

PREPARING THE TEST AREA:

CONDUCT ALL NATIVE SOIL IDENTIFICATION TESTS ON A FRESHLY EXPOSED, DAMP, HAND TRIMMED AREA OF THE TRENCH WALL IN THE PIPE ZONE. TAKE CARE THAT THE SOIL IN THE EXPOSED TEST AREA IS NOT COMPACTED OR LOOSENED DURING TRENCH EXCAVATION. IF THE SOIL IN THE TRENCH FLOOR AND WALL IS VERY DRY AT THE TIME THE TRENCH IS OPENED THEN FLOOD THE TEST AREA AND ALLOW TIME FOR THE WATER TO BE ABSORBED BY THE SOIL BEFORE IT IS TRIMMED AND TESTED.

IDENTIFYING CLAY SOILS:

A LUMP OF CLAY SOIL WILL BE DIFFICULT TO BREAK WHEN DRY. IT WILL BE STICKY AND NEED SOME EFFORT TO MOULD WITH THE FINGERS WHEN WET. CLAY WILL NOT WASH OFF EASILY. INDIVIDUAL CLAY PARTICLES ARE HARD TO SEE.

TESTING CLAY SOILS:

CLAY SOILS ARE BEST TESTED IN THE WALL OF THE TRENCH. THE FIST, THE THUMB OR THE THUMBNAIL ARE USED TO DETERMINE THE CONSISTENCY (STRENGTH) OF THE CLAY (SEE TABLE.)

IDENTIFYING CLEAN SAND SOILS:

THE INDIVIDUAL GRAINS OF SAND WILL BE VISIBLE TO THE EYE. A LUMP OF CLEAN SAND, IF IT CAN BE PICKED UP AT ALL, WILL CRUMBLE WITH VERY LITTLE EFFORT. CLEAN SAND WASHES OFF EASILY.

TESTING CLEAN SAND SOILS:

CLEAN SAND SOILS ARE BEST TESTED IN THE FLOOR OF THE TRENCH BY PUSHING WITH THE WHOLE BODY WEIGHT ON ONE FOOT. THE DEPTH OF THE DEPRESSION LEFT BY THE BOOT IS RELATED TO THE DENSITY OF THE SAND (SEE TABLE). TAKE CARE TO ENSURE THAT THE SAND IN THE TRENCH FLOOR WAS NOT COMPACTED OR LOOSENED DURING THE EXCAVATION OF THE TRENCH OR THE TRIMMING OF THE TEST AREA.

TESTING ROCK:

THE RECOMMENDED FIELD IDENTIFICATION TESTS FOR ROCK RELY ON OBSERVING THE EASE WITH WHICH THE ROCK CAN BE DUG WITH A PICK, AND ESTIMATING THE SPACING OF THE JOINTS IN THE ROCK. (JOINTS ARE COMMONLY CALLED CRACKS OR BREAKS). THE SPACING BETWEEN JOINTS IS IMPORTANT BECAUSE THE ALLOWABLE BEARING PRESSURE ON ROCK IS USUALLY CONTROLLED BY THE JOINTS IN IT, RATHER THAN THE INHERENT STRENGTH OF THE BLOCK OF ROCK. JOINTS MAY BE TIGHTLY CLOSED (LIKE HAIRLINE CRACKS), BUT CAN ALSO BE OPEN (FILLED WITH AIR) OR FILLED WITH SOFT CLAY OR OTHER SOIL.

SOIL CLASSIFICATION		FIELD IDENTIFICATION TEST	▲ AHBP kPa
CLAY SOILS	VERY SOFT	EASILY PENETRATED 40 mm WITH FIST.	< 50 *
	SOFT	EASILY PENETRATED 40 mm WITH THUMB.	< 50 *
	FIRM	MODERATE EFFORT NEEDED TO PENETRATE 30 mm WITH THUMB.	< 50 *
	STIFF	READILY INDENTED WITH THUMB BUT PENETRATED ONLY WITH GREAT EFFORT.	50
	VERY STIFF	READILY INDENTED WITH THUMBNAIL.	100
	HARD	INDENTED WITH DIFFICULTY BY THUMBNAIL.	200
SAND & GRAVEL	LOOSE CLEAN SAND	TAKES FOOTPRINT MORE THAN 10 mm DEEP.	< 50 *
	MEDIUM-DENSE CLEAN SAND	TAKES FOOTPRINT 3 mm TO 10 mm DEEP.	50
	DENSE CLEAN SAND OR GRAVEL	TAKES FOOTPRINT LESS THAN 3 mm DEEP.	100
ROCK	BROKEN OR DECOMPOSED ROCK	DIGGABLE. HAMMER BLOW "THUDS". JOINTS (BREAKS IN ROCK) SPACED AT LESS THAN 300 mm APART.	100
	SOUND ROCK	DIGGABLE. HAMMER BLOW "THUDS". JOINTS (BREAK IN ROCK) SPACED AT MORE THAN 300 mm APART.	200
UNCOMPACTED FILL DOMESTIC REFUSE		OBSERVATION AND KNOWLEDGE OF THE SITE HISTORY.	< 50 *

LEGEND

- ▲ AHBP ALLOWABLE HORIZONTAL BEARING PRESSURE FOR:

- 10 mm MOVEMENT.

- CENTRE OF THRUST 800 mm BELOW THE NATURAL SURFACE LEVEL.

(EXCLUDES ENGINEERED FILL AND DISTURBED GROUND AND GROUND WITH HIGH WATER TABLE)

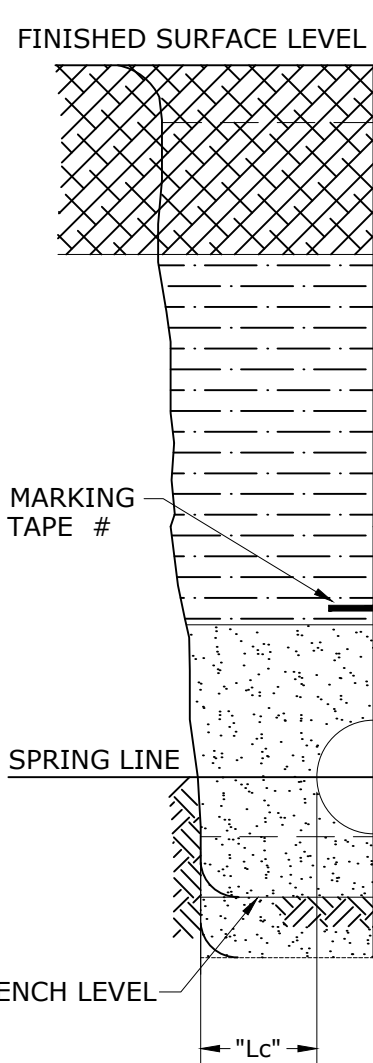
* SPECIAL GEOTECHNICAL ASSESSMENT REQUIRED

ADDITIONAL INFORMATION PROVIDED IN SEW-1200 SERIES COMMENTARY

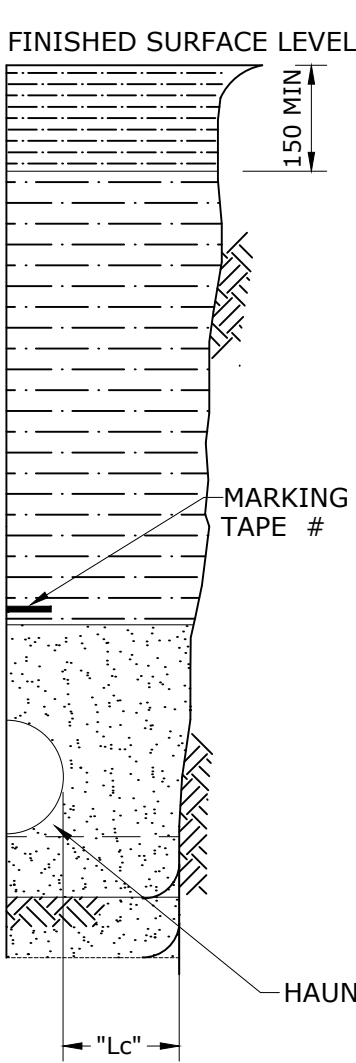
REV. No.	DATE	DESCRIPTION	AUTH.	SEQ WATER SERVICE PROVIDERS	SEWERAGE STANDARD DRAWING	GCCC	LCC	RCC	QUU	UW
					SOIL CLASSIFICATION GUIDELINES AND ALLOWABLE BEARING PRESSURES FOR ANCHORS AND THRUST BLOCKS	DRAWING No.				VERSION
						SEQ-SEW-1200-1				A
						NOT TO SCALE				ORG DATE: 1/1/2013

MATERIAL		ZONE	
ROAD SURFACE	VERGE & TRACK	SURFACE COURSE	
ROAD SURFACE LAYER	TO MATCH EXISTING		
TO MATCH EXISTING ROAD BASE OR TO ROAD OWNER'S REQUIREMENTS	TO ROAD OWNER'S REQUIREMENTS	ROAD BASE	
TO ROAD OWNER'S REQUIREMENTS		TRENCH FILL	
OR	OR		
INORGANIC FILL WITH 75 MAXIMUM STONE SIZE	INORGANIC FILL WITH MAXIMUM 75 STONE SIZE		
EMBEDMENT MATERIAL IN ACCORDANCE WITH DESIGN DRAWINGS AND SEQ-SP REQUIREMENTS. WHERE APPROVED BY SEQ-SP BEDDING MAY BE OMITTED IF TRENCH BASE IS GRANULAR SAND		OVERLAY	EMBEDMENT
		SIDE SUPPORT	
		BEDDING	

PIPE COVER



LOCATION	MINIMUM
PRIVATE RESIDENTIAL PROPERTY AND PUBLIC LAND NOT SUBJECT TO VEHICULAR LOADING	600 - NEW DEVELOPMENTS 450 - EXISTING DEVELOPMENTS
PRIVATE RESIDENTIAL PROPERTY SUBJECT TO VEHICULAR LOADING	750
FOOTWAYS, NATURE STRIPS, INDUSTRIAL PROPERTY, SEALED ROAD PAVEMENTS OTHER THAN ARTERIAL ROADS SUBJECT TO VEHICULAR LOADING	900 (1150 FOR QUU)
SEWER IN A FOOTWAY CONTAINING A DN225 TO DN300 WATER MAIN	900 (1650 FOR QUU)
UNSEALED ROAD CARRAIGWAYS	1200
ARTERIAL ROAD CARRAIGWAYS	1200
FUTURE ROAD, RAIL AND TRAM PAVEMENTS	1200



ZONE		MATERIAL
TOPSOIL OR FOOTWAY SURFACE		ORIGINAL MATERIAL OR IMPORTED MATERIAL OF EQUAL QUALITY
TRENCH FILL		INORGANIC FILL WITH 75 MAXIMUM STONE SIZE
EMBEDMENT	OVERLAY	EMBEDMENT MATERIAL IN ACCORDANCE WITH DESIGN DRAWINGS AND SEQ-SP REQUIREMENTS. WHERE APPROVED BY SEQ-SP BEDDING MAY BE OMITTED IF TRENCH BASE IS GRANULAR SAND.
	SIDE SUPPORT	
	BEDDING	
OVER-EXCAVATION		

VEHICULAR LOADING

LEGEND:

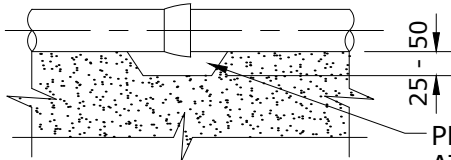
SPECIFIED BY THE DESIGNER IN DESIGN DRAWINGS

NOTES

- ALL DIMENSIONS IN MILLIMETRES.
- BEDDING - SPECIAL BEDDING SHALL BE SPECIFIED TO SUIT THE CONDITIONS IF THE TRENCH FLOOR HAS:
 - IRREGULAR OUTCROPS OF ROCK.
 - AHBP OF <50 kPa (SEE SEQ-WAT-1200-01), OR
 - UNCONTROLLED GROUND WATER HAS DISTURBED THE FLOOR OF THE TRENCH.
- EMBEDMENT, TRENCH FILL AND COMPACTION TO MEET THE REQUIREMENTS OF WSA-02 PART 3 AND THE RELEVANT SEQ-SP.
- SIDES OF EXCAVATION TO BE KEPT VERTICAL TO AT LEAST 150 ABOVE THE PIPE.
- DESIGNER TO CHECK ON RELEVANT ROAD AUTHORITIES REQUIREMENTS.
- ADDITIONAL INFORMATION PROVIDED IN SEQ-WAT-1200 SERIES COMMENTARY.

