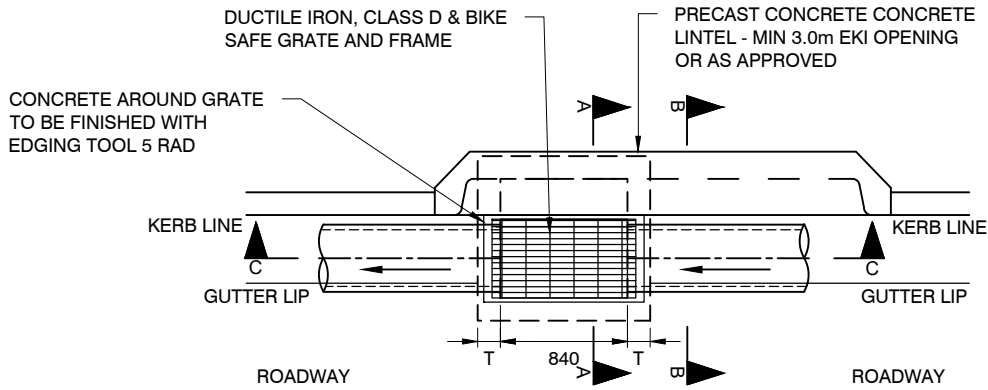
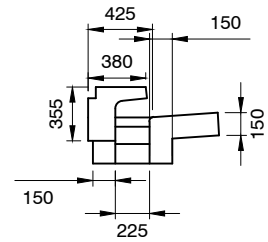


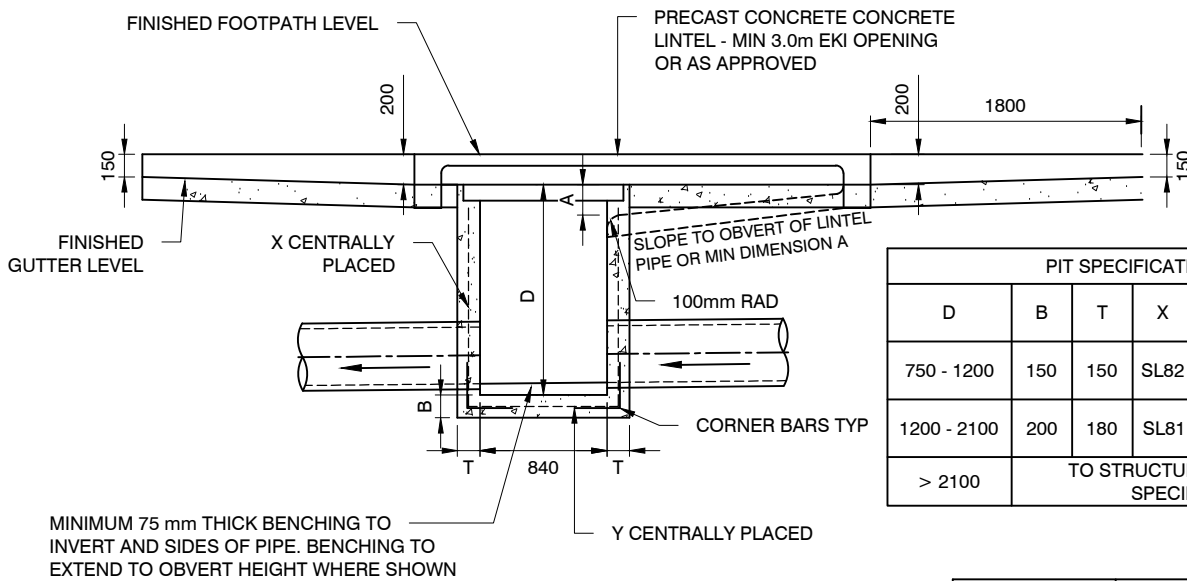
PLAN



SECTION B-B

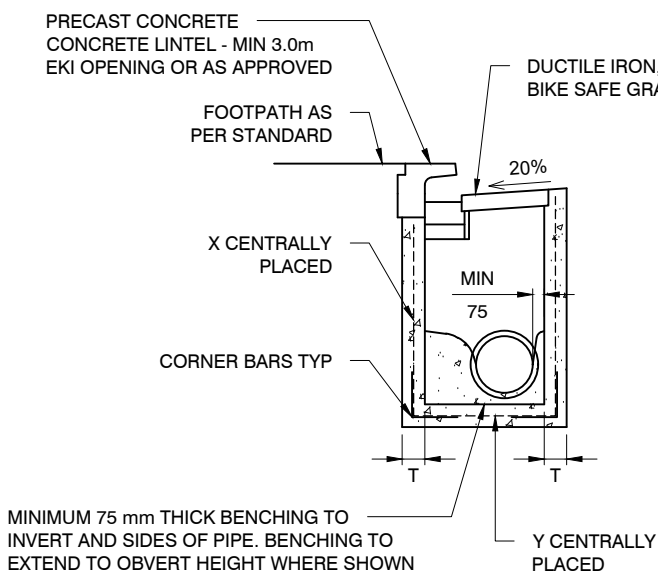


SECTION C-C



PIT SPECIFICATIONS					
D	B	T	X	Y	CORNER BARS
750 - 1200	150	150	SL82	SL81	N12-300 L 500
1200 - 2100	200	180	SL81	SL81	N12-200 L 600
> 2100	TO STRUCTURAL ENGINEERS SPECIFICATION				

SECTION A-A



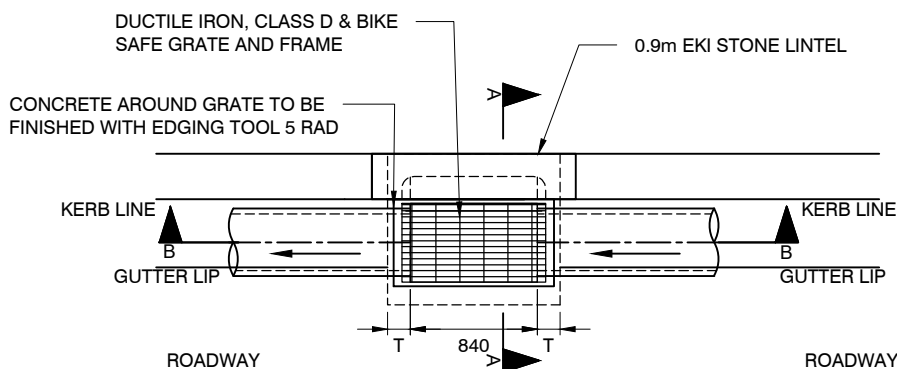
INLET LENGTH - EKI (m)	MINIMUM DIMENSION A (mm)
1.8	250
2.4	300
3.0	400
3.6	450
4.2	500

NOTES:

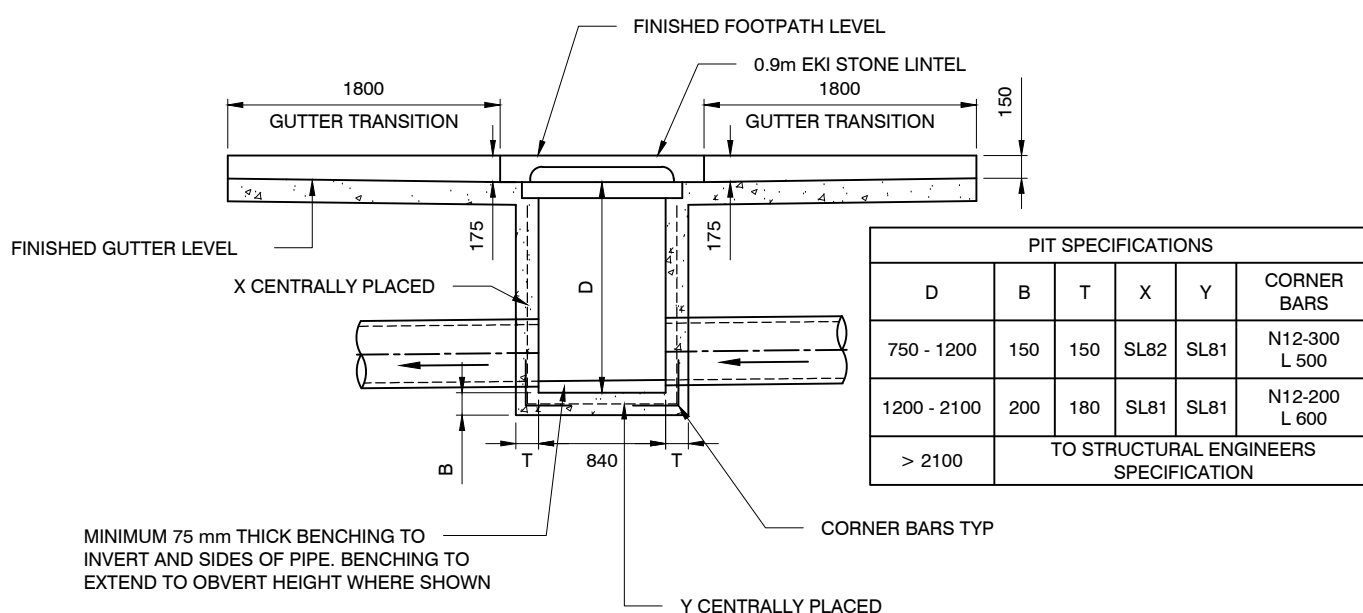
1. COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS TO BE 32MPa.
2. 100mmØ SUBSOIL DRAINAGE PIPE 3.0m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES.
3. PROVIDE STEP IRONS FOR PITS DEEPER THAN 1.0 m IN ACCORDANCE WITH STANDARD STEP IRONS DRAWING.
4. PITS OVER 2.1m IN DEPTH TO BE DESIGNED BY STRUCTURAL ENGINEER.
5. GRATES SHALL BE BICYCLE SAFE AND HAVE MAXIMUM INLET CAPACITY. ALL GRATES MUST BE APPROVED BY THE CITY'S REPRESENTATIVE.
6. CONCRETE STRUCTURES & REINFORCEMENT TO COMPLY WITH AS 3600, AS 4671 & CoS TECHNICAL SPECIFICATIONS.
7. DRAINAGE PIPE TO BE MINIMUM 375Ø CLASS 4 REINFORCED CONCRETE PIPE.
8. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

