

# CITY OF ALBANY ENGINEERING SERVICES

## STANDARD CONSTRUCTION DRAWINGS

<u>CATEGORY</u>	<u>DRAWING No.</u>	<u>DRAWING TITLE</u>	<u>REVISION</u>
DRAINAGE	STD-01-01	TYPICAL MANHOLE	REV 0
	STD-01-02	UNIVERSAL SIDE ENTRY PIT	REV 0
	STD-01-03	COMBINATION SIDE ENTRY PIT	REV 0
	STD-01-04	GRATED GULLY PIT	REV 0
	STD-01-05	HOUSE CONNECTION PIT	REV 0
	STD-01-06	UNDERGROUND STORAGE PIT	REV 0
	STD-01-07	KERB OUTLET	REV 0
KERBING	STD-02-01	TYPE 1 KERB PROFILES	REV 0
	STD-02-02	TYPE 2 KERB PROFILES	REV 0
	STD-02-03	TYPE 3 KERB PROFILES	REV 0
	STD-02-04	CONCRETE APRON	REV 0
PATHWAYS	STD-03-01	CONCRETE PATHWAY DETAILS	REV 0
	STD-03-02	ASPHALT PATHWAY DETAILS	REV 0
	STD-03-03	PEDESTRIAN RAMP - TYPE 1	REV 0
	STD-03-04	PEDESTRIAN RAMP - TYPE 2	REV 0
	STD-03-05	BICYCLE ENTRY & EXIT RAMP DETAILS	REV 0
SIGNS	STD-04-01	STREET NAME SIGNS	REV 0
CROSSOVERS	STD-05-01	STANDARD CROSSOVER - CONCRETE	REV 0
	STD-05-02	STANDARD CROSSOVER - ASPHALT	REV 0
	STD-05-03	STANDARD CROSSOVER - PAVED	REV 0
TREE PLANTING	STD-06-01	TREE PLANTING DETAILS	REV 0

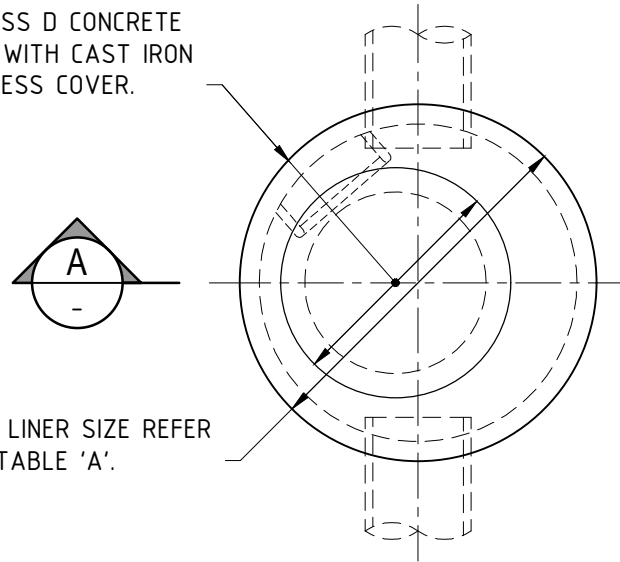


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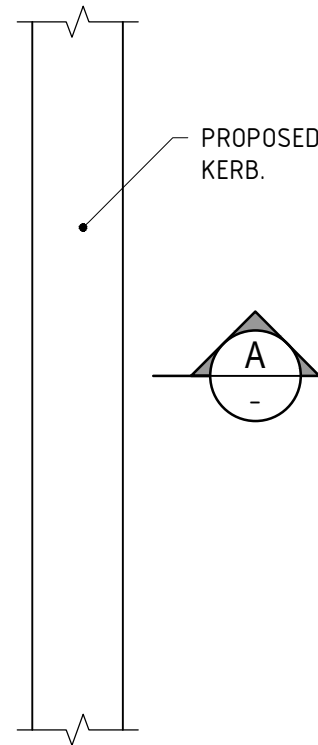
NOTE: WHEN MANHOLE IS LOCATED IN PATHWAY COVER TO BE SQUARE.

CLASS D CONCRETE LID WITH CAST IRON ACCESS COVER.

FOR LINER SIZE REFER TO TABLE 'A'.



**PLAN**



LID LEVEL TO BE ADJUSTED TO SUIT FINISHED GROUND LEVEL.

2.0%

MORTAR BEDDING AND FILLET.

FOR LINER SIZE REFER TO 'TABLE A'.

GEOTEXTILE WRAP TO BASE OF PIT

NOMINAL 14mm AGGREGATE FILLED WEEP HOLE ON GEOTEXTILE SHEET.

φ OF LINER

1200

**SECTION A-A**

ASPHALTIC CONCRETE SEAL.

COMPACTED GRAVEL BASECOURSE.

ALL PIPES TO BE FINISHED WITH MORTAR FILLET. 50mm INSIDE, 100mm OUTSIDE

PRECAST CONCRETE BASE SLAB.

**TYPICAL MANHOLE**

SCALE: 1:25

NOTE: STEP IRONS TO BE INSTALLED WHERE DEPTH IS GREATER THAN 1000mm FROM COVER TO BASE @300mm CENTRES. BOTTOM STEP 300mm ABOVE BASE. STEP IRONS ARE TO BE BOLTED ON THE WALL FACING ONCOMING TRAFFIC.

**TABLE A**

PIPE SIZE φ	LINER TO BE SPUN CONCRETE WITH INTERLOCKING JOINTS
225 - 450	DN1050
525 - 600	DN1200

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



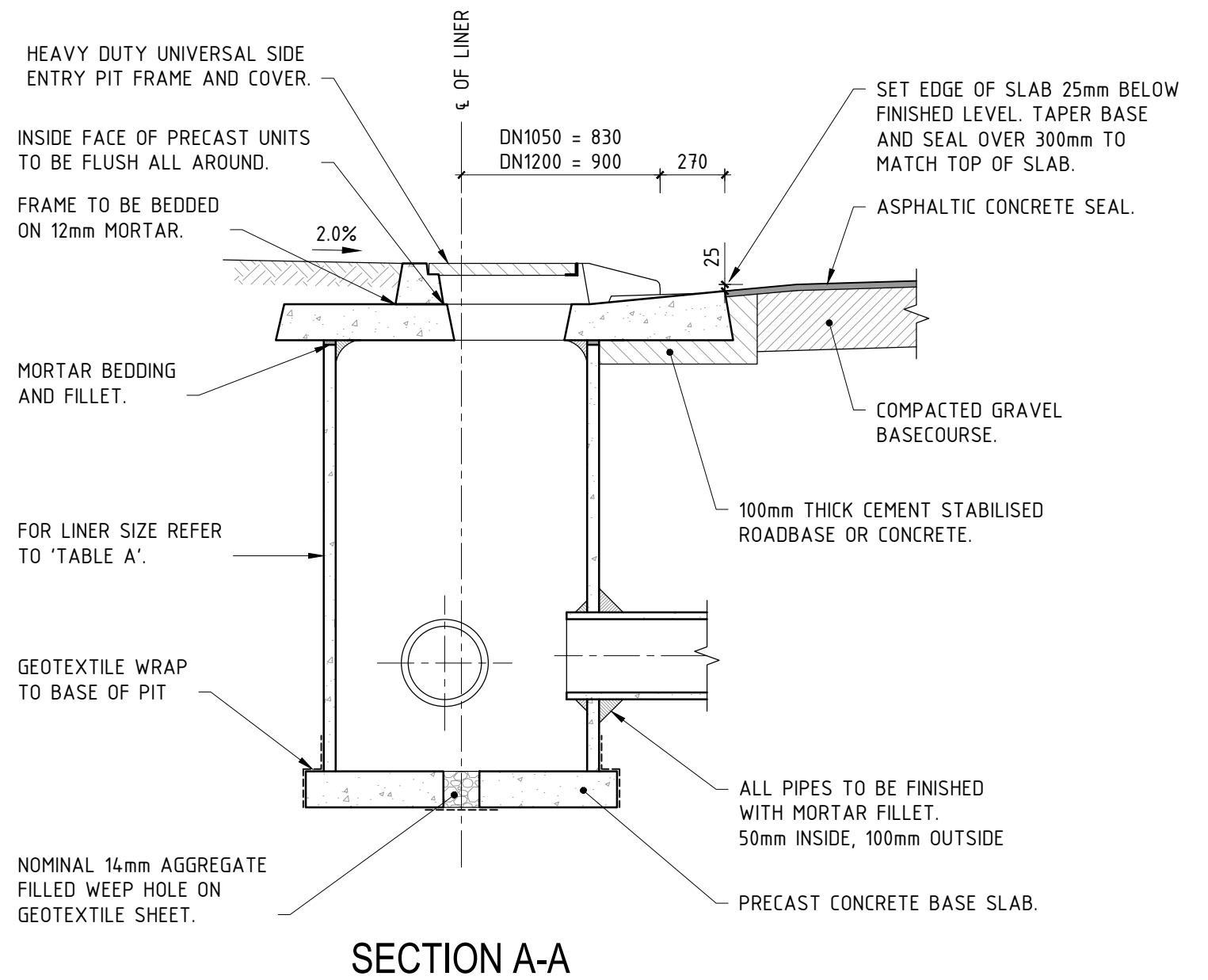
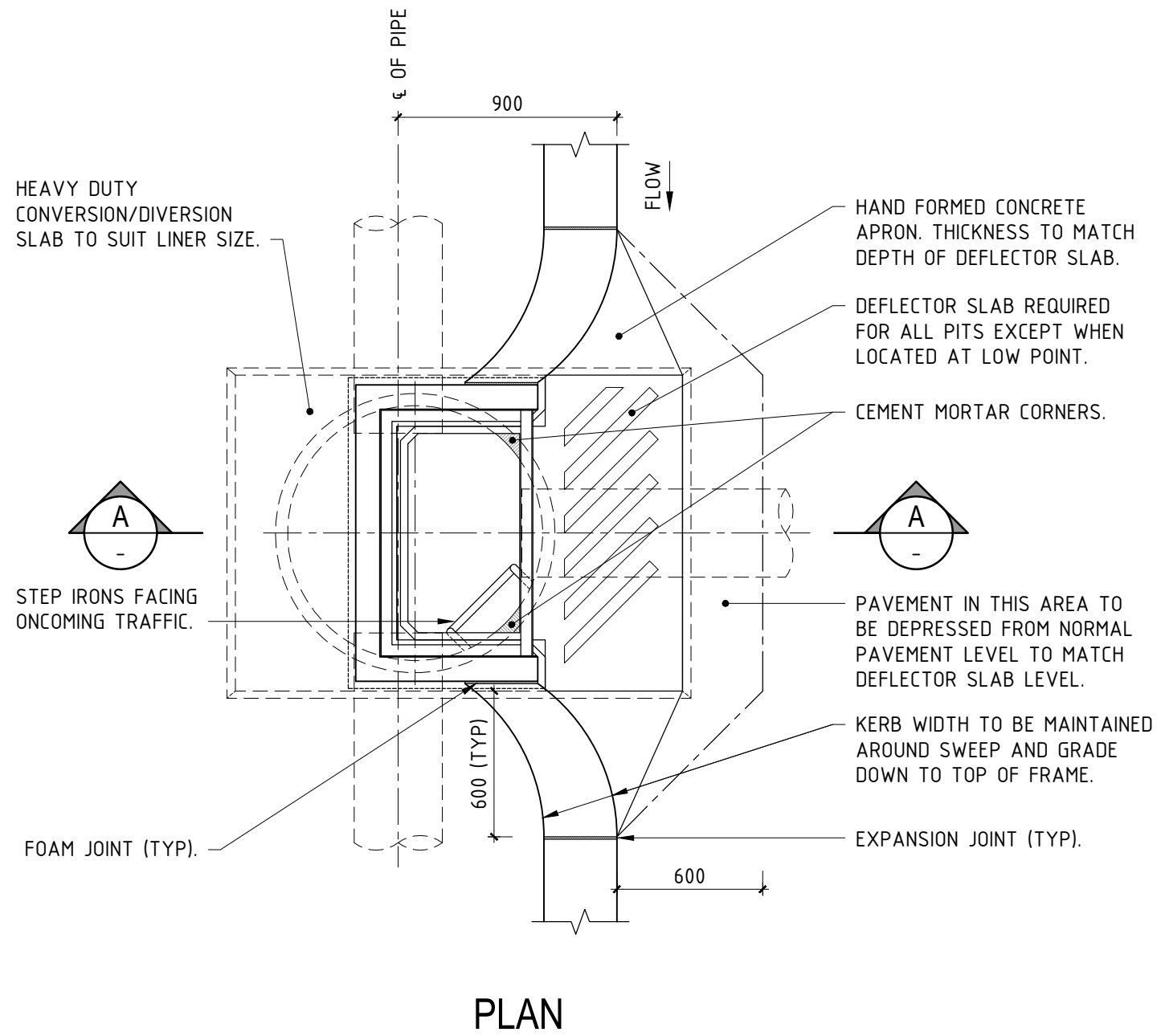
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**CONSTRUCTION ISSUE**

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PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
TYPICAL MANHOLE					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:25 @ A3	STD-01-01	0



## UNIVERSAL SIDE ENTRY PIT

SCALE: 1:25

NOTE: STEP IRONS TO BE INSTALLED WHERE DEPTH IS GREATER THAN 1000mm FROM COVER TO BASE @300mm CENTRES. BOTTOM STEP 300mm ABOVE BASE. STEP IRONS ARE TO BE BOLTED ON THE WALL FACING ONCOMING TRAFFIC.

