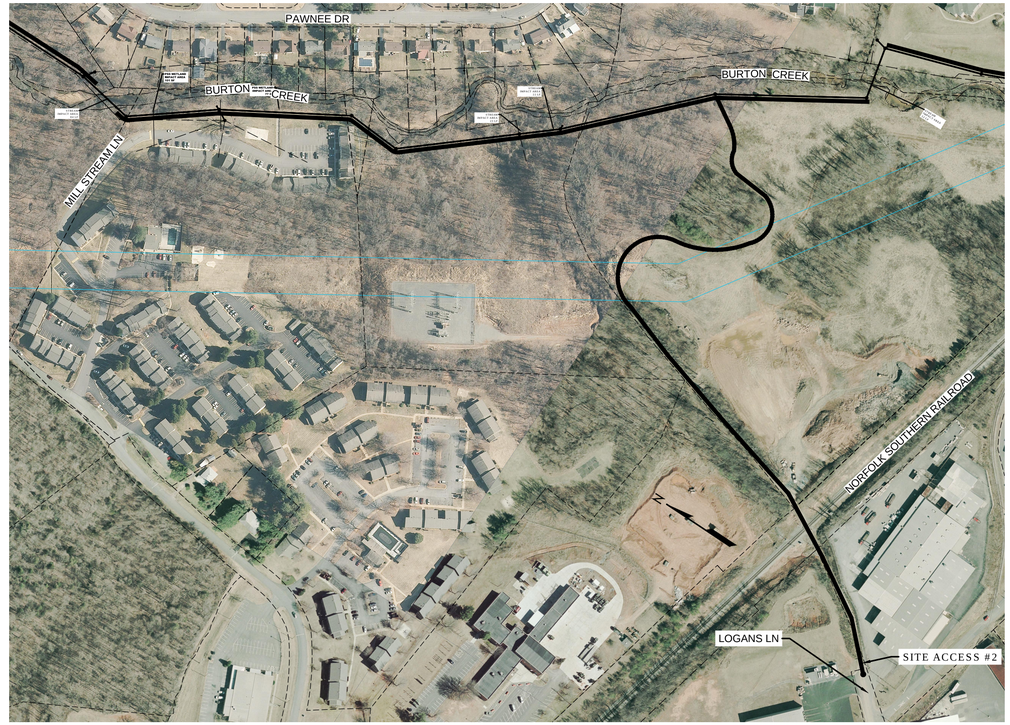
SITE ACCESS #1

SCALE: 1" = 150'

SITE ACCESS #3

SCALE: 1" = 150'



SITE ACCESS #2

SCALE: 1" = 200'

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4/15/16
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CITY OF LYNCHBURG
DEPARTMENT OF WATER RESOURCES
BURTON CREEK INTERCEPTOR

LYNCHBURG, VIRGINIA

MRK	DATE	REVISION DESCRIPTION

COMM NO:	214042.01
DATE:	APRIL 13, 2016
DRAWN: CTS	DESIGN: CTS
CHECK: GKT	
SHEET TITLE	
SITE ACCESS	
SHT. NO. C-110	REV. NO. 0

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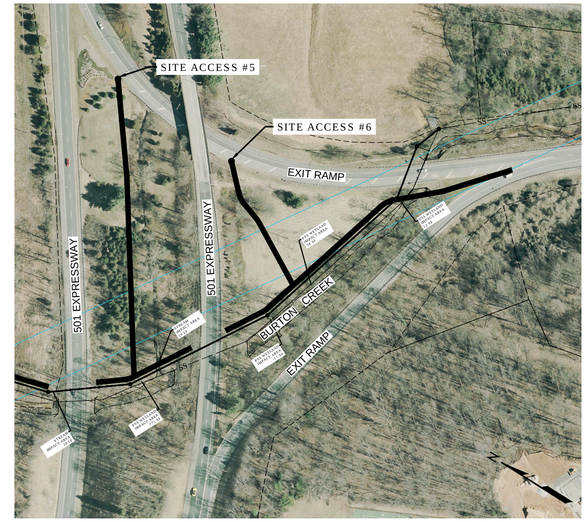

SITE ACCESS #5 & 6
SCALE: 1" = 150'

SITE ACCESS #7
SCALE: 1" = 150'

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SHEET TITLE	
SITE ACCESS	
SHT. NO. C-111	REV. NO. 0

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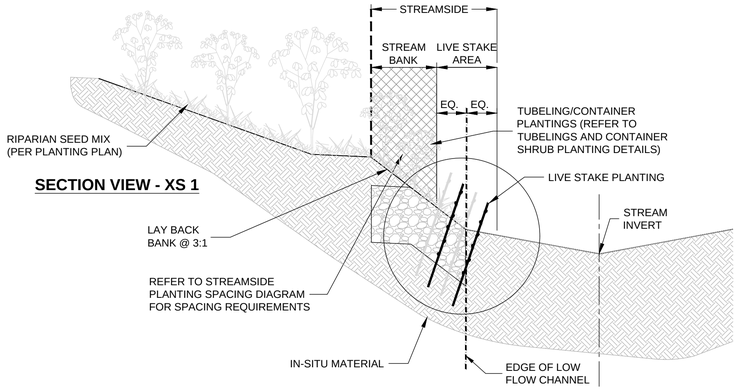
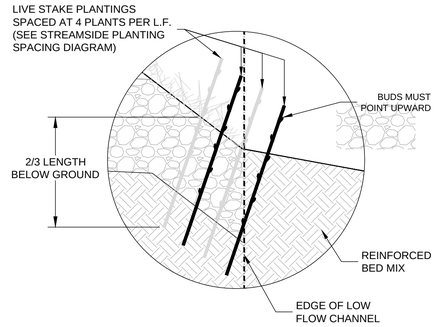


