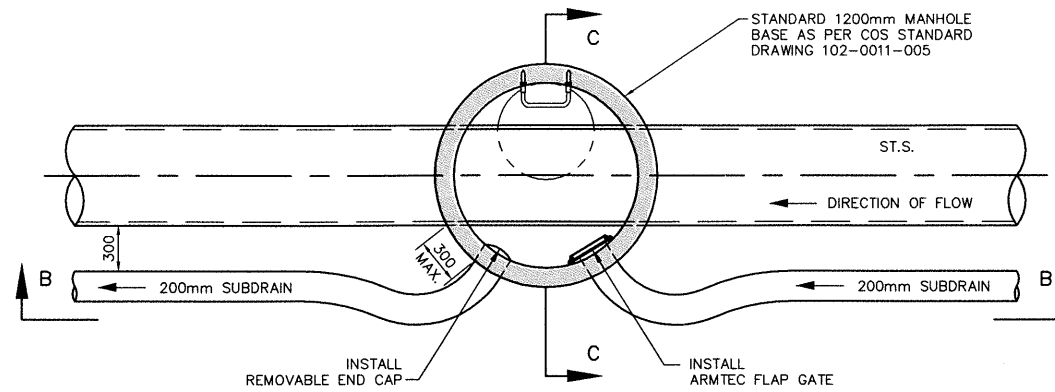
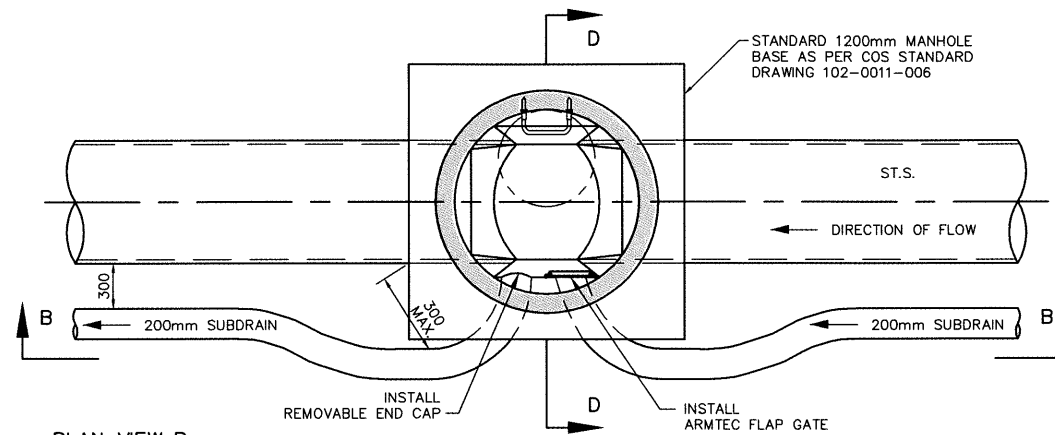


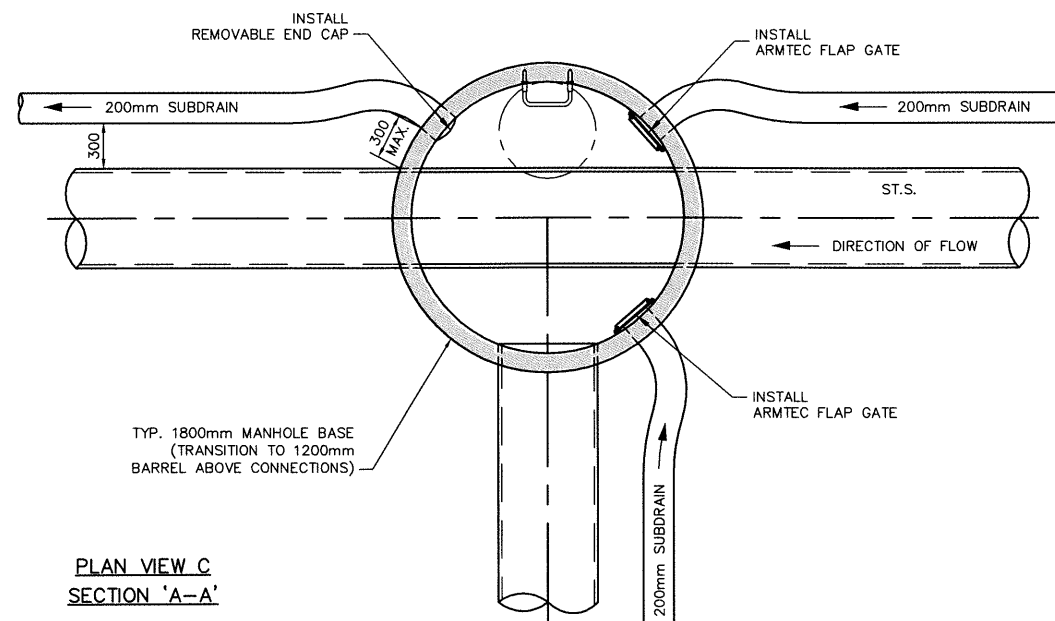
SECTION 'B-B'