TABLE A

PIPE SIZE $\phi$	LINER TO BE SPUN CONCRETE WITH INTERLOCKING JOINTS
225 - 450	DN1050
525 - 600	DN1200

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



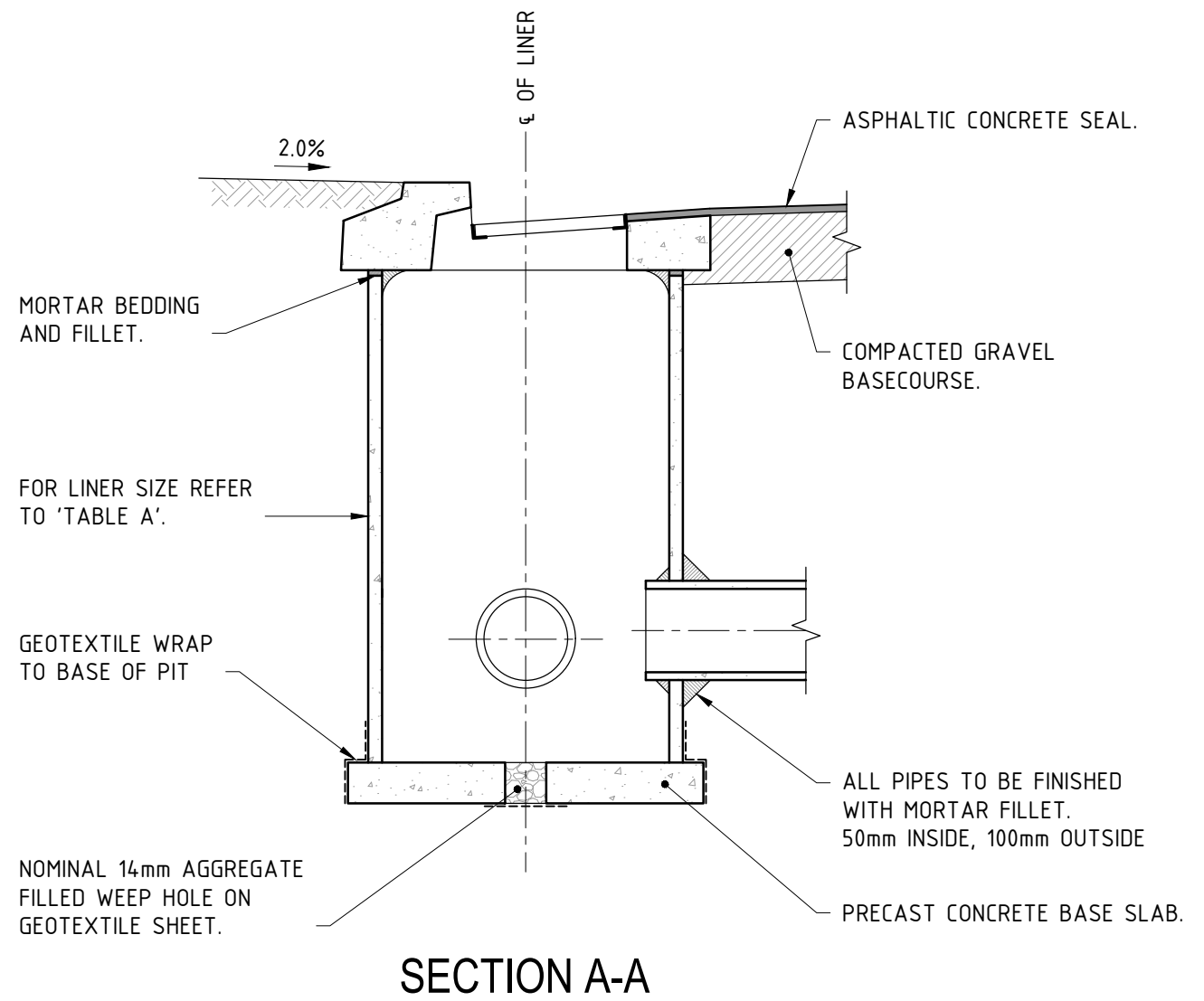
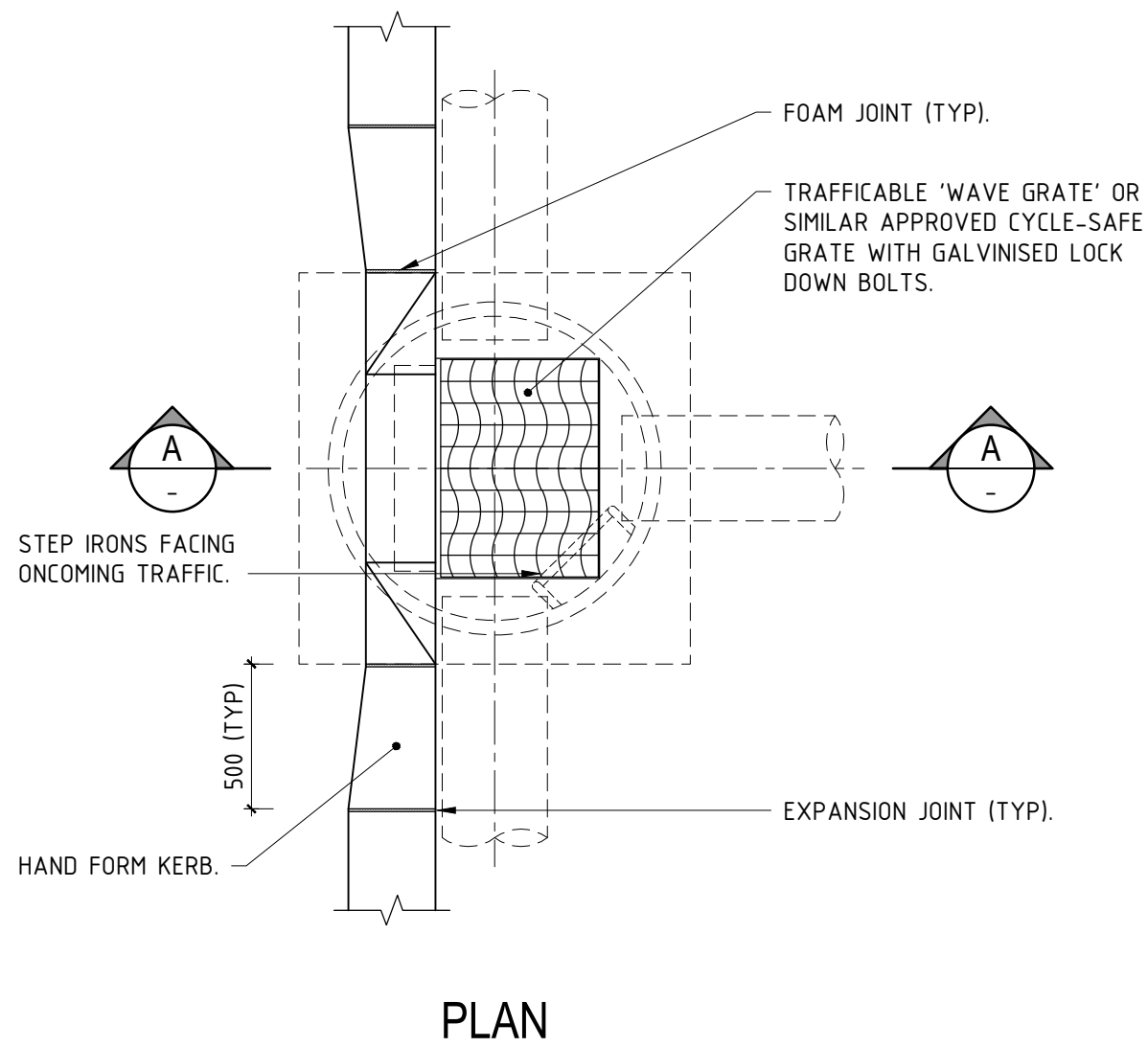
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CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
UNIVERSAL SIDE ENTRY PIT					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:25 @ A3	STD-01-02	0



## COMBINATION SIDE ENTRY PIT

SCALE: 1:25

NOTE: STEP IRONS TO BE INSTALLED WHERE DEPTH IS GREATER THAN 1000mm FROM COVER TO BASE @300mm CENTRES. BOTTOM STEP 300mm ABOVE BASE. STEP IRONS ARE TO BE BOLTED ON THE WALL FACING ONCOMING TRAFFIC.

**TABLE A**

PIPE SIZE $\phi$	LINER TO BE SPUN CONCRETE WITH INTERLOCKING JOINTS
225 - 450	DN1050
525 - 600	DN1200

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



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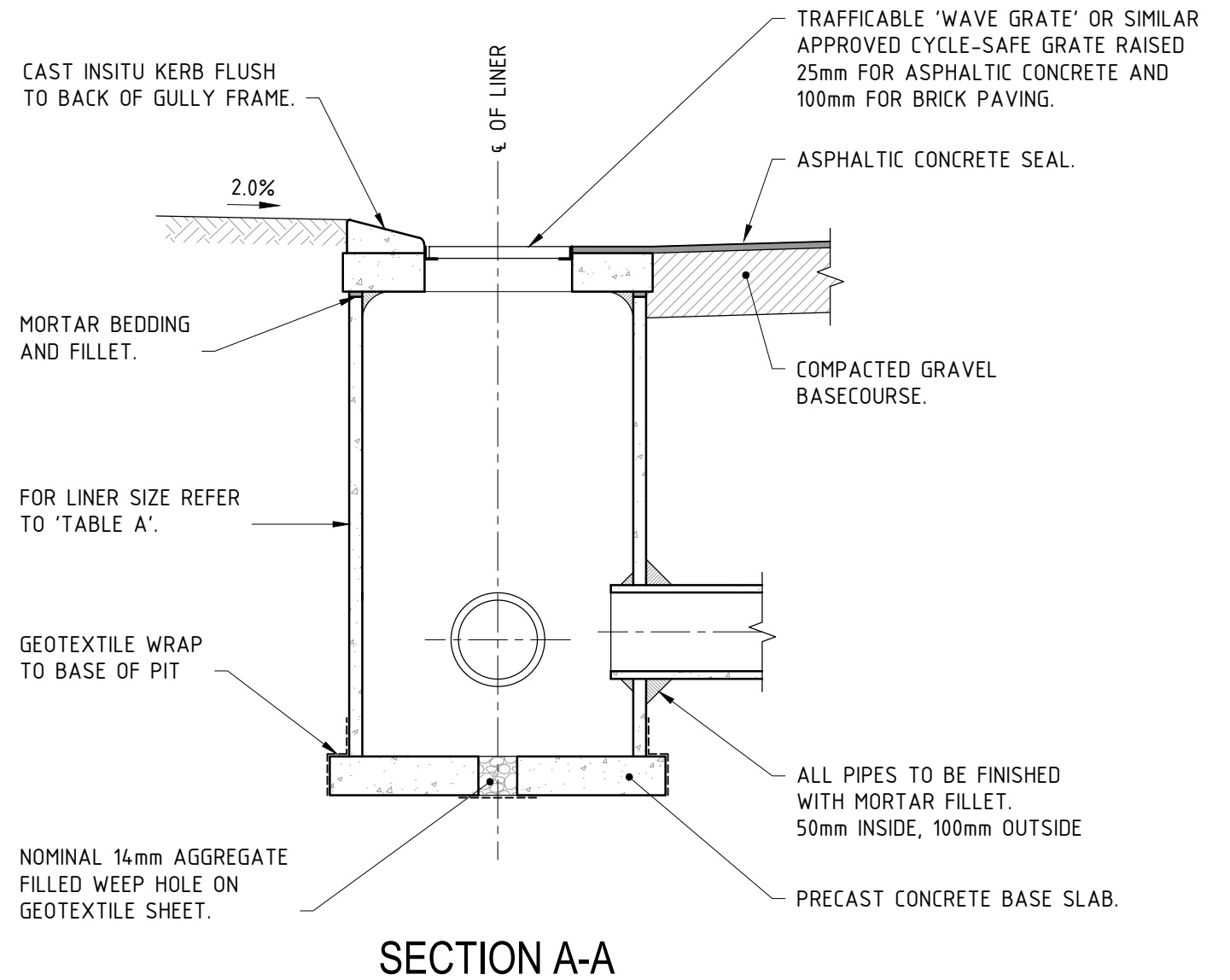
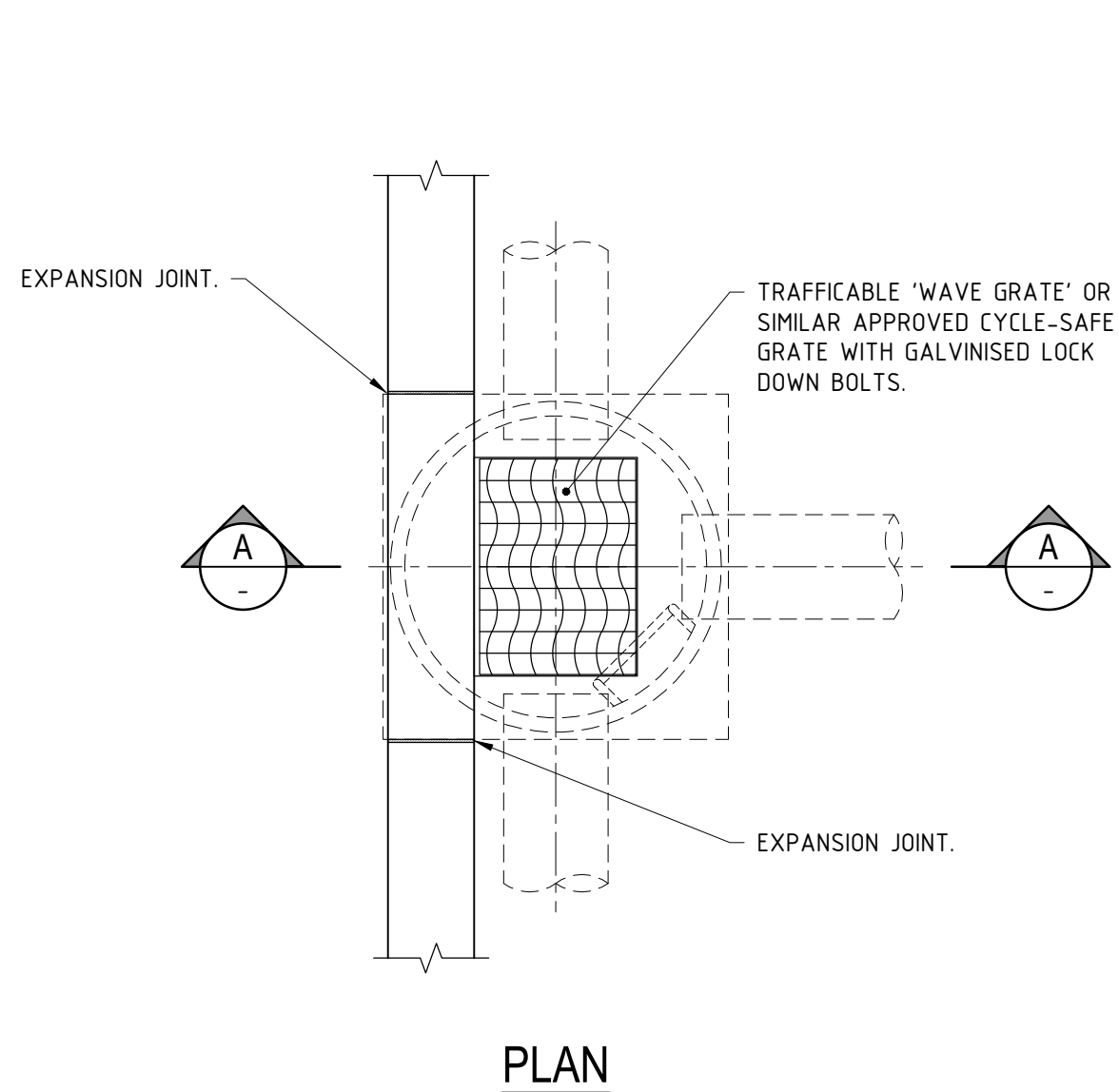
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CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
COMBINATION SIDE ENTRY PIT					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:25 @ A3	STD-01-03	0



## GRATED GULLY PIT

SCALE: 1:25

NOTE: STEP IRONS TO BE INSTALLED WHERE DEPTH IS GREATER THAN 1000mm FROM COVER TO BASE @300mm CENTRES. BOTTOM STEP 300mm ABOVE BASE. STEP IRONS ARE TO BE BOLTED ON THE WALL FACING ONCOMING TRAFFIC.

