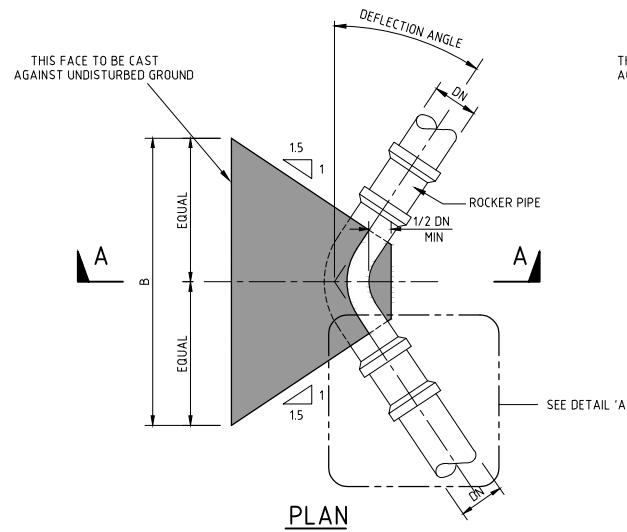
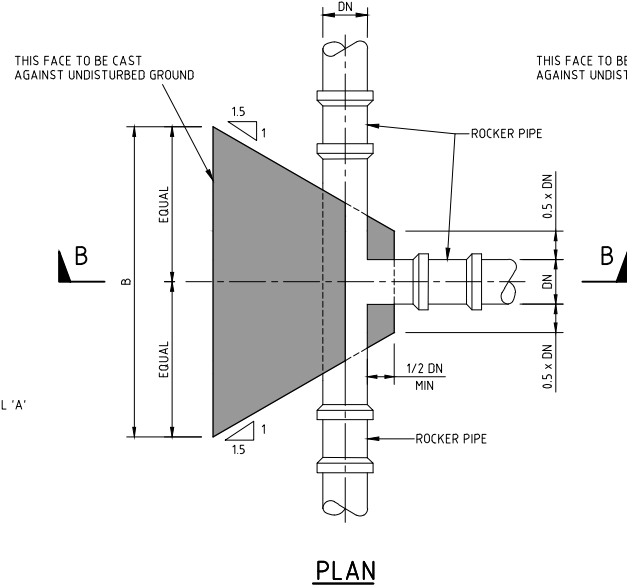
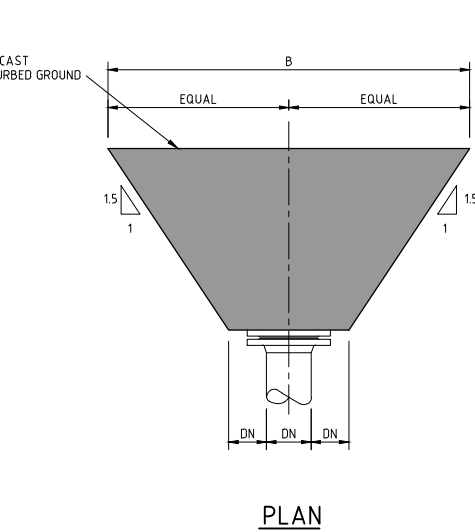




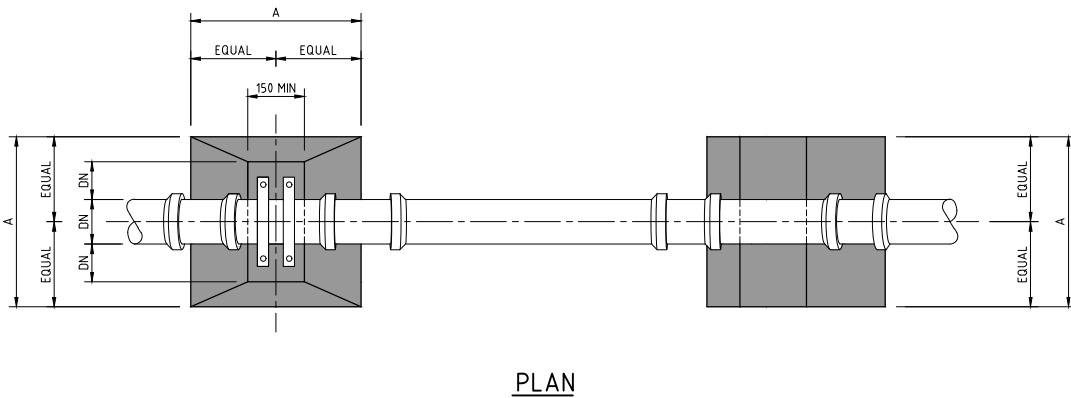
SECTION A-A TYPICAL BEND  
(HORIZONTAL THRUST)