SCALE 1:50

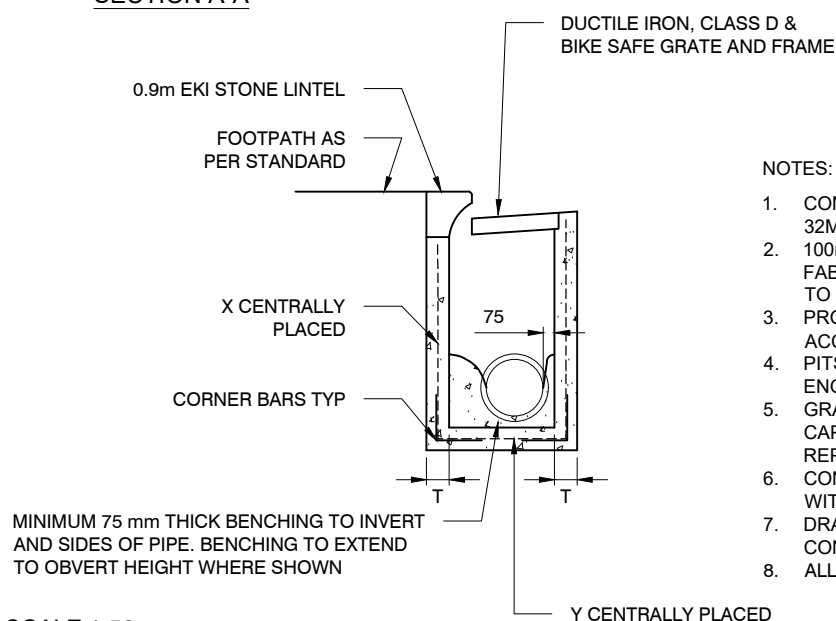
PLAN



SECTION B-B



SECTION A-A

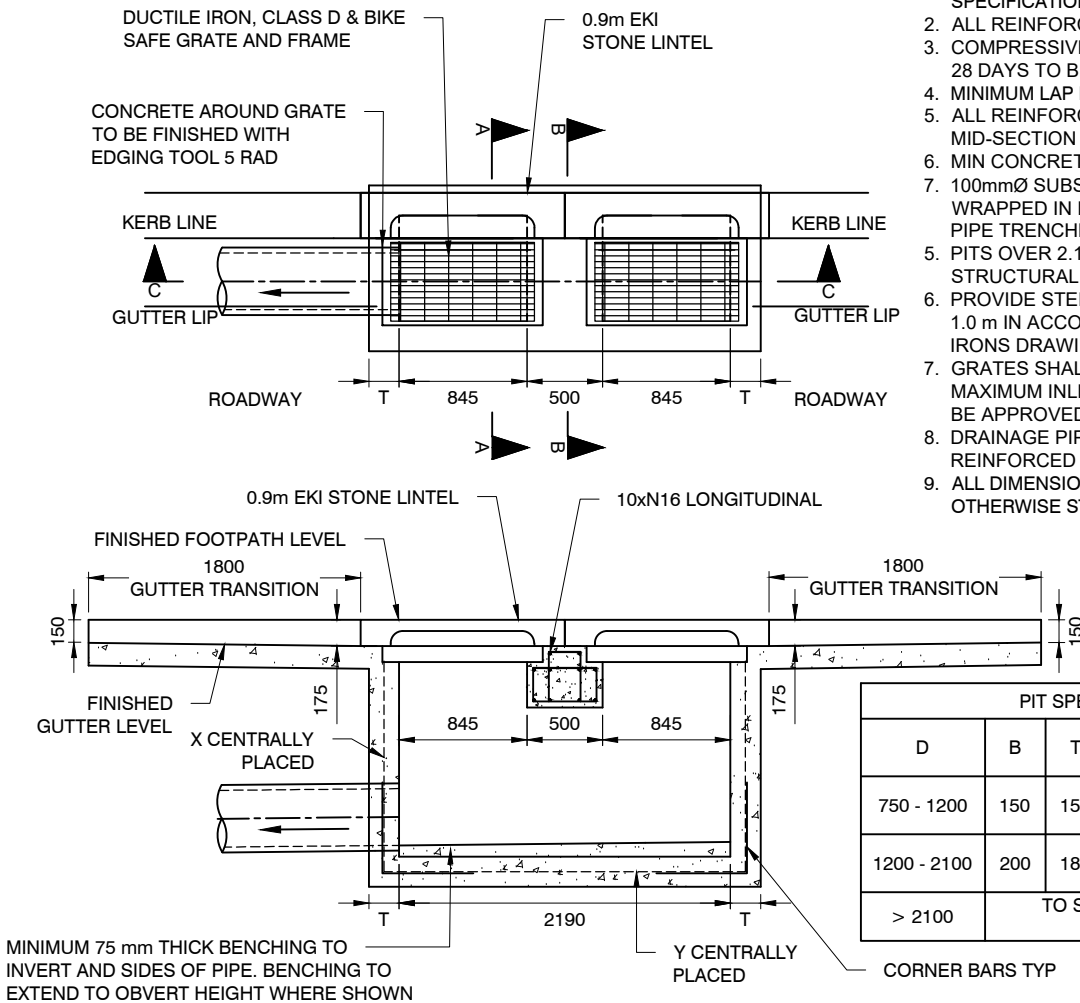


- NOTES:

1. COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS TO BE 32MPa.
2. 100mmØ SUBSOIL DRAINAGE PIPE 3.0m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES.
3. PROVIDE STEP IRONS FOR PITS DEEPER THAN 1.0 m IN ACCORDANCE WITH STANDARD STEP IRONS DRAWING.
4. PITS OVER 2.1m IN DEPTH TO BE DESIGNED BY STRUCTURAL ENGINEER.
5. GRATES SHALL BE BICYCLE SAFE AND HAVE MAXIMUM INLET CAPACITY. ALL GRATES MUST BE APPROVED BY THE CITY'S REPRESENTATIVE.
6. CONCRETE STRUCTURES & REINFORCEMENT TO COMPLY WITH AS 3600, AS 4671 & CoS TECHNICAL SPECIFICATIONS.
7. DRAINAGE PIPE TO BE MINIMUM 375Ø CLASS 4 REINFORCED CONCRETE PIPE
8. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

SCALE 1:50

PLAN

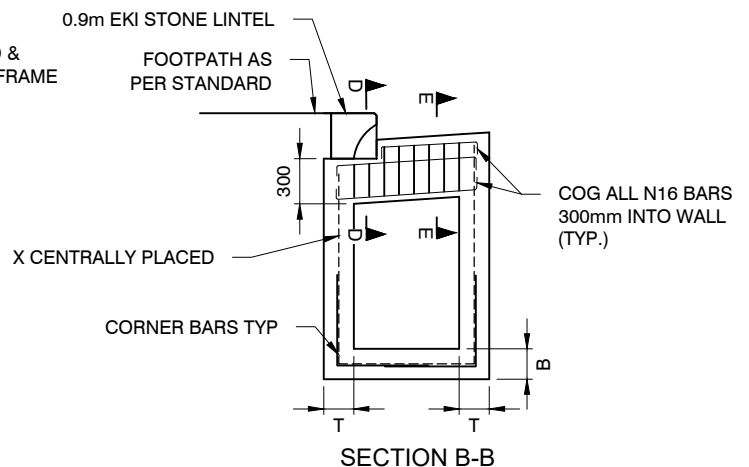
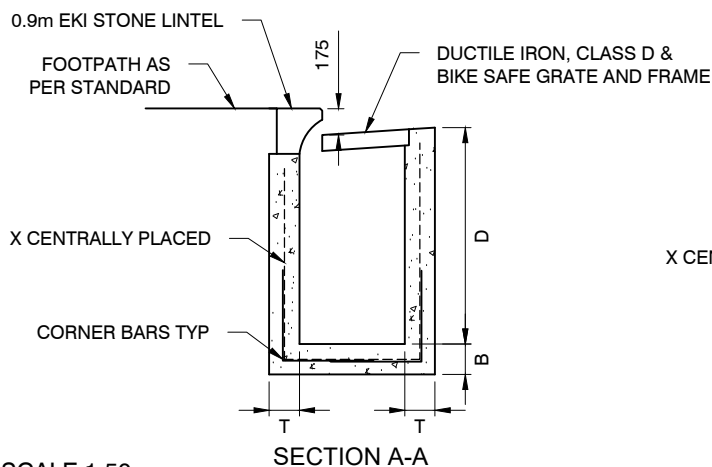
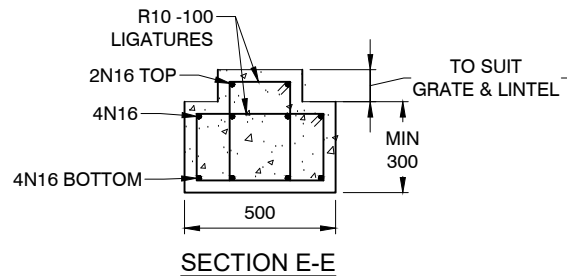
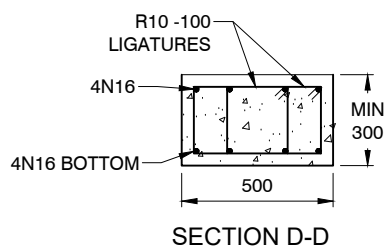


- NOTES:

1. CONCRETE STRUCTURES & REINFORCEMENT TO COMPLY WITH AS 3600, AS 4671 & CoS TECHNICAL SPECIFICATIONS.
2. ALL REINFORCEMENT TO BE GRADE 500
3. COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS TO BE 32MPa.
4. MINIMUM LAP LENGTH IS TO BE 40 x BAR Ø UNO.
5. ALL REINFORCEMENT SHALL BE PLACED IN MID-SECTION UNO.
6. MIN CONCRETE BEAM COVER SHALL BE 40mm
7. 100mmØ SUBSOIL DRAINAGE PIPE 3.0m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES.
8. PITS OVER 2.1m IN DEPTH TO BE DESIGNED BY STRUCTURAL ENGINEER.
9. PROVIDE STEP IRONS FOR PITS DEEPER THAN 1.0 m IN ACCORDANCE WITH STANDARD STEP IRONS DRAWING.
10. GRATES SHALL BE BICYCLE SAFE AND HAVE MAXIMUM INLET CAPACITY. ALL GRATES MUST BE APPROVED BY THE CITY'S REPRESENTATIVE.
11. DRAINAGE PIPE TO BE MINIMUM 375Ø CLASS 4 REINFORCED CONCRETE PIPE.
12. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

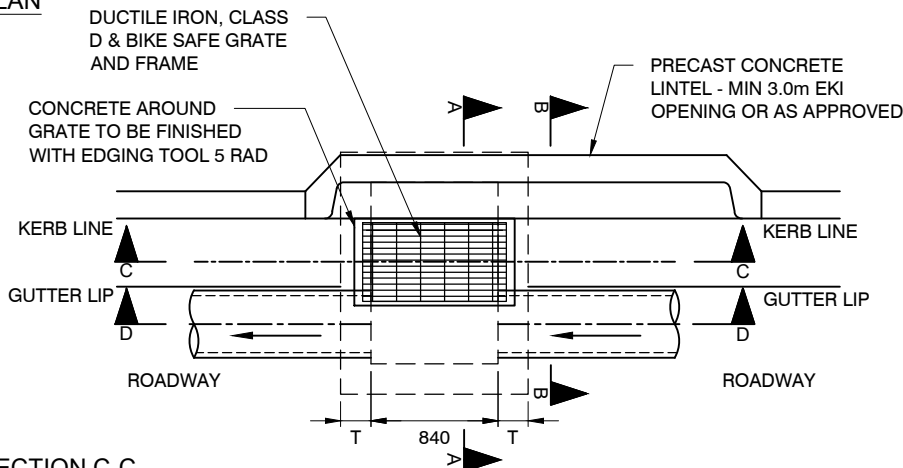
PIT SPECIFICATIONS					
D	B	T	X	Y	CORNER BARS
750 - 1200	150	150	SL82	SL81	N12-300 L 500
1200 - 2100	200	180	SL81	SL81	N12-200 L 600
> 2100	TO STRUCTURAL ENGINEERS SPECIFICATION				

