**TYPICAL WATER CONNECTION**

**MINIMUM PIPE COVER**

<table>
<thead>
<tr>
<th>OD PIPE Ø</th>
<th>PIPE COVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 - 63</td>
<td>450</td>
</tr>
<tr>
<td></td>
<td>750</td>
</tr>
</tbody>
</table>

**TRENCH WIDTH**

<table>
<thead>
<tr>
<th>OD PIPE Ø</th>
<th>TRENCH WIDTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 - 63</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>600</td>
</tr>
</tbody>
</table>

**WATER CONNECTION NOTES:**

1. DIRECT TAPPING IS NOT PERMITTED INTO ANY PIPE TYPE. REFER 4005-30002-03 FOR GENERAL NOTES.
2. REFER 4005-30002-03 FOR APPROVED TAPPING FITTINGS & METHODOLOGIES FOR NEW OR EXISTING WATER MAINS.
3. NO FIELD BUTT WELDING OF PE CONNECTION TUBING PERMITTED.
4. REFER SECTION 3 FOR TRENCH & EMBEDMENT REQUIREMENTS.
5. REFER DESIGN DRAWINGS & SECTION 4 FOR POSITIONING OF THE CONNECTION.
6. REFER 4005-30002-04; TABLE 1 FOR INFORMATION ON THE USE OF PRETAPPED CONNECTORS, TAPPING SADDLES, TAPPING BANDS AND TAPPED COLLARS.
8. THE MAXIMUM HOLE SIZE PERMITTED TO BE DRILLED IN ANY PIPE IS 50 mm. DRILL HOLE SIZE SHALL BE:
   - 18 FOR DN20 & DN25 PIPE.
   - 32 FOR DN40 & DN50 PIPE.
9. ADJACENT HOLES SHALL BE DRILLED AT SLIGHTLY DIFFERENT ANGLES TO THE HORIZONTAL.
10. THE PE CONNECTION PIPE SHALL BE SNAKED IN THE TRENCH HORIZONTALLY.
11. CONNECTIONS SHOULD BE PERPENDICULAR TO THE WATER MAIN, A CONSTRUCTION TOLERANCE OF ± 5° (15 mm/1 METER) IS PERMISSIBLE. REFER NOTE 13.
12. IF WATER CONNECTION IS NOT LAID PERPENDICULAR TO THE MAIN, GREEN DETECTABLE MARKER TAPE SHALL BE BURIED APPROX 150 DIRECTLY ABOVE PE. TAPE MARKED (CAUTION - WATER MAIN BURIED BELOW).
13. FOR OD50 AND OD63 PE WATER CONNECTIONS THE GREEN DETECTABLE MARKER TAPE IS MANDATORY.
14. WHERE MAINCOCK INSTALLED ON TAPPING FITTING, THE PLUG OF THE MAINCOCK SHALL BE TURNED ON PRIOR TO BACKFILLING OF TRENCH.
15. PE PIPEWORK CONNECTOR TO THE METER INLET RISER SHALL BE SUCH THAT RISER CAN BE REMOVED WITHOUT CUTTING THE PE TUBING.
16. PRELAIM WATER CONNECTION INLET RISERS SHALL BE INSTALLED IN THE VERTICAL POSITION. THE SA WATER REPRESENTATIVE MAY DIRECT FOR THEM TO BE BURIED SO THEY WILL BE LAID HORIZONTALLY TO THE LEFT AS VIEWED FROM THE MAIN.
17. ALL DIMENSIONS IN MILLIMETRES.
ELEVATION

