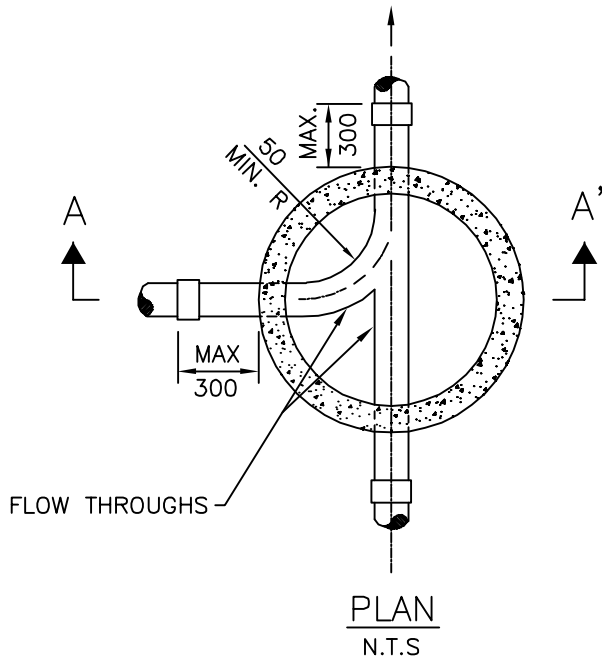


SECTION A-A'
N.T.S.



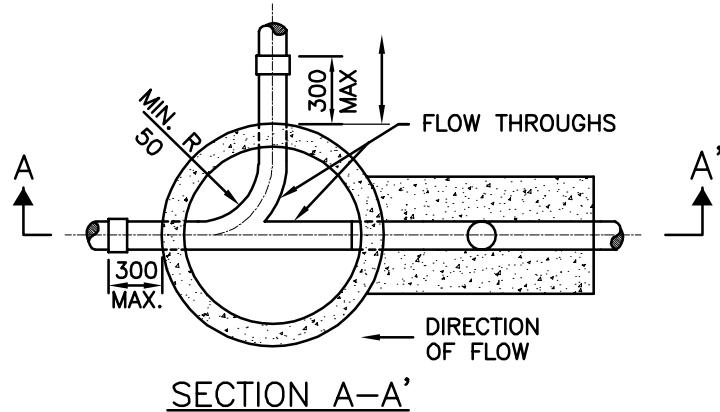
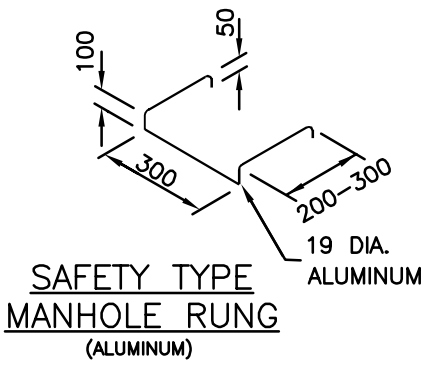
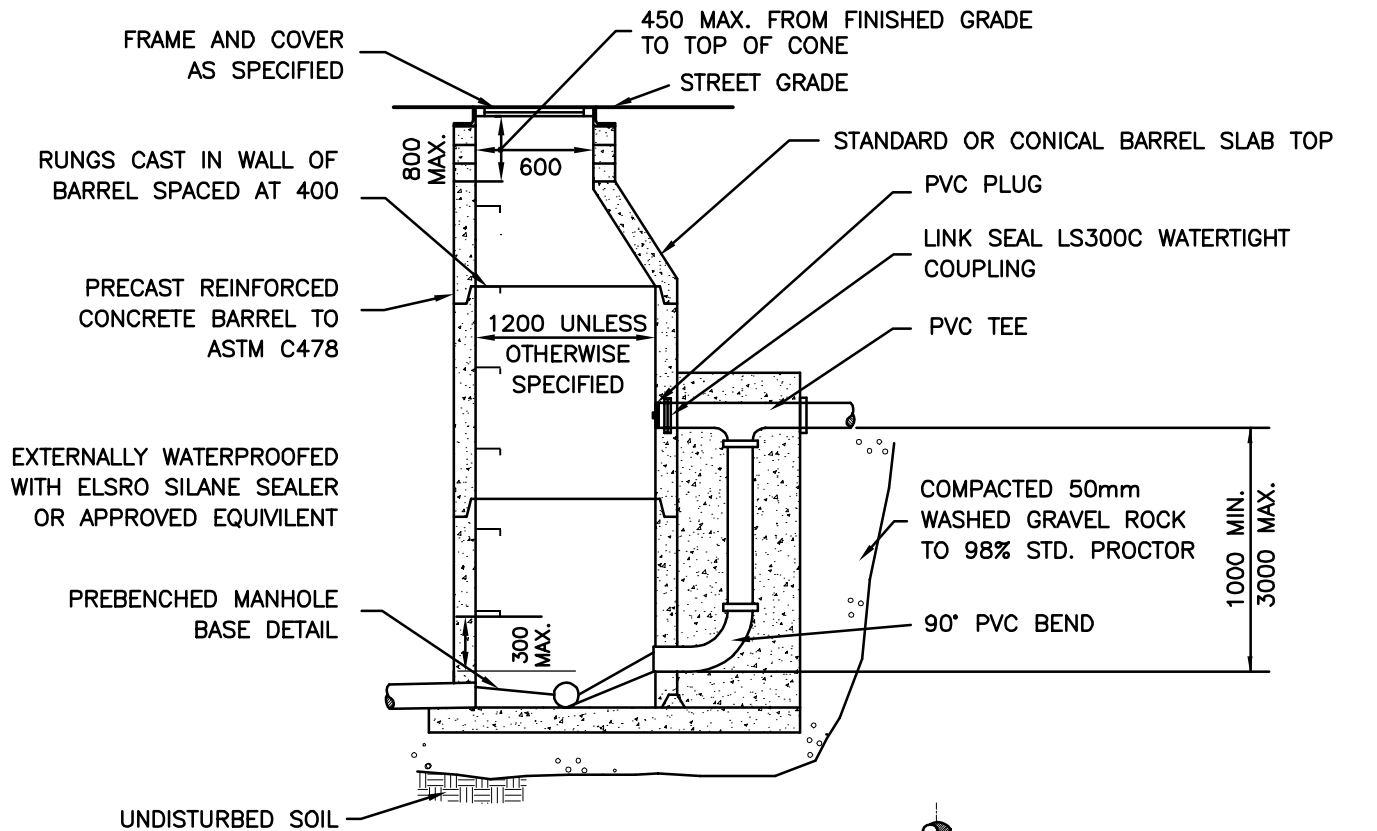
NOTES:

1. ALL PRE-CAST MANHOLES MUST CONFORM TO A.S.T.M. SPECIFICATIONS C478.
2. POURED-IN-PLACE CONCRETE SHALL HAVE 28 DAYS COMPRESSIVE STRENGTH OF AT LEAST 20MPa.
3. ALL MH. JOINTS TO BE SET WITH RUBBER GASKET AND TO BE WATERTIGHT. METHODS TO BE CONSISTENT WITH SITE CONDITIONS.
4. FORM FLOW TROUGH IN PARTIALLY SET CONCRETE AND TROWEL SMOOTH.
5. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
6. BACKFILL AROUND MH. WITH SELECT NATIVE MATERIAL. COMPACT TO 98% S.P.D.
7. FLAT TOP SECTION TO BE USED FOR MANHOLES UP TO 1.8m BURY.
8. FOR MANHOLES 5.0m IN DEPTH OR GREATER, A SAFETY PLATFORM SHALL BE INSTALLED.
9. MANHOLES TO MEET REQUIREMENTS OF MANHOLE DETAILS AND SPECIFICATIONS.
10. ALL JOINTS BETWEEN PIPE AND MH. BARREL SHALL BE FILLED WITH NON-SHRINK GROUT TO WATERTIGHT FINISH.