TABLE A

PIPE SIZE $\phi$	LINER TO BE SPUN CONCRETE WITH INTERLOCKING JOINTS
225 - 450	DN1050
525 - 600	DN1200

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



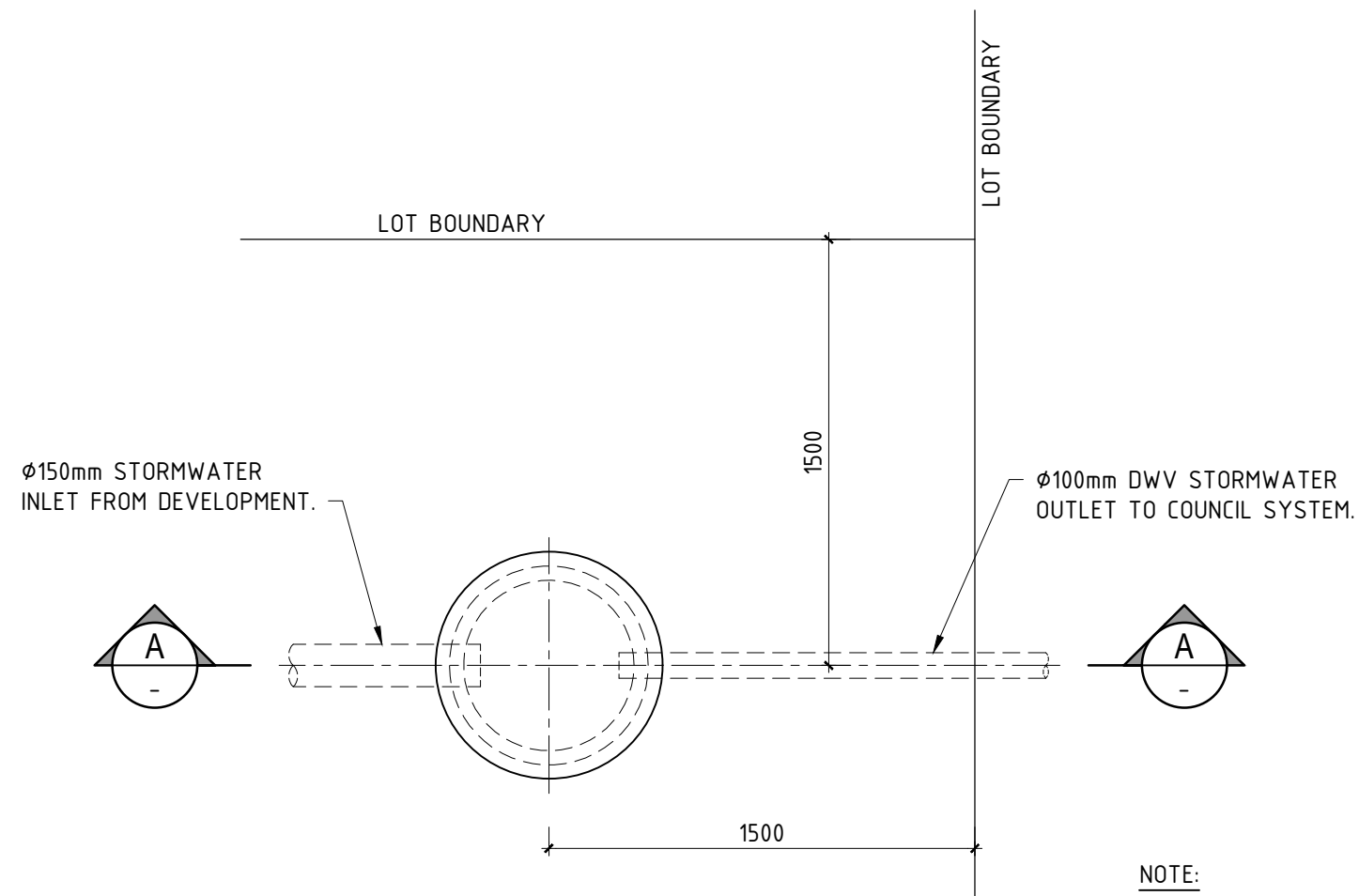
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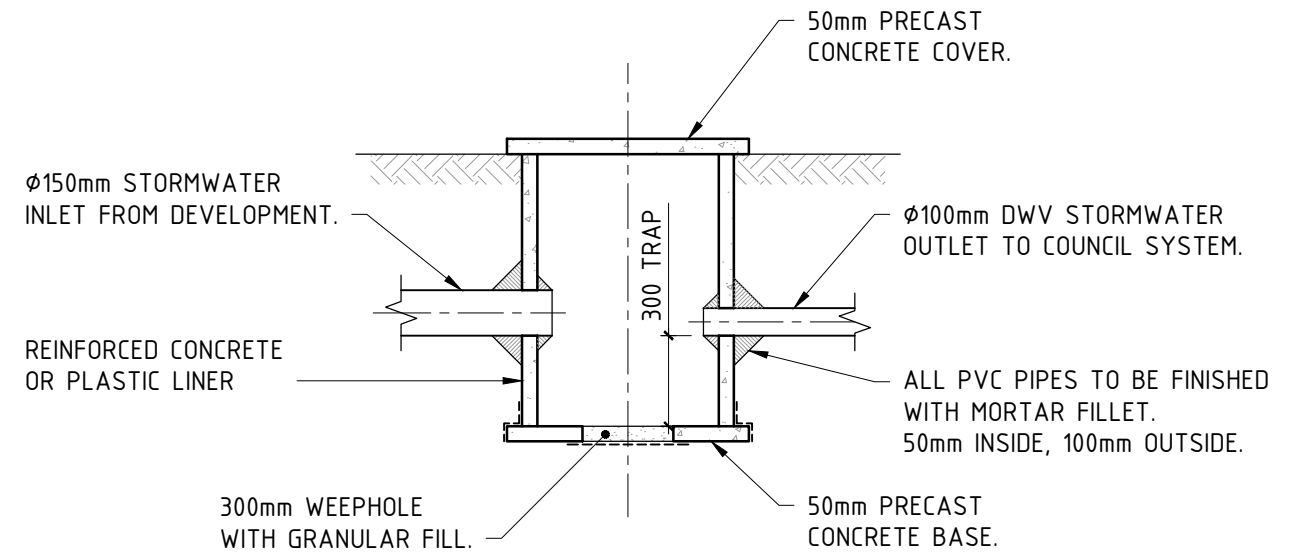
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CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
GRATED GULLY PIT					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:25 @ A3	STD-01-04	0



**PLAN**



**SECTION A-A**

**NOTE:**

MAINTENANCE RESPONSIBILITY FOR THIS MANHOLE REMAINS WITH THE PROPERTY OWNER.

**HOUSE CONNECTION PIT**

SCALE: 1:25

NOTE: WHERE CONNECTION IS REQUIRED TO CITY OF ALBANY STORMWATER INFRASTRUCTURE, A PERMIT IS REQUIRED PRIOR TO CONNECTION.

**HOUSE CONNECTION PIT TABLE**

H.C. PIT DEPTH	INSIDE DIAMETER
LESS THAN 1200	600
GREATER THAN 1200	900 WITH STEP IRONS

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



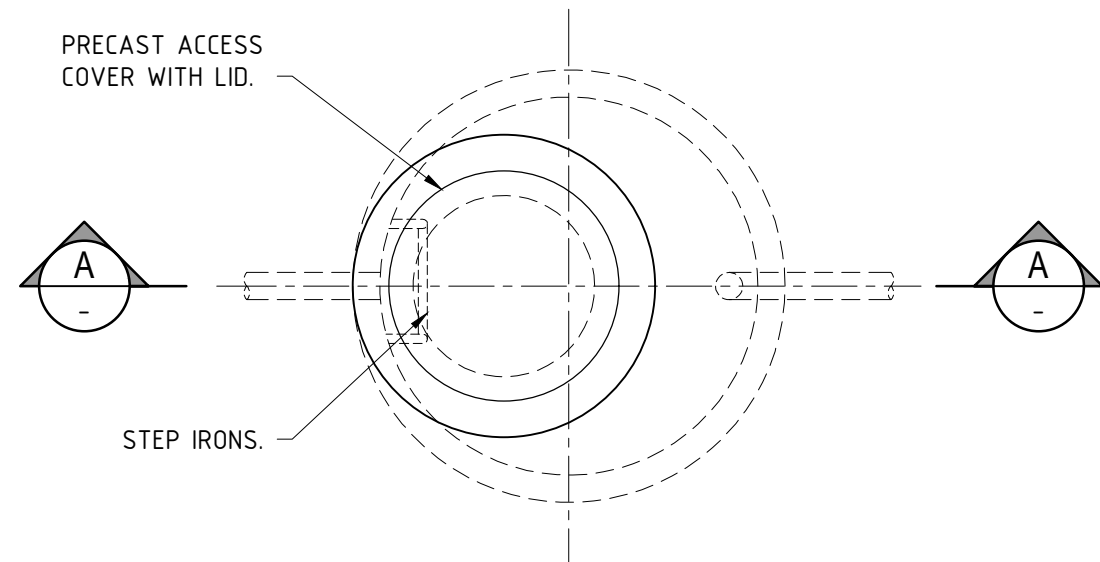
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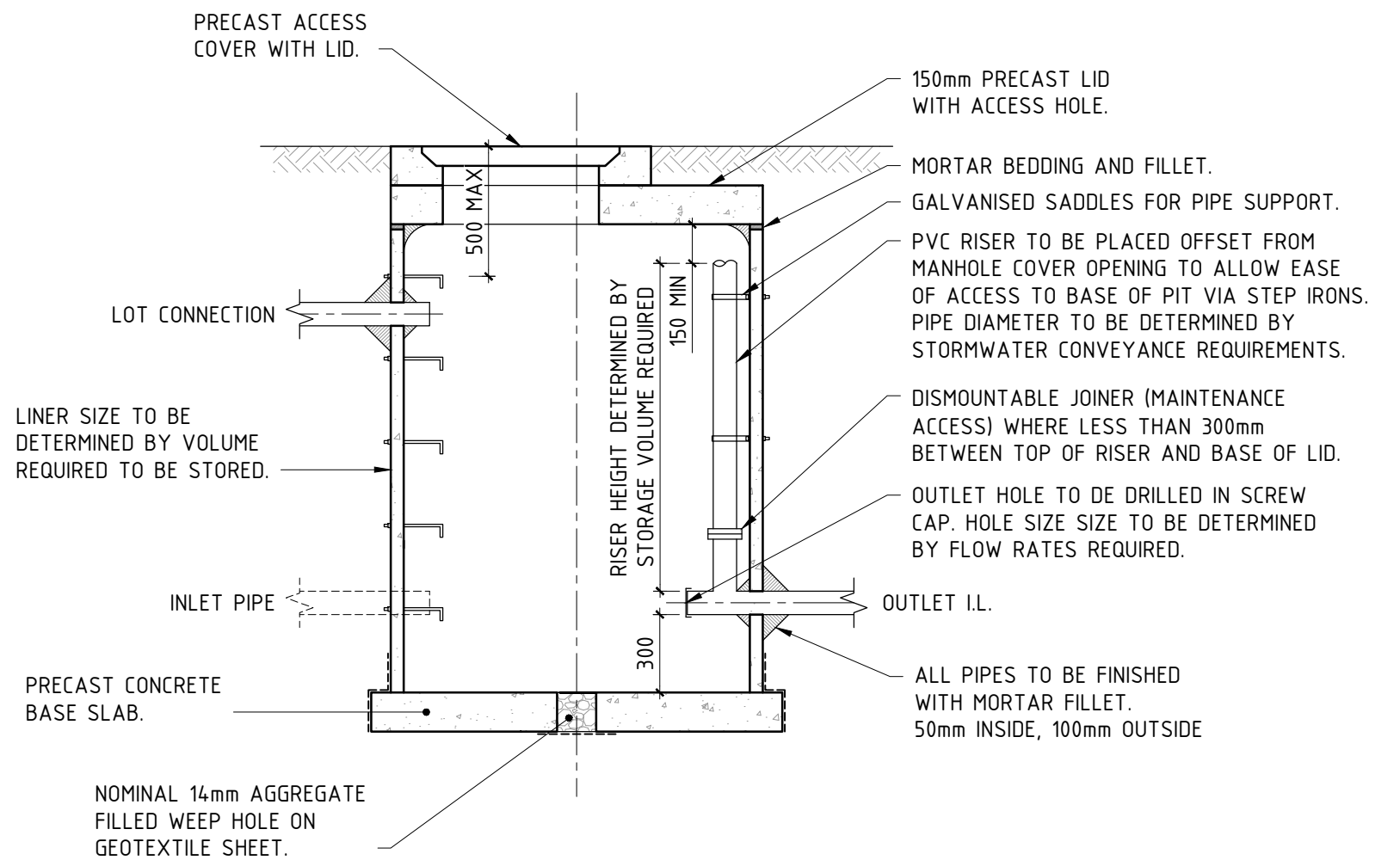
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CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
HOUSE CONNECTION PIT					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:25 @ A3	STD-01-05	0



PLAN



SECTION A-A

## UNDERGROUND ATTENUATION PIT

SCALE: 1:25

NOTE: STEP IRONS TO BE INSTALLED WHERE DEPTH IS GREATER THAN 1000mm FROM COVER TO BASE @300mm CENTRES. BOTTOM STEP 300mm ABOVE BASE.