DN20 & DN25 Pipework
Water Mains to Inlet Riser

NOTES:
1. DIRECT TAPPING IS NOT PERMITTED INTO ANY PIPE.
2. THIS DRAWING SHALL BE CONSIDERED FOR NEW WATER CONNECTIONS OFF NEW OR EXISTING WATER MAINS.
3. REFER 4005-30002-01 TO 4005-30002-05 FOR GENERAL NOTES.
4. REFER 4005-30006-01 FOR WATER CONNECTION NOTES & REQUIREMENTS.
5. REFER THE DESIGN DRAWINGS & SECTION 4 FOR POSITIONING OF THE CONNECTION.
6. REFER SECTION 3 FOR TRENCH & EMBEIDMENT REQUIREMENTS.
7. REFER 4005-30006-03 & 4005-30006-04 FOR APPROVED TAPPING FITTINGS & METHODOLOGIES FOR NEW OR EXISTING WATER MAINS.
8. IF MAINS SPECIFIED IT SHALL BE LOCATED ADJACENT THE WATER MAIN TAPPING FITTING.
9. FOR DN 20 METERS, THE CONTRACTOR SHALL FIT THE WATER METER AND LOCKING CLAMP PRIOR TO CPC.
10. THE LOCKING CLAMP SHALL BE FIXED ONTO THE TAILPIECE UNION.
11. THE WATER METER SHALL BE SUPPORTED PRIOR TO INSTALLATION OF THE OUTLET RISER.
12. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INLET RISER (DN 20)</td>
<td>(LENGTH 530)</td>
</tr>
<tr>
<td>2</td>
<td>END CONNECTOR MALE</td>
<td>PE 25 x TBIPE</td>
</tr>
<tr>
<td>3</td>
<td>REDUCER NIPPLE</td>
<td>DR BRASS (25-20 NOM)</td>
</tr>
<tr>
<td>4</td>
<td>END CONNECTOR FEMALE</td>
<td>TITAN GM22</td>
</tr>
<tr>
<td>5</td>
<td>INLET RISER (DN 25)</td>
<td>(LENGTH 530)</td>
</tr>
</tbody>
</table>

SA WATER STANDARD DRAWINGS
WATER SUPPLY CONSTRUCTION MANUAL
DN20 & DN25 CONNECTIONS
WATER MAIN TO WATER METER

This drawing is the property of the SOUTH AUSTRALIAN WATER CORPORATION and shall not be copied or modified in part or in whole without authorization.
SA WATER STANDARD DRAWINGS
WATER SUPPLY CONSTRUCTION MANUAL
APPROVED TAPPING METHODS
DN20 & DN25 CONNECTIONS

NEW PVC & DICL MAINS
DN100/ DN150
PRETAPPED CONNECTOR

NEW PVC & DICL MAINS
DN200 – DN375
TAPPING SADDLE

NEW PE MAINS
OD63 – OD250
PE TAPPING SADDLE

NEW PE MAINS
OD63 – OD250
SELF TAPPING FERRULE SADDLE

NOTES:
1. DIRECT TAPPING IS NOT PERMITTED INTO ANY PIPE.
2. REFER 4005-30002-01 & 4005-30002-02 FOR GENERAL NOTES.
3. REFER SECTION 3 FOR TRENCH & EMBEMENT REQUIREMENTS.
4. REFER DESIGN DRAWINGS & 4005-30006-01, 4005-30006-02 FOR POSITIONING OF THE CONNECTION.
5. WHERE PREFERRED ANGLE OF FITTING CANNOT BE ACHIEVED THE SA WATER REPRESENTATIVE'S APPROVAL SHALL BE SOUGHT FOR AN ALTERNATIVE.
6. WRAPPING OF ALL FITTINGS SHALL BE IN ACCORDANCE WITH TS 18, STAINLESS STEEL COMPONENTS & ALUMINUM SADDLES ON PVC & AC MAINS DO NOT REQUIRE WRAPPING.

ITEM | DESCRIPTION | REMARKS
---|---|---
1 | PRETAPPED CONNECTOR | SINGLE OR DOUBLE OPTIONS
2 | BRASS END CONNECTOR | TITA G92
3 | TAPPING SADDLE | FITTING DEPENDENT UPON PIPE MATERIAL & DIAMETER
4 | ELECTROFUSION PLASTIC TAPPING SADDLE (WITH SS CUTTER) | SADDLES AVAILABLE WITH 20 mm OR 25 mm OFFSETS
5 | PE REDUCING TEE | TEES AVAILABLE WITH 20 mm OR 25 mm BRANCHES
6 | PE TEE (FEMALE) | 63 mm x 2" BSP
7 | BUSH | 2" BSP x 1" BSP
8 | PE END CONNECTOR | 25 mm x 1" BSP
9 | SELF TAPPING FERRULE SADDLE | 25 mm x 1" BSP
WATER CONNECTION
EXISTING WATER MAIN TO METER
TYPICAL ASSEMBLY

