350	Ft.	
H =	3.5	Ft.	
S =	0.0100	Ft./Ft.	
tc =	19.10	Minutes	(Min. 5 minutes)
I(25) =	4.654	In./Hr.	
Q(25) =	1.78	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 14			Total Area =		20,038 S.F. =	0.46 Ac.		
Surface							C	N
Structures	1.75	Total	1,500	S.F. =	2,625 S.F. =	0.06 Ac.	0.92	0.02
Drives	3	Total	500	S.F. =	1,500 S.F. =	0.03 Ac.	0.92	0.02
Pavement	366	L.F.	14.5	Width =	5,307 S.F. =	0.12 Ac.	0.92	0.02
Patios	0.5	Total	150	S.F. =	75 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	340	L.F.	4	Width =	1,360 S.F. =	0.03 Ac.	0.92	0.02
Lawn (0-2%)			9,171	S.F. =		0.21 Ac.	0.15	0.40
Lawn (2-5%)				S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)				S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)				S.F. =		0.00 Ac.	0.55	0.40
Water				S.F. =		0.00 Ac.	1.00	0.00
Misc.				S.F. =		0.00 Ac.	0.12	0.60

Weighted c =	0.568		
Weighted N =	0.194		
L =	270	Ft.	
H =	2.0	Ft.	
S =	0.0074	Ft./Ft.	
tc =	16.51	Minutes	(Min. 5 minutes)
I(25) =	4.893	In./Hr.	
Q(25) =	1.28	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 15			Total Area =	55,757 S.F. =	1.28 Ac.		
Surface						C	N
Structures	4.75	Total	1,500 S.F. =	7,125 S.F. =	0.16 Ac.	0.92	0.02
Drives	9.5	Total	500 S.F. =	4,750 S.F. =	0.11 Ac.	0.92	0.02
Pavement	575	L.F.	14.5 Width =	8,338 S.F. =	0.19 Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	575	L.F.	4 Width =	2,300 S.F. =	0.05 Ac.	0.92	0.02
Lawn (0-2%)			33,245 S.F. =		0.76 Ac.	0.15	0.40
Lawn (2-5%)			S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.92	0.02

Weighted C =	0.461		
Weighted N =	0.247		
L =	525	Ft.	
H =	4.0	Ft.	
S =	0.0076	Ft./Ft.	
tc =	25.03	Minutes	(Min. 5 minutes)
I(25) =	4.106	In./Hr.	
Q(25) =	2.42	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 16			Total Area =	37,462 S.F. =	0.86 Ac.		
Surface						C	N
Structures	3	Total	1,500 S.F. =	4,500 S.F. =	0.10 Ac.	0.92	0.02
Drives	6	Total	500 S.F. =	3,000 S.F. =	0.07 Ac.	0.92	0.02
Pavement	575	L.F.	14.5 Width =	8,338 S.F. =	0.19 Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	560	L.F.	4 Width =	2,240 S.F. =	0.05 Ac.	0.92	0.02
Lawn (0-2%)			19,385 S.F. =		0.45 Ac.	0.15	0.40
Lawn (2-5%)			S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.92	0.02

Weighted C =	0.522		
Weighted N =	0.217		
L =	450	Ft.	
H =	4.3	Ft.	
S =	0.0096	Ft./Ft.	
tc =	20.79	Minutes	(Min. 5 minutes)
I(25) =	4.498	In./Hr.	
Q(25) =	2.02	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 17			Total Area =		64,033	S.F. =	1.47	Ac.		
Surface									C	N
Structures	5.25	Total	1,500	S.F. =	7,875	S.F. =	0.18	Ac.	0.92	0.02
Structures	2.5	Total	1,100	S.F. =	2,750	S.F. =	0.06	Ac.	0.92	0.02
Drives	0.5	Total	500	S.F. =	250	S.F. =	0.01	Ac.	0.92	0.02
Pavement	0	L.F.	14.5	Width =	0	S.F. =	0.00	Ac.	0.92	0.02
Patios	10.5	Total	150	S.F. =	1,575	S.F. =	0.04	Ac.	0.92	0.02
Patios	5	Total	75	S.F. =	375	S.F. =	0.01	Ac.	0.92	0.02
Sidewalks	0	L.F.	4	Width =	0	S.F. =	0.00	Ac.	0.92	0.02
Lawn (0-2%)			51,208	S.F. =			1.18	Ac.	0.15	0.40
Lawn (2-5%)				S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)				S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)				S.F. =			0.00	Ac.	0.55	0.40
Water				S.F. =			0.00	Ac.	1.00	0.00
				S.F. =			0.00	Ac.	0.92	0.02

Weighted c =	0.304		
Weighted N =	0.324		
L =	600	Ft.	
H =	4.5	Ft.	
S =	0.0075	Ft./Ft.	
tc =	30.37	Minutes	(Min. 5 minutes)
I(25) =	3.627	In./Hr.	
Q(25) =	1.62	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 18			Total Area =		6,098	S.F. =	0.14	Ac.		
Surface									C	N
Structures	0.75	Total	1,100	S.F. =	825	S.F. =	0.02	Ac.	0.92	0.02
Drives	1.5	Total	200	S.F. =	300	S.F. =	0.01	Ac.	0.92	0.02
Pavement	90	L.F.	14.5	Width =	1,305	S.F. =	0.03	Ac.	0.92	0.02
Patios	0	Total	150	S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	80	L.F.	4	Width =	320	S.F. =	0.01	Ac.	0.92	0.02
Lawn (0-2%)			3,348	S.F. =			0.08	Ac.	0.15	0.40
Lawn (2-5%)				S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)				S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)				S.F. =			0.00	Ac.	0.55	0.40
Water				S.F. =			0.00	Ac.	1.00	0.00
				S.F. =			0.00	Ac.	0.92	0.02

Weighted c =	0.497		
Weighted N =	0.229		
L =	105	Ft.	
H =	1.6	Ft.	
S =	0.0152	Ft./Ft.	
tc =	9.69	Minutes	(Min. 5 minutes)
I(25) =	6.005	In./Hr.	
Q(25) =	0.42	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 19			Total Area =	3,920 S.F. =	0.09 Ac.		
Surface						C	N
Structures	0.25	Total	1,100 S.F. =	275 S.F. =	0.01 Ac.	0.92	0.02
Drives	0.5	Total	200 S.F. =	100 S.F. =	0.00 Ac.	0.92	0.02
Pavement	90	L.F.	14.5 Width =	1,305 S.F. =	0.03 Ac.	0.92	0.02
Patios	0	Total	75 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	80	L.F.	4 Width =	320 S.F. =	0.01 Ac.	0.92	0.02
Lawn (0-2%)			1,920 S.F. =		0.04 Ac.	0.15	0.40
Lawn (2-5%)			S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.92	0.02

Weighted C =	0.543		
Weighted N =	0.206		
L =	100	Ft.	
H =	2.3	Ft.	
S =	0.0225	Ft./Ft.	
tc =	8.24	Minutes	(Min. 5 minutes)
I(25) =	6.377	In./Hr.	
Q(25) =	0.31	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 20			Total Area =	41,818 S.F. =	0.96 Ac.		
Surface						C	N
Structures	4	Total	1,500 S.F. =	6,000 S.F. =	0.14 Ac.	0.92	0.02
Drives	4	Total	500 S.F. =	2,000 S.F. =	0.05 Ac.	0.92	0.02
Pavement	270	L.F.	14.5 Width =	3,915 S.F. =	0.09 Ac.	0.92	0.02
Patios	4	Total	150 S.F. =	600 S.F. =	0.01 Ac.	0.92	0.02
Sidewalks	270	L.F.	4 Width =	1,080 S.F. =	0.02 Ac.	0.92	0.02
Lawn (0-2%)			S.F. =		0.00 Ac.	0.15	0.40
Lawn (2-5%)			28,223 S.F. =		0.65 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.92	0.02

Weighted c =	0.468		
Weighted N =	0.276		
L =	410	Ft.	
H =	10.5	Ft.	
S =	0.0256	Ft./Ft.	
tc =	17.72	Minutes	(Min. 5 minutes)
I(25) =	4.781	In./Hr.	
Q(25) =	2.15	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 21			Total Area =	12,632 S.F. =	0.29 Ac.		
						C	N
Surface							
Structures	0	Total	1,500 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Drives	3	Total	500 S.F. =	1,500 S.F. =	0.03 Ac.	0.92	0.02
Pavement	270	L.F.	14.5 Width =	3,915 S.F. =	0.09 Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	270	L.F.	4 Width =	1,080 S.F. =	0.02 Ac.	0.92	0.02
Lawn (0-2%)			S.F. =		0.00 Ac.	0.15	0.40
Lawn (2-5%)			6,137 S.F. =		0.14 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.92	0.02

Weighted C =	0.594	
Weighted N =	0.205	
L =	265	Ft.
H =	11.6	Ft.
S =	0.0438	Ft./Ft.
tc =	11.08	Minutes
I(25) =	5.732	In./Hr.
Q(25) =	0.99	CFS

(Min. 5 minutes)

Developed Drainage Sub-Basins

Sub-basin No.: 22			Total Area =	58,806 S.F. =	1.35 Ac.		
						C	N
Surface							
Structures	5	Total	1,500 S.F. =	7,500 S.F. =	0.17 Ac.	0.92	0.02
Drives	5	Total	500 S.F. =	2,500 S.F. =	0.06 Ac.	0.92	0.02
Pavement	555	L.F.	14.5 Width =	8,048 S.F. =	0.18 Ac.	0.92	0.02
Patios	5	Total	150 S.F. =	750 S.F. =	0.02 Ac.	0.92	0.02
Sidewalks	810	L.F.	4 Width =	3,240 S.F. =	0.07 Ac.	0.92	0.02
Lawn (0-2%)			S.F. =		0.00 Ac.	0.15	0.40
Lawn (2-5%)			36,769 S.F. =		0.84 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.92	0.02

Weighted C =	0.501	
Weighted N =	0.258	
L =	500	Ft.
H =	11.6	Ft.
S =	0.0232	Ft./Ft.
tc =	19.25	Minutes
I(25) =	4.640	In./Hr.
Q(25) =	3.14	CFS

(Min. 5 minutes)

Developed Drainage Sub-Basins

Sub-basin No.: 23			Total Area =	18,295 S.F. =	0.42 Ac.		
Surface						C	N
Structures	0	Total	1,500 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Drives	5	Total	500 S.F. =	2,500 S.F. =	0.06 Ac.	0.92	0.02
Pavement	390	L.F.	14.5 Width =	5,655 S.F. =	0.13 Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	370	L.F.	4 Width =	1,480 S.F. =	0.03 Ac.	0.92	0.02
Lawn (0-2%)			S.F. =		0.00 Ac.	0.15	0.40
Lawn (2-5%)			8,660 S.F. =		0.20 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.92	0.02

Weighted C =	0.603		
Weighted N =	0.200		
L =	395	Ft.	
H =	11.6	Ft.	
S =	0.0294	Ft./Ft.	
tc =	14.50	Minutes	(Min. 5 minutes)
I(25) =	5.122	In./Hr.	
Q(25) =	1.30	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 24			Total Area =	90,169 S.F. =	2.07 Ac.		
Surface						C	N
Structures	7.75	Total	1,500 S.F. =	11,625 S.F. =	0.27 Ac.	0.92	0.02
Drives	0	Total	500 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Pavement	0	L.F.	14.5 Width =	0 S.F. =	0.00 Ac.	0.92	0.02
Patios	8	Total	150 S.F. =	1,200 S.F. =	0.03 Ac.	0.92	0.02
Sidewalks	0	L.F.	4 Width =	0 S.F. =	0.00 Ac.	0.92	0.02
Lawn (0-2%)			S.F. =		0.00 Ac.	0.15	0.40
Lawn (2-5%)			77,344 S.F. =		1.78 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.92	0.02

Weighted C =	0.345		
Weighted N =	0.346		
L =	675	Ft.	
H =	25.0	Ft.	
S =	0.0370	Ft./Ft.	
tc =	22.79	Minutes	(Min. 5 minutes)
I(25) =	4.313	In./Hr.	
Q(25) =	3.08	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 25			Total Area =	26,572 S.F. =	0.61 Ac.		
Surface						C	N
Structures	1.75	Total	1,500 S.F. =	2,625 S.F. =	0.06 Ac.	0.92	0.02
Drives	3	Total	500 S.F. =	1,500 S.F. =	0.03 Ac.	0.92	0.02
Pavement	430	L.F.	14.5 Width =	6,235 S.F. =	0.14 Ac.	0.92	0.02
Patios	0.5	Total	150 S.F. =	75 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	360	L.F.	4 Width =	1,440 S.F. =	0.03 Ac.	0.92	0.02
Lawn (0-2%)			S.F. =		0.00 Ac.	0.15	0.40
Lawn (2-5%)			14,697 S.F. =		0.34 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.92	0.02

Weighted C =	0.549	
Weighted N =	0.230	
L =	400	Ft.
H =	15.5	Ft.
S =	0.0388	Ft./Ft.
tc =	14.60	Minutes (Min. 5 minutes)
I(25) =	5.104	In./Hr.
Q(25) =	1.71	CFS

Developed Drainage Sub-Basins

Sub-basin No.: 26			Total Area =	12,197 S.F. =	0.28 Ac.		
Surface						C	N
Structures	0	Total	1,500 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Drives	3	Total	500 S.F. =	1,500 S.F. =	0.03 Ac.	0.92	0.02
Pavement	265	L.F.	14.5 Width =	3,843 S.F. =	0.09 Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	250	L.F.	4 Width =	1,000 S.F. =	0.02 Ac.	0.92	0.02
Lawn (0-2%)			S.F. =		0.00 Ac.	0.15	0.40
Lawn (2-5%)			5,855 S.F. =		0.13 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.92	0.02

Weighted C =	0.598	
Weighted N =	0.202	
L =	265	Ft.
H =	12.4	Ft.
S =	0.0468	Ft./Ft.
tc =	10.86	Minutes (Min. 5 minutes)
I(25) =	5.772	In./Hr.
Q(25) =	0.97	CFS

Developed Drainage Sub-Basins

Sub-basin No.: 27A — Total Area = 54,014 S.F. = 1.24 Ac.

Surface									C	N
Structures	4.4	Total	1,500	S.F.	=	6,600	S.F. =	0.15 Ac.	0.92	0.02
Structures	2.75	Total	1,100	S.F.	=	3,025	S.F. =	0.07 Ac.	0.92	0.02
Drives	0	Total	500	S.F.	=	0	S.F. =	0.00 Ac.	0.92	0.02
Pavement	0	L.F.	14.5	Width	=	0	S.F. =	0.00 Ac.	0.92	0.02
Patios	6	Total	150	S.F.	=	900	S.F. =	0.02 Ac.	0.92	0.02
Patios	5.5	Total	75	S.F.	=	413	S.F. =	0.01 Ac.	0.92	0.02
Sidewalks	0	L.F.	4	Width	=	0	S.F. =	0.00 Ac.	0.92	0.02
Lawn (0-2%)			43,077	S.F.	=			0.99 Ac.	0.15	0.40
Lawn (2-5%)				S.F.	=			0.00 Ac.	0.25	0.40
Lawn (5-10%)				S.F.	=			0.00 Ac.	0.40	0.40
Lawn (>10%)				S.F.	=			0.00 Ac.	0.55	0.40
Water				S.F.	=			0.00 Ac.	1.00	0.00
				S.F.	=			0.00 Ac.	0.92	0.02

Weighted c =	0.306	
Weighted N =	0.323	
L =	345	Ft.
H =	15.0	Ft.
S =	0.0435	Ft./Ft.
tc =	15.54	Minutes (Min. 5 minutes)
I(25) =	4.983	In./Hr.
Q(25) =	1.89	CFS

Developed Drainage Sub-Basins

Sub-basin No.: 27B — Total Area = 60,113 S.F. = 1.38 Ac.