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		

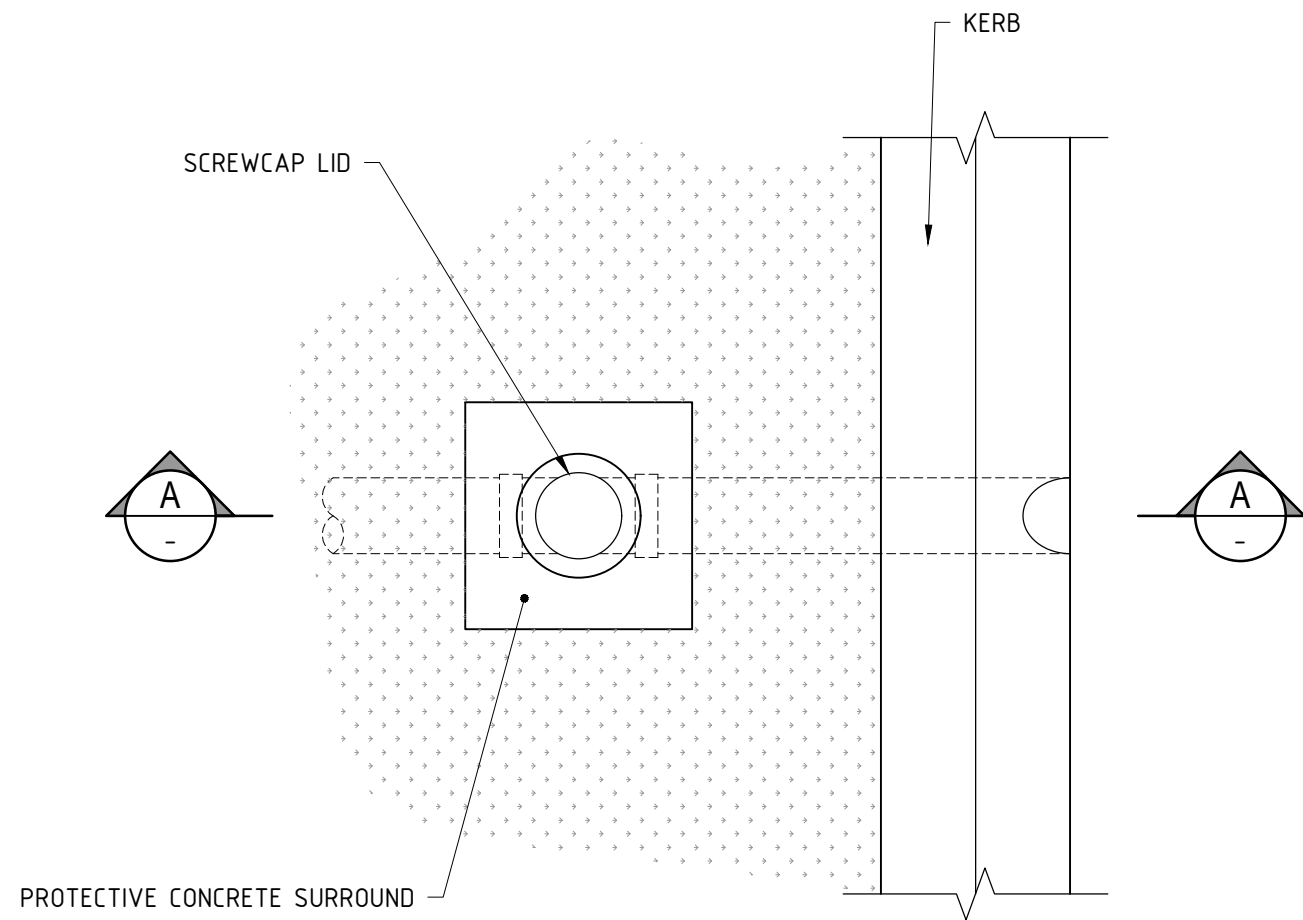


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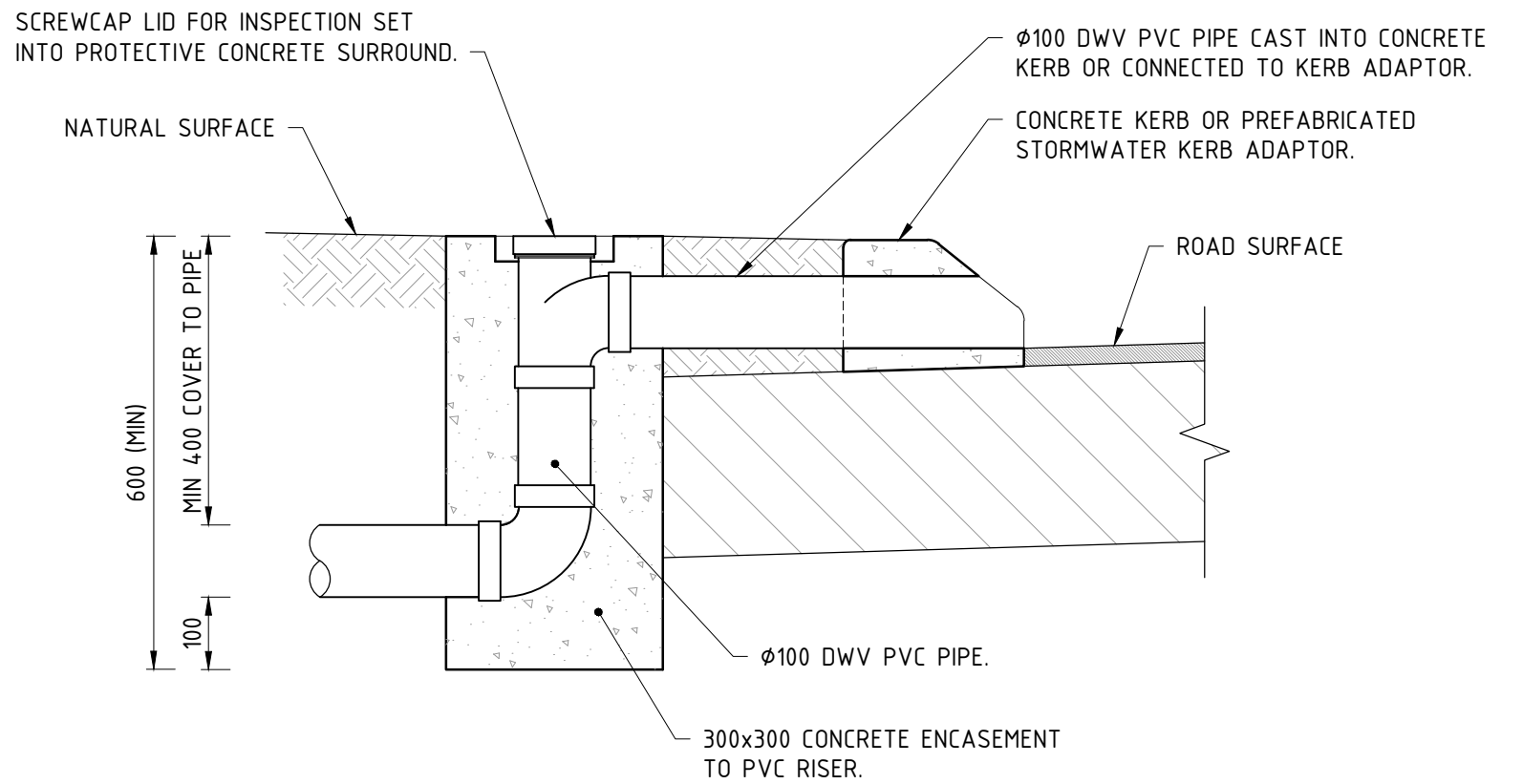
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PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME UNDERGROUND ATTENUATION PIT					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:25 @ A3	STD-01-06	0



**PLAN**



**SECTION A-A**

**KERB OUTLET DETAIL**

SCALE: 1:10

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



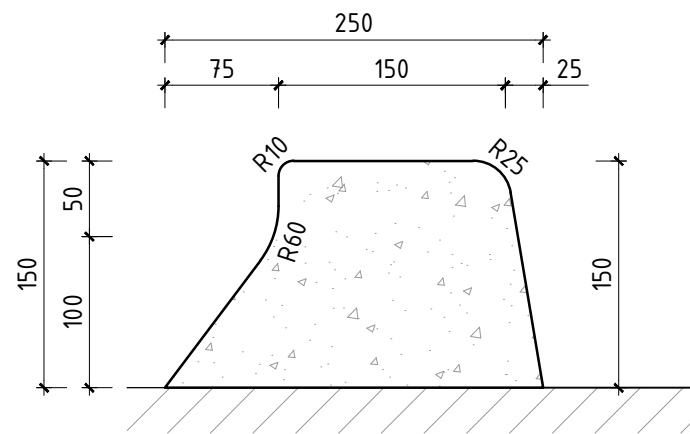
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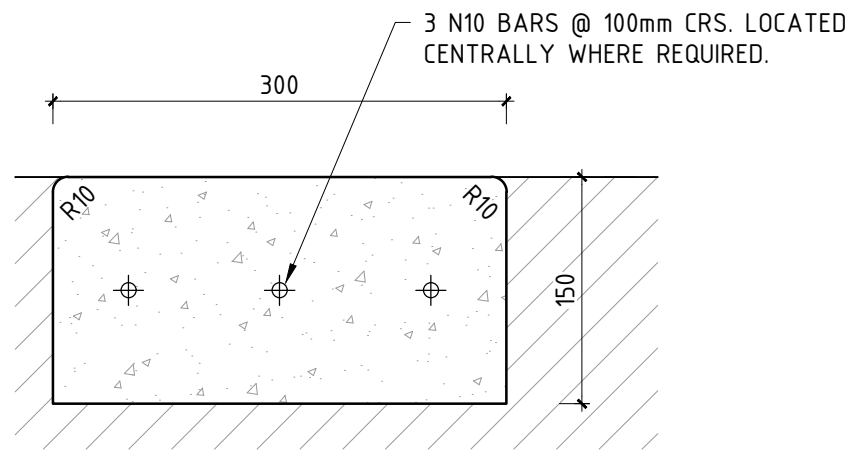
PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
STORMWATER KERB OUTLET					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
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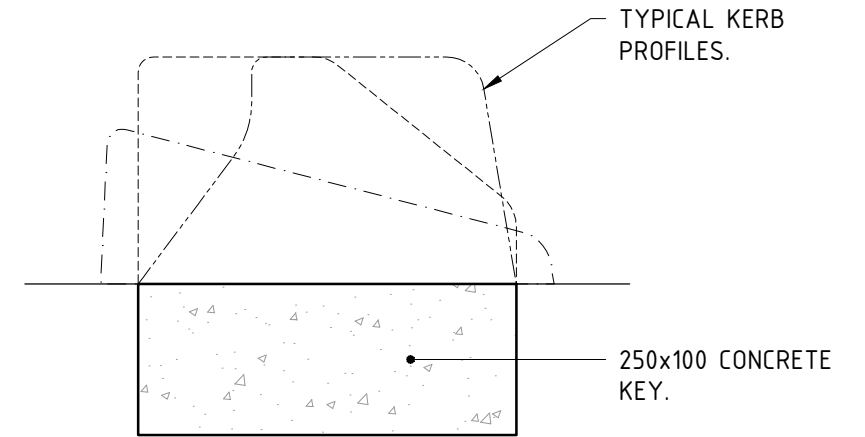
**BARRIER KERB (TYPE 1)**

SCALE: 1:5



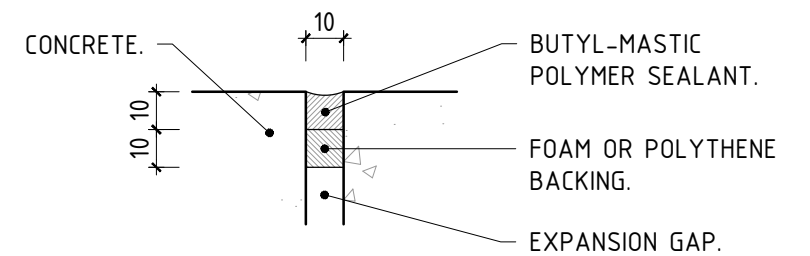
**FLUSH KERB (TYPE 1)**

SCALE: 1:5



**TYPICAL KERB KEYING**

SCALE: 1:5

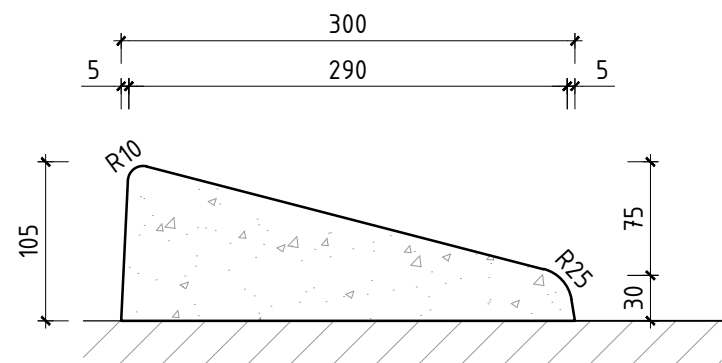


**EXPANSION JOINT DETAIL**

SCALE: 1:2

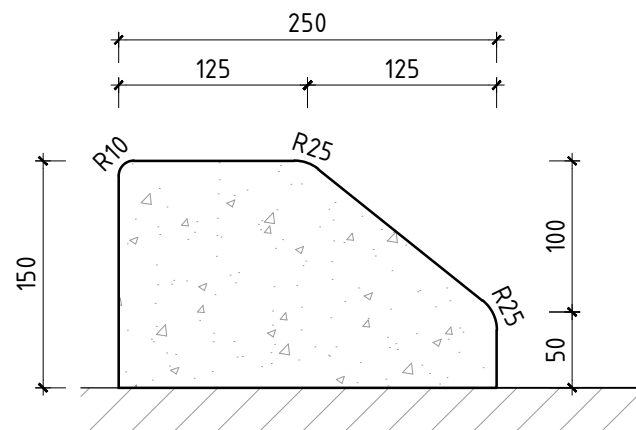
**NOTES:**

1. CONCRETE FOR KERBING SHALL CONFORM TO AS 1379-1991.
2. MINIMUM COMPRESSIVE STRENGTH 25MPa AT 28 DAYS.
3. MAXIMUM AGGREGATE SIZE 14mm.
4. MAXIMUM SLUMP 75mm.
5. KEYED KERBING SHALL BE PROVIDED WHERE RADIUS OF CURVATURE IS LESS THAN 40m.
6. ALL TYPE 1 MOUNTABLE KERB TO BE KEYED.
7. CONTRACTION JOINTS SHALL BE PROVIDED AT 2.0m CENTRES CONSISTING OF A GROOVE TROWELLED INTO THE CONCRETE SURFACE.
8. EVERY ALTERNATE JOINT SHALL BE AN EXPANSION JOINT AND SHALL CONSIST OF A FOAM FILLED, MASTIC GAP, 10mm WIDE CUT TO THE FULL DEPTH OF THE KERB.