SECTION VIEW - XS 1

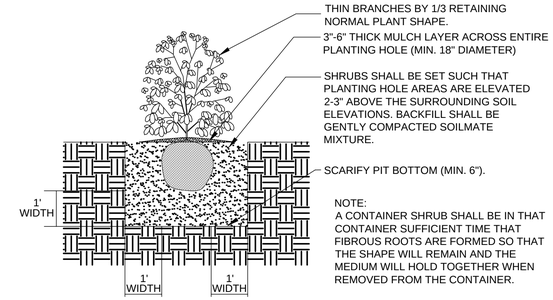


LIVE STAKE PLANTING NOTES

1. LIVE STAKES SHALL ONLY BE PLANTED BETWEEN FEBRUARY 1ST AND MARCH 31ST. TUBELINGS MAY BE SUBSTITUTED FOR LIVE STAKES WHEN NEEDED. TUBELINGS SHALL ONLY BE PLANTED BETWEEN SEPTEMBER 30TH AND APRIL 30TH.
2. CONTRACTOR SHALL USE A PLANTING BAR TO PUNCH A HOLE FOR THE CUTTING.
3. ROOTS SHALL BE TREATED WITH ROOT GROWTH HORMONE PRIOR TO PLANTING.
4. LIVE STAKES SHOULD BE 18" TO 24" IN LENGTH AND 1/2" TO 1 1/2" IN DIAMETER.
5. INSTALL THE LIVE STAKE WITH THE CORRECT SIDE UP (SEE STREAMSIDE PLANTING SECTION VIEW). LIVE STAKES SHOULD BE CUT ON AN ANGLE ON THE BOTTOM AND FLAT ON THE TOP. WHEN HELD WITH THE CORRECT END UP, THE BUDS MUST POINT UPWARD.
6. TWO-THIRDS (2/3) OF THE LIVE STAKE LENGTH MUST BE PLANTED BELOW GRADE. AS LONG AS A FEW BUDS ARE EXPOSED AT THE TOP, MORE THAN TWO-THIRDS (2/3) OF LIVE STAKE MAY BE BELOW GRADE.
7. TAMP IN AROUND THE CUTTING TO ENSURE THAT THERE ARE NO AIR POCKETS ALONG THE STEM. THE PLANTING BAR MAY BE USED TO PUSH THE SOIL IMMEDIATELY AROUND THE STEM AND PUSH IN THE SOIL TOWARD THE PLANT.
8. REFER TO STREAMSIDE PLANTING PLACEMENT DIAGRAM FOR SPECIFIC GUIDANCE FOR PLANT PLACEMENT ALONG STREAM.

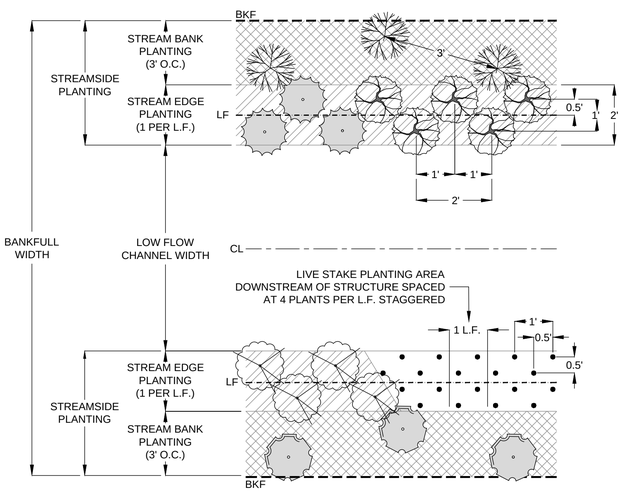
STREAM STABILIZATION DETAIL

NOT TO SCALE



CONTAINER SHRUB PLANTING DETAIL

NOT TO SCALE



STREAMSIDE PLANTING SPACING DIAGRAM

STREAMBANK PLANTING SCHEDULE											
CONTAINER PLANTING ZONE	SPECIES GROUP	SPECIES	INDICATOR STATUS (AGCP)	INDICATOR STATUS (EMP)	WILDLIFE VALUE				PLANT SPACING	CONTAINER SIZE, RATE AND QUANTITY	
					FUNCTIONS	PRIMARY SPECIES	PLANT PART	SEASON		PLANTS PER ACRE	# OF PLANT
STREAM BANK	4	ALNUS SERRULATA (BROOKSIDE ALDER)	FACW	OBL	FOOD, REPRODUCTIVE AREAS	FINCHES, SPARROWS, DOVES, YELLOW WARBLER, SONG SPARROW, OTHER SONG BIRDS	SEEDS, BUDS, STEMS	SUMMER, FALL, WINTER	3' OC	4800 ONE-GALLON --OR-- 9600 TUBELINGS --OR-- MIX AT 1:2 RATIO	791 BASED ON ONE-GALLON
		ARONA ARBUTIFOLIA (RED CHOKEBERRY)	FACW	FACW	FOOD, COVER, REPRODUCTIVE AREAS	FINCHES, SPARROWS, DOVES, YELLOW WARBLER, SONG SPARROW, OTHER SONG BIRDS	FLOWER, FRUIT	SUMMER, FALL, WINTER			
		CEPHALANTHUS OCCIDENTALIS (BUTTONBUSH)	OBL	OBL	FOOD, COVER, REPRODUCTIVE AREAS	CATBIRD, THRASHER, THRUSHES, CEDAR WAXINGS, RABBITS	FLOWER, FRUIT	SUMMER, FALL, WINTER			
		ILEX VERTICILLATA (COMMON WINTERBERRY)	FACW	FACW	FOOD, COVER, REPRODUCTIVE AREAS	BLUEBIRD, CATBIDD, BROWN THRASHER, ROBIN, YELLOW BELLIED SAPSUCKER, MOCKINGBIRD	FLOWER, SEED, LEAVES	ALL			
		VIBURNUM DENTATUM (SOUTHERN ARROWWOOD)	FACU	FAC	FOOD, COVER, REPRODUCTIVE AREAS	PURPLE FINCH, GOLDFINCH, ROBIN, JUNCO, BLUEBIRD, HERMIT THRUSH	FLOWER, FRUIT	SUMMER, FALL, WINTER			

NOTES:

1. CONTRACTOR SHALL PROVIDE 4 OF THE 5 SPECIES IN THE STREAMBANK PLANTING SCHEDULE.
2. SUBSTITUTIONS FOR SELECT SPECIES BASED ON AVAILABILITY SHALL BE REQUESTED IN WRITING TO THE ENGINEER.
3. SPECIES SHALL BE RANDOMLY PLANTED THROUGHOUT THE PLANTING AREAS.

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SANITITE® HP TRENCH INSTALLATION DETAIL

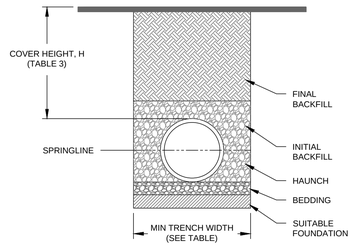


TABLE 1, RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN TRENCH WIDTH
12"	30"
15"	34"
18"	39"
21"	43"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
60"	96"

TABLE 2, MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

	SURFACE LIVE LOADING CONDITION	
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

TABLE 3, MAXIMUM COVER FOR ADS SANITITE HP PIPE, FT

	CLASS I	CLASS II	
PIPE DIAM.	COMPACTED	95%	90%
12"	39	27	20
15"	42	29	21
18"	36	25	18
21"	39	27	19
24"	31	22	16
30"	30	22	16
36"	31	22	15
42"	33	23	17
48"	34	24	17
60"	32	22	16