Surface									C	N
Structures	3.3	Total	1,500	S.F.	=	4,950	S.F. =	0.11 Ac.	0.92	0.02
Structures	3	Total	1,100	S.F.	=	3,300	S.F. =	0.08 Ac.	0.92	0.02
Drives	7	Total	500	S.F.	=	3,500	S.F. =	0.08 Ac.	0.92	0.02
Pavement	510	L.F.	14.5	Width	=	7,395	S.F. =	0.17 Ac.	0.92	0.02
Patios	0	Total	150	S.F.	=	0	S.F. =	0.00 Ac.	0.92	0.02
Patios	5.75	Total	75	S.F.	=	431	S.F. =	0.01 Ac.	0.92	0.02
Sidewalks	510	L.F.	4	Width	=	2,040	S.F. =	0.05 Ac.	0.92	0.02
Lawn (0-2%)			38,497	S.F.	=			0.88 Ac.	0.15	0.40
Lawn (2-5%)				S.F.	=			0.00 Ac.	0.25	0.40
Lawn (5-10%)				S.F.	=			0.00 Ac.	0.40	0.40
Lawn (>10%)				S.F.	=			0.00 Ac.	0.55	0.40
Water				S.F.	=			0.00 Ac.	1.00	0.00
				S.F.	=			0.00 Ac.	0.92	0.02

Weighted c =	0.427	
Weighted N =	0.263	
L =	385	Ft.
H =	6.6	Ft.
S =	0.0171	Ft./Ft.
tc =	18.48	Minutes (Min. 5 minutes)
I(25) =	4.707	In./Hr.
Q(25) =	2.77	CFS

Developed Drainage Sub-Basins

Sub-basin No.: 28			Total Area =		54,014 S.F. =		1.24 Ac.			
Surface									C	N
Structures	4.25	Total	1,500	S.F. =	6,375	S.F. =	0.15	Ac.	0.92	0.02
Drives	8.5	Total	500	S.F. =	4,250	S.F. =	0.10	Ac.	0.92	0.02
Pavement	520	L.F.	14.5	Width =	7,540	S.F. =	0.17	Ac.	0.92	0.02
Patios	0	Total	150	S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	530	L.F.	4	Width =	2,120	S.F. =	0.05	Ac.	0.92	0.02
Lawn (0-2%)			33,729	S.F. =			0.77	Ac.	0.15	0.40
Lawn (2-5%)				S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)				S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)				S.F. =			0.00	Ac.	0.55	0.40
Water				S.F. =			0.00	Ac.	1.00	0.00
				S.F. =			0.00	Ac.	0.92	0.02

Weighted c =	0.439		
Weighted N =	0.257		
L =	355	Ft.	
H =	4.2	Ft.	
S =	0.0117	Ft./Ft.	
tc =	19.24	Minutes	(Min. 5 minutes)
I(25) =	4.641	In./Hr.	
Q(25) =	2.53	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 29			Total Area =		54,886 S.F. =		1.26 Ac.			
Surface									C	N
Structures	4.3	Total	1,500	S.F. =	6,450	S.F. =	0.15	Ac.	0.92	0.02
Structures	2.25	Total	1,100	S.F. =	2,475	S.F. =	0.06	Ac.	0.92	0.02
Drives	0	Total	500	S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Pavement	0	L.F.	14.5	Width =	0	S.F. =	0.00	Ac.	0.92	0.02
Patios	8.5	Total	150	S.F. =	1,275	S.F. =	0.03	Ac.	0.92	0.02
Patios	4.5	Total	75	S.F. =	338	S.F. =	0.01	Ac.	0.92	0.02
Sidewalks	0	L.F.	4	Width =	0	S.F. =	0.00	Ac.	0.92	0.02
Lawn (0-2%)			44,349	S.F. =			1.02	Ac.	0.15	0.40
Lawn (2-5%)				S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)				S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)				S.F. =			0.00	Ac.	0.55	0.40
Water				S.F. =			0.00	Ac.	1.00	0.00
				S.F. =			0.00	Ac.	0.92	0.02

Weighted c =	0.298		
Weighted N =	0.327		
L =	380	Ft.	
H =	6.4	Ft.	
S =	0.0168	Ft./Ft.	
tc =	20.40	Minutes	(Min. 5 minutes)
I(25) =	4.534	In./Hr.	
Q(25) =	1.70	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 30			Total Area =	34,412 S.F. =	0.79 Ac.		
Surface						C	N
Structures	6	Total	1,100 S.F. =	6,600 S.F. =	0.15 Ac.	0.92	0.02
Drives	12	Total	200 S.F. =	2,400 S.F. =	0.06 Ac.	0.92	0.02
Pavement	430	L.F.	14.5 Width =	6,235 S.F. =	0.14 Ac.	0.92	0.02
Patios	0	Total	75 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	430	L.F.	4 Width =	1,720 S.F. =	0.04 Ac.	0.92	0.02
Lawn (0-2%)			17,457 S.F. =		0.40 Ac.	0.15	0.40
Lawn (2-5%)			S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.92	0.02

Weighted C =	0.529	
Weighted N =	0.213	
L =	315	Ft.
H =	2.3	Ft.
S =	0.0073	Ft./Ft.
tc =	18.59	Minutes (Min. 5 minutes)
I(25) =	4.701	In./Hr.
Q(25) =	1.97	CFS

Developed Drainage Sub-Basins

Sub-basin No.: 31			Total Area =	26,572 S.F. =	0.61 Ac.		
Surface						C	N
Structures	3.75	Total	1,100 S.F. =	4,125 S.F. =	0.09 Ac.	0.92	0.02
Drives	7.5	Total	200 S.F. =	1,500 S.F. =	0.03 Ac.	0.92	0.02
Pavement	430	L.F.	14.5 Width =	6,235 S.F. =	0.14 Ac.	0.92	0.02
Patios	0	Total	75 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	400	L.F.	4 Width =	1,600 S.F. =	0.04 Ac.	0.92	0.02
Lawn (0-2%)			13,112 S.F. =		0.30 Ac.	0.15	0.40
Lawn (2-5%)			S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.92	0.02

Weighted C =	0.540	
Weighted N =	0.208	
L =	315	Ft.
H =	2.8	Ft.
S =	0.0087	Ft./Ft.
tc =	17.62	Minutes (Min. 5 minutes)
I(25) =	4.791	In./Hr.
Q(25) =	1.58	CFS

Developed Drainage Sub-Basins

Sub-basin No.: 32			Total Area =	10,019	S.F. =	0.23	Ac.		
Surface								C	N
Structures	2.25	Total	1,100 S.F. =	2,475	S.F. =	0.06	Ac.	0.92	0.02
Drives	0	Total	200 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Pavement	0	L.F.	14.5 Width =	0	S.F. =	0.00	Ac.	0.92	0.02
Patios	4.5	Total	75 S.F. =	338	S.F. =	0.01	Ac.	0.92	0.02
Sidewalks	0	L.F.	4 Width =	0	S.F. =	0.00	Ac.	0.92	0.02
Lawn (0-2%)			7,207 S.F. =			0.17	Ac.	0.15	0.40
Lawn (2-5%)			S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)			S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)			S.F. =			0.00	Ac.	0.55	0.40
Water			S.F. =			0.00	Ac.	1.00	0.00
			S.F. =			0.00	Ac.	0.92	0.02

Weighted C =	0.366	
Weighted N =	0.293	
L =	225	Ft.
H =	2.6	Ft.
S =	0.0116	Ft./Ft.
tc =	16.58	Minutes (Min. 5 minutes)
I(25) =	4.887	In./Hr.
Q(25) =	0.41	CFS

Developed Drainage Sub-Basins

Sub-basin No.: 33			Total Area =	130,680	S.F. =	3.00	Ac.		
Surface								C	N
Structures	5.75	Total	1,500 S.F. =	8,625	S.F. =	0.20	Ac.	0.92	0.02
Structures	10	Total	1,100 S.F. =	11,000	S.F. =	0.25	Ac.	0.92	0.02
Drives	0	Total	200 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Pavement	0	L.F.	14.5 Width =	0	S.F. =	0.00	Ac.	0.92	0.02
Patios	12	Total	150 S.F. =	1,800	S.F. =	0.04	Ac.	0.92	0.02
Patios	19	Total	75 S.F. =	1,425	S.F. =	0.03	Ac.	0.92	0.02
Sidewalks	0	L.F.	4 Width =	0	S.F. =	0.00	Ac.	0.92	0.02
Lawn (0-2%)			82,565 S.F. =			1.90	Ac.	0.15	0.40
Lawn (2-5%)			S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)			S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)			S.F. =			0.00	Ac.	0.55	0.40
Water			25,265 S.F. =			0.58	Ac.	1.00	0.00
			S.F. =			0.00	Ac.	0.92	0.02

Weighted C =	0.449	
Weighted N =	0.256	
L =	200	Ft.
H =	4.7	Ft.
S =	0.0235	Ft./Ft.
tc =	12.48	Minutes (Min. 5 minutes)
I(25) =	5.483	In./Hr.
Q(25) =	7.39	CFS

Developed Drainage Sub-Basins

Sub-basin No.: 34			Total Area =	12,197	S.F. =	0.28	Ac.		
Surface								C	N
Structures	0.25	Total	1,500 S.F. =	375	S.F. =	0.01	Ac.	0.92	0.02
Drives	0	Total	500 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Pavement	315	L.F.	14.5 Width =	4,568	S.F. =	0.10	Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	280	L.F.	4 Width =	1,120	S.F. =	0.03	Ac.	0.92	0.02
Lawn (0-2%)			6,135 S.F. =			0.14	Ac.	0.15	0.40
Lawn (2-5%)			S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)			S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)			S.F. =			0.00	Ac.	0.55	0.40
Water			S.F. =			0.00	Ac.	1.00	0.00
			S.F. =			0.00	Ac.	0.92	0.02

Weighted c =	0.533		
Weighted N =	0.211		
L =	310	Ft.	
H =	10.0	Ft.	
S =	0.0323	Ft./Ft.	
tc =	12.99	Minutes	(Min. 5 minutes)
I(25) =	5.392	In./Hr.	
Q(25) =	0.80	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 35			Total Area =	53,143	S.F. =	1.22	Ac.		
Surface								C	N
Structures	4	Total	1,500 S.F. =	6,000	S.F. =	0.14	Ac.	0.92	0.02
Drives	7.5	Total	500 S.F. =	3,750	S.F. =	0.09	Ac.	0.92	0.02
Pavement	770	L.F.	14.5 Width =	11,165	S.F. =	0.26	Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	740	L.F.	4 Width =	2,960	S.F. =	0.07	Ac.	0.92	0.02
Lawn (0-2%)			29,268 S.F. =			0.67	Ac.	0.15	0.40
Lawn (2-5%)			S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)			S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)			S.F. =			0.00	Ac.	0.55	0.40
Water			S.F. =			0.00	Ac.	1.00	0.00
			S.F. =			0.00	Ac.	0.92	0.02

Weighted c =	0.496		
Weighted N =	0.229		
L =	525	Ft.	
H =	11.5	Ft.	
S =	0.0219	Ft./Ft.	
tc =	18.91	Minutes	(Min. 5 minutes)
I(25) =	4.671	In./Hr.	
Q(25) =	2.83	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 36			Total Area =		38,333 S.F. =	0.88 Ac.		
Surface							C	N
Structures	2.8	Total	1,500 S.F.	=	4,200 S.F. =	0.10 Ac.	0.92	0.02
Drives	6	Total	500 S.F.	=	3,000 S.F. =	0.07 Ac.	0.92	0.02
Pavement	470	L.F.	14.5 Width	=	6,815 S.F. =	0.16 Ac.	0.92	0.02
Patios	0	Total	150 S.F.	=	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	450	L.F.	4 Width	=	1,800 S.F. =	0.04 Ac.	0.92	0.02
Lawn (0-2%)			22,518 S.F.	=		0.52 Ac.	0.15	0.40
Lawn (2-5%)			S.F.	=		0.00 Ac.	0.25	0.40
Lawn (5-10%)			S.F.	=		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F.	=		0.00 Ac.	0.55	0.40
Water			S.F.	=		0.00 Ac.	1.00	0.00
			S.F.	=		0.00 Ac.	0.92	0.02

Weighted c =	0.468	
Weighted N =	0.243	
L =	525	Ft.
H =	11.5	Ft.
S =	0.0219	Ft./Ft.
tc =	19.43	Minutes
I(25) =	4.624	In./Hr.
Q(25) =	1.90	CFS

(Min. 5 minutes)

Developed Drainage Sub-Basins

Sub-basin No.: 37			Total Area =		50,965 S.F. =	1.17 Ac.		
Surface							C	N
Structures	5.3	Total	1,500 S.F.	=	7,950 S.F. =	0.18 Ac.	0.92	0.02
Drives	0	Total	500 S.F.	=	0 S.F. =	0.00 Ac.	0.92	0.02
Pavement	0	L.F.	14.5 Width	=	0 S.F. =	0.00 Ac.	0.92	0.02
Patios	11	Total	150 S.F.	=	1,650 S.F. =	0.04 Ac.	0.92	0.02
Sidewalks	0	L.F.	4 Width	=	0 S.F. =	0.00 Ac.	0.92	0.02
Lawn (0-2%)			41,365 S.F.	=		0.95 Ac.	0.15	0.40
Lawn (2-5%)			S.F.	=		0.00 Ac.	0.25	0.40
Lawn (5-10%)			S.F.	=		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F.	=		0.00 Ac.	0.55	0.40
Water			S.F.	=		0.00 Ac.	1.00	0.00
			S.F.	=		0.00 Ac.	0.92	0.02

Weighted c =	0.295	
Weighted N =	0.328	
L =	455	Ft.
H =	13.2	Ft.
S =	0.0290	Ft./Ft.
tc =	19.59	Minutes
I(25) =	4.609	In./Hr.
Q(25) =	1.59	CFS

(Min. 5 minutes)

Developed Drainage Sub-Basins

Sub-basin No.: 38			Total Area =		15,246 S.F. =	0.35 Ac.		
Surface							C	N
Structures	0.5	Total	1,500	S.F. =	750	S.F. = 0.02 Ac.	0.92	0.02
Drives	0	Total	500	S.F. =	0	S.F. = 0.00 Ac.	0.92	0.02
Pavement	380	L.F.	14.5	Width =	5,510	S.F. = 0.13 Ac.	0.92	0.02
Patios	0	Total	150	S.F. =	0	S.F. = 0.00 Ac.	0.92	0.02
Sidewalks	350	L.F.	4	Width =	1,400	S.F. = 0.03 Ac.	0.92	0.02
Lawn (0-2%)			7,586	S.F. =		0.17 Ac.	0.15	0.40
Lawn (2-5%)				S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)				S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)				S.F. =		0.00 Ac.	0.55	0.40
Water				S.F. =		0.00 Ac.	1.00	0.00
Misc.				S.F. =		0.00 Ac.	0.12	0.60

Weighted c =	0.537		
Weighted N =	0.209		
L =	400	Ft.	
H =	5.0	Ft.	
S =	0.0125	Ft./Ft.	
tc =	18.18	Minutes	(Min. 5 minutes)
I(25) =	4.739	In./Hr.	
Q(25) =	0.89	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 39			Total Area =		6,098 S.F. =	0.14 Ac.		
Surface							C	N
Structures	0.25	Total	1,500	S.F. =	375	S.F. = 0.01 Ac.	0.92	0.02
Drives	0.5	Total	500	S.F. =	250	S.F. = 0.01 Ac.	0.92	0.02
Pavement	140	L.F.	14.5	Width =	2,030	S.F. = 0.05 Ac.	0.92	0.02
Patios	0	Total	150	S.F. =	0	S.F. = 0.00 Ac.	0.92	0.02
Sidewalks	110	L.F.	4	Width =	440	S.F. = 0.01 Ac.	0.92	0.02
Lawn (0-2%)			3,003	S.F. =		0.07 Ac.	0.15	0.40
Lawn (2-5%)				S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)				S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)				S.F. =		0.00 Ac.	0.55	0.40
Water				S.F. =		0.00 Ac.	1.00	0.00
Misc.				S.F. =		0.00 Ac.	0.12	0.60

Weighted c =	0.541		
Weighted N =	0.207		
L =	165	Ft.	
H =	2.8	Ft.	
S =	0.0170	Ft./Ft.	
tc =	11.15	Minutes	(Min. 5 minutes)
I(25) =	5.720	In./Hr.	
Q(25) =	0.43	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 40			Total Area =	45,738 S.F. =	1.05 Ac.		
Surface						C	N
Structures	2.75	Total	1,500 S.F. =	4,125 S.F. =	0.09 Ac.	0.92	0.02
Drives	5	Total	500 S.F. =	2,500 S.F. =	0.06 Ac.	0.92	0.02
Pavement	690	L.F.	14.5 Width =	10,005 S.F. =	0.23 Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	670	L.F.	4 Width =	2,680 S.F. =	0.06 Ac.	0.92	0.02
Lawn (0-2%)			26,428 S.F. =		0.61 Ac.	0.15	0.40
Lawn (2-5%)			S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.92	0.02

