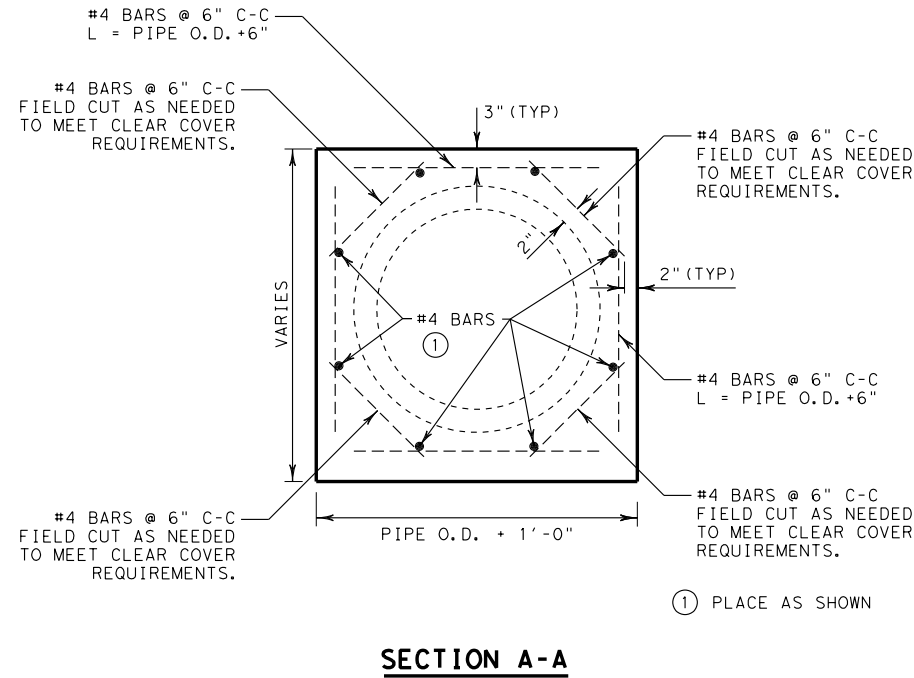
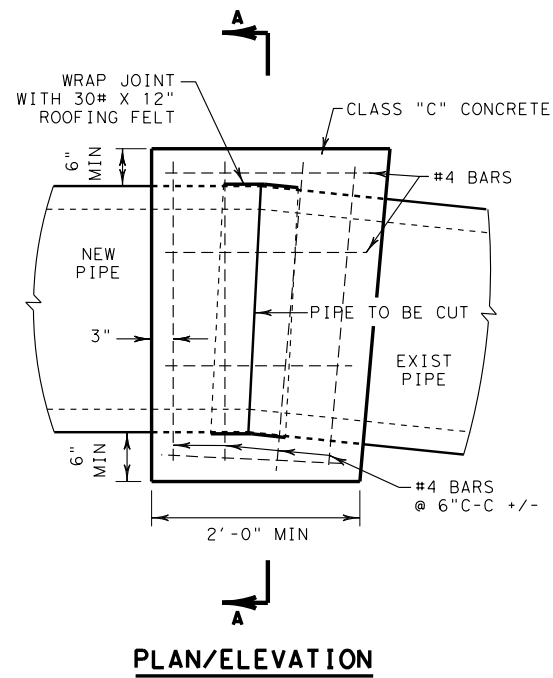


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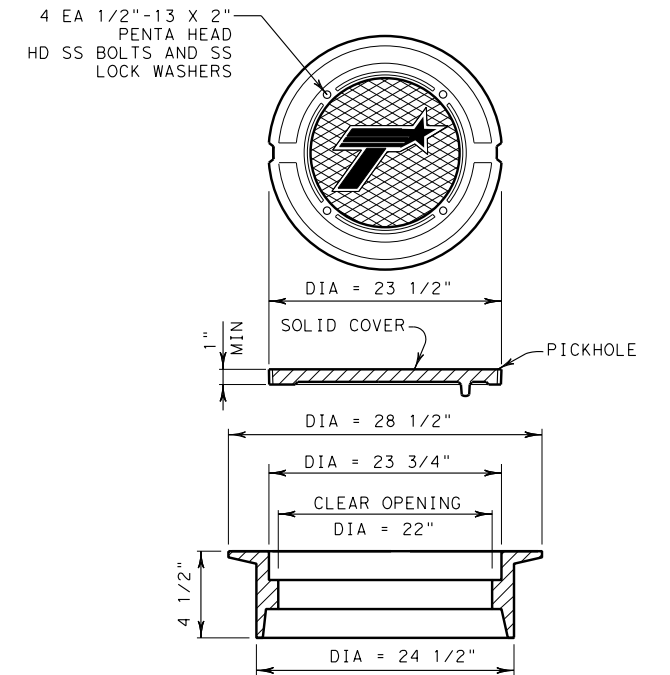
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PIPE COLLAR DETAIL
 FOR HORIZONTAL OR VERTICAL PLACEMENT
 N. T. S.