TITLE: STANDARD DETAILS	
SCALE: N.T.S.	
DATE: MARCH 2015	
STD. DWG NO.	B-100

PRECAST
MANHOLE DETAIL

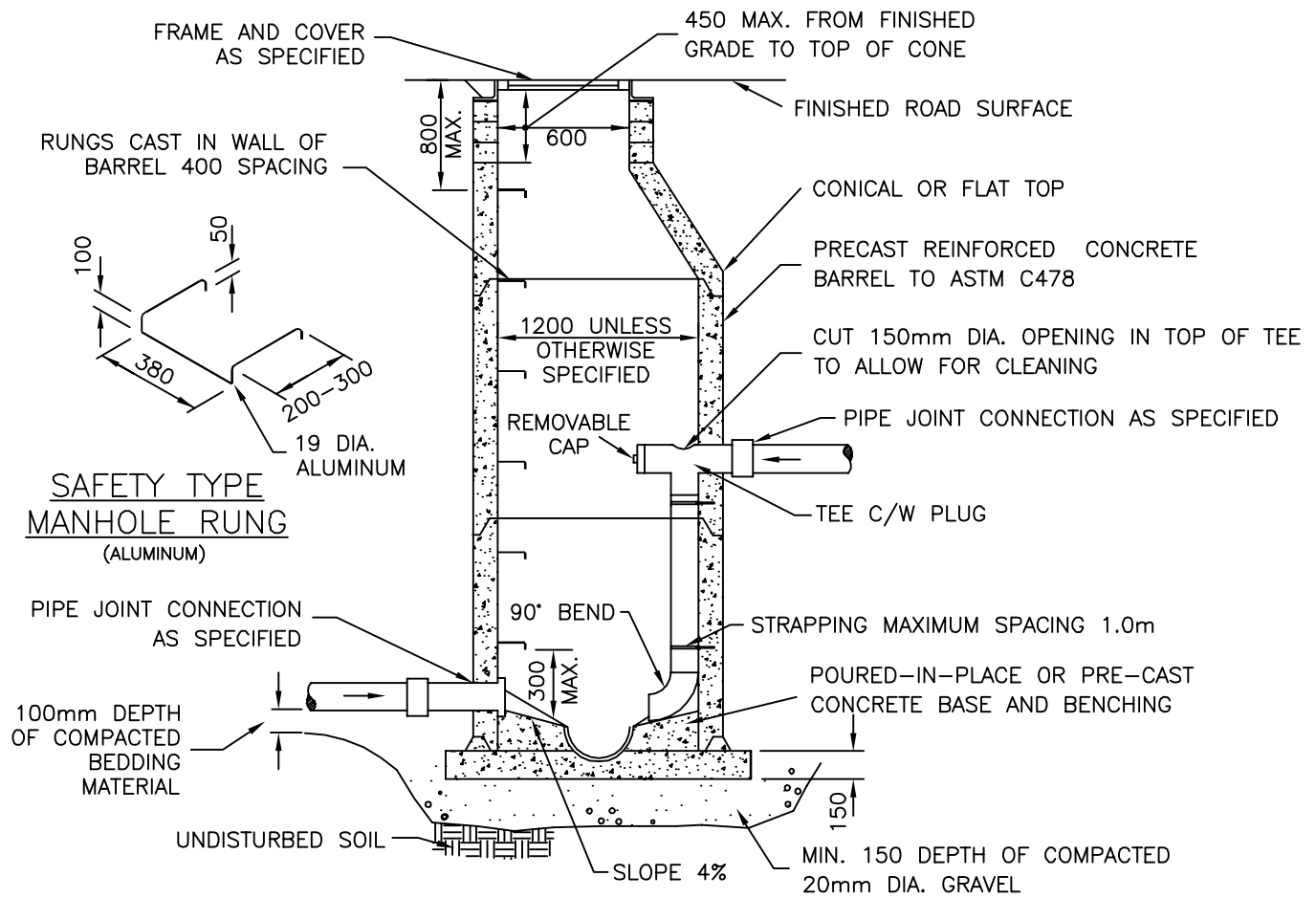




NOTES:

1. ALL PRE-CAST MANHOLES MUST CONFORM TO A.S.T.M. SPECIFICATIONS C478.
2. POURED-IN-PLACE CONCRETE SHALL HAVE 28 DAYS COMPRESSIVE STRENGTH OF AT LEAST 20MPa.
3. ALL MH. BARREL JOINTS TO BE SET WITH RUBBER GASKET AND TO BE WATERTIGHT. METHODS TO BE CONSISTENT WITH SITE CONDITIONS.
4. FORM FLOW TROUGH IN PARTIALLY SET CONCRETE AND TROWEL SMOOTH.
5. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
6. BACKFILL AROUND MH. WITH SELECT NATIVE MATERIAL. COMPACT TO 98% S.P.D.
7. FLAT TOP SECTION TO BE USED FOR MANHOLES UP TO 1.8m BURY.
8. FOR MANHOLES 5.0m IN DEPTH OR GREATER, A SAFETY PLATFORM SHALL BE INSTALLED.
9. MANHOLES TO MEET REQUIREMENTS OF MANHOLE DETAILS AND SPECIFICATIONS.
10. ALL JOINTS BETWEEN PIPE AND MH. BARREL SHALL BE FILLED WITH NON-SHRINK GROUT TO WATERTIGHT FINISH.