Weighted c =	0.475		
Weighted N =	0.240		
L =	410	Ft.	
H =	6.8	Ft.	
S =	0.0166	Ft./Ft.	
tc =	18.35	Minutes	(Min. 5 minutes)
I(25) =	4.723	In./Hr.	
Q(25) =	2.36	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 41			Total Area =	36,155 S.F. =	0.83 Ac.		
Surface						C	N
Structures	2.25	Total	1,500 S.F. =	3,375 S.F. =	0.08 Ac.	0.92	0.02
Drives	5	Total	500 S.F. =	2,500 S.F. =	0.06 Ac.	0.92	0.02
Pavement	465	L.F.	14.5 Width =	6,743 S.F. =	0.15 Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	455	L.F.	4 Width =	1,820 S.F. =	0.04 Ac.	0.92	0.02
Lawn (0-2%)			21,718 S.F. =		0.50 Ac.	0.15	0.40
Lawn (2-5%)			S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.92	0.02

Weighted c =	0.457		
Weighted N =	0.248		
L =	415	Ft.	
H =	6.8	Ft.	
S =	0.0164	Ft./Ft.	
tc =	18.81	Minutes	(Min. 5 minutes)
I(25) =	4.681	In./Hr.	
Q(25) =	1.78	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 42			Total Area =	9,148	S.F. =	0.21	Ac.		
Surface								C	N
Structures	0.5	Total	1,500 S.F. =	750	S.F. =	0.02	Ac.	0.92	0.02
Drives	0	Total	500 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Pavement	240	L.F.	14.5 Width =	3,480	S.F. =	0.08	Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	210	L.F.	4 Width =	840	S.F. =	0.02	Ac.	0.92	0.02
Lawn (0-2%)			4,078 S.F. =			0.09	Ac.	0.15	0.40
Lawn (2-5%)			S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)			S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)			S.F. =			0.00	Ac.	0.55	0.40
Water			S.F. =			0.00	Ac.	1.00	0.00
			S.F. =			0.00	Ac.	0.92	0.02

Weighted C =	0.577		
Weighted N =	0.189		
L =	240	Ft.	
H =	2.9	Ft.	
S =	0.0121	Ft./Ft.	
tc =	13.78	Minutes	(Min. 5 minutes)
I(25) =	5.251	In./Hr.	
Q(25) =	0.64	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 43			Total Area =	6,098	S.F. =	0.14	Ac.		
Surface								C	N
Structures	0	Total	1,500 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Drives	0	Total	500 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Pavement	240	L.F.	14.5 Width =	3,480	S.F. =	0.08	Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	210	L.F.	4 Width =	840	S.F. =	0.02	Ac.	0.92	0.02
Lawn (0-2%)			1,778 S.F. =			0.04	Ac.	0.15	0.40
Lawn (2-5%)			S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)			S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)			S.F. =			0.00	Ac.	0.55	0.40
Water			S.F. =			0.00	Ac.	1.00	0.00
			S.F. =			0.00	Ac.	0.92	0.02

Weighted C =	0.695		
Weighted N =	0.131		
L =	210	Ft.	
H =	1.5	Ft.	
S =	0.0071	Ft./Ft.	
tc =	12.32	Minutes	(Min. 5 minutes)
I(25) =	5.511	In./Hr.	
Q(25) =	0.54	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 44			Total Area =		50,530	S.F. =	1.16	Ac.		
Surface									C	N
Structures	3.5	Total	1,500	S.F.	5,250	S.F. =	0.12	Ac.	0.92	0.02
Drives	7	Total	500	S.F.	3,500	S.F. =	0.08	Ac.	0.92	0.02
Pavement	500	L.F.	14.5	Width	7,250	S.F. =	0.17	Ac.	0.92	0.02
Patios	0	Total	150	S.F.	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	500	L.F.	4	Width	2,000	S.F. =	0.05	Ac.	0.92	0.02
Lawn (0-2%)			32,530	S.F.			0.75	Ac.	0.15	0.40
Lawn (2-5%)				S.F.			0.00	Ac.	0.25	0.40
Lawn (5-10%)				S.F.			0.00	Ac.	0.40	0.40
Lawn (>10%)				S.F.			0.00	Ac.	0.55	0.40
Water				S.F.			0.00	Ac.	1.00	0.00
				S.F.			0.00	Ac.	0.92	0.02

Weighted c =	0.424		
Weighted N =	0.265		
L =	435	Ft.	
H =	4.0	Ft.	
S =	0.0092	Ft./Ft.	
tc =	22.68	Minutes	(Min. 5 minutes)
I(25) =	4.323	In./Hr.	
Q(25) =	2.13	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 45			Total Area =		43,560	S.F. =	1.00	Ac.		
Surface									C	N
Structures	3.25	Total	1,500	S.F.	4,875	S.F. =	0.11	Ac.	0.92	0.02
Drives	6.75	Total	500	S.F.	3,375	S.F. =	0.08	Ac.	0.92	0.02
Pavement	500	L.F.	14.5	Width	7,250	S.F. =	0.17	Ac.	0.92	0.02
Patios	0	Total	150	S.F.	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	490	L.F.	4	Width	1,960	S.F. =	0.04	Ac.	0.92	0.02
Lawn (0-2%)			26,100	S.F.			0.60	Ac.	0.15	0.40
Lawn (2-5%)				S.F.			0.00	Ac.	0.25	0.40
Lawn (5-10%)				S.F.			0.00	Ac.	0.40	0.40
Lawn (>10%)				S.F.			0.00	Ac.	0.55	0.40
Water				S.F.			0.00	Ac.	1.00	0.00
				S.F.			0.00	Ac.	0.92	0.02

Weighted c =	0.459		
Weighted N =	0.248		
L =	425	Ft.	
H =	4.0	Ft.	
S =	0.0094	Ft./Ft.	
tc =	21.63	Minutes	(Min. 5 minutes)
I(25) =	4.420	In./Hr.	
Q(25) =	2.03	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 46			Total Area =	34,848 S.F. =	0.80 Ac.		
Surface						C	N
Structures	3.5	Total	1,500 S.F. =	5,250 S.F. =	0.12 Ac.	0.92	0.02
Drives	0	Total	500 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Pavement	0	L.F.	14.5 Width =	0 S.F. =	0.00 Ac.	0.92	0.02
Patios	7	Total	150 S.F. =	1,050 S.F. =	0.02 Ac.	0.92	0.02
Sidewalks	0	L.F.	4 Width =	0 S.F. =	0.00 Ac.	0.92	0.02
Lawn (0-2%)			14,274 S.F. =		0.33 Ac.	0.15	0.40
Lawn (2-5%)			S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
Deciduous timber (0-2%)			14,274 S.F. =		0.33 Ac.	0.12	0.60

Weighted c =	0.277		
Weighted N =	0.413		
L =	535	Ft.	
H =	6.9	Ft.	
S =	0.0129	Ft./Ft.	
tc =	28.42	Minutes	(Min. 5 minutes)
I(25) =	3.792	In./Hr.	
Q(25) =	0.84	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 47			Total Area =	55,757 S.F. =	1.28 Ac.		
Surface						C	N
Structures	4.25	Total	1,500 S.F. =	6,375 S.F. =	0.15 Ac.	0.92	0.02
Drives	8.5	Total	500 S.F. =	4,250 S.F. =	0.10 Ac.	0.92	0.02
Pavement	625	L.F.	14.5 Width =	9,063 S.F. =	0.21 Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	580	L.F.	4 Width =	2,320 S.F. =	0.05 Ac.	0.92	0.02
Lawn (0-2%)			33,750 S.F. =		0.77 Ac.	0.15	0.40
Lawn (2-5%)			S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.36	0.60

Weighted c =	0.454		
Weighted N =	0.250		
L =	575	Ft.	
H =	6.9	Ft.	
S =	0.0120	Ft./Ft.	
tc =	23.64	Minutes	(Min. 5 minutes)
I(25) =	4.234	In./Hr.	
Q(25) =	2.46	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 48			Total Area =	8,712	S.F. =	0.20	Ac.		
Surface								C	N
Structures	0.75	Total	1,500 S.F. =	1,125	S.F. =	0.03	Ac.	0.92	0.02
Drives	1.5	Total	500 S.F. =	750	S.F. =	0.02	Ac.	0.92	0.02
Pavement	155	L.F.	14.5 Width =	2,248	S.F. =	0.05	Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	110	L.F.	4 Width =	440	S.F. =	0.01	Ac.	0.92	0.02
Lawn (0-2%)			4,150 S.F. =			0.10	Ac.	0.15	0.40
Lawn (2-5%)			S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)			S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)			S.F. =			0.00	Ac.	0.55	0.40
Water			S.F. =			0.00	Ac.	1.00	0.00
			S.F. =			0.00	Ac.	0.92	0.02

Weighted C =	0.553		
Weighted N =	0.201		
L =	150	Ft.	
H =	2.7	Ft.	
S =	0.0180	Ft./Ft.	
tc =	10.37	Minutes	(Min. 5 minutes)
I(25) =	5.859	In./Hr.	
Q(25) =	0.65	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 49			Total Area =	37,026	S.F. =	0.85	Ac.		
Surface								C	N
Structures	2.5	Total	1,500 S.F. =	3,750	S.F. =	0.09	Ac.	0.92	0.02
Drives	5.5	Total	500 S.F. =	2,750	S.F. =	0.06	Ac.	0.92	0.02
Pavement	540	L.F.	14.5 Width =	7,830	S.F. =	0.18	Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	495	L.F.	4 Width =	1,980	S.F. =	0.05	Ac.	0.92	0.02
Lawn (0-2%)			20,716 S.F. =			0.48	Ac.	0.15	0.40
Lawn (2-5%)			S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)			S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)			S.F. =			0.00	Ac.	0.55	0.40
Water			S.F. =			0.00	Ac.	1.00	0.00
			S.F. =			0.00	Ac.	0.92	0.02

Weighted C =	0.489		
Weighted N =	0.233		
L =	615	Ft.	
H =	7.2	Ft.	
S =	0.0116	Ft./Ft.	
tc =	23.76	Minutes	(Min. 5 minutes)
I(25) =	4.223	In./Hr.	
Q(25) =	1.76	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 50			Total Area =	5,663 S.F. =	0.13 Ac.		
Surface						C	N
Structures	0.75	Total	1,500 S.F. =	1,125 S.F. =	0.03 Ac.	0.92	0.02
Drives	0	Total	500 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Pavement	0	L.F.	14.5 Width =	0 S.F. =	0.00 Ac.	0.92	0.02
Patios	1	Total	150 S.F. =	150 S.F. =	0.00 Ac.	0.92	0.02
Sidewalks	0	L.F.	4 Width =	0 S.F. =	0.00 Ac.	0.92	0.02
Lawn (0-2%)			4,388 S.F. =		0.10 Ac.	0.15	0.40
Lawn (2-5%)			S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
			S.F. =		0.00 Ac.	0.12	0.60

Weighted c =	0.323	
Weighted N =	0.314	
L =	115	Ft.
H =	3.7	Ft.
S =	0.0322	Ft./Ft.
tc =	9.86	Minutes
I(25) =	5.961	In./Hr.
Q(25) =	0.25	CFS

(Min. 5 minutes)

Developed Drainage Sub-Basins

Sub-basin No.: 51			Total Area =	38,768 S.F. =	0.89 Ac.		
Surface						C	N
Structures	3	Total	1,500 S.F. =	4,500 S.F. =	0.10 Ac.	0.92	0.02
Drives	0	Total	500 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Pavement	0	L.F.	14.5 Width =	0 S.F. =	0.00 Ac.	0.92	0.02
Patios	6	Total	150 S.F. =	900 S.F. =	0.02 Ac.	0.92	0.02
Sidewalks	0	L.F.	4 Width =	0 S.F. =	0.00 Ac.	0.92	0.02
Lawn (0-2%)			16,684 S.F. =		0.38 Ac.	0.15	0.40
Lawn (2-5%)			S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)			S.F. =		0.00 Ac.	0.55	0.40
Water			S.F. =		0.00 Ac.	1.00	0.00
Deciduous timber (5-10%)			16,684 S.F. =		0.38 Ac.	0.36	0.60

Weighted c =	0.348	
Weighted N =	0.433	
L =	635	Ft.
H =	24.2	Ft.
S =	0.0381	Ft./Ft.
tc =	24.44	Minutes
I(25) =	4.160	In./Hr.
Q(25) =	1.29	CFS

(Min. 5 minutes)

Developed Drainage Sub-Basins

Sub-basin No.: 52			Total Area =		67,518 S.F. =	1.55 Ac.		
Surface							C	N
Structures	5	Total	1,500	S.F. =	7,500	S.F. = 0.17 Ac.	0.92	0.02
Drives	8	Total	500	S.F. =	4,000	S.F. = 0.09 Ac.	0.92	0.02
Pavement	465	L.F.	14.5	Width =	6,743	S.F. = 0.15 Ac.	0.92	0.02
Patios	0	Total	150	S.F. =	0	S.F. = 0.00 Ac.	0.92	0.02
Sidewalks	465	L.F.	4	Width =	1,860	S.F. = 0.04 Ac.	0.92	0.02
Lawn (0-2%)				S.F. =		0.00 Ac.	0.15	0.40
Lawn (2-5%)			47,416	S.F. =		1.09 Ac.	0.25	0.40
Lawn (5-10%)				S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)				S.F. =		0.00 Ac.	0.55	0.40
Water				S.F. =		0.00 Ac.	1.00	0.00
				S.F. =		0.00 Ac.	0.92	0.60

Weighted c =	0.449		
Weighted N =	0.287		
L =	610	Ft.	
H =	24.0	Ft.	
S =	0.0393	Ft./Ft.	
tc =	19.64	Minutes	(Min. 5 minutes)
I(25) =	4.604	In./Hr.	
Q(25) =	3.21	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 53			Total Area =		38,768 S.F. =	0.89 Ac.		
Surface							C	N
Structures	2.75	Total	1,500	S.F. =	4,125	S.F. = 0.09 Ac.	0.92	0.02
Drives	5	Total	500	S.F. =	2,500	S.F. = 0.06 Ac.	0.92	0.02
Pavement	465	L.F.	14.5	Width =	6,743	S.F. = 0.15 Ac.	0.92	0.02
Patios	1	Total	150	S.F. =	150	S.F. = 0.00 Ac.	0.92	0.02
Sidewalks	465	L.F.	4	Width =	1,860	S.F. = 0.04 Ac.	0.92	0.02
Lawn (0-2%)				S.F. =		0.00 Ac.	0.15	0.40
Lawn (2-5%)			23,391	S.F. =		0.54 Ac.	0.25	0.40
Lawn (5-10%)				S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)				S.F. =		0.00 Ac.	0.55	0.40
Water				S.F. =		0.00 Ac.	1.00	0.00
				S.F. =		0.00 Ac.	0.36	0.60

Weighted c =	0.516		
Weighted N =	0.249		
L =	515	Ft.	
H =	24.2	Ft.	
S =	0.0470	Ft./Ft.	
tc =	16.30	Minutes	(Min. 5 minutes)
I(25) =	4.913	In./Hr.	
Q(25) =	2.26	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 54		Total Area =	23,522 S.F. =	0.54 Ac.	C	N
Surface						
Structures	2 Total	1,500 S.F. =	3,000 S.F. =	0.07 Ac.	0.92	0.02
Drives	0 Total	500 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Pavement	0 L.F.	14.5 Width =	0 S.F. =	0.00 Ac.	0.92	0.02
Patios	4 Total	150 S.F. =	600 S.F. =	0.01 Ac.	0.92	0.02
Sidewalks	0 L.F.	4 Width =	0 S.F. =	0.00 Ac.	0.92	0.02
Lawn (0-2%)		S.F. =		0.00 Ac.	0.15	0.40
Lawn (2-5%)		19,922 S.F. =		0.46 Ac.	0.25	0.40
Lawn (5-10%)		S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)		S.F. =		0.00 Ac.	0.55	0.40
Water		S.F. =		0.00 Ac.	1.00	0.00
		S.F. =		0.00 Ac.	0.92	0.60

Weighted C =	0.353	
Weighted N =	0.342	
L =	350	Ft.
H =	14.6	Ft.
S =	0.0417	Ft./Ft.
tc =	16.22	Minutes (Min. 5 minutes)
I(25) =	4.920	In./Hr.
Q(25) =	0.94	CFS

Developed Drainage Sub-Basins

Sub-basin No.: 55		Total Area =	24,394 S.F. =	0.56 Ac.	C	N
Surface						
Structures	2.25 Total	1,500 S.F. =	3,375 S.F. =	0.08 Ac.	0.92	0.02
Drives	0 Total	500 S.F. =	0 S.F. =	0.00 Ac.	0.92	0.02
Pavement	0 L.F.	14.5 Width =	0 S.F. =	0.00 Ac.	0.92	0.02
Patios	4 Total	150 S.F. =	600 S.F. =	0.01 Ac.	0.92	0.02
Sidewalks	0 L.F.	4 Width =	0 S.F. =	0.00 Ac.	0.92	0.02
Lawn (0-2%)		20,419 S.F. =		0.47 Ac.	0.15	0.40
Lawn (2-5%)		S.F. =		0.00 Ac.	0.25	0.40
Lawn (5-10%)		S.F. =		0.00 Ac.	0.40	0.40
Lawn (>10%)		S.F. =		0.00 Ac.	0.55	0.40
Water		S.F. =		0.00 Ac.	1.00	0.00
		S.F. =		0.00 Ac.	0.36	0.60

Weighted C =	0.275	
Weighted N =	0.338	
L =	205	Ft.
H =	2.1	Ft.
S =	0.0102	Ft./Ft.
tc =	17.45	Minutes (Min. 5 minutes)
I(25) =	4.806	In./Hr.
Q(25) =	0.74	CFS

Developed Drainage Sub-Basins

Sub-basin No.:	56	Total Area =	61,855	S.F. =	1.42	Ac.

