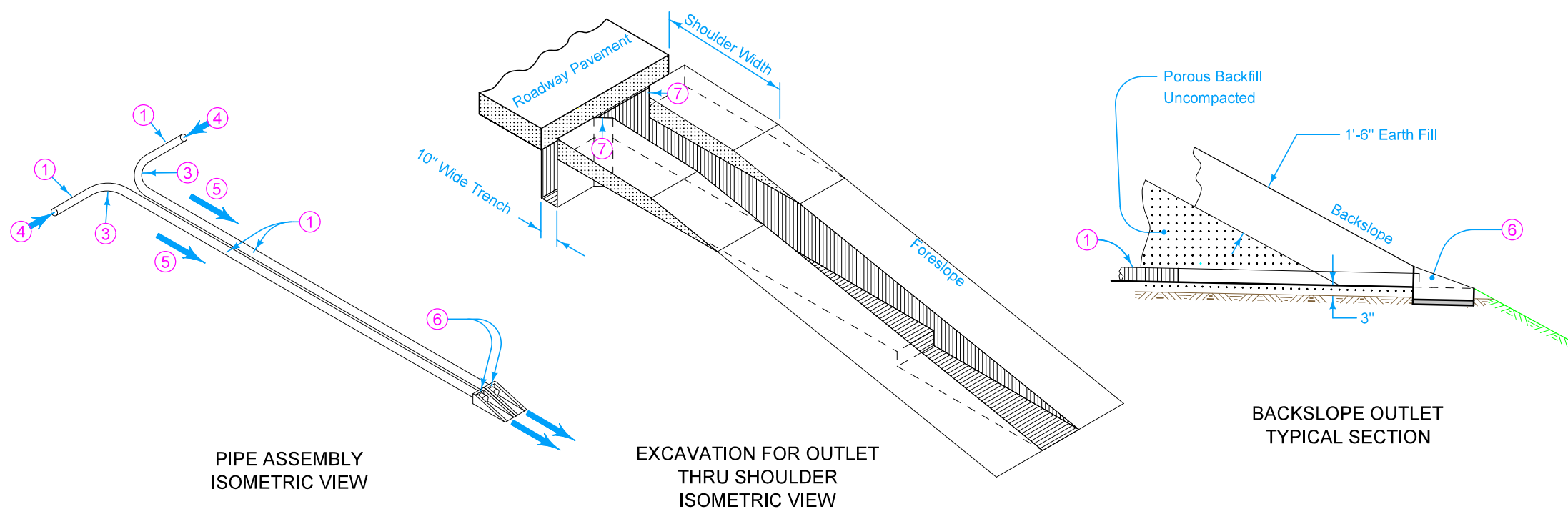


LONGITUDINAL AND TRANSVERSE OUTLETS



Extend subdrain 3 inches minimum (6 inches maximum) into precast subdrain headwall. Connect using one of the following methods:
 -Grouted connection using a non-shrink grout complying with Materials I.M. 491.13
 -Gasketed connection approved by the Engineer.

Shape adjacent slope to match slope of precast subdrain headwall.

- ① Perforated Subdrain (Polyethylene Corrugated Tubing).
- ② On projects where existing shoulder material is removed, replace the shoulder material according to Article 2502.03, C of the Standard Specifications.
- ③ 'Y' or 'T' connection will not be allowed. Place subdrain on 1 foot minimum radius.
- ④ Direction of flow.
- ⑤ 6 inch minimum drop in elevation between longitudinal subdrain and outlet. 12 inch minimum drop for projects using recycled PCC subbase.
- ⑥ Precast concrete headwall.
- ⑦ Bevel the trench to provide a minimum of 3 inches of porous backfill surrounding all portions of subdrain pipe.
- ⑧ Place Top Soil over outlet and carefully compact to avoid damaging outlet pipe.