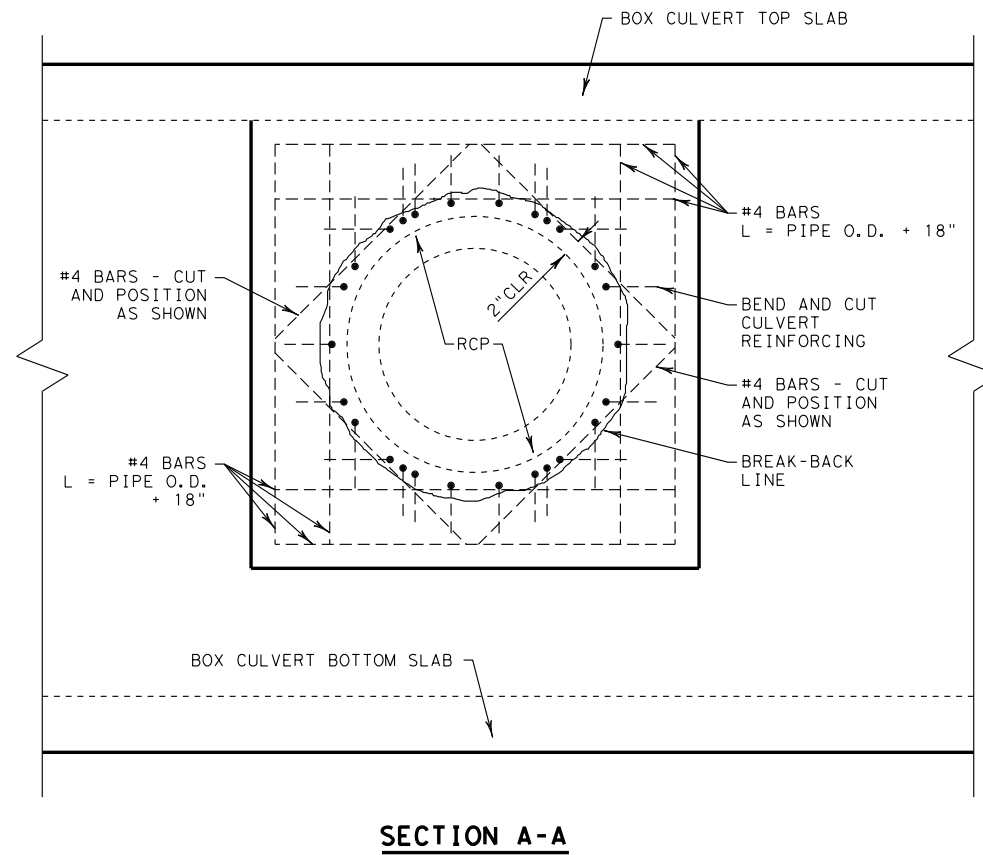
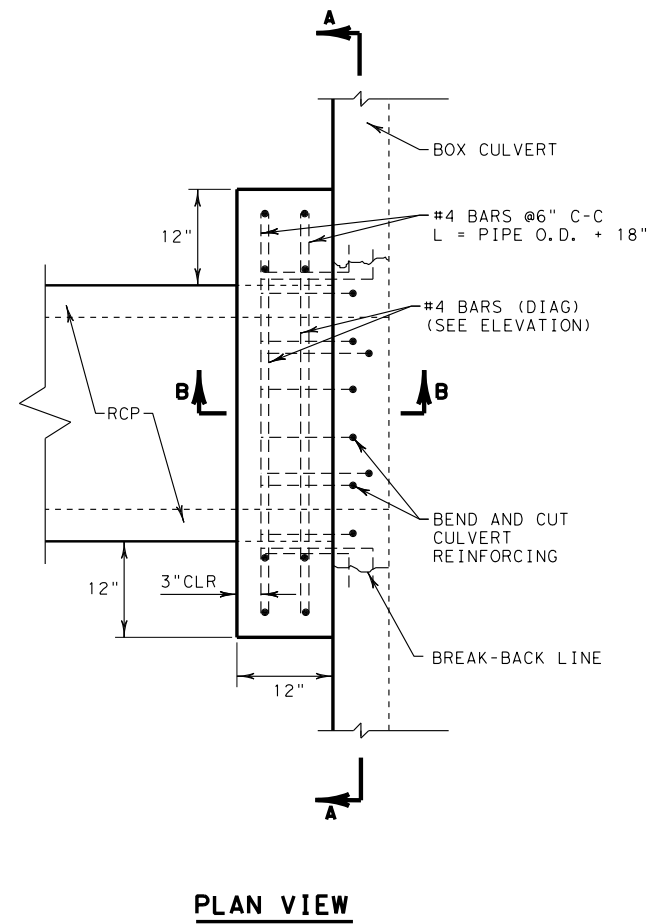
PIPE COLLAR GENERAL NOTES