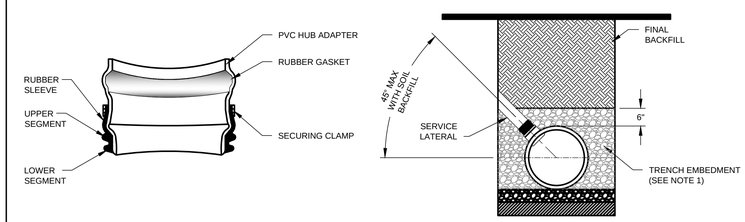
FILL HEIGHT TABLE GENERATED USING AASHTO SECTION 12, LOAD RESISTANCE FACTOR DESIGN (LRFD) PROCEDURE WITH THE FOLLOWING ASSUMPTIONS: NO HYDROSTATIC PRESSURE, UNIT WEIGHT OF SOIL (γs) = 120 PCF
COORDINATE WITH ADS REPRESENTITIVE FOR USE WITH CLASS III MATERIAL

NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDER-GROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 12"-24" DIAMETER PIPE (300mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm) DIAMETER PIPE. THE MIDDLE 1/3 BENEATH THE PIPE INVERT SHALL BE LOOSELY PLACED.
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" (300mm) FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS; CLASS I OR II MATERIAL COMPACTED TO 90% SPD IS REQUIRED. MINIMUM COVER, H, IS 12" (300mm) UP TO 48" (1200mm) DIAMETER PIPE AND 24" (600mm) OF COVER FOR 60" (1500mm) DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

STD-110

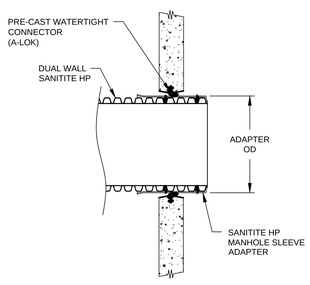
INSERTA TEE® INSTALLATION (FOR SANITITE® CONNECTIONS ONLY)



NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION. REFERENCE ADS STD. DETAIL STD-101 FOR TRENCH CONSTRUCTION RECOMMENDATIONS.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. THE INSERTA TEE CONNECTION SHOULD NOT BE PLACED AT AN ANGLE EXCEEDING 45° FROM THE SPRINGLINE. GREATER ANGLES ARE SUBJECT TO DESIGN ENGINEER APPROVAL AND MAY REQUIRE ALTERNATE BACKFILL.
4. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
5. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).
6. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
7. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.
8. CONTACT INSERTA TEE FOR PART ASSEMBLY AND INSTALLATION INTO MAINLINE PIPE, INCLUDING SIZING CONFIGURATIONS AND WHOLE SAW SIZING REQUIREMENTS.

12"-24" DUAL WALL SANITITE® HP WATERTIGHT CONNECTION USING A PRE-CAST COMPRESSION GASKET W/SANITITE® HP MANHOLE SLEEVE ADAPTER



	SANITITE HP MANHOLE ADAPTER		
PIPE SIZE (IN)	ADAPTER OD (IN)	ADS ADAPTER PRODUCT CODES	A-LOK®PREMIUM GASKET *
12	15.3	1222AAPP	490
15	18.3	1522AAPP	580
18	22.0	1822AAPP	710
24	29.0	2422AAPP	915

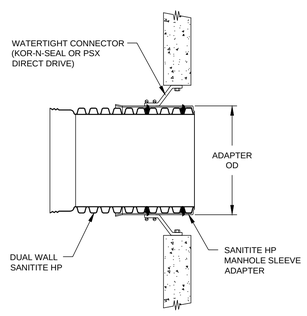
*** THIRD PARTY - CODES AS SUPPLIED BY MANUFACTURER**
A-LOK IS A REGISTERED TRADEMARK OF A-LOK PRODUCTS, INC.
(WWW.A-LOK.COM)

NOTES:

1. PERFORMANCE HIGHLY DEPENDENT ON INSTALLATION. CONTRACTOR MUST ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.
2. SEE STANDARD DETAIL STD-201.

STD-205A

12"-24" DUAL WALL SANITITE® HP WATERTIGHT CONNECTION USING A MANHOLE BOOT W/SANITITE® HP MANHOLE SLEEVE ADAPTER



	SANITITE HP MANHOLE ADAPTER				
			KOR-N-SEAL®*		PSX DIRECT DRIVE®*
PIPE SIZE (IN)	ADAPTER OD (IN)	ADS ADAPTER PRODUCT CODES	SERIES I OR II	SERIES 306	PSX: DIRECT DRIVE*
12	15.3	1222AAPP	S106-208WS	N/A	18M or 20Y
15	18.3	1522AAPP	S206-22	S306-22	22M
18	22.0	1822AAPP	S206-26	S306-26	26L
24	29.0	2422AAPP	S206-32	S306-32	32A

*** THIRD PARTY - CODES AS SUPPLIED BY MANUFACTURER**
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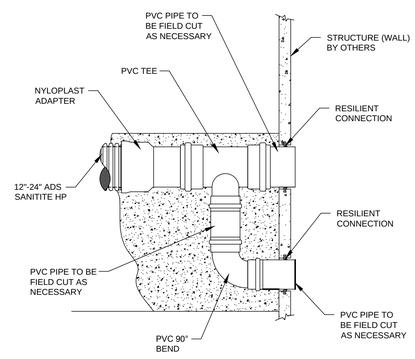
PSX:DIRECT DRIVE IS A REGISTERED TRADEMARK OF PRESS-SEAL GASKET CORPORATIO
(www.press-seal.com)

NOTES:

1. PERFORMANCE HIGHLY DEPENDENT ON INSTALLATION. CONTRACTOR MUST ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.
2. SEE STANDARD DETAIL STD-201.