NO VEHICULAR LOADING

(INCLUDES LOCATIONS WHERE OCCASIONAL VEHICLES LOADINGS OCCUR
EG. PARKLANDS, FOOTWAYS)



PROVIDE POCKETS IN BEDDING, AT JOINTS PRIOR TO LAYING PIPES. FILL VOID DURING PLACEMENT OF EMBEDMENT.

PIPE JOINT BEDDING POCKETS
FOR JOINT PROJECTIONS (SOCKETS, FLANGES ETC)

SPRING LINE TRENCH CLEARANCE

NOMINAL DIAMETER (DN)	MINIMUM CLEARANCE "Lc" TO AS/NZS 2566.1
≤300	150
>300-≤450	200
>450-≤900	300
>900-≤1500	350

TRENCH WIDTH TO BE SUFFICIENT TO SAFELY LAY THE PIPE AND COMPACT THE SIDE SUPPORT ZONE.

REV. No.	DATE	DESCRIPTION	AUTH.

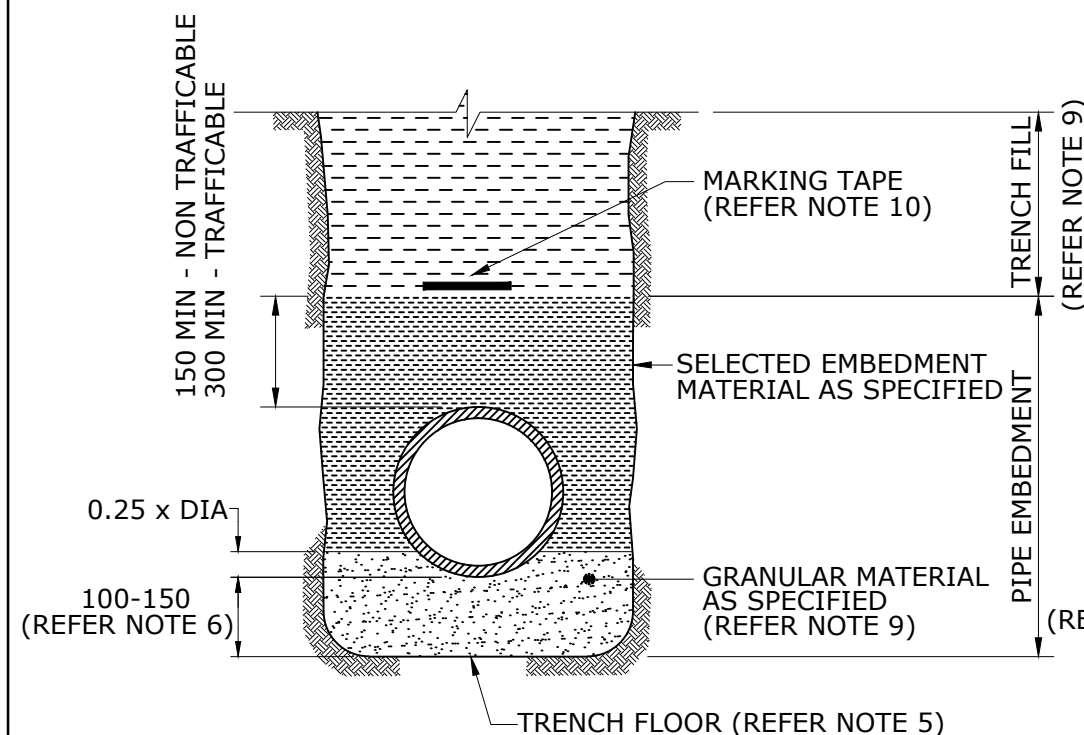
SEQ WATER
SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWERAGE STANDARD DRAWING

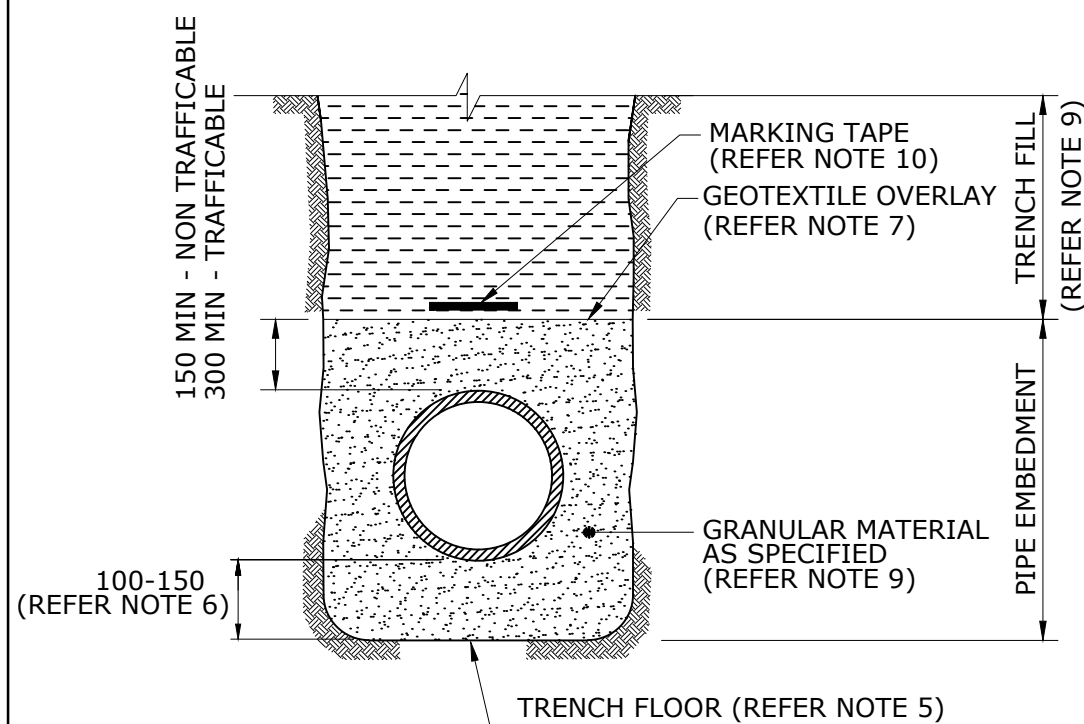
EMBEDMENT & TRENCHFILL
TYPICAL ARRANGEMENT

GCCC	LCC	RCC	QUU	UW
DRAWING No.				VERSION
SEQ-SEW-1200-2				A
NOT TO SCALE				ORG DATE: 1/1/2013



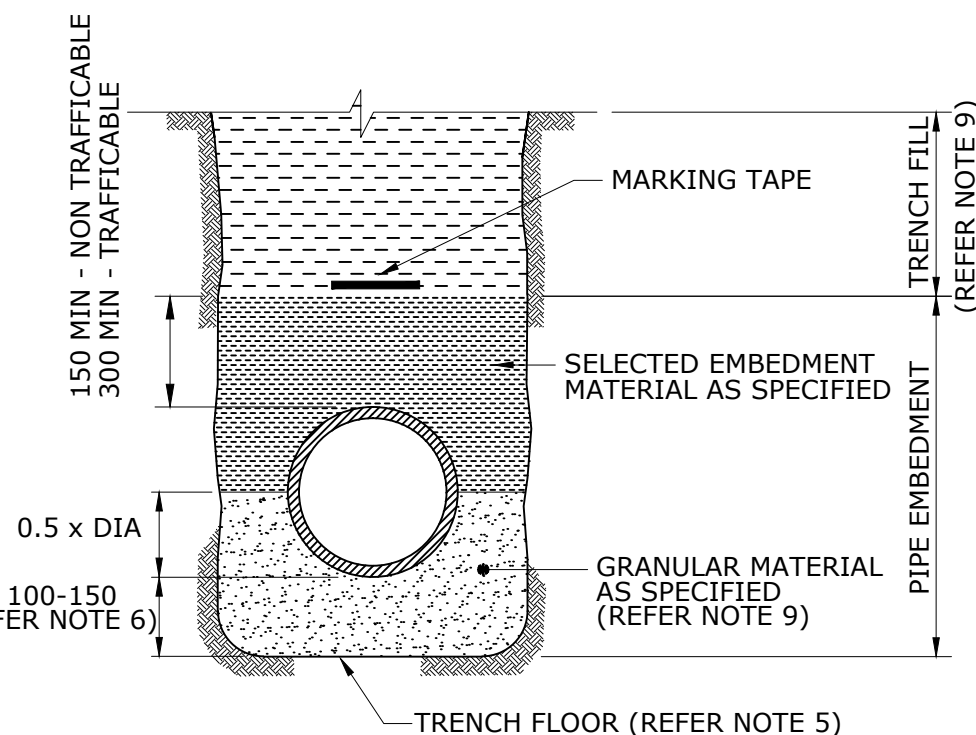
TYPE 1 SUPPORT

FOR RIGID PIPES ONLY (REFER NOTE 3)



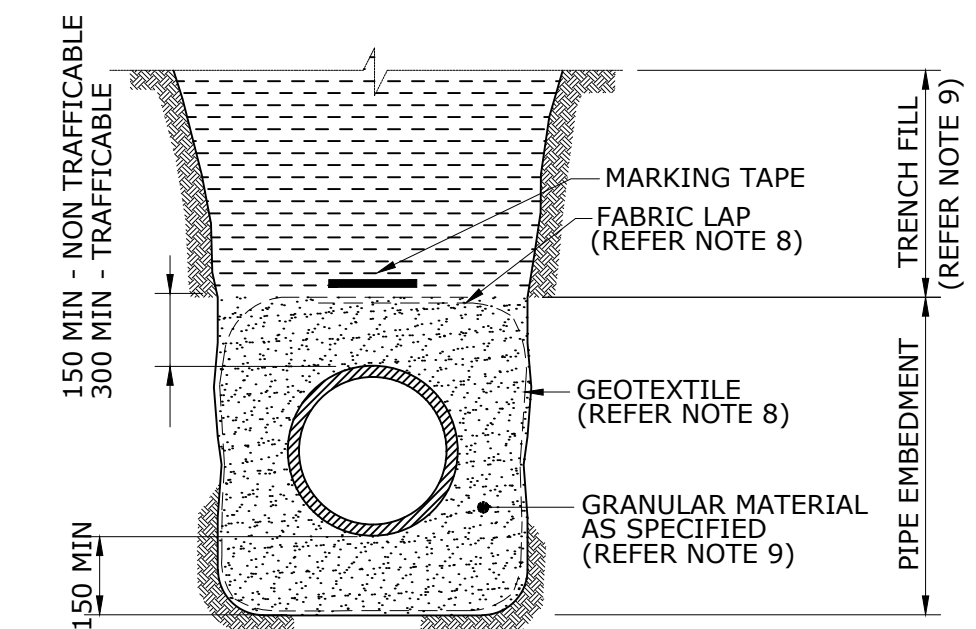
TYPE 3 SUPPORT

FOR FLEXIBLE & RIGID PIPES (REFER NOTE 3)