Surface										C	N
Structures	5.75	Total	1,500	S.F.	=	8,625	S.F. =	0.20	Ac.	0.92	0.02
Drives	0	Total	500	S.F.	=	0	S.F. =	0.00	Ac.	0.92	0.02
Pavement	0	L.F.	14.5	Width	=	0	S.F. =	0.00	Ac.	0.92	0.02
Patios	12	Total	150	S.F.	=	1,800	S.F. =	0.04	Ac.	0.92	0.02
Sidewalks	0	L.F.	4	Width	=	0	S.F. =	0.00	Ac.	0.92	0.02
Lawn (0-2%)			33,183	S.F.	=			0.76	Ac.	0.15	0.40
Lawn (2-5%)				S.F.	=			0.00	Ac.	0.25	0.40
Lawn (5-10%)				S.F.	=			0.00	Ac.	0.40	0.40
Lawn (>10%)				S.F.	=			0.00	Ac.	0.55	0.40
Water			18,247	S.F.	=			0.42	Ac.	1.00	0.00
Misc.				S.F.	=			0.00	Ac.	0.20	0.20

Weighted c =	0.531		
Weighted N =	0.218		
L =	115	Ft.	
H =	6.3	Ft.	
S =	0.0548	Ft./Ft.	
tc =	7.33	Minutes	(Min. 5 minutes)
I(25) =	6.610	In./Hr.	
Q(25) =	4.98	CFS	

Developed Drainage Sub-Basins

Sub-basin No.:	57	Total Area =	65,340	S.F. =	1.50	Ac.

Surface										C	N
Structures	5	Total	1,500	S.F.	=	7,500	S.F. =	0.17	Ac.	0.92	0.02
Drives	0	Total	500	S.F.	=	0	S.F. =	0.00	Ac.	0.92	0.02
Pavement	0	L.F.	14.5	Width	=	0	S.F. =	0.00	Ac.	0.92	0.02
Patios	10	Total	150	S.F.	=	1,500	S.F. =	0.03	Ac.	0.92	0.02
Sidewalks	0	L.F.	4	Width	=	0	S.F. =	0.00	Ac.	0.92	0.02
Lawn (0-2%)			28,170	S.F.	=			0.65	Ac.	0.15	0.40
Lawn (2-5%)				S.F.	=			0.00	Ac.	0.25	0.40
Lawn (5-10%)				S.F.	=			0.00	Ac.	0.40	0.40
Lawn (>10%)				S.F.	=			0.00	Ac.	0.55	0.40
Water				S.F.	=			0.00	Ac.	1.00	0.00
Deciduous timber			28,170	S.F.	=			0.65	Ac.	0.12	0.60

Weighted c =	0.243		
Weighted N =	0.434		
L =	930	Ft.	
H =	9.9	Ft.	
S =	0.0106	Ft./Ft.	
tc =	39.36	Minutes	(Min. 5 minutes)
I(25) =	3.157	In./Hr.	
Q(25) =	1.15	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 58			Total Area =	29,621	S.F. =	0.68	Ac.		
Surface								C	N
Structures	0	Total	1,500 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Drives	0	Total	500 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Pavement	880	L.F.	10.0 Width =	8,800	S.F. =	0.20	Ac.	0.92	0.02
Patios	0	Total	150 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Sidewalks	0	L.F.	4 Width =	0	S.F. =	0.00	Ac.	0.92	0.02
Lawn (0-2%)			S.F. =			0.00	Ac.	0.15	0.40
Lawn (2-5%)			20,821 S.F. =			0.48	Ac.	0.25	0.40
Lawn (5-10%)			S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)			S.F. =			0.00	Ac.	0.55	0.40
Water			S.F. =			0.00	Ac.	1.00	0.00
			S.F. =			0.00	Ac.	0.12	0.60

Weighted C =	0.449		
Weighted N =	0.287		
L =	850	Ft.	
H =	20.6	Ft.	
S =	0.0242	Ft./Ft.	
tc =	25.69	Minutes	(Min. 5 minutes)
I(25) =	4.045	In./Hr.	
Q(25) =	1.24	CFS	

Developed Drainage Sub-Basins

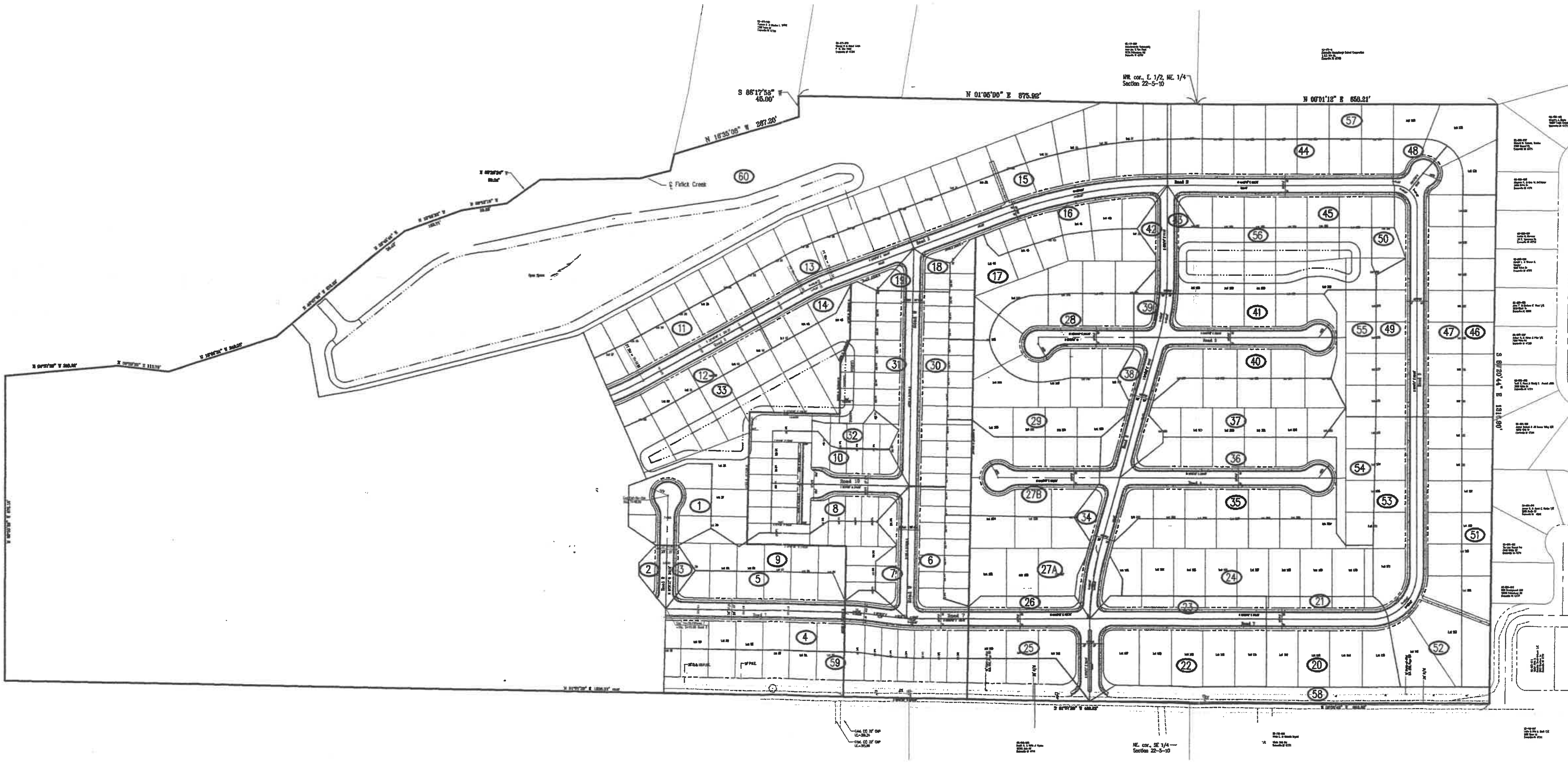
Sub-basin No.: 59			Total Area =	84,071	S.F. =	1.93	Ac.		
Surface								C	N
Structures	4.75	Total	1,500 S.F. =	7,125	S.F. =	0.16	Ac.	0.92	0.02
Structures	3.5	Total	1,100 S.F. =	3,850	S.F. =	0.09	Ac.	0.92	0.02
Drives	0	Total	500 S.F. =	0	S.F. =	0.00	Ac.	0.92	0.02
Pavement	900	L.F.	10.0 Width =	9,000	S.F. =	0.21	Ac.	0.92	0.02
Patios	9.5	Total	150 S.F. =	1,425	S.F. =	0.03	Ac.	0.92	0.02
Patios	7	Total	75 S.F. =	525	S.F. =	0.01	Ac.	0.92	0.02
Sidewalks	0	L.F.	4 Width =	0	S.F. =	0.00	Ac.	0.92	0.02
Lawn (0-2%)			62,146 S.F. =			1.43	Ac.	0.15	0.40
Lawn (2-5%)			S.F. =			0.00	Ac.	0.25	0.40
Lawn (5-10%)			S.F. =			0.00	Ac.	0.40	0.40
Lawn (>10%)			S.F. =			0.00	Ac.	0.55	0.40
Water			S.F. =			0.00	Ac.	1.00	0.00
			S.F. =			0.00	Ac.	0.36	0.60

Weighted C =	0.351		
Weighted N =	0.301		
L =	925	Ft.	
H =	22.0	Ft.	
S =	0.0238	Ft./Ft.	
tc =	27.43	Minutes	(Min. 5 minutes)
I(25) =	3.884	In./Hr.	
Q(25) =	2.63	CFS	

Developed Drainage Sub-Basins

Sub-basin No.: 60			Total Area =		493,970 S.F. =	11.34 Ac.		
Surface							C	N
Structures	11	Total	1,500 S.F. =		16,500 S.F. =	0.38 Ac.	0.92	0.02
Drives	0	Total	500 S.F. =		0 S.F. =	0.00 Ac.	0.92	0.02
Pavement	0	L.F.	14.5 Width =		0 S.F. =	0.00 Ac.	0.92	0.02
Patios	22	Total	150 S.F. =		3,300 S.F. =	0.08 Ac.	0.92	0.02
Sidewalks	0	L.F.	4 Width =		0 S.F. =	0.00 Ac.	0.92	0.02
Lawn (0-2%)			100,100 S.F. =			2.30 Ac.	0.15	0.40
Lawn (2-5%)			S.F. =			0.00 Ac.	0.25	0.40
Lawn (5-10%)			S.F. =			0.00 Ac.	0.40	0.40
Overage Grass			188,853 S.F. =			4.34 Ac.	0.12	0.40
Water			145,217 S.F. =			3.33 Ac.	1.00	0.00
Deciduous timber			40,000 S.F. =			0.92 Ac.	0.12	0.60

Weighted C =	0.417		
Weighted N =	0.283		
L =	500	Ft.	
H =	10.0	Ft.	
S =	0.0200	Ft./Ft.	
tc =	20.84	Minutes	(Min. 5 minutes)
I(25) =	4.493	In./Hr.	
Q(25) =	21.24	CFS	


S 86°17'58" W
45.00'
N 16°35'08" W 287.20'
N 01°05'00" E 875.92'
NW. cor., E. 1/2, NE. 1/4
Section 22-5-10
N 00°01'12" E 658.21'
S 87°20'44" E 1310.90'
℄ Firlick Creek
NE. cor., SE 1/4
Section 22-5-10
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SCALE 1" = 120'

Approved
Section 2
2/28/00

Morley and Associates, INC.
Consulting Engineers/Surveyors/Architects
600 S.E. Sixth Street
Evansville, Indiana 47713
(812) 464-9585

Revisions

No.	By	Date	Description
1			
2			
3			
4			
5			

DAVID W. SCHWINN
REGISTERED
No. 19500175
STATE OF
INDIANA
PROFESSIONAL ENGINEER

David W. Schwinn

Project: Stonecreek Subdivision – Section 2

Sheet Title: Utility/Drainage Plan Overall

Scale: 1"=120'

Designed By: R.S.L.	Job Number: 4255-4(C)
Drawn By: G.A.H.	Date: 09/05/00

Filename: J:\4255\CIVIL3\BASE2.dwg

Sheet Number: 3 OF

Morley and Associates, INC.
Consulting Engineers/Surveyors/Architects
600 S.E. Sixth Street
Evansville, Indiana 47713
(812) 464-9585

Written dimensions on these drawings shall have precedence over scale dimensions. Contractors shall verify and be responsible for all dimensions and conditions on the job and Morley and Associates, Inc. must be notified of any variations from the dimensions and conditions shown by these drawings.