1. TAPPING SADDLE
2. COCK PLUG (20mm)
3. BRASS-PE INSULATED END CONNECTOR
4. STAINLESS STEEL TAPPING BAND
5. PLASTIC TAPPING SADDLE (WITH STAINLESS STEEL CUTTER)

REMARKS
FITTING DEPENDENT UPON PIPE MATERIAL & DIAMETER
TURNED ON FOLLOWING INSTALLATION
ENSURE BLUE INSERT USED
SADDLES AVAILABLE WITH 20 mm OR 25 mm OFFTAKES

NOTES:
1. DIRECT TAPPING IS NOT PERMITTED INTO ANY PIPE.
2. REFER 4005-30002-01 & 4005-30002-02 FOR GENERAL NOTES.
3. REFER SECTION 3 FOR TRENCH & IMBEDMENT REQUIREMENTS.
4. REFER DESIGN DRAWINGS & 4005-30006-01, 4005-30006-02 FOR POSITIONING OF THE CONNECTION.
5. WHERE PREFERRED ANGLE OF FITTING CANNOT BE ACHIEVED THE SA WATER REPRESENTATIVE’S APPROVAL SHALL BE SOUGHT FOR AN ALTERNATIVE WRAPPING.
6. WRAPPING OF ALL FITTINGS SHALL BE IN ACCORDANCE WITH TS 30, STAINLESS STEEL COMPONENTS & GUNMETAL SADDLES ON PVC & AC MAINS DO NOT REQUIRE WRAPPING.
7. WHERE EXISTING MAIN IS MS11 REFER 4005-30006-07 FOR TAPPING OPTIONS.
8. ALL DIMENSIONS IN MILLIMETRES.
**NOTES:**

1. DIRECT TAPPING IS NOT PERMITTED INTO ANY PIPE.
2. REFER 4.005–30006–01 & 4.005–30013–02 FOR GENERAL NOTES.
3. THIS DRAWING SHALL BE CONSIDERED FOR NEW WATER CONNECTIONS OFF NEW OR EXISTING WATER MAINS.
4. REFER 4.005–30006–01 FOR GENERAL NOTES & REQUIREMENTS FOR WATER CONNECTIONS.
5. REFER THE DESIGN DRAWINGS & SECTION 4 FOR POSITIONS OF THE CONNECTION.
6. WHERE A STAINLESS STEEL TAPPING BAND IS USED FOR D1C1 OR D1C1 MAINS, AN AUTHORISED PLASTIC NIPPLE (BSF 1 1/2") SHALL BE SCREWED INTO PIPE & TRIMMED TO PIPE OUTER SURFACE.
7. MAINCOCK REQUIRED FOR ALL DN 50 CONNECTIONS.
8. MAINCOCK SHALL BE LOCATED ADJACENT THE WATER MAIN TAPPING FITTING.
9. WHERE EXISTING MAIN IS MSCL REFER 4.005–30006–07 FOR TAPPING OPTIONS.
10. DIRECT TAPPING IS NOT PERMITTED INTO ANY PIPE.
11. AUTHORISED GORE DETECTABLE MARKER TAPE SHALL BE LAID APPROX. 150 ABOVE PIPE.
12. WRAPPING OF ALL FITTINGS SHALL BE IN ACCORDANCE WITH TS 18 STAINLESS STEEL COMPONENTS & GUMMETAL SADDLES ON PVC & AC MAINS DO NOT REQUIRE WRAPPING.
13. REFER SECTION 3 FOR TRENCH & ERECTION REQUIREMENTS.
14. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
EXISTING MSCL MAINS DN100 - DN375
TAPPING INTO CHARGED MAINS (WET TAPPING)
PE WATER CONNECTIONS (DN20 & DN25 METERS)

EXISTING MSCL MAINS DN100 - DN375
TAPPING INTO CHARGED MAINS (WET TAPPING)
PE WATER CONNECTIONS (DN40 METERS)
(USING UNDER PRESSURE TAPPING EQUIPMENT)

EXISTING MSCL MAINS DN100 - DN375
TAPPING INTO CHARGED MAINS (WET TAPPING)
PE WATER CONNECTIONS (DN50 METERS)
(USING UNDER PRESSURE TAPPING EQUIPMENT)

