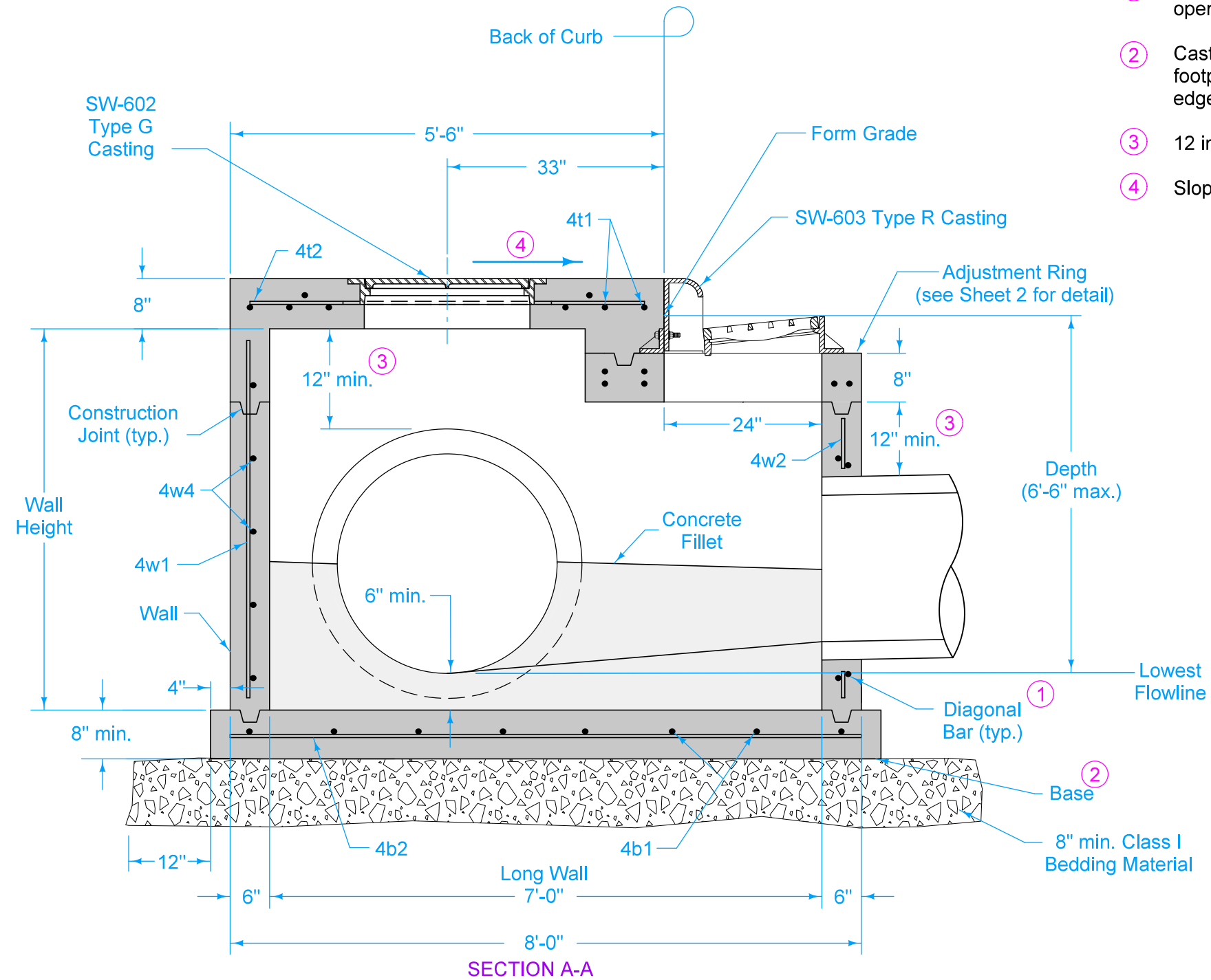


Refer to SW-514 for boxout details.



- ① Install four #4 diagonal bars at manhole opening and at all pipe openings.
- ② Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
- ③ 12 inch minimum wall height above all pipes.
- ④ Slope of 1.5% or as specified in the contract documents.