SECTION C-C

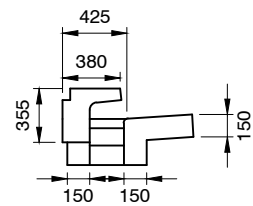


SCALE 1:50

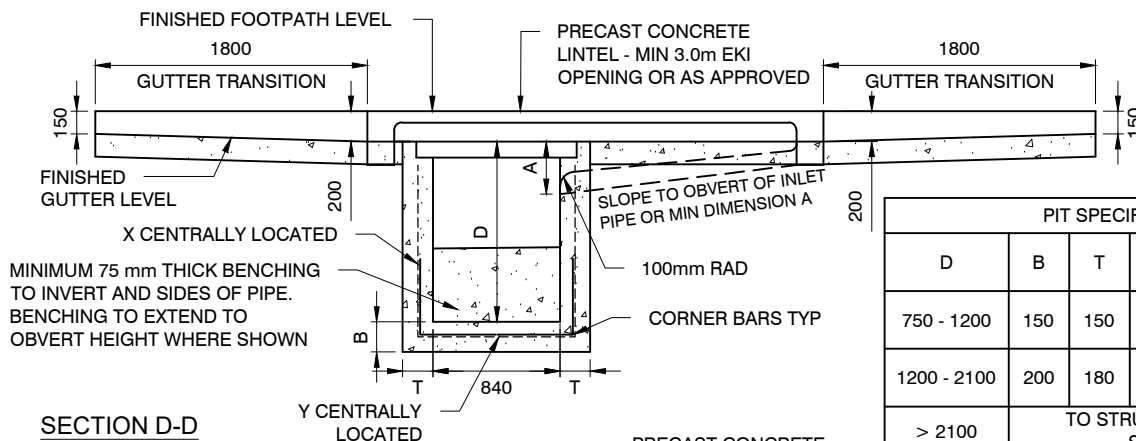
PLAN



SECTION B-B

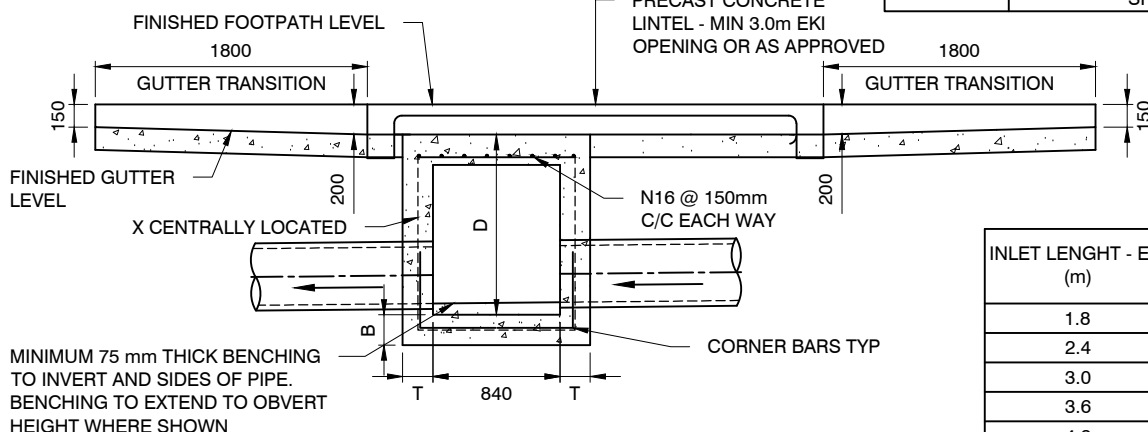


SECTION C-C



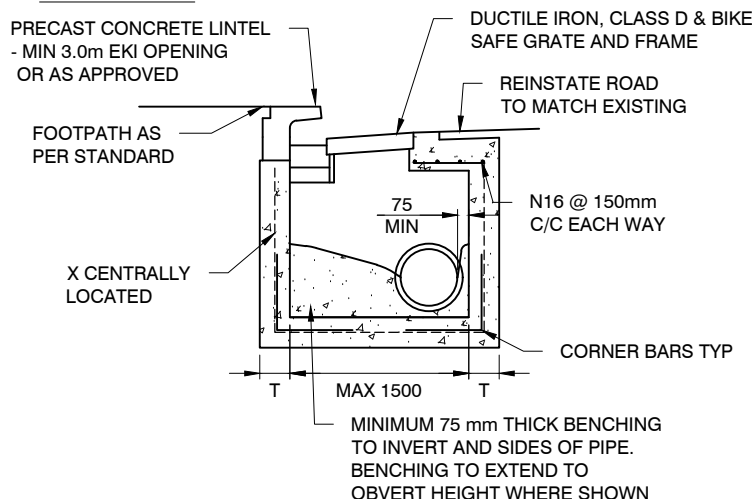
PIT SPECIFICATIONS					
D	B	T	X	Y	CORNER BARS
750 - 1200	150	150	SL82	SL81	N12-300 L 500
1200 - 2100	200	180	SL81	SL81	N12-200 L 600
> 2100	TO STRUCTURAL ENGINEERS SPECIFICATION				

SECTION D-D



INLET LENGTH - EKI (m)	MINIMUM DIMENSION A (mm)
1.8	250
2.4	300
3.0	400
3.6	450
4.2	500

SECTION A-A

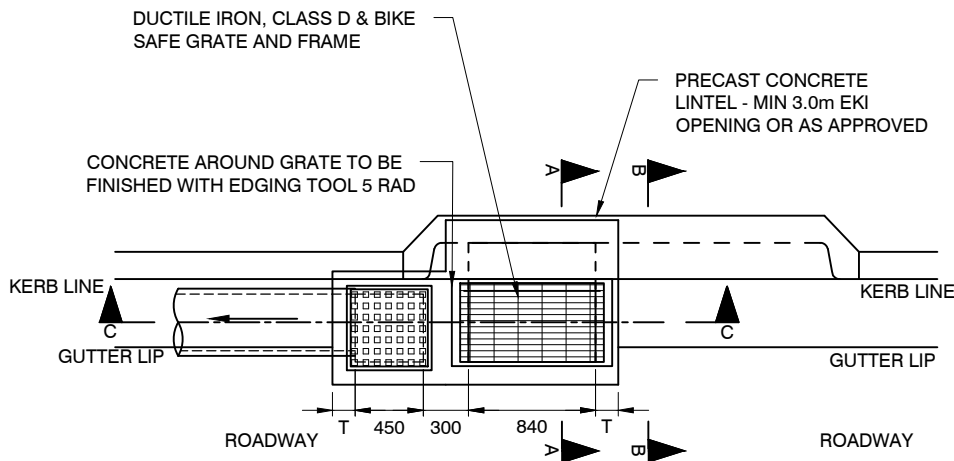


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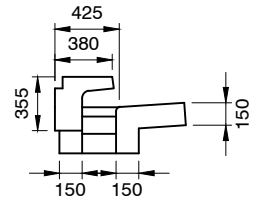
1. COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS TO BE 32MPa.
2. 100mmØ SUBSOIL DRAINAGE PIPE 3.0m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES.
3. PROVIDE STEP IRONS FOR PITS DEEPER THAN 1.0 m IN ACCORDANCE WITH STANDARD STEP IRONS DRAWING.
4. PITS OVER 2.1m IN DEPTH TO BE DESIGNED BY STRUCTURAL ENGINEER.
5. GRATES SHALL BE BICYCLE SAFE AND HAVE MAXIMUM INLET CAPACITY. ALL GRATES MUST BE APPROVED BY THE CITY'S REPRESENTATIVE.
6. CONCRETE STRUCTURES & REINFORCEMENT TO COMPLY WITH AS 3600, AS 4671 & CoS TECHNICAL SPECIFICATIONS.
7. DRAINAGE PIPE TO BE MINIMUM 375Ø CLASS 4 REINFORCED CONCRETE PIPE.
8. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

SCALE 1:50

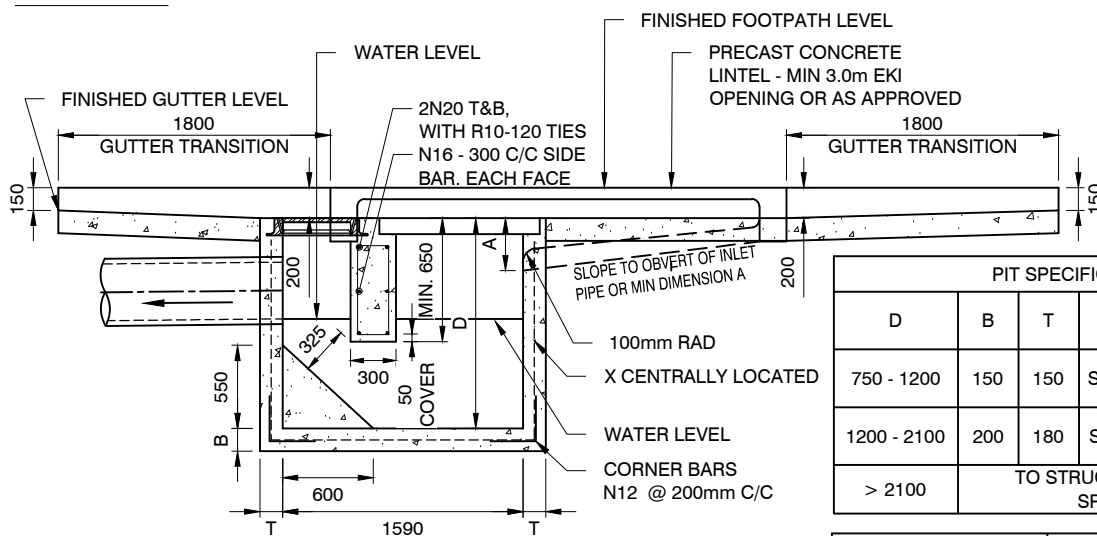
PLAN



SECTION B-B



SECTION C-C

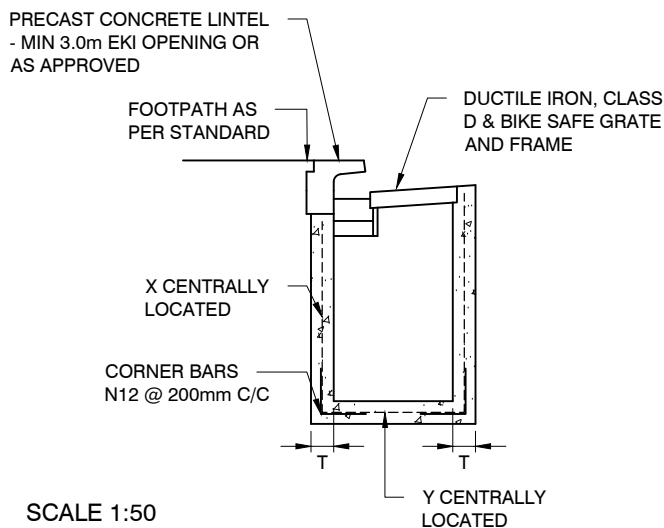


PIT SPECIFICATIONS

D	B	T	X	Y	CORNER BARS
750 - 1200	150	150	SL82	SL81	N12-300 L 500
1200 - 2100	200	180	SL81	SL81	N12-200 L 600
> 2100	TO STRUCTURAL ENGINEERS SPECIFICATION				

INLET LENGHT - EKI (m)	MINIMUM DIMENSION A (mm)
1.8	250
2.4	300
3.0	400
3.6	450
4.2	500

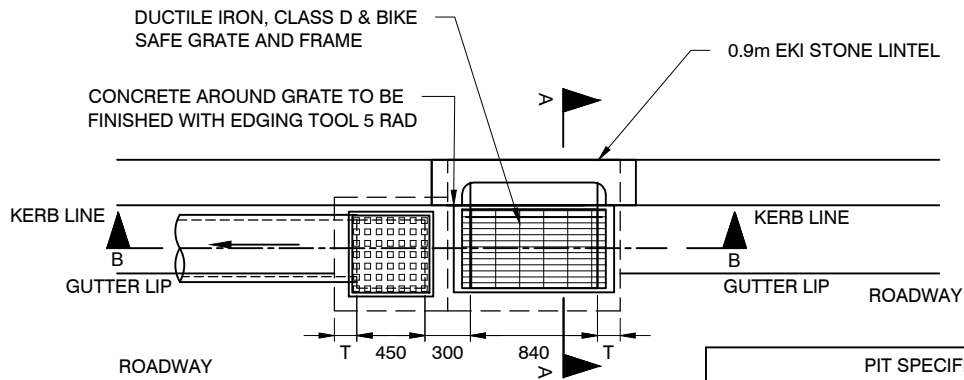
SECTION A-A



NOTES:

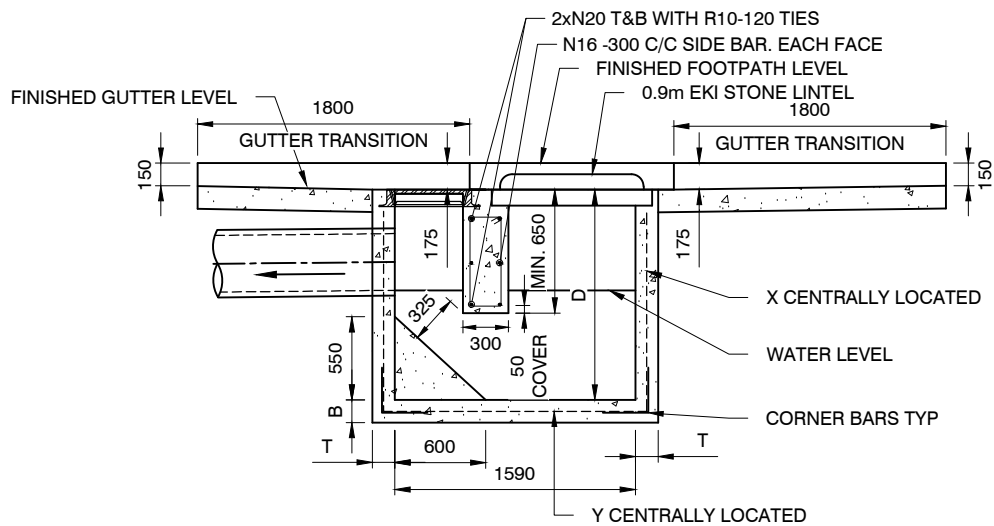
1. COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS TO BE 32MPa.
2. 100mmØ SUBSOIL DRAINAGE PIPE 3.0m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES.
3. PROVIDE STEP IRONS FOR PITS DEEPER THAN 1.0 m IN ACCORDANCE WITH STANDARD STEP IRONS DRAWING.
4. PITS OVER 2.1m IN DEPTH TO BE DESIGNED BY STRUCTURAL ENGINEER.
5. GRATES SHALL BE BICYCLE SAFE AND HAVE MAXIMUM INLET CAPACITY. ALL GRATES MUST BE APPROVED BY THE CITY'S REPRESENTATIVE.
6. CONCRETE STRUCTURES & REINFORCEMENT TO COMPLY WITH AS 3600, AS 4671 & CoS TECHNICAL SPECIFICATIONS.
7. MINIMUM LAP LENGTH IS TO BE 40 x BAR Ø UNLESS NOTED OTHERWISE.
8. DRAINAGE PIPE TO BE MINIMUM Ø375 CLASS 4 REINFORCED CONCRETE PIPE.
9. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

