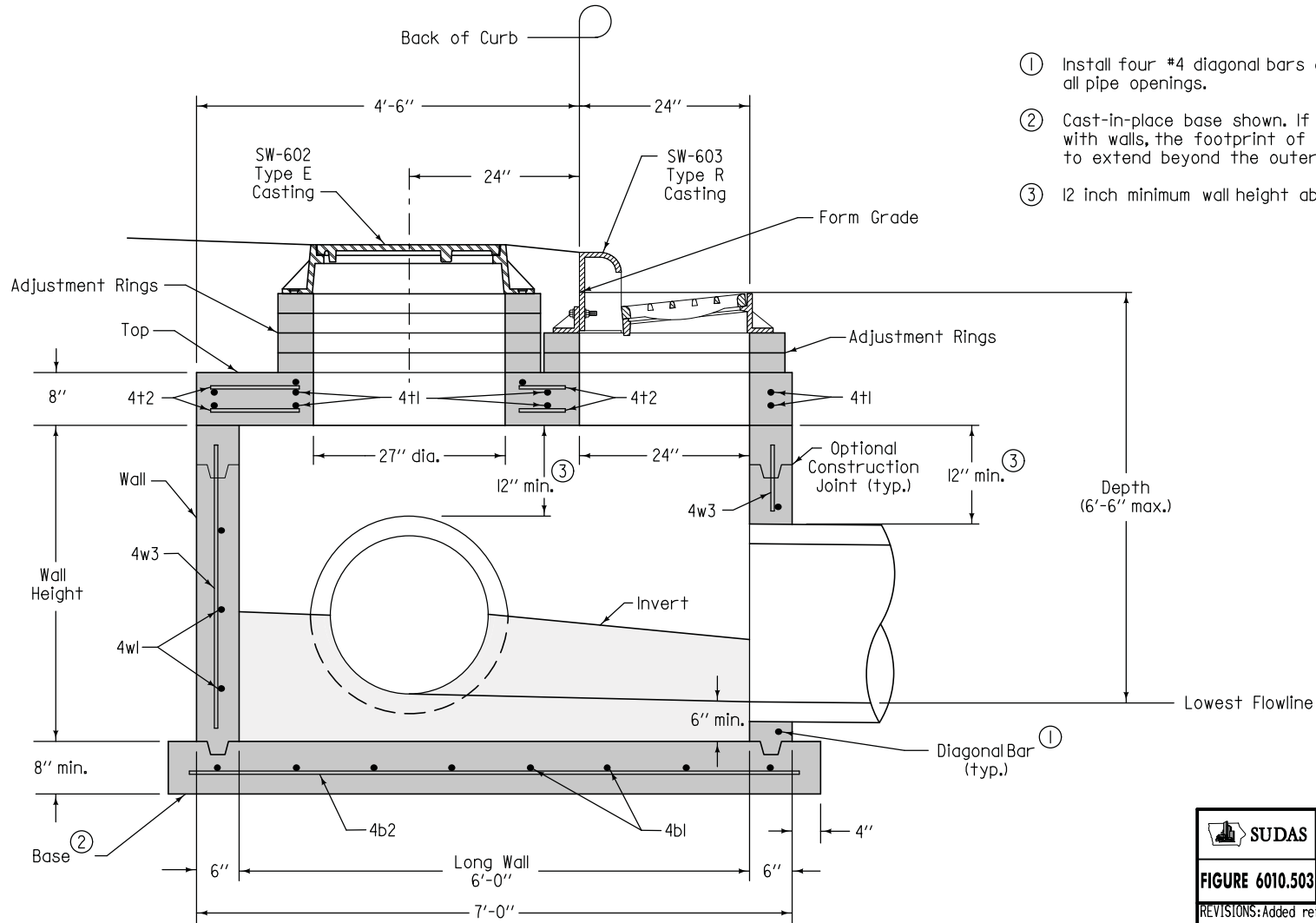


Refer to SW-514 for boxout details.



