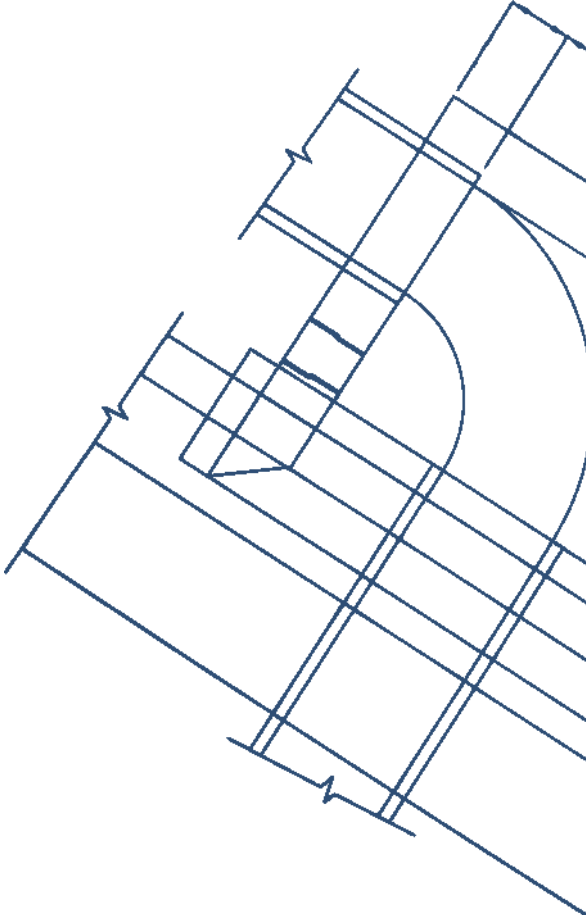
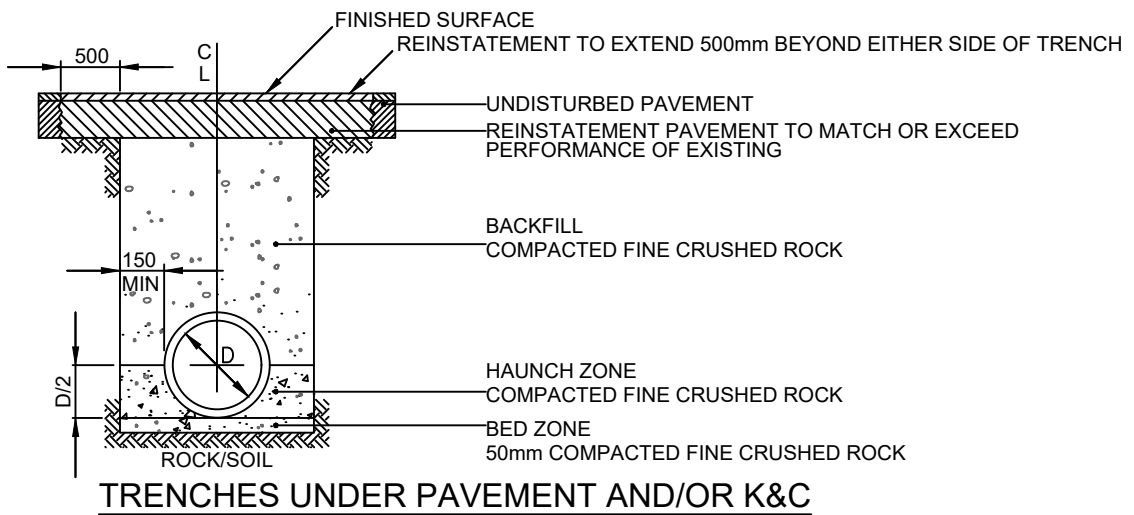


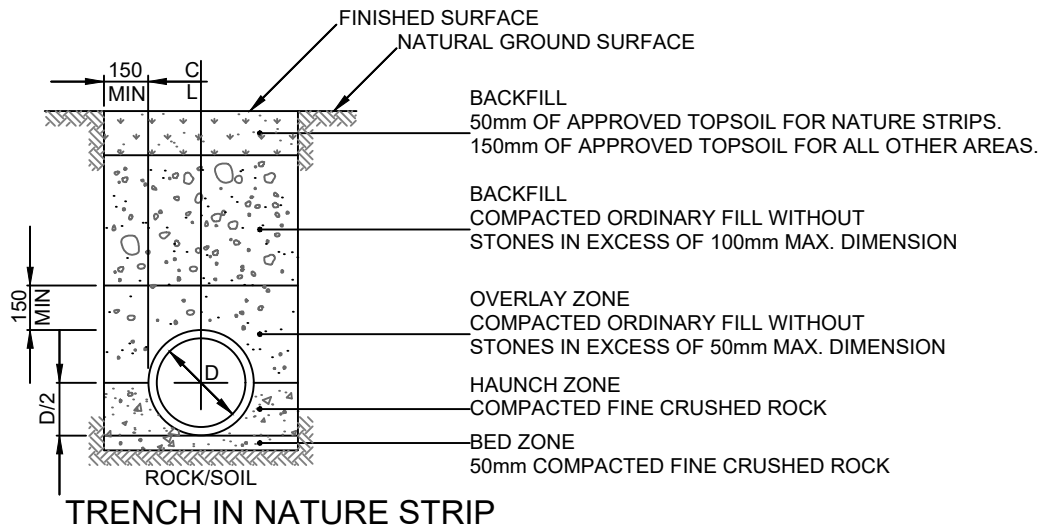
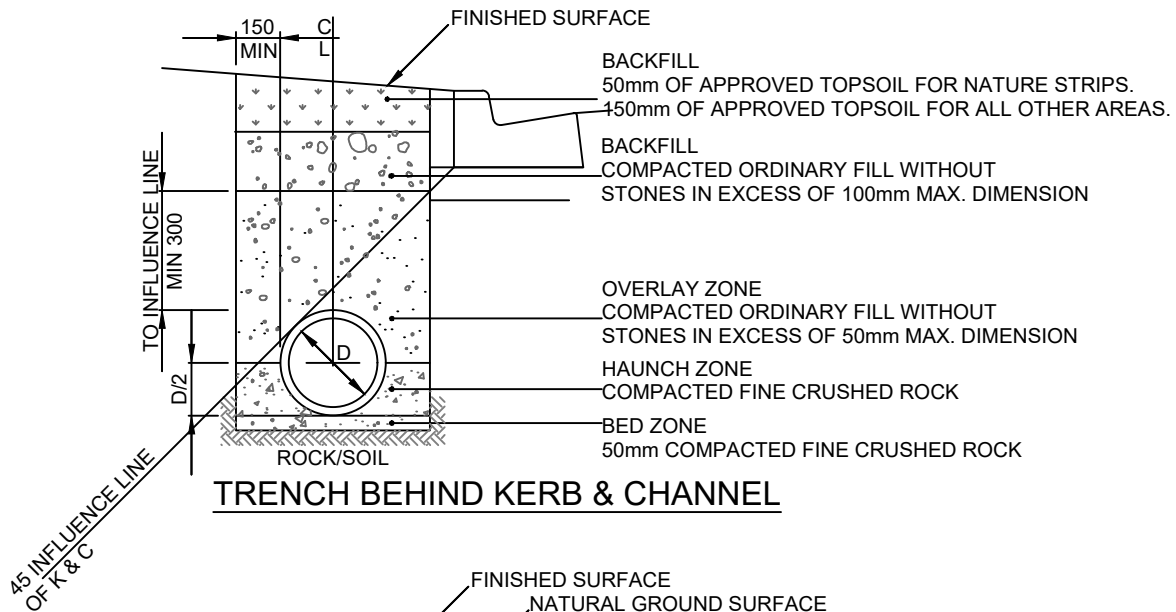
Pipes and Connections



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FOR ALL UTILITY TRENCHES UNDER ALL EXISTING PAVED AREAS, ALL PROPOSED PAVED AREAS SHOWN ON THE DRAWINGS AND ALL FUTURE ROAD PAVEMENTS



NOTES:

1. TRENCH WIDTH TO BE NOMINAL DIAMETER OF PIPE PLUS 300mm UNDER ROADWAYS, 225mm LONGITUDINAL TO ROAD.
2. ALL F.C.R. TO BE 20mm MAX. SIZE 'A' GRADE MATERIAL UNLESS OTHERWISE SPECIFIED.
3. ALL BACKFILLING AND BEDDING TO BE COMPACTED AS SPECIFIED.
4. FOR BEDDING & BACKFILLING FOR PLASTIC PIPES REFER TO MANUFACTURER'S SPECIFICATION.