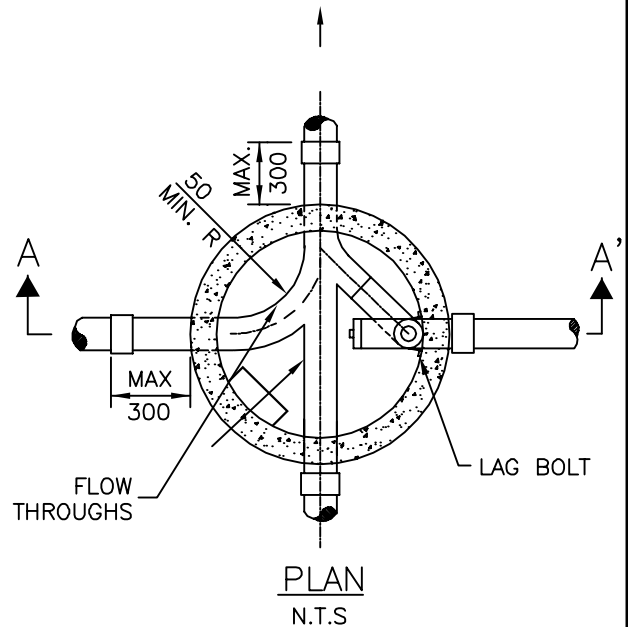
TITLE: STANDARD DETAILS		<p>EXTERIOR DROP MANHOLE DETAIL</p>	
SCALE: N.T.S.			
DATE: MARCH 2015			
STD. DWG NO.	B-101		



SECTION A-A'
N.T.S

NOTES:

1. ALL PRE-CAST MANHOLES MUST CONFORM TO A.S.T.M. SPECIFICATIONS C478.
2. POURED-IN-PLACE CONCRETE SHALL HAVE 28 DAYS COMPRESSIVE STRENGTH OF AT LEAST 20MP_a.
3. ALL MH. JOINTS TO BE SET WITH RUBBER GASKET AND TO BE WATERTIGHT. METHODS TO BE CONSISTENT WITH SITE CONDITIONS.
4. FORM FLOW TROUGH IN PARTIALLY SET CONCRETE AND TROWEL SMOOTH.
5. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
6. BACKFILL AROUND MH. WITH SELECT NATIVE MATERIAL. COMPACT TO 98% S.P.D.
7. FLAT TOP SECTION TO BE USED FOR MANHOLES UP TO 1.8m BURY.
8. FOR MANHOLES 5.0m IN DEPTH OR GREATER, A SAFETY PLATFORM SHALL BE INSTALLED.
9. MANHOLES TO MEET REQUIREMENTS OF MANHOLE DETAILS AND SPECIFICATIONS.
10. LAG BOLTS AND STRAPPING ARE TO BE INSTALLED IMMEDIATELY BELOW THE TEE AND A CONTINUAL 1.0m VERTICAL SPACING TO THE BASE.
11. DIAMETER, SIZE, AND TYPE OF VERTICAL PIPE TO MATCH INLET PIPE.
10. ALL JOINTS BETWEEN PIPE AND MH. BARREL SHALL BE FILLED WITH NON-SHRINK GROUT TO WATERTIGHT FINISH.

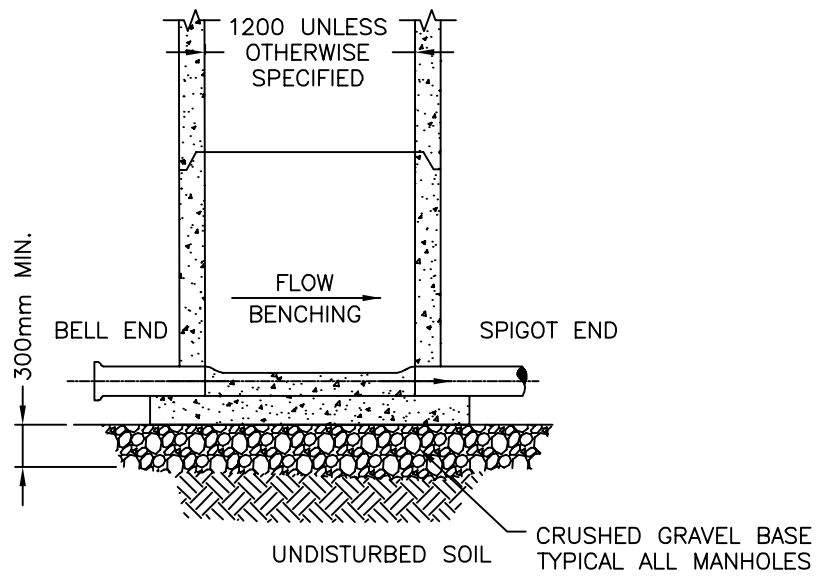
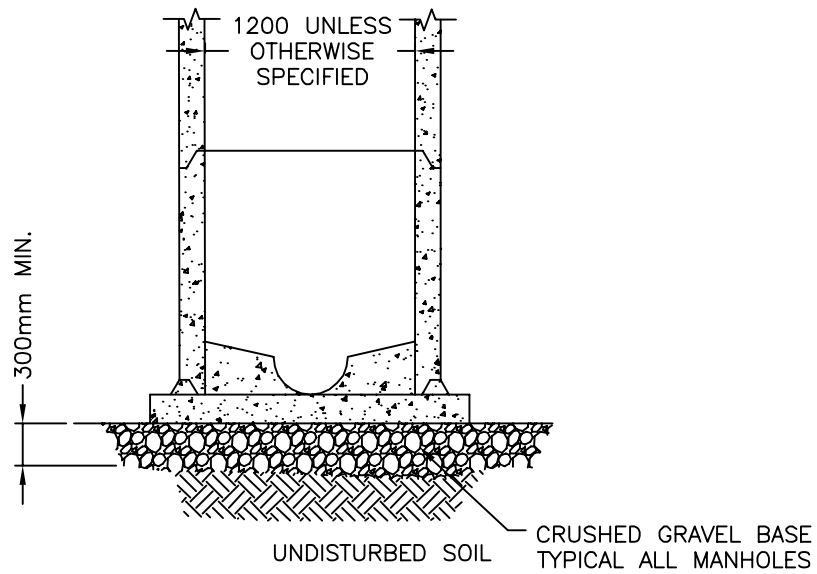