PLAN

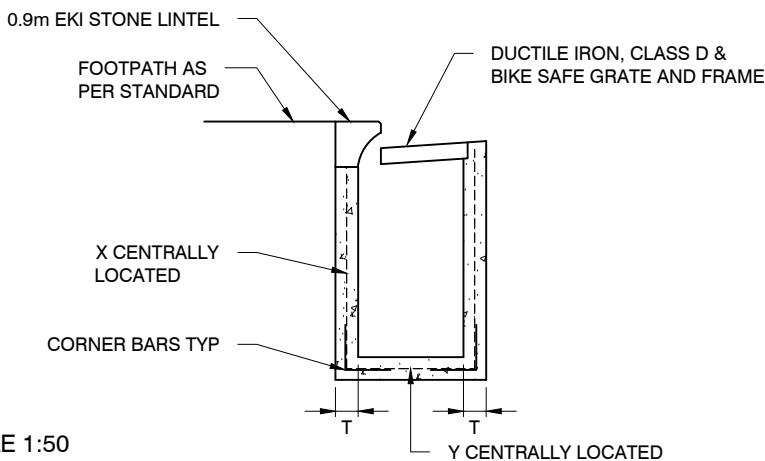


PIT SPECIFICATIONS					
D	B	T	X	Y	CORNER BARS
750 - 1200	150	150	SL82	SL81	N12-300 L 500
1200 - 2100	200	180	SL81	SL81	N12-200 L 600
> 2100	TO STRUCTURAL ENGINEERS SPECIFICATION				

SECTION B-B



SECTION A-A

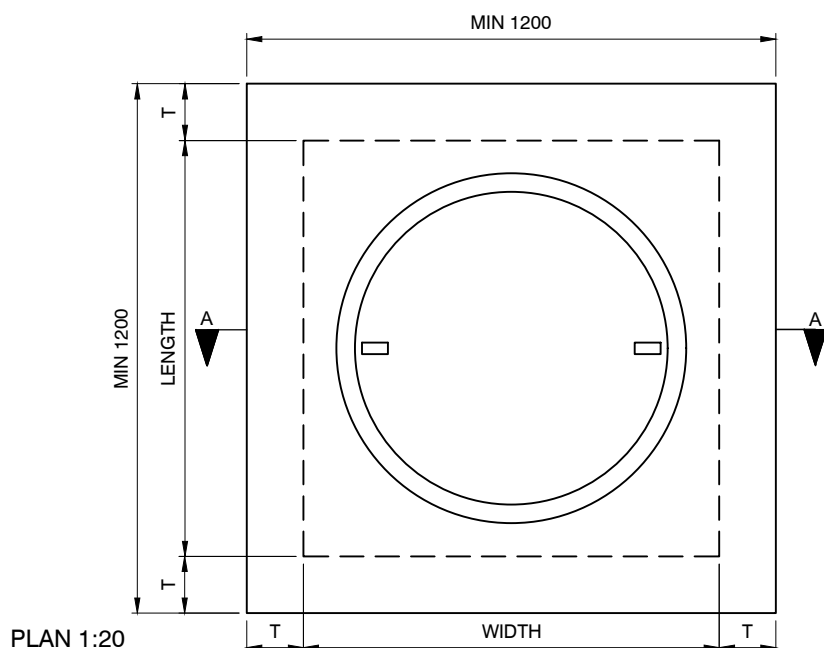


NOTES:

1. COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS TO BE 32MPa.
2. 100mmØ SUBSOIL DRAINAGE PIPE 3.0m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES.
3. PROVIDE STEP IRONS FOR PITS DEEPER THAN 1.0 m IN ACCORDANCE WITH STANDARD STEP IRONS DRAWING.
4. PITS OVER 2.1m IN DEPTH TO BE DESIGNED BY STRUCTURAL ENGINEER.
5. GRATES SHALL BE BICYCLE SAFE AND HAVE MAXIMUM INLET CAPACITY. ALL GRATES MUST BE APPROVED BY THE CITY'S REPRESENTATIVE.
6. CONCRETE STRUCTURES & REINFORCEMENT TO COMPLY WITH AS 3600, AS 4671 & CoS TECHNICAL SPECIFICATIONS.
7. DRAINAGE PIPE TO MINIMUM 375Ø CLASS 4 REINFORCED CONCRETE PIPE.
8. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

SCALE 1:50

MANHOLE COVER AND FRAME



PIT LID IS A CLASS D DUCTILE IRON HINGED LID WITH A SPRING LOCKING SYSTEM THE LID SHALL BE A KORUM MANHOLE COVER (REF CDK060EFX17) OR SIMILAR PRODUCT APPROVED BY THE CITY.

PIT SPECIFICATIONS					
D	B	T	X	Y	CORNER BARS
750 - 1200	150	150	SL82	SL81	N12-300 L 500
1200 - 2100	200	180	SL81	SL81	N12-200 L 600
> 2100	TO STRUCTURAL ENGINEERS SPECIFICATION				

SECTION A-A

VARIABLE HEIGHT TO ALLOW FOR ADJUSTMENT OF MANHOLE COVER TO SUIT DESIGN SURFACE LEVELS AND GRADING. LID MAY BE RECESSED INTO THE CONVERTER SLAB AS REQUIRED. ADJUST NUMBER OF RISERS AS REQUIRED.

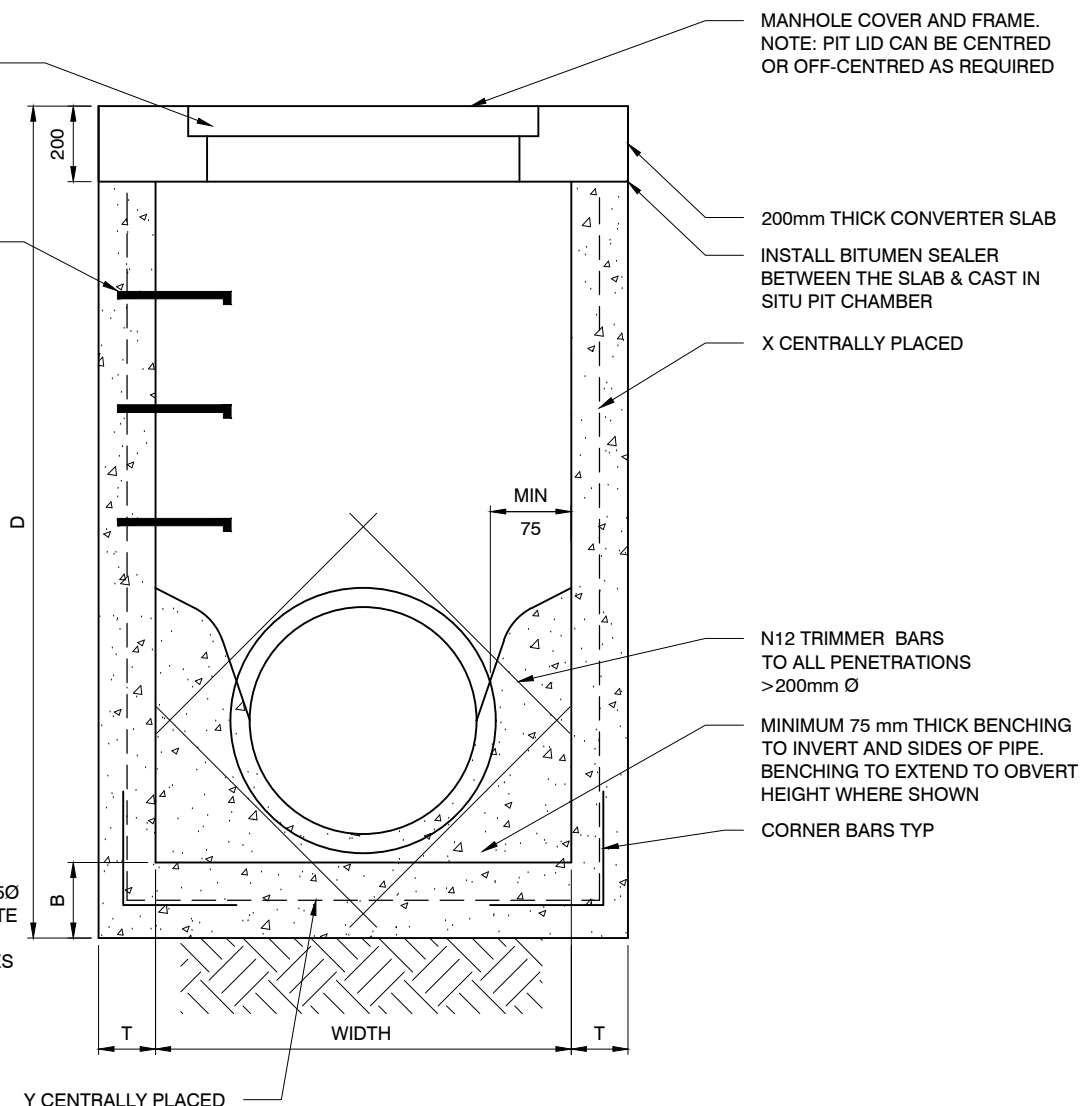
STEP IRONS REQUIRED @300mm SPACINGS IF DEPTH OF PIT IS GREATER THAN 1.0m AS PER STANDARD DETAIL

MINIMUM DIMENSIONS OF PIT (mm)		
Ø OF OUTLET ON STRAIGHT	WIDTH	LENGTH
UP TO 750	900	900
825 TO 900	1200	1200
1050	1200	1200
1200	1350	1200
1350	1500	1200
1500	1650	1200
1650	1800	1200
1800	1950	1200

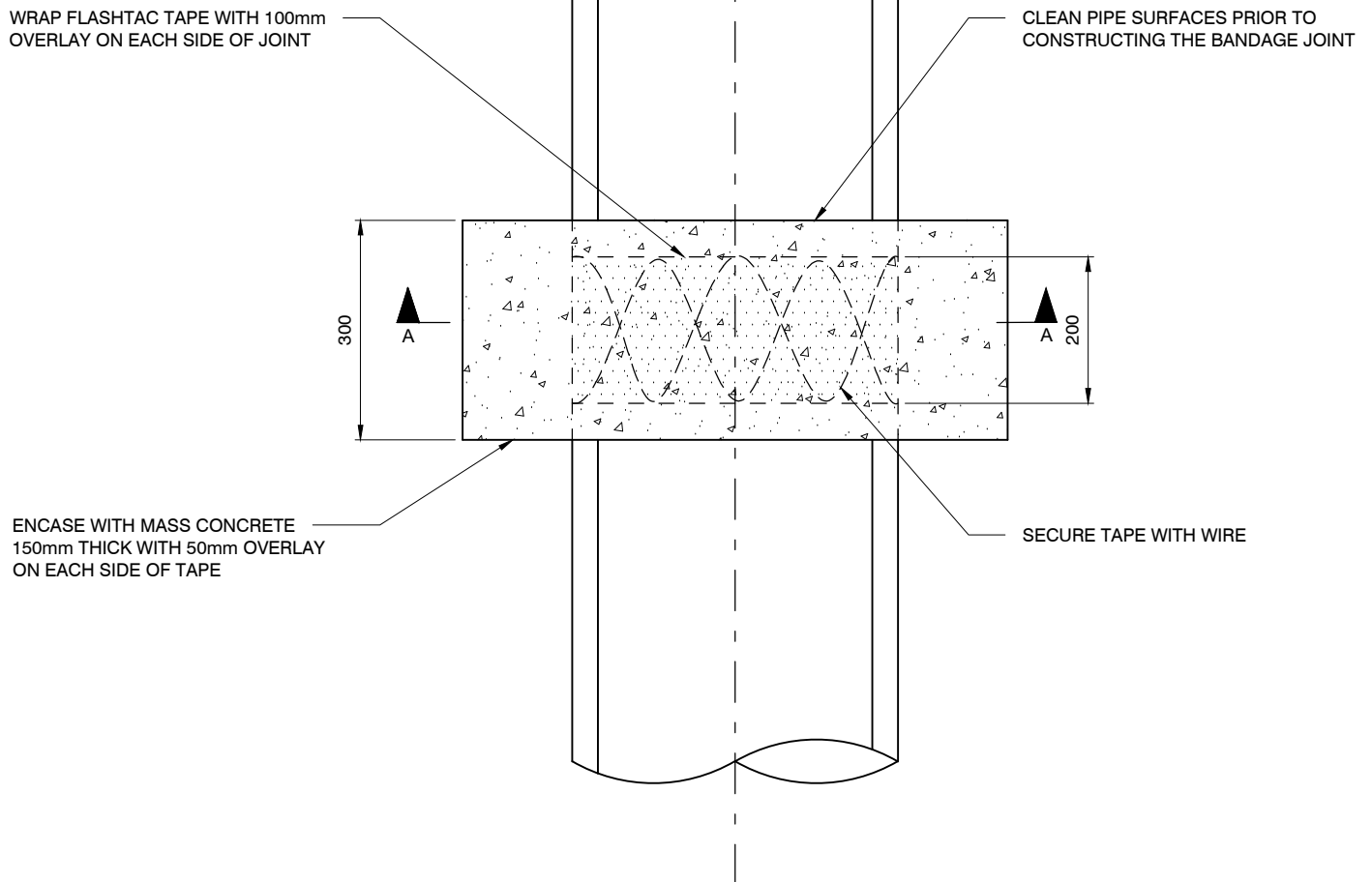
NOTES:

- ALL CONCRETE IS TO HAVE MINIMUM STRENGTH OF 32MPa.
- DRAINAGE PIPE TO MINIMUM 375Ø CLASS 4 REINFORCED CONCRETE PIPE.
- ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

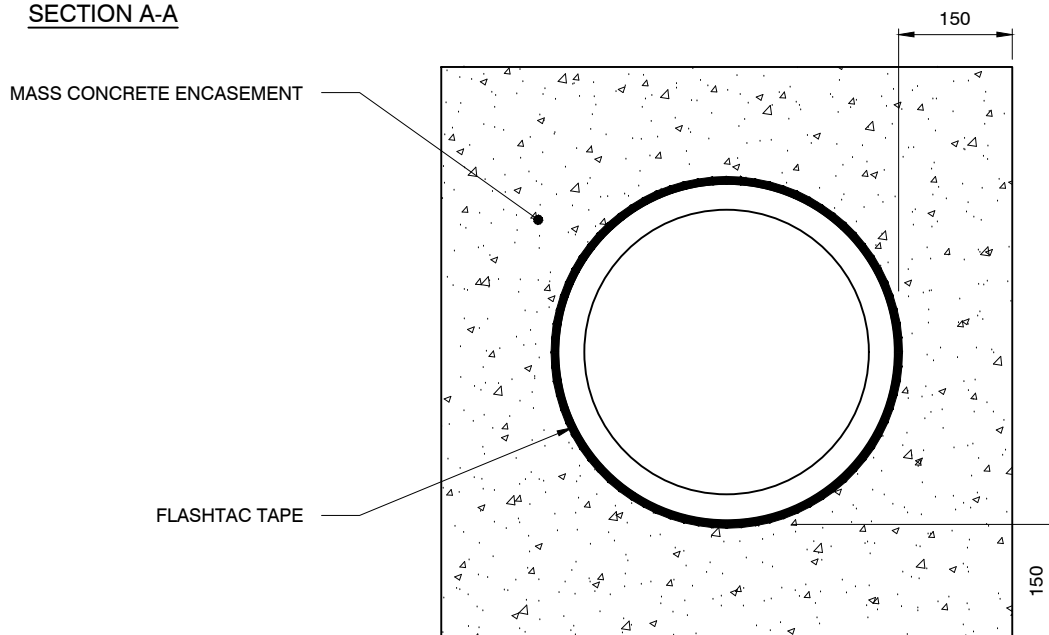
SECTION 1:20



PLAN



SECTION A-A



SCALE 1:10

NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

CONCRETE PIPE TRENCH BACKFILL DETAIL
≤ 900mm DIA.

EXISTING SURFACE LEVEL

FOOTPATH/ROAD TO SUIT
(REFER TO PAVEMENT DETAILS)

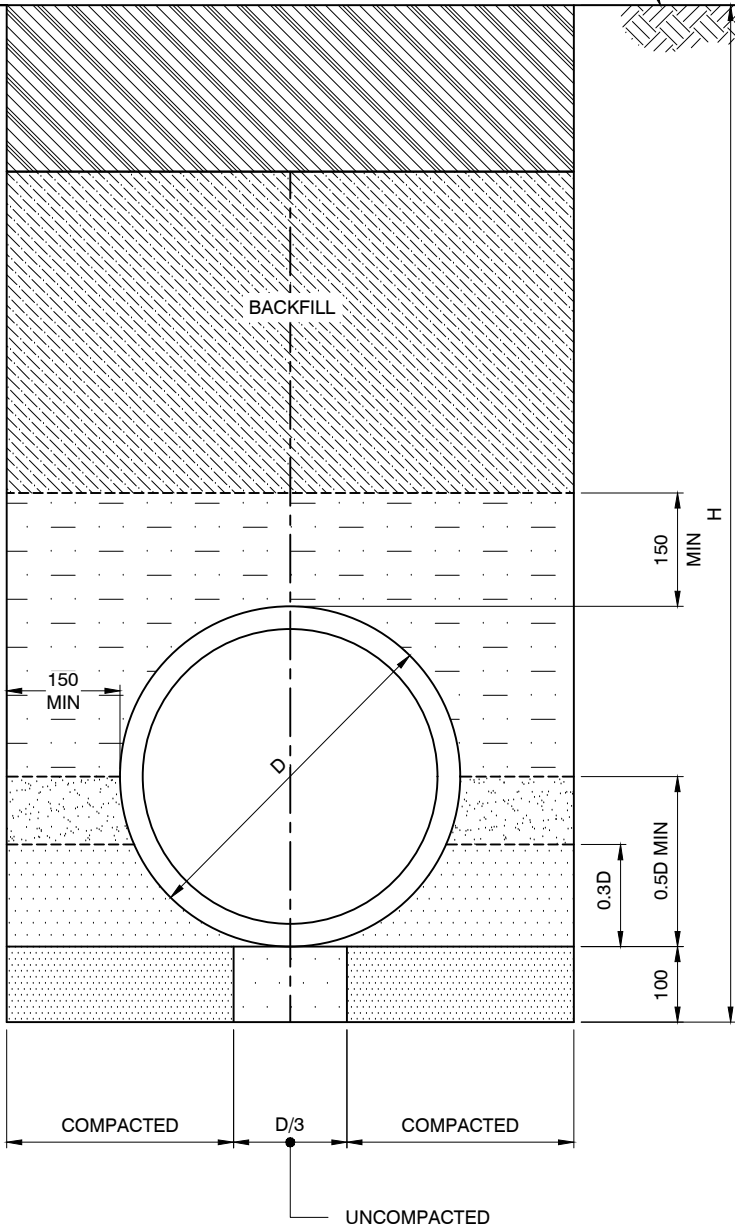
BACKFILL ZONE

OVERLAY ZONE

SIDE ZONES

HAUNCH ZONES

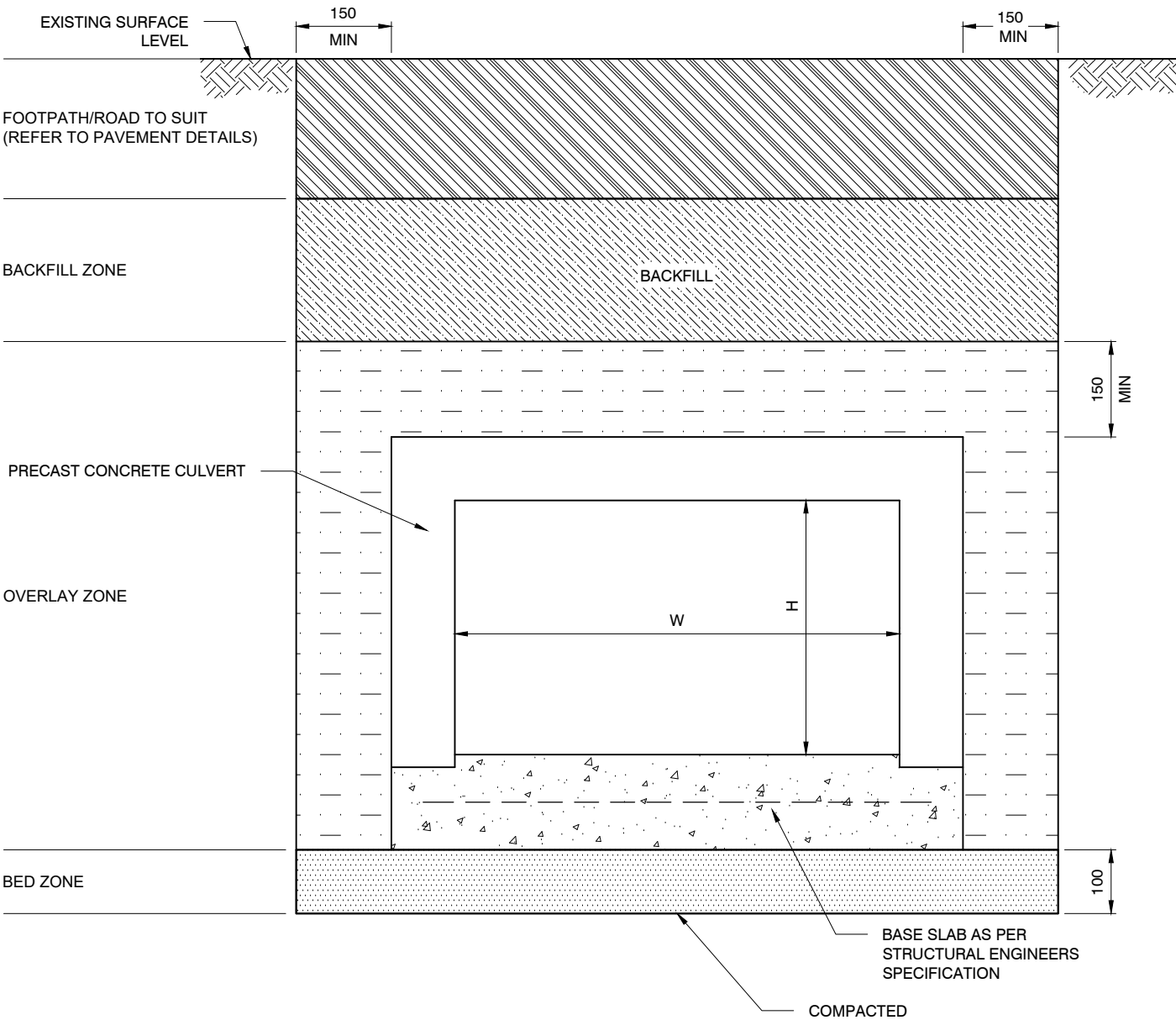
BED ZONE



SECTION 1:10

- NOTES:
- 1. DRAINAGE PIPE TO BE MINIMUM 375Ø CLASS 4 REINFORCED CONCRETE PIPE.
 - 2. TRENCH BACKFILL DETAIL FOR DRAINAGE PIPE GREATER THAN 900 mm DIA SHALL BE REVIEWED AND APPROVED BY COUNCIL'S REPRESENTATIVE.
 - 3. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