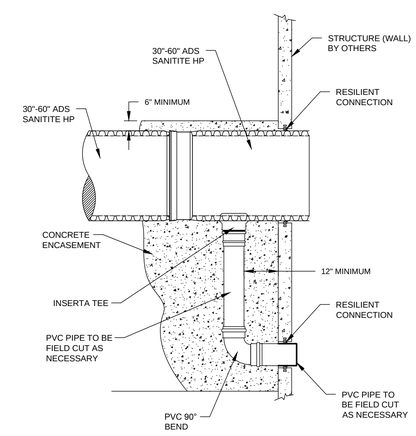
STD-205D

12" - 24" SANITITE® HP OUTSIDE DROP MANHOLE



STD-210

30" - 60" SANITITE® HP OUTSIDE DROP MANHOLE



STD-211

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CLASSES OF EMBEDMENT AND BACKFILL MATERIALS

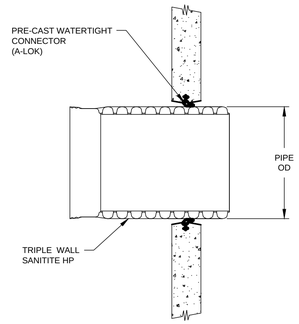
ASTM D2321 [1] (CSA B182.11) CLASS DESCRIPTION		ASTM D2487		AASHTO M43 NOTATION	AASHTO M145 NOTATION	BNQ 2560	ASTM D2321 [1] (CSA B182.11)							
							PERCENTAGE PASSING SIEVE SIZES				ATTERBERG LIMITS		COEFFICIENTS	
		NOTATION	DESCRIPTION				1 1/2 IN. (40mm)	3/8" (9.5mm)	No. 4 (4.75mm)	NO. 200 (0.075mm)	LL	PI	Cu	Cc
I [2]	CRUSHED ROCK, ANGULAR [3]	N/A	ANGULAR CRUSHED STONE OR ROCK, CRUSHED GRAVEL, CRUSHED SLAG; LARGE VOIDS WITH LITTLE OR NO FINES	5, 56, 57 [4] 6, 67 [4]	N/A		100	<25%	<15%	<12%	NON PLASTIC		N/A	
II	CLEAN, COARSE-GRAINED SOILS	GW	WELL-GRADED GRAVEL, GRAVEL-SAND MIXTURES; LITTLE OR NO FINES	5, 6	A1, A3	CG-14, MG-20	100		<50% of "COARSE FRACTION"	<5%	NON PLASTIC		>4	1 to 3
		GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES; LITTLE OR NO FINES	56, 57, 67									4	<1 or >3
		SW	WELL-GRADED SANDS, GRAVELLY SANDS; LITTLE OR NO FINES						>50% of "COARSE FRACTION"				>6	1 to 3
		SP [5]	POORLY-GRADED SANDS, GRAVELLY SAND; LITTLE OR NO FINES										<6	<1 or >3
	COARSE-GRAINED SOILS, BODERLINE CLEAN TO W/FINES	GW-GC, SP-SM	SANDS AND GRAVELS WHICH ARE BORDERLINE BETWEEN CLEAN AND WITH FINES	N/A			100		VARIES	5% TO 12%	NON PLASTIC		SAME AS FOR GW, GP, SW AND SP	
III	COURSE-GRAINED SOILS WITH FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES	GRAVEL & SAND WITH <10% FINES	A-2-4, A-2-5, A-2-6, OR A-4 OR A-6 SOILS WITH MORE THAN 30% RETAINED ON #200 SIEVE		100		<50% of "COARSE FRACTION"	12% TO 50%	N/A	<4 OR <"A" LINE	N/A	
		GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES									<7 & >"A" LINE		
		SM	SILTY SANDS, SAND-CLAY MIXTURES						>50% of "COARSE FRACTION"			>4 OR <"A" LINE		
		SC	CLAYEY SANDS, SAND-CLAY MIXTURES									>7 & >"A" LINE		
	INORGANIC FINE-GRAINED SOILS	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY						100	> 30% (RETAINED)	<50	<4 OR <"A" LINE		
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY; GRAVELLY, SANDY, OR SILTY CLAYS; LEAN CLAYS							> 30% (RETAINED)		>7 & >"A" LINE		

NOTES:

1. REFER TO ASTM D2321 / CSA B182.11 / BNQ 2560 FOR MORE COMPLETE SOIL DESCRIPTIONS.
2. CLASS I MATERIALS ALLOW FOR A BROADER RANGE OF FINES THAN PREVIOUS VERSIONS OF D2321 / B182.11. WHEN SPECIFYING CLASS I MATERIAL FOR INFILTRATION SYSTEMS, THE ENGINEER SHALL INCLUDE A REQUIREMENT FOR AN ACCEPTABLE LEVEL OF FINES.
3. ALL PARTICLE FACES SHALL BE FRACTURED.
4. ASSUMES LESS THAN 25% PASSES THE 3/8" SIEVE.
5. UNIFORM FINE SANDS (SP) WITH MORE THAN 50% PASSING A 100 SIEVE BEHAVE LIKE SILTS AND SHOULD BE TREATED AS CLASS III SOILS IF ALLOWED.

STD-115

30"-60" TRIPLE WALL SANITITE® HP WATERTIGHT CONNECTION USING A PRE-CAST COMPRESSION GASKET



PIPE SIZE (IN)	PIPE OD (IN)	A-LOK® PREMIUM CONNECTOR **	***MIN. MH DIAMETER (IN)
30	35.3	1130	60
*36	41.2	1330	60
42	47.3	1510	72
48	53.8	1707	72
60	66.7	2080	96

***IN ORDER FOR 36" SANITITE HP TO WORK IN A 60" MANHOLE, THE WALL THICKNESS WILL NEED TO BE 6"**

**** THIRD PARTY - CODES AS SUPPLIED BY MANUFACTURER**
A-LOK IS A REGISTERED TRADEMARK OF A-LOK PRODUCTS, INC. (WWW.A-LOK.COM)

***APPLICABLE FOR 140-220 DEGREE ANGLES. FOR AND OTHER ANGLE CONTACT AN ADS REPRESENTATIVE

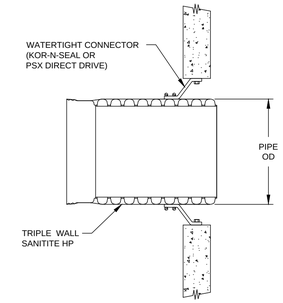
A-LOK PREMIUM PRODUCT CODES ARE APPLICABLE TO EITHER ROUND OR FLATWALL STRUCTURES

NOTES:

1. PERFORMANCE HIGHLY DEPENDENT ON INSTALLATION. CONTRACTOR MUST ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.
2. SEE STANDARD DETAIL STD-201.

STD-205B

30"-60" TRIPLE WALL SANITITE® HP WATERTIGHT CONNECTION USING A MANHOLE BOOT



PIPE SIZE (IN)	PIPE OD (IN)	KOR-N-SEAL® * SERIES 306	PRESS SEAL PSX: DIRECT DRIVE *
30	35.3	S306-38L-40	40L
36	41.2	S306-44L-46	46L
42	47.3	CONTACT ADS	CONTACT ADS
48	53.8		
60	66.7		

*** THIRD PARTY - CODES AS SUPPLIED BY MANUFACTURER**
KOR-N-SEAL IS A REGISTERED TRADEMARK OF NPC, INC (www.npc.com)
PSX-DIRECT DRIVE IS A REGISTERED TRADEMARK OF PRESS-SEAL GASKET CORPORATION (www.press-seal.com)

NOTES:

1. PERFORMANCE HIGHLY DEPENDENT ON INSTALLATION. CONTRACTOR MUST ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.
2. SEE STANDARD DETAIL STD-201.

STD-205E

POST INSTALLATION TESTING

DEFLECTION TESTING: WHEN TESTING FOR ALLOWABLE DEFLECTION LIMITS, THE MINIMUM SPECIFIED INSIDE DIAMETER SHOULD BE USED WHEN ESTABLISHING MANDREL SIZING. TABLE 1 LISTS THE INSIDE DIAMETERS THAT RESULT FROM 5% DEFLECTION BASED UPON THE MINIMUM INSIDE DIAMETER. MANDRELS MAY BE OBTAINED FROM A VARIETY OF COMMERCIAL SUPPLIERS.