TYPE 2 SUPPORT

FOR RIGID PIPES ONLY (REFER NOTE 3)



TYPE 4 SUPPORT - WITH GEOTEXTILE

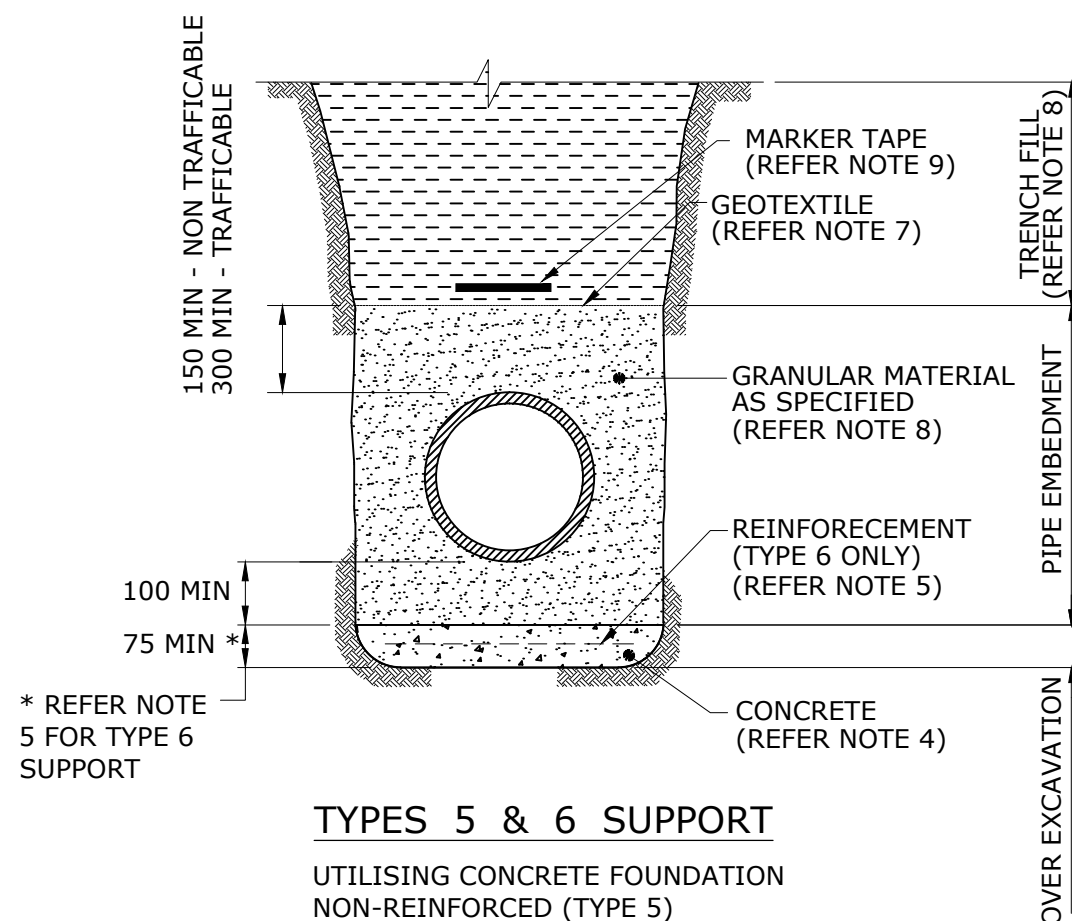
FOR FLEXIBLE & RIGID PIPES (REFER NOTE 3)

NOTES

1. ALL DIMENSIONS IN MILLIMETRES.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH SEQ-SEW-1200 SERIES DRAWINGS.
3. PIPE CLASSIFICATION
 - (a) RIGID PIPES: VC AND RC
 - (b) FLEXIBLE PIPES: PVC, GRP, STEEL, DI AND PE.
4. PLACEMENT OF EMBEDMENT, TRENCHFILL & COMPACTION TO MEET THE REQUIREMENTS OF THE CODE.
5. EXCAVATE OR COMPACT TRENCH FLOOR TO PROVIDE A FLAT FIRM BASE TO SUPPORT BEDDING MATERIAL AND MINIMISE PIPELINE SETTLEMENT. WHEN EXCAVATED, REPLACE WITH GRANULAR MATERIAL AS SPECIFIED FOR BEDDING OR ADOPT TYPE 5, 6, 7 OR 8 SUPPORT AS REQUIRED.
6. ENSURE BEDDING IS DEEP ENOUGH THAT PIPE JOINT PROJECTIONS (SOCKETS, FLANGES) DO NOT TOUCH TRENCH FLOOR.
- 7A. GEOTEXTILE TO BE USED WHERE TRENCH FILL IS A MIGRATORY NATIVE SOIL OR SAND OR FINE CLAY MATERIAL.
- 7B. TYPE 4 SUPPORT TO BE USED WHERE MIGRATORY NATIVE SOILS 7B. (SANDS & CLAYS) ARE ENCOUNTERED ADJACENT TO THE EMBEDMENT ZONE AND SINGLE SIZE AGGREGATE IS USED:
8. LAY GEOTEXTILE FILTER FABRIC AGAINST TRENCH FLOOR AND WALLS SUCH THAT IT FULLY ENCASES THE EMBEDMENT.
 - PRESS FABRIC INTO THE VOIDS BEFORE INSTALLING EMBEDMENT TO PREVENT FABRIC TEARING.
 - PROVIDE A MINIMUM OF 250 OVERLAP AT ALL FABRIC JOINTS.
9. PURCHASE SPECIFICATIONS FOR EMBEDMENT MATERIAL ARE DETAILED IN THE SEQ CODE ACCEPTED PRODUCTS AND MATERIALS LIST. TRENCH FILL SHALL COMPLY WITH SEQ-SEW-1200-2.
10. DETECTABLE MARKER TAPE SHALL BE PROVIDED EITHER ABOVE THE EMBEDMENT ZONE OR 1000 BELOW THE F.S.L, WHICHEVER IS CLOSEST TO F.S.L.
11. EMBEDMENT TYPES TO BE SPECIFIED IN DESIGN DRAWINGS.

REV. No.	DATE	DESCRIPTION	AUTH.	SEQ WATER SERVICE PROVIDERS		SEWERAGE STANDARD DRAWING		GCCC	LCC	RCC	QUU	UW
						TYPICAL STANDARD EMBEDMENT FLEXIBLE & RIGID PIPES		DRAWING No.				VERSION
								SEQ-SEW-1201-1				A
								NOT TO SCALE				ORG DATE: 1/1/2013

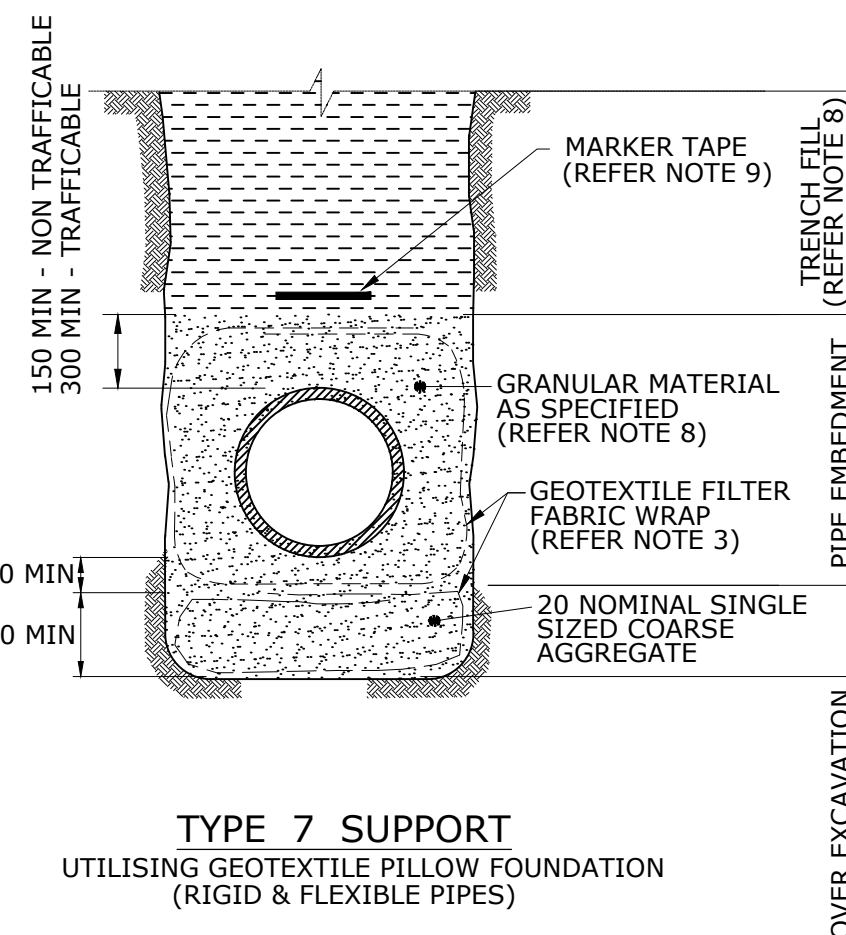
WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION



TYPES 5 & 6 SUPPORT

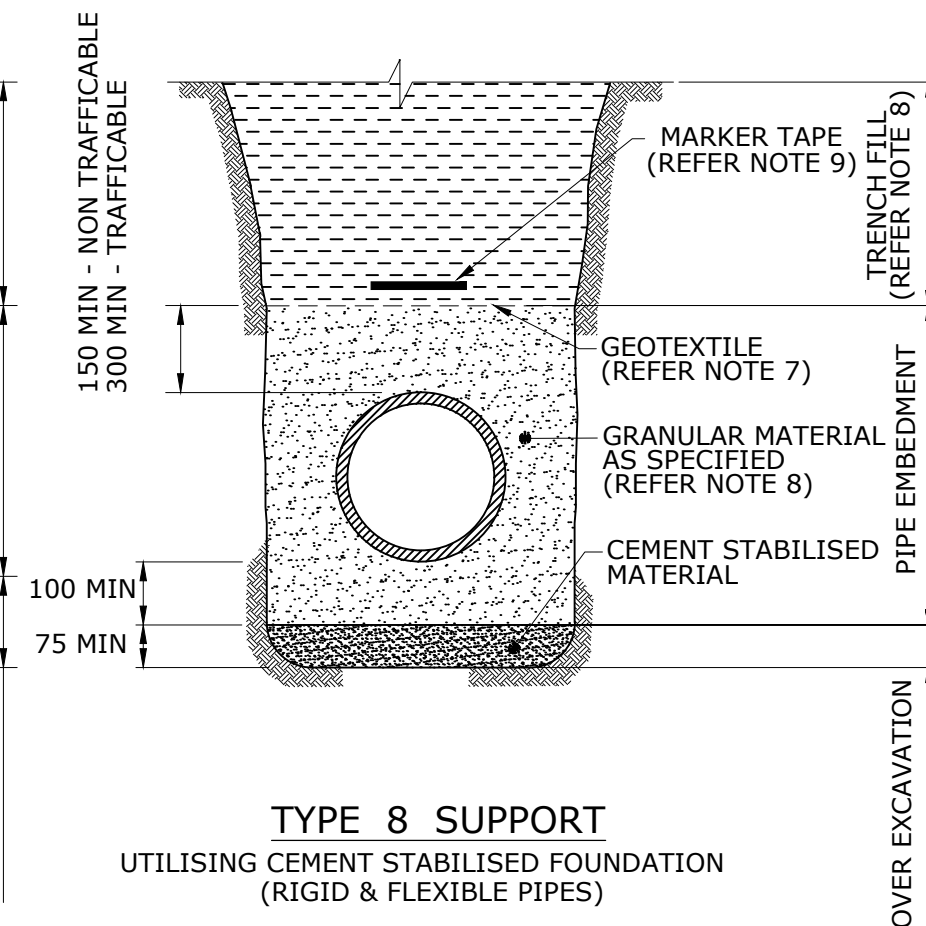
UTILISING CONCRETE FOUNDATION
NON-REINFORCED (TYPE 5)
REINFORCED (TYPE 6)
(RIGID & FLEXIBLE PIPES)
USE LIMITED TO 1 000 SPANS OF LOW BEARING
CAPACITY GROUND. (SOFT CLAYS AND LOOSE SAND)
LONGER LENGTHS SUBJECT TO INDIVIDUAL
ASSESSMENT.

EMBEDMENT TYPES TO BE SPECIFIED
IN DESIGN DRAWINGS



TYPE 7 SUPPORT

UTILISING GEOTEXTILE PILLOW FOUNDATION
(RIGID & FLEXIBLE PIPES)



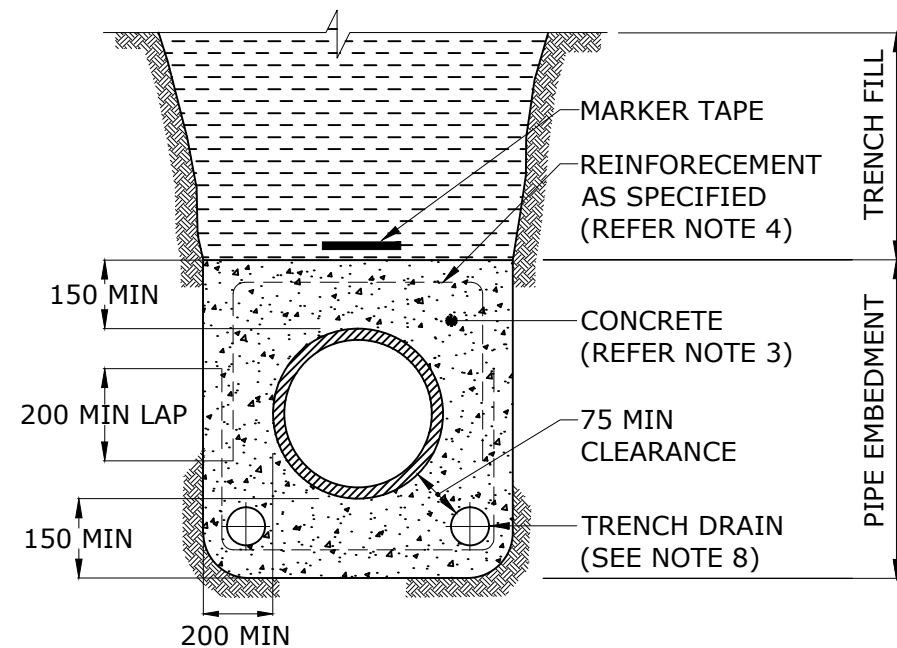
TYPE 8 SUPPORT

UTILISING CEMENT STABILISED FOUNDATION
(RIGID & FLEXIBLE PIPES)

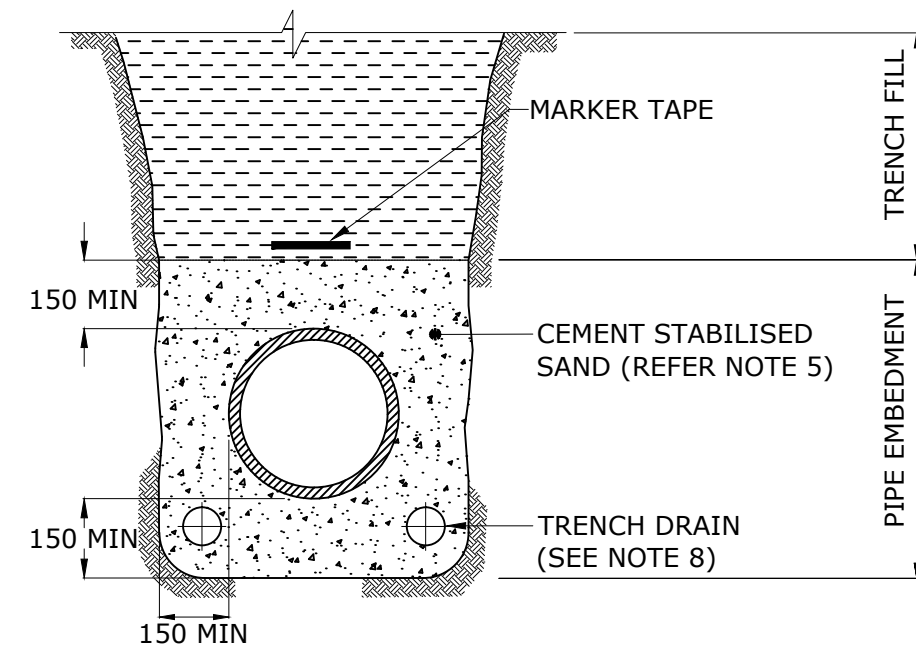
NOTES

- ALL DIMENSIONS IN MILLIMETRES.
- USE THESE SUPPORT TYPES ONLY WHERE SPECIFIED BY THE DESIGNER. DETAILS TO BE PROVIDED IN DESIGN DRAWINGS.
- LAY GEOTEXTILE FILTER FABRIC AGAINST THE TRENCH FLOOR AND WALL SUCH THAT IT FULLY ENCASES THE FOUNDATION MATERIAL IN THE OVER EXCAVATION. EMBEDMENT (IF REQUIRED) ENCASE SEPARATELY. PROVIDE A MINIMUM OF 250 LAP AT ALL FILTER FABRIC JOINTS. REFER SEQ-SEW-1201-1 FOR GEOTEXTILE SYSTEM DETAILS.
- UNREINFORCED CONCRETE TO BE CLASS N20, AND REINFORCED CONCRETE N25. FOR AGGRESSIVE CONDITIONS USE SPECIAL CLASS CONCRETE.
- MINIMUM STEEL REINFORCEMENT OF 0.4% OF CONCRETE CROSS SECTION PLACED CENTRALLY AND WITH 65 MINIMUM COVER TO EXTERNAL FACE. REINFORCEMENT DETAILS FOR THE APPLICABLE LOADING TO BE INCLUDED IN THE DESIGN DRAWINGS.
- BEDDING TO BE DEEP ENOUGH TO ENSURE PIPE JOINT PROJECTIONS (SOCKETS, FLANGES) DO NOT TOUCH FOUNDATION.
- GEOTEXTILE FILTER FABRIC IS REQUIRED FOR AGGREGATE EMBEDMENT. (IE SINGLE SIZED GRANULAR FILL ≥ 5 mm).
- PURCHASE SPECIFICATIONS FOR EMBEDMENT MATERIAL ARE DETAILED IN THE SEQ CODE ACCEPTED PRODUCTS AND MATERIALS LIST. TRENCH FILL SHALL COMPLY WITH SEQ-SEW-1200-2.
- DETECTABLE MARKER TAPE, REFER NOTE 10 ON SEQ-SEW-1201-01.

REV. No.	DATE	DESCRIPTION	AUTH.	SEQ WATER SERVICE PROVIDERS		SEWERAGE STANDARD DRAWING TYPICAL SPECIAL EMBEDMENT INADEQUATE FOUNDATIONS REQUIRING OVER EXCAVATION AND REPLACEMENT		GCCC	LCC	RCC	QUU	UW
								DRAWING No.				VERSION
				WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE OCCUPATIONAL HEALTH & SAFETY LEGISLATION				SEQ-SEW-1202-1				A
								NOT TO SCALE				ORG DATE: 1/1/2013

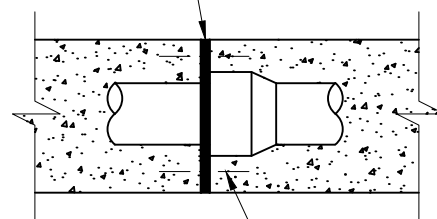


TYPE 9 SUPPORT
UTILISING CONCRETE EMBEDMENT
 (RIGID & FLEXIBLE PIPES)



TYPE 10 SUPPORT
UTILISING CEMENT STABILISED EMBEDMENT
 (RIGID & FLEXIBLE PIPES)

PROVIDE 12 THICK
 COMPRESSIBLE AND
 DURABLE MEMBRANE AT
 EACH FLEXIBLE JOINT

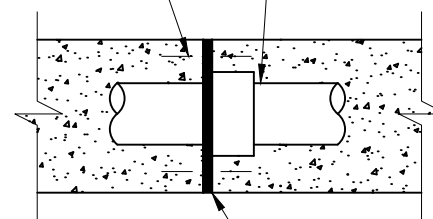


DOWEL PINS
 (REFER NOTE 7)

SPIGOT/SOCKET JOINT

DOWEL PINS
 (REFER NOTE 7)