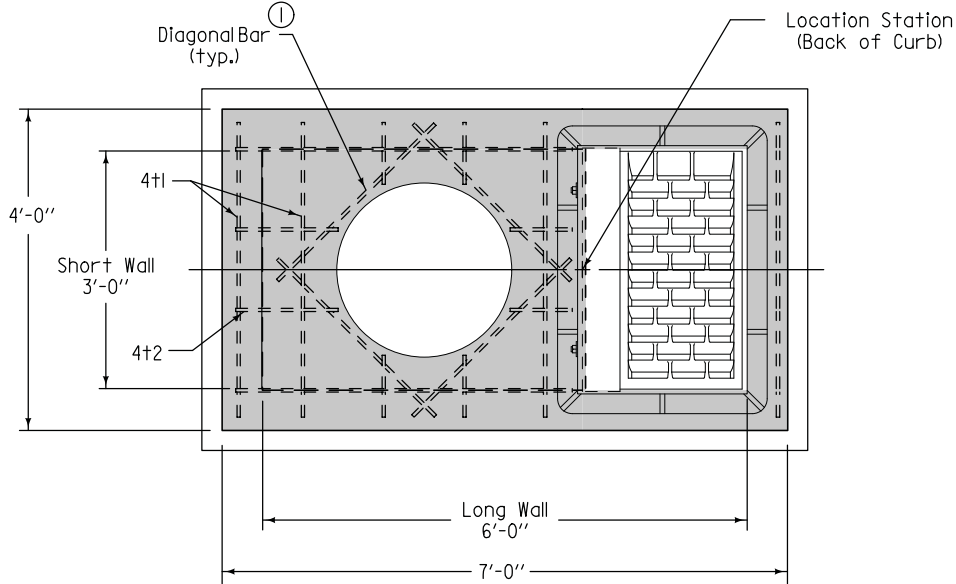
- ① Install four #4 diagonal bars at manhole opening and at all pipe openings.
- ② Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
- ③ 12 inch minimum wall height above all pipes.

TYPICAL SECTION

FIGURE 6010.503 SHEET 1 OF 2

| | | |
|---|-----------------------------------|---|
| SUDAS | Iowa Department of Transportation | REVISION |
| | | 1 10-16-12 |
| FIGURE 6010.503 STANDARD ROAD PLAN | | SW-503 SHEET 1 of 2 |
| REVISIONS: Added reference to SW-514. | | |
| <i>Paul D. Wiegand</i> SUDAS DIRECTOR | | <i>Deanna Marfeldt</i> DESIGN METHODS ENGINEER |
| SINGLE GRATE INTAKE WITH MANHOLE | | |

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



PLAN

| REINFORCING BAR LIST | | | | | | |
|----------------------|------|-------------|-------|--------|----------------------|---------|
| Mark | Size | Location | Shape | Count | Length | Spacing |
| 4t1 | 4 | Top | — | 12 | 3'-8" | 12" |
| 4t2 | 4 | Top | — | 8 | 4'-2" | 12" |
| 4b1 | 4 | Base | — | 7 | 4'-2" | 13" |
| 4b2 | 4 | Base | — | 5 | 7'-2" | 10" |
| 4w1 | 4 | Short Walls | — | Varies | 3'-8" | 12" |
| 4w2 | 4 | Long Walls | — | Varies | 6'-8" | 12" |
| 4w3 | 4 | Walls | — | 18 | Wall Height minus 4" | 13" |

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

FIGURE 6010.503 SHEET 2 OF 2

| | | | |
|--|-----------------|---|---------------|
| SUDAS Iowa Department of Transportation | REVISION | 1 | 10-16-12 |
| | FIGURE 6010.503 | STANDARD ROAD PLAN | SW-503 |
| REVISIONS: Added reference to SW-514. | | | SHEET 2 of 2 |
| Paul D. Weigand <small>SUDAS DIRECTOR</small> | | Deanna Marfield <small>DESIGN METHODS ENGINEER</small> | |
| SINGLE GRATE INTAKE WITH MANHOLE | | | |