LEAKAGE TESTING: SANITITE HP MAY BE TESTED IN ACCORDANCE W/ASTM F1417 "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW-PRESSURE AIR." TABLE 2 BELOW SUMMARIZES THE MINIMUM TIME THAT MUST BE REACHED FOR LESS THAN 0.5- OR 1.0-PSI OF PRESSURE DROP, DEPENDING ON THE DIAMETER AND LENGTH OF PIPE BEING TESTED, IN ACCORDANCE WITH ASTM F1417. WHEN THE PIPE IS LARGE ENOUGH TO BE PHYSICALLY ACCESSED, IT MAY BE DESIRABLE TO TEST INDIVIDUAL JOINTS FOR SAFETY REASONS. IN THESE CASES, CONSIDER JOINT TESTING IN ACCORDANCE WITH ASTM C1103, ALSO KNOWN AS A JOINT ISOLATION TEST.

TABLE 1
SANITITE® HP RECOMMENDED MANDREL SETTINGS

PIPE TYPE	PIPE DIAMETER	INSIDE DIAMETER WITH 5% DEFLECTION[1]
DUAL WALL	12	11.31
	15	14.11
	18	17.03
	21	19.71
	24	22.71
	30	28.30
TRIPLE WALL	30	28.14
	36	33.63
	42	39.24
	48	44.94
	60	56.34

NOTES:

1. BASED UPON MINIMUM INSIDE DIAMETER PER ASTM F2736 & F2764.

TABLE 2
TIME FOR PRESSURE DROP FOR SANITITE HP (PER ASTM F1417)[1]

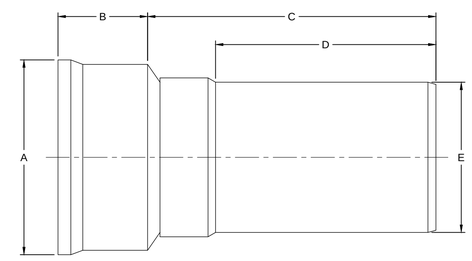
PIPE DIAMETER	PRESSURE DROP (PSI)	MINIMUM TEST TIME (MIN:SEC)	LENGTH FOR MINIMUM TIME, (FT)	TIME FOR LONGER LENGTHS, (SEC)	TIME FOR LENGTH SHOWN, (MIN:SEC)							
					100 FT	150 FT	200 FT	250 FT	300 FT	350 FT	400 FT	450 FT
12	0.5	5:40	199	1.709 L	5:40	5:40	5:42	7:08	8:33	9:58	11:24	12:50
	1.0	11:20		3.418 L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	0.5	7:05	159	2.671 L	7:05	7:05	8:54	11:08	13:21	15:35	17:48	20:02
	1.0	14:10		5.342 L	14:10	14:10	17:48	22:15	26:42	31:09	35:36	40:04
18	0.5	8:30	133	3.846 L	8:30	9:37	12:49	16:01	19:14	22:26	25:38	28:51
	1.0	17:00		7.692 L	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41
21	0.5	9:55	114	5.235 L	9:55	13:05	17:27	21:49	26:11	30:32	34:54	39:16
	1.0	19:50		10.470 L	19:50	26:10	34:54	43:37	52:21	61:00	69:48	78:31
24	0.5	11:20	99	6.837 L	11:24	17:57	22:48	28:30	34:11	39:53	45:35	51:17
	1.0	22:40		13.764 L	22:47	34:11	43:34	56:58	68:22	79:46	91:10	102:33
30	0.5	14:10	80	10.683 L	17:48	26:43	35:37	44:31	53:25	62:19	71:13	80:07
	1.0	28:20		21.366 L	35:37	53:25	71:13	89:02	106:50	124:38	142:26	160:15

NOTES:

1. DATA TAKEN FROM ASTM F1417 AND UNI-BELL, UNI-B-6-98.

ADS SANITITE HP / HP STORM MANHOLE ADAPTER: _ _57AGHPU2

PART #	SIZE	A	B	C	D	* E
1257AGHPU2	12X12 (370mm X 370mm)	16.20 (410mm)	6.50 (165mm)	25.50 (650mm)	19.50 (495mm)	12.50 (320mm)
1557AGHPU2	15X15 (450mm X 450mm)	19.10 (485mm)	7.90 (200mm)	25.50 (650mm)	19.50 (495mm)	15.30 (390mm)
1857AGHPU2	18X18 (540mm X 540mm)	24.40 (620mm)	8.10 (205mm)	25.50 (650mm)	19.50 (495mm)	18.70 (475mm)
2157AGHPU2	21X21 (625mm X 625mm)	27.70 (705mm)	10.30 (260mm)	25.50 (650mm)	19.50 (495mm)	22.05 (560mm)
2457AGHPU2	24X24 (710mm X 710mm)	31.60 (800mm)	10.60 (270mm)	25.50 (650mm)	19.50 (495mm)	24.80 (630mm)
12", 15" 18" & 24" - BLOWMOLDED BELL						
21" - HAND FABRICATED BELL						
* - MANUFACTURED USING SDR 35 SEWER PIPE						



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DATE 11-29-11	PVC		
APPD BY JJC			
DATE 12-7-11			
REVISED BY NMH	PROJECT NO./NAME	TITLE	
DATE 3-13-15		ADS SANITITE HP / HP STORM MANHOLE ADAPTER	
APPD BY NMH			
DATE 3-13-15			
DWG SIZE A	SCALE NTS SHEET 1 OF 1	DWG NO. _57AGHPU2	REV B

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CITY OF LYNCHBURG
DEPARTMENT OF WATER RESOURCES
BURTON CREEK INTERCEPTOR
LYNCHBURG, VIRGINIA

MRK	DATE	REVISION DESCRIPTION

COMM NO: 214042.01
DATE: APRIL 13, 2016
DRAWN: LDB DESIGN: LDB
CHECK: GKT
SHEET TITLE
DETAILS

SHT. NO. C-303
REV. NO. 0

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EROSION & SEDIMENT CONTROL NARRATIVE

I. PROJECT DESCRIPTION
THIS PROJECT CONSIST OF THE REPLACEMENT DESIGN OF APPROXIMATELY 12,160 LINEAR FEET OF THE BURTON CREEK INTERCEPTOR. AREA OF DISTURBANCE IS 5.65 ACRES.

II. EXISTING SITE CONDITIONS
THIS SITE CONSISTS OF A MIX OF ASPHALT, GRAVEL, GRASSY OPEN SPACE, AND WOODED AREA.

III. ADJACENT PROPERTIES
THE PROJECT SITE IS BOUNDED BY BURTON CREEK, ROCK CASTLE CREEK, AND RESIDENTIAL PROPERTIES .

IV. OFF-SITE AREAS
FILL MATERIAL WILL BE OBTAINED FROM AREAS OF EXCAVATION CONTAINED WITHIN THE SITE. UNSUITABLE MATERIAL WILL BE HAULED FROM THE SITE AND DISPOSED OF IN AN APPROVED MANNER. THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION AND SEDIMENT CONTROL PLAN TO THE EROSION AND SEDIMENT CONTROL REGULATOR PERTAINING TO OFF-SITE DISTURBED AREAS (IF ANY SUCH AREAS ARE REQUIRED) SUCH AS STOCKPILES, STAGING AREAS, AND SPOIL AREAS THAT ARE USED FOR THIS PROJECT.