SEAL JOINT WITH FABRIC OR
 TAPE TO PREVENT CONCRETE
 ENTERING JOINT



PROVIDE 12 THICK COMPRESSIBLE
 AND DURABLE MEMBRANE AT EACH
 FLEXIBLE JOINT

SLEEVED COUPLING

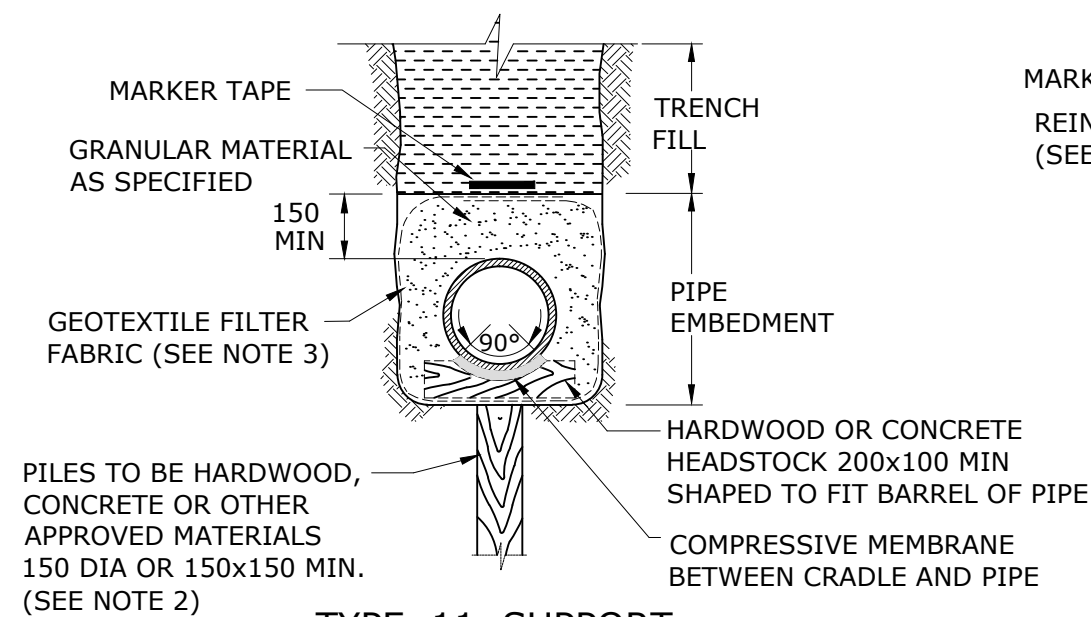
CONCRETE ENCASEMENT JOINT DETAILS

**EMBEDMENT TYPES TO BE SPECIFIED
 IN DESIGN DRAWINGS**

NOTES

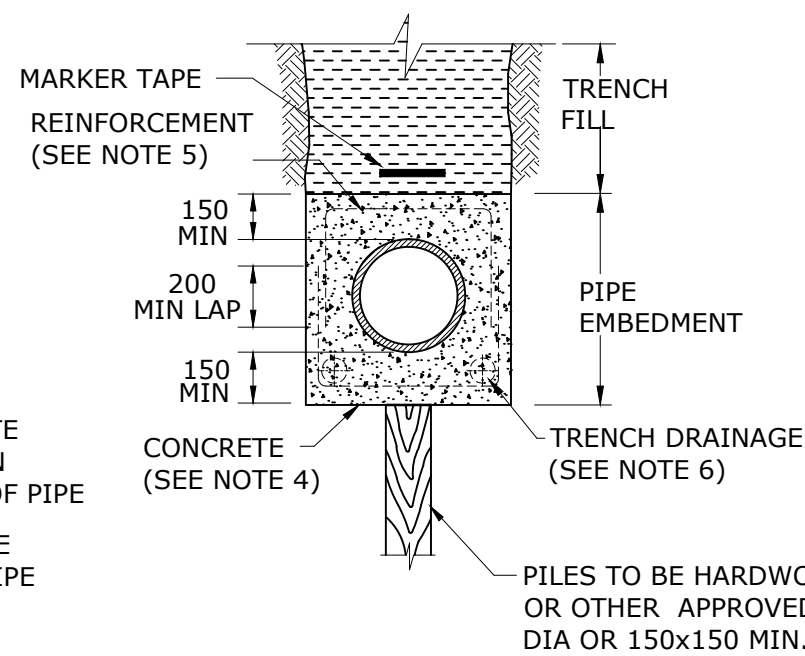
1. ALL DIMENSIONS IN MILLIMETRES.
2. USE THESE SUPPORT SYSTEMS WHERE SPECIFIED BY DESIGNER. DETAILS TO BE PROVIDED IN DESIGN DRAWINGS, REFER NOTE 9.
3. USE UNREINFORCED CONCRETE CLASS N20 MIN, AND REINFORCED CONCRETE N25 MIN. FOR AGGRESSIVE CONDITIONS USE SPECIAL CLASS CONCRETE. PLASTIC PIPES SHALL BE MANAGED FOR THERMAL REVERSION AND FLOATATION.
4. WHERE SPECIFIED MINIMUM STEEL REINFORCEMENT OF 0.4% CONCRETE CROSS SECTION PLACED CENTRALLY AND WITH 65 MINIMUM COVER TO EXTERNAL FACE. SPECIFY REINFORCEMENT FOR THE APPLICABLE LOADING IN DESIGN DRAWINGS.
5. CEMENT STABILISED SAND OR WELL GRADED CRUSHED ROCK TO BE 25:1 SAND:CEMENT (PLACED DRY).
6. DURING THE ENCASEMENT PROCESS PIPES WILL REQUIRE A RESTRAINT SYSTEM TO PREVENT PIPE MOVEMENT AND/OR FLOTATION AND/OR THERMAL REVERSION.
7. PROVIDE DOWEL PINS, AS DETAILED IN DESIGN DRAWINGS AT EACH CONCRETE ENCASEMENT JOINT TO PREVENT PIPE DAMAGE.
8. SEE SEQ-SEW-1207-1 FOR TRENCH DRAINAGE DETAILS.
9. THE USE OF TYPE 9 AND 10 TO BE APPROVED BY SEQ-SP.
10. DETECTABLE MARKER TAPE, REFER NOTE 10 ON SEQ-SEW-1201-1.

REV. No.	DATE	DESCRIPTION	AUTH.	SEQ WATER SERVICE PROVIDERS		SEWERAGE STANDARD DRAWING		GCCC	LCC	RCC	QUU	UW
						TYPICAL SPECIAL EMBEDMENT CONCRETE AND STABILISED SUPPORTS		DRAWING No.				VERSION
								SEQ-SEW-1203-1				A
								NOT TO SCALE				ORG DATE: 1/1/2013
				WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE OCCUPATIONAL HEALTH & SAFETY LEGISLATION								