PLAN VIEW A  
SECTION 'A-A'



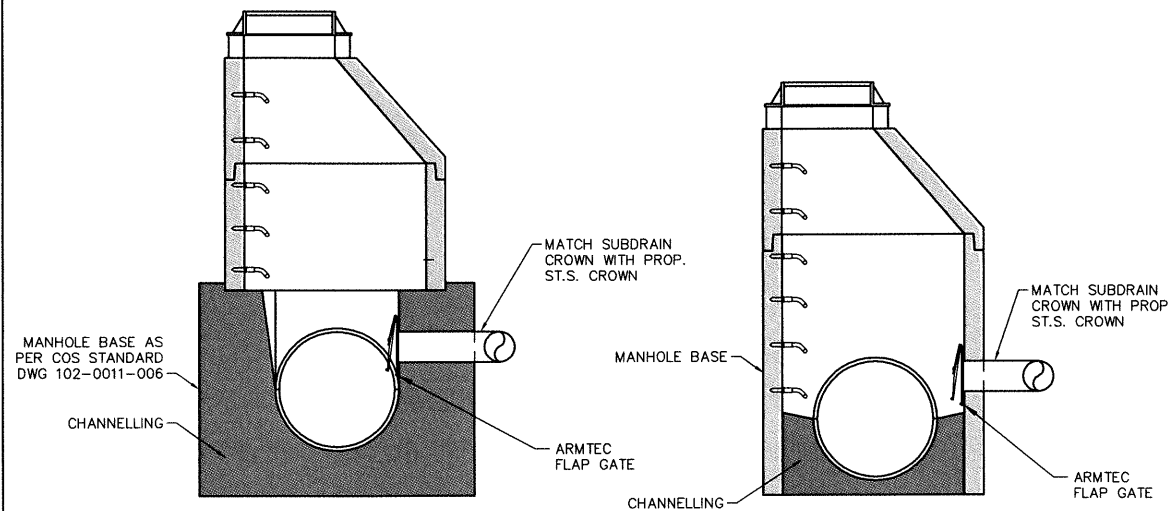
PLAN VIEW B  
SECTION 'A-A'



PLAN VIEW C  
SECTION 'A-A'

NOTES:

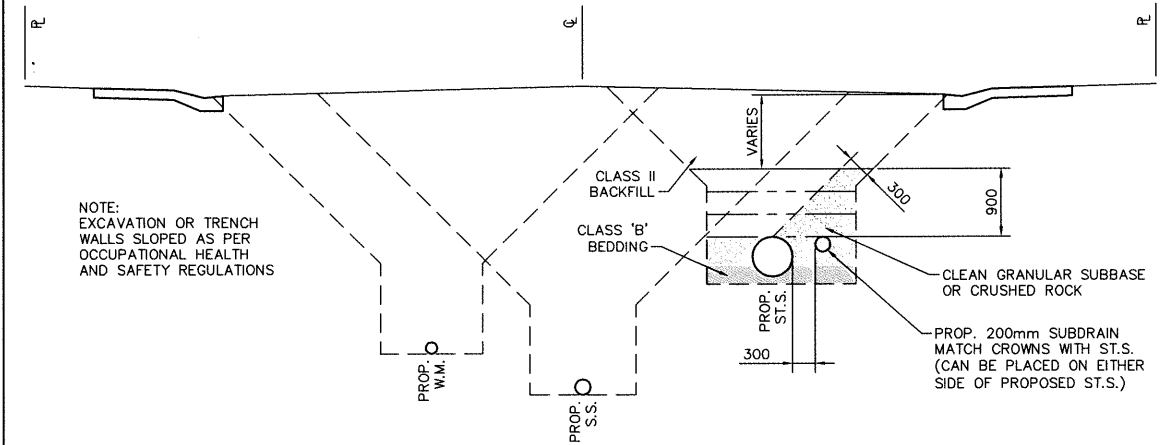
- PIPE SHALL BE BOSS 2000 HDPE FACTORY PERFORATED SUBDRAIN OR APPROVED EQUIVALENT AND SHALL BE CONSTRUCTED WITH ARMTEC WOVEN GEOTEXTILE SOCK OR APPROVED EQUIVALENT.
- PIPE SHALL BE EMBEDDED IN CLEAN GRANULAR SUBBASE OR CRUSHED ROCK AS PER COS STANDARD CONSTRUCTION SPECIFICATIONS UNLESS OTHERWISE NOTED.
- SUBDRAIN SHALL BE GRADED PARALLEL TO S.T.S. PIPE AND SHALL BE CONNECTED TO S.T.S. MANHOLES AT ALL INTERSECTIONS.
- ARMTEC MODEL 20C FLAP GATE OR EQUIVALENT SHALL BE INSTALLED AT ALL DOWNSTREAM CONNECTIONS TO S.T.S. MANHOLES AS PER MANUFACTURER'S INSTALLATION GUIDELINES AND RECOMMENDATIONS.
- REMOVABLE END CAPS c/w SNAP ADAPTERS SHALL BE INSTALLED AT ALL UPSTREAM CONNECTIONS TO S.T.S. MANHOLES.
- A MINIMUM OF 300mm HORIZONTAL AND 150mm VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN PIPES IN COMMON TRENCH.
- BACKFILL & COMPACT CLAY & GRANULAR MATERIAL SIMULTANEOUSLY IN 300mm LIFTS.
- LOCATION & ELEVATION OF SUBDRAIN CONNECTION SHALL BE DETERMINED IN THE FIELD.
- ALIGNMENT OF SUBDRAIN CONNECTION TO MANHOLE (UPSTREAM & DOWNSTREAM) SHALL BE DETERMINED IN THE FIELD AND AS PER TABLE 1.
- FOR MANHOLES WITH TEE OR CROSS STORM SEWER JUNCTION TYPE, THE ALIGNMENT OF SUBDRAIN CONNECTION TO MANHOLE (UPSTREAM & DOWNSTREAM) SHALL BE DESIGNED TO HAVE SUBDRAINS CONNECTING ON DIFFERENT SIDES OF THE MANHOLE. A LARGER MANHOLE MAY ALSO BE APPROVED WITH A MINIMUM SPACING OF 300mm BETWEEN EACH PIPE OR SUBDRAIN.