V. SOILS
ACCORDING TO USDA SCS SOIL MAPPING, THE PROJECT SITE LIES ON SOIL TYPES CECIL FINE SANDY LOAM (CcE2), CUT AND FILL LAND (CFL), CHEWACIA LOAM (Ch), CULLEN LOAM (CuC2), GEORGEVILLE LOAM (GeC2), MASADA LOAM (MsB2), TOCCOA FINE SANDY LOAM (To) AND WILKES LOAM (WkE).

CECIL FINE SANDY LOAM (CcE2), 15 TO 25 PERCENT SLOPES, ERODED
CECIL IS FOUND ON HILLSLOPES IN PIEDMONTS AND IS DERIVED FROM RESIDUUM WEATHERED FROM GNEISS AND GRANITE. THE SOIL IS NOT FLOODED AND THE NATURAL DRAINAGE CLASS IS WELL DRAINED. SHRINK-SWELL POTENTIAL IS LOW. THIS SOIL DOES NOT MEET HYDRIC CRITERIA. NONIRRIGATED LAND CAPABILITY CLASSIFICATION IS 6E. THE HYDROLOGIC SOIL GROUP IS B. The Kf FACTOR IS 0.28, THE T FACTOR IS 4.

CUT AND FILL LAND (CFL)
CUT AND FILL LAND IS CREATED FROM ALL MAJOR SOIL COMPONENTS. IT IS A MISCELLANEOUS AREA.

CHEWACIA LOAM (Ch)
CHEWACIA IS FOUND ON FLOOD PLAINS IN PIEDMONTS AND IS DERIVED FROM ALLUVIUM. THE SOIL IS FREQUENTLY FLOODED AND THE NATURAL DRAINAGE CLASS IS POORLY DRAINED. SHRINK-SWELL POTENTIAL IS LOW. THIS SOIL MEETS HYDRIC CRITERIA. NONIRRIGATED LAND CAPABILITY CLASSIFICATION IS 4W. THE HYDROLOGIC SOIL GROUP IS C. The Kf FACTOR IS 0.24, THE T FACTOR IS 5.

CULLEN LOAM (CuE2), 15 TO 25 PERCENT SLOPES, ERODED
CULLEN IS FOUND ON HILLSLOPES IN PIEDMONTS AND IS DERIVED FROM MIXED MAFIC RESIDUUM. THE SOIL IS NOT FLOODED AND THE NATURAL DRAINAGE CLASS IS WELL DRAINED. SHRINK-SWELL POTENTIAL IS MODERATE. THIS SOIL DOES NOT MEET HYDRIC CRITERIA. NONIRRIGATED LAND CAPABILITY CLASSIFICAION IS 4E. THE HYDROLOGIC SOIL GROUP IS C. The Kf FACTOR IS 0.32, THE T FACTOR IS 4.

GEORGEVILLE LOAM (GeC2), 6 TO 15 PERCENT SLOPES, ERODED
GEORGEVILLE IS FOUND ON HILLSLOPES IN PIEDMONTS AND IS DERIVED FROM RESIDUUM WEATHERED FROM SCHIST. THE SOIL IS NOT FLOODED AND THE NATURAL DRAINAGE CLASS IS WELL DRAINED. SHRINK-SWELL POTENTIAL IS LOW. THIS SOIL DOES NOT MEET HYDRIC CRITERIA. NONIRRIGATED LAND CAPABILITY CLASSIFICATION IS 4E. THE HYDROLOGIC SOIL GROUP IS B. The Kf FACTOR IS 0.32, THE T FACTOR IS 4.

MASADA LOAM (MsB2), 2 TO 6 PERCENT SLOPES, ERODED
MASADA IS FOUND ON HILLSLOPES IN PIEDMONTS AND IS DERIVED FROM ALLUVIUM. THE SOIL IS NOT FLOODED AND THE NATURAL DRAINAGE CLASS IS WELL DRAINED. SHRINK-SWELL POTENTIAL IS LOW. THIS SOIL DOES NOT MEET HYDRIC CRITERIA. NONIRRIGATED LAND CAPABILITY CLASSIFICATION IS 2E. THE HYDROLOGIC SOIL GROUP IS C. The Kf FACTOR IS 0.32, THE T FACTOR IS 4.

TOCCOA FINE SANDY LOAM (To),
TOCCOA IS FOUND ON FLOODPLAINS IN PIEDMONTS AND IS DERIVED FROM ALLUVIUM. THE SOIL IS FREQUENTLY FLOODED AND THE NATURAL DRAINAGE CLASS IS MODERATELY WELL DRAINED. SHRINK-SWELL POTENTIAL IS MODERATE. THIS SOIL DOES NOT MEET HYDRIC CRITERIA. NONIRRIGATED LAND CAPABILITY CLASSIFICATION IS 3W. THE HYDROLOGIC SOIL GROUP IS B. The Kf FACTOR IS 0.10, THE T FACTOR IS 4.

WILKES LOAM (WkE), 15 TO 25 PERCENT SLOPES
WILKES IS FOUND ON HILLSLOPES IN PIEDMONTS AND IS DERIVED FROM MIXED MAFIC RESIDUUM. THE SOIL IS NOT FLOODED AND THE NATURAL DRAINAGE CLASS IS WELL DRAINED. SHRINK-SWELL POTENTIAL IS LOW. THIS SOIL DOES NOT MEET HYDRIC CRITERIA. NONIRRIGATED LAND CAPABILITY CLASSIFICATION IS 7E. THE HYDROLOGIC SOIL GROUP IS C. The Kf FACTOR IS 0.28, THE T FACTOR IS 1.

VI. CRITICAL AREAS
THE STREAM CROSSING IS A CRITICAL COMPONENT OF THE EROSION AND SEDIMENT CONTROL REQUIRED FOR THIS PROJECT. CARE SHALL BE TAKEN TO INSTALL AND MAINTAIN THE STREAM CROSSING IN ACCORDANCE WITH THE DETAIL AND NARRATIVE. THE BED AND THE BANKS OF THE WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.

VII. EROSION AND SEDIMENT CONTROL MEASURES
ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. SYMBOLS, DETAILS, AND DIMENSIONS USED ARE TAKEN FROM THE HANDBOOK, AS WELL AS THE LATEST EDITION OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION'S ROAD AND BRIDGE STANDARDS.