**MOUNTABLE KERB (TYPE 1)**

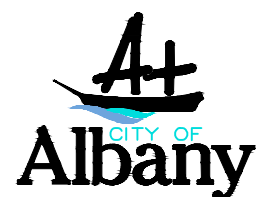
SCALE: 1:5



**SEMI-MOUNTABLE KERB (TYPE 1)**

SCALE: 1:5

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



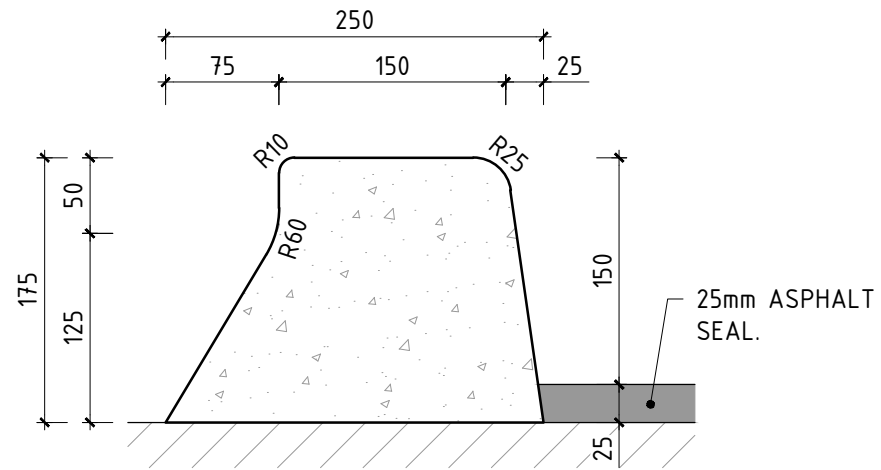
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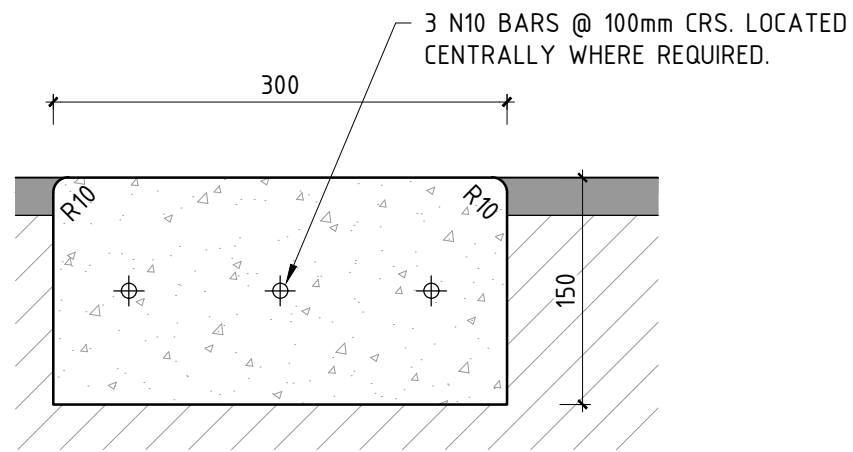
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PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
TYPE 1 KERB PROFILES - 2 COAT SEAL					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:25 @ A3	STD-02-01	0



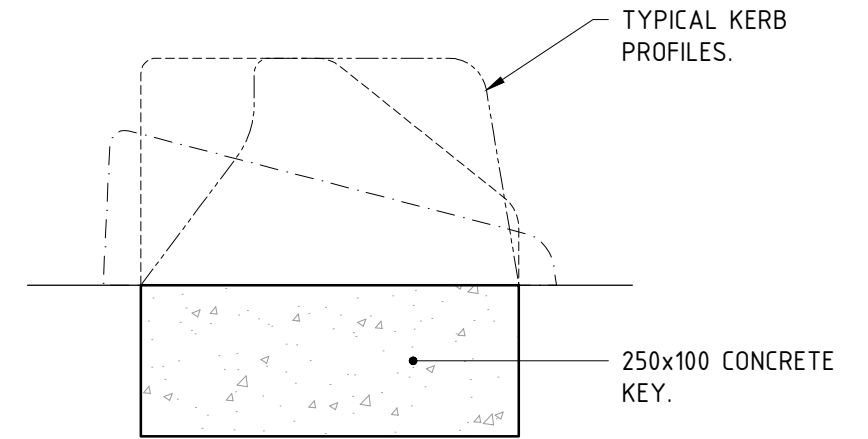
**BARRIER KERB (TYPE 2)**

SCALE: 1:5



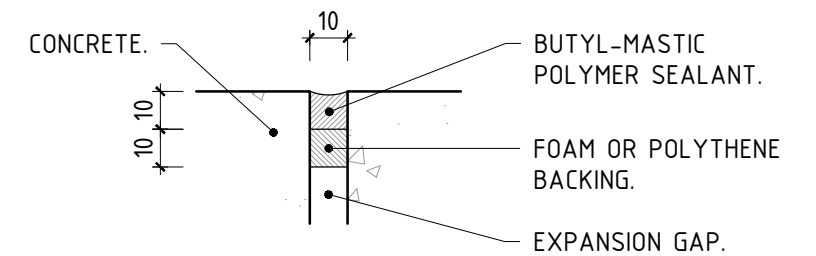
**FLUSH KERB (TYPE 2)**

SCALE: 1:5



**TYPICAL KERB KEYING**

SCALE: 1:5

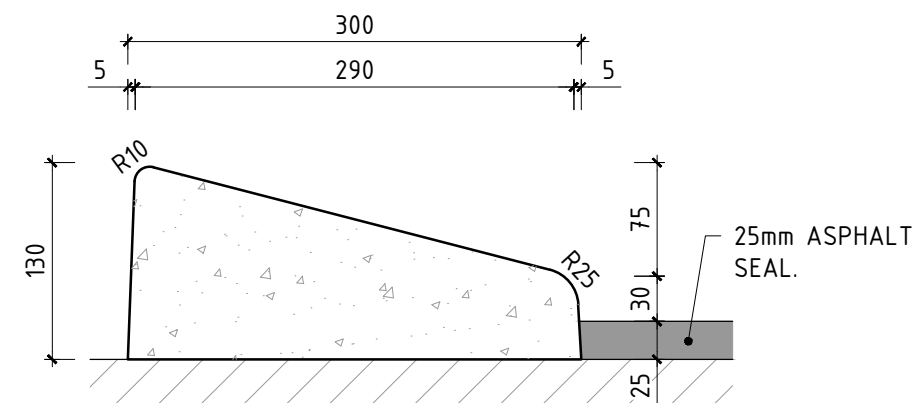


**EXPANSION JOINT DETAIL**

SCALE: 1:2

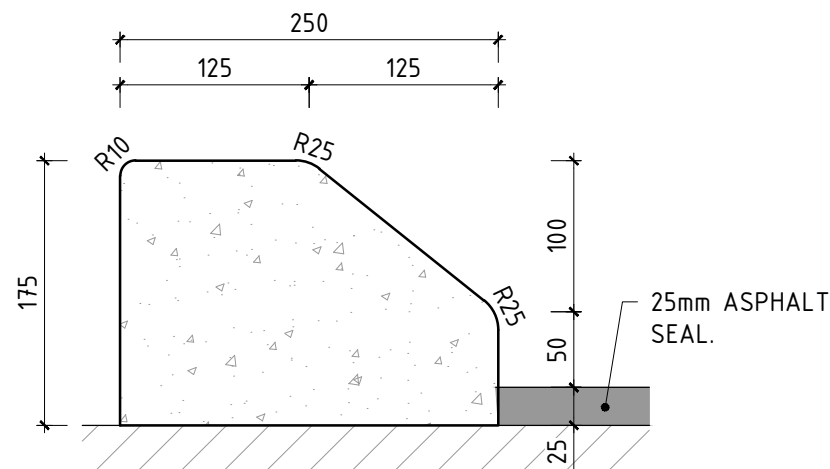
**NOTES:**

1. CONCRETE FOR KERBING SHALL CONFORM TO AS 1379-1991.
2. MINIMUM COMPRESSIVE STRENGTH 25MPa AT 28 DAYS.
3. MAXIMUM AGGREGATE SIZE 14mm.
4. MAXIMUM SLUMP 75mm.
5. KEYED KERBING SHALL BE PROVIDED WHERE RADIUS OF CURVATURE IS LESS THAN 40m.
6. CONTRACTION JOINTS SHALL BE PROVIDED AT 2.0m CENTRES CONSISTING OF A GROOVE TROWELLED INTO THE CONCRETE SURFACE.
7. EVERY ALTERNATE JOINT SHALL BE AN EXPANSION JOINT AND SHALL CONSIST OF A FOAM FILLED, MASTIC GAP, 10mm WIDE CUT TO THE FULL DEPTH OF THE KERB.



**MOUNTABLE KERB (TYPE 2)**

SCALE: 1:5



**SEMI-MOUNTABLE KERB (TYPE 2)**

SCALE: 1:5

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



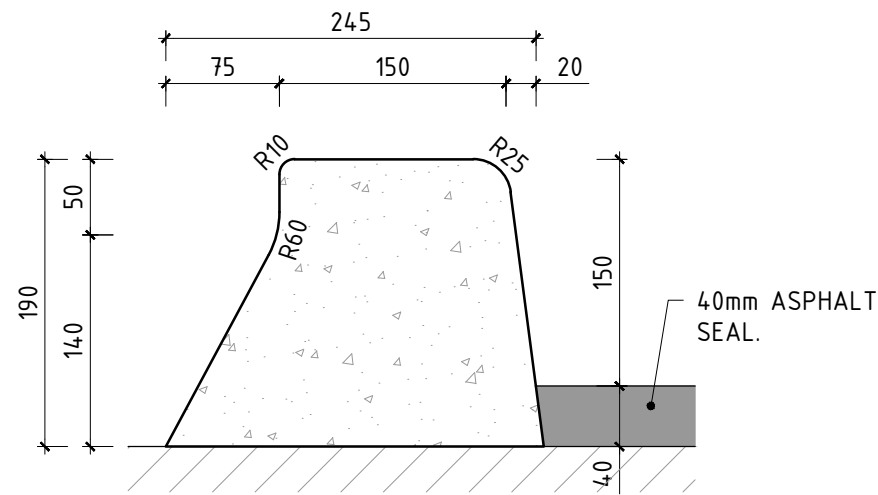
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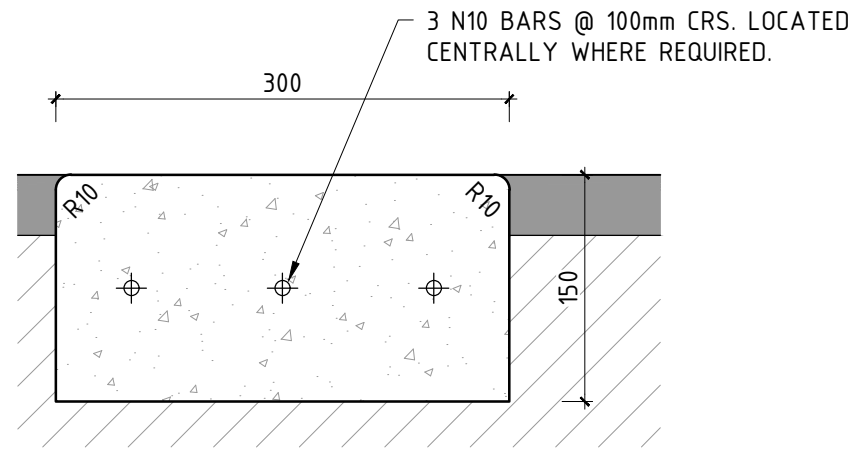
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PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
TYPE 2 KERB PROFILES - 25mm ASPHALT					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:25 @ A3	STD-02-02	0



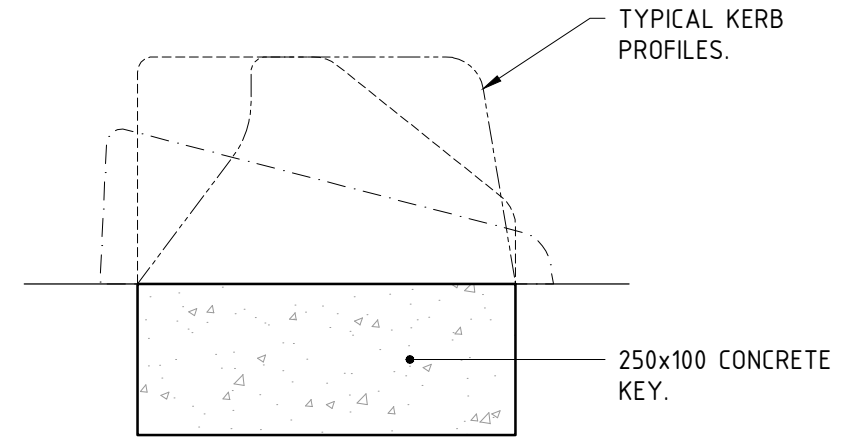
**BARRIER KERB (TYPE 3)**

SCALE: 1:5



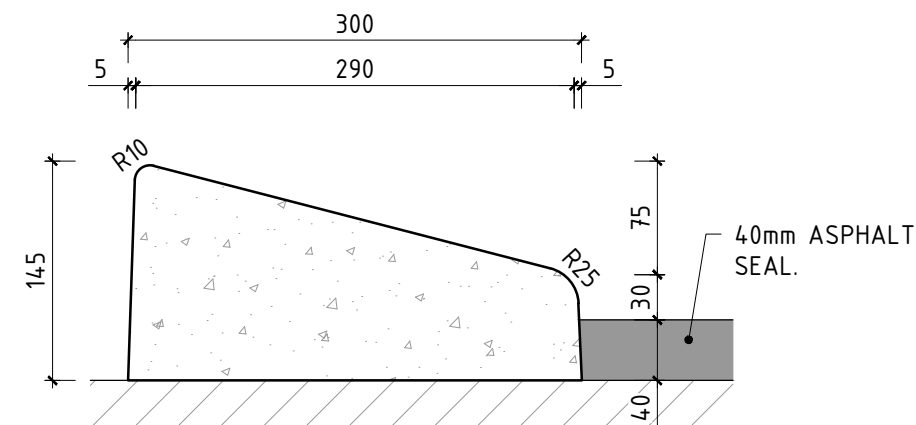
**FLUSH KERB (TYPE 3)**

SCALE: 1:5



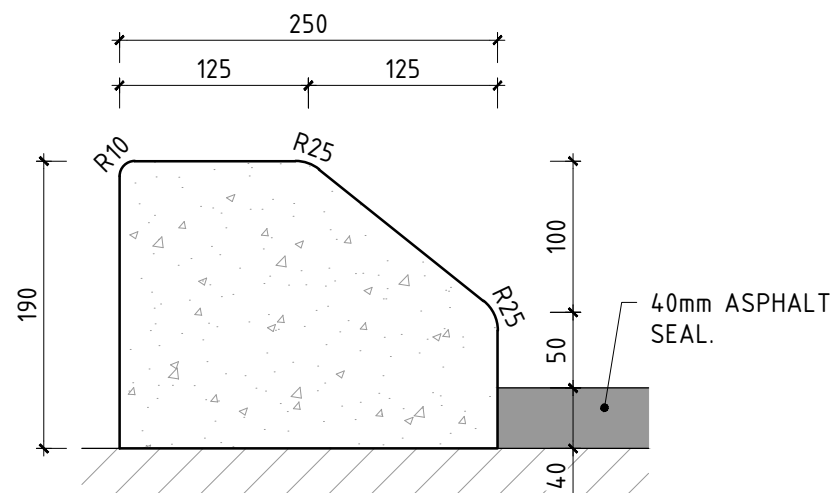
**TYPICAL KERB KEYING**

SCALE: 1:5



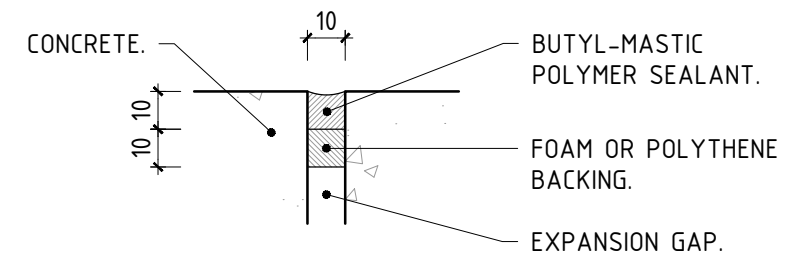
**MOUNTABLE KERB (TYPE 3)**

SCALE: 1:5



**SEMI-MOUNTABLE KERB (TYPE 3)**

SCALE: 1:5



**EXPANSION JOINT DETAIL**

SCALE: 1:2

**NOTES:**

1. CONCRETE FOR KERBING SHALL CONFORM TO AS 1379-1991.
2. MINIMUM COMPRESSIVE STRENGTH 25MPa AT 28 DAYS.
3. MAXIMUM AGGREGATE SIZE 14mm.
4. MAXIMUM SLUMP 75mm.
5. KEYED KERBING SHALL BE PROVIDED WHERE RADIUS OF CURVATURE IS LESS THAN 40m.
6. CONTRACTION JOINTS SHALL BE PROVIDED AT 2.0m CENTRES CONSISTING OF A GROOVE TROWELLED INTO THE CONCRETE SURFACE.
7. EVERY ALTERNATE JOINT SHALL BE AN EXPANSION JOINT AND SHALL CONSIST OF A FOAM FILLED, MASTIC GAP, 10mm WIDE CUT TO THE FULL DEPTH OF THE KERB.