SECTION 'D-D'

SECTION 'C-C'

TYPICAL S.T.S. MANHOLE SUBDRAIN CONNECTIONS



TYPICAL SUBDRAIN COMBINED WITH STORM SEWER

TABLE 1  
SUBDRAIN CONNECTION TO STORM MANHOLE

STORM SEWER SIZE (mm)	MANHOLE/ST. SEWER JUNCTION TYPE	CONSTRUCTION COMMENTS
300 - 600	STRAIGHT THROUGH	USE STANDARD COS 1200mm MANHOLE BASE AND MAKE CONNECTION AS SHOWN IN THE PLAN VIEW A & SECTION B-B & SECTION C-C
675 - 900	STRAIGHT THROUGH	USE STANDARD COS 1200mm MANHOLE BASE AS PER STANDARD COS DRAWING 102-0011-006 AND MAKE CONNECTION AS SHOWN IN PLAN B & SECTION D-D
300 - 600	TEE OR CROSS	USE STANDARD 1800mm MANHOLE BASE AND MAKE CONNECTION AS SHOWN IN PLAN C & SECTION B-B & SECTION C-C
675 - 900	TEE OR CROSS	USE STANDARD 1800mm MANHOLE BASE OR LARGE SIZE MANHOLE AS PER COS STANDARD DRAWING NUMBER 102-0011-028, 102-0011-029 & 102-0011-029 AND MAKE CONNECTIONS THROUGH CHAMBER WALLS
1050 - LARGER	ALL JUNCTIONS	USE STANDARD LARGE SIZE MANHOLE AS PER COS STANDARD DRAWING NUMBER 102-0011-028, 102-0011-029 & 102-0011-030 AND MAKE CONNECTIONS THROUGH CHAMBER WALLS

**DETAILS ARE A VISUAL REPRESENTATION ONLY AND ARE NOT INTENDED TO BE SCALED**

DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE

NO.	PLAN DESCRIPTION/REVISION	DATE	BY	SEAL
10				
9				
8				
7				
6				
5				
4				
3				
2	REPOSITIONED FLAP GATE FLUSH AGAINST MANHOLE INTERIOR WALL ADDED NOTE REGARDING EXCAVATION SLOPES AND ADDED NOTE 10	2015-NOV-24	HLO	
1	REVISED SUBDRAIN PLACEMENT	2014-DEC-09	MJ	
	PLAN DESCRIPTION/REVISION	DATE	BY	SEAL

APPROVED BY:	APPROVED BY:
<i>Gate Chen</i>	<i>[Signature]</i>
DATE: Jan. 6, 2016	DATE: 06/01/2016
DRAWN BY: DLH	DATE: 2014-JUL-10



STANDARD S.T.S. SUBDRAIN DETAIL  
S.T.S. CROWN DEPTH UP TO 2.3m

ENGINEER: <i>[Signature]</i>	DATE: JAN 08 2016
SCALES: HOR: NTS	VERT: _____
SHEET NO. _____	PLAN NO. 102-0011-031r003