FIGURE 6010.504 SHEET 1 OF 2

SUDAS	IOWA DOT	REVISION	
		4	04-21-20
FIGURE 6010.504	STANDARD ROAD PLAN	SW-504	
		SHEET 1 of 2	

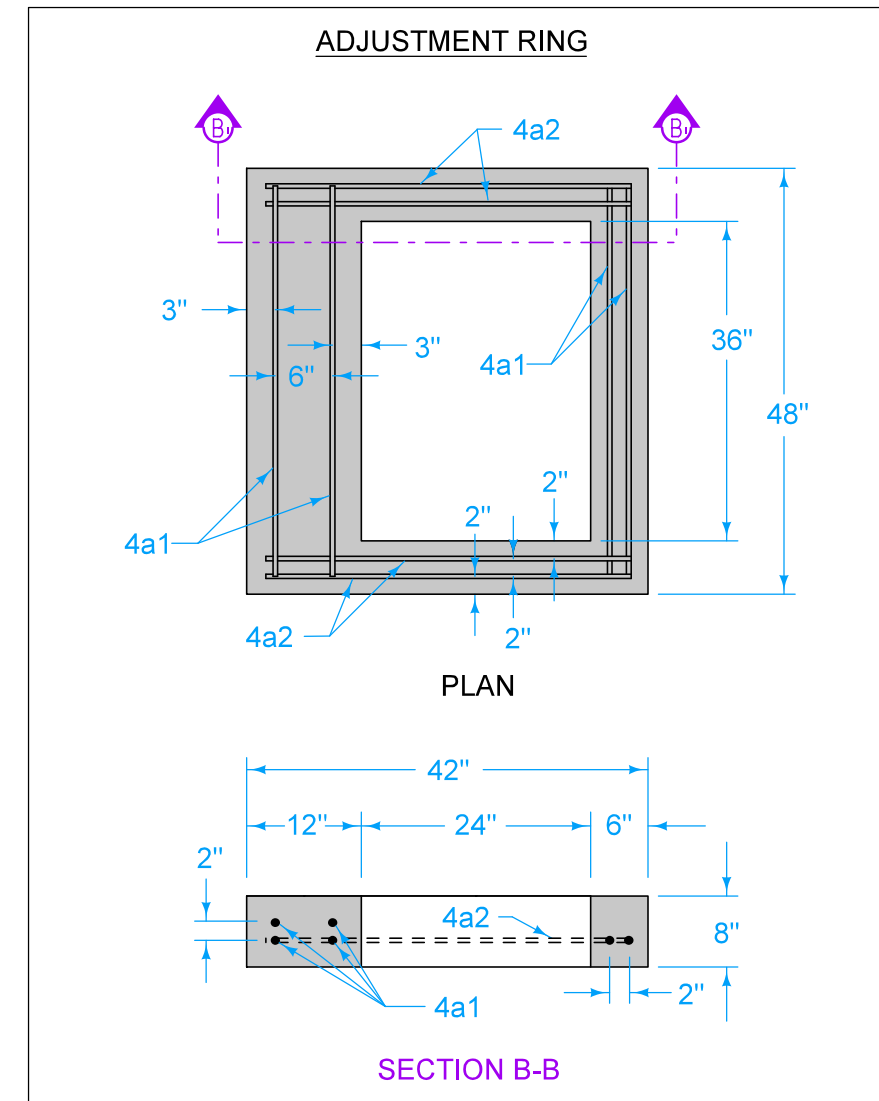
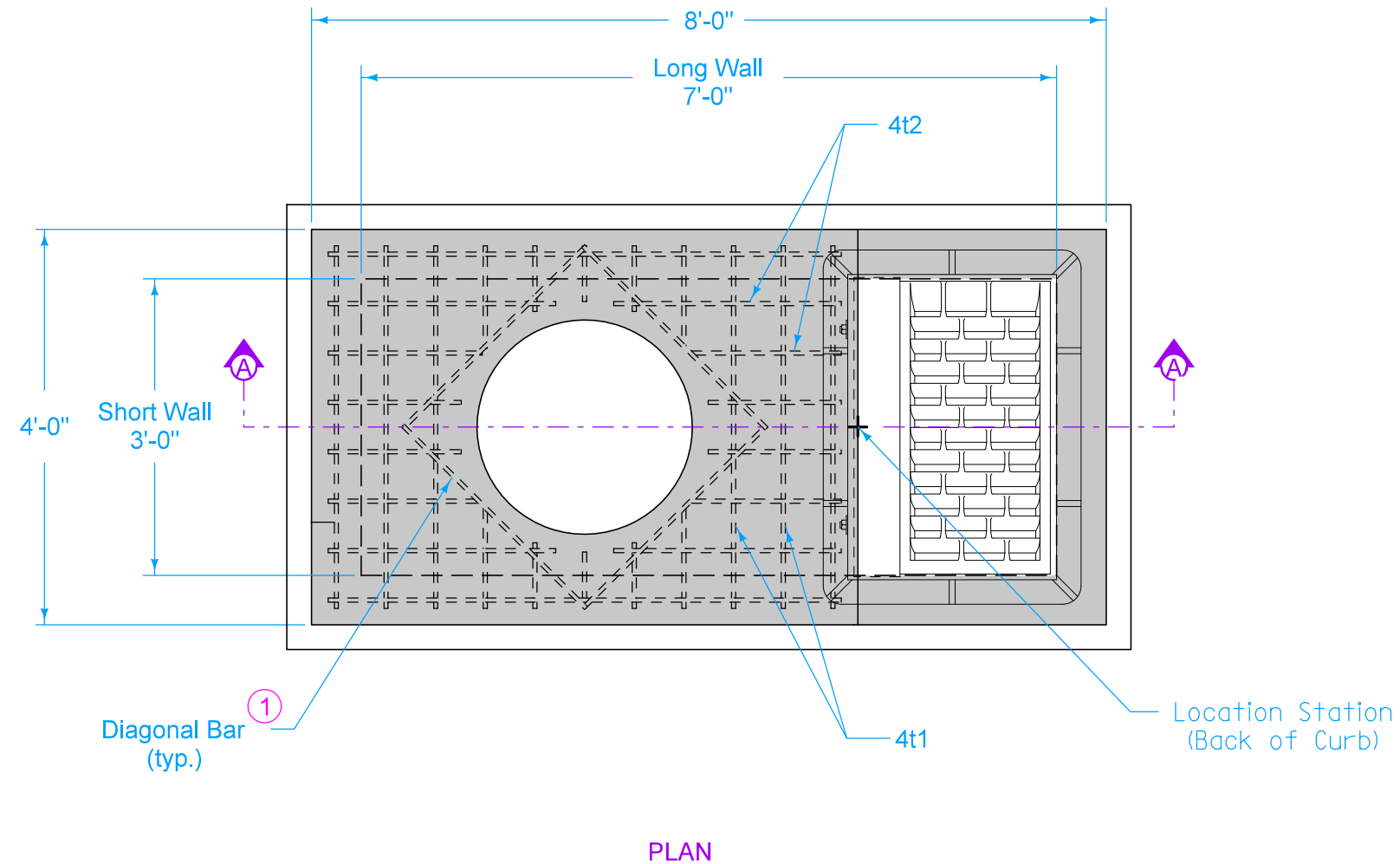
REVISIONS: Added Class I Bedding Material.