1. THE CONTRACTOR SHALL TAKE STEPS TO ENSURE A SMOOTH JOINT ALONG THE INSIDE WALL OF PIPE.
2. ANY SPILLAGE OF CONCRETE THROUGH THE JOINT SHALL BE REMOVED AND THE INSIDE PIPE SURFACES SMOOTHED AS DIRECTED BY THE ENGINEER.
3. PIPE COLLARS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 464.

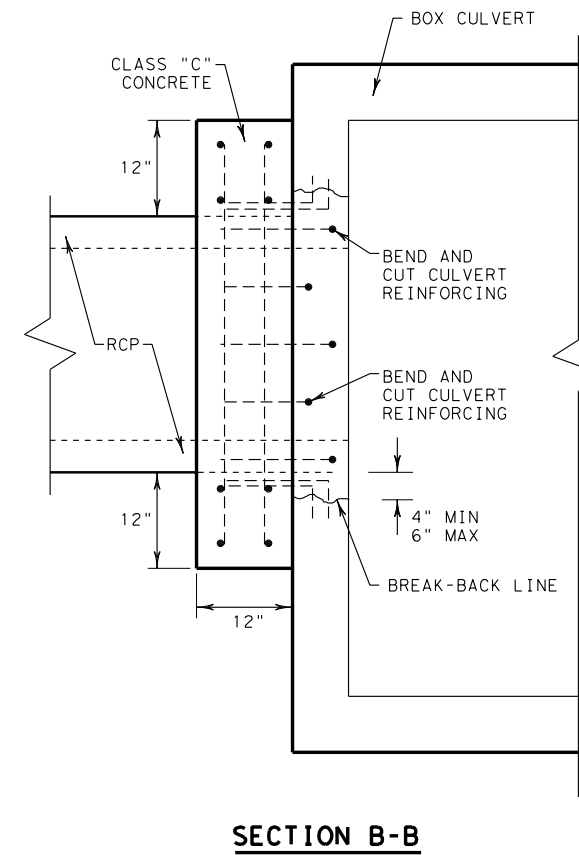


RING AND COVER DETAILS
 MANHOLES AND CURB INLETS
 N. T. S.

RING AND COVER SHALL CONFORM TO THE REQUIREMENTS OF ITEM 471 AND SHALL BE INCLUDED IN THE CURRENT TxDOT "APPROVED CAST IRON PRODUCTS SHEETS"
 DIMENSIONS SHOWN ARE APPROXIMATE; ACTUAL DIMENSIONS PER MANUFACTURE/FABRICATOR.
 IF RING AND COVER ARE LOCATED IN PAVEMENT; SECURE COVER WITH BOLTS AS SHOWN.



PIPE STUB-IN CONNECTION TO BOX CULVERT OR EXISTING DRAINAGE STRUCTURE
 N. T. S.