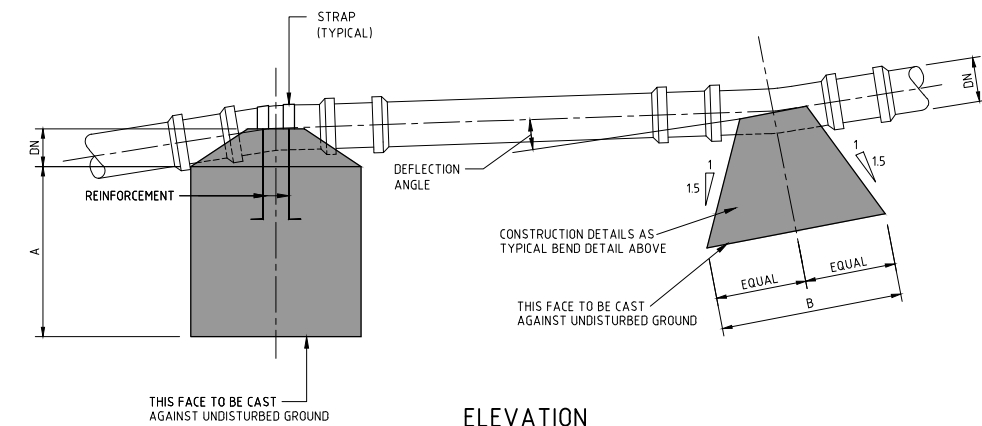
SECTION B-B TYPICAL TEE  
(HORIZONTAL THRUST)



ELEVATION TYPICAL BLANK END  
(HORIZONTAL THRUST)

