

LIST OF STANDARD FORMS

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"DRAINAGE REPORT SUBMITTAL CHECKLIST"

PREPARED BY _____ DATE _____

The drainage report for the subdivision as noted below has been received and found to lack the information noted. This information must be submitted before the report will be accepted for review. Please provide the required information and return the checklist with your submittal.

SUBDIVISION: _____
 LOCATION: _____
 DATE SUBMITTED: _____
 SUBMITTED BY: FIRM _____
 CONTACT _____
 PHONE _____
 SUBMITTED DATE: (1) _____ (2) _____ (3) _____ (4) _____
 DATE APPROVED: _____

CHECKLIST

ITEM	DESCRIPTION	RECEIVED OR NOT APPLICABLE	TO BE SUBMITTED
1	Typed, Bound Report	_____	_____
2	Professional Engineers Certificate	_____	_____
3	General Location and Description		
	(a) Location Map	_____	_____
	(b) Existing Site Description	_____	_____
	(c) Description of Existing Drainage Patterns and Facilities	_____	_____
4	Drainage Basins and Sub-Basins		
	(a) Major Basin Description	_____	_____
	(b) Sub-Basin Description	_____	_____
5	Design Criteria		
	(a) Development Master Plan Discussion	_____	_____
	(b) Hydrologic Criteria Discussion	_____	_____
	(c) Hydraulic Criteria Discussion	_____	_____
6	Drainage Facility Design		
	(a) Discussion of Proposed Facilities	_____	_____
	(b) Discussion of Drainage Patterns	_____	_____
	(c) Impact on Offsite Facilities	_____	_____
	(d) Impact on Master Plan	_____	_____
7	Drainage Plan		
	(a) Existing and Proposed Contours	_____	_____
	(b) Property Lines and Easements	_____	_____
	(c) Delineation of Basin and Sub-Basins	_____	_____
	(d) Existing Drainage Patterns and Facilities	_____	_____
	(e) Proposed Drainage Patterns and Facilities	_____	_____
	(f) Proposed Outfall Points	_____	_____
	(g) Routing of Offsite Drainage	_____	_____

STANDARD FORM SF-6

RESERVOIR STORAGE ROUTING

(MODIFIED-PULS METHOD)

JOB NAME & LOCATION: _____	Job No. _____
	By _____
	Date _____
Storm Recurrence _____ yrs Unit Time _____ min	Chkd By _____
	Date Chkd _____

Time Interval	Time (min)	Inflow I (cfs)	$\frac{2S}{t} - D$ (cfs)	$\frac{2S}{t} + D$ (cfs)	Discharge D (cfs)
(1)	(2)	(3)	(4)	(5)	(6)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

(7) Calculate Maximum Storage (S_{max}) for maximum discharge (D)

$$S_{max} = \left(\left(\frac{2S}{t} + D \right) - D \right) \left(\frac{t}{2} \right) = \left((\quad) - (\quad) \right) (\quad) = \text{_____ cfs-min} = \text{_____ AF}$$

STANDARD FORM SF-8

TIME OF CONCENTRATION

SUBDIVISION _____ CALCULATED BY _____ DATE _____ $t_c = t_l + t_t$

DESIG: (1)	SUB-BASIN DATA		INITIAL/OVERLAND TIME (t_l)			TRAVEL TIME (t_t)				t_c CHECK (URBANIZED BASINS)	FINAL t_c	REMARKS	
	AREA AC (3)	LENGTH Ft (4)	SLOPE % (5)	t_l Min (6)	LENGTH Ft (7)	SLOPE % (8)	VEL. FPS (9)	t_t Min (10)	TOTAL LENGTH Ft (11)				t_c Min (12)

CALCULATED BY _____
 DATE _____
 CHECKED BY _____

STANDARD FORM SF-9
STORM DRAINAGE SYSTEM DESIGN
(RATIONAL METHOD PROCEDURE)