PIPE STUB-IN GENERAL NOTES

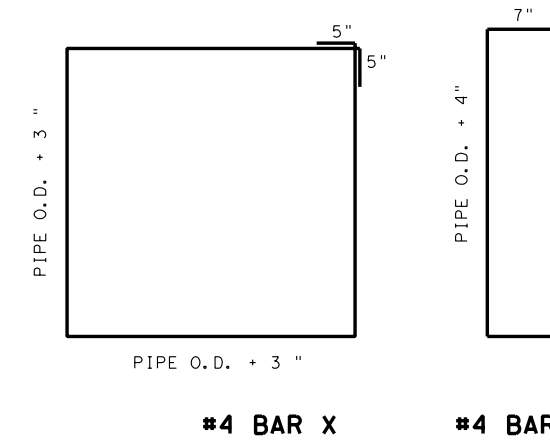
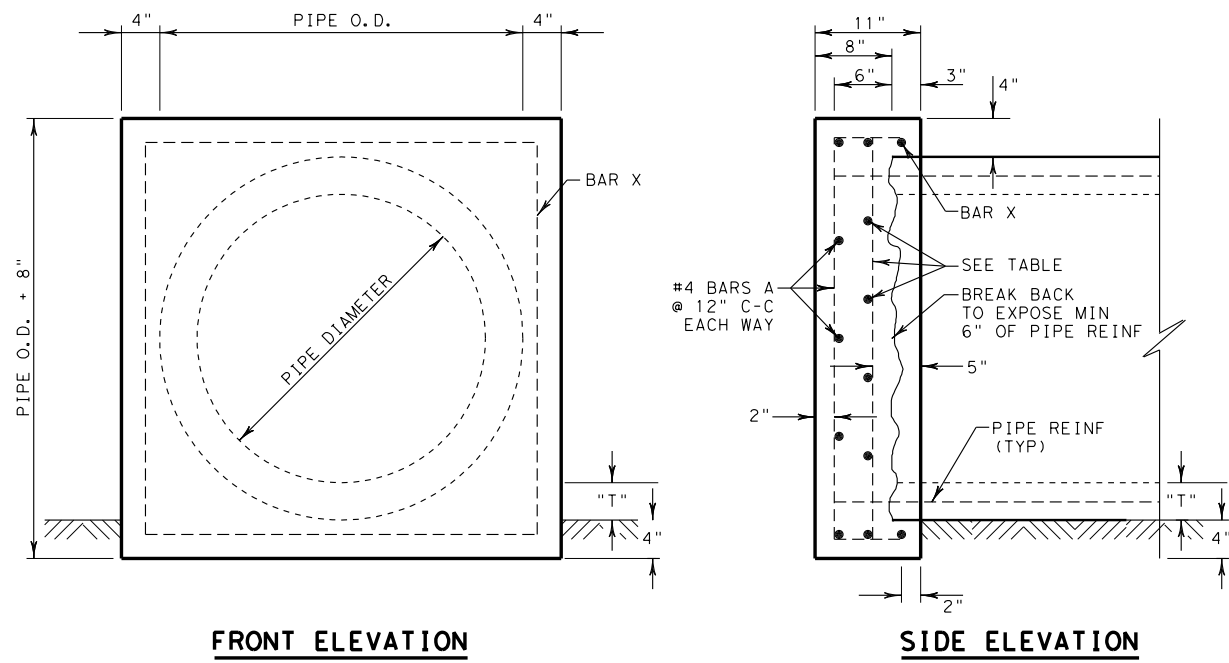
1. SAW CUT A MAXIMUM 1/2" DEPTH AT BREAK-BACK LINE. USE REMOVAL METHODS THAT WILL NOT DAMAGE REMAINING CONCRETE OR CULVERT REINFORCING.
2. EXPOSE AND CLEAN BOX CULVERT REINFORCING. BEND BARS INTO PROPOSED CONNECTION AND TIE TO CONNECTION REINFORCING.
3. ROUGHEN AND CLEAN EXISTING CONCRETE SURFACES THAT ARE IN CONTACT WITH NEW CONCRETE BEFORE PLACING FORMS.
4. MATERIAL & LABOR FOR PIPE/BOX CONNECTIONS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE SUBSIDIARY TO ITEMS 462 AND 464.

SHEET 1 OF 3 SHEETS

MISCELLANEOUS DRAINAGE DETAILS MDD (FTW)			
ORIGINAL DRAWING: 05/2019	mdd-ftw.dgn	FED. RD. DIV. NO. 6	PROJECT NO.
DATE	REVISIONS	STATE DIST. NO.	COUNTY
05/2019	NEW STANDARD	TEXAS	FTW
07/2022	REVISE AND CORRECT RING AND COVER NOTES	CONT.	SECT. JOB HIGHWAY NO.