ALL MEASUREMENTS IN MILLIMETRES



Banyule
CITY COUNCIL

**BEDDING & BACKFILLING FOR
CONCRETE PIPE DRAINS**

Banyule's Standard Drawings
A copy can be found on Banyule's website
www.banyule.vic.gov.au

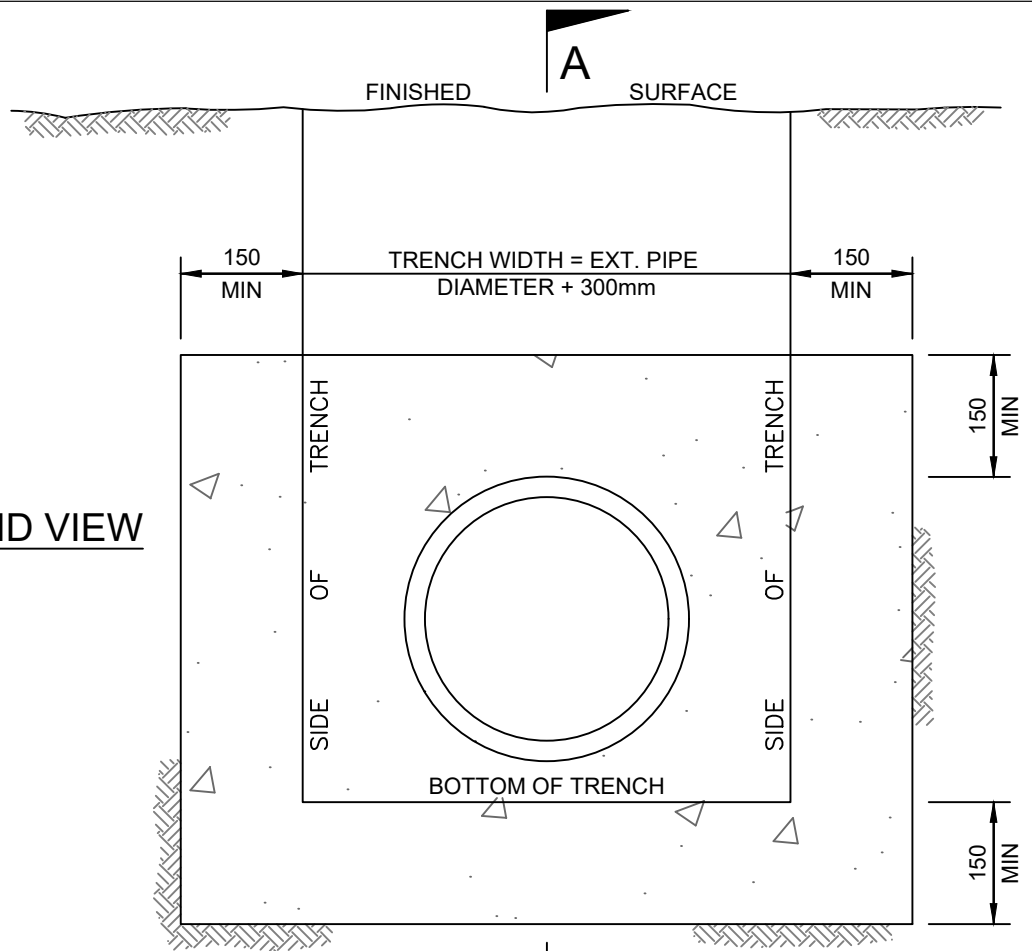
Approved by: James Kelly
Manager Delivery & Assets

LAST UPDATED JULY 2019

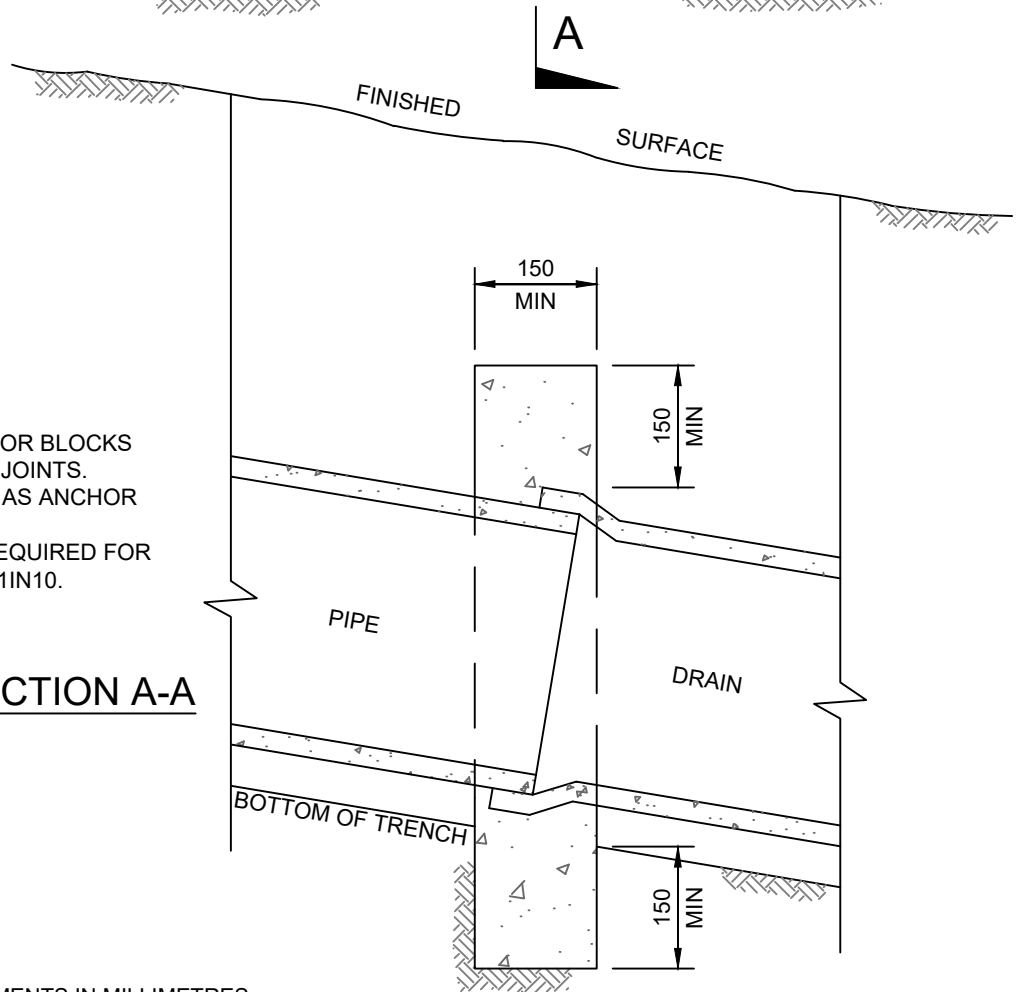
D 100

NOT TO SCALE

END VIEW



SECTION A-A



NOTES:

1. WHERE POSSIBLE, ANCHOR BLOCKS TO BE LOCATED AT PIPE JOINTS.
2. PITS MAY BE REGARDED AS ANCHOR BLOCKS.
3. ANCHOR BLOCKS NOT REQUIRED FOR GRADES FLATTER THAN 1IN10.

ALL MEASUREMENTS IN MILLIMETRES



Banyule
CITY COUNCIL

ANCHOR BLOCKS

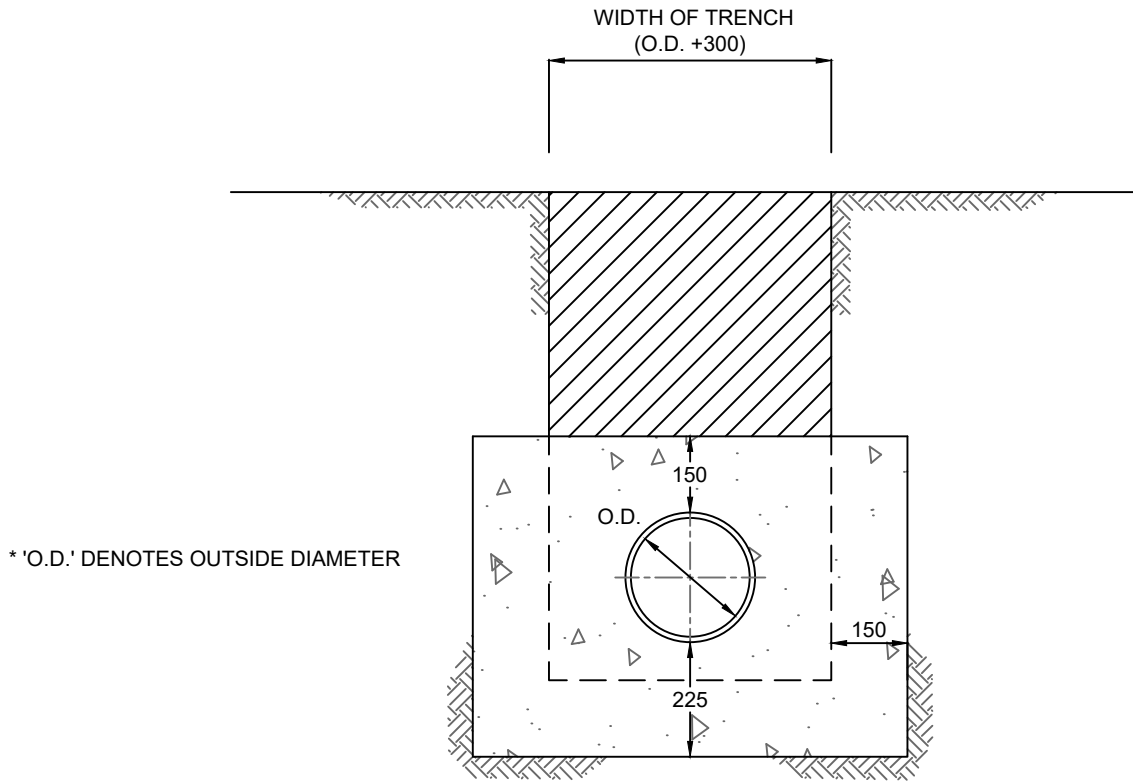
Banyule's Standard Drawings
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Approved by: James Kelly
Manager Delivery & Assets

