REFERENCES
NATIONAL DOCUMENTS

SCDOT DOCUMENTS
SC-M-714
EDM 24
INSTRUCTIONAL BULLETIN 2010-1
QUALIFIED PRODUCT LISTS 1A, 8B

RELATED DRAWINGS & KEYWORDS
714-005-00
714-105-00
714-110-00
714-205-02
714-950-MO

THIS DRAWING IS ONLY VALID FOR CONSTRUCTION WHEN SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF SOUTH CAROLINA. CHECK WWW.SCDOT.ORG FOR LATEST UPDATE.

SOUTH CAROLINA PROFESSIONAL ENGINEER NO. 21242 JAMES W. KENDALL

SIGNATURE
10/22/2015
DATE

#	DATE	CHK	DESCRIPTION
6	---	---	---
5	---	---	---
4	---	---	---
3	---	---	---
2	1/2008	DSC	DETAIL 4 UNDER PART
1	7/2009	DSC	NOTE 2
0	3/2008	DSC	NEW STANDARD

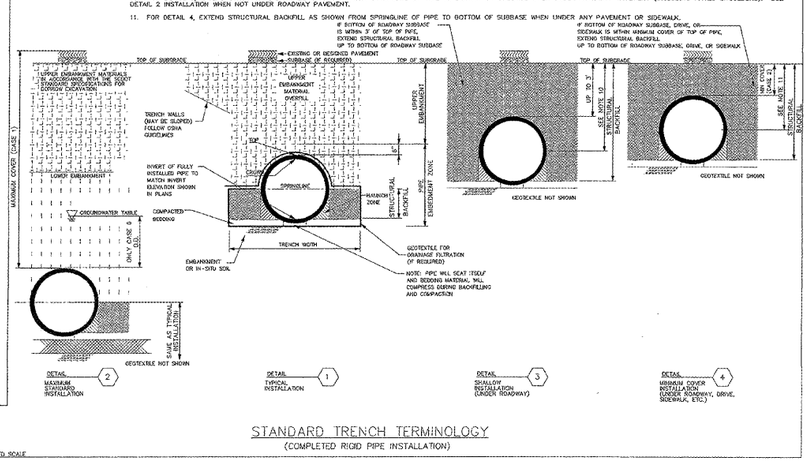
SCDOT
STATE HIGHWAY ADMINISTRATOR
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING
PIPE CULVERTS
RIGID PIPE
COMPLETED
TRENCH
(STANDARD
FOUNDATION)

714-105-00
EFFECTIVE LETTING DATE JAN. 2010 THIS DRAWING IS NOT TO SCALE

NOTES:

1. USE MATERIALS AND METHODS OF CONSTRUCTION FOR PERMANENT PIPE IN CONFORMANCE WITH SCDOT SUPPLEMENTAL SPECIFICATION SC-M-714.
2. SEE SHEET 714-205-XX FOR RCP FILL HEIGHT TABLES.
3. WHEN CONNECTING DISSIMILAR PIPE, USE DRAINAGE STRUCTURE OR DESIGN INTERFACE. DO NOT MIX PIPE TYPE, CLASS, OR DETAILS WITHIN A SINGLE RUN OF PIPE BETWEEN DRAINAGE STRUCTURES. SEE QUALIFIED PRODUCT LIST 14 FOR PRECAST REINFORCED CONCRETE DRAINAGE STRUCTURES.
4. USE AT LEAST THE MINIMUM CLASS OR GAGE REQUIRED TO CARRY THE FILL HEIGHT AS SPECIFIED IN THE STANDARD DRAWING FILL HEIGHT TABLES. WHEN PIPE CLASS IS SPECIFIED IN THE PLANS, CONFIRM THAT THE SPECIFIED CLASS CAN CARRY THE INSTALLED MAXIMUM COVER BEFORE BACKFILLING THE PIPE. IF INSTALLED GRADES VARY FROM THOSE SHOWN IN THE PLANS, CONFIRM THAT PIPE CLASS IS SUFFICIENT TO CARRY THE INSTALLED FILL HEIGHTS. DO NOT REDUCE THE PIPE CLASS BELOW THE CLASS SHOWN IN THE PLANS UNLESS DIRECTED BY THE ENGINEER.
5. USE RIPRAP, BEVELED ENDS, REINFORCED CONCRETE SLAB, WINGWALLS, OR END TREATMENT AS DESCRIBED IN THE PLANS, SCDOT SUPPLEMENTAL SPECIFICATION SC-M-714, OR SCDOT STANDARD DRAWINGS.
6. PIPE EMBEDMENT ZONE BACKFILL MUST MEET OR EXCEED THE MINIMUM MATERIAL AND COMPACTION REQUIREMENTS OF THE ROADWAY EMBANKMENT FOR THE SPECIFIED BURIAL DEPTH WITHOUT DAMAGING THE PIPE.
7. FOR SHALLOW INSTALLATIONS (PAVEMENT ON MINIMUM COVER), INSTALL PIPE EMBEDMENT ZONE MATERIAL TO PREVENT SETTLEMENT AROUND THE PIPE. IF REQUIRED, USE STRUCTURAL BACKFILL MATERIAL OR CLSM TO PREVENT THIS SETTLEMENT.
8. USE THIS INSTALLATION ONLY IN LOCATIONS ABOVE GROUNDWATER TABLE. USE THIS INSTALLATION IN LOCATIONS WHERE PIPE SYSTEM IS NOT SUBJECTED TO PRESSURE HEAD.
9. FOR DETAILS 1 & 2, INSTALL STRUCTURAL BACKFILL AS SHOWN, AND USE BORROW EXCAVATION REQUIREMENTS FOR SOIL ABOVE PIPE EMBEDMENT ZONE.
10. FOR DETAIL 3, EXTEND STRUCTURAL BACKFILL AS SHOWN FROM SPRINGLINE OF PIPE TO BOTTOM OF SUBBASE WHEN UNDER ROADWAY PAVEMENT (INCLUDING PAVED SHOULDERS). USE DETAIL 2 INSTALLATION WHEN NOT UNDER ROADWAY PAVEMENT.
11. FOR DETAIL 4, EXTEND STRUCTURAL BACKFILL AS SHOWN FROM SPRINGLINE OF PIPE TO BOTTOM OF SUBBASE WHEN UNDER ANY PAVEMENT OR SIDEWALK.



STANDARD TRENCH TERMINOLOGY
(COMPLETED RIGID PIPE INSTALLATION)

REFERENCES
NATIONAL DOCUMENTS

SCDOT DOCUMENTS
SCDOT SUPPLEMENTAL SPECIFICATION SC-M-714
ENGINEERING DIRECTIVE MEMO 24
INSTRUCTIONAL BULLETIN 2010-01
SCDOT SUPPLEMENTAL TECHNICAL SPECIFICATION
QUALIFIED PRODUCT LISTS 1A, 8B

RELATED DRAWINGS & KEYWORDS
714-005-00
714-105-00
714-110-00
714-205-02
714-950-MO

THIS DRAWING IS ONLY VALID FOR CONSTRUCTION WHEN SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF SOUTH CAROLINA. CHECK WWW.SCDOT.ORG FOR LATEST UPDATE.