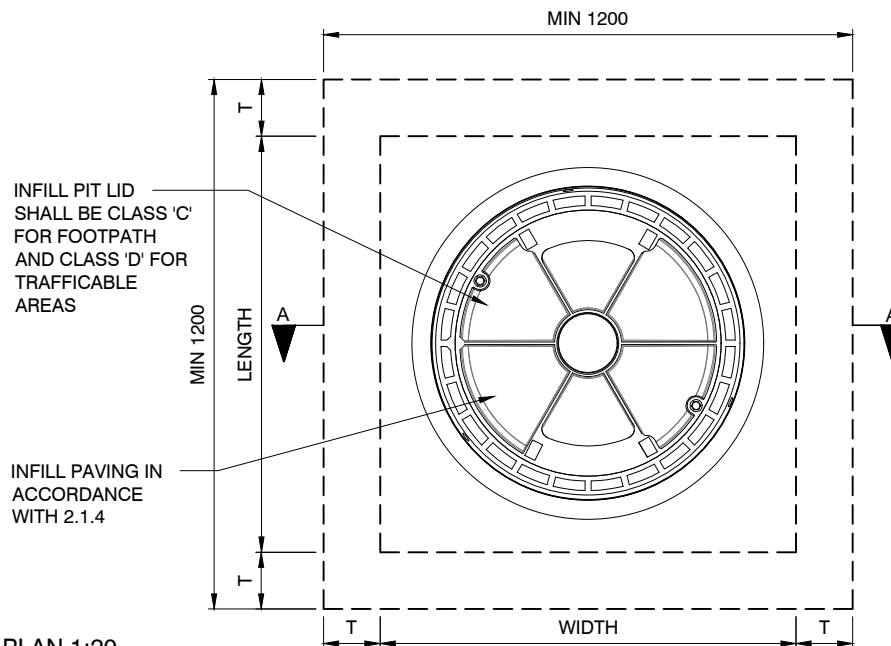
CONCRETE CULVERT TRENCH BACKFILL DETAIL



SECTION 1:10

NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

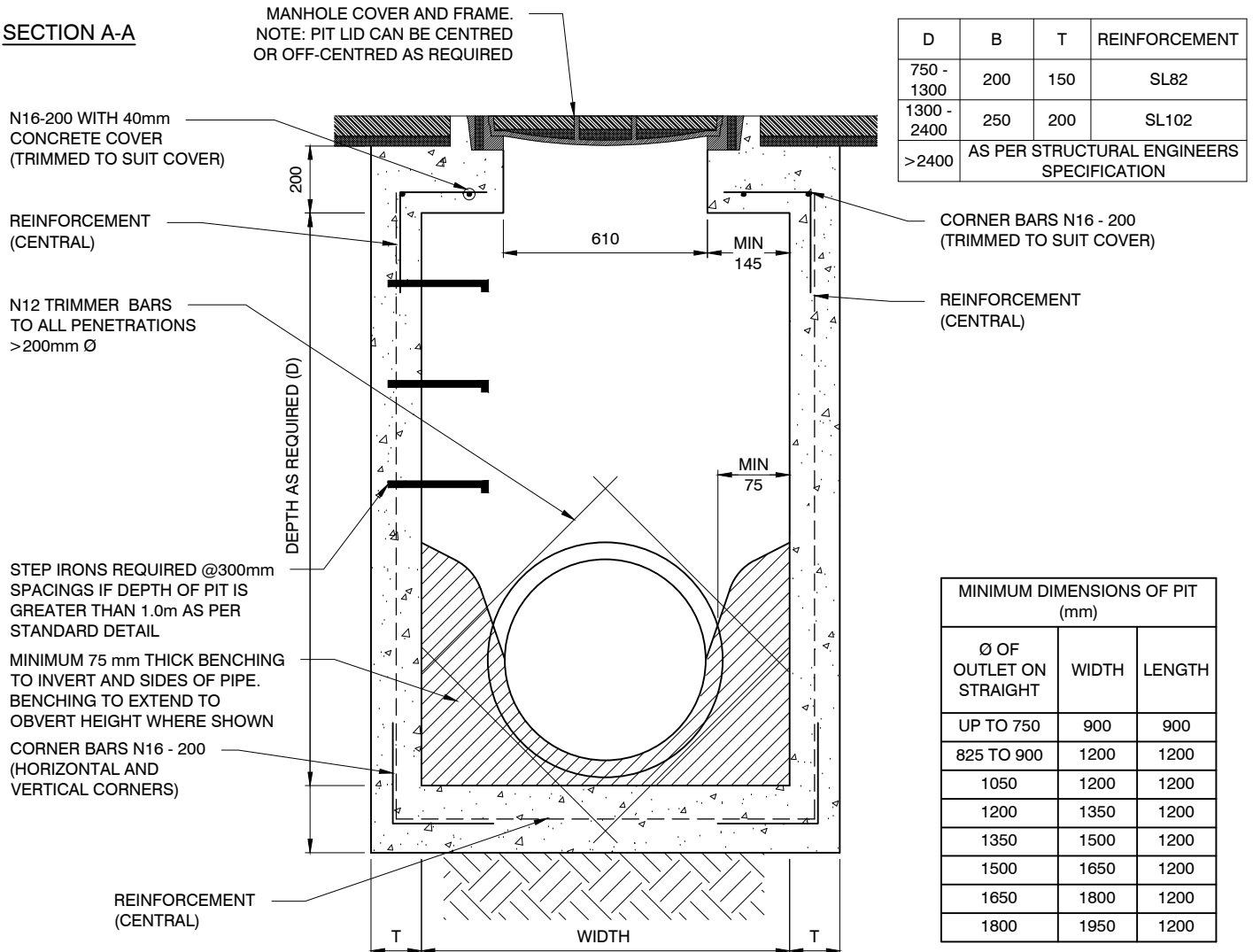
MANHOLE COVER AND FRAME



NOTES:

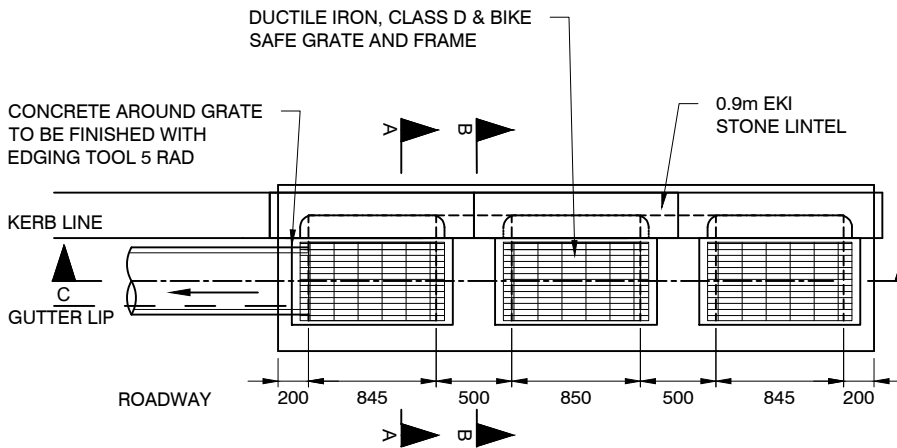
1. CONCRETE STRUCTURES & REINFORCEMENT TO COMPLY WITH AS 3600, AS 4671 & CoS TECHNICAL SPECIFICATIONS.
2. ALL REINFORCEMENT TO BE GRADE 500
3. COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS TO BE 32MPa.
4. ALL REINFORCEMENT SHALL BE PLACED IN MID-SECTION UNO. OTHERWISE MIN CONCRETE COVER SHALL BE 40mm
5. FOR ANY PENETRATION THROUGH WALLS AND SLABS GREATER THAN 200 SPACING, PROVIDE N12 TRIMMER BARS AND ADDITIONAL N12 REPLACEMENT BARS ON EACH SIDE.
6. LAP LENGTH IS TO BE MINIMUM $40 \times \text{BAR } \varnothing$ UNLESS NOTED OTHERWISE.
7. 100mm \varnothing SUBSOIL DRAINAGE PIPE 3.0m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES.
8. PROVIDE STEP IRONS FOR PITS DEEPER THAN 1.0 m IN ACCORDANCE WITH STANDARD STEP IRONS DRAWING.
9. GRATES SHALL BE BICYCLE SAFE AND HAVE MAXIMUM INLET CAPACITY. ALL GRATES MUST BE APPROVED BY THE CITY'S REPRESENTATIVE.
10. DRAINAGE PIPE TO BE MINIMUM 375 \varnothing CLASS 4 REINFORCED CONCRETE PIPE.
11. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

SECTION A-A



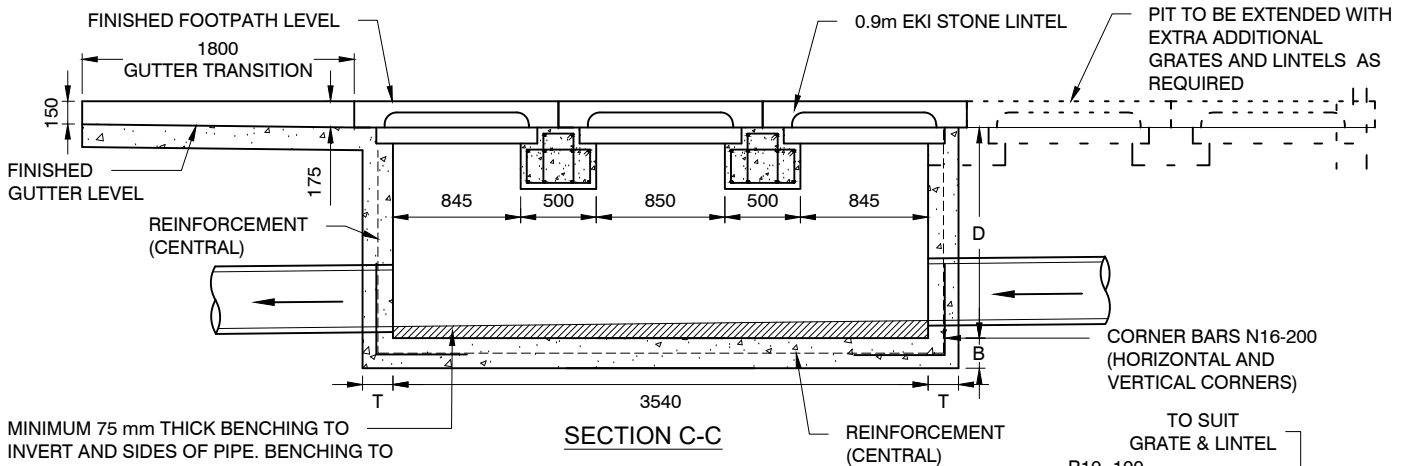
NOTES:

1. CONCRETE STRUCTURES & REINFORCEMENT TO COMPLY WITH AS 3600, AS 4671 & CoS TECHNICAL SPECIFICATIONS.
2. ALL REINFORCEMENT TO BE GRADE 500
3. COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS TO BE 32MPa.
4. MINIMUM LAP LENGTH IS TO BE 40 x BAR Ø UNLESS NOTED OTHERWISE.
5. ALL REINFORCEMENT SHALL BE PLACED IN MID-SECTION UNO.
6. MIN CONCRETE BEAM COVER SHALL BE 40mm
7. FOR ANY PENETRATION THROUGH WALLS AND SLABS GREATER THAN 200 SPACING, PROVIDE N12 TRIMMER BARS AND ADDITIONAL N12 REPLACEMENT BARS ON EACH SIDE.
8. 100mmØ SUBSOIL DRAINAGE PIPE 3.0m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES.
9. PROVIDE STEP IRONS FOR PITS DEEPER THAN 1.0 m IN ACCORDANCE WITH STANDARD STEP IRONS DRAWING.
10. GRATES SHALL BE BICYCLE SAFE AND HAVE MAXIMUM INLET CAPACITY. ALL GRATES MUST BE APPROVED BY THE CITY'S REPRESENTATIVE.
11. DRAINAGE PIPE TO BE MINIMUM 375Ø CLASS 4 REINFORCED CONCRETE PIPE.
12. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

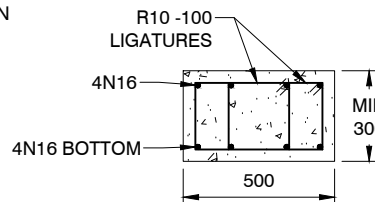


PLAN

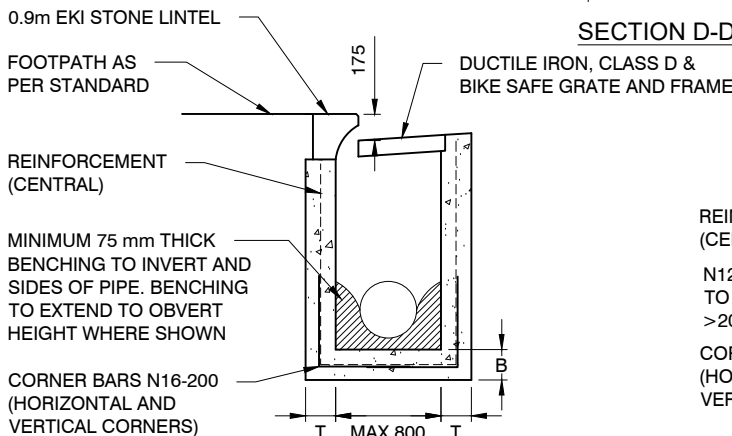
D	B	T	REINFORCEMENT
750 - 1300	200	150	SL82
1300 - 2400	230	200	SL102
>2400	AS PER STRUCTURAL ENGINEERS SPECIFICATION		



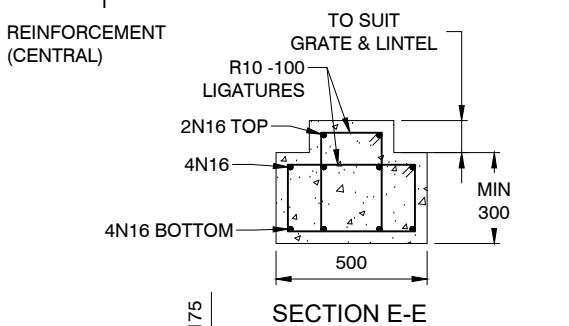
MINIMUM 75 mm THICK BENCHING TO INVERT AND SIDES OF PIPE. BENCHING TO EXTEND TO OBVERT HEIGHT WHERE SHOWN