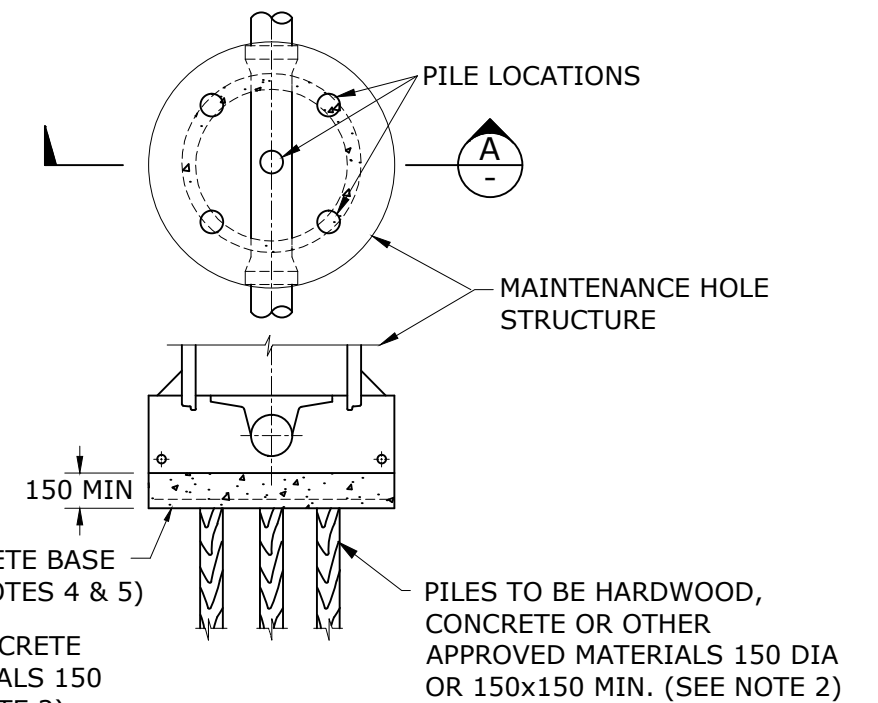
TYPE 11 SUPPORT

ALL PIPE TYPES (DI PREFERRED)
 ≤DN 375 SINGLE PILE
 >DN 375 TWIN PILE



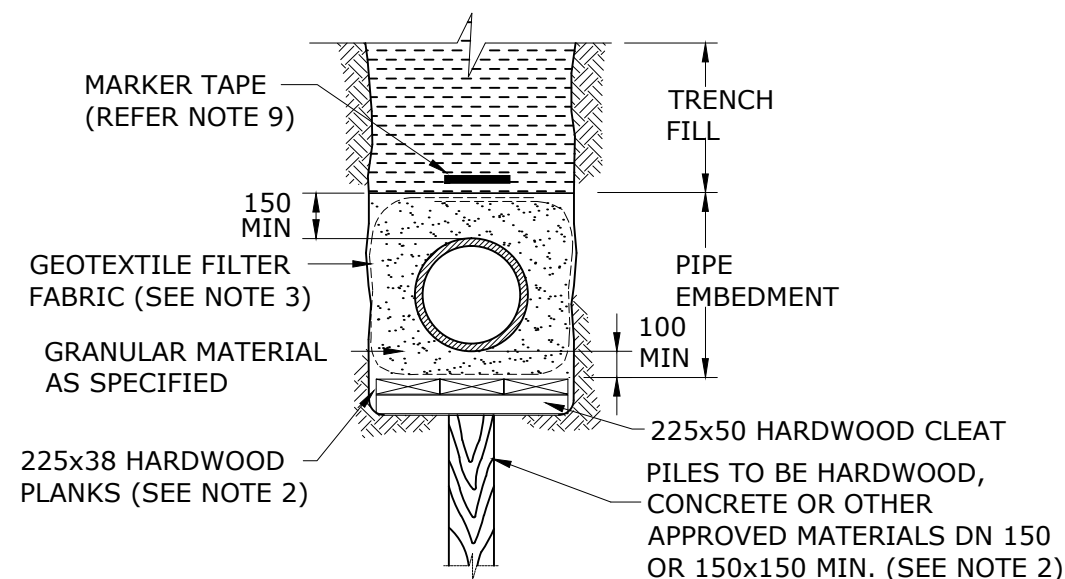
TYPE 12 SUPPORT

(ALL PIPE TYPES)
 NOTE: THIS METHOD ALSO RESTRICTS PIPE FLOTATION
 ≤DN 300 SINGLE PILE
 >DN 300 TWIN PILE



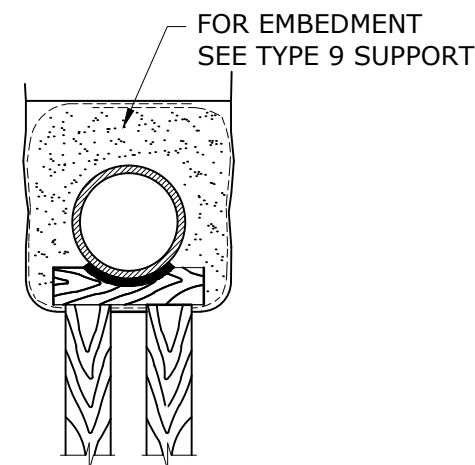
SECTION A

**PILE FOUNDATION FOR
 MAINTENANCE HOLES**



TYPE 13 SUPPORT

(ALL PIPE TYPES)
 ≤DN 375 SINGLE PILE
 >DN 375 TWIN PILE



TWIN PILE ARRANGEMENT

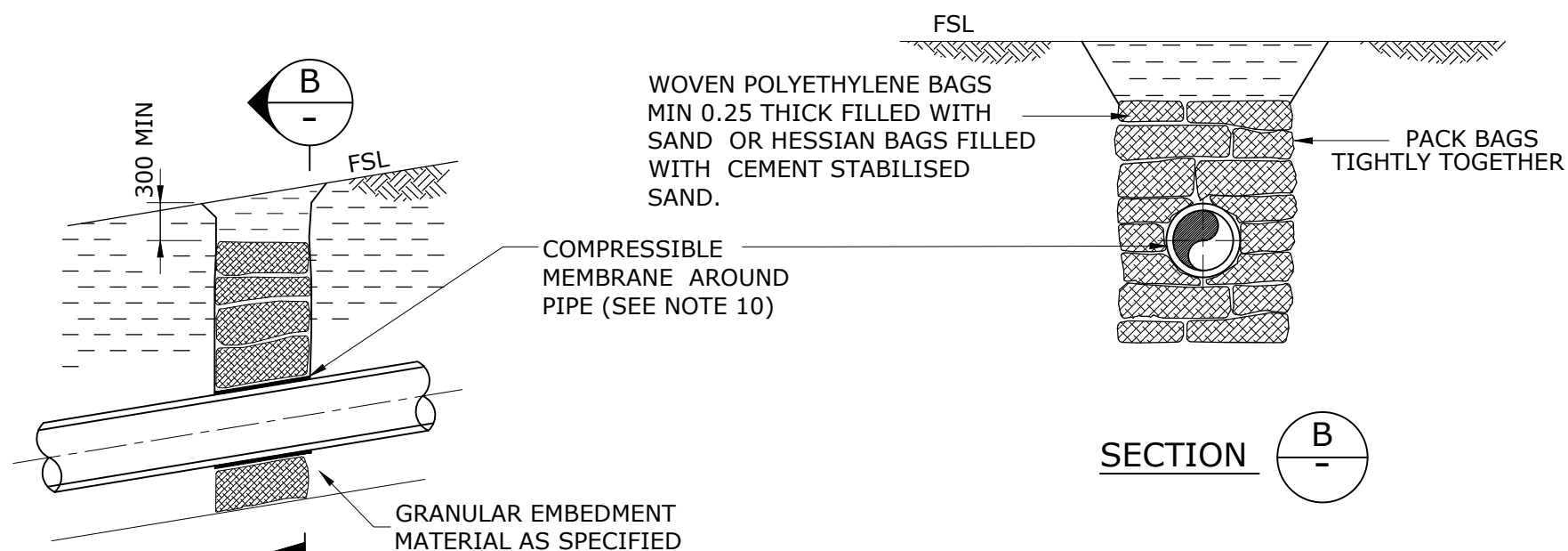
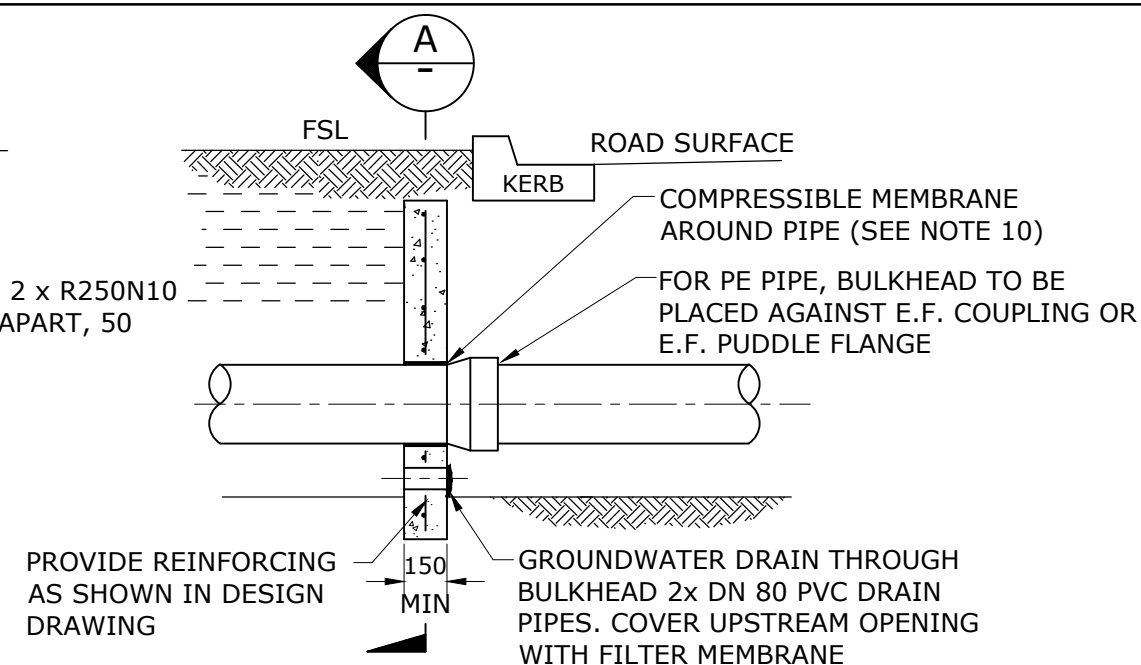
NOTES

1. ALL DIMENSIONS IN MILLIMETRES.
2. USE THESE SUPPORT TYPES WHERE SPECIFIED BY DESIGNER AND WHERE APPROVED BY SEQ-SP. PILE DETAILS AND SPACINGS TO BE AS SHOWN IN DESIGN DRAWINGS.
3. LAY GEOTEXTILE FILTER FABRIC AGAINST THE TRENCH FLOOR AND WALL SUCH THAT IT FULLY ENCASES THE EMBEDMENT. PROVIDE MINIMUM 250 LAP AT ALL FILTER FABRIC JOINTS.
4. USE UNREINFORCED CONCRETE CLASS N20 MIN, AND REINFORCED CONCRETE N25 MIN. FOR AGGRESSIVE CONDITIONS USE SPECIAL CLASS CONCRETE. PLASTIC PIPES SHALL BE MANAGED FOR THERMAL REVERSION AND FLOATATION.
5. MINIMUM STEEL REINFORCEMENT OF 0.4% OF CONCRETE CROSS SECTION PLACED CENTRALLY AND WITH 65 MINIMUM COVER TO EXTERNAL FACE. SPECIFY REINFORCEMENT FOR THE APPLICABLE LOADING IN DESIGN DRAWINGS.
6. SEE SEQ-SEW-1207-1 IF CONTINUOUS TRENCH DRAINAGE REQUIRED.
7. SEE CODE FOR TABLES DETAILING SOIL CHARACTERISTICS, PIPE DETAILS AND LOADS.
8. DESIGN PILES IN ACCORDANCE WITH AS 2159.
9. DETECTABLE MARKER TAPE, REFER NOTE 10 ON SEQ-SEW-1201-1.

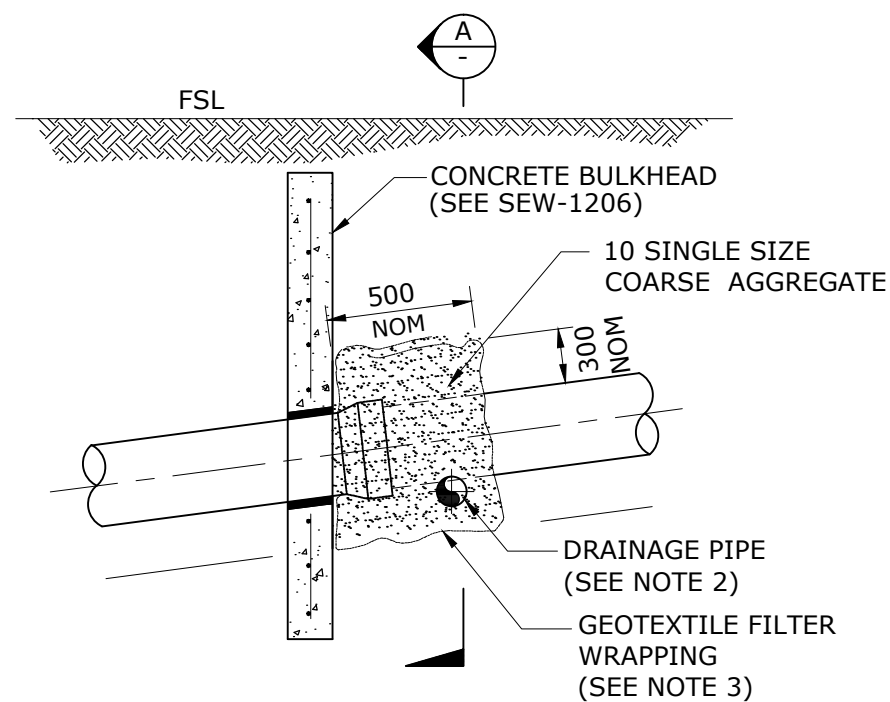
**EMBEDMENT TYPES TO BE SPECIFIED
 IN DESIGN DRAWINGS**

REV. No.	DATE	DESCRIPTION	AUTH.	SEQ WATER SERVICE PROVIDERS		SEWERAGE STANDARD DRAWING		GCCC	LCC	RCC	QUU	UW
						TYPICAL SPECIAL EMBEDMENT SUPPORT UTILISING PILES		DRAWING No.				VERSION
								SEQ-SEW-1204-1				A
								NOT TO SCALE				ORG DATE: 1/1/2013

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
 OCCUPATIONAL HEALTH & SAFETY LEGISLATION