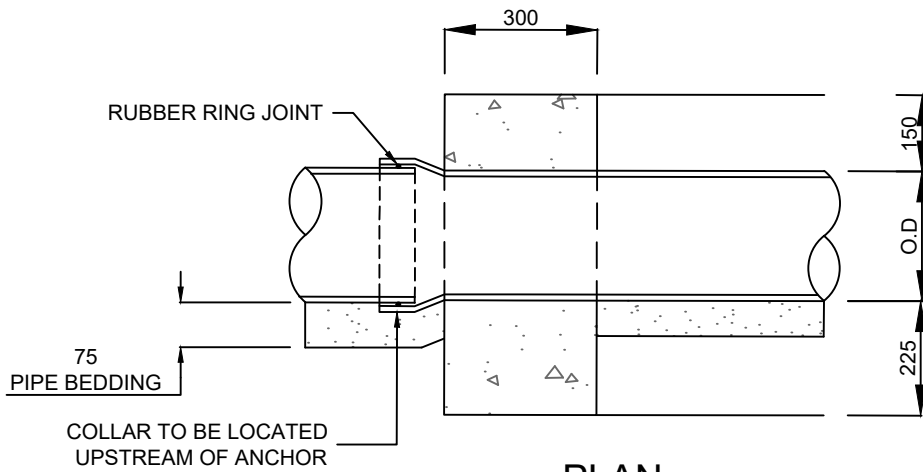
LAST UPDATED JULY 2019

D 105

NOT TO SCALE



ELEVATION



PLAN

NOTES:

1. FOR USE ON PIPE AT GRADES OF 1IN10 OR GREATER.
2. TO BE CONSTRUCTED AT A MAXIMUM OF 10m CTRS.
3. CONCRETE STRENGTH TO BE 25MPa.

ALL MEASUREMENTS IN MILLIMETRES



DRAINAGE PIPE ANCHOR BLOCK

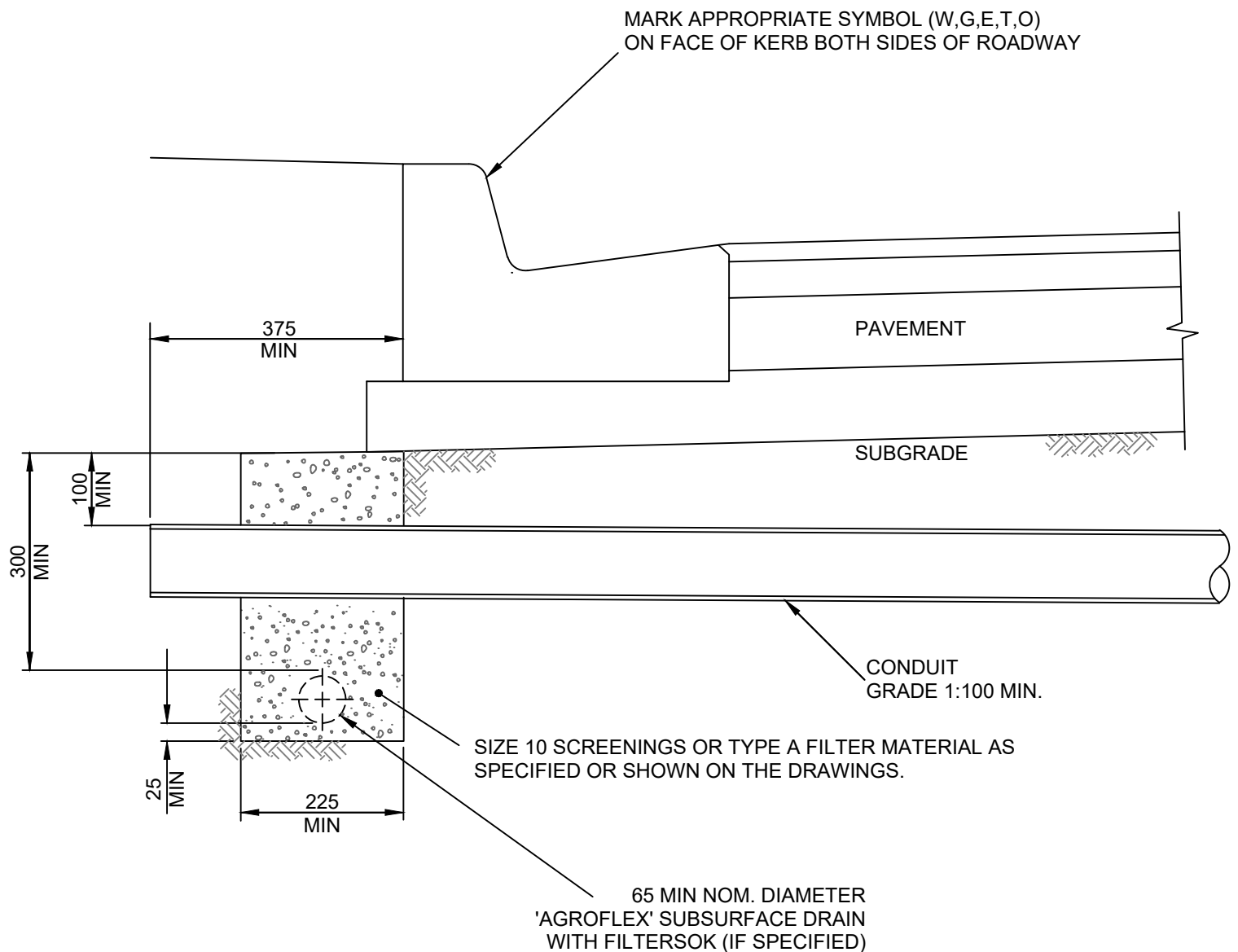
Banyule's Standard Drawings
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Approved by: James Kelly
 Manager Delivery & Assets

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D 110

NOT TO SCALE



NOTES:

1. SUBSURFACE DRAINS ARE TO BE CONNECTED TO DRAINAGE PITS.
2. ALL CONDUIT DETAILS TO BE AS PER RELEVANT AUTHORITY'S REQUIREMENTS.
3. ALL ROADWAY CONDUIT POSITIONS ARE TO BE CLEARLY IDENTIFIED ON BOTH SIDES OF THE ROADWAY BY THE APPROPRIATE SYMBOL (EG. W (WATER), G (GAS) ETC.) IMPRESSED INTO THE FACE OF THE KERB VERTICALLY ABOVE THE CONDUITS.

ALL MEASUREMENTS IN MILLIMETRES



Banyule
CITY COUNCIL

**SUBSURFACE DRAIN AND
SERVICE CONDUIT DETAILS**

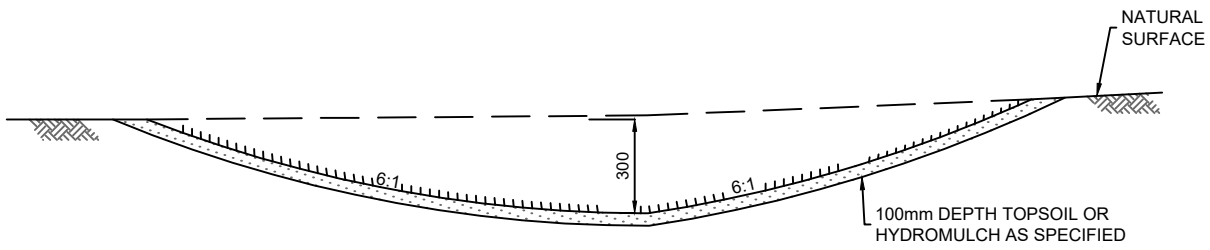
Banyule's Standard Drawings
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Approved by: James Kelly
Manager Delivery & Assets