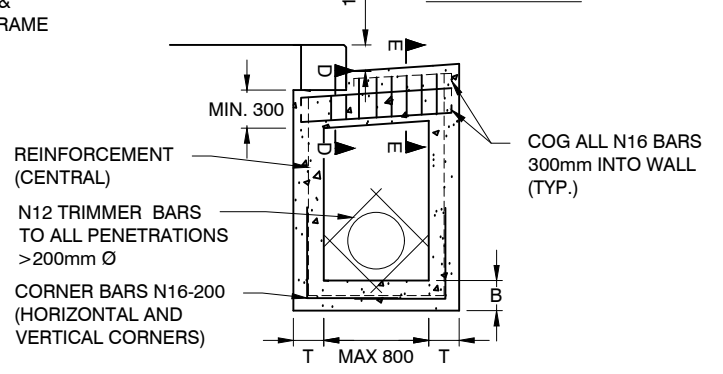
SECTION D-D



SECTION A-A



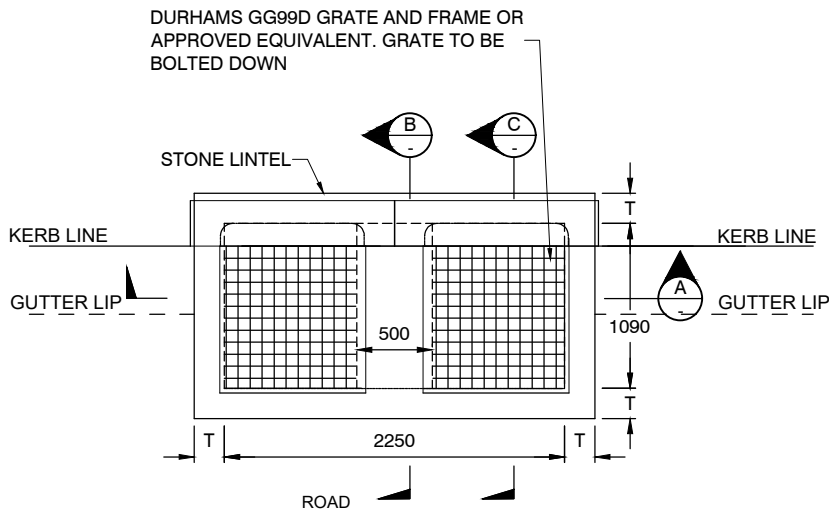
SECTION E-E



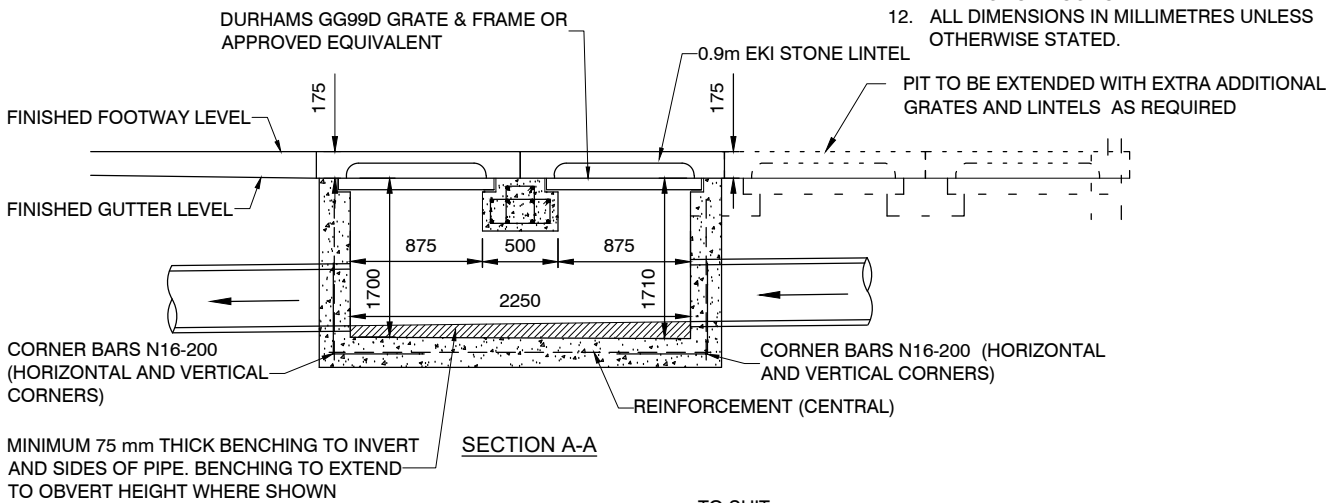
SECTION B-B

NOTES:

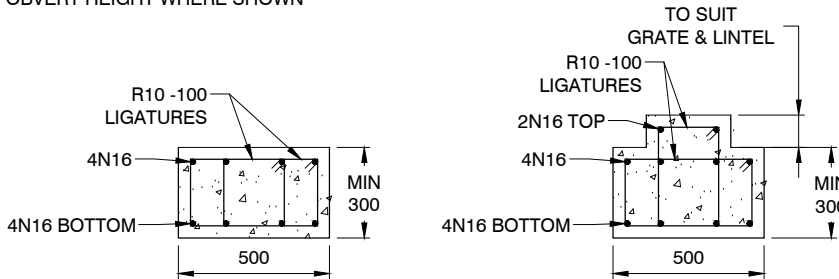
1. CONCRETE STRUCTURES & REINFORCEMENT TO COMPLY WITH AS 3600, AS 4671 & CoS TECHNICAL SPECIFICATIONS.
2. ALL REINFORCEMENT TO BE GRADE 500
3. ALL LIGATURES TO BE MIN R10.
4. COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS TO BE 32MPa.
5. ALL REINFORCEMENT SHALL BE PLACED IN MID-SECTION UNO. OTHERWISE MIN CONCRETE COVER SHALL BE 40mm - B1 COVER
6. FOR ANY PENETRATION THROUGH WALLS AND SLABS GREATER THAN 200 SPACING, PROVIDE N12 TRIMMER BARS AND ADDITIONAL N12 REPLACEMENT BARS ON EACH SIDE.
7. LAP LENGTH IS TO BE MINIMUM $40 \times \text{BAR } \varnothing$ UNLESS NOTED OTHERWISE.
8. 100mm \varnothing SUBSOIL DRAINAGE PIPE 3.0m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES.
9. PROVIDE STEP IRONS FOR PITS DEEPER THAN 1.0 m IN ACCORDANCE WITH STANDARD STEP IRONS DRAWING.
10. GRATES SHALL BE BICYCLE SAFE AND HAVE MAXIMUM INLET CAPACITY. ALL GRATES MUST BE APPROVED BY THE CITY'S REPRESENTATIVE.
11. DRAINAGE PIPE TO BE MINIMUM 375 \varnothing CLASS 4 REINFORCED CONCRETE PIPE.
12. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.