NOTES:
1. REFER 4005-30006-02 & 4005-30006-03 FOR GENERAL NOTES.
2. THIS DRAWING SHALL BE CONSIDERED FOR NEW WATER CONNECTIONS OFF NEW OR EXISTING WATER MAINS.
3. WELDING SHALL BE IN ACCORDANCE WITH AS4441, CLASS 3P.
5. FOR GENERAL NOTES & REQUIREMENTS FOR WATER CONNECTIONS REFER 4005-30006-01.
6. REFER THE DESIGN DRAWINGS & SECTION 6 FOR POSITIONING OF THE CONNECTION.
7. MANCOCK REQUIRED FOR ALL CONNECTIONS.
8. AUTHORISED GREEN DETECTABLE MARKER TAPE SHALL BE Laid APPROX 150 ABOVE PIPE.
9. REFER SECTION 3 FOR TRENCH & EMBANKMENT REQUIREMENTS.
10. ALL DIMENSIONS IN MILLIMETRES.
NOTES:

1. REFER 4005-30002-01 & 4005-30002-02 FOR GENERAL NOTES.
2. ALL BRASS & COPPER FITTINGS SHALL BE PROTECTED IN ACCORDANCE WITH TS 18.
3. PBE & STAINLESS STEEL FITTINGS DO NOT REQUIRE PROTECTIVE WRAPPING UNLESS DAMAGED. REFER NOTE 5 FOR CLARIFICATION OF DAMAGE.
4. THE CONTRACTOR SHALL INSPECT ALL PBE & STAINLESS STEEL FITTINGS PRIOR TO INSTALLATION.
5. IF DAMAGE IS DETECTED PROCEED USING THESE GUIDELINES:
   • EXTERNAL DAMAGE <25 x 25 mm - WRAP THE ITEM IN ACCORDANCE WITH TS 18 AND THIS DRAWING.
   • INTERNAL OR EXTERNAL DAMAGE >25 x 25 mm - REPLACE THE ITEM.
6. THE PROCEDURE FOR WRAPPING ALL METALLIC TAPPING SADDLES AND ALL BRASS FITTINGS SHALL BE:
   • COAT WITH PETROLATUM PRIMER,
   • WRAP WITH 50 mm WIDE PETROLATUM TAPE,
   • IN ACCORDANCE WITH TS 18.
7. POLYETHYLENE SLEEVING AROUND THE PETROLATUM TAPE IS NOT REQUIRED IF PIPE IS PVC, AC, OR DCL.
8. WHERE THE PIPE IS DCL, THE CONTINUITY OF THE POLYETHYLENE SLEEVING SHALL BE MAINTAINED BY:
   • CUTTING A PIECE OF POLYETHYLENE SLEEVING SUFICIENTLY LONG AND WIDE TO PROVIDE MIN 150 OVERLAP (AT EACH END) TO THE SLEEVE PROTECTING THE PIPE,
   • APPLYING THE PETROLATUM TAPE SYSTEM AROUND THE SADDLE OR PRETAPPED CONNECTOR TAPPING AND FITTING,
   • FIT THE PREPARED PIECE OF SLEEVE AROUND THE PIPE AND FITTING AND SECURE BOTH ENDS TO THE PIPE SLEEVE WITH ADHESIVE TAPE.
9. WHERE THE PIPE IS DCL:
   • PRIOR TO WELDING, REMOVE THE PIPE COATING AROUND THE AREA WHERE BOSS IS TO BE LOCATED,
   • CLEAN THE PIPE COATING FOR THE FULL CIRCUMFERENCE 100 mm WIDE EACH SIDE OF THE BOSS,
   • FOLLOWING WELDING, COAT PIPE, BOSS AND BRASS FITTINGS WITH PETROLATUM PRIMER AND FILL GAPS WITH MASTIC,
   • WRAP PIPE, BOSS, COCK PLUG AND BRASS FITTINGS WITH 50 mm WIDE PETROLATUM TAPE,
   • APPLY OVERWRAP TAPE OVER THE PE WELD AND FITTINGS.
10. PETROLATUM PRODUCTS AND METHODS OF APPLICATION OF THE TAPE SYSTEM SHALL BE IN ACCORDANCE WITH TS 18.
CONCRETE SUPPORT SLAB
Sawcut & placed either
side of pipe work.
Pavers glued to
support slab.