Paul D. Wrigand
 SUDAS DIRECTOR

Stuart Miller
 DESIGN METHODS ENGINEER

**SINGLE GRATE INTAKE
WITH FLUSH-TOP MANHOLE**

① Install four #4 diagonal bars at manhole opening and at all pipe openings.



REINFORCING BAR LIST						
Mark	Size	Location	Shape	Count	Length	Spacing
4t1	4	Top	—	1 1	3'-8"	6"
4t2	4	Top	—	8	5'-2"	6"
4b1	4	Base	—	8	4'-2"	13"
4b2	4	Base	—	5	8'-2"	10"
4a1	4	Adj. Ring	—	6	3'-8"	See Adj. Ring Plan
4a2	4	Adj. Ring	—	4	3'-2"	See Adj. Ring Plan
4w1	4	Walls	—	13	Wall Height minus 4"	12"
4w2	4	Walls	—	1 1	Wall Height minus 16"	12"
4w3	4	Long Walls	—	Varies	7'-8"	12"
4w4	4	Short Walls	—	Varies	3'-8"	12"

MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	18"	24"
Long Wall	30"	36"

FIGURE 6010.504 SHEET 2 OF 2

		REVISION	
		4	04-21-20
FIGURE 6010.504	STANDARD ROAD PLAN	SW-504	
		SHEET 2 of 2	
REVISIONS: Added Class I Bedding Material.			
 SUDAS DIRECTOR		 DESIGN METHODS ENGINEER	
SINGLE GRATE INTAKE WITH FLUSH-TOP MANHOLE			