SOUTH CAROLINA PROFESSIONAL ENGINEER NO. 8858 SYLVESTER EARGLE III

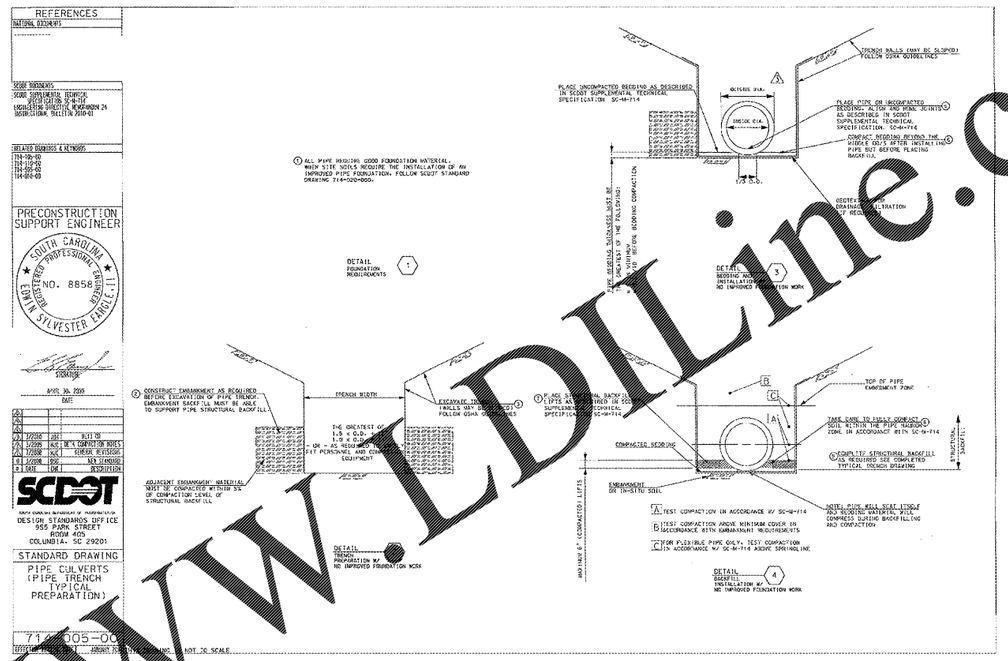
SIGNATURE
APRIL 30, 2010
DATE

#	DATE	CHK	DESCRIPTION
6	---	---	---
5	---	---	---
4	---	---	---
3	---	---	---
2	1/2008	JBC	BLD 10
1	1/2008	JBC	BLD 10 & CONFLICTING NOTES
0	7/2006	DLC	CORRECT REVISIONS
0	1/2006	DSC	NEW STANDARD

SCDOT
STATE HIGHWAY ADMINISTRATOR
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING
PIPE CULVERTS
(PIPE TRENCH
TYPICAL
PREPARATION)

714-005-00
EFFECTIVE LETTING DATE JANUARY 2010 THIS DRAWING IS NOT TO SCALE



REFERENCES
NATIONAL DOCUMENTS
AASHTO M36, M189, M170, M189, M221, M205, M295, M302, M315, M198, T104, ASTM A700

SCDOT DOCUMENTS
SCDOT SUPPLEMENTAL TECHNICAL SPECIFICATION SC-M-714
ENGINEERING DIRECTIVE MEMO 24
INSTRUCTIONAL BULLETIN 2010-01
SCDOT TO AEPA BARGE 14, 2002 LETTER

RELATED DRAWINGS & KEYWORDS
714-105-00
714-110-00
714-205-02
714-950-MO

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SOUTH CAROLINA PROFESSIONAL ENGINEER NO. 21242 JAMES W. KENDALL

SIGNATURE
9-26-12
DATE

#	DATE	CHK	DESCRIPTION
6	---	---	---
5	---	---	---
4	---	---	---
3	---	---	---
2	6/2012	DSC	INSERT LETTER 3/10
1	3/2010	JBH	GENERAL REVISIONS
0	2/2008	DSC	NEW STANDARD

SCDOT
STATE HIGHWAY ADMINISTRATOR
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING
PIPE CULVERTS
SMOOTH WALL
(RIGID REINFORCED
CONCRETE PIPE
(RCP)
FILL HEIGHT
CHART

714-205-02
EFFECTIVE LETTING DATE JANUARY 2010

NOTES:

1. SEE SHEET 714-005-00, 714-020-00, 714-025-00, & 714-120-00 FOR GENERAL NOTES, AND TRENCH INSTALLATION REQUIREMENTS.
2. USE ONLY PIPE CLASSES LISTED IN TABLES 714-205A & 714-205B.
3. USE B WALL PIPE FOR SIZES AND CLASSES INDICATED IN TABLES 714-205A & 714-205B. C WALL PIPE MAY BE SUBSTITUTED FOR B WALL PIPE ONLY FOR SIZES AND CLASSES INDICATED IN TABLES 714-205A & 714-205B.
4. USE PIPE AND JOINT MATERIAL FROM A MANUFACTURER COMBINATION SHOWN ON QUALIFIED PRODUCT LIST 8B.
5. WHEN DEFORMED BILLET STEEL REBAR IS USED FOR CUSTOM PIPE, OBTAIN REBAR FROM A MANUFACTURER LISTED ON SCDOT QUALIFIED PRODUCT LIST 8D. FOLLOW INSTRUCTIONAL BULLETIN 2010-01 AND ENGINEER OF RECORD RECOMMENDATIONS TO DETERMINE LOADING FOR CUSTOM PIPE.
6. SEE 714-900-MO FOR RESIDENTIAL DRIVEWAY INSTALLATION FOR MAINTENANCE APPLICATIONS.