PLAN
LID NOT SHOWN
NOT TO SCALE

MAX 1000

REFER NOTES 6 & 7.

F.S.L.

APPROX 500

F.S.L.

PAVER 80T

NOTES:

1. THE BALL VALVE AND TAIL PIECE UNION AS SHOWN IS APPLICABLE FOR
ONLY DRINKING WATER INSTALLATIONS.
2. THE METER BOX SHALL ONLY BE LOCATED WITHIN A DESIGNATED
FOOTPATH OR VERANDA AREA. IT SHALL NOT BE LOCATED WITHIN A
TRAFFICABLE LANEWAY.
3. THE LOCATION OF THE METER BOX SHALL BE ADJACENT THE FRONT/REAR
BOUNDARY. NO PART OF THE METER BOX SHALL EXTEND BEYOND 1000
FROM THE BOUNDARY.
4. THERE SHALL BE NO EXCEPTION TO THE REQUIREMENT OF NOTES 2 AND 3.
THE DESIGNER MAY NEED TO RECONSIDER THE POSITION OF THE COMMON
SERVICE TRUNKS OR OTHER SERVICES.
5. THE INLET RISER SHALL INCLUDE THE TAIL PIECE UNION AND NUT.
6. THE WATER METER SHALL BE FITTED PRIOR TO CPC.
7. THE METER BOX SHALL BE FITTED PRIOR TO COMPLETION OF THE
FOOTPATH SURFACING.
8. REFER 4005-30006-03 FOR ALLOCATION OF SPACE IN LANE DIVISIONS.
9. REFER 4005-30008-03 FOR STANDARD WATER METER IN BELOW GROUND
CHAMBER.
10. REFER 4005-30002-01 TO 4005-30001-00 FOR GENERAL NOTES.
11. ALL DIMENSIONS ARE IN METRE UNITS UNLESS NOTED OTHERWISE.

SA WATER STANDARD DRAWINGS
WATER SUPPLY CONSTRUCTION MANUAL
BELOW GROUND CHAMBER
WITH DN20 INLET RISER
FOR NEW WATER METER

REVISION PANEL

REV DATE DIN DETAILS APR CURRENT REV AUTHORISED
1 3/1/2016 MS 2016 STANDARDS REVIEW
2 2/9/2016 TP TAIL PIECE UNION AND SPECCER ADDED.
3 1/28/2016 RP METER ADDED, NOTES ALTED

DESIGN PANEL

REV DATE DIN DETAILS APR CURRENT REV AUTHORISED
1 3/1/2016 MS 2016 STANDARDS REVIEW
2 1/28/2016 TP TAIL PIECE UNION AND SPECCER ADDED.
3 1/28/2016 RP METER ADDED, NOTES ADDED.

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NOTES:

1. REFER 4.005-30002-01 & 4.005-30002-02 FOR GENERAL NOTES.
2. LOCATION OF CONNECTIONS:
   - DRINKING WATER CONNECTIONS:
     • REFER 4.005-30004-01, 4.005-30004-02 & 4.005-30004-03 FOR
       STANDARD "DEFAULT" POSITIONS.
     • ALTERNATIVE POSITIONS MAY BE SPECIFIED ON THE DESIGN
       DRAWING. APPROVAL OF THE SA WATER REPRESENTATIVE IS
       REQUIRED FOR THIS OPTION.
3. FOR USE OF THIS OPTION THE MAXIMUM PERMISSIBLE DISTANCE BETWEEN
   WATER METERS OR CONNECTION PIPE WORK SHALL BE 1200.
4. LOCATION OF TEE AND OFFSET SHALL BE BETWEEN KERB AND
   BOUNDARY (DEPENDENT ON SITE LOCATION).
5. S/S DISC TO BE PLACED ON KERB IN LINE WITH WATER CONNECTION
   ALIGNMENT.
6. A MAINCOCK SHALL BE INSTALLED ON THE TAPPIING SADDLE OR
   PREFITTED CONNECTOR
7. THIS OPTION IS NOT APPROVED FOR DUAL RETICULATION SYSTEMS
   (DRINKING WATER & NON DRINKING WATER).