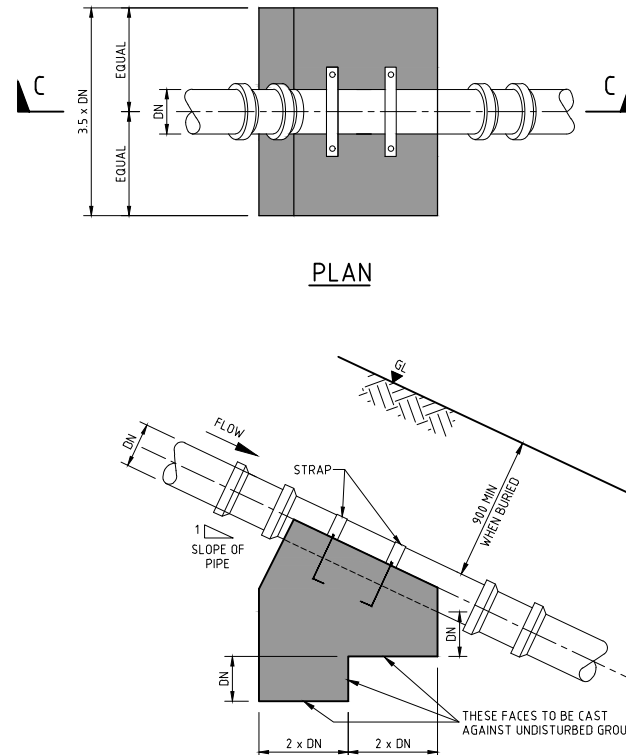


PLAN

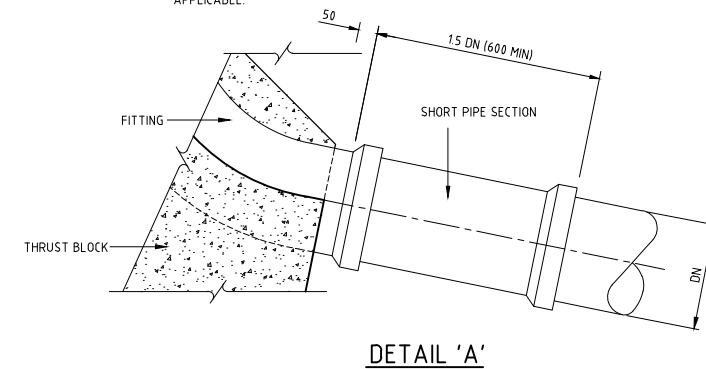


ELEVATION

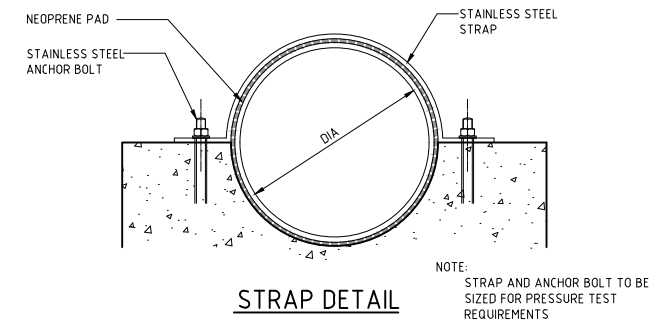
TYPICAL BENDS  
(VERTICAL THRUST)



SECTION C-C TYPICAL GRADIENT  
BURIED OR EXPOSED MAINS (1 IN 6 OR STEEPER)



DETAIL 'A'



STRAP DETAIL

| DIMENSIONS A & B-ALL HORIZONTAL & VERTICAL DOWN THRUST BLOCKS |            |                            |        |        |      |        |        |        |      |      |           |
|---------------------------------------------------------------|------------|----------------------------|--------|--------|------|--------|--------|--------|------|------|-----------|
| PIPE DIA.<br>DN                                               | DIMENSIONS | DEFLECTION ANGLE FOR BENDS |        |        |      |        |        |        |      | TEE  | BLANK END |
|                                                               |            | 11.25°                     | 22.50° | 33.75° | 45°  | 56.25° | 67.50° | 78.75° | 90°  |      |           |
| 100                                                           | A          | 350                        | 350    | 350    | 350  | 350    | 350    | 350    | 350  | 350  | 350       |
|                                                               | B          | 200                        | 200    | 200    | 200  | 200    | 200    | 200    | 200  | 300  | 350       |
| 150                                                           | A          | 500                        | 500    | 500    | 500  | 500    | 500    | 500    | 500  | 500  | 500       |
|                                                               | B          | 300                        | 300    | 300    | 300  | 300    | 300    | 300    | 300  | 400  | 400       |
| 200                                                           | A          | 600                        | 600    | 600    | 600  | 600    | 600    | 600    | 600  | 600  | 600       |
|                                                               | B          | 300                        | 300    | 300    | 300  | 300    | 300    | 300    | 300  | 550  | 550       |
| 250                                                           | A          | 700                        | 700    | 700    | 700  | 700    | 700    | 700    | 700  | 700  | 700       |
|                                                               | B          | 400                        | 400    | 400    | 400  | 400    | 400    | 400    | 400  | 600  | 600       |
| 300                                                           | A          | 800                        | 800    | 800    | 800  | 800    | 800    | 800    | 800  | 800  | 800       |
|                                                               | B          | 500                        | 500    | 500    | 500  | 500    | 500    | 500    | 500  | 800  | 800       |
| 350                                                           | A          | 950                        | 950    | 950    | 950  | 950    | 950    | 950    | 950  | 950  | 950       |
|                                                               | B          | 500                        | 500    | 500    | 500  | 500    | 500    | 500    | 500  | 950  | 950       |
| 400                                                           | A          | 1000                       | 1000   | 1000   | 1000 | 1000   | 1000   | 1000   | 1000 | 1000 | 1000      |
|                                                               | B          | 600                        | 600    | 600    | 600  | 600    | 600    | 600    | 600  | 1000 | 1000      |
| 450                                                           | A          | 1100                       | 1100   | 1100   | 1100 | 1100   | 1100   | 1100   | 1100 | 1100 | 1100      |
|                                                               | B          | 750                        | 750    | 750    | 750  | 750    | 750    | 750    | 750  | 1200 | 1200      |
| 500                                                           | A          | 1200                       | 1200   | 1200   | 1200 | 1200   | 1200   | 1200   | 1200 | 1200 | 1200      |
|                                                               | B          | 800                        | 800    | 800    | 800  | 800    | 800    | 800    | 800  | 1400 | 1400      |