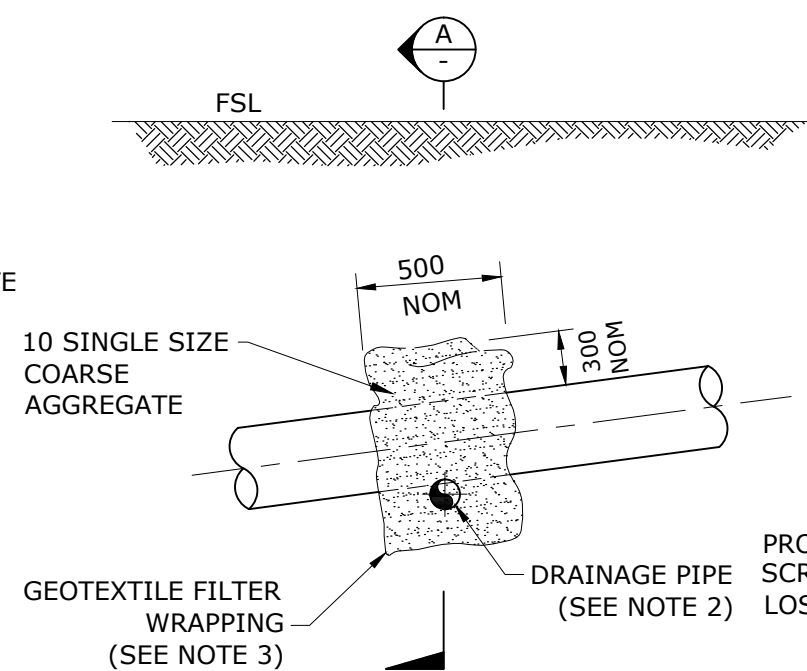


REV. No.	DATE	DESCRIPTION	AUTH.	SEQ WATER SERVICE PROVIDERS <
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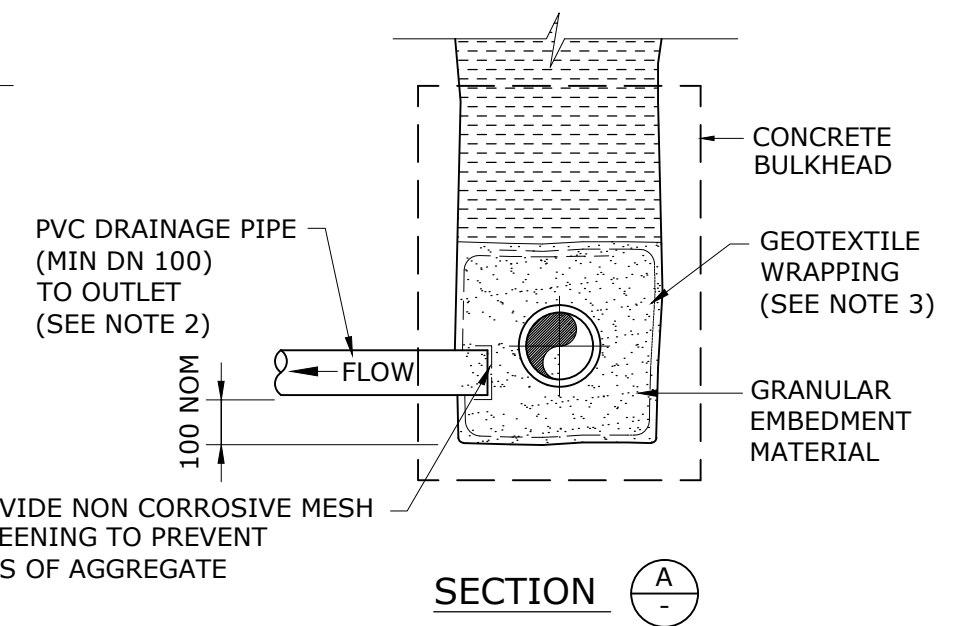
ELEVATION

DRAINAGE SYSTEM WITH BULKHEADS



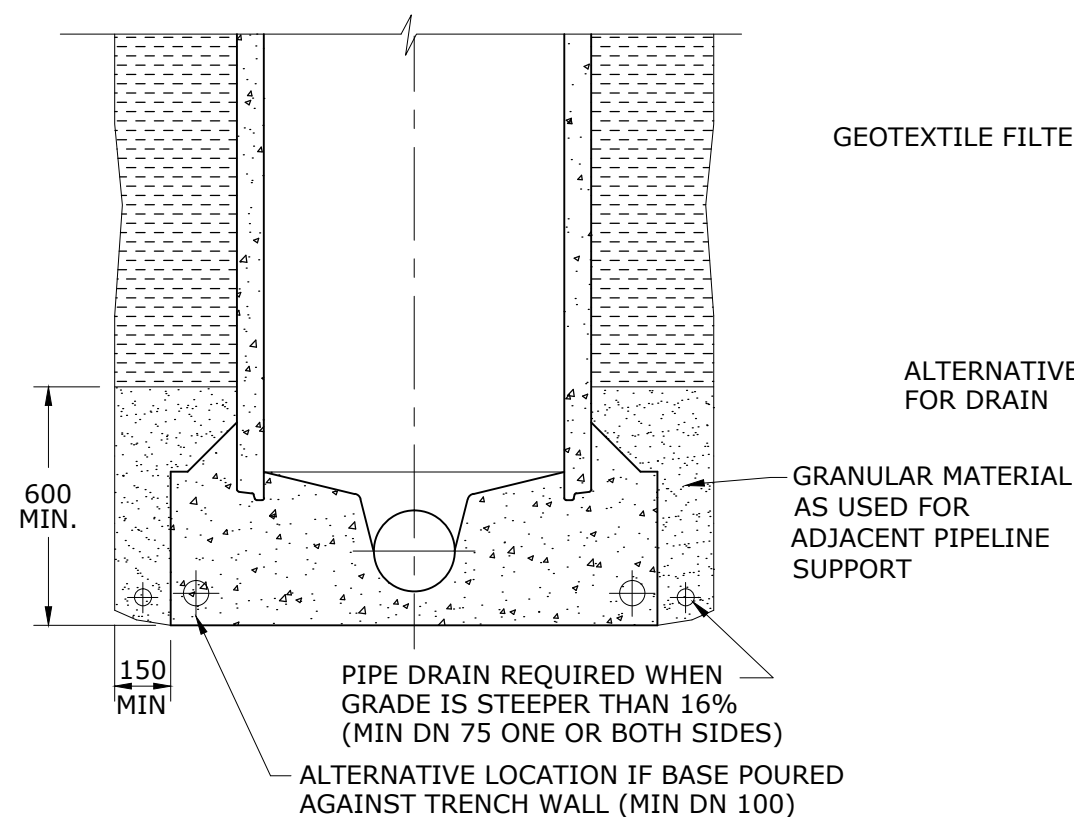
ELEVATION

DRAINAGE SYSTEM WITHOUT BULKHEADS

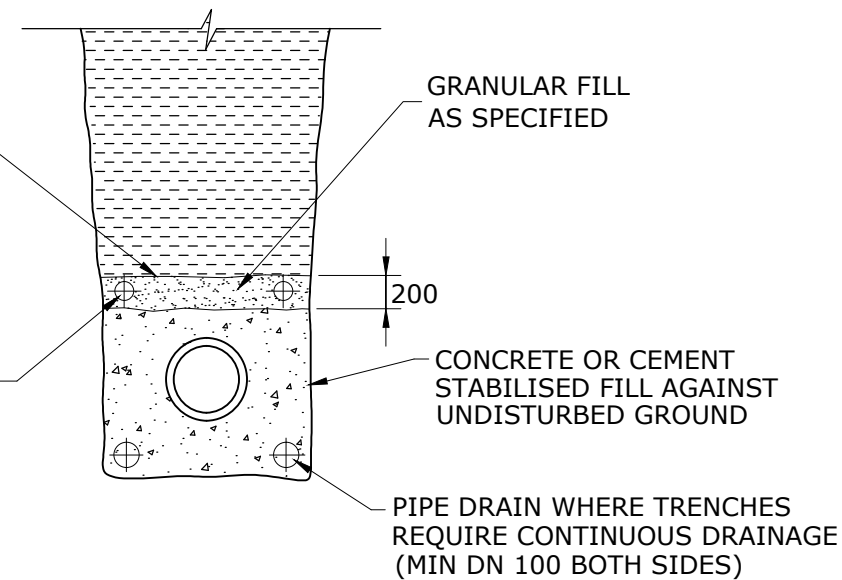


SECTION A-A

TYPICAL DISCHARGE SYSTEM FOR PIPE TRENCHES



DRAINAGE PAST MAINTENANCE HOLES



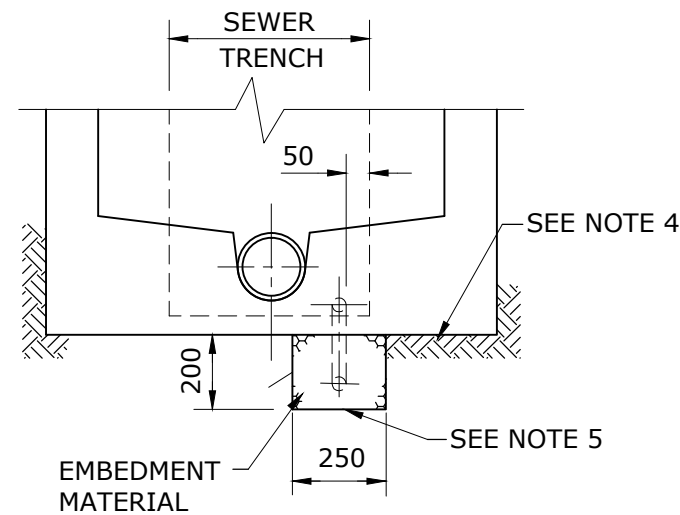
TRENCH DRAINAGE FOR
CONCRETE ENCASEMENT/STABILISATION

NOTES

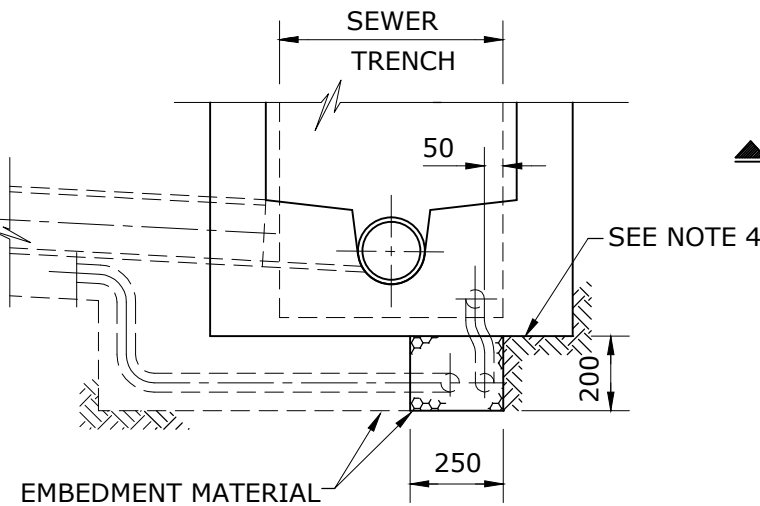
1. ALL DIMENSIONS IN MILLIMETRES.
2. DRAINAGE PIPES TO DISCHARGE INTO AUTHORISED WATER DISCHARGE AREAS AS DETAILED IN DESIGN DRAWINGS. LAY GEOTEXTILE FILTER FABRIC IN TRENCH TO FULLY ENCAPSULATE THE DRAINAGE MATERIAL (GRANULAR EMBEDMENT). PROVIDE MINIMUM OF 250 LAP AT ALL FILTER FABRIC JOINTS. USE DRAINAGE SYSTEMS AS SPECIFIED WHERE SEWER IS LAID AT A GRADE OF $>16\%$
3. PROVIDE CONTINUOUS DRAINAGE PATH
 - THROUGH BULKHEADS
 - AROUND MAINTENANCE STRUCTURES
 - IN TRENCH EXCAVATIONS ACROSS ROADWAYS

REV. No.	DATE	DESCRIPTION	AUTH.	SEQ WATER SERVICE PROVIDERS		SEWERAGE STANDARD DRAWING		GCCC	LCC	RCC	QUU	UW
						TRENCH DRAINAGE TYPICAL SYSTEMS		DRAWING No.				VERSION
								SEQ-SEW-1207-1				A
								NOT TO SCALE				ORG DATE: 1/1/2013