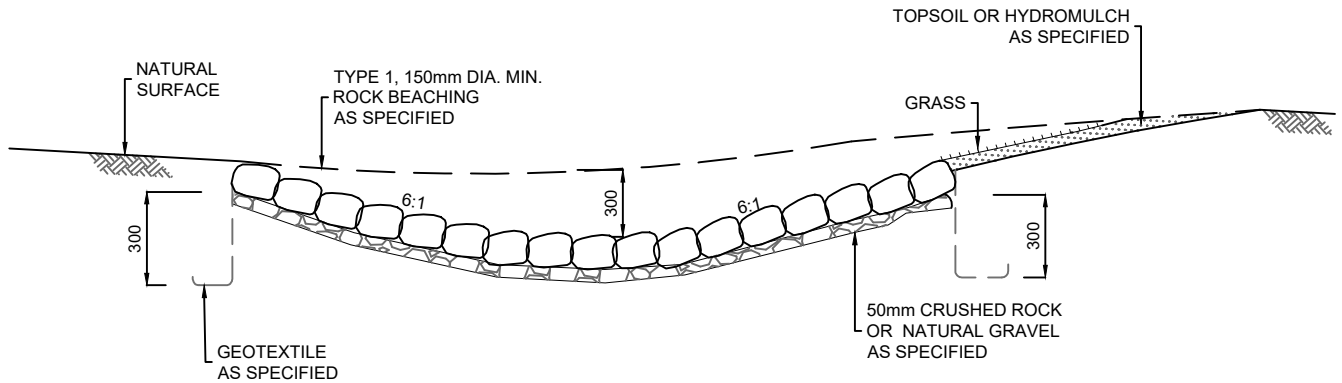
LAST UPDATED JULY 2019

D 115

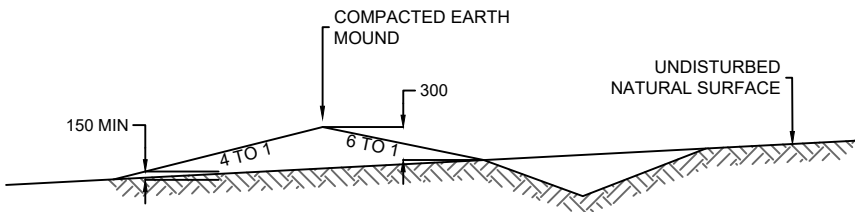
NOT TO SCALE



TYPICAL GRASS CATCH DRAIN SECTION



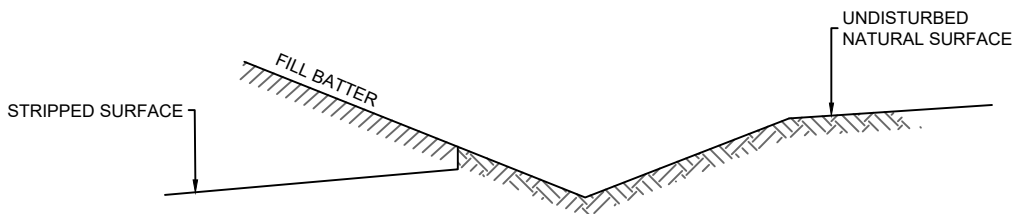
TYPICAL BEACHED CATCH DRAIN



TYPICAL MOUNDED CATCH DRAIN

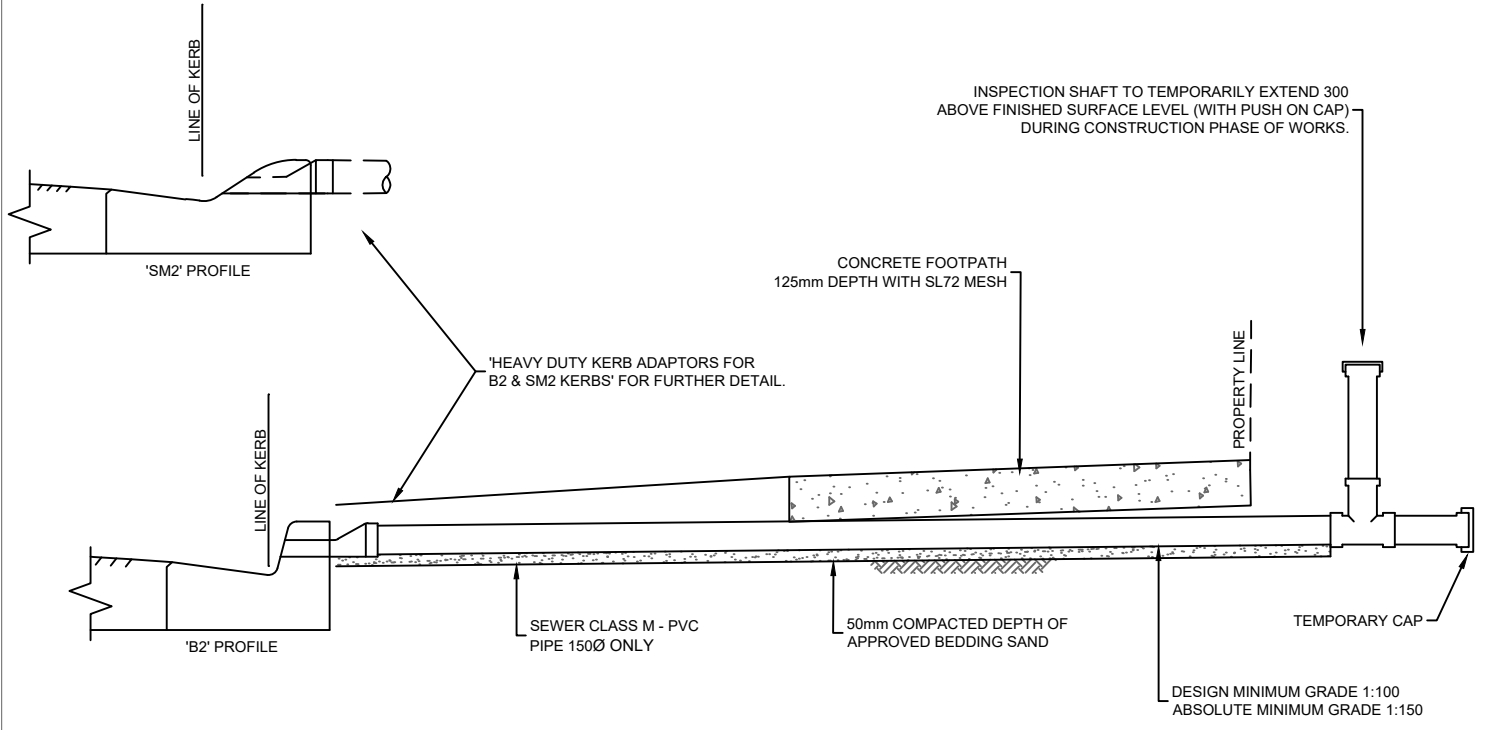
NOTE:

1. CATCH DRAINS SHALL BE CONSTRUCTED WHERE INDICATED ON ALIGNMENT PLANS.
2. CATCH DRAINS LOCATION RELATIVE TO THE BATTER SHALL BE DETERMINED BY THE COUNCIL REPRESENTATIVE.
3. CATCH DRAINS SHALL BE GRADED TO CULVERTS OR EXISTING LOW POINTS.
4. CATCH DRAINS SHALL BE LINED WITH TOPSOIL OR HYDROMULCH AS SHOWN.
5. REFER TO D 300 FOR INLET CATCH PIT DETAILS.



TYPICAL CATCH DRAIN AT TOE OF BATTER

ALL MEASUREMENTS IN MILLIMETRES



TYPICAL CROSS SECTION

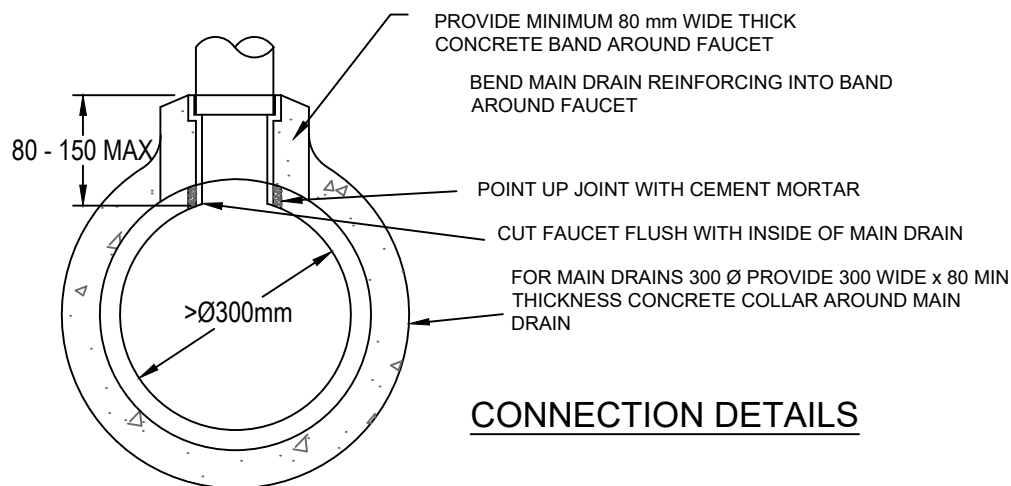
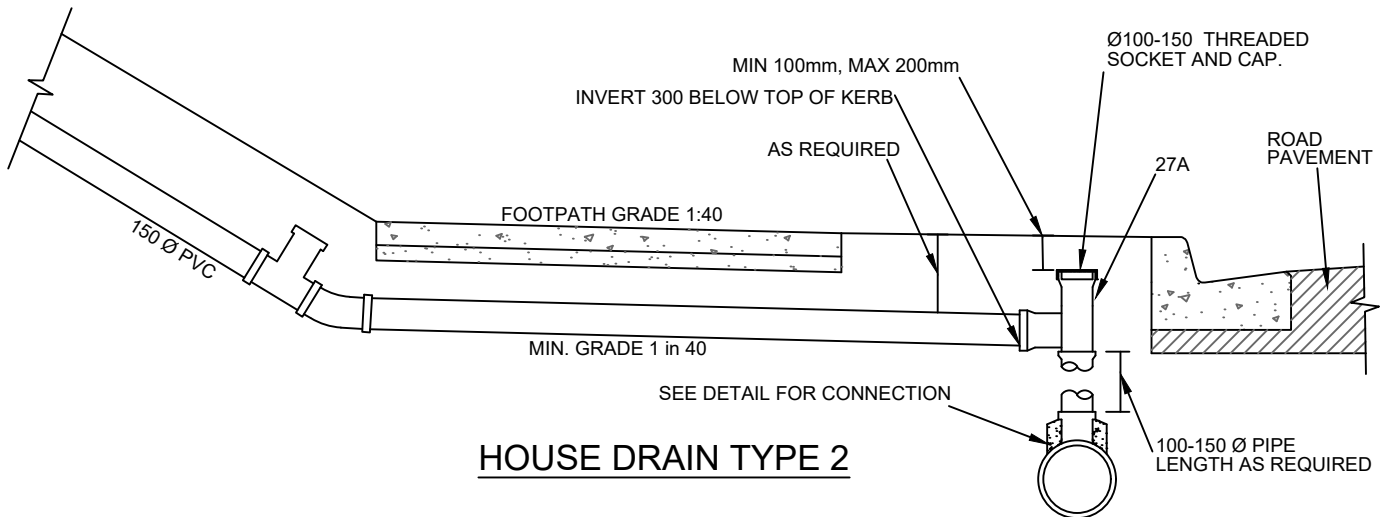
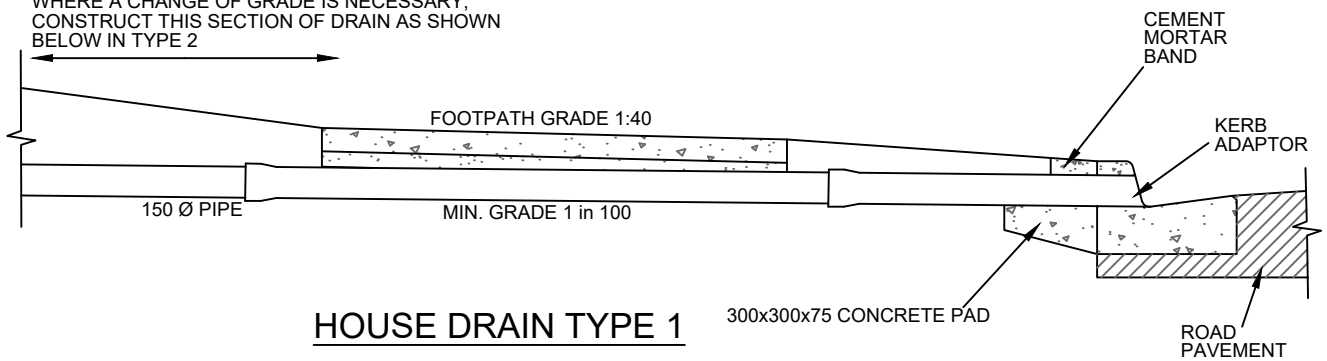
NOTES:

1. LOCATION OF HOUSE DRAINS WITHIN PROPERTY BOUNDARY TO BE MARKED WITH AN APPROVED TAPE TIED TO EXTEND THROUGH FINISHED SURFACE FOR EASY LOCATION BY BUILDERS.
2. F.C.R. BACKFILL TO BE USED UNDER ROAD PAVEMENT

ALL MEASUREMENTS IN MILLIMETRES

 <p>Banyule CITY COUNCIL</p>	<p>HOUSE DRAIN TO KERB & CHANNEL</p>	<p>LAST UPDATED JULY 2019</p>
	<p>Banyule's Standard Drawings A copy can be found on Banyule's website www.banyule.vic.gov.au</p>	<p>D 125</p>
	<p>Approved by: James Kelly Manager Delivery & Assets</p>	<p>NOT TO SCALE</p>

WHERE A CHANGE OF GRADE IS NECESSARY,
CONSTRUCT THIS SECTION OF DRAIN AS SHOWN
BELOW IN TYPE 2



NOTES:

1. FOR PIPES SMALLER THAN Ø300mm A PIT MUST BE CONSTRUCTED OVER PIPE TO COUNCIL SPECIFICATIONS.
2. A27 CONNECTION TO BE CONSTRUCTED VERTICALLY TO TOP OF PIPE, UNLESS PIPE DIAMETER IS GREATER THAN 600mm WHERE CONNECTION IS TO BE MADE WITHIN TOP 1/3 OF PIPE.
3. WHERE CONNECTION CANNOT BE MADE IN ACCORDANCE WITH THIS STANDARD, A JUNCTION PIT MUST BE CONSTRUCTED
4. FOR KERB ADAPTOR DETAILS REFER DRAWING R 190

ALL MEASUREMENTS IN MILLIMETRES



Banyule
CITY COUNCIL

HOUSE DRAIN CONNECTIONS

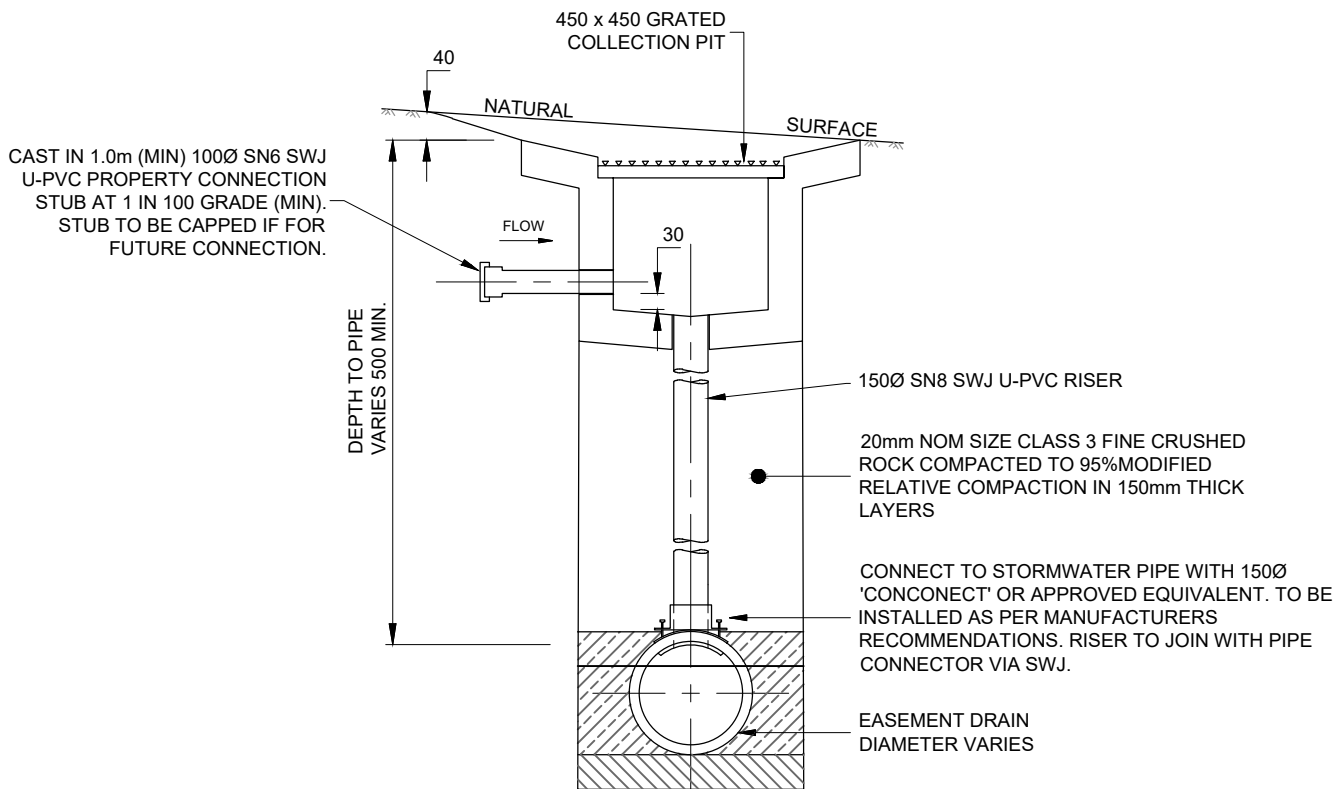
Banyule's Standard Drawings
A copy can be found on Banyule's website
www.banyule.vic.gov.au

Approved by: James Kelly
Manager Delivery & Assets

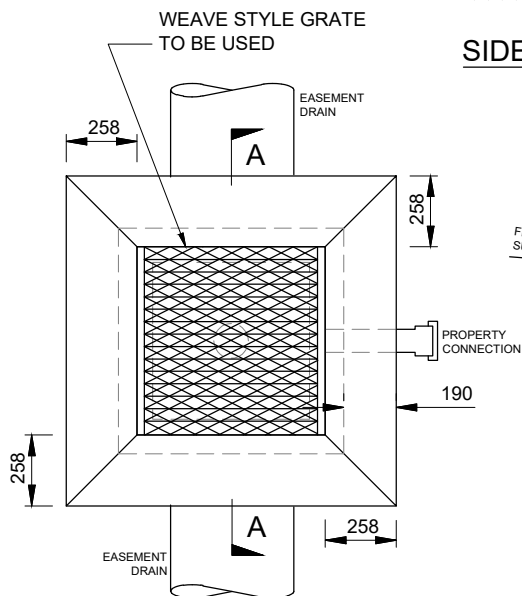
LAST UPDATED JULY 2019

D 130

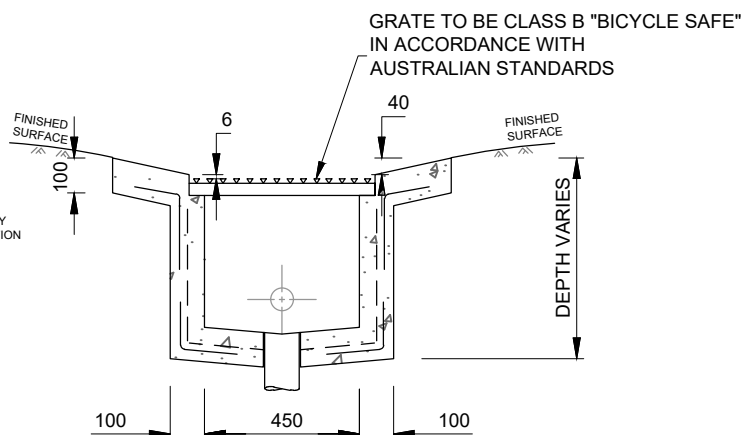
NOT TO SCALE



SIDE ELEVATION



COLLECTION PIT - PLAN



SECTION A-A

NOTES:

1. EDGE CONCRETE AROUND PERIMETER OF GRATE.
2. TOP OF GRATE 40mm (MIN) BELOW FINISHED SURFACE.
3. DO NOT BOND GRATE TO CONCRETE TO ALLOW EASY ACCESS TO PIT.
4. CONCRETE TO BE SMOOTH TROWELLED FINISH.
5. GRATE FRAME TO BE OILED IF INSTALLED IN WET CONCRETE.
6. CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS
7. SEAL UP AND MAKE GOOD PIPE CONNECTION / INSERTION TO PIT.
8. PROPERTY CONNECTION MIN 1500Ø PIPE
9. AS THE DEPTH VARIES THE SIZE OF THE INLET PIT CHANGES CORRESPONDINGLY.

ALL MEASUREMENTS IN MILLIMETRES



Banyule
CITY COUNCIL

**EASEMENT DRAIN
CONNECTION**

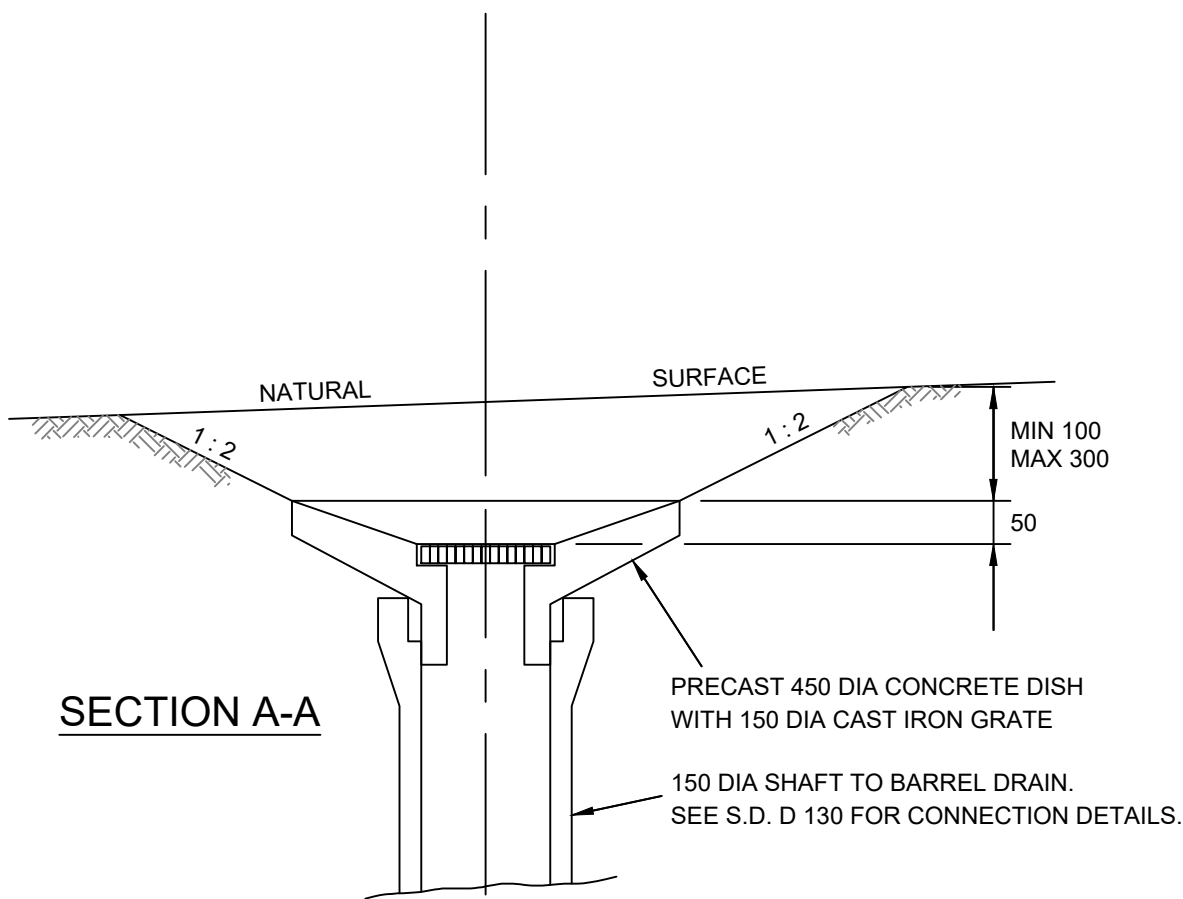
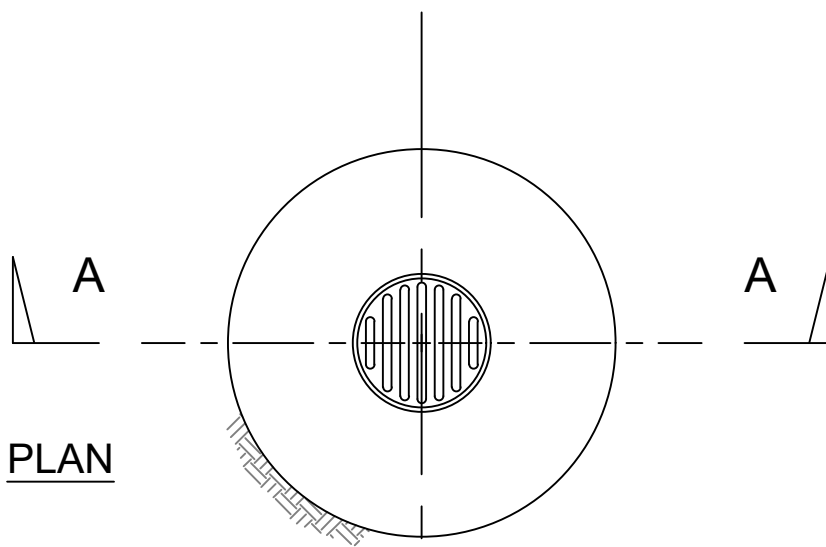
Banyule's Standard Drawings
A copy can be found on Banyule's website
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Approved by: James Kelly
Manager Delivery & Assets

LAST UPDATED JULY 2019

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SECTION A-A

ALL MEASUREMENTS IN MILLIMETRES



PROPERTY GULLY INLET

Banyule's Standard Drawings
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Approved by: James Kelly
 Manager Delivery & Assets

LAST UPDATED JULY 2019

D 140

NOT TO SCALE

TYPE 1 *SLOPE AT 1.5:1				TYPE 2 *SLOPE AT 2:1				TYPE 3 *SLOPE AT 3:1			
B	C	D	F	B	C	D	F	B	C	D	F
138	1037	197	240	138	1129	262	320	275	1312	393	480
221	1286	315	385	294	1433	420	513	441	1727	630	769
307	1547	438	535	409	1752	584	713	613	2161	876	1069
394	1804	563	687	525	2066	750	916	788	2591	1125	1373

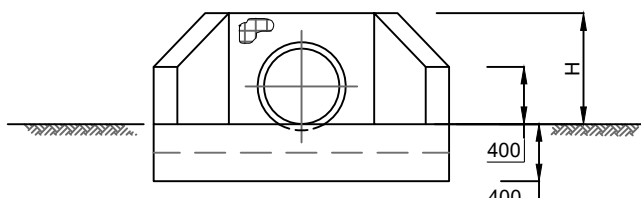
* THEORETICAL SLOPE WINGWALL MEASURED AT RIGHT ANGLES TO THE ROADWAY

** A2= A + E + EXTERNAL DIAMETER OF PIPE

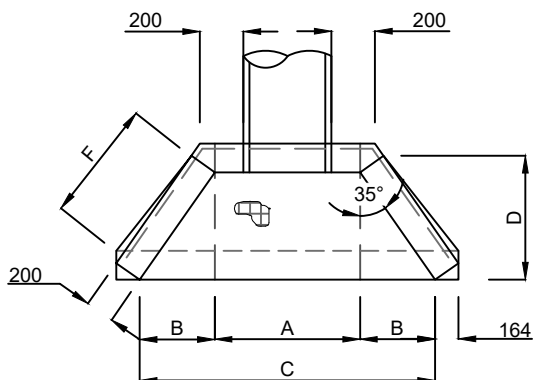
APPROXIMATE ONLY

NOM PIPE DIA	EXTERNAL PIPE DIA*	A**	E	H
300	362	762	300	531
375	445	845	300	610
450	534	934	300	692
525	616	1016	300	775

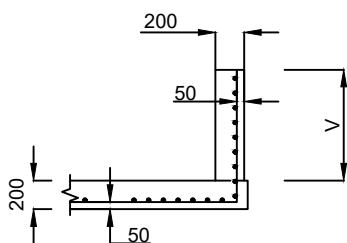
FOR LARGER PIPE DIAMETERS REFER TO VICROADS SD1931 REV 8