PLAN
N.T.S

TITLE: STANDARD DETAILS	
SCALE: N.T.S.	
DATE: MARCH 2015	
STD. DWG NO.	B-102

INTERIOR DROP
MANHOLE DETAIL





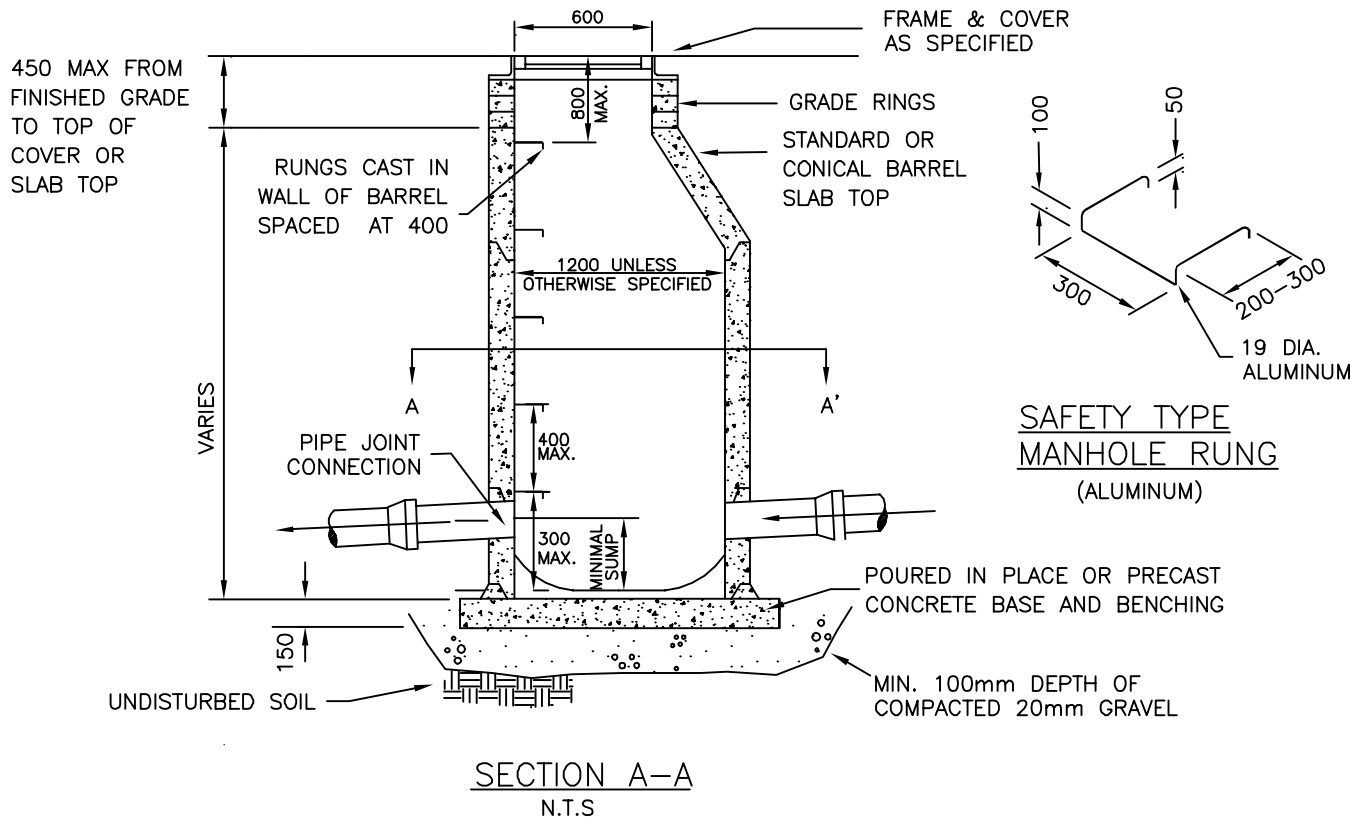
NOTES:

1. PRE-BENCHED MANHOLE BASES AS SUPPLIED BY CONCRETE MANUFACTURER.
2. SULPHATE RESISTANT CEMENT TO BE USED.

TITLE: STANDARD DETAILS	
SCALE: N.T.S.	
DATE: MARCH 2015	
STD. DWG NO.	B-103

PRE-BENCHED MANHOLE BASE





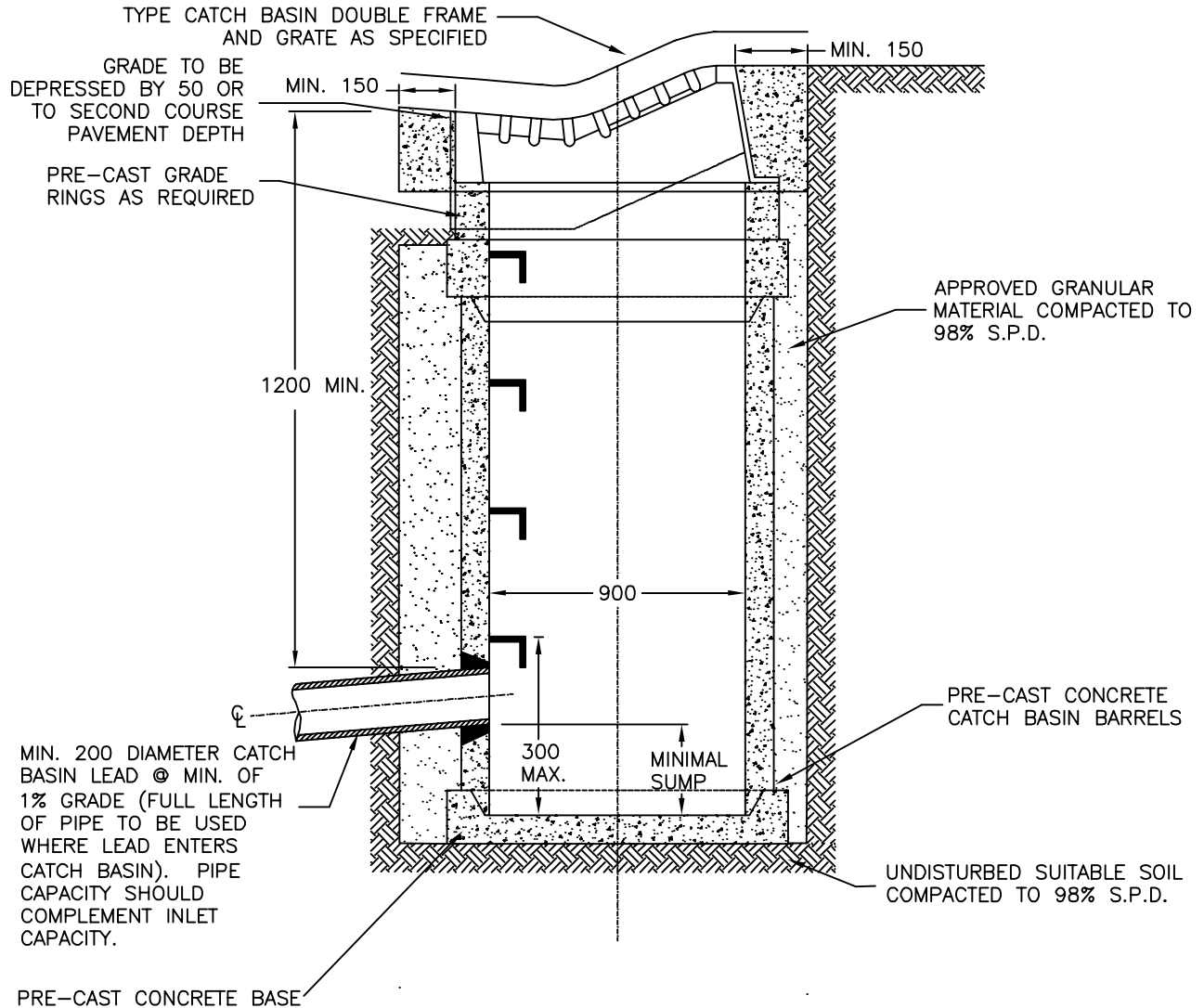
NOTES:

1. ALL PRE-CAST MANHOLES MUST CONFORM TO A.S.T.M. SPECIFICATIONS C478.
2. POURED-IN-PLACE CONCRETE SHALL HAVE 28 DAYS COMPRESSIVE STRENGTH OF AT LEAST 20MPa.
3. ALL MH. BARREL JOINTS TO BE SET WITH RUBBER GASKET AND TO BE WATERTIGHT. METHODS TO BE CONSISTENT WITH SITE CONDITIONS.
4. FORM FLOW TROUGH IN PARTIALLY SET CONCRETE AND TROWEL SMOOTH.
5. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
6. BACKFILL AROUND MH. WITH SELECT NATIVE MATERIAL. COMPACT TO 98% S.P.D.
7. FLAT TOP SECTION TO BE USED FOR MANHOLES UP TO 1.8m BURY.
8. FOR MANHOLES 5.0m IN DEPTH OR GREATER, A SAFETY PLATFORM SHALL BE INSTALLED.
9. MANHOLES TO MEET REQUIREMENTS OF MANHOLE DETAILS AND SPECIFICATIONS.
10. PIPES TO BE FLUSH WITH WALL.
11. CHANNELING AND BENCHING TO BE FINISHED TO TROWEL SMOOTHNESS.
10. ALL JOINTS BETWEEN PIPE AND MANHOLE BARREL SHALL BE FILLED WITH NON-SHRINK GROUT TO WATERTIGHT FINISH.

TITLE: STANDARD DETAILS	
SCALE: N.T.S.	
DATE: MARCH 2019	
STD. DWG NO.	B-104

CATCH BASIN MANHOLE





NOTES:

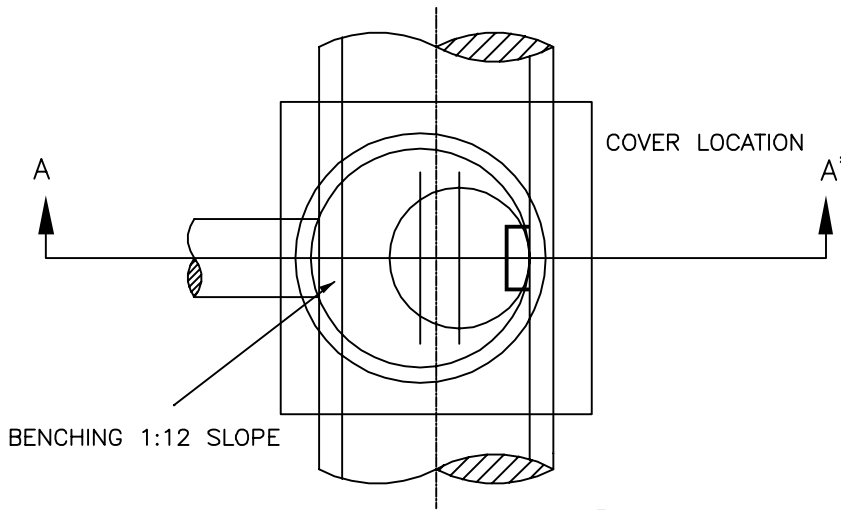
1. ALL PRE-CAST MANHOLES MUST CONFORM TO A.S.T.M. SPECIFICATIONS C478.
2. POURED-IN-PLACE CONCRETE SHALL HAVE 28 DAYS COMPRESSIVE STRENGTH OF AT LEAST 20MPa.
3. FORM FLOW TROUGH IN PARTIALLY SET CONCRETE, TROWEL SMOOTH, AND LINE WITH PVC.
4. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
5. BACKFILL AROUND MH. WITH SELECT NATIVE MATERIAL. COMPACT TO 98% S.P.D.
6. FLAT TOP SECTION TO BE USED FOR MANHOLES UP TO 1.8m BURY.
7. FOR MANHOLES 5.0m IN DEPTH OR GREATER, A SAFETY PLATFORM SHALL BE INSTALLED.
8. SUMP IS NOT REQUIRED AND SHOULD BE MINIMIZED. MAXIMUM 600 MM DEPTH IF NEEDED.
9. MANHOLES TO MEET REQUIREMENTS OF MANHOLE DETAILS AND SPECIFICATIONS.
10. ALL JOINTS BETWEEN PIPE AND MANHOLE BARREL SHALL BE FILLED WITH NON-SHRINK GROUT TO WATERTIGHT FINISH.

TITLE: STANDARD DETAILS	
SCALE: N.T.S.	
DATE: MARCH 2019	
STD. DWG NO.	B-105

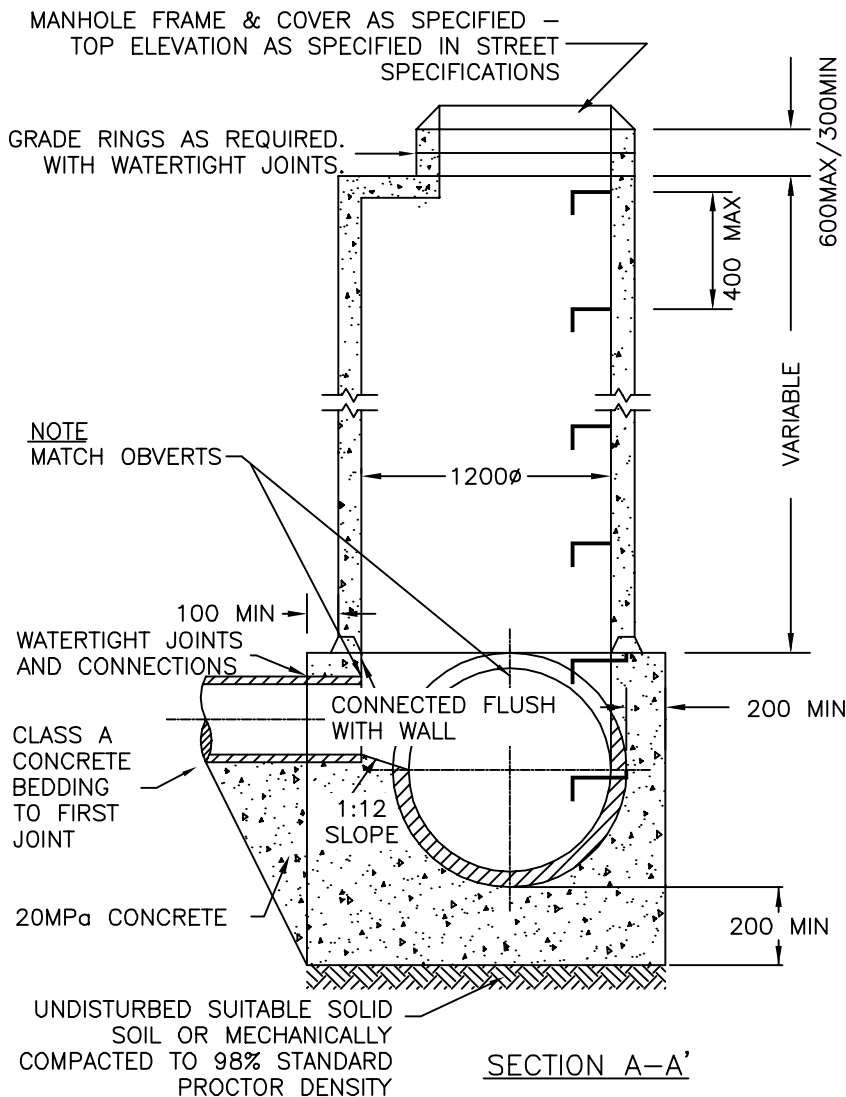
CATCH BASIN TYPICAL-900MM



NOTES:

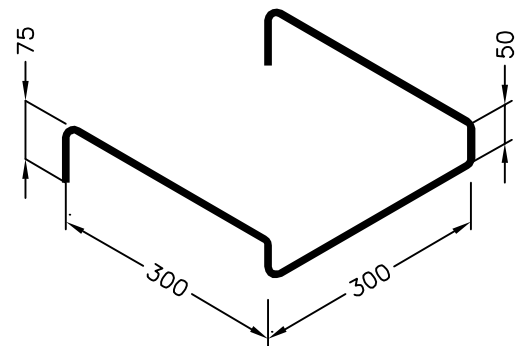


PLAN



SECTION A-A'

1. ALL PRE-CAST MANHOLES MUST CONFORM TO A.S.T.M. SPECIFICATIONS C478.
2. POURED-IN-PLACE CONCRETE SHALL HAVE 28 DAYS COMPRESSIVE STRENGTH OF AT LEAST 20MPa.
3. ALL MH. BARREL JOINTS TO BE SET WITH RUBBER GASKET AND TO BE WATERTIGHT. METHODS TO BE CONSISTENT WITH SITE CONDITIONS.
4. FORM FLOW TROUGH IN PARTIALLY SET CONCRETE AND TROWEL SMOOTH.
5. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
6. BACKFILL AROUND MH. WITH SELECT NATIVE MATERIAL. COMPACT TO 98% S.P.D.
7. FLAT TOP SECTION TO BE USED FOR MANHOLES UP TO 1.8m BURY.
8. FOR MANHOLES 5.0m IN DEPTH OR GREATER, A SAFETY PLATFORM SHALL BE INSTALLED.
9. MANHOLES TO MEET REQUIREMENTS OF MANHOLE DETAILS AND SPECIFICATIONS.
10. PIPES TO BE FLUSH WITH WALL.
11. CHANNELING AND BENCHING TO BE FINISHED TO TROWEL SMOOTHNESS.
10. ALL JOINTS BETWEEN PIPE AND MANHOLE BARREL SHALL BE FILLED WITH NON-SHRINK GROUT TO WATERTIGHT FINISH.

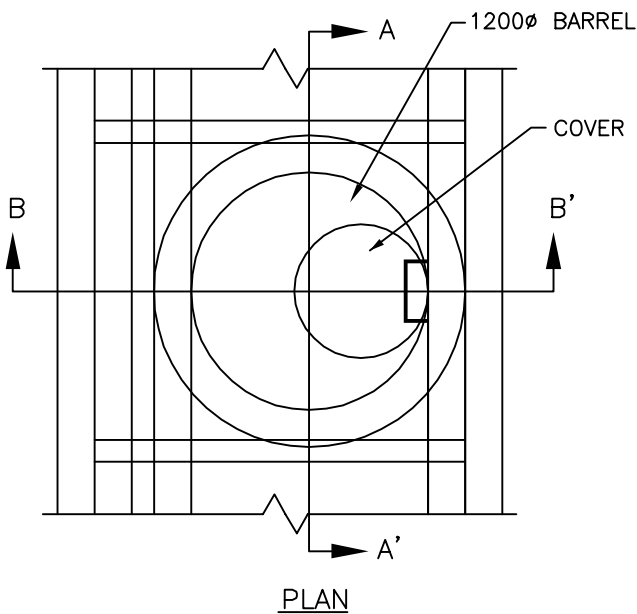


19Ø ALUMINUM MANHOLE SAFETY STEPS

TITLE: STANDARD DETAILS	
SCALE: N.T.S.	
DATE: JANUARY 2015	
STD. DWG NO.	B-106

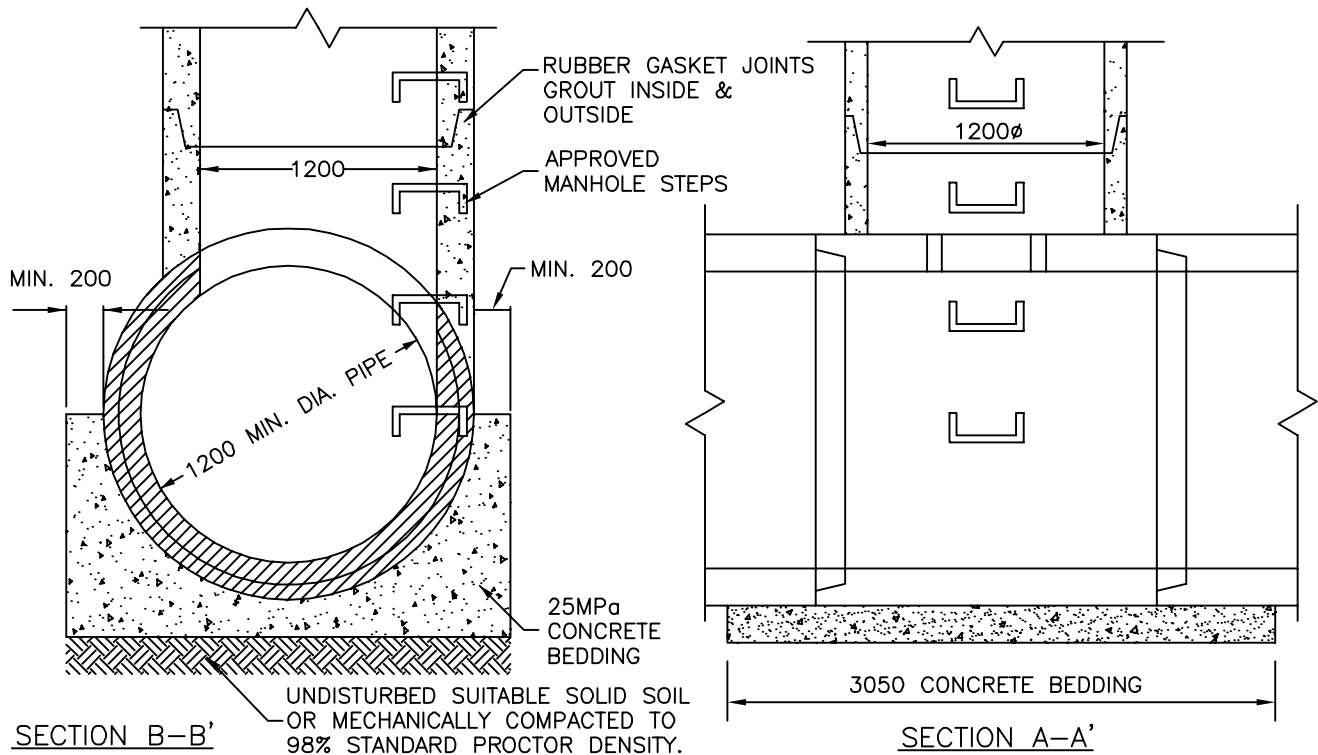
TYPICAL PERCHED MANHOLE FOR
600-1500MM DIAMETER PIPES