Revisions			
No.	By	Date	Description
△			
△			
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△			
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△			

DAVID W. SCHMINKE
REGISTERED
No. 19500175
STATE OF
INDIANA
PROFESSIONAL ENGINEER

Project: Stonecreek Subdivision – Section

Sheet Title: Utility/Drainage Plan Sheet #1

Scale: 1"=60'

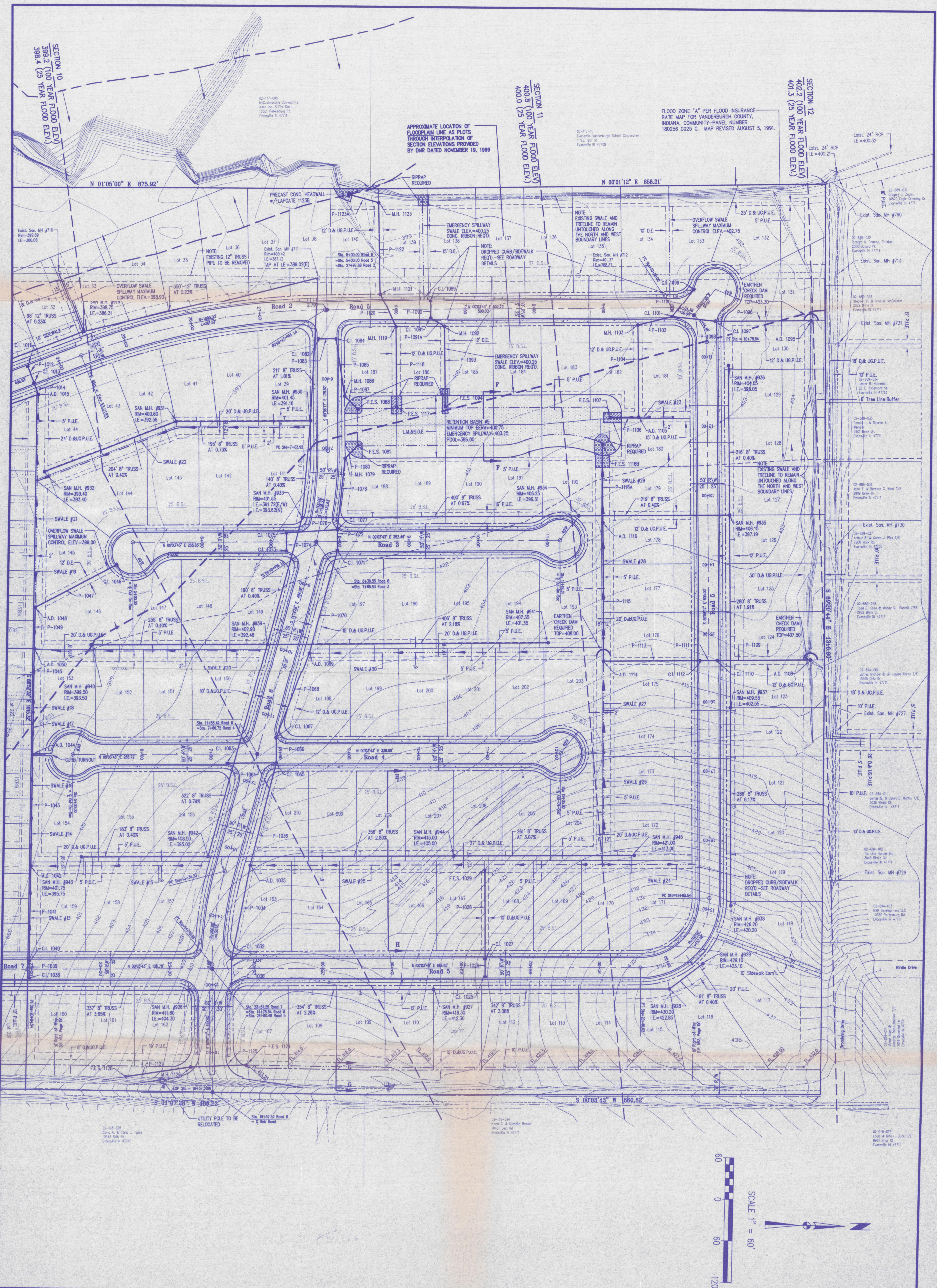
Designed By: R.S.L.	Job Number: 4255-4(G)
Drawn By: G.A.H.	Date: 09/05/00

Filename: J:\4255\CIVIL3\4255SHT1.dwg

Sheet Number: 4 Of:

Morley and Associates, INC.
Consulting Engineers/Surveyors/Architects
600 S.E. Sixth Street
Evansville, Indiana 47713
(812) 464-9585
SCALE 1" = 60'
60 0 60 120
Revisions
No. By Date Description
Project: Stonecreek Subdivision – Section
Sheet Title: Utility/Drainage Plan Sheet #2
Scale: 1"=60'
Designed By: R.S.L.
Job Number: 4255-4(C)
Drawn By: G.A.H.
Date: 09/05/00
Filename: J:\4255\CIVIL3\4255SHT2.dwg
Sheet Number: 5
SECTION 10
399.2 (100 YEAR FLOOD ELEV.)
398.4 (25 YEAR FLOOD ELEV.)
SECTION 9
397.4 (100 YEAR FLOOD ELEV.)
396.8 (25 YEAR FLOOD ELEV.)
SECTION 8
396.4 (100 YEAR FLOOD ELEV.)
396.0 (25 YEAR FLOOD ELEV.)

SEP 05 2000



Project: Stonecreek Subdivision – Section

Sheet Title: Utility/Drainage Plan Sheet #3

Scale: 1"=60'

Designed By: R.S.L.	Job Number: 4255-4(C)
Drawn By: G.A.H.	Date: 09/05/00
Filename: J:\4255\CIVIL3\4255SHT3.dwg	
Sheet Number: 6	

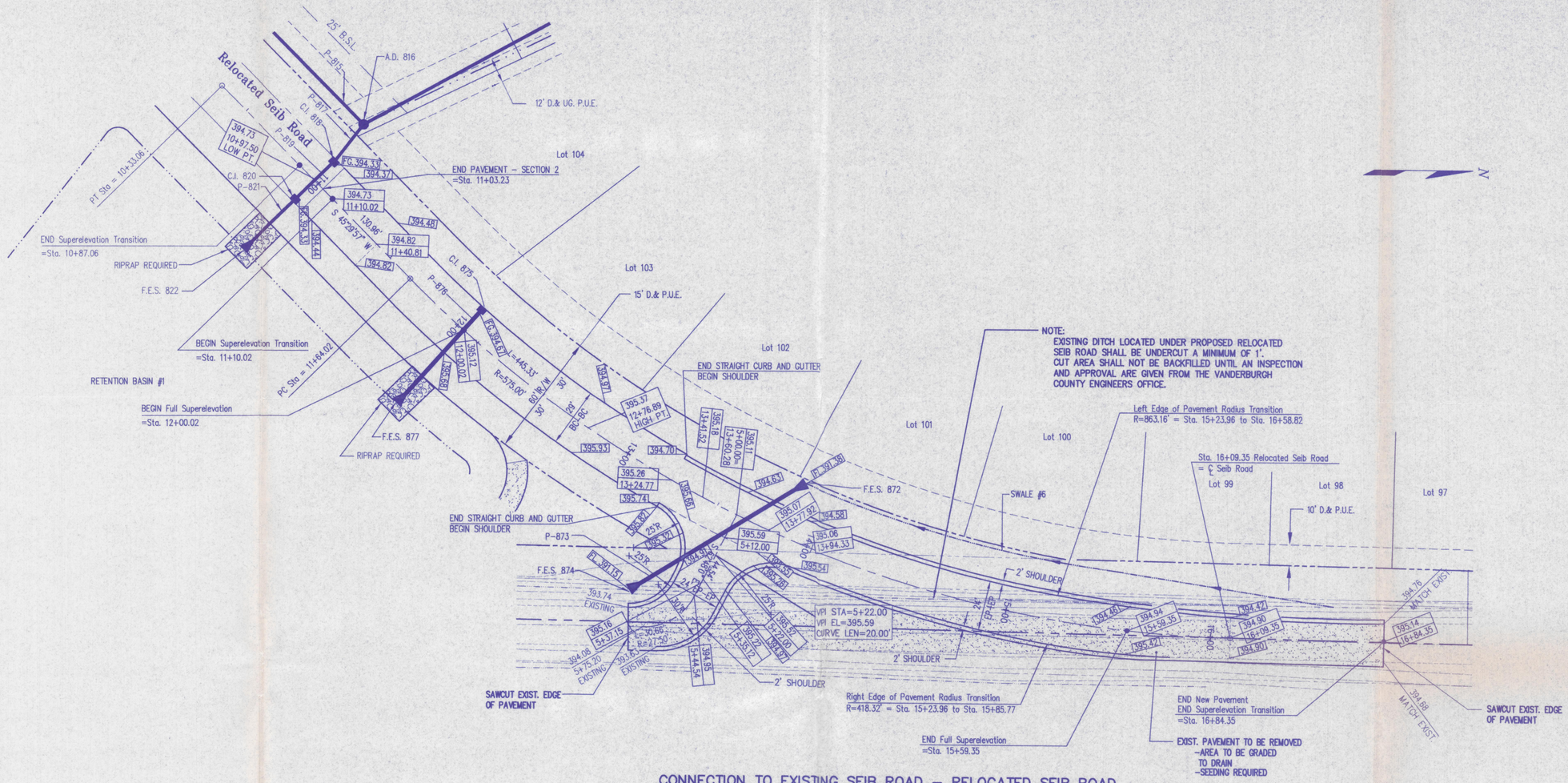
DAVID W. SCHMIDT REGISTERED No. 19500176 STATE OF INDIANA PROFESSIONAL ENGINEER

David W. Schmidt

Revisions

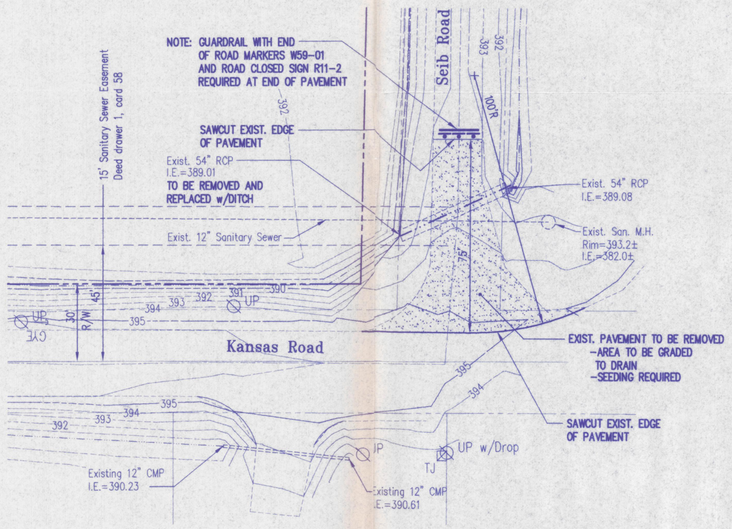
No.	By	Date	Description
△			
△			
△			
△			
△			

Morley and Associates, INC.
Consulting Engineers/Surveyors/Architects
600 S.E. Sixth Street
Evansville, Indiana 47713
(812) 464-9585



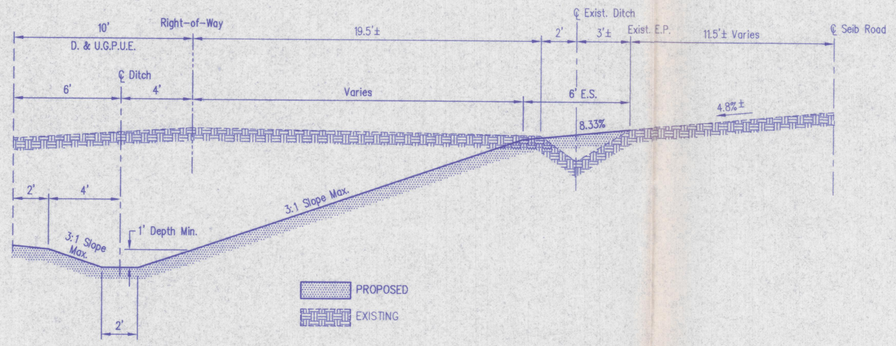
CONNECTION TO EXISTING SEIB ROAD – RELOCATED SEIB ROAD

SCALE: 1"=30'



KANSAS ROAD – EXISTING SEIB ROAD DEMOLITION PLAN

SCALE: 1"=30'



SEIB ROAD – CROSS SECTION G–G

SCALE: 1"=30'

Morley and Associates, INC.
Consulting Engineers/Surveyors/Architects
600 S.E. 6th Street
Evansville, Indiana 47713
(812) 464-9585

Revisions

No.	By	Date	Description

DAVID W. SCHWINKE REGISTERED No. 19500175 STATE OF INDIANA PROFESSIONAL ENGINEER

David W. Schwinke

Project: Stonecreek Subdivision – Section

Sheet Title: Relocated Seib Road/Kansas Road Intersection Details

Scale: 1"=30'

Designed By:	Job Number:
R.S.L.	4255-4(G)
Drawn By:	Date:
G.A.H.	09/04/00

Filename: J:4255\CIVIL3\RDSSEC3.DWG

Sheet Number: 9 of

SANITARY SEWER LATERAL INDEX

LATERAL NUMBER	DOWNSTREAM MANHOLE	DISTANCE TO MANHOLE	LATERAL LIN. FEET	LATERAL NUMBER	DOWNSTREAM MANHOLE	DISTANCE TO MANHOLE	LATERAL LIN. FEET
LOT 12	904	355'	57'	LOT 151	939	140'	25'
LOT 13	904	357'	57'	LOT 152	939	210'	25'
LOT 14	909	88'	57'	LOT 153	939	250'	25'
LOT 15	909	90'	57'	LOT 154	942	168'	7'
LOT 16	909	195'	57'	LOT 155	942	148'	7'
LOT 17	910	57.5'	57'	LOT 156	942	68'	7'
LOT 18	910	59.5'	57'	LOT 157	942	97'	25'
LOT 19	910	184.5'	57'	LOT 158	942	167'	25'
LOT 20	910	186.5'	57'	LOT 159	942	180'	25'
LOT 21	910	304.5'	57'	LOT 160	924	148'	7'
LOT 22	910	306.5'	57'	LOT 161	924	218'	7'
LOT 23	910	63.5'	57'	LOT 162	924	288'	7'
LOT 24	910	65.5'	57'	LOT 163	942	75'	25'
LOT 25	910	125'	57'	LOT 164	942	125'	25'
LOT 26	917	193'	7'	LOT 165	942	195'	25'
LOT 27	917	158'	7'	LOT 166	942	265'	25'
LOT 28	917	98'	7'	LOT 167	942	335'	25'
LOT 29	917	38'	7'	LOT 168	944	50'	25'
LOT 30	916	159'	7'	LOT 169	944	120'	25'
LOT 31	916	99'	7'	LOT 170	944	190'	25'
LOT 32	916	39'	7'	LOT 171	944	260'	25'
LOT 33	EXIST SSMH 711	312'	10'	LOT 172	944	240'	7'
LOT 34	EXIST SSMH 711	250'	13'	LOT 173	937	71'	57'
LOT 35	EXIST SSMH 711	188'	14'	LOT 174	937	2'	57'
LOT 36	EXIST SSMH 711	130'	10'	LOT 175	935	219'	57'
LOT 37	EXIST SSMH 711	68'	14'	LOT 176	935	141'	57'
LOT 38	EXIST SSMH 711	20'	10'	LOT 177	935	139'	57'
LOT 39	930	37'	7'	LOT 178	934	52'	7'
LOT 40	930	105'	7'	LOT 179	934	52'	7'
LOT 41	930	164'	7'	LOT 180	935	105'	57'
LOT 42	931	29'	7'	LOT 181	935	158'	57'
LOT 43	931	87'	7'	LOT 182	EXIST SSMH 712	393'	75'
LOT 44	931	159'	7'	LOT 183	EXIST SSMH 712	391'	75'
LOT 45	910	125'	7'	LOT 184	EXIST SSMH 711	253'	75'
LOT 46	910	90'	7'	LOT 185	EXIST SSMH 711	251'	75'
LOT 47	910	30'	7'	LOT 186	EXIST SSMH 711	146'	75'
LOT 48	910	332'	7'	LOT 187	EXIST SSMH 711	75'	75'
LOT 49	910	272'	7'	LOT 188	933	102'	7'
LOT 50	910	212'	7'	LOT 189	933	172'	7'
LOT 51	910	152'	7'	LOT 190	933	242'	7'
LOT 52	910	92'	7'	LOT 191	933	312'	7'
LOT 53	910	32'	13'	LOT 192	933	377'	7'
LOT 54	909	208'	14'	LOT 193	939	404'	7'
LOT 55	909	149'	10'	LOT 194	939	356'	7'
LOT 56	909	94'	9'	LOT 195	939	281'	7'
LOT 57	909	30'	8'	LOT 196	939	206'	7'
LOT 58	904	361'	8'	LOT 197	939	119'	7'
LOT 59	904	298'	9'	LOT 198	939	90'	25'
LOT 69	907	243'	7'	LOT 199	939	160'	25'
LOT 70	907	303'	7'	LOT 200	939	230'	25'
LOT 71	907	363'	7'	LOT 201	939	300'	25'
LOT 72	908	30'	7'	LOT 202	939	370'	25'
LOT 73	908	97'	7'	LOT 203	939	404'	25'
LOT 74	913	173'	57'	LOT 204	944	145'	7'
LOT 75	913	175'	57'	LOT 205	944	75'	7'
LOT 76	913	240'	7'	LOT 206	944	5'	7'
LOT 77	913	204'	10'	LOT 207	942	291'	7'
LOT 78	913	144'	7'	LOT 208	942	221'	7'
LOT 79	913	31'	7'	LOT 209	942	150'	7'
LOT 80	913	91'	7'	LOT 210	942	82'	7'
LOT 81	913	151'	7'	LOT 211	917	75'	7'
LOT 82	913	211'	7'	LOT 212	917	111'	7'
LOT 83	913	271'	7'	LOT 213	917	147'	7'
LOT 84	913	307.5'	7'	LOT 214	917	183'	7'
LOT 85	913	306.5'	57'	LOT 215	917	219'	7'
LOT 86	913	304.5'	57'	LOT 216	917	255'	7'
LOT 87	913	186.5	57'	LOT 217	917	291'	7'
LOT 88	913	184.5'	57'	LOT 218	917	327'	7'
LOT 89	913	67'	57'	LOT 219	919	8'	7'
LOT 90	913	65'	57'	LOT 220	919	63'	7'
LOT 91	908	131'	57'	LOT 221	919	99'	7'
LOT 92	908	129'	57'	LOT 222	919	135'	7'
LOT 93	908	11'	57'	LOT 223	919	171'	7'
LOT 94	908	9'	57'	LOT 224	919	207'	7'
LOT 95	907	284'	57'	LOT 225	919	243'	7'
LOT 96	907	282'	57'	LOT 226	920	30'	7'
LOT 107	926	104'	7'	LOT 227	920	65'	7'
LOT 108	926	179'	7'	LOT 228	920	101'	7'
LOT 109	926	249'	7'	LOT 229	920	137'	7'
LOT 110	926	319'	7'	LOT 230	920	173'	7'
LOT 111	927	35'	7'	LOT 231	920	209'	7'
LOT 112	927	105'	7'	LOT 232	924	77'	7'
LOT 113	927	175'	7'	LOT 233	924	41'	7'
LOT 114	927	245'	7'	LOT 234	924	5'	7'
LOT 115	928	315'	14'	LOT 235	924	31'	9'
LOT 116	928	30'	15'	LOT 236	924	67'	9'
LOT 117	928	57'	7'	LOT 237	924	103'	9'
LOT 118	937	282'	7'	LOT 238	924	122'	7'
LOT 119	937	212'	7'	LOT 239	920	200'	57'
LOT 120	937	142'	7'	LOT 240	920	146'	57'
LOT 121	937	72'	7'	LOT 241	920	144'	57'
LOT 122	937	4'	7'	LOT 242	920	78'	7'
LOT 123	935	62'	7'	LOT 243	920	114'	7'
LOT 124	935	175'	7'	LOT 244	920	150'	7'
LOT 125	935	105'	7'	LOT 245	920	186'	7'
LOT 126	935	35'	7'	LOT 246	920	222'	7'
LOT 127	935	35'	7'	LOT 247	921	62'	7'
LOT 128	935	105'	7'	LOT 248	921	42'	7'
LOT 129	935	175'	7'	LOT 249	921	6'	7'
LOT 130	935	212'	7'	LOT 250	921	32'	7'
LOT 131	EXIST SSMH 712	252'	10'	LOT 251	921	68'	7'
LOT 132	EXIST SSMH 712	237'	13'	LOT 252	921	104'	7'
LOT 133	EXIST SSMH 712	164'	13'	LOT 253	921	124'	7'
LOT 134	EXIST SSMH 712	99'	13'	LOT 254	920	204'	64'
LOT 135	EXIST SSMH 712	29'	13'	LOT 255	920	206'	64'
LOT 136	EXIST SSMH 711	335'	13'	LOT 256	920	132'	57'
LOT 137	EXIST SSMH 711	265'	13'	LOT 257	920	134'	57'
LOT 138	EXIST SSMH 711	195'	13'	LOT 258	920	84'	57'
LOT 139	EXIST SSMH 711	125'	13'	LOT 259	919	62'	57'
LOT 140	EXIST SSMH 711	55'	13'	LOT 260	919	24'	57'
LOT 141	930	45'	25'	LOT 261	917	332'	57'
LOT 142	930	126'	25'	LOT 262	917	330'	57'
LOT 143	931	17'	25'	LOT 263	917	250'	57'
LOT 144	931	131'	25'	LOT 264	917	248'	57'
LOT 145	931	198'	42'	LOT 265	917	168'	57'
LOT 146	939	238'	7'	LOT 266	917	166'	57'
LOT 147	939	160'	7'				
LOT 148	939	90'	7'				
LOT 149	939	30'	7'				
LOT 150	939	59'	25'				