END ELEVATION

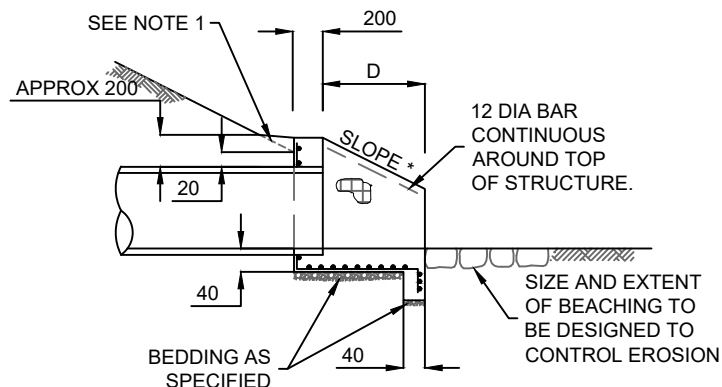
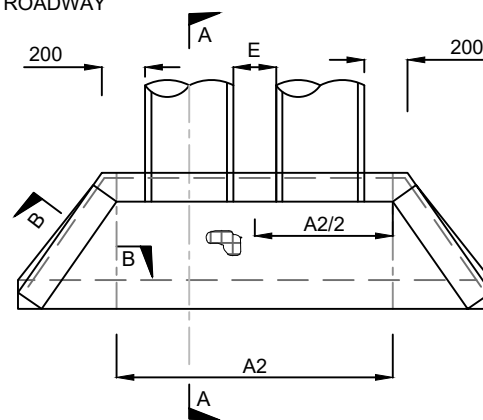


SECTION B-B



SECTION A-A

V = VARIABLE HEIGHT OF THE WINGWALL



SECTION A-A

NOTES:

1. PIT TO BE CONSTRUCTED IN 2 STAGES 2-TOP 500mm OF PIT IN CONJUNCTION WITH KERB AND CHANNEL.
2. WHERE PIT AT LOW POINT CONSTRUCT - 100mm DIA, P.V.C. PIPE WITH CONSTRUCTION WORKS TO DRAIN WATER FROM PAVEMENT.
3. AT LOW POINT TRANSITION 600mm BOTH SIDES.
4. CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS.
5. FIBERGLASS PIT LIDS WITH EA FRAME AND LIGHTWEIGHT LOCKING LID OR APPROVED EQUIVALENT CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH AS3996 MAY BE USED INSTEAD OF CONCRETE.
6. PRECAST LINTEL TO MATCH REQUIRED KERB TYPE (SM2,B2)

ALL MEASUREMENTS IN MILLIMETRES



Banyule
CITY COUNCIL

**REINFORCED CONCRETE
WINGWALL (IN-SITU)**

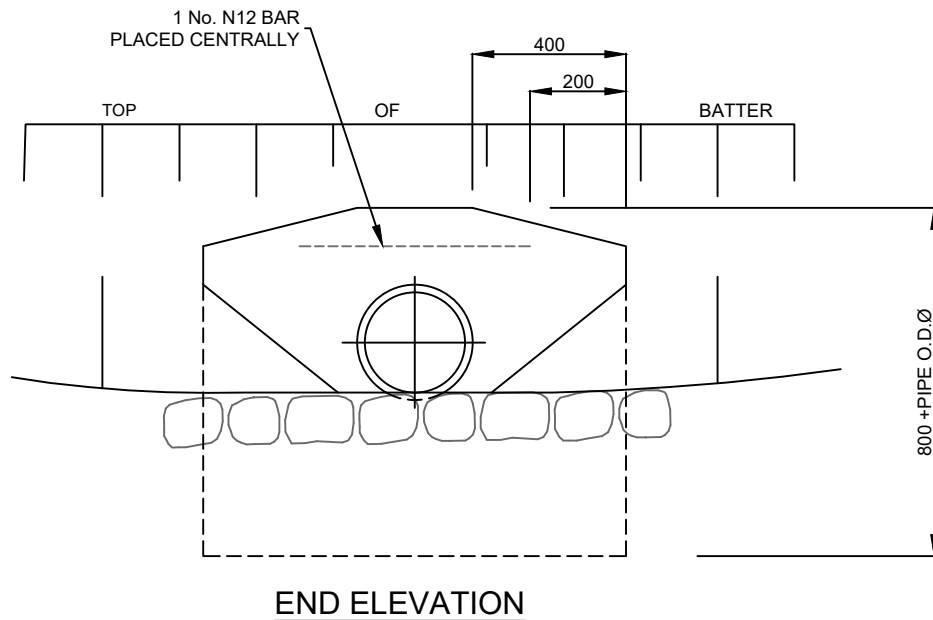
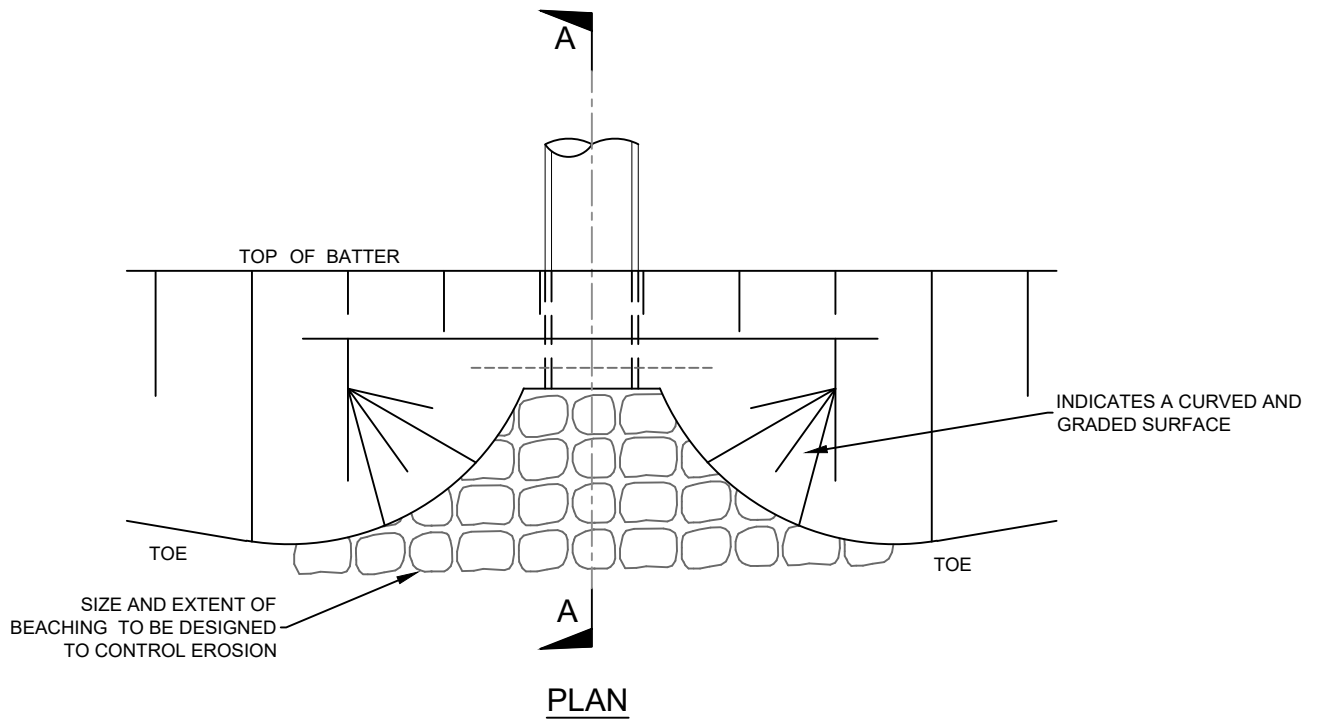
Banyule's Standard Drawings
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Approved by: James Kelly
Manager Delivery & Assets

LAST UPDATED JULY 2019

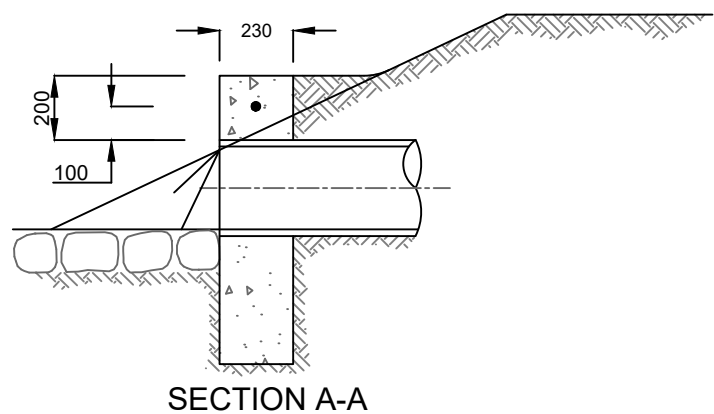
D 145

NOT TO SCALE



NOTES:

1. COMPACTION PRESSURE BEHIND ENDWALLS IS NOT TO EXCEED 12.5kPa. REFER (1.5 TONNE VIBRATORY ROLLER).
2. A MAXIMUM PIPE SIZE OF 300Ø FOR THIS ENDWALL ARRANGEMENT.
3. NOT TO BE USED WHERE GENERAL VEHICULAR TRAFFIC IS PRESENT, (MAINTENANCE OR EMERGENCY VEHICLES EXCEPTED).
4. ALTERNATIVELY PRECAST ENDWALL MAY BE USED WHERE APPROVED BY COUNCIL.
5. CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS.