JOB NO. _____
 PROJECT _____
 DESIGN STORM _____

STREET	DESIGN POINT		DIRECT RUNOFF							TOTAL RUNOFF			STREET		PIPE			TRAVEL TIME			REMARKS	
	AREA DESIGN (AC)	AREA (AC)	AREA C-A (AC)	t_c (MIN)	I IN/HR	Q (CFS)	t_c (MIN)	I (IN/HR)	$\Sigma(C \cdot A)$ (AC)	Q (CFS)	SLOPE (%)	STREET FLOW (CFS)	DESIGN FLOW (CFS)	SLOPE (%)	PIPE SIZE	LENGTH (FT)	VELOCITY (FPS)	t (MIN)				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	
1																						
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						

**STANDARD FORM SF-10
CULVERT RATING**

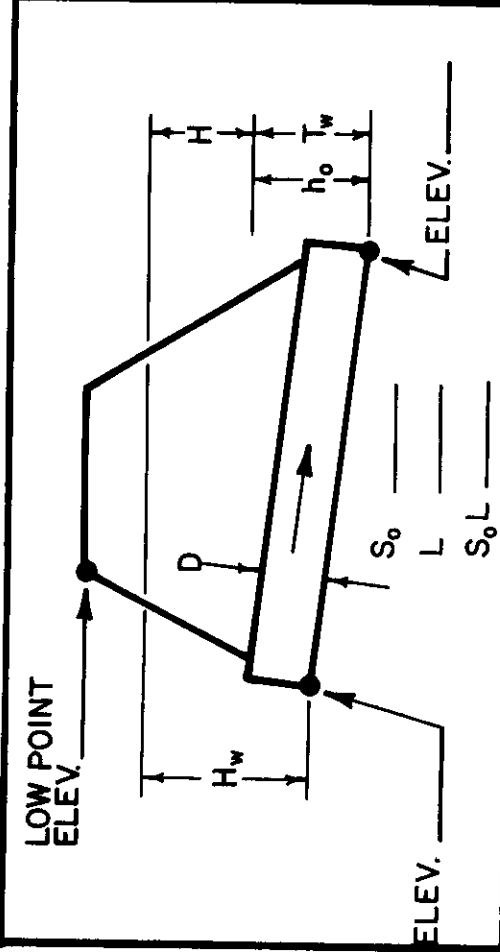
PROJECT: _____ LOCATION: _____ STATION: _____

CULVERT DATA

TYPE: _____ n: _____
 INLET: _____ Q_{FULL}: _____
 K_e: _____ V_{FULL}: _____

OUTLET CONTROL EQUATIONS

(1) $H_w = H + h_0 - LS_0$
 (2) For $T_w < D$; $h_0 = \frac{d_c + D}{2}$ or T_w (whichever is greater)
 $T_w > D$; $h_0 = T_w$
 (3) For Box Culvert: $d_c = 0.315(Q/B)^{2/3} \leq D$



Q	INLET CONTROL		OUTLET CONTROL				CONT. H_w	CONTROL ELEV.			
	$\frac{H_w}{D}$	H_w	H	T_w	$T_w \leq D$	$T_w > D$					
	2	3	4	5	6	7	8	9	10	11	12

STANDARD FORM SF-11 SEQUENTIAL DETENTION CALCULATION

SUBDIVISION _____

CALCULATED BY _____ DATE _____

10-YEAR

FACILITY NUMBER (1)	SINGULAR DETENTION					SEQUENTIAL DETENTION			
	BASIN AREA (A) Ac (2)	Q _i CFS (3)	IMP % (4)	K Ft (5)	Q _i / A CFS/Ac (6)	Σ Q CFS (7)	Z Ac (8)	S _m Ac-Ft (9)	Q _m CFS (10)

100-YEAR

$\Sigma Q = Q_i + \text{Previous } Q_m$
 $Z = \Sigma Q / (Q_i / A)$
 $S_m = KZ$