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



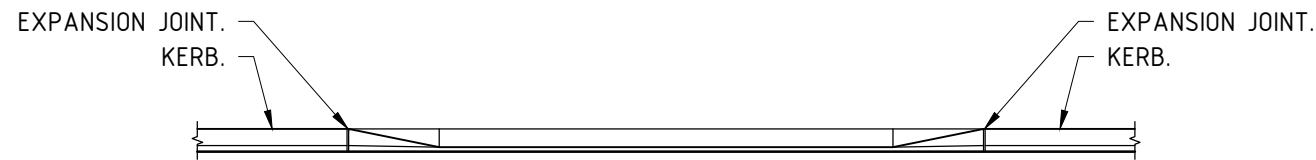
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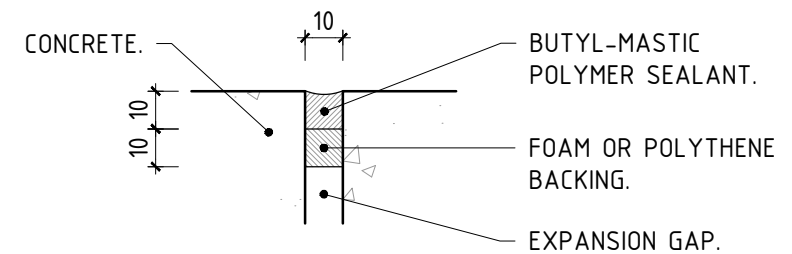
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PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
TYPE 3 KERB PROFILES - 40mm ASPHALT					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:25 @ A3	STD-02-03	0



**ELEVATION**

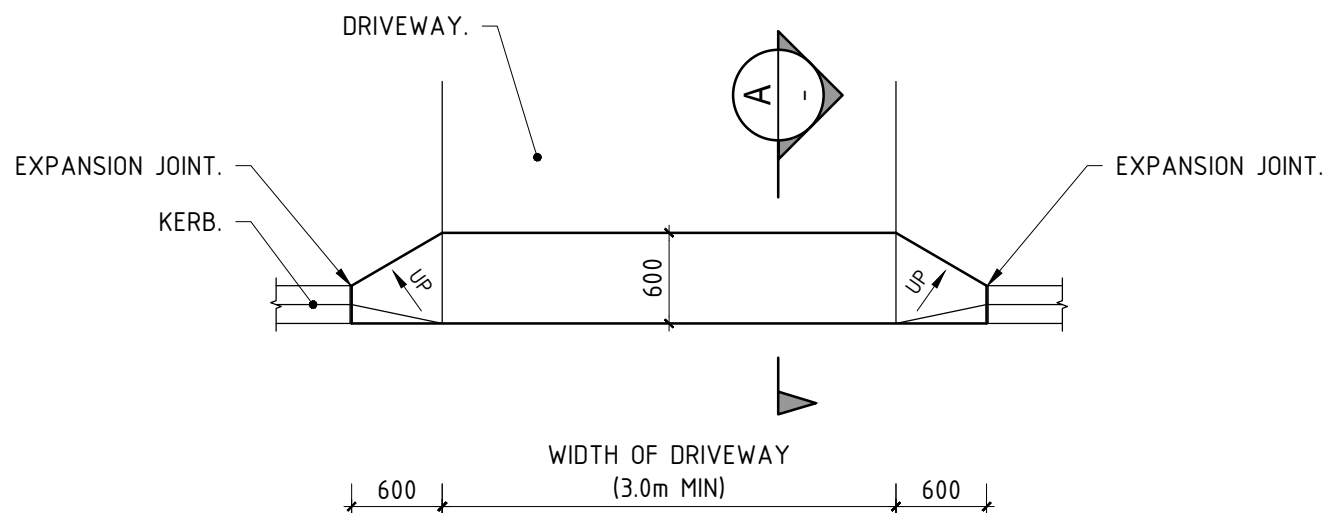


**EXPANSION JOINT DETAIL**

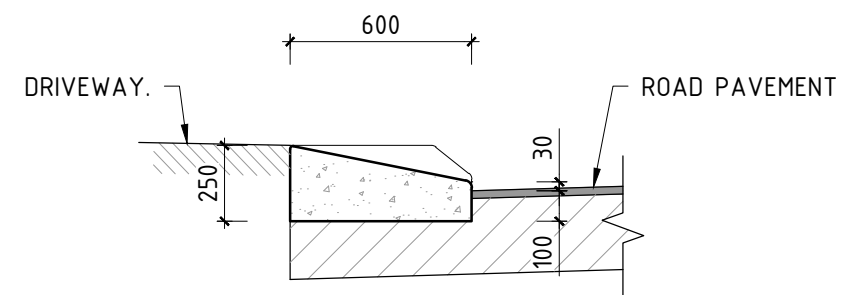
SCALE: 1:2

**NOTES:**

1. CONCRETE STRENGTH TO BE 25MPa COMPRESSIVE STRENGTH AT 28 DAYS. MAXIMUM AGGREGATE SIZE 14mm AND SLUMP OF 75mm.
2. CONCRETE APRON TO HAVE A DEEP BROOM FINISH (2mm) WITH A SMOOTH EDGE APPROX 75mm WIDE AT EDGES AND EXPANSION JOINTS.
3. EXPANSION JOINT PACKING MATERIAL TO EXTEND 50MM BELOW BASE OF PATH AND 10MM OUT OF SIDES TO ENSURE COMPLETE SEPARATION OF PANELS.
4. F62 STEEL REINFORCING MESH REQUIRED IN COMMERCIAL/INDUSTRIAL & HEAVY INDUSTRIAL APRONS ONLY. REFER TO CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWING STD-05-01 FOR CROSSOVER DETAILS.



**PLAN**



**SECTION A**

SCALE: 1:25

**CONCRETE APRON**

SCALE: 1:50

NOTE: CONCRETE APRONS ARE NOT REQUIRED IN AREAS WHERE MOUNTABLE KERBING HAS BEEN USED.

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



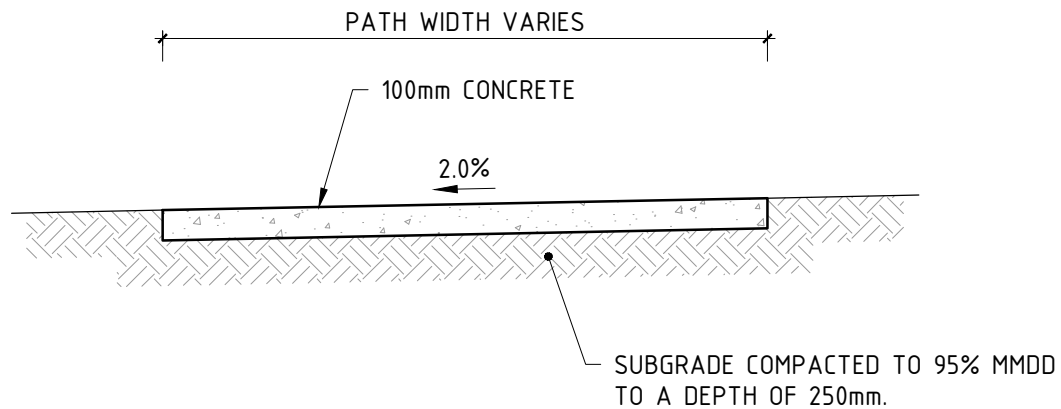
102 NORTH ROAD, YAKAMIA WA 6330  
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 Fax: (08) 9841 4099  
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 Website: www.albany.wa.gov.au

**CONSTRUCTION ISSUE**

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		JLP

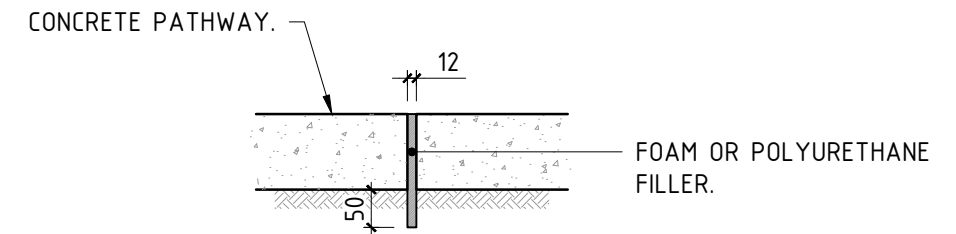
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PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
CONCRETE APRON					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:25 @ A3	STD-02-04	0



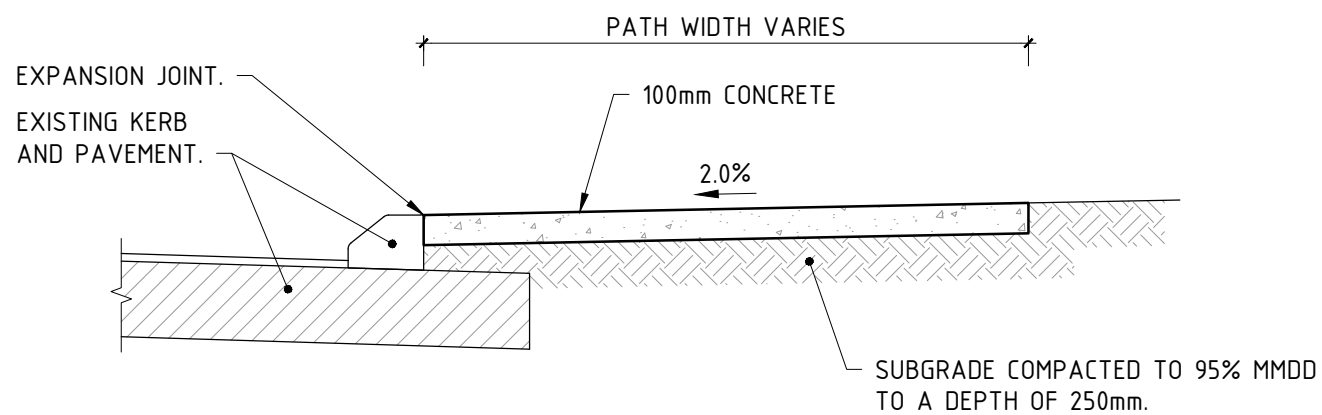
### TYPICAL CONCRETE PATHWAY

SCALE: 1:25



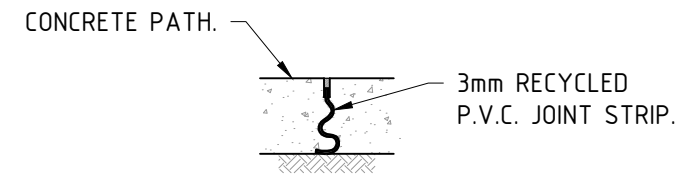
### PATHWAY EXPANSION JOINT DETAIL

SCALE: 1:10



### TYPICAL CONCRETE PATHWAY TO BACK OF KERB

SCALE: 1:25



### LOCK JOINT DETAIL

SCALE: 1:10

#### NOTES:

1. CONCRETE STRENGTH TO 25Mpa COMPRESSIVE STRENGTH AT 28 DAYS. MAXIMUM AGGREGATE SIZE 14mm AND MAX SLUMP OF 75mm.
2. PATHWAY TO HAVE A DEEP BROOM FINISH (2mm) WITH A SMOOTH EDGE APPROX 75mm WIDE AT EDGES AND EXPANSION JOINTS. THERE IS TO BE NO SMOOTH EDGE AT LOCK JOINTS.
3. LOCK JOINT SPACING NOT TO EXCEED 1.5 x PATHWAY WIDTH.
4. EXPANSION JOINTS TO BE INSTALLED AT 50m SPACING ON STRAIGHTS, AT THE START AND END OF CURVES, WHERE PATH CONNECTS ANOTHER PATH OR KERB, BETWEEN BACK OF KERB AND EDGE OF PATH, AND WHERE PATH ABUTS A BUILDING OR IN-GROUND INFRASTRUCTURE.
5. PATHWAY EXPANSION JOINTS TO ALIGN WITH KERB EXPANSION JOINTS.
6. EXPANSION JOINT PACKING MATERIAL TO EXTEND 50mm BELOW BASE OF PATH AND 10mm OUT OF SIDES TO ENSURE COMPLETE SEPARATION OF PANELS.