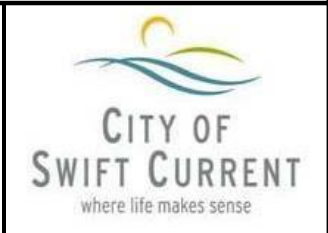
NOTES:

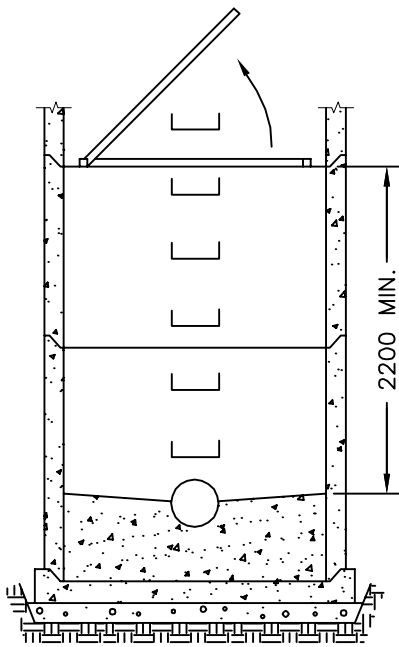
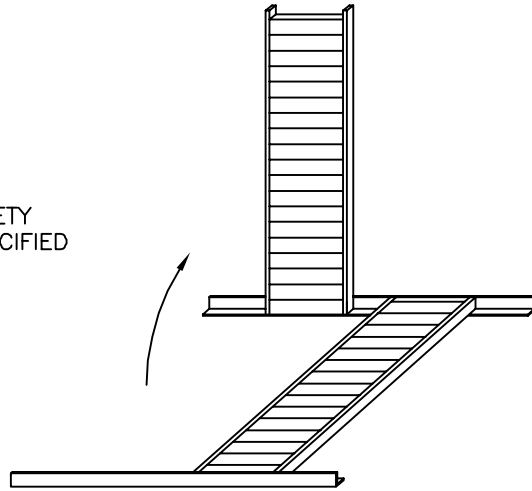
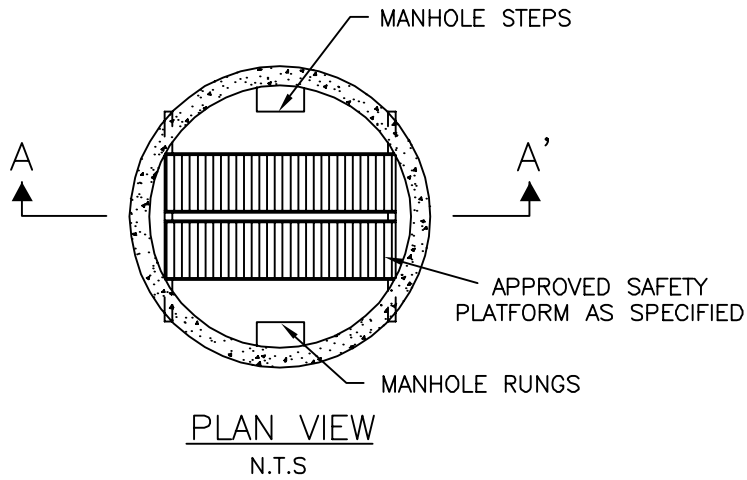
1. THIS TYPE OF MANHOLE IS TO BE BUILT ONLY ON MAINS OF 1200 DIAMETER OR LARGER AND WHERE THERE IS NO CHANGE IN DIRECTION OF FLOW.
2. ALL PRE-CAST MANHOLES MUST CONFORM TO A.S.T.M. SPECIFICATIONS C478.
3. POURED-IN-PLACE CONCRETE SHALL HAVE 28 DAYS COMPRESSIVE STRENGTH OF AT LEAST 20MPa.
4. ALL MH. BARREL JOINTS TO BE SET WITH RUBBER GASKET AND TO BE WATERTIGHT. METHODS TO BE CONSISTENT WITH SITE CONDITIONS.
5. FORM FLOW TROUGH IN PARTIALLY SET CONCRETE AND TROWEL SMOOTH.
6. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
7. BACKFILL AROUND MH. WITH SELECT NATIVE MATERIAL. COMPACT TO 98% S.P.D.
8. FLAT TOP SECTION TO BE USED FOR MANHOLES UP TO 1.8m BURY.
9. FOR MANHOLES 5.0m IN DEPTH OR GREATER, A SAFETY PLATFORM SHALL BE INSTALLED.
10. MANHOLES TO MEET REQUIREMENTS OF MANHOLE DETAILS AND SPECIFICATIONS.
11. PIPES TO BE FLUSH WITH WALL.
12. CHANNELING AND BENCHING TO BE FINISHED TO TROWEL SMOOTHNESS.
10. ALL JOINTS BETWEEN PIPE AND MANHOLE BARREL SHALL BE FILLED WITH NON-SHRINK GROUT TO WATERTIGHT FINISH.



TITLE: STANDARD DETAILS	
SCALE: N.T.S.	
DATE: JANUARY 2015	
STD. DWG NO.	B-107

T-RISER MANHOLE FOR PIPE
DIAMETER 1200MM
AND LARGER





NOTES:

1. TO BE INSTALLED ON MANHOLES GREATER THAN 5.0m DEEP.
2. MAXIMUM SPACING BETWEEN PLATFORMS TO BE 5.0m.
3. ALUMINUM GRATES TO BE MSU MISSISSAUGA OR APPROVED EQUAL.
4. TO BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

TITLE:
STANDARD DETAILS

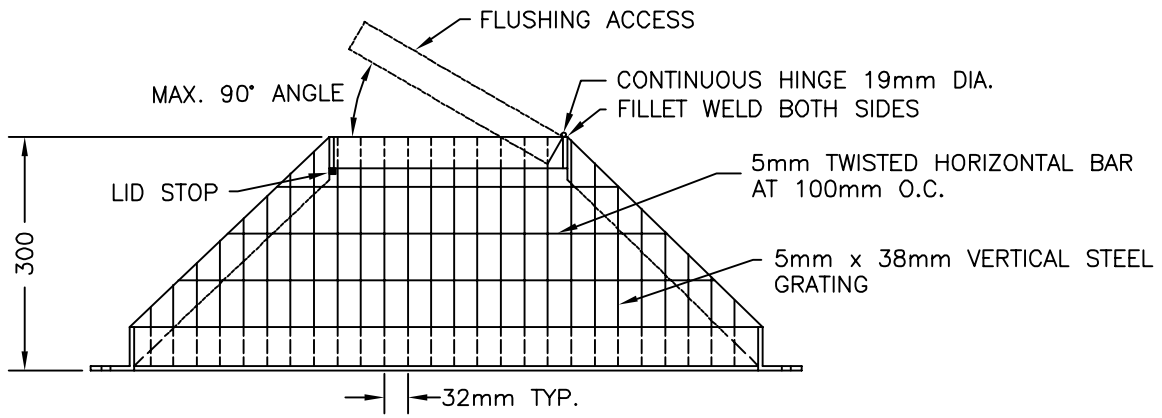
SCALE: N.T.S.