PLAN 1:50



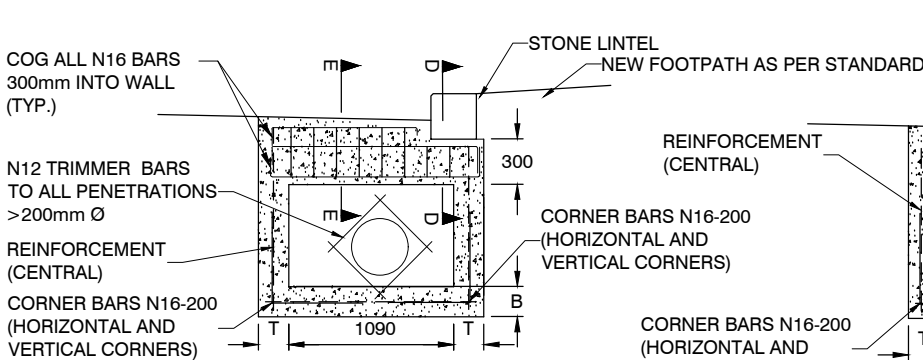
SECTION A-A



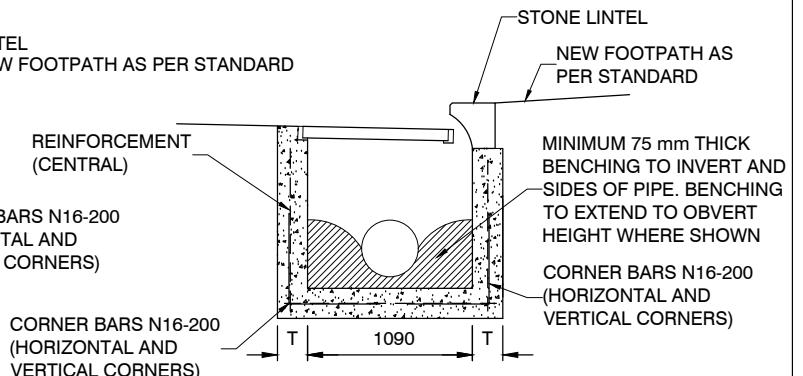
SECTION D-D

SECTION E-E

H	B	T	REINFORCEMENT
750 - 1300	200	150	SL82
1300 - 2400	250	200	SL102
>2400	AS PER STRUCTURAL ENGINEERS SPECIFICATION		

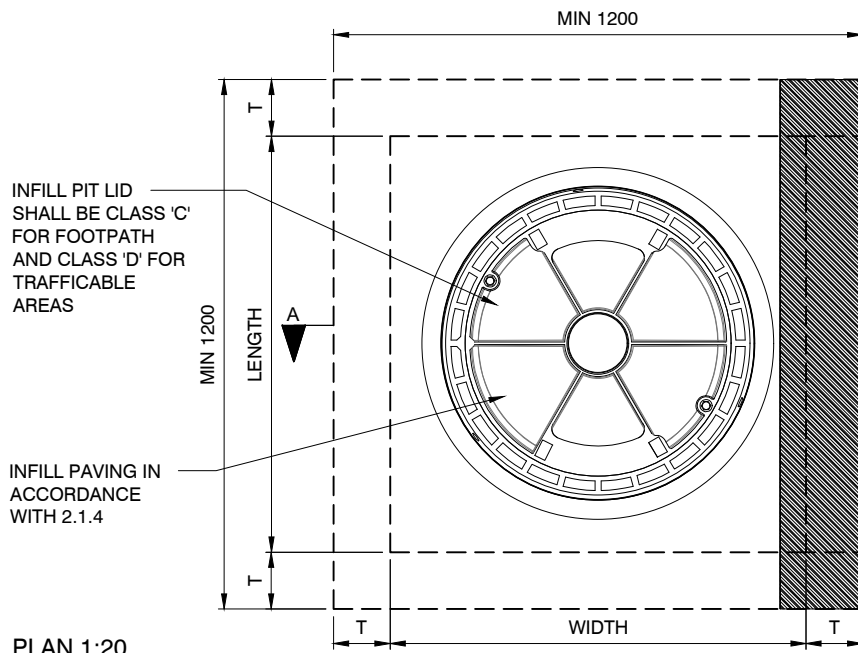


SECTION B-B



SECTION C-C

MANHOLE COVER AND FRAME

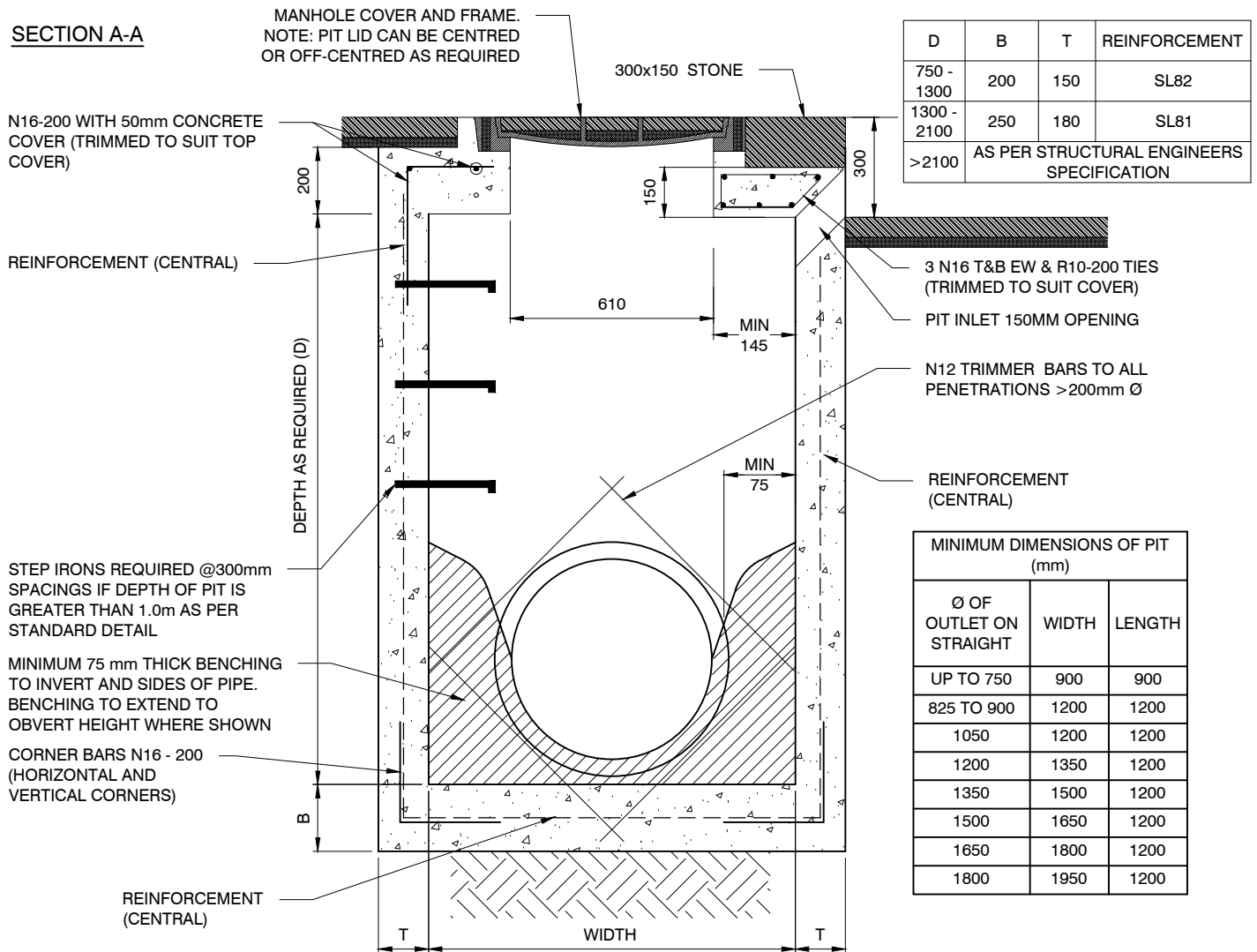


PLAN 1:20

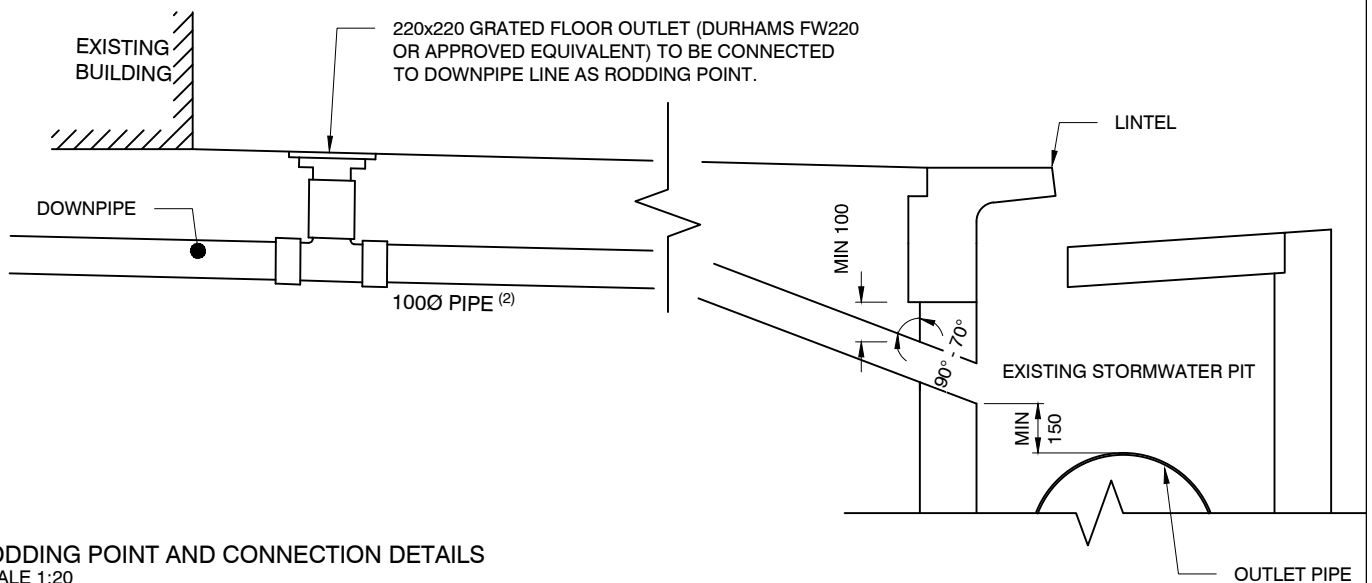
NOTES:

1. CONCRETE STRUCTURES & REINFORCEMENT TO COMPLY WITH AS 3600, AS 4671 & CoS TECHNICAL SPECIFICATIONS.
2. ALL REINFORCEMENT TO BE GRADE 500
3. COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS TO BE 32MPa.
4. ALL REINFORCEMENT SHALL BE PLACED IN MID-SECTION UNO. OTHERWISE MIN CONCRETE COVER SHALL BE 40mm
5. FOR ANY PENETRATION THROUGH WALLS AND SLABS GREATER THAN 200 SPACING, PROVIDE N12 TRIMMER BARS AND ADDITIONAL N12 REPLACEMENT BARS ON EACH SIDE.
6. LAP LENGTH IS TO BE MINIMUM 40 x BAR Ø UNLESS NOTED OTHERWISE.
7. 100mmØ SUBSOIL DRAINAGE PIPE 3.0m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES.
8. PROVIDE STEP IRONS FOR PITS DEEPER THAN 1.0 m IN ACCORDANCE WITH STANDARD STEP IRONS DRAWING.
9. GRATES SHALL BE BICYCLE SAFE AND HAVE MAXIMUM INLET CAPACITY. ALL GRATES MUST BE APPROVED BY THE CITY'S REPRESENTATIVE.
10. DRAINAGE PIPE TO BE MINIMUM 375Ø CLASS 4 REINFORCED CONCRETE PIPE.
11. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

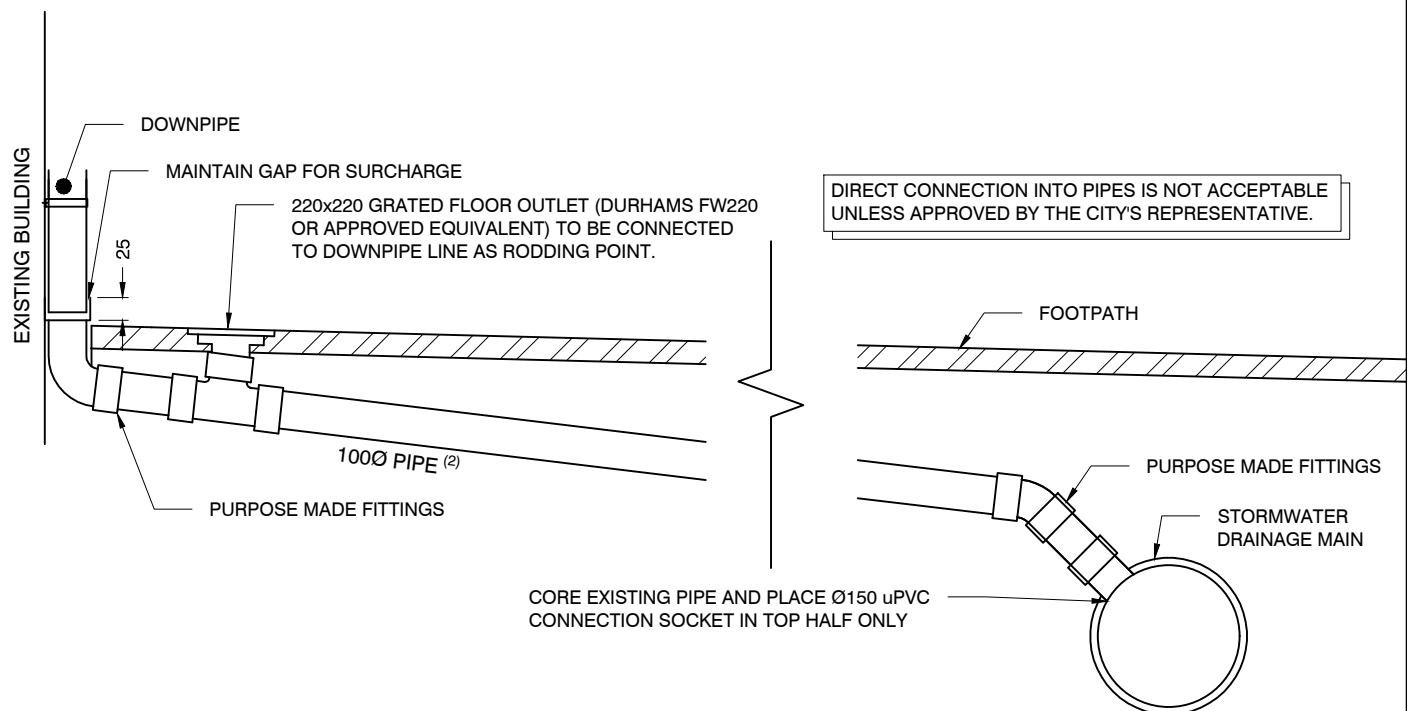
SECTION A-A



SECTION 1:20



RODDING POINT AND CONNECTION DETAILS
SCALE 1:20

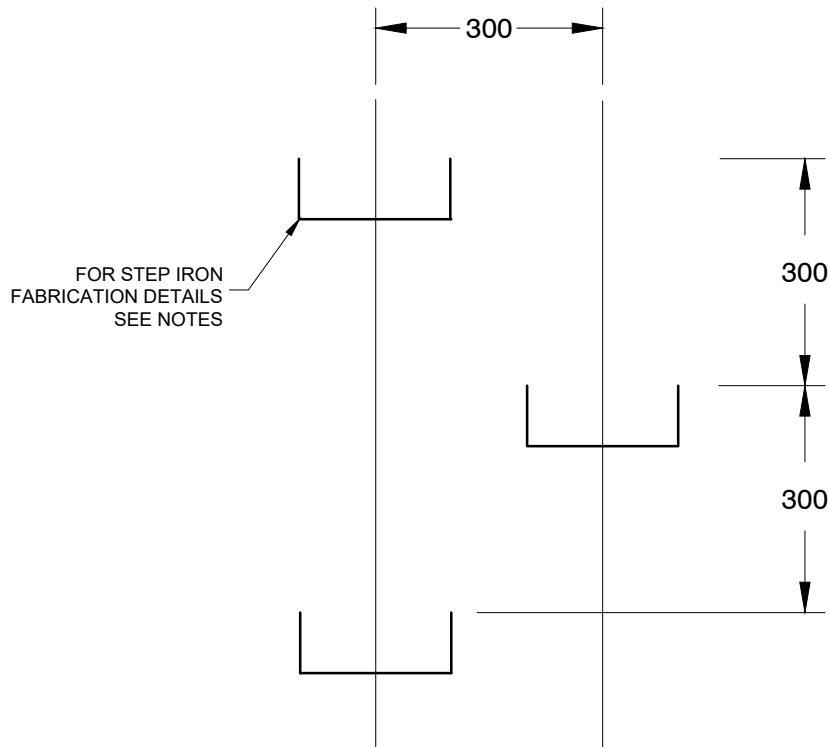


ALTERNATIVE RODDING POINT DETAILS
SCALE 1:20

ALTERNATIVE CONNECTION DETAILS (ONLY IF APPROVED)
SCALE 1:20

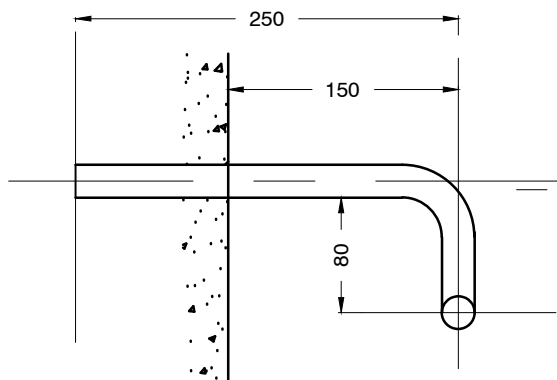
NOTES:

1. ALL CONNECTIONS SHALL BE CORE DRILLED AND SEALED WITH A NON-SHRINK GROUT.
2. PIPE SHALL COMPLY WITH TECHNICAL SPECIFICATIONS FOR DIRECT CONNECTIONS.
3. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.



STEP IRON ARRANGEMENT

ELEVATION 1:10



SECTION 1:5

NOTES:

1. STEP IRONS MUST BE FABRICATED FROM 20mm Ø M.S.
2. ALL BENDS MUST BE FORMED AROUND 12mm diameter PIN.
3. STEP IRONS MUST BE HOT-DIPPED GALVANISED.
4. STEP IRONS MUST BE LOCATED:
 - (i) DIRECTLY BELOW THE OPENING OF THE COVER.
 - (ii) DESIRABLY ON A WALL WITHOUT PIPE OPENINGS.
 - (iii) DESIRABLY ON ONE OF THE LONG SIDES OF THE PIT.
8. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.