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



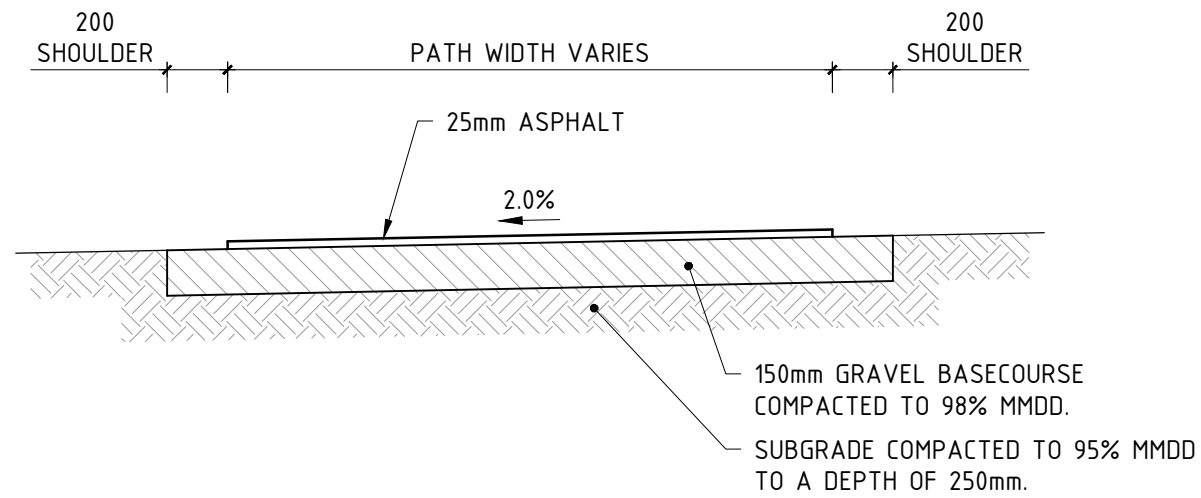
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## CONSTRUCTION ISSUE

AUTHORISED	DESIGNED	DRAWN
		JLP

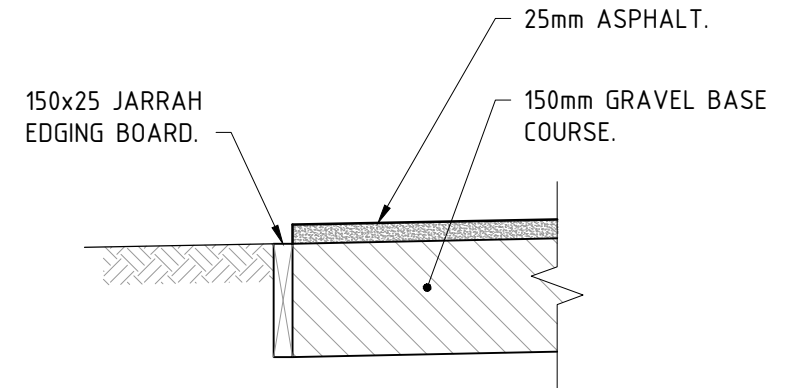
THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
CONCRETE PATHWAY DETAILS					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:25 @ A3	STD-03-01	0



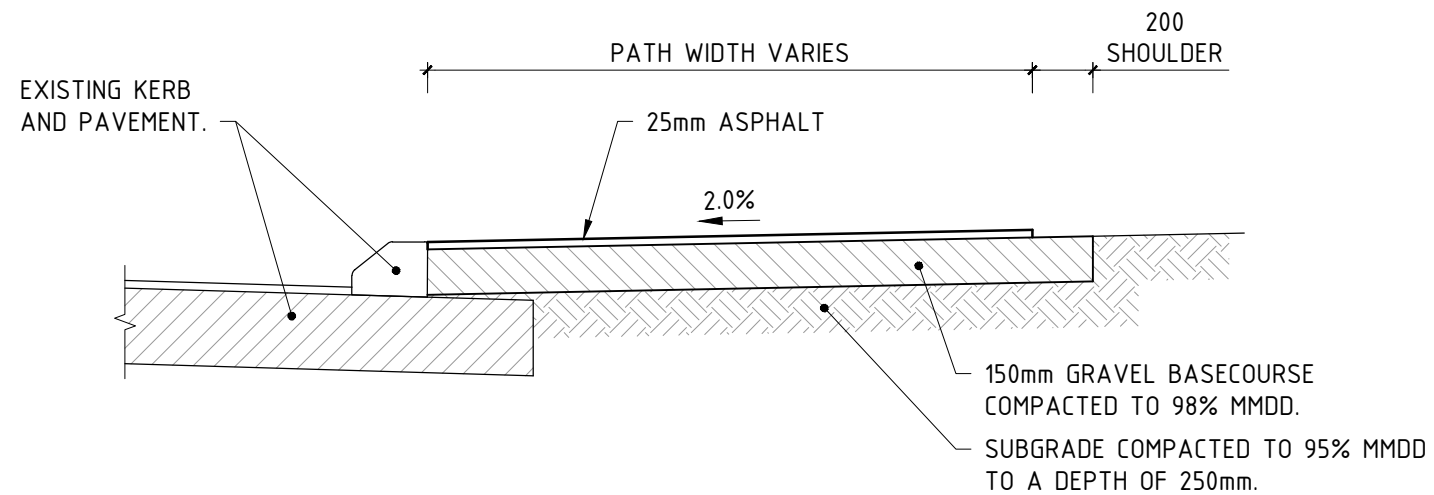
**TYPICAL ASPHALT PATHWAY**

SCALE: 1:25



**TIMBER EDGING DETAIL**

SCALE: 1:10



**TYPICAL ASPHALT PATHWAY  
TO BACK OF KERB**

SCALE: 1:25

**NOTES:**

- ALL BITUMEN PRODUCTS SHALL COMPLY WITH THE FOLLOWING RELEVANT STANDARDS
  - AS2008-1997 RESIDUAL BITUMEN FOR PAVEMENTS.
  - AS2150-2005 HOT MIX ASPHALT - A GUIDE TO GOOD PRACTICE.
  - AS1160-1996 BITUMEN EMULSIONS FOR THE CONSTRUCTION AND MAINTENANCE OF PAVEMENTS.

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



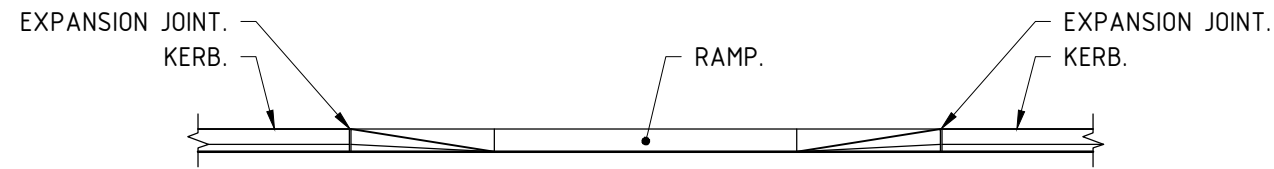
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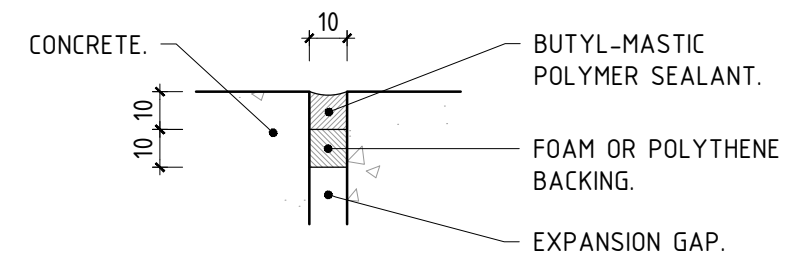
AUTHORISED	DESIGNED	DRAWN
		JLP

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PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
ASPHALT PATHWAY DETAILS					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:25 @ A3	STD-03-02	0



**ELEVATION**

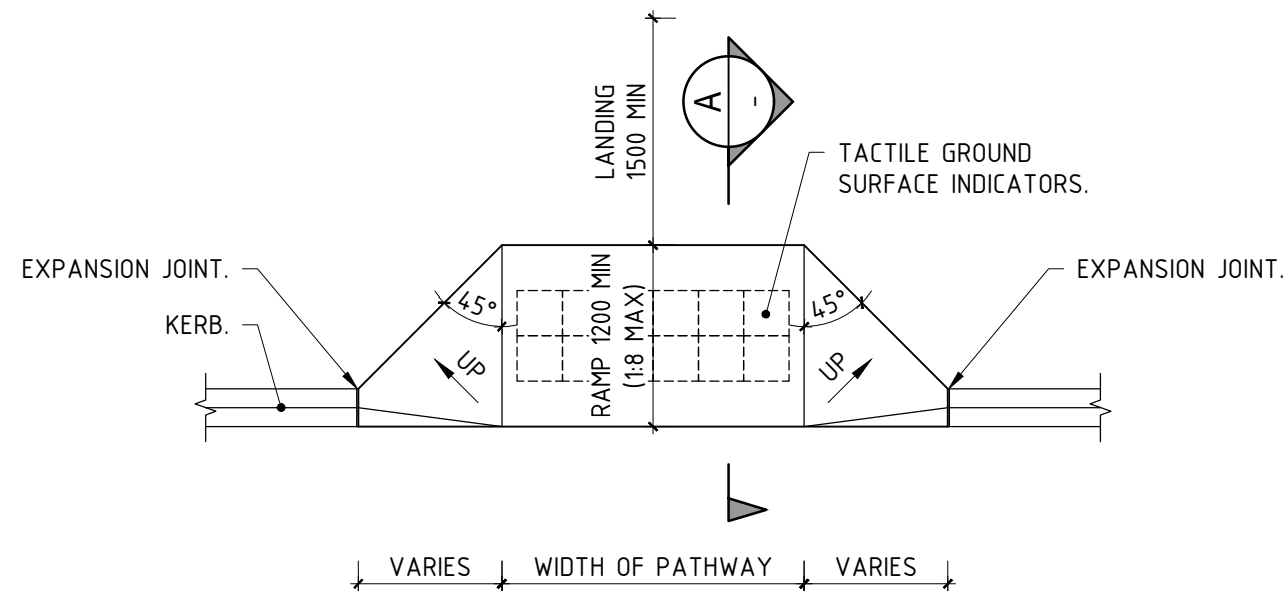


**EXPANSION JOINT DETAIL**

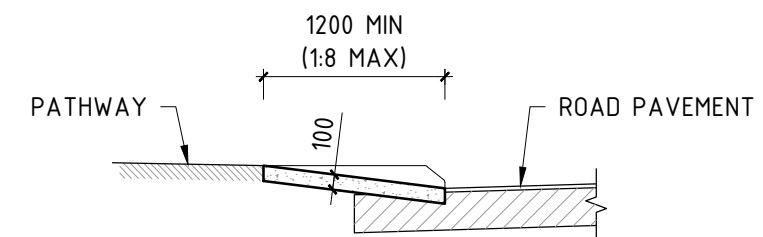
SCALE: 1:2

**NOTES:**

1. THE KERB RAMP SHOULD BE ALIGNED IN THE DIRECTION OF TRAVEL.
2. EDGE OF RAMP SHALL BE FLUSH WITH ROAD PAVEMENT (ASPHALT OR SEAL).
3. CONCRETE STRENGTH TO BE 25MPa COMPRESSIVE STRENGTH AT 28 DAYS. MAXIMUM AGGREGATE SIZE 14mm AND SLUMP OF 75mm.
4. ALL CONCRETE SHALL BE BROOM FINISHED ACROSS THE DIRECTION OF PEDESTRIAN TRAFFIC TO PROVIDE A NON-SLIP FINISH.
5. TACTILE GROUND SURFACE INDICATORS SHOULD BE PROVIDED AND INSTALLED AS PER AS 1428.4.



**PLAN**

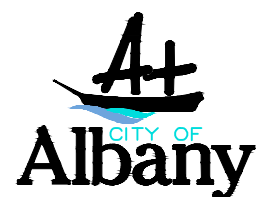


**SECTION A**

**PEDESTRIAN RAMP - TYPE 1**

SCALE: 1:50

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



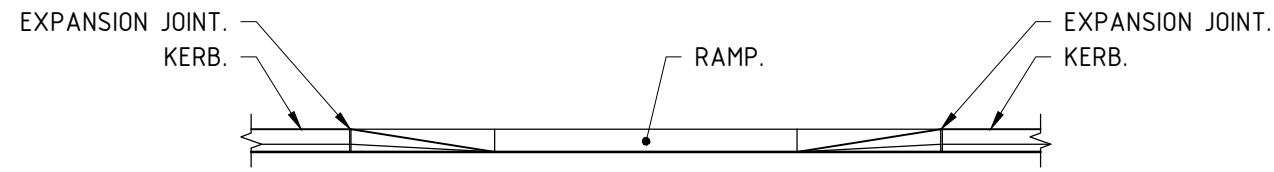
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**CONSTRUCTION ISSUE**

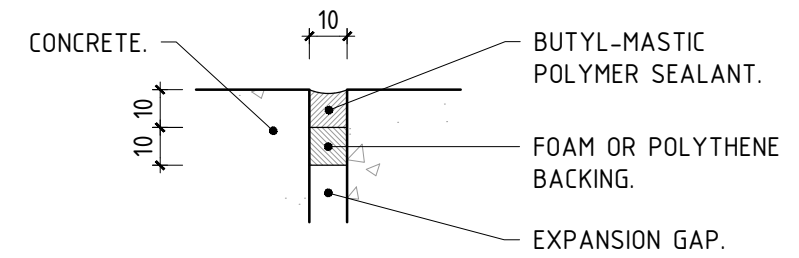
AUTHORISED	DESIGNED	DRAWN
		JLP

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PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
PEDESTRIAN RAMP - TYPE 1					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:50 @ A3	STD-03-03	0



**ELEVATION**

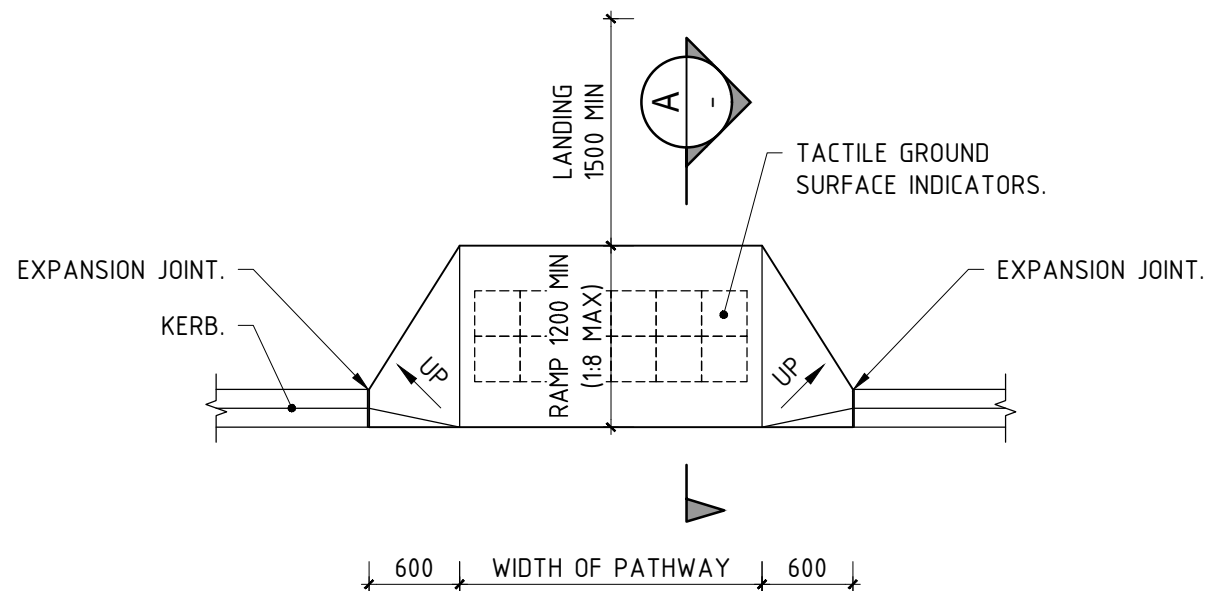


**EXPANSION JOINT DETAIL**

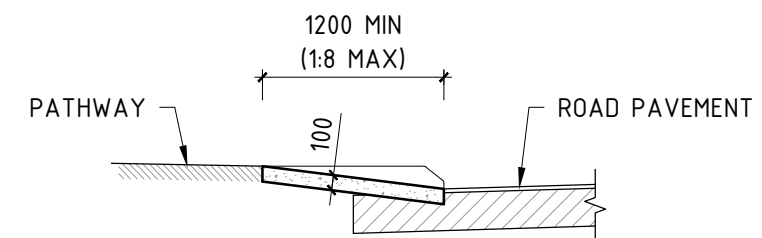
SCALE: 1:2

**NOTES:**

1. THE KERB RAMP SHOULD BE ALIGNED IN THE DIRECTION OF TRAVEL.
2. EDGE OF RAMP SHALL BE FLUSH WITH ROAD PAVEMENT (ASPHALT OR SEAL).
3. CONCRETE STRENGTH TO BE 25MPa COMPRESSIVE STRENGTH AT 28 DAYS. MAXIMUM AGGREGATE SIZE 14mm AND SLUMP OF 75mm.
4. ALL CONCRETE SHALL BE BROOM FINISHED ACROSS THE DIRECTION OF PEDESTRIAN TRAFFIC TO PROVIDE A NON-SLIP FINISH.
5. TACTILE GROUND SURFACE INDICATORS SHOULD BE PROVIDED AND INSTALLED AS PER AS 1428.4.