DATE: JANUARY 2015

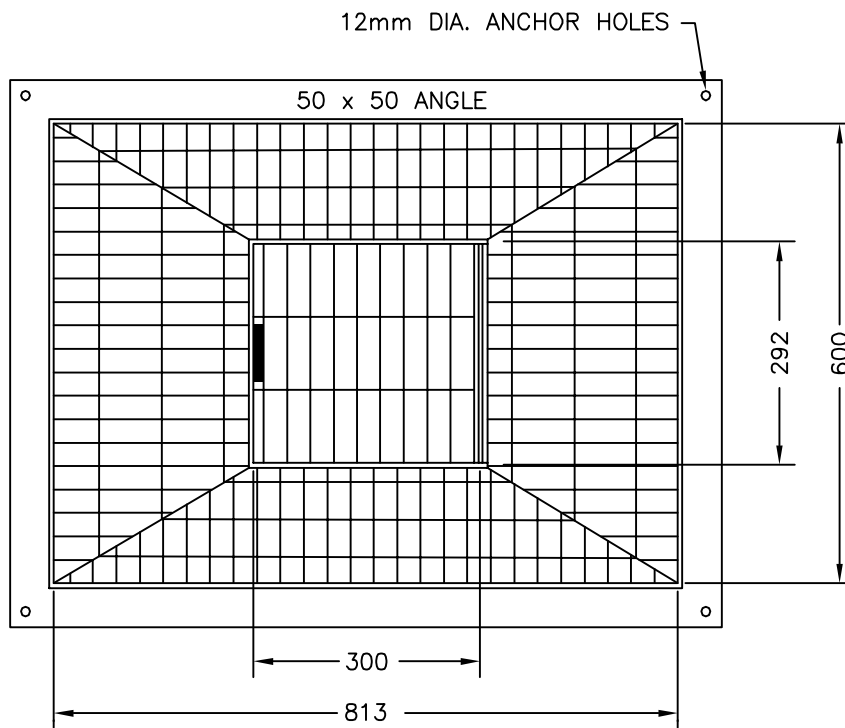
STD. DWG NO. B-108

MANHOLE SAFETY PLATFORM





PROFILE



PLAN VIEW

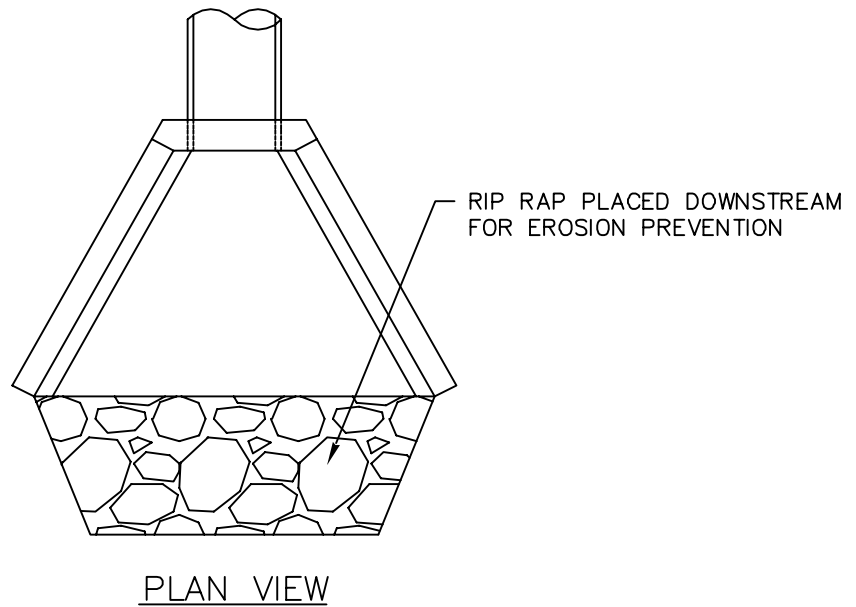
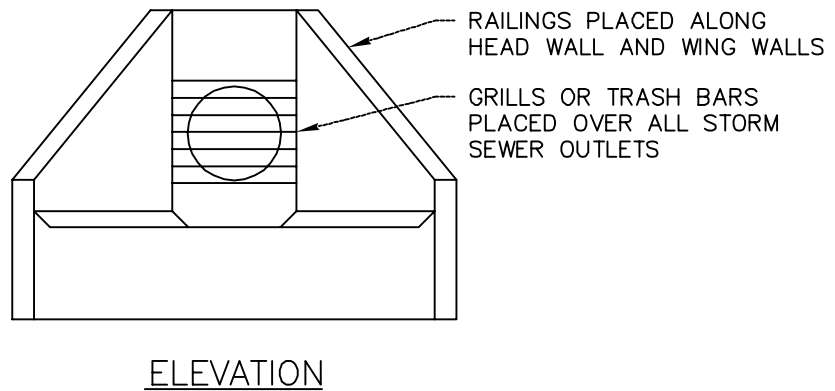
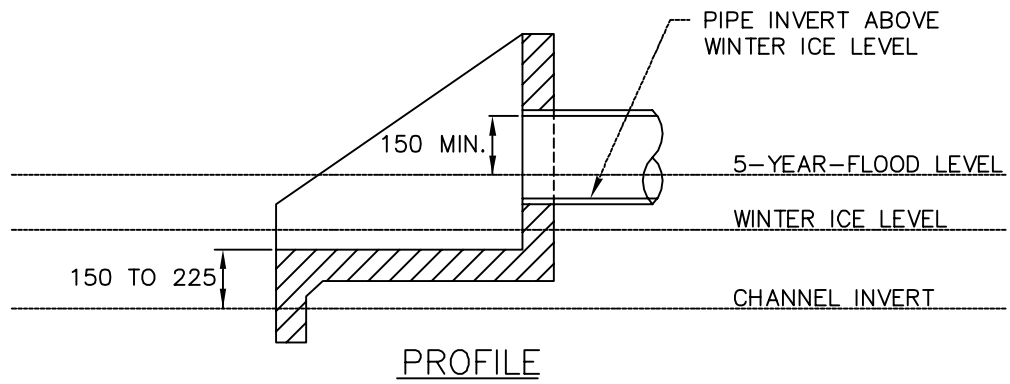
NOTES:

1. DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. GALVANIZED STEEL MATERIAL.

TITLE: STANDARD DETAILS	
SCALE: N.T.S.	
DATE: JANUARY 2015	
STD. DWG NO.	B-109

TRASH GRATE INLET





TITLE:
STANDARD DETAILS

SCALE: N.T.S.

DATE: MARCH 2019

STD. DWG NO. B-110

OUTFALL STRUCTURE

