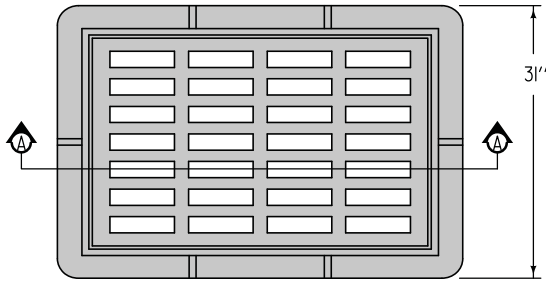
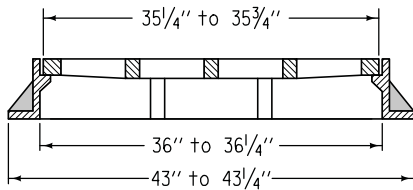


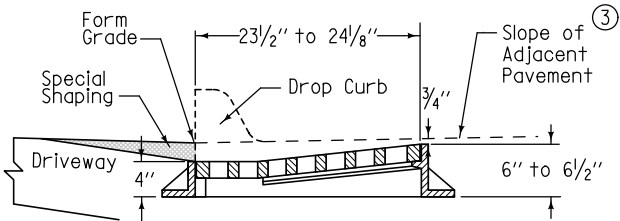
TYPE Q ^①
 Driveway Grate
 (Minimum open area 370 in²)



PLAN

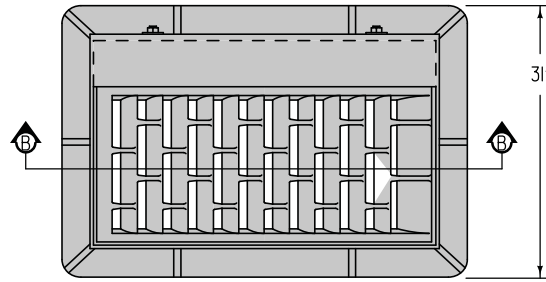


SECTION A-A

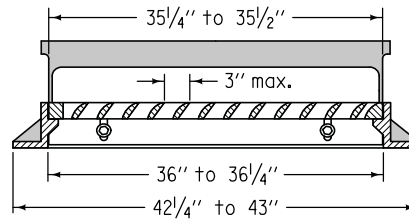


TYPICAL SECTION

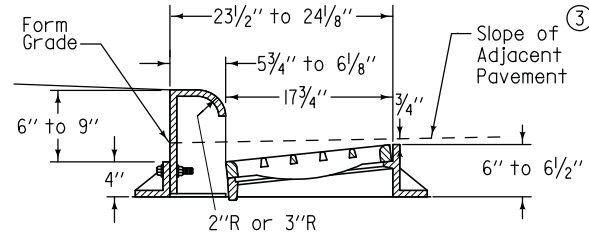
TYPE R ^②
 Curb Inlet Grate
 (Minimum open area 180 in²)



PLAN



SECTION B-B



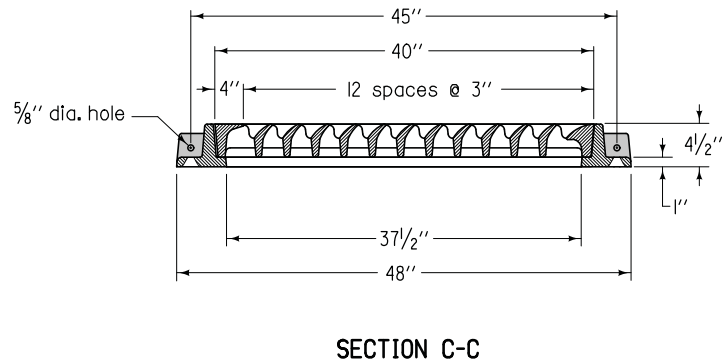
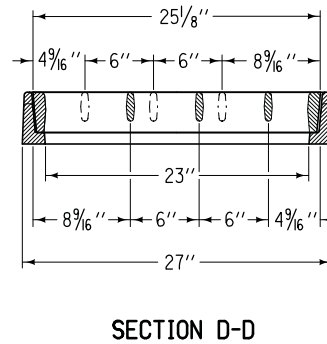
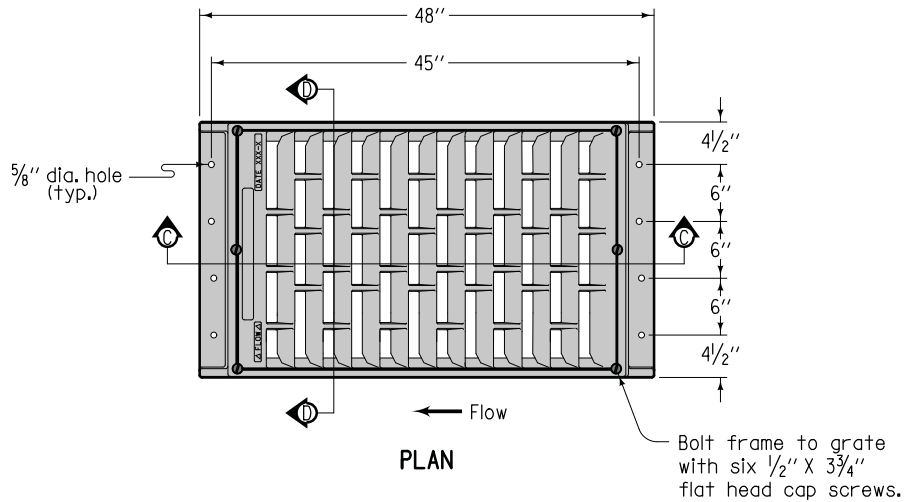
TYPICAL SECTION

- ① For use at curb drops for driveways. Use only when specified in the contract documents.
- ② Provide bicycle-safe vane-style grate. At low points, grates with vanes facing both directions of flow are allowed.
- ③ For details of boxout pavement, refer to SW-514.

FIGURE 6010.603 SHEET 1 OF 2

SUDAS	Iowa Department of Transportation	REVISION
		2 04-17-12
FIGURE 6010.603 STANDARD ROAD PLAN		SW-603 SHEET 1 of 2
REVISIONS: Modified dimensions on Type "Q" and Type "R" grates.		
<i>Paul D. Wigand</i> SUDAS DIRECTOR		<i>Deanna Mayfield</i> DESIGN METHODS ENGINEER
CASTINGS FOR GRATE INTAKES		

TYPE S ②④
 Barrier Intake Gate
 (Minimum open area 300 in²)



② Provide bicycle-safe vane-style grate. At low points, grates with vanes facing both directions of flow are allowed.

④ Use ductile iron frame castings meeting the requirements of ASTM A 536.

Frame minimum weight = 220 lbs.
 Grate minimum weight = 340 lbs.

FIGURE 6010.603 SHEET 2 OF 2

SUDAS	Iowa Department of Transportation	REVISION
		2 04-17-12
FIGURE 6010.603	STANDARD ROAD PLAN	SW-603
REVISIONS: Modified dimensions on Type 'Q' and Type 'R' grates.		SHEET 2 of 2
Paul D. Wigand SUDAS DIRECTOR		Deanna Marfield DESIGN METHODS ENGINEER
CASTINGS FOR GRATE INTAKES		