SURVEYED BY .....
SUPERVISED BY AAA
DESIGNED BY Dewberry (703) 849-0607

COMMONWEALTH OF VIRGINIA
DAVID JOHN MAHONEY
Lic. No. 020798
PROFESSIONAL ENGINEER

IN PROGRESS 09/26/08
NOT FOR CONSTRUCTION

DRAINAGE SUMMARY

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

REVISED	FHWA REGION	STATE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
	3	VA.		7		2C(15)

LOCATION: STRUCTURE NO. TO STRUCTURE NO.	LOCATION: STATION OF UPSTREAM STRUCTURE	PIPE: CONCRETE PIPE DIAMETER (INCHES) 15	18	24	30	36	42	48	54	60	72		Elliptical Pipe 23x14	30x19	45x29	68x43	76x48	Box Culvert (see sheet 2C(16)) 6x4	24x6.67	End Sections ES-1 15	18	End Section ES-1 or ES-2 15	18	24	30	60	RADIAL PIPE 15		COVER	MINOR STRUCTURE EXCAVATION		EROSION CONTROL TREATMENT: EC-3 Type B	EC-1 Class AI Type A	EC-1 Class I Type B	EC-1 Class I	MISC. STRUCTURES AND MATERIALS: MANHOLE MH-1 OR 2	Mod. SWM-1	HDPE pipe	Level Spreader	JB-1	Special Design JB	Precast Arch	EC-2	EC-3 Type A	PIPE CULVERT CONN.: CLASS A3	REINF. STEEL		CONC. CRADLE: CLASS A3 CONC	ENDWALLS: CLASS A3	REINF. STEEL		Special Design EW	Cement for JB	Steel for JB	BEDDING MATERIAL Aggregate No.57			REMARKS
		LINEAR FEET																											FT.	CY.	%	SQY.				LF.	EA	42"	EA	EA	EA	LF	SY	SY	CY	LB		CY	CY	LB		EA	CY	LB	TON			
10-11																																				6					1											0.969	389.3				
10-12																						1																																				
10-12 to 10-4		11																											2.6																													
11-1 to 11-2		40																											2.5																													
11-2 to 11-10		27																											3.0																													
11-3 to 11-4				86																									3.1																													
11-4 to 11-7				100																									4.6																													
11-5 to 11-7		88																											2.8																													
11-6 to 11-5		212																											2.8																													
11-7 to 11-11					34																								4.1																													
11-8 to 11-2		102																											2.7																													
11-9 to 11-6		67																											2.5																													
11-10 to 11-3			35																										2.6																													
Sheet 12	140+40																																			29.65						40															precast arch extension
12-1 to 12-9		75																											10.2																													
12-3 to 12-6		43																											2.5																													
12-4 to 12-5		150																											2.5																													
12-5 to 12-6		85																											2.8																													
12-6 to 12-7		56																											2.8																													
12-7 to 12-8		20																											2.8																													
12-8																						1										2.6																											
12-9																						1														1.6																						
13-1 to 13-2		98																											2.7																													
13-2 to 13-3		31																											3.0																													
13-3 to 13-4		116																											3.7																													
13-4 to 13-5		17																											4.0																													
13-5 to 13-6			35																										2.9																													
13-6 to 13-7				17																									2.4																													
13-7																								1								6.7																											
13-8 to 13-9		138																											2.5																													
13-9 to 13-6		32																																																								
13-10 to 13-6		66																																																								
13-11 to 13-4		76																																																								
T1		7																																									70														See Sheet 1,1(4)
T2		60																																									125														See Sheet 1,1(7)
SUBTOTAL		1617	70	203	34																	3		1								9.3				2966.6	6					1	40	125	70								0.969	389.3				

LOCATION: SHEET NO.		PIPE: CONCRETE PIPE DIAMETER (INCHES) 15	18	24	30	36	42	48	54	60	72		Elliptical Pipe 23x14	30x19	45x29	68x43	76x48	Box Culvert (see sheet 2C(16)) 6x4	24x6.67	End Sections ES-1 15	18	End Section ES-1 or ES-2 15	18	24	30	60	RADIAL PIPE 15	RADIAL PIPE 60	COVER	MINOR STRUCTURE EXCAVATION		EROSION CONTROL TREATMENT: EC-3 Type B	EC-1 Class AI Type A	EC-1 Class I Type B	EC-1 Class I	MISC. STRUCTURES AND MATERIALS: MANHOLE MH-1 OR 2	Mod. SWM-1	HDPE pipe	Level Spreader	JB-1	Special Design JB	Precast Arch	EC-2	EC-3 Type A	PIPE CULVERT CONN.: CLASS A3	REINF. STEEL		CONC. CRADLE: CLASS A3 CONC	ENDWALLS: CLASS A3	REINF. STEEL		Special Design EW	Cement for JB	Steel for JB	BEDDING MATERIAL Aggregate No.57			REMARKS
		LINEAR FEET																											FT.	CY.	%	SQY.				EA	LF	42"	EA	EA	EA	LF	SY	SY	CY	LB		CY	CY	LB		EA	CY	LB	TON			
2C(4)	SUBTOTAL		312	1958											176									2								6.7			15.1	41.6			1															7.75					
2C(5)	SUBTOTAL	73		346	28																	4	1									37.5			20.8																		6.83					
2C(6)	SUBTOTAL	471		383													287					1		4								22.6	4.0													6.0	1,232			132	1000		1			133			
2C(7)	SUBTOTAL	1005	122				268	434									77																100	42.2		5.43		166							11.1	2,367						2			27.2			
2C(8)	SUBTOTAL	1040		54			450	658																1								6.7		100				208								12.5	2,618						2			22.8			
2C(9)	SUBTOTAL	940	528																								125																																
2C(10)	SUBTOTAL	586	170	235									419	326																																														
2C(11)	SUBTOTAL	350	198	197	271					246																		92								15.87				1	1												1.93	55.3				
2C(12)	SUBTOTAL	522	204	50				26		45																1						41.7		40	69	3.65	3			1									12	9.55			0.679	276.5	22			
2C(13)	SUBTOTAL	455	216	458				30															1	1								6.7	4.0		1	5.0															6.55					34			
2C(14)	SUBTOTAL	521		613		153			47		233					94										1														3														37.3	116.8	35.8			
2C(15)	SUBTOTAL	1617	70	203	34																	3		1								9.3			29.66.6	6					1	40	125	70								0.969	389.3				
GRAND TOTAL		7580	1820	4497	333	153	718	1148	47	351	233		419	326	176	94	364					8	2	9		2	125	92				98	108	183	307.3	41	3	37.4	1	5	2	40	125	70	30	62.17		12	163	1000		5	6	183.4	1010			

NOTE: BOX CULVERT SUMMARY IS ON SHEET 2C(16)

PLAN NO.	PROJECT	FILE NO.	SHEET NO.
A			2C(15)