Possible Contract Item:
Subdrain Outlet, DR-306

Possible Tabulation:
104-5C
104-9

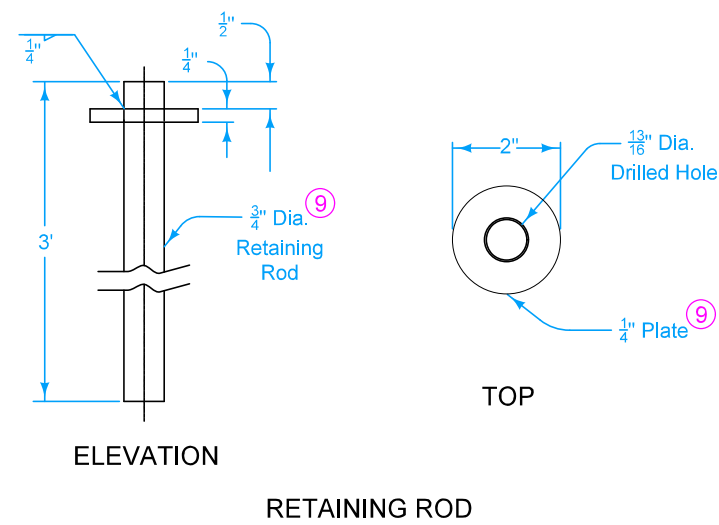
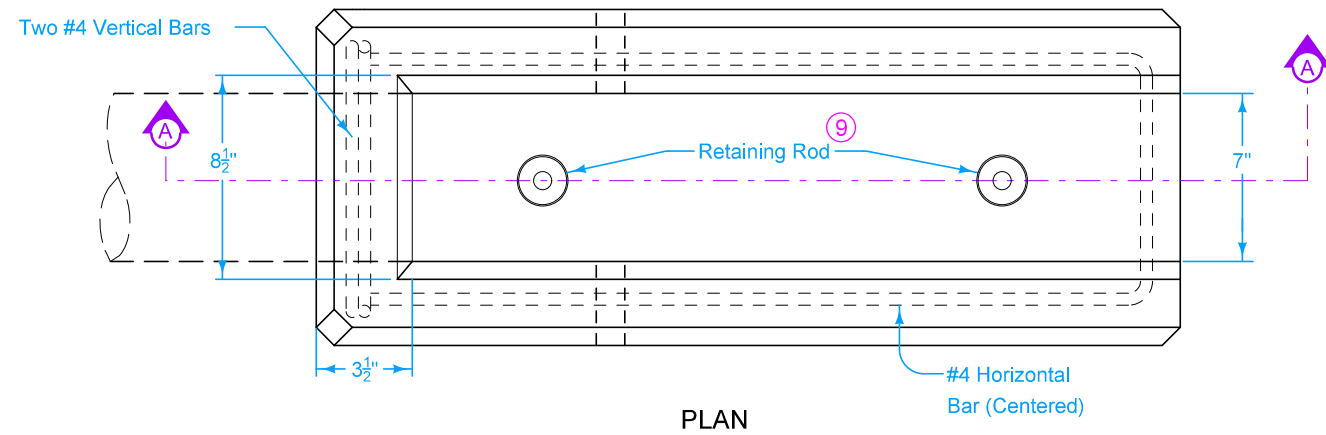
IOWA DOT	REVISION	
	2	10-17-23
STANDARD ROAD PLAN		DR-306
		SHEET 1 of 2

REVISIONS: Change from granular cap to top soil cap.