NOTE: ALL THRUST BLOCKS ARE DESIGNED FOR A MAXIMUM TEST PRESSURE OF 8 BAR (QCS SECTION 8-4.6.3.1), & AN ALLOWABLE GROUND BEARING PRESSURE OF 200KN/m<sup>2</sup>. IF TEST PRESSURE IS HIGHER OR ALLOWABLE GROUND BEARING PRESSURE LOWER THEN THIS DRAWING IS NOT APPLICABLE.

- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
  - ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT Q.C.S. UNLESS OTHERWISE AGREED WITH THE ENGINEER.
  - ALL CONCRETE TO BE GRADE SRC 20 MINIMUM MANUFACTURED FROM SULPHATE RESISTING CEMENT.
  - MINIMUM COVER TO ALL REINFORCEMENT TO BE 75mm.
  - SPIGOT AND SOCKET JOINTS MUST NOT BE CAST INTO CONCRETE.
  - THRUST BLOCKS TO BE CONSTRUCTED IN ACCORDANCE WITH THE ABOVE DETAILS AND THE QCS SECTION 8 PART 4.5.5.
  - PIPES AND FITTINGS SHALL BE COVERED WITH PROTECTIVE MEMBRANE OF PVC, RUBBER OR FELT.
  - CONCRETE ENCASMENT TO ALLOW FOR FUTURE REMOVAL OF PIPE FITTING.
  - THRUST BLOCK SHOWN FOR DI PIPES. DETAILS FOR OTHER MATERIALS, EG. GRP, HDPE, PVC-U SIMILAR BUT WITHOUT NEED FOR ROCKER PIPES.
  - THE MINIMUM TEST PRESSURE FOR TSE PIPELINES SHALL BE IN ACCORDANCE WITH PWA DESIGN MANUAL VOLUME 4, CLAUSE 2.7.3.
  - ABOVE GROUND CONCRETE CORNERS/EDGES SHALL HAVE MINIMUM 50mm CHAMFER.
  - ALL SURFACES BETWEEN PIPES AND CONCRETE BLOCK SHALL BE PROVIDED WITH THICK (MIN. 7mm) NEOPRENE BAND.
  - PIPE JOINTS SHALL NOT BE COVERED BY CONCRETE.

LEGEND:  
GL GROUND LEVEL

|   |           |                   |  |
|---|-----------|-------------------|--|
| 4 | SEP 19    | REVALIDATED ISSUE |  |
| 3 | APR 19    | ISSUED FOR USE    |  |
| 2 | 01 MAR 19 | REVALIDATED ISSUE |  |
| 1 | 23 NOV 15 | ISSUED FOR USE    |  |
| 0 | 15 SEP 13 | ISSUED FOR USE    |  |

| Rev. | Date | Revision Details | Appd. |
|------|------|------------------|-------|
|------|------|------------------|-------|

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PROJECTS AFFAIRS  
QCS Section:  
Section 8 - Drainage Works  
Part 4 - Pipeline Installation

|                                                                              |                  |        |                |
|------------------------------------------------------------------------------|------------------|--------|----------------|
| Drawing Title:<br><b>THRUST BLOCK DETAILS<br/>(MAX. TEST PRESSURE 8 BAR)</b> |                  |        |                |
| Approved:                                                                    | Sheet No: 1 OF 1 |        |                |
| Date:                                                                        | APRIL 2019       | Scale: | NTS            |
| Drawing Number:                                                              | SD 8-4-101       |        | Revision:<br>4 |