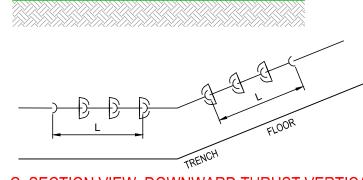
TRENCH FLOOR

FSL



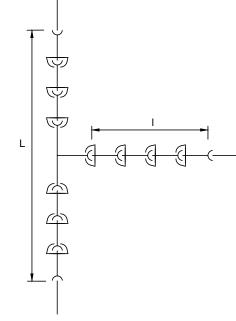
DETAIL A: PLAN VIEW, HORIZONTAL BEND
THRUST RESTRAINT MINIMUM DISTANCE (L IN m)

DETAIL B: SECTION VIEW, UPWARD THRUST VERTICAL DOWN BEND THRUST RESTRAINT MINIMUM DISTANCE (L IN m)

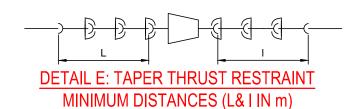
(SPECIAL DESIGN REQUIRED FOR 90 DEGREE VERTICAL BENDS)

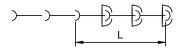
DETAIL C: SECTION VIEW, DOWNWARD THRUST VERTICAL UP BEND THRUST RESTRAIN MINIMUM DISTANCE (L IN m)

(SPECIAL DESIGN REQUIRED FOR 90 DEGREE VERTICAL BENDS)



DETAIL D: PLAN VIEW, TEE THRUST RESTRAINT MINIMUM DISTANCES (L & I IN m)





DETAIL F: DEAD END THRUST
RESTRAINT MINIMUM DISTANCE (L IN m)

(TREAT FLUSHING BENDS AS A DEAD END)

GENERAL NOTES:

- USE THE WATER AGENCY SUPPLIED RESTRAINED JOINT LENGTH CALCULATION SPREADSHEET TO CALCULATE LENGTHS L & I.
- LOCKING RESTRAINTS ARE ONLY TO BE USED WITH COMPATIBLE PIPES AND FITTINGS
 AS AUTHORISED BY THE MANUFACTURER.
 ALL RESTRAINED LENGTHS ARE APPLICABLE FOR BURIED PIPELINES ONLY, ABOVE
- ALL RESTRAINED LENGTHS ARE APPLICABLE FOR BURIED PIPELINES ONLY. ABOVE GROUND RESTRAINED JOINTS ARE NOT ACCEPTABLE.
- 4. THE LENGTH OF RESTRAINT REQUIRED IS THE AMOUNT OF PIPELINE THAT MUST BE RESTRAINED INCLUDING THE FITTING JOINTS.
- 5. SPECIAL CONSIDERATION IS REQUIRED IF THE DESIGNATED RESTRAINED LENGTH FOR A FITTING ENCROACHES, OR OVERLAPS THE DESIGNATED RESTRAINED LENGTH FOR ANOTHER FITTING. SEEK THE MANUFACTURER'S GUIDANCE IF THIS OCCURS.
- WHEN MAINTAINING OR CUTTING RESTRAINED SECTIONS OF PIPELINE IT IS
 ADVISABLE THAT EFFECTIVE LENGTHS OF FITTINGS BE MEASURED ON SITE TO
 CONFIRM THEIR COMPLIANCE WITH THIS DRAWING.

- 7. RESTRAINED JOINTS MAY BE ASSUMED TO ACT THE SAME AS A FLANGED JOINTS.
- JOINTING TO BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 IF MAXIMUM JOINT DEFLECTION IS DESIRED, PUSH THE SPIGOT TO THE FIRST
- WITNESS MARK ONLY AND THEN DEFLECT THE JOINT. THE JOINT WILL NOT DEFLECT
 AFTER INSERTING THE SPIGOT ALL THE WAY HOME.
- JOINTS TO BE DISASSEMBLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- 11. DO NOT REUSE RESTRAINED JOINTS UNLESS ALLOWED BY THE MANUFACTURER.
- 12. RESTRAINED JOINTS MUST BE CAPTURED ON THE AS CONSTRUCTED INFORMATION.
- 13. FOR RESTRAINT DESIGNS IN SCENARIO'S NOT CATERED FOR IN THE WATER AGENCIES CALCULATION SPREADSHEET, (ie. GROUND CONDITIONS) REFER TO MANUFACTURERS RESTRAINT DESIGN SOFTWARE FOR GUIDANCE.
- ALL PIPEWORK CONTAINING RESTRAINED JOINTS REQUIRES SPECIAL MARKER TAPE INDICATING THE PRESENCE OF RESTRAINED JOINTS.

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MRWA WATER SUPPLY STANDARD DRAWINGS

NOT TO SCALE

RESTRAINED JOINTS

MRWA-W-207

ISSUED 2012 | VERSION 2