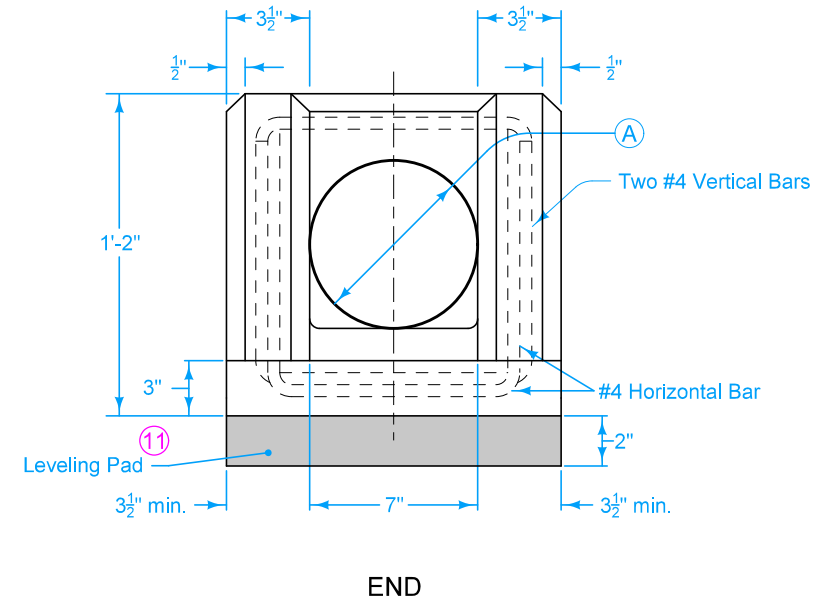
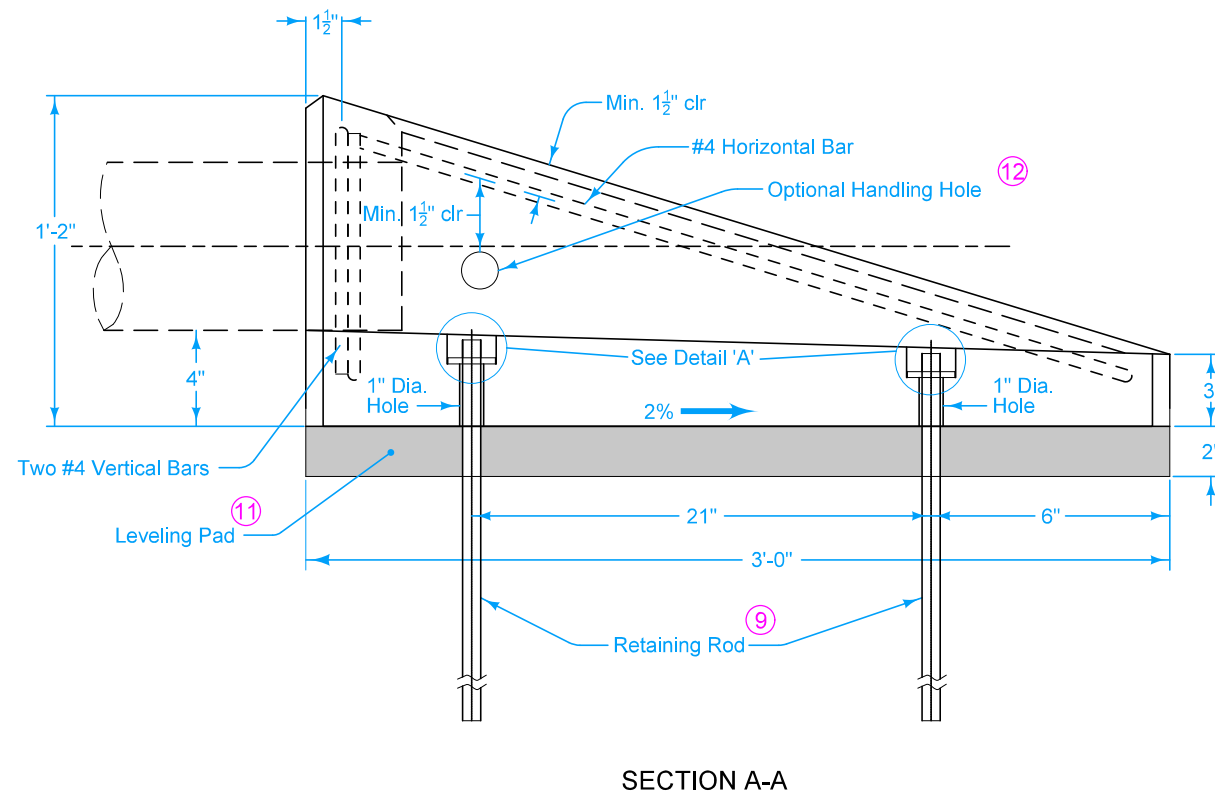
Shawn Miller
APPROVED BY DESIGN METHODS ENGINEER

**PRECAST CONCRETE HEADWALL
FOR SUBDRAIN OUTLETS**

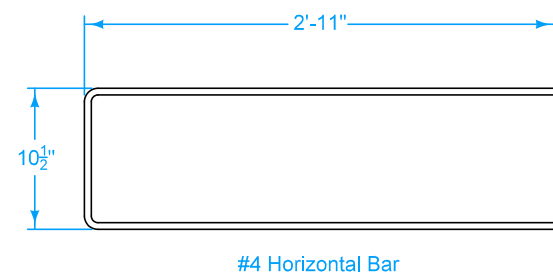
Comply with Section 2419 of the Standard Specifications.



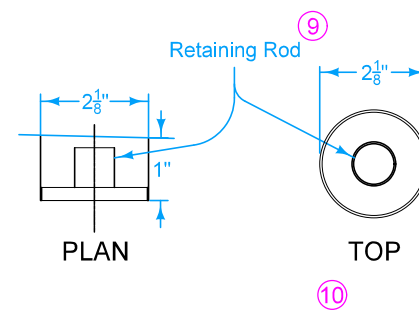
- ⑨ ASTM A36 Steel galvanized according to ASTM A123 or ASTM F2329 after shop welding is complete.
- ⑩ After installing retaining rod, fill recess with bituminous material complying with ASTM C990 to prevent moisture infiltration.
- ⑪ Granular material complying with Section 4133 of the Standard Specifications.
- ⑫ Maximum diameter 2 inches. Fill hole with soil tight plug after placing headwall and before placing backfill.



DIMENSION	4" DIA PIPE	6" DIA PIPE
Ⓐ	5"	7"



BENT BAR SHAPES



DETAIL 'A'
(Recess for Retaining Rod)

	REVISION	
	2	10-17-23
STANDARD ROAD PLAN		DR-306
REVISIONS: Change from granular cap to top soil cap.		SHEET 2 of 2
 APPROVED BY DESIGN METHODS ENGINEER		
PRECAST CONCRETE HEADWALL FOR SUBDRAIN OUTLETS		