



Florida Department of Transportation

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SECRETARY

November 21, 2023

MATERIALS BULLETIN NO. 23-03
CONSTRUCTION MEMO 23-05
(FHWA Approved: 11/21/23)

This Memo has Expired

TO: DISTRICT CONSTRUCTION ENGINEERS, DISTRICT MATERIALS AND RESEARCH ENGINEERS, DISTRICT DESIGN ENGINEERS, DISTRICT CONSULTANT PROJECT MANAGEMENT ENGINEERS, DISTRICT ROADWAY DESIGN ENGINEERS, DISTRICT DRAINAGE ENGINEERS

FROM: Sue Zheng, P.E., Director, Office of Materials
Tim Lattner, P.E., Director, Office of Construction

COPIES: Will Watts, Dan Hurtado, Michael Shepard, Derwood Sheppard, Will Potter, Ananth Prasad (FTBA), Jose Ortiz (FHWA)

SUBJECT: RETROACTIVE IMPLEMENTATION OF FY 2024-25 STANDARD PLAIN INDEX 430-001

DocuSigned by:
Xiaoqian Zheng
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Tim Lattner
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The Department has implemented revisions to the FY 2023-24 Standard Specifications, as listed below:

Standard Plans Index 430-001

Revisions to the Standard Plans for Road Construction, Index 430-001 (Miscellaneous Drainage Details) aligned the FDOT Reinforced Concrete Pipe cage dimensions with ASTM C76 (round) and ASTM C507 (elliptical) requirements. This alignment changed the last full wrap of circumferential reinforcing at the spigot end of reinforced concrete pipe from being even with the shoulder to being within 3 inches of the shoulder, a tolerance that has existed in the ASTM documents for at least 30 years. This change does not impact the physical size, shape, load rating, placement or handling of reinforced concrete pipe and carries no additional design considerations.

This Memo gives manufacturers the choice to incorporate the above referenced revisions to the FY 2024-25 Standard Plan Index 430-001 into the affected products before the publication of the July 2024 Standard Plans. Manufacturers are required to incorporate the revisions into the affected products after publication of the July 2024 Standard Plans.

This Memo gives the contractor the choice to use product with either the existing or the revised reinforcement cage on projects let before July 2024.

The revised 430-001 is included below.

If there are any questions, contact Andrew Pinkham at (352) 955-6684 or Jason Russell at (850) 414-4010.

This memorandum serves as blanket approval to process a \$0.00 contract change to incorporate any of the above referenced revisions and should be attached to the Work Order or Supplemental Agreement.

TL/AP/RJ

Attachments

Index 430-001 Redline

DELETED: Note 2 Reference

DELETED: Rebar to 3" Dimension

CHANGED: Note 2

ADDED: New Note 1
Allowable tolerance for the last full wrap of circumferential reinforcement shall be within 3 inches from the spigot shoulder and meet ASTM C76 for round pipe or ASTM C507 for elliptical pipe.

UPDATED DETAILS:
To show 3" dimension; added Note 1 reference; deleted rebar to 3" dimension

UPDATED: "Joint is homed."

DELETED Note 1 and 2

NOTES:

1. Allowable Tolerance for the last full wrap of reinforcing when using single-elliptical cage.
2. Extend the last full wrap of reinforcing to the shoulder point and meet ASTM C76 requirements.
3. All circumferential steel located above this line and within the 1.75 L is defined as bell reinforcement.

NOTES:

2. Filter Fabric Jacket is required on both type of joints.
3. Details shown before pouring.

TABLE 1
SCHEDULE OF BELL REINFORCEMENT
Classes II, III, IV, V; Wall A, B, C

Nominal Pipe Diameter	Design Bell Reinforcement	Maximum Reinforcement Under Tolerance
	in' per Foot	in' per Foot
15"	0.07	0.070
18"	0.07	0.070
24"	0.09	0.090
30"	0.12	0.120
36"	0.14	0.140
42"	0.16	0.160
48"	0.19	0.190
54"	0.21	0.212
60"	0.23	0.235
66"	0.26	0.265
72"	0.28	0.285
78"	0.30	0.318
84"	0.33	0.3195
90"	0.35	0.321
96"	0.37	0.3225
102"	0.40	0.324
108"	0.42	0.3255

ROUND CONCRETE PIPE JOINT DETAIL

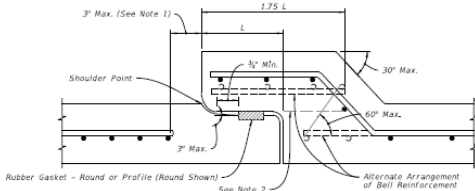
ELLIPTICAL CONCRETE PIPE JOINT DETAIL

ROUND AND ELLIPTICAL CONCRETE PIPE JOINT

11/01/23

LAST REVISION 10/01/20	DESCRIPTION: REVISED	FDOT FY 2023-24 STANDARD PLANS	MISCELLANEOUS DRAINAGE DETAILS	INDEX 430-001	SHEET 2 of 7
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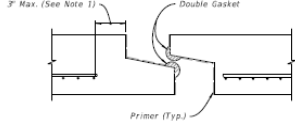
Index 430-001 Clean



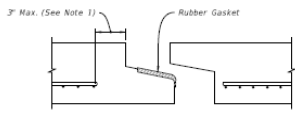
Nominal Pipe Diameter	Design Bell Reinforcement	Maximum Reinforcement Under Tolerance
	in ² per Foot	in ² per Foot
15"	0.07	0.210
18"	0.07	0.210
24"	0.09	0.210
30"	0.12	0.210
36"	0.14	0.210
42"	0.16	0.210
48"	0.19	0.011
54"	0.21	0.012
60"	0.23	0.0135
66"	0.26	0.015
72"	0.28	0.0165
78"	0.30	0.018
84"	0.33	0.0195
90"	0.35	0.021
96"	0.37	0.0225
102"	0.40	0.024
108"	0.42	0.0255

NOTES:

1. Locate the last full wrap of reinforcement within 3 inches of the spigot shoulder and meet ASTM C78 for round pipe.
2. All circumferential steel located above this line and within the 1.75 L is defined as bell reinforcement.



PREFORMED PLASTIC JOINT



PROFILE RUBBER GASKET

NOTES:

1. Locate the last full wrap of reinforcement within 3 inches of the spigot shoulder and meet ASTM C507 for elliptical pipe.
2. Type D-3 Geotextile Jacket is required on both type of joints.
3. Details shown before joint is holed.

===== ROUND CONCRETE PIPE JOINT DETAIL =====

===== ELLIPTICAL CONCRETE PIPE JOINT DETAIL =====

ROUND AND ELLIPTICAL CONCRETE PIPE JOINT

LAST REVISION 11/01/23	DESCRIPTION:	FY 2024-25 STANDARD PLANS	MISCELLANEOUS DRAINAGE DETAILS	INDEX 430-001	SHEET 2 of 7
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