PAY ITEMS
714.xxxx Y SMOOTH WALL PIPE
xxxxxx CLASS ADDITIONAL FOUNDATION WORK ___ L.F.
714.xxx CLASS ___ PIPE ___ L.F. Y = (D)RAINAGE, (S)TRUCTURAL, (C)ROSS
714.xxx CLASS ___ PIPE ___ (L) AASHTO MISSING ___ L.F. (L) = (LEAK)

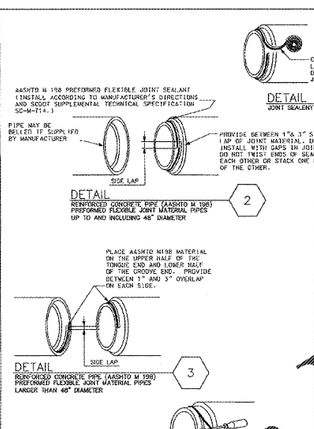

TABLE 714-205A: REINFORCED CONCRETE PIPE FILL HEIGHT TABLE

PIPE DIAMETER, [in]	HYDRAULIC AREA, [ft²]*	MANNING'S ROUGHNESS COEFFICIENT, [n]	ESTIMATED MINIMUM TRENCH WIDTH, [ft]	CASE 1: MAXIMUM COVER HIGHWAY VEHICLE LOADING, [FT]		CASE 2: MINIMUM COVER HIGHWAY VEHICLE LOADING, [FT]		CASE 3: MINIMUM COVER FOR CONSTRUCTION VEHICLE [FT] (AASHTO 27.6.4.4)		CASE 4: UNIVERSAL DRIVEWAY MINIMUM COVER [FT] NOT FOR CROSS ROADWAY		CASE 5: MAXIMUM CONSTANT INVERT AT 2 x DIAMETER GROUNDWATER [FT]	
				CLASS III	CLASS IV	CLASS III	CLASS IV	CLASS III	CLASS IV	CLASS III	CLASS IV	CLASS III	CLASS IV
12	0.78	SEE WFC	42	18	25	30	1.75	1.00+	1.5	3	3.75	1.00	0.00	---	20	30
15	1.22	SEE WFC	45	18	25	30	---	---	1.00+	3	3.50	1.00	0	13	25	30
18	1.76	0.012	49	18	25	30	1.00	1.00+	1.00+	3	3.25	1.00	0	13	25	30
24	3.14	0.012	56	18	25	30	1.00	1.00+	1.00+	3	3.00	0	0	13	25	30
30	4.90	0.012	73	18	25	30	1.00	1.00+	1.00+	3	3.00	0	0	13	25	30
36	7.06	0.012	81	18 (20)	25 (28)	30	1.00 (1.00+)	1.00+ (1.00+)	1.00+ (1.00+)	3	3 (3.0)	0 (0)	0	---	19 (20)	28
42	9.62					30				3	3 (3)	0	0	---	14 (15)	27
48	12.56	0.012	102	18	25	30	1.00+	1.00+	1.00+	3	3	0	0	---	16	26
54	15.90	0.012	113	18	25	30	1.00+	1.00+	1.00+	3	3	0	0	10	17	25
60	19.63	0.012	123	18	25	30	1.00+	1.00+	1.00+	3	3	0	0	10	16	25
66	23.76	0.012	133	18	25	30	1.00+	1.00+	1.00+	3	3	0	0	9	15	25
72	28.27	0.012	144	18	25	30	1.00+	1.00+	1.00+	3	3	0	0	9	15	25
78	33.18	0.012	154	18	25	30	1.00+	1.00+	1.00+	3	3	0	0	9	15	25
84	38.48	0.012	164	18	25	30	1.00+	1.00+	1.00+	3	3	0	0	9	15	25
90	44.17	0.012	174	18	25	30	1.00+	1.00+	1.00+	3	3	0	0	9	15	25
96	50.24	0.012	184	18	25	30	1.00+	1.00+	1.00+	3	3	0	0	9	15	25
102	56.71	0.012	207	18	25	---	1.00+	1.00+	---	3	3	---	0	---	12	17	---
108	63.62	0.012	218	18	25	---	1.00+	---	---	3	---	---	0	---	13	---	---
114	70.94	0.012	229	18	25	---	1.00+	---	---	3	---	---	0	---	13	---	---
120	78.69	0.012	240	18	25	---	1.00+	---	---	3	---	---	0	---	13	---	---
132	95.03	0.012	328	18	25	---	---	---	---	---	---	---	---	---	---	---	---