DISCLAIMER: THIS STANDARD IS COVERED BY THE "TEXAS ENGINEERING PRACTICE ACT". NO WARRANTY OF ANY KIND IS MADE BY TxDOT FOR ANY PURPOSE WHATSOEVER. TxDOT ASSUMES NO RESPONSIBILITY FOR THE CONVERSION OF THIS STANDARD TO SI UNITS. THE USER OF THIS STANDARD SHALL BE RESPONSIBLE FOR ANY DAMAGES RESULTING FROM ITS USE.

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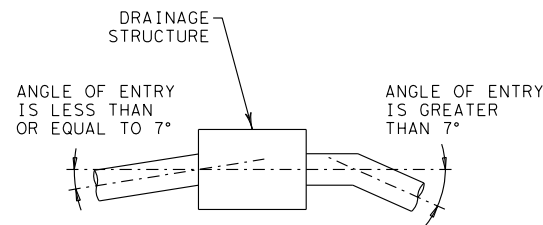
DRAINAGE PIPE END CAP OR PLUG DETAILS

N. T. S.

PIPE DIA (IN)	INNER REINFORCING SIZE/SPACING	
	15'	30'
<48	#4 @ 12" C-C	#4 @ 12" C-C
60	#4 @ 12" C-C	#4 @ 10" C-C
72	#4 @ 12" C-C	#5 @ 10" C-C
84	#4 @ 10" C-C	#5 @ 8" C-C

PIPE END CAP GENERAL NOTES

- "T" = PIPE WALL THICKNESS.
- ALL CONCRETE SHALL BE CLASS "C".
- ALL REINFORCING STEEL SHALL BE GRADE 60.
- OCTAGONAL PLUG MAY BE USED IN LIEU OF SQUARE. PROVIDE 4" MINIMUM COVER OVER OUTSIDE OF PIPE. DIMENSIONS OF PIPE PLUG AND REINFORCING TO BE AS APPROVED.

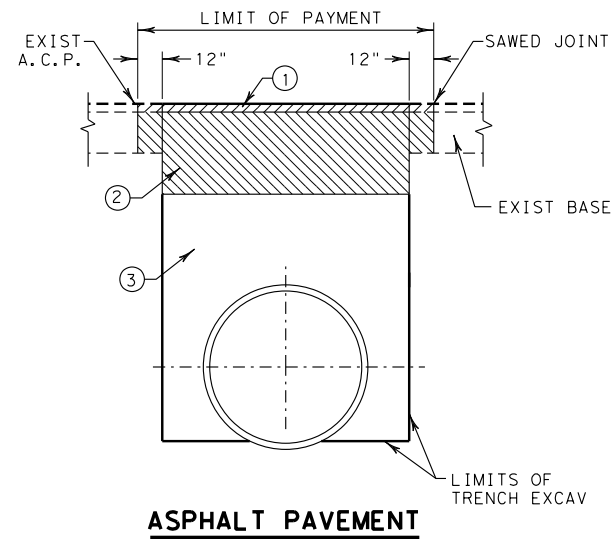


CONNECT PIPES WITHIN 7° OF NORMAL TO INLET OR MANHOLE. IF NECESSARY, USE PIPE ELBOW OR CURVED APPROACH ALIGNMENT TO STAY WITHIN THIS LIMIT.

PIPE CONNECTION

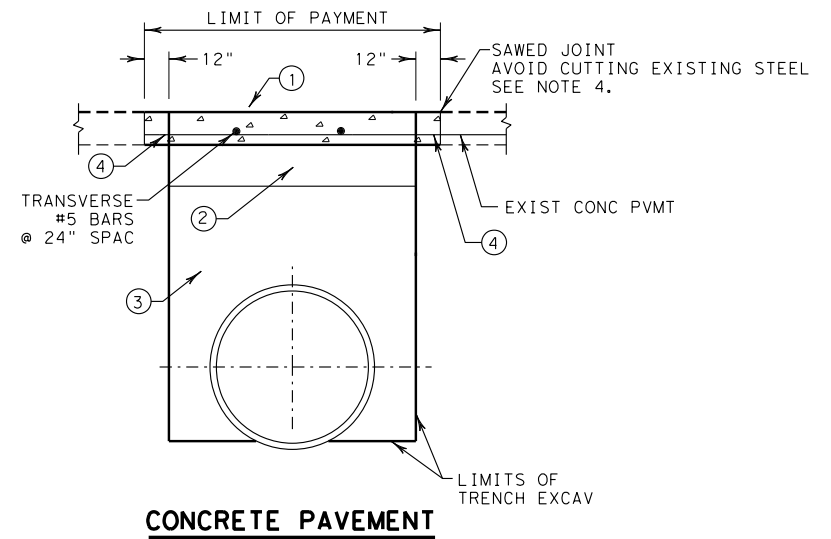
N. T. S.