ALL MEASUREMENTS IN MILLIMETRES

CONCRETE ENDWALL FOR PIPES UP TO 300mm IN DIAMETER (WALKWAYS, PATHS & TRACKS)

Banyule's Standard Drawings
A copy can be found on Banyule's website
www.banyule.vic.gov.au

Approved by: James Kelly
Manager Delivery & Assets

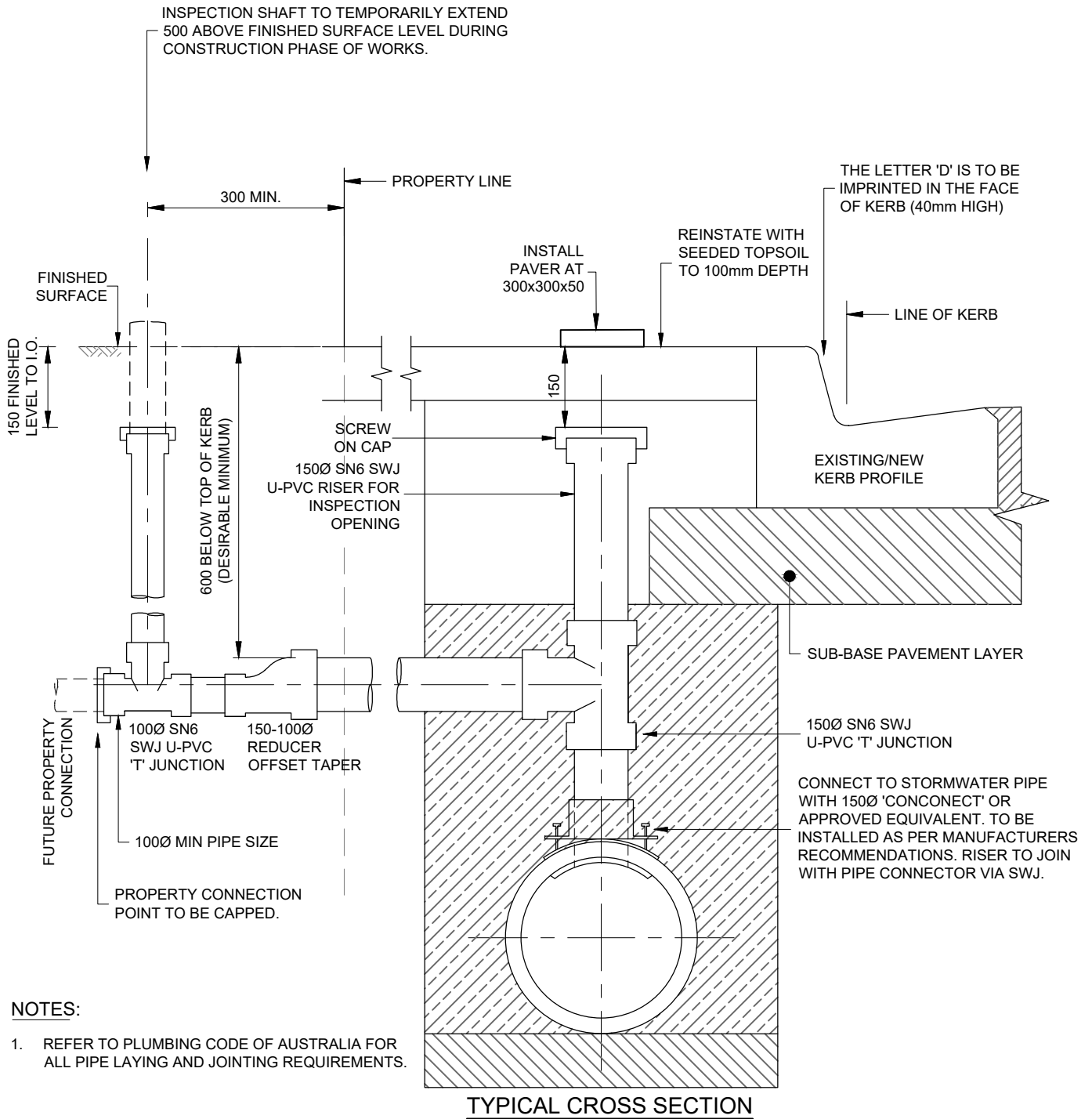
LAST UPDATED JULY 2019

D 150

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ALL MEASUREMENTS IN MILLIMETRES



Banyule
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**27A STREET DRAIN
CONNECTION**

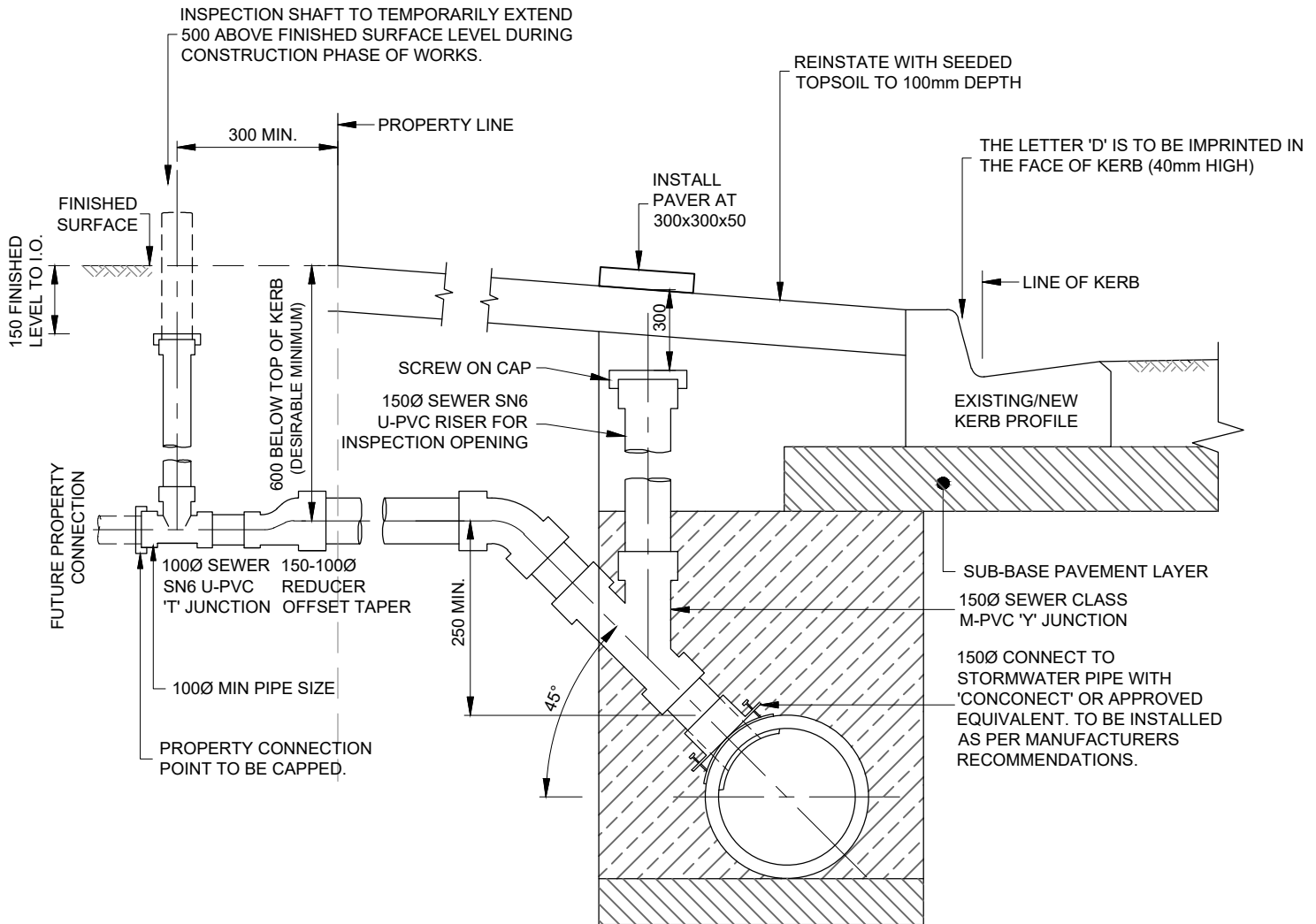
Banyule's Standard Drawings
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Approved by: James Kelly
Manager Delivery & Assets

LAST UPDATED JULY 2019

D 155

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TYPICAL CROSS SECTION

NOTES:

1. REFER TO PLUMBING CODE OF AUSTRALIA FOR ALL PIPE LAYING AND JOINTING REQUIREMENTS.

ALL MEASUREMENTS IN MILLIMETRES



Banyule
CITY COUNCIL

**27A STREET DRAIN
CONNECTION (LIMITED COVER)**

Banyule's Standard Drawings
A copy can be found on Banyule's website
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Approved by: James Kelly
Manager Delivery & Assets

LAST UPDATED JULY 2019

D 160

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