**PLAN**



**SECTION A**

**PEDESTRIAN RAMP - TYPE 2**

SCALE: 1:50

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



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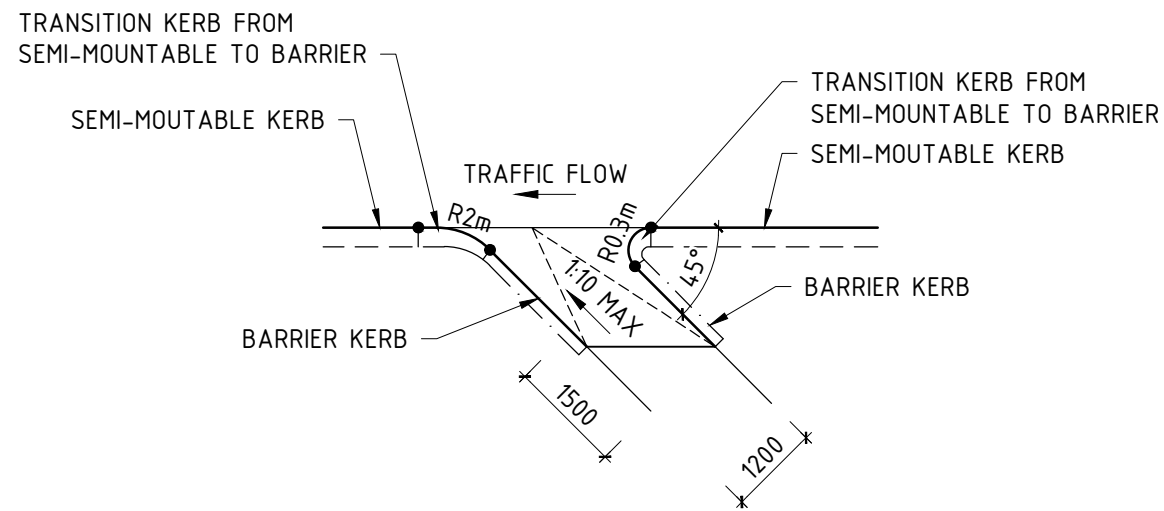
**CONSTRUCTION ISSUE**

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		JLP

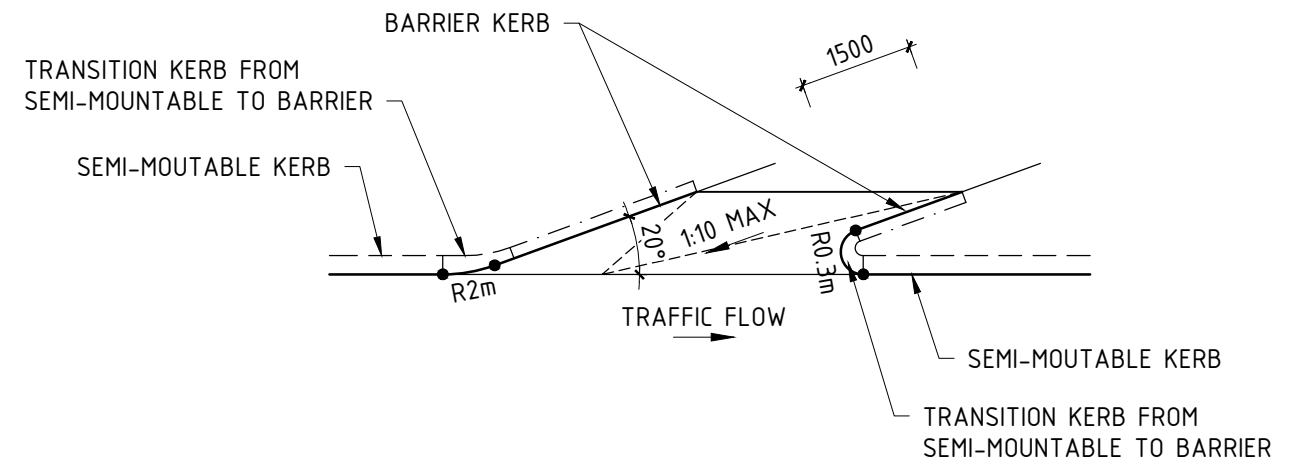
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PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
PEDESTRIAN RAMP - TYPE 2					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:50 @ A3	STD-03-04	0





**BICYCLE ENTRY RAMP**

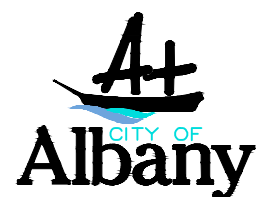


**BICYCLE EXIT RAMP**

**BICYCLE ENTRY & EXIT RAMP DETAILS**

SCALE 1:100

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		

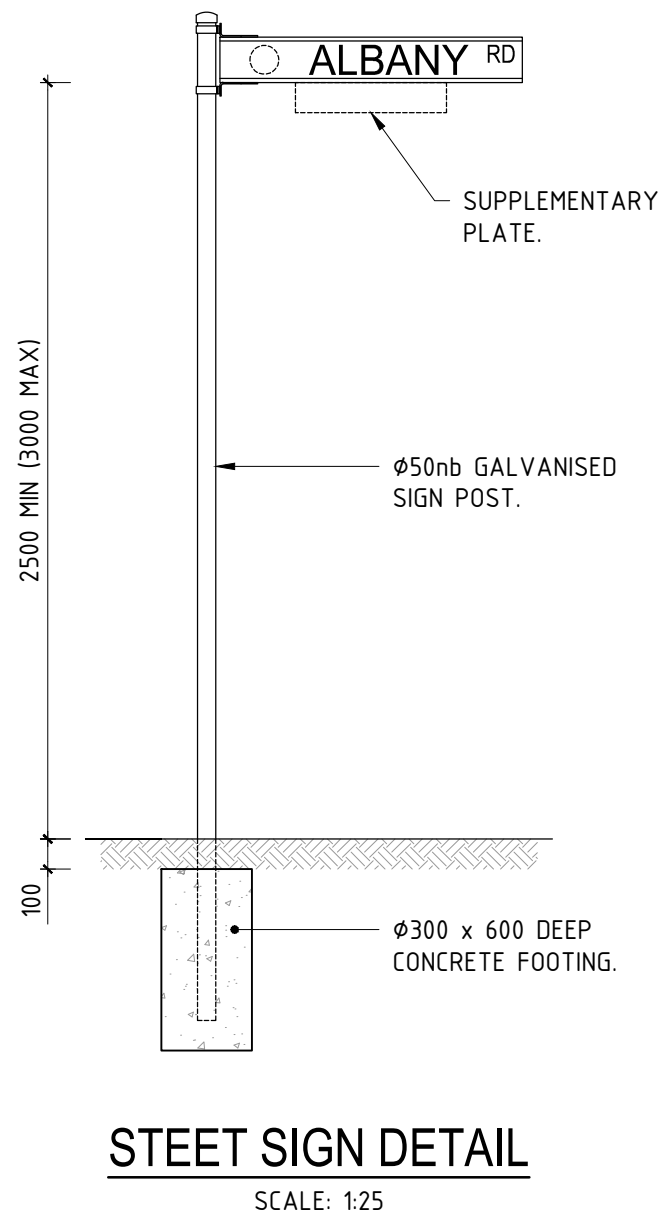
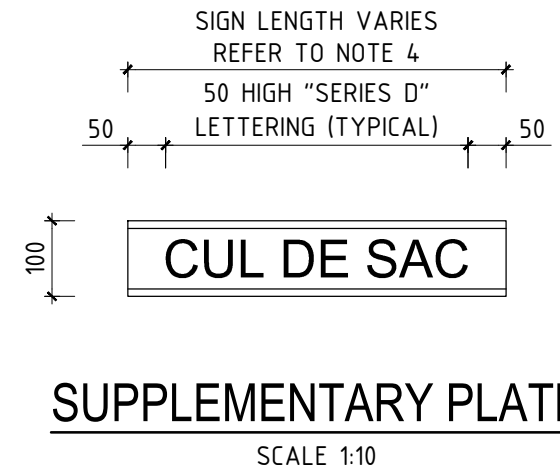
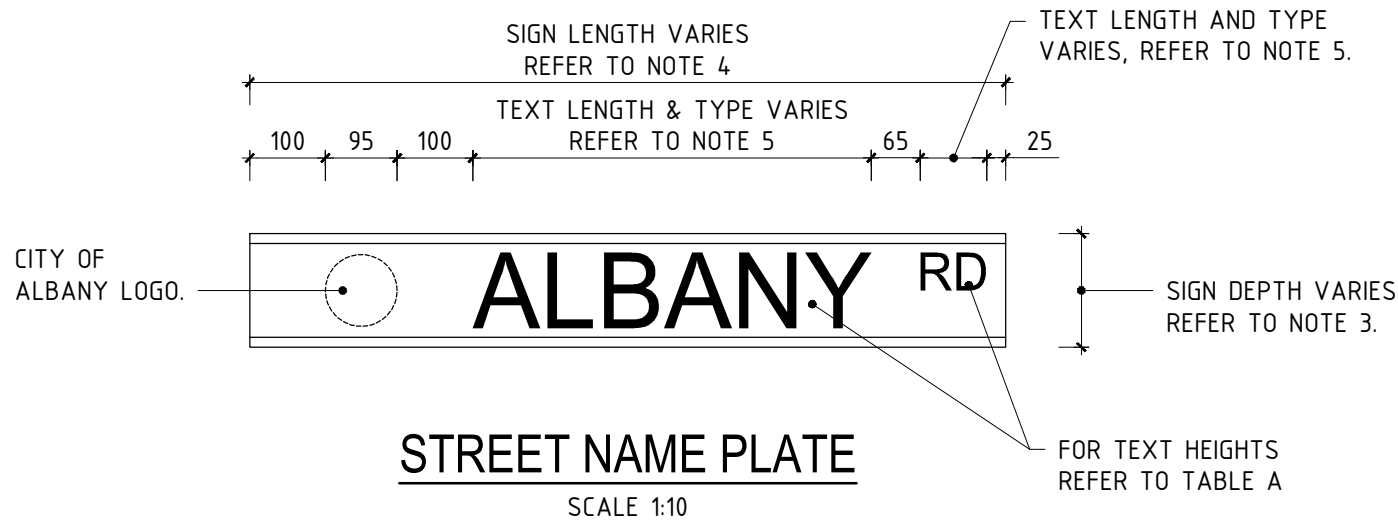


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**CONSTRUCTION ISSUE**

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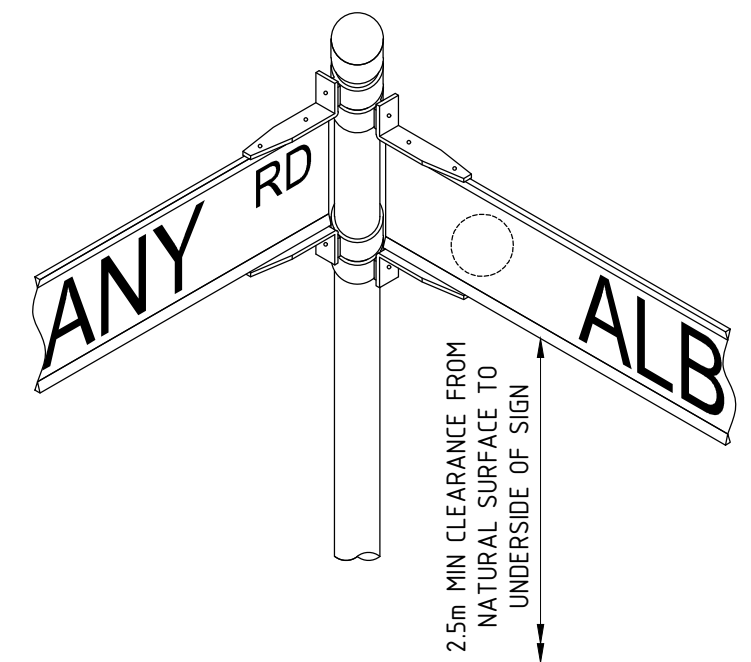
PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
BICYCLE ENTRY & EXIT RAMP DETAILS					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:100 @ A3	STD-03-05	0



**GENERAL NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
2. ALL SIGN PLATES SHALL BE CONSTRUCTED FROM NON-CORROSIVE ALUMINIUM EXTRUSIONS WITH A THICKNESS OF NO LESS THAN 3mm. SIGNS SHALL BE RECTANGULAR WITH THE LONG AXIS HORIZONTAL. WORDS SHALL BE WRITTEN HORIZONTALLY. ENDS SHALL BE CUT SQUARE.
3. MINIMUM DEPTH OF SIGNBOARD TO BE 150mm ON ROADS WHERE SPEEDS ARE LESS THAN 70km/h. WHERE SPEEDS ARE GREATER A MINIMUM DEPTH OF 200mm IS TO BE USED.
4. THE MINIMUM LENGTH OF STREET NAME SIGNS SHALL BE 500mm AND THE MAXIMUM LENGTHS SHALL BE, 1200mm FOR SINGLE POST END-MOUNTED, 1800mm FOR CENTRE-