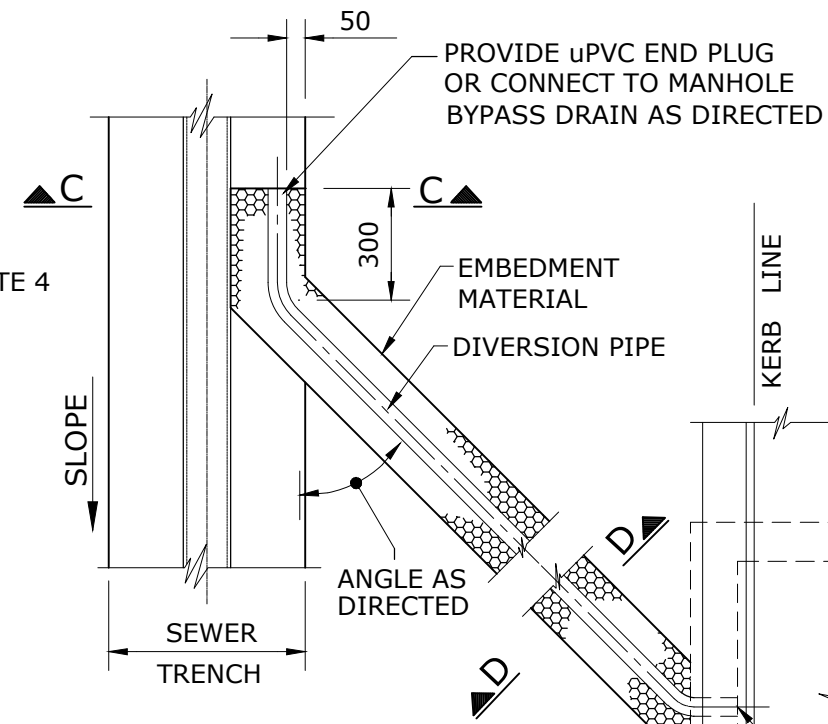
WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION



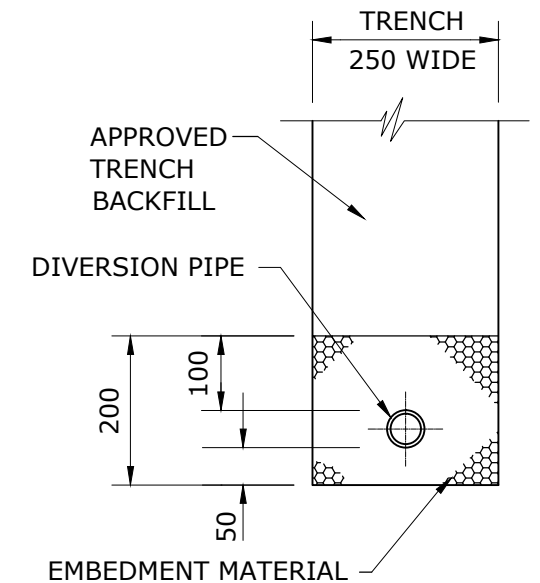
SECTION A-A



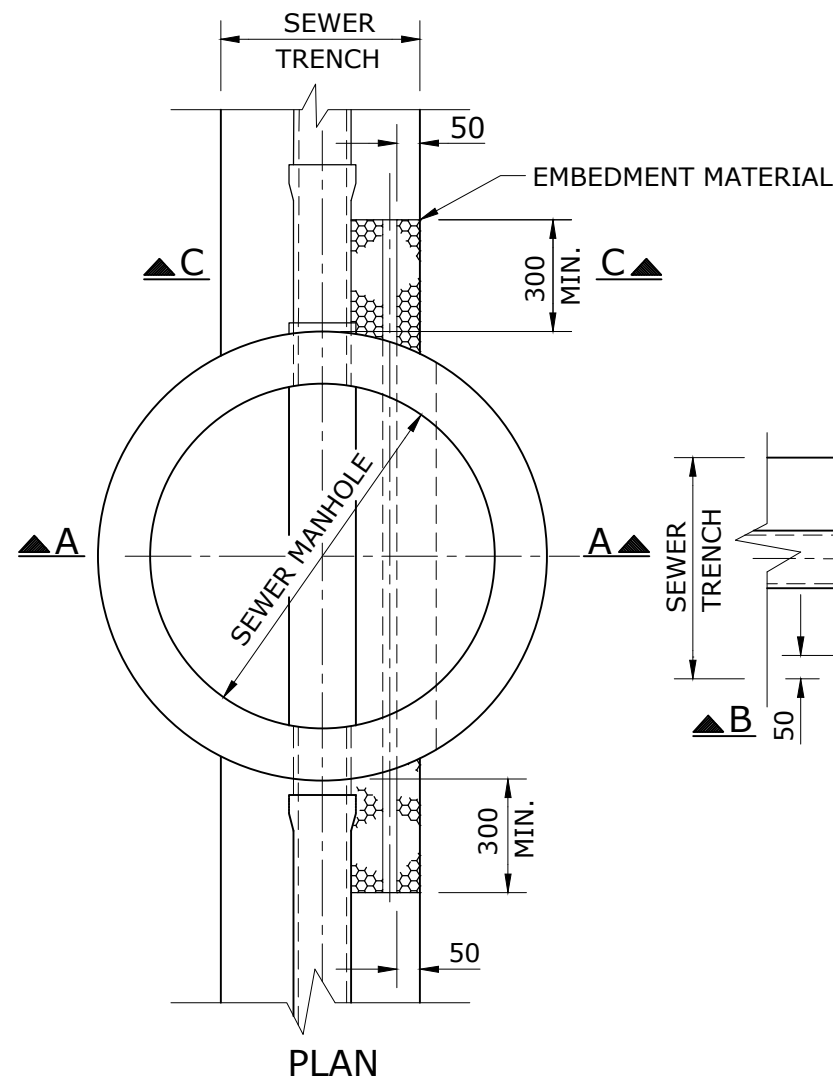
SECTION B-B



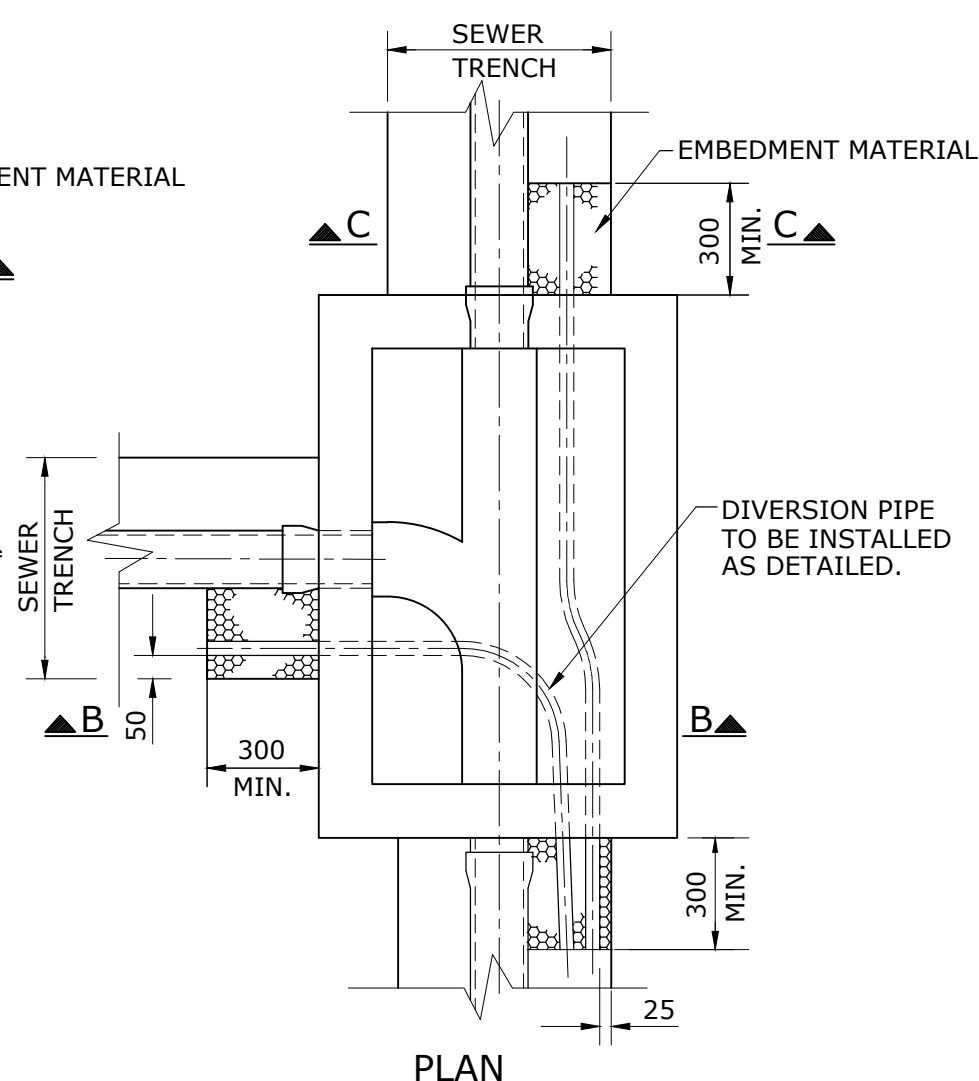
PLAN
DIVERSION DRAIN TO
STORMWATER OUTLET



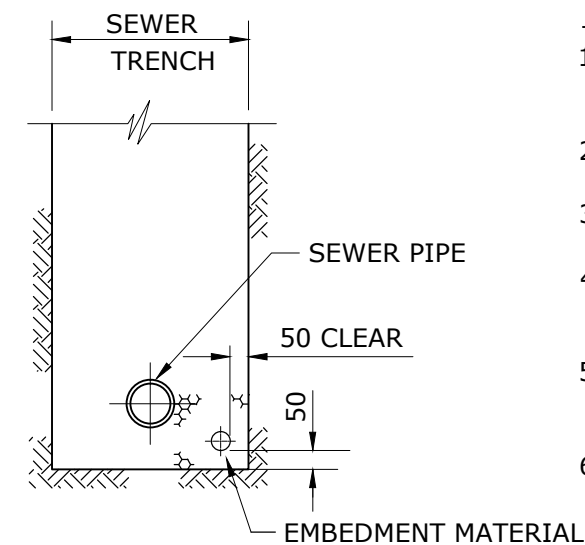
SECTION D-D
DIVERSION DRAIN
TRENCH



PLAN



PLAN



SECTION C-C

NOTES

1. DIVERSION PIPES AND FITTINGS TO BE Ø100 SLOTTED POLYTHYLENE CLASS 400 TO A.S.2439.
2. FOR EMBEDMENT MATERIAL REQUIREMENTS (GRADE 5/7) REFER TO SEQ SEWERAGE CODE.
3. DIVERSION DRAINS SHALL BE FITTED WITH A FILTER SLEEVE/SOCK.
4. 0.5 THICK VISQUEEN ECOMEMBRANE OR SIMILAR TO BE LAID UNDER THE LIMITS OF THE MANHOLE.
5. LOCATE THE DIVERSION PIPE CENTRALLY IN TRENCH 50 ABOVE TRENCH FLOOR. PROVIDE END CAPS AT ALL PIPE ENDS.
6. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

REV. No.	DATE	DESCRIPTION	AUTH.

SEQ WATER SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWERAGE STANDARD DRAWING TYPICAL DRAINAGE OF SEWER TRENCHES AND DIVERSION DRAINS

GCCC	LCC	RCC	QUU	UW

SEQ-SEW-1207-2

NOT TO SCALE

ORG DATE:
1/1/2013