DRAINAGE SWALE DATA TABLE

SWALE NUMBER	LENGTH	SLOPE	FLOW LINE UP STREAM	FLOW LINE DOWN STREAM	CONCRETE RIBBON
	ft.	%	Elev.	Elev.	
5	105	0.90	396.35	395.40	NO
6	263	0.24	392.00	391.38	NO
7	108	0.50	396.54	396.00	YES
8	325	0.46	397.50	396.00	YES
9	125	0.46	397.50	396.93	YES
10	164	0.46	396.75	396.00	YES
11	108	1.20	397.80	396.50	NO
12	170	0.53	398.00	397.10	YES
13	100	2.50	400.00	397.50	NO
14	97	1.03	398.50	397.50	NO
15	245	4.08	407.50	397.50	NO
16	64	1.56	398.50	397.50	NO
17	61	1.64	398.50	397.50	NO
18	96	1.04	398.50	397.50	NO
19	148	0.68	398.50	397.50	YES
20	325	1.00	400.75	397.50	NO
21	219	0.46	398.50	397.50	YES
22	400	0.55	400.25	398.06	YES
23	50	1.00	402.50	402.00	NO
24	132	1.10	423.00	421.55	NO
25	512	3.03	423.00	407.50	NO
26	115	3.91	416.00	411.50	NO
27	135	3.15	411.50	407.25	NO
28	167	1.80	407.00	404.00	NO
29	80	2.50	404.00	402.00	NO
30	378	1.52	406.50	400.75	NO

100 YEAR FLOOD ZONE TABLE

LOTS LOCATED WITHIN 100 YEAR FLOOD ZONE	FLOOD PROTECTION GRADE (FPG)	LOTS LOCATED WITHIN 100 YEAR FLOOD ZONE	FLOOD PROTECTION GRADE (FPG)
LOT 12	397.9	LOT 135	403.2
LOT 13	398.0	LOT 136	403.0
LOT 14	398.1	LOT 137	402.7
LOT 15	398.2	LOT 138	402.6
LOT 16	398.3	LOT 139	402.4
LOT 17	398.4	LOT 140	402.3
LOT 18	398.6	LOT 141	401.9
LOT 19	398.7	LOT 142	401.7
LOT 20	398.9	LOT 143	401.5
LOT 21	399.0	LOT 144	401.4
LOT 22	399.2	LOT 145	401.1
LOT 23	399.3	LOT 146	401.1
LOT 24	399.5	LOT 147	401.3
LOT 25	399.7	LOT 148	401.3
LOT 26	399.9	LOT 149	401.7
LOT 27	400.1	LOT 152	401.0
LOT 28	400.3	LOT 153	400.8
LOT 29	400.5	LOT 154	400.6
LOT 30	400.7	LOT 179	403.5
LOT 31	400.9	LOT 180	403.5
LOT 32	401.2	LOT 181	403.5
LOT 33	401.3	LOT 182	403.2
LOT 34	401.5	LOT 183	403.0
LOT 35	401.6	LOT 184	402.8
LOT 36	401.8	LOT 185	402.6
LOT 37	401.9	LOT 186	402.4
LOT 38	402.1	LOT 187	402.3
LOT 39	402.0	LOT 188	402.2
LOT 40	401.8	LOT 189	402.4
LOT 41	401.6	LOT 190	402.5
LOT 42	401.5	LOT 191	402.7
LOT 43	401.3	LOT 192	403.0
LOT 44	401.2	LOT 196	402.3
LOT 45	399.9	LOT 197	402.1
LOT 46	399.7	LOT 211	400.9
LOT 47	399.5	LOT 212	400.9
LOT 48	399.3	LOT 213	400.8
LOT 49	399.2	LOT 214	400.8
LOT 50	399.0	LOT 215	400.8
LOT 51	398.8	LOT 216	400.7
LOT 52	398.7	LOT 217	400.7
LOT 53	398.5	LOT 218	400.6
LOT 54	398.3	LOT 219	400.5
LOT 55	398.2	LOT 220	400.5
LOT 56	398.1	LOT 221	400.4
LOT 57	398.0	LOT 222	400.4
LOT 58	397.9	LOT 223	400.4
LOT 59	397.8	LOT 224	400.3
LOT 69	397.9	LOT 225	400.3
LOT 70	398.0	LOT 226	400.2
LOT 71	398.2	LOT 227	400.2
LOT 72	398.2	LOT 228	400.2
LOT 73	398.3	LOT 229	400.1
LOT 74	398.3	LOT 230	400.1
LOT 75	398.4	LOT 236	399.6
LOT 76	399.0	LOT 237	399.5
LOT 77	398.9	LOT 238	399.4
LOT 78	398.8	LOT 239	399.6
LOT 79	398.6	LOT 240	399.7
LOT 80	398.7	LOT 241	399.7
LOT 81	398.9	LOT 242	399.8
LOT 82	399.0	LOT 243	399.7
LOT 83	399.2	LOT 244	399.6
LOT 84	399.4	LOT 245	399.5
LOT 85	399.2	LOT 247	399.2
LOT 86	399.1	LOT 248	399.1
LOT 87	398.9	LOT 249	399.2
LOT 88	398.7	LOT 250	399.2
LOT 89	398.5	LOT 251	399.2
LOT 90	398.4	LOT 252	399.2
LOT 91	398.3	LOT 253	399.4
LOT 92	398.2	LOT 254	399.5
LOT 93	398.1	LOT 255	399.6
LOT 94	398.0	LOT 256	399.7
LOT 95	397.9	LOT 257	399.8
LOT 96	397.8	LOT 258	400.0
		LOT 259	400.0
LOT 128	404.2	LOT 260	400.0
LOT 129	404.2	LOT 261	400.1
LOT 130	404.2	LOT 262	400.1
LOT 131	404.2	LOT 263	400.2
LOT 132	404.2	LOT 264	400.2
LOT 133	403.8	LOT 265	400.3
LOT 134	403.5	LOT 266	400.3

1. THE LOWEST FLOOR ELEVATIONS OF ANY ENCLOSED SPACE (INCLUDING THE GARAGE OR BASEMENT) MUST BE AT LEAST TWO FEET ABOVE THE 100 YEAR FLOOD ELEVATION. THIS MINIMUM FLOOR ELEVATION IS CALLED THE FLOOD PROTECTION GRADE (FPG). HIGHER FINISHED FLOOR ELEVATIONS ARE REQUIRED IN SOME INSTANCES IN ORDER TO PROVIDE POSITIVE DRAINAGE TO ESTABLISHED SWALES AND STREETS.

2. ANY CRAWL SPACE LOCATED ON A LOT WITH FPG DESIGNATION SHALL MAINTAIN AN ELEVATION AT THE LOWEST POINT IN THE CRAWL SPACE OF 0.10 FEET ABOVE THE 100 YEAR FLOOD ELEVATION.

STORM STRUCTURE DATA TABLE

STRUCTURE NUMBER	LOCATION Station	LEFT	RIGHT	CROSS	SIZE in.	DESCRIPTION	LENGTH ft.	FLOW LINE UP STREAM Elev.	FLOW LINE DOWN STREAM Elev.	SLOPE %	"B" BORROW	AD = Rim or Elev. CI = FG
RELOCATED SEIB ROAD												
F.E.S. 872	13+85.28	X				18" F.E.S.						
P-873				X	18	R.C.P. CL. III	90	391.38	391.15	0.25	X	
F.E.S. 874			X			18" F.E.S.						
C.I. 875	12+00.02	X				24"x36" BOX						394.67
P-876				X	12	R.C.P. CL. III	56	390.30	389.25	1.87	X	
F.E.S. 877			X			12" F.E.S.						
C.I. 878	7+78.09-Road 8					24"x36" BOX						396.00
P-879					12	R.C.P. CL. III	47	392.19	392.00	0.40		
F.E.S. 880						12" F.E.S.						
C.I. 881	5+44.92-Road 8	X				24"x36" BOX						395.92
P-882				X	12	R.C.P. CL. III	26	393.23	393.19	0.15	X	
C.I. 883	5+44.92-Road 8		X			24"x36" BOX						395.92
P-884					12	R.C.P. CL. III	146	393.19	392.90	0.20		
C.I. 885	15+87.71-Road 7		X			24"x36" BOX						396.07
P-886				X	12	R.C.P. CL. III	26	393.17	393.03	0.55	X	
C.I. 887	15+87.71-Road 7	X				24"x36" BOX						396.07
P-888		X			15	R.C.P. CL. III	32	393.03	392.90	0.41		
M.H. 889	15+87.71-Road 7	X				24"x24" BOX						397.30
P-890					18	R.C.P. CL. III	94	392.90	392.65	0.27		
C.I. 891	11+53.27-Road 9	X				24"x36" BOX						397.31
P-892				X	12	R.C.P. CL. III	26	393.65	393.58	0.25	X	
C.I. 893	11+53.27-Road 9		X			24"x36" BOX						397.31
P-894					15	R.C.P. CL. III	204	393.58	393.27	0.15		
C.I. 895						24"x36" BOX						396.80
P-896					12	R.C.P. CL. III	50	393.37	393.27	0.20	X	
M.H. 897						24"x24" BOX						397.30
P-898					15	R.C.P. CL. III	155	393.27	392.65	0.40		
A.D. 899						24"x24" BOX						396.00
P-1000					21	R.C.P. CL. III	204	392.65	392.00	0.32		
F.E.S. 1001						21" F.E.S.						
C.I. 1002	15+92.30-Road 2	X				24"x36" BOX						396.06
P-1003				X	12	R.C.P. CL. III	26	392.55	392.47	0.30	X	
C.I. 1004	15+92.30-Road 2		X			24"x36" BOX						396.06
P-1005			X		15	R.C.P. CL. III	135	392.47	392.00	0.35	X	
F.E.S. 1006			X			15" F.E.S.						
C.I. 1007	19+54.34-Road 2	X				24"x36" BOX						397.04
P-1008				X	12	R.C.P. CL. III	26	394.04	393.78	1.00	X	
C.I. 1009	19+54.34-Road 2		X			24"x36" BOX						397.04
P-1010			X		15	R.C.P. CL. III	12	393.78	393.56	1.83	X	
C.I. 1011	23+55.06-Road 2	X				24"x36" BOX						398.41
P-1012				X	12	R.C.P. CL. III	26	395.41	395.15	1.00	X	
C.I. 1013	23+55.06-Road 2		X			24"x36" BOX						398.41
P-1014			X		15	R.C.P. CL. III	18	395.15	395.06	0.50	X	
A.D. 1015			X			24"x24" BOX						397.50
P-1016			X		18	R.C.P. CL. III	185	395.06	394.41	0.35	X	
C.I. 1017	5+54.89-Road 9	X				24"x36" BOX						398.18
P-1018				X	12	R.C.P. CL. III	26	395.00	394.71	1.10	X	
C.I. 1019	5+54.89-Road 9		X			24"x36" BOX						398.18
P-1019A			X		12	R.C.P. CL. III	27	394.71	394.41	1.10	X	
M.H. 1020	21+70.24-Road 2		X			60" DIA.						399.30
P-1021			X		18	R.C.P. CL. III	212	394.41	393.56	0.40		
M.H. 1022			X			30"x30" BOX						397.70
P-1023					21	R.C.P. CL. III	123	393.56	392.00	1.27		
F.E.S. 1024						21" F.E.S.						
C.I. 1025	22+65.62-Road 5	X				24"x36" BOX						420.29
P-1026				X	12	R.C.P. CL. III	26	418.50	418.35	0.60	X	
C.I. 1027	22+65.62-Road 5		X			24"x36" BOX						420.29
P-1028			X		12	R.C.P. CL. III	124	418.35	417.85	0.40		
F.E.S. 1029			X			12" F.E.S.						
C.I. 1030	26+32.55-Road 5	X				24"x36" BOX						411.29
P-1031				X	15	R.C.P. CL. III	36	407.98	407.87	0.30	X	
C.I. 1032	26+32.55-Road 5		X			24"x36" BOX						411.22
P-1034		X			15	R.C.P. CL. III	137	407.87	403.62	3.10		
A.D. 1035	13+15.12-Road 6	X				24"x24" BOX						407.50
P-1036		X			18	R.C.P. CL. III	152	403.62	398.82	3.16		
C.I. 1038	20+96.55-Road 7		X			24"x36" BOX						400.46
P-1039				X	12	R.C.P. CL. III	26	396.67	396.41	1.00	X	
C.I. 1040	20+96.55-Road 7	X				24"x36" BOX						400.46
P-1041		X			12	R.C.P. CL. III	136	396.41	394.75	1.22		
A.D. 1042						24"x24" BOX						397.50
P-1043					18	R.C.P. CL. III	161	394.75	394.43	0.20		
A.D. 1044						30"x30" BOX						397.50
P-1045					21	R.C.P. CL. III	157	394.43	394.04	0.25		
C.I. 1046						24"x36" BOX						398.59
P-1047					12	R.C.P. CL. III	132	395.76	394.64	0.85		
A.D. 1048						24"x24" BOX						397.89
P-1049					15	R.C.P. CL. III	60	394.64	394.04	1.00		
A.D. 1050						30"x30" BOX						397.50
P-1051		X			24	R.C.P. CL. III	124	394.04	393.61	0.35		
C.I. 1052	8+45.64-Road 9	X				24"x36" BOX						397.66
P-1053				X	24	R.C.P. CL. III	26	393.61	393.49	0.45	X	
C.I. 1054	8+45.64-Road 9		X			60" DIA.						397.66
P-1055			X		24	R.C.P. CL. III	50	393.49	393.21	0.55	X	
M.H. 1056	8+94.25-Road 9		X			60" DIA.						398.50
P-1057					24	R.C.P. CL. III	191	393.21	392.16	0.55		
C.I. 1058						24"x36" BOX						396.80
P-1059					12	R.C.P. CL. III	46	393.82	392.16	3.60	X	
A.D. 1060						60" DIA.						397.10
P-1061					24	R.C.P. CL. III	24	392.16	392.00	0.65		
F.E.S. 1062						24" F.E.S.						