A. STRUCTURAL PRACTICES
1. TEMPORARY STONE CONSTRUCTION ENTRANCE (CE), SPEC. 3.02: A CONSTRUCTION ENTRANCE SHALL BE PROVIDED AS SHOWN ON THE PLANS AT THE EXISTING ROAD. EQUIPMENT WHEELS SHALL BE CLEAN WHEN ENTERING UPON A PAVED ROAD. ALL VEHICLES ENTERING AND EXITING THE PROJECT SITE SHALL USE A CONSTRUCTION ENTRANCE.
2. SILT FENCE (SF), SPEC. 3.05: SILT FENCE BARRIERS SHALL BE PROVIDED WHERE SHOWN AND AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE.
3. UTILITY STREAM CROSSING (USC), SPEC. 3.25: UTILITY STREAM CROSSING SHALL BE PROVIDED TO ENSURE SEDIMENT DOES NOT ENTER THE STREAM FROM CONSTRUCTION WITHIN APPROACH AREAS.

B. VEGETATIVE PRACTICES
1. TEMPORARY SEEDING (TS), SPEC. 3.31: TEMPORARY SEEDING SHALL BE PROVIDED ON SITE TO PROVIDE STABILIZATION UNTIL SITE DEVELOPMENT OCCURS. APPLY SEED BASED ON TEMPORARY SEEDING SCHEDULE SHOWN ON THE PLANS.
2. PERMANENT SEEDING (PS), SPEC. 3.32: PERMANENT SEEDING SHALL BE PROVIDED ON SITE TO PROVIDE STABILIZATION FOR ALL DISTURBED AREAS. APPLY SEED BASED ON TEMPORARY SEEDING SCHEDULE SHOWN ON THE PLANS.
3. MULCHING (MU), SPEC. 3.35: ALL PERMANENT AND TEMPORARY SEEDING SHALL BE STRAW MULCHED IMMEDIATELY UPON COMPLETION OF SEED APPLICATION. STRAW ON STEEP SLOPES SHALL BE ANCHORED UNLESS SEEDING WAS PROVIDED BY MEANS OF A HYDROSEEDING, IN WHICH CASE, MULCHING IS NOT REQUIRED.

C. MINIMUM STANDARDS
MS-1. STABILIZATION OF DENUDED AREAS:
PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN 7 DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN DORMANT OR UNDISTURBED FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

MS-2. STABILIZATION OF SOIL STOCKPILES:
DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

MS-3. PERMANENT VEGETATIVE COVER:
A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM AND MATURE ENOUGH TO SURVIVE AND INHIBIT EROSION.

MS-4. TIMING AND STABILIZATION OF SILT TRAPPING MEASURES:
SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

MS-5. STABILIZATION OF EARTHEN STRUCTURES:
STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.

MS-6. SEDIMENT BASINS AND TRAPS:
SEDIMENT TRAPS AND BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.
A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134-CUBIC YARDS PER ACRE OF DRAINAGE AREA, AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN 3-ACRES.
B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO 3-ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134-CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A 25-YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS UTILIZED.

MS-7. CUT AND FILL SLOPES:
CUT AND FILL SLOPES SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

MS-8. CONCENTRATED RUNOFF DOWN CUT OR FILL SLOPES:
CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.

MS-9. WATER SEEPAGE FROM A SLOPE FACE:
WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.

MS-10. STORM SEWER INLET PROTECTION:
ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

MS-11. STABILIZATION OF OUTLETS:
BEFORE NEWLY CONSTRUCTED STORM WATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

MS-12. WORK IN LIVE WATERCOURSES:
WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.

MS-13. CROSSING A LIVE WATERCOURSE:
WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIALS SHALL BE PROVIDED.

MS-14. APPLICABLE REGULATIONS:
ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.

MS-15. STABILIZATION OF BED AND BANKS:
THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.

MS-16. UNDERGROUND UTILITIES:
UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS, IN ADDITION TO OTHER APPLICABLE CRITERIA:
A. NO MORE THAN 500-LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
B. WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL IS TO BE PLACED ON THE UPHILL SIDE OF TRENCHES.
C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFFSITE PROPERTY.
D. TRENCH BACKFILL MATERIAL SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
F. ALL APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH AT ALL TIMES.

MS-17. CONSTRUCTION ACCESS ROUTES:
WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.

MS-18. TEMPORARY E&S CONTROL MEASURE REMOVAL:
ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE VESCP AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

MS-19. ADEQUACY OF RECEIVING CHANNELS:
PROPERTIES AND WATERWAYS DOWNSTREAM FROM THE DEVELOPMENT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATES OF STORM WATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION.

D. MAINTENANCE: ALL EROSION AND SEDIMENT CONTROL STRUCTURES AND SYSTEMS SHALL BE MAINTAINED, INSPECTED, AND REPAIRED AS NEEDED TO INSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED AT THE END OF EACH DAY AND AFTER EVERY RAINFALL EVENT.
1. DAMAGE TO EROSION CONTROL MEASURES CAUSED BY CONSTRUCTION TRAFFIC OR OTHER ACTIVITY SHALL BE REPAIRED BEFORE THE END OF EACH WORKING DAY.
2. MAINTAIN ALL SEEDED AREAS UNTIL A UNIFORM STAND IS ACCEPTED.
3. (SPEC. 3.02) PROVIDE FOR EQUIPMENT WASHING AS NEEDED TO PREVENT THE TRANSPORT OF SOIL ONTO EXISTING ASPHALT ROADWAYS. ANY SEDIMENT ON THE PAVEMENT SHALL BE REMOVED IMMEDIATELY.
4. (SPEC. 3.05) SILT FENCE BARRIERS WILL BE CHECKED DAILY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL REACHES HALF WAY TO THE TOP OF THE BARRIER.
5. (SPEC. 3.25) CARE MUST BE TAKEN TO INSPECT ANY STREAM CROSSING AREA AT THE END OF EACH DAY TO MAKE SURE THAT THE CONSTRUCTION MATERIALS ARE POSITIONED SECURELY.
6. (SPEC. 3.31 & 3.32) AREAS WHICH FAIL TO ESTABLISH VEGETATIVE COVER ADEQUATE TO PREVENT RILL EROSION WILL BE RESEEDED AS SOON AS SUCH AREAS ARE IDENTIFIED.
7. (SPEC. 3.35) WHERE EROSION OR WASHOUT IS OBSERVED IN MULCHED AREAS, ADDITIONAL MULCH SHOULD BE APPLIED.

VIII. PERMANENT STABILIZATION
ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH SEEDING FOLLOWING GRADING IN ACCORDANCE WITH THE MINIMUM STANDARDS. SEEDING SHALL BE IN ACCORDANCE WITH THE TEMPORARY OR PERMANENT SEEDING SCHEDULES SHOWN ON THIS PLAN. IN ALL SEEDING OPERATIONS, TOPSOIL, SEED, FERTILIZER AND LIME SHALL BE APPLIED PRIOR TO INSTALLATION OF MULCHING OR EROSION CONTROL BLANKETS AND MATTING.

IX. STORMWATER MANAGEMENT
MANAGEMENT OF STORMWATER RUNOFF DURING CONSTRUCTION WILL COMPLY WITH THE EXISTING VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS 9VAC25-840. THE EROSION AND SEDIMENT CONTROL PLANS INDICATE ALL ACTIVITIES AND STRATEGIES NECESSARY TO MINIMIZE EROSION AND SEDIMENTATION DURING CONSTRUCTION.