(30) 30" MAXIMUM WALL B WALL IS NOT ALLOWED FOR THIS DIAMETER AND CLASS.
"---" TYPICALLY INDICATES THAT PIPE SIZE IS NOT AVAILABLE OR IS NOT RECOMMENDED FOR THIS CONDITION.
"+" INDICATE THAT MINIMUM COVER MAY BE REDUCED TO 0.5' FOR SPECIFIED CLASS WHEN PIPE IS INSTALLED UNDER ROAD PAVEMENT.

STRUCTURAL DESIGN

S1. MANUFACTURER MAY SUBSTITUTE HIGHER CLASS PIPE THAN SPECIFIED IN THE PLANS. HOWEVER, INSTALLATION DEPTH SHALL NOT EXCEED THAT SHOWN FOR THE PIPE INDICATED IN THE PLANS UNLESS APPROVED BY THE ENGINEER OF RECORD. NO ADDITIONAL PAYMENT WILL BE MADE FOR HIGHER CLASS SUBSTITUTION.

S2. THE REINFORCED CONCRETE PIPE FILL HEIGHT TABLE IS BASED ON THE FOLLOWING CRITERIA:

LOAD CASE 1 – TYPICAL STANDARD INSTALLATION.
SCDOT DEEP INSTALLATION < 30'. FOR ALL INSTALLATIONS BEYOND 30', EMBANKMENT SETTLEMENT MAY CONTROL DESIGN. CONSULT WITH PIPE MANUFACTURERS AND GEOTECHNICAL ENGINEERS BEYOND USING DEEPER THAN 30'. NUMBERS PUBLISHED ARE BASED ON AASHTO LRFD INDIRECT DESIGN ON SCDOT DEEP INSTALLATION CRITERIA.

LOAD CASE 2 – TYPICAL MINIMUM COVER INSTALLATION.
NUMBERS PUBLISHED ARE BASED ON AASHTO LRFD INDIRECT DESIGN CALCULATIONS OR AASHTO LRFD TABLE 12.6.6.3-1 FOR CLASS SPECIFIED OF REINFORCED CONCRETE PIPE UNDER FLEXIBLE PAVEMENT.

LOAD CASE 3 – TYPICAL MINIMUM COVER FOR CONSTRUCTION VEHICLE EQUIPMENT LOADING:
NUMBERS PUBLISHED ARE BASED ON AASHTO LRFD SECTION 27.6.4.4 FOR REINFORCED CONCRETE PIPE. AVOID DRIVING CONSTRUCTION VEHICLES OVER INSTALLED PIPE. MODIFY PROPOSED HAULING OPERATION IN ACCORDANCE WITH AASHTO LRFD SECTION 27.6.4.4 IF THE LARGEST OF 3 FEET OR ONE PIPE DIAMETER. PERIODICALLY CHANGE LOCATION OF EQUIPMENT CROSSING OVER PIPE IN ORDER TO MINIMIZE CHANGE OF LATERAL DISPLACEMENT.

LOAD CASE 4 – UNIVERSAL DRIVEWAY MINIMUM COVER:
USE ONLY FOR DRIVEWAY APPLICATIONS. NUMBERS PUBLISHED ARE BASED ON CAPACITY OF PIPE USING AASHTO LRFD INDIRECT DESIGN AT 0' COVER. CHOOSE PIPE CLASS BASED ON LOADING OF VEHICLES USING DRIVEWAY.

S3. SITE CONDITIONS OTHER THAN TYPICAL INSTALLATION MAY ALSO REQUIRE SPECIAL DESIGNED PIPE. FOR THESE CONDITIONS, OTHER PIPE TYPES MAY BE MORE APPROPRIATE. CONTACT PIPE MANUFACTURERS BEFORE SPECIFYING THIS PIPE TYPE FOR CUSTOM INSTALLATIONS.