- APPROX 2" HOT MIX, TYPE C, OR AS DIRECTED.
- APPROX 10" HOT MIX BASE, TYPE B, OR AS DIRECTED.
- CEMENT STABILIZED BACKFILL IN ACCORDANCE WITH ITEM 400.3.3.1, 400.3.3.2, 400.3.3.3., AND 400.3.3.4.



ASPHALT PAVEMENT

- CLASS "A", "P", OR "HES" CONCRETE PAVEMENT. MATCH EXISTING PAVEMENT DEPTH. USE CLASS "HES" IF OPENING TO TRAFFIC LESS THAN 72 HOURS AFTER PLACEMENT.
- 4" COLD MIX ASPHALT BASE. PLACE BASE MATERIAL IN ACCORDANCE WITH ITEM 361.2.2.2.
- CEMENT STABILIZED BACKFILL IN ACCORDANCE WITH ITEM 400.3.3.1, 400.3.3.2, 400.3.3.3., AND 400.3.3.4.
- AT CONTRACTOR'S OPTION, USE FULL-DEPTH SAW CUT AND TIE TO EXISTING PAVEMENT IN ACCORDANCE WITH ITEM 361.4.2. FOR PARTIAL DEPTH SAW CUT, EXPOSE MINIMUM 8" OF LONGITUDINAL REINFORCING AND CONSTRUCT 8" WELDED LAP (MATCH LONGITUDINAL PAVEMENT REINFORCEMENT).



CONCRETE PAVEMENT

CUTTING AND RESTORING PAVEMENT DETAILS

N. T. S.

CUTTING AND RESTORING PAVEMENT GENERAL NOTES

- HOT MIX OR CONCRETE PAVEMENT WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE SUBSIDIARY TO CUTTING AND RESTORING PAVEMENT.
- CONCRETE CURB OR CURB AND GUTTER WILL BE INCLUDED IN AREA OF "CUTTING AND RESTORING PAVEMENT". CONSTRUCT CURB OR CURB AND GUTTER ACCORDING TO PLAN DETAILS, OR AS DIRECTED. REMOVAL AND REPLACEMENT OF CONCRETE CURB OR CURB AND GUTTER WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE SUBSIDIARY TO CUTTING AND RESTORING PAVEMENT.
- CEMENT STABILIZED BACKFILL WILL BE MEASURED AND PAID FOR IN ACCORDANCE WITH ITEM 400.
- SEE STANDARD JS (FTW) FOR JOINT SEALING DETAILS.
- "NON-EXCAVATABLE" FLOWABLE BACKFILL, AS DEFINED BY ITEM 401, TABLE 2, MAY BE USED AS A SUBSTITUTE FOR CEMENT STABILIZED BACKFILL, WITH THE FOLLOWING CONSTRAINTS:
 - PLACE FLOWABLE FILL IN LIFTS NOT EXCEEDING 2 FEET IN DEPTH; PLACE EACH SUCCESSIVE LIFT WHEN THE PREVIOUS LIFT HAS STIFFENED/HARDENED (HAS LOST ITS FLOWABILITY).
 - NO ADJUSTMENT IN PAYMENT WILL BE MADE FOR SUBSTITUTION OF FLOWABLE FILL IN LIEU OF CEMENT STABILIZED BACKFILL.

		Fort Worth District Standard	
MISCELLANEOUS DRAINAGE DETAILS MDD (FTW)			
ORIGINAL DRAWING: 05/2019	mdd-ftw.dgn	FED. RD. DIV. NO. 6	PROJECT NO.
DATE	REVISIONS	6	SHEET NO.
05/2019	NEW STANDARD	STATE	COUNTY
07/2022	REVISE CUT & RESTORE PAVEMENTS FOR CSB & FLOWABLE FILL; ALLOW OCTAGONAL PIPE PLUG; EDIT GENERAL NOTES	TEXAS	FTW
		CONT.	SECT. JOB HIGHWAY NO.