MANAGEMENT OF STORMWATER RUNOFF AFTER CONSTRUCTION WILL COMPLY WITH THE EXISTING VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATIONS 9VAC25-870. THE STORMWATER MANAGEMENT PLANS INDICATE ALL ACTIVITIES AND STRATEGIES NECESSARY TO COMPLY WITH THE VSMP REGULATIONS AFTER CONSTRUCTION.

THIS PROJECT IS EXEMPT FROM THE VIRGINIA STORMWATER MANAGEMENT ACT BECAUSE IT IS A PROJECT THAT MEETS THE FOLLOWING CRITERIA:
1. DOES NOT SIGNIFICANTLY ALTER THE PRE-DEVELOPEMENT RUNOFF CHARACTERISTICS OF THE LAND SURFACE AFTER THE COMPLETION OF CONSTRUCTION AND FINAL STABILIZATION.
2. THE PROJECT IS MANAGED SO THAT LESS THAN ONE (1) ACRE OF LAND DISTURBANCE OCCURS ON A DAILY BASIS.
3. THE DISTURBED LAND WHERE WORK HAS BEEN COMPLETED IS ADEQUATELY STABILIZED ON A DAILY BASIS.
4. THE ENVIRONMENT IS PROTECTED FROM EROSION AND SEDIMENTATION DAMAGE ASSOCIATED WITH LAND DISTURBING ACTIVITY.

X. SOIL STOCKPILES AND BORROW AREAS
FILL MATERIAL SHALL BE OBTAINED FROM AREAS OF EXCAVATION ON SITE. LOCATIONS OF SOIL STOCKPILES SHALL BE DETERMINED BY THE CONTRACTOR WITH THE APPROVAL OF THE OWNER/DEVELOPER. ALL STOCKPILES SHALL BE LOCATED ON SITE AND PROTECTED WITH SURROUNDING SILT FENCING AND STABILIZED WITH A VEGETATIVE COVER. THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION AND SEDIMENT CONTROL PLAN FOR ALL SOILS INTENTIONALLY TRANSPORTED OFFSITE IF THE TRANSPORTED MATERIAL DISTURBS MORE THAN 10,000 SQUARE FEET IN AREA.

XI. CONTACT PARTY FOR E&S IMPLEMENTATION
THE CONTRACTOR SHALL PROVIDE AN INDIVIDUAL CERTIFIED BY THE DEQ AS A RESPONSIBLE LAND DISTURBER.

(TS) TEMPORARY SEEDING SCHEDULE

PLANTING SPECIES	SPECIES	RATE (LBS/ACRE)
SEPT 1 - FEB 15	50/50 MIX OF ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM) & CEREAL (WINTER) RYE (SECALE CERALE)	50 - 100
FEB 16 - APR 30	ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM)	60 - 100
MAY 1 - AUG 31	GERMAN MILLET (SETARIA ITALICA)	50

(PS) PERMANENT SEEDING SCHEDULE

SITE SPECIFIC SEEDING MIXTURES FOR PIEDMONT AREA

	TOTAL POUNDS PER ACRE
MINIMUM LAWN CARE (COMMERCIAL OR RESIDENTIAL)	175-200 LBS
KENTUCKY 31 OR TURF-TYPE TALL FESCUE	95-100%
IMPROVED PERENNIAL RYEGRASS	0-5%
KENTUCKY BLUEGRASS	0-5%
HIGH MAINTENANCE LAWN CARE	200-250 LBS
KENTUCKY 31 OR TURF-TYPE TALL FESCUE	100%
GENERAL SLOPE (3:1 OR LESS)	
KENTUCKY 31 FESCUE	128 LBS
RED TOP GRASS	2 LBS
SEASONAL NURSE CROP*	20 LBS
	150 LBS
LOW MAINTENANCE SLOPE (STEEPER THAN 3:1)	
KENTUCKY 31 FESCUE	108 LBS
RED TOP GRASS	2 LBS
SEASONAL NURSE CROP*	20 LBS
CROWNVETCH**	20 LBS
	150 LBS

*USE SEASONAL NURSE CROP IN ACCORDANCE WITH SEEDING DATES AS STATED BELOW:

ANNUAL RYE: FEBRUARY 16TH THROUGH APRIL
FOXTAIL MILLET: MAY 1ST THROUGH AUGUST 15TH
ANNUAL RYE: AUGUST 16TH THROUGH OCTOBER
WINTER RYE: NOVEMBER THROUGH FEBRUARY 15TH

**SUBSTITUTE SERICEA LESPEDEZA FOR CROWNVETCH EAST OF FARMVILLE, VA (MAY THROUGH SEPTEMBER USE HULLED SERICEA, ALL OTHER PERIODS, USE UNHULLED SERICEA). IF FLATPEA IS USED IN LIEU OF CROWNVETCH, INCREASE RATE TO 30 LBS/AC. ALL LEGUME SEED MUST BE PROPERLY INOCULATED. WEEPING LOVEGRASS MAY BE ADDED TO ANY SLOPE OR LOW-MAINTENANCE MIX DURING WARMER SEEDING PERIODS; ADD 10-20 LBS/AC IN MIXES.

LIME & FERTILIZER SPECIFICATIONS:

A SOILS TEST IS REQUIRED PRIOR TO FINAL SITE STABILIZATION, TO DETERMINE LIME AND FERTILIZER APPLICATION RATES FOR THE ESTABLISHMENT OF GRASS ON SITE. CONTACT VIRGINIA COOPERATIVE EXTENSION OR A GEOTECHNICAL FIRM WITH SOIL TESTING FACILITIES TO OBTAIN A SOILS REPORT FOR NUTRIENT APPLICATION.

INCORPORATION:
LIME AND FERTILIZER SHALL BE INCORPORATED INT0 THE TOP 4 INCHES OF TOPSOIL BY DISCING OR OTHER MEANS WHENEVER POSSIBLE. FOR EROSION CONTROL, WHEN APPLYING LIME AND FERTILIZER WITH A HYDROSEEDER, APPLY TO A ROUGH, LOOSE SURFACE.

MULCHING:
MULCH WITH STRAW AT A RATE OF 2 TONS/ACRE OR EQUIVALENT.

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COMMONWEALTH OF VIRGINIA
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4/15/16
PROFESSIONAL ENGINEER

CITY OF LYNCHBURG
DEPARTMENT OF WATER RESOURCES
BURTON CREEK INTERCEPTOR
LYNCHBURG, VIRGINIA

MRK	DATE	REVISION DESCRIPTION

COMM NO: 214042.01
DATE: APRIL 13, 2016
DRAWN: LDB DESIGN: LDB
CHECK: GKT
SHEET TITLE
EROSION & SEDIMENT CONTROL NARRATIVE
SHT. NO. C-401
REV. NO. 0

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