S4. THIS FILL HEIGHT TABLE IS FOR USE IN ROADWAY APPLICATIONS ONLY AND SHOULD NOT BE USED FOR ANY OTHER TRANSPORTATION FACILITY.

S5. SPECIAL DESIGN MAY BE REQUIRED FOR INSTALLATIONS OUTSIDE OF SCDOT RIGHT OF WAY – SEE RIGHT OF WAY/UTILITY/MUNICIPAL AGREEMENT FOR THESE INSTALLATIONS.

TABLE 714-205B
REINFORCED CONCRETE PIPE (RCP) SMOOTH WALL PIPE
AASHTO M170 B & C WALL PIPE WITH CIRCULAR REINFORCEMENT ONLY (AS NOTED)
LOADING FROM SCDOT INSTRUCTIONAL BULLETIN 2010-01 HL-93 LOAD CASES 1, 2, AND 4.

		INDIRECT DESIGN PIPE DIAMETER [IN]																			
		12	15	18	24	30	36	42	48	54	60	66	72	78	84	90	96	108	120
******DEPTH OF COVER (FEET)****** AT LEAST	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] (B)	[illegible] (B)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	CUSTOM
	0.50	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] (B)	[illegible] (B)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	CUSTOM
	0.75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] (B)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	CUSTOM
	1.00	V	V	V	V	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	1.25	V	V	V	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	1.50	V	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	1.75	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	2.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	2.25	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	2.50	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	2.75	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	3.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	4.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	5.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	6.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	7.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	8.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	9.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	10.00	III	III	III	III	III	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
	11.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	12.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	13.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	14.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	CUSTOM
	15.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	CUSTOM	CUSTOM
******DEPTH OF COVER (FEET)****** NO MORE THAN	16.00	III	III	III	III	III	III (B)	III (B)	III	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM
	17.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM
	18.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM
	19.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM
	20.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM
	21.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM
	22.00	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM
	23.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM
	24.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM
	25.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM	CUSTOM
	26.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM
	27.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM
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	29.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM
	30.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM

– NO LOADED ONCE/T HOOD PAVEMENT ONLY OR ROADWAY.
– LOAD CASE 4: UNIVERSAL DRIVEWAY APPLICATION (NOT ALLOWED UNDER ROADWAY CROSSINGS).
(B) B WALL ONLY. C WALL IS NOT ALLOWED FOR THIS DIAMETER AND CLASS.
CUSTOM – DESIGN REINFORCED CONCRETE PIPE USING THE DIRECT DESIGN METHOD IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATION SECTION 12.
DESIGN CALCULATIONS MUST BE SEALED AND SIGNED BY A SOUTH CAROLINA PROFESSIONAL ENGINEER AND SUBMITTED TO THE DEPARTMENT FOR REVIEW PRIOR TO PIPE FABRICATION.

REFERENCES
NATIONAL DOCUMENTS
AASHTO M36, M189, M170, M189, M221, M205, M295, M302, M315, M198, T104, ASTM A700

SCDOT DOCUMENTS
SCDOT SUPPLEMENTAL TECHNICAL SPECIFICATION SC-M-714
ENGINEERING DIRECTIVE MEMO 24
INSTRUCTIONAL BULLETIN 2010-01
SCDOT TO AEPA BARGE 14, 2002 LETTER

RELATED DRAWINGS & KEYWORDS
714-105-00
714-110-00
714-205-01
714-950-MO

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SOUTH CAROLINA PROFESSIONAL ENGINEER NO. 21242 JAMES W. KENDALL

SIGNATURE
9-26-12
DATE

#	DATE	CHK	DESCRIPTION
6	---	---	---
5	---	---	---
4	---	---	---
3	---	---	---
2	6/2012	DSC	SCDOT LETTER 3/10
1	3/2010	JBH	GENERAL REVISIONS
0	2/2008	DSC	NEW STANDARD

SCDOT
STATE HIGHWAY ADMINISTRATOR
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING
PIPE CULVERTS
SMOOTH WALL
(RIGID REIN