STRUCTURE NUMBER	LOCATION Station	LEFT	RIGHT	CROSS	SIZE in.	DESCRIPTION	LENGTH ft.	FLOW LINE UP STREAM Elev.	FLOW LINE DOWN STREAM Elev.	SLOPE %	"B" BORROW	AD = Rim or Elev. CI = FG
RETENTION BASIN #4 - PRIMARY SPILLWAY												
F.E.S. 1062A						24" F.E.S.						
P-1062B					24	R.C.P. CL. III	33	392.00	391.85	0.42		
M.H. 1062C						60" DIA.						397.25
P-1062D					24	R.C.P. CL. III	106	391.85	391.40	0.42		
M.H. 1062E	14+74.05-ROAD 2					60" DIA.						396.95
P-1062F					24	R.C.P. CL. III	50	391.40	391.19	0.42	X	
M.H. 1062G	14+66.55 ROAD 2					60" DIA.						396.95
P-1062H					24	R.C.P. CL. III	156	391.19	390.50	0.42		
CONC. H.W.												
W/FLAPGATE 1062I									390.50			
C.I. 1063	7+23.47-Road 4		X			24"x36" BOX						403.10
P-1064			X		12	R.C.P. CL. III	70	400.01	398.82	1.70	X	
C.I. 1065	7+94.07-Road 4		X			24"x36" BOX						403.50
P-1066				X	24	R.C.P. CL. III	36	398.82	398.60	0.60	X	
C.I. 1067	7+94.07-Road 4	X				60" DIA.						403.50
P-1068		X			24	R.C.P. CL. III	135	398.60	397.72	0.65		
A.D. 1069	9+94.49-Road 6	X				30"x30" BOX						400.75
P-1070		X			24	R.C.P. CL. III	154	397.72	396.64	0.70		
C.I. 1071	7+96.40-Road 3		X			24"x36" BOX						400.44
P-1072				X	24	R.C.P. CL. III	30	396.64	396.41	0.75	X	
C.I. 1073	7+22.58-Road 3		X			24"x36" BOX						400.22
P-1074				X	12	R.C.P. CL. III	26	397.27	397.14	0.50	X	
C.I. 1075	7+22.58-Road 3	X				24"x36" BOX						400.22
P-1076		X			12	R.C.P. CL. III	74	397.14	396.41	0.99	X	
C.I. 1077	7+96.40-Road 3	X				60" DIA.						400.36
P-1078		X			30	R.C.P. CL. III	104	396.41	396.08	0.32	X	
M.H. 1079	7+15.12-Road 6	X				60" DIA.						401.50
P-1080		X			30	R.C.P. CL. III	23	396.08	396.00	0.35		
F.E.S. 1081		X				30" F.E.S.						
C.I. 1082	5+42.11-Road 6		X			24"x36" BOX						400.05
P-1083				X	12	R.C.P. CL. III	26	397.05	396.92	0.50	X	
C.I. 1084	5+42.11-Road 6	X				24"x36" BOX						400.05
P-1085		X			12	R.C.P. CL. III	84	396.92	396.20	0.86	X	
M.H. 1086	6+25.00-Road 6	X				24"x24" BOX						401.00
P-1087		X			12	R.C.P. CL. III	23	396.20	396.00	0.86		
F.E.S. 1088		X				12" F.E.S.						
C.I. 1089	6+50.08-Road 5	X				24"x36" BOX						399.91
P-1090				X	15	R.C.P. CL. III	26	396.64	396.59	0.20	X	
C.I. 1091	6+50.08-Road 5		X			24"x36" BOX						399.91
P-1091A			X		18	R.C.P. CL. III	23	396.59	396.50	0.40	X	
M.H. 1092	6+70.00-Road 5		X			48" DIA.						400.25
P-1093			X		18	R.C.P. CL. III	112	396.50	396.00	0.45		
F.E.S. 1094			X			18" F.E.S.						
A.D. 1095		X				24"x24" BOX						402.55
P-1096		X			12	R.C.P. CL. III	138	398.10	397.13	0.70		
C.I. 1097	10+56.85-Road 5	X				24"x36" BOX						402.61
P-1098				X	15	R.C.P. CL. III	64	397.13	396.68	0.70	X	
C.I. 1099		X				24"x36" BOX						402.02
P-1100				X	12	R.C.P. CL. III	52	397.68	396.68	1.92	X	
C.I. 1101	10+00.00-Road 5		X			60" DIA.						402.28
P-1102			X		18	R.C.P. CL. III	51	396.68	396.53	0.30	X	
M.H. 1103	9+50.00-Road 5		X			30"x30" BOX						402.45
P-1104					18	R.C.P. CL. III	133	396.53	396.13	0.30		
A.D. 1105						24"x24" BOX						402.00
P-1106					18	R.C.P. CL. III	37	396.13	396.00	0.35		
F.E.S. 1107						18" F.E.S.						
A.D. 1108		X				24"x36" BOX						406.80
P-1109		X			12	R.C.P. CL. III	133	403.30	403.10	0.15		
C.I. 1110	15+38.54-Road 5	X				24"x36" BOX						407.72
P-1111				X	15	R.C.P. CL. III	26	403.10	402.98	0.45	X	
C.I. 1112	15+38.54-Road 5		X			24"x36" BOX						407.72
P-1113			X		15	R.C.P. CL. III	140	402.98	401.58	1.00		
A.D. 1114			X			24"x24" BOX						407.25
P-1115			X		18	R.C.P. CL. III	200	401.58	399.58	1.00		
A.D. 1116			X			24"x24" BOX						404.00
P-1116A			X		18	R.C.P. CL. III	109	399.58	396.00	3.28		
F.E.S. 1116B			X			18" F.E.S.						
RETENTION BASIN #5 - PRIMARY SPILLWAY												
F.E.S. 1117						21" F.E.S.						
P-1118			X		21	R.C.P. CL. III	112	396.00	395.72	0.25		
M.H. 1119	6+00.00-Road 5		X			48" DIA.						400.65
P-1120				X	21	R.C.P. CL. III	55	395.72	395.58	0.25	X	
M.H. 1121	5+77.35-Road 5	X				48" DIA.						400.85
P-1122		X			21	R.C.P. CL. III	133	395.58	395.26	0.25		
M.H. 1123						48" DIA.						399.25
P-1123A					21	R.C.P. CL. III	45	395.26	395.15	0.25		
CONC. H.W.												
W/FLAPGATE 1123B									395.15			
F.E.S. 1124		X				12" F.E.S.						
P-1125				X	12	R.C.P. CL. III	76	413.25	409.82	4.52	X	
M.H. 1126	16+21.03-Road 6		X			24"x24" BOX						413.75
P-1127			X		12	R.C.P. CL. III	90	409.82	405.75	4.52		
F.E.S. 1128			X			12" F.E.S.						
C.I. 842	12+98.30-Road 2	X				24"x36" BOX						395.56
P-843				X	12	R.C.P. CL. III	26	391.69	391.58	0.40	X	
C.I. 844	12+98.30-Road 2		X			24"x36" BOX						395.56
P-845			X		15	R.C.P. CL. III	136	391.58	391.00	0.42	X	
F.E.S. 846			X			15" F.E.S.						
C.I. 852	12+61.37-Road 7		X			24"x36" BOX						395.58
P-853				X	12	R.C.P. CL. III	26	392.28	392.17	0.40	X	
C.I. 854	12+61.37-Road 7	X				24"x36" BOX						395.58
P-855		X			12	R.C.P. CL. III	40	392.17	391.83	0.85	X	
M.H. 856	12+74.02-Road 7	X				24"x24" BOX						397.50
P-857		X			12	R.C.P. CL. III	90	391.83	391.06	0.85		
A.D. 858		X				24"x24" BOX						395.40
P-859		X			15	R.C.P. CL. III	16	391.06	391.00	0.32		
F.E.S. 860		X				15" F.E.S.						

Morley and Associates, INC.
Consulting Engineers/Surveyors/Architects
600 S.E. Sixth Street
Evansville, Indiana 47713
(812) 464-9585

Revisions

No.	By	Date	Description

DAVID W. SCHMINKE REGISTERED No. 19500175 STATE OF INDIANA PROFESSIONAL ENGINEER

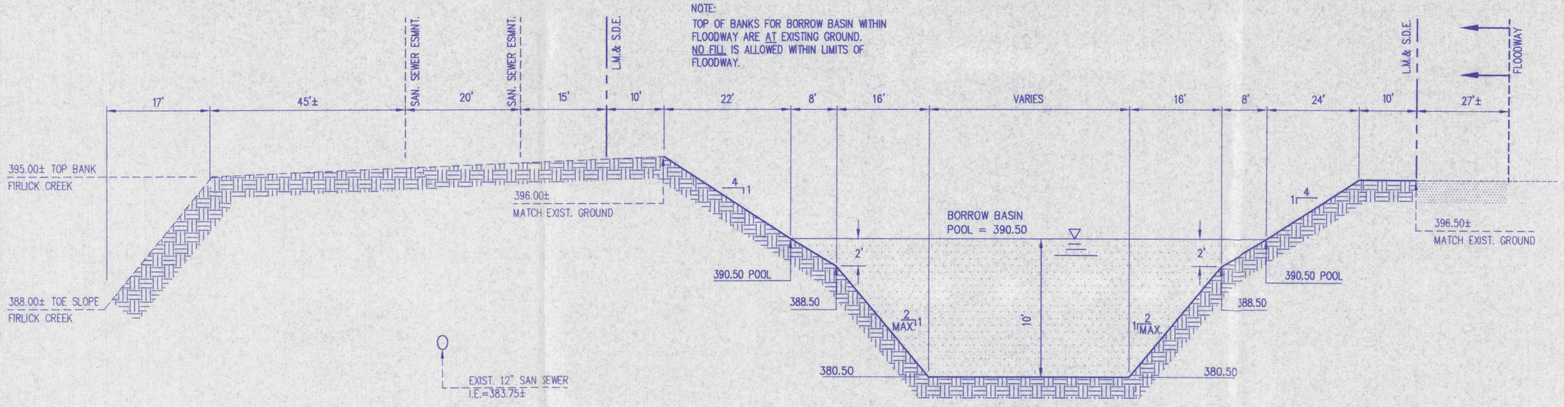
David W. Schminke

Project: Stonecreek Subdivision – Section

Sheet Title: Utility/Drainage Plan Data Tables

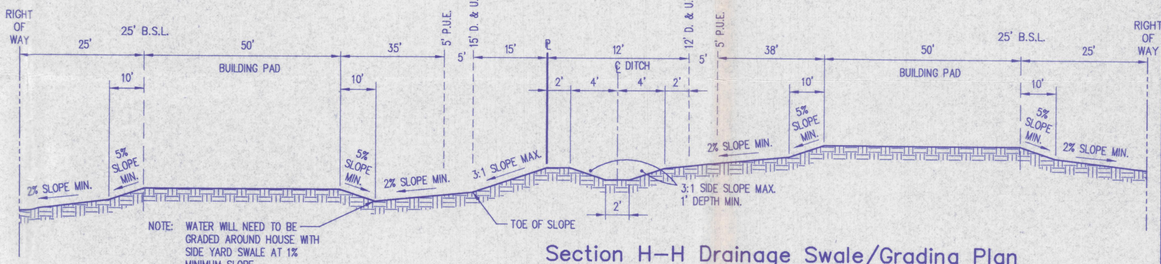
Scale: 1"=50'

Designed By: R.S.L.	Job Number: 4255-4(G)
Drawn By: G.A.H.	Date: 09/04/00
Filename: J:\4255\CIVIL3\DATATBL.dwg	
Sheet Number: 7	Of:



Borrow Basin #2 – Section D–D

No Scale



Section H–H Drainage Swale/Grading Plan

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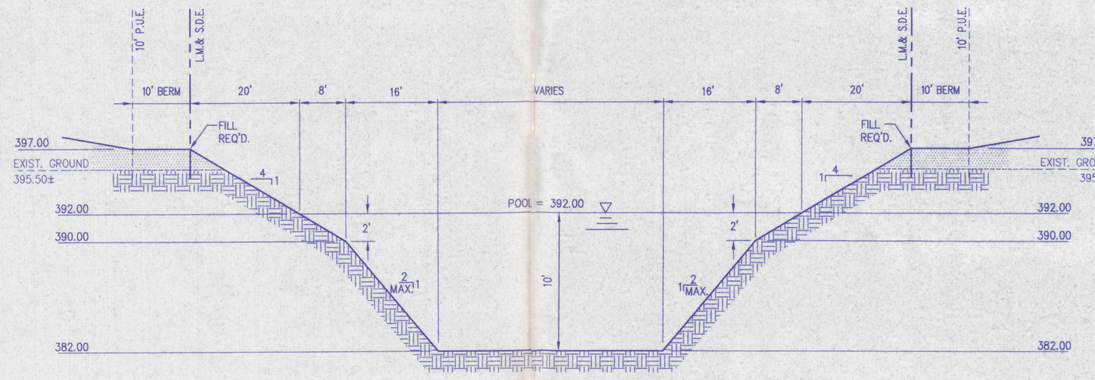
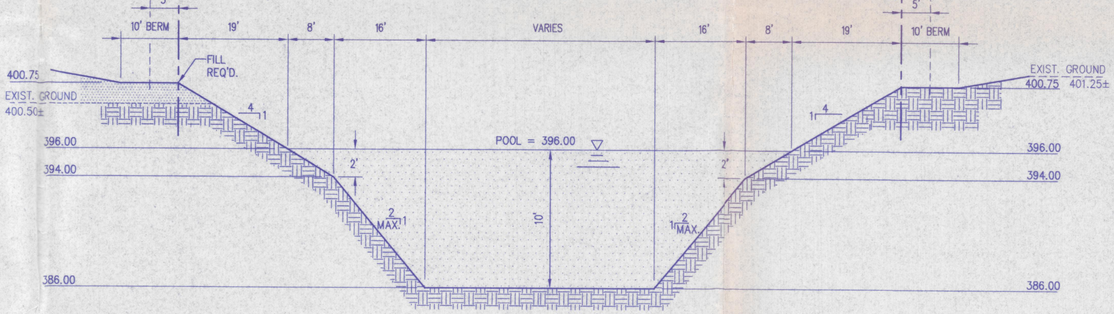


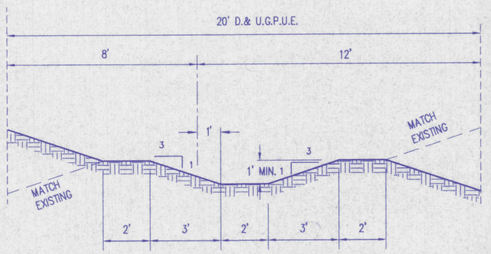
Retention Basn #4 – Section E–E

No Scale



Retention Basin #5 – Section F–F

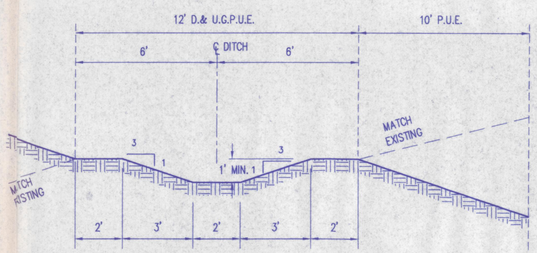
No Scale



NOTE:
1. SOD REQUIRED IF LONGITUDINAL SLOPE IS 4% OR GREATER.
2. 16"x8" CONCRETE RIBBON REQUIRED IF LONGITUDINAL SLOPE IS LESS THAN 0.8%
3. RIP–RAP OR EROSION CONTROL BLANKET REQUIRED ON SIDE SLOPES GREATER THAN 3:1. REFER TO EROSION/SEDIMENT CONTROL PLAN

Section A–A Drainage Swale

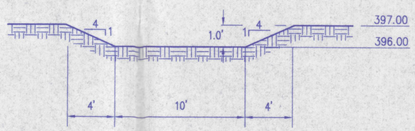
No Scale



NOTE:
1. SOD REQUIRED IF LONGITUDINAL SLOPE IS 4% OR GREATER.
2. 16"x8" CONCRETE RIBBON REQUIRED IF LONGITUDINAL SLOPE IS LESS THAN 0.8%
3. RIP–RAP OR EROSION CONTROL BLANKET REQUIRED ON SIDE SLOPES GREATER THAN 3:1. REFER TO EROSION/SEDIMENT CONTROL PLAN

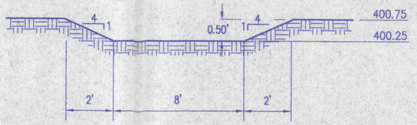
Section B–B Drainage Swale

No Scale



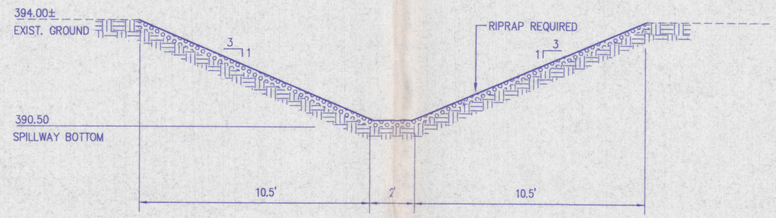
Retention Basin #4 Emergency Spillway

No Scale



Retention Basin #5 Emergency Spillway

No Scale



Borrow Basin #2 Spillway

No Scale

Morley and Associates, INC.
Consulting Engineers/Surveyors/Architects
600 S.E. Sixth Street
Evansville, Indiana 47713
(812) 464-9585

Revisions

No.	By	Date	Description

DAVID W. SCHWANKE REGISTERED No. 19500175 STATE OF INDIANA PROFESSIONAL ENGINEER

David W. Schwanke

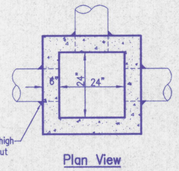
Project: Stonecreek Subdivision – Section

Sheet Title: Drainage Details

Scale: AS SHOWN

Designed By: R.S.L.	Job Number: 4255-4(C)
Drawn By: G.A.H.	Date: 09/04/00
Filename: J:\4255\CIVIL3\4255drn.dwg	

Sheet Number: 22 of



Plan View

Notes

For Area Inlet in pavement East Jordan #8308 casting or equal with type M grate. For area inlet in non-paved areas: East Jordan Beehive #6488 casting, or equal, with adaptor ring.

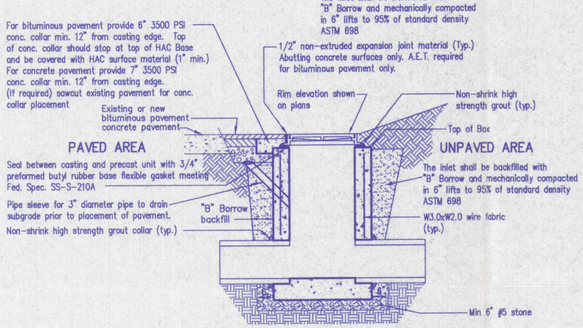
For Manhole East Jordan #8308 casting with Type A solid cover or equal. Contractor may substitute East Jordan #1022 casting with Type A solid cover, or equal, with adaptor ring.

All connecting pipes shall be grouted with a high strength non-shrink grout.

Precast inlets shall conform to ASTM C-478

Reinforcement shall be 3" x 6" W3.0xW2.0 wire fabric for precast units

The inlet shall be backfilled with "B" Borrow and mechanically compacted in 6" lifts to 95% of standard density ASTM 698



Section

Precast "A" Box

NO SCALE

Notes

For Area Inlet in pavement East Jordan #8313 casting or equal. For area inlet in non-paved areas: East Jordan Beehive #6488 casting, or equal, with adaptor ring.

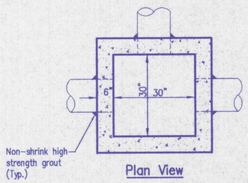
For Manhole East Jordan #8313 casting with Type A solid cover or equal. Contractor may substitute East Jordan #1022 casting with Type A solid cover, or equal, with adaptor ring.

All connecting pipes shall be grouted with a high strength non-shrink grout.

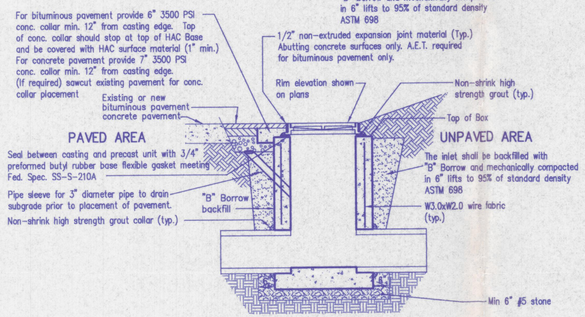
Precast inlets shall conform to ASTM C-478

Reinforcement shall be W3.0xW2.0 wire fabric for precast units

The inlet shall be backfilled with "B" Borrow and mechanically compacted in 6" lifts to 95% of standard density ASTM 698



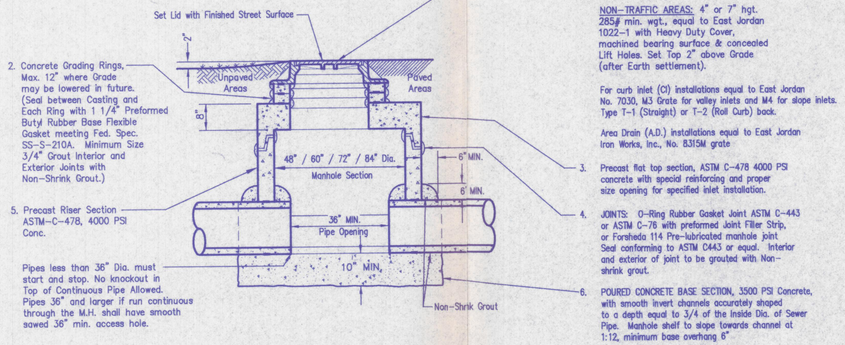
Plan View



Section

Precast "E" Box

NO SCALE



Notes

1. TRAFFIC AREAS: Manhole Frame & Cover: ASTM-48, Latest Edition, Class 35 With 24" Diameter lid. 7" Min. Height 400# Min. Wgt. Equal to East Jordan 1022-3 or Dewey RCR 247 with extra heavy duty cover, machined bearing surface & concealed lift holes.

   NON-TRAFFIC AREAS: 4" or 7" hgt. 285# min. wgt., equal to East Jordan 1022-1 with Heavy Duty Cover, machined bearing surface & concealed Lift Holes. Set Top 2" above Grade (after Earth settlement).

   For curb inlet (CI) installations equal to East Jordan No. 7030, M3 Grate for valley inlets and M4 for slope inlets. Type T-1 (Straight) or T-2 (Roll Curb) back.

   Area Drain (A.D.) installations equal to East Jordan Iron Works, Inc., No. 8315M grate

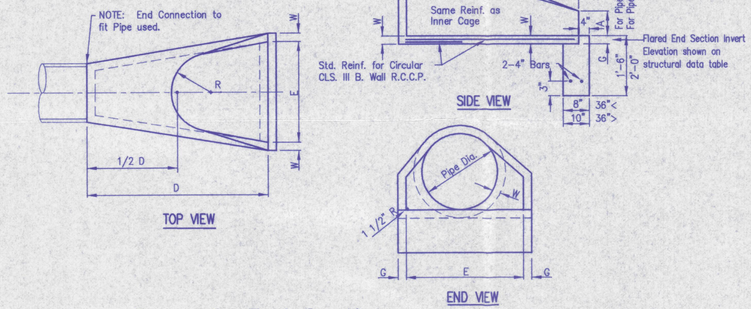
3. Precast flat top section, ASTM C-478 4000 PSI concrete with special reinforcing and proper size opening for specified inlet installation.
4. JOINTS: O-Ring Rubber Gasket Joint ASTM C-443 or ASTM C-76 with preformed Joint Filler Strip, or Forsheda 114 Pre-lubricated manhole joint Seal conforming to ASTM C443 or equal. Interior and exterior of joint to be grouted with Non-shrink grout.
6. POURED CONCRETE BASE SECTION, 3500 PSI Concrete, with smooth invert channels accurately shaped to a depth equal to 3/4 of the Inside Dia. of Sewer Pipe. Manhole shelf to slope towards channel at 1:12, minimum base overhang 6"

Shallow Storm Manhole, Inlet or Area Drain

S003.dwg Date: 09-10-96

NO SCALE

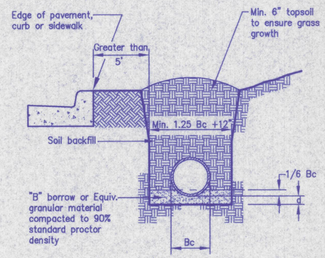
PIPE DIA.	WGT. (LBS)	WALL	A	B	C	D	E	G	R	SLOPE
12"	530	2"	8"	2'-0"	4'-7/8"	8'-7/8"	2'-0"	2"	9"	2:1
15"	740	2 1/4"	6"	2'-3"	5'-10"	6'-1"	2'-6"	2 1/4"	11"	2:1
18"	990	2 1/2"	10"	2'-3"	5'-10"	6'-3"	3'-0"	2 1/2"	12"	2:1
21"	1280	2 3/4"	10"	2'-11"	3'-2"	6'-1"	3'-6"	2 3/4"	13"	2:1
24"	1520	3"	10"	3'-7 1/2"	2'-6"	6'-5"	4'-0"	3"	14"	2:1
27"	1930	3 1/8"	10 1/2"	4'-0"	2'-1 1/2"	8'-1 1/2"	4'-6"	3 1/4"	14 1/2"	3:1
30"	2190	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	8'-1 3/4"	5'-0"	3 1/2"	15"	3:1
33"	3200	3 3/4"	1'-1 1/2"	4'-10 1/2"	3'-3 1/4"	8'-1 3/4"	5'-6"	3 3/4"	17 1/2"	3:1
36"	4100	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	4"	20"	3:1
42"	5380	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	4 1/2"	22"	3:1
48"	6550	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	5"	22"	3:1
54"	8240	5 1/2"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"	5 1/2"	24"	2:1
60"	8730	6"	2'-11"	5'-0"	3'-3"	8'-3"	8'-0"	3"	*	2:1
66"	10710	6 1/2"	2'-6"	6'-0"	2'-3"	8'-3"	8'-6"	5 1/2"	*	2:1
72"	12520	7"	3'-0"	6'-6"	1'-9"	8'-3"	9'-0"	6"	*	1.86:1
78"	14770	7 1/2"	3'-0"	7'-6"	1'-9"	9'-3"	9'-6"	6 1/2"	*	1.82:1
84"	18160	8"	3'-0"	7'-8 1/2"	1'-9"	9'-3 1/2"	10'-0"	6 1/2"	*	1.5:1



Concrete End Section

S005.dwg Date: 5-16-96

NO SCALE

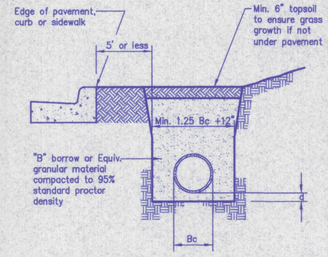


Greater than 5' from edge of pavement

Note:

All bedding & initial backfill shall be installed in 6" to 12" balanced lifts

A minimum 9" of clearance shall be provided on each side of the installed pipe



Beneath or within 5' of edge of pavement

Note:

All bedding & initial backfill shall be installed in 6" to 12" balanced lifts

A minimum 9" of clearance shall be provided on each side of the installed pipe

Depth of Bedding Material Below Pipe

D	(d) Min.
27" & Smaller	3"
30" to 60"	4"
66" & Larger	6"

LEGEND:

Bc = Outside Diameter
D = Inside Diameter
d = Depth of Bedding Material Below Pipe

Reinforced Concrete Pipe Storm Sewer Bedding

S002.dwg Date: 10-14-96

NO SCALE

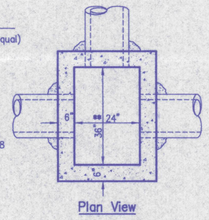
Notes

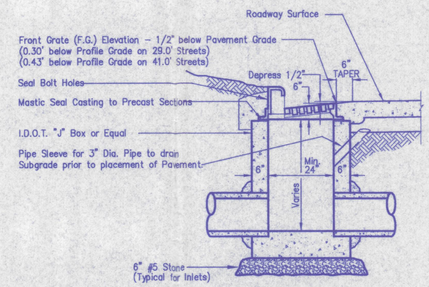
East Jordan Iron Works, Inc. (or approved equal) NO. 7030 catch basin curb inlet, with M2 grate for valley inlets or M4 grate for slope inlets. Type T-1 back for straight curbs Type T-2 back for roll curbs

All connecting pipes shall be grouted with a high strength non-shrink grout.

Precast units shall conform to ASTM C-478

The inlet shall be backfilled with "B" Borrow and mechanically compacted in 6" lifts to 95% of standard density ASTM-698



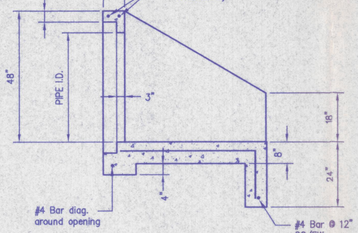


Section

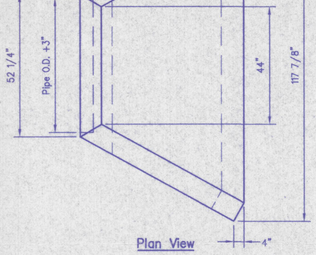
Curb Inlet

S004.dwg Date: 09-10-96

NO SCALE



Section



Plan View

SPECIFICATIONS:
Concete strength - 4500 PSI @ 28 days
Reinforcement - ASTM A-615 & ASTM A-615M (Latest Revision), Grade 60
Pipe Size - RCP-C Wall ERCP & CPP 36" Max. CMP 42" Max.
Approx. Weight - 8,700#
Pipe Connect Opt. - Grout holes, pipe seal gaskets
Other Options - Cast Iron. Dispersion Block
Bedding - Minimum 6" depth stone (No. 7 or finer)
Flap Gate - Waterman Industries #F-10, or equivalent.

Pipe Culvert Headwall

NO SCALE

General Notes:

1. Contractor shall comply with all local, state and federal codes, ordinances, rules, regulations, orders and other legal requirements of municipal authorities which bear on the performance of the work.
2. The contractor is cautioned that, the location and/or elevation of existing utilities as shown on these plans is based on records of various utility companies, and where possible measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must contact the appropriate utility company at least 48 hours before any excavation to request exact field location of utilities. **Contractor shall locate existing utilities and establish elevations and clearances with proposed improvements prior to initiating construction.**

   Indiana Underground Utility Locate Service
   Phone: 1-(800)-382-5544
3. Material specifications shall be in conformance with applicable portions of the INDOT Standard specifications, (latest edition) unless specifically stated otherwise on these plans, contract documents or local code.
4. Reinforced concrete pipe (Class III min.) and precast flared end sections with rubber gaskets shall meet the requirements ASTM C-76 and C-443. Rubber gaskets shall be "Dip Seal" as manufactured by Forsheda Pipe Seal Company or approved equal.

Morley and Associates, INC.
Consulting Engineers/Surveyors/Architects
600 S.E. Sixth Street
Evansville, Indiana 47713
(812) 464-9585

Revisions

No.	By	Date	Description

DAVID W. SCHWENKE REGISTERED No. 19600175 STATE OF INDIANA PROFESSIONAL ENGINEER

Project: Stonecreek Subdivision - Section

Sheet Title: Storm Sewer Details

Scale: AS SHOWN

Designed By: R.S.L.	Job Number: 4255-4(0)
Drawn By: G.A.H.	Date: 09/04/00
Filename: J:\4255\CIVIL3\STORMDET.dwg	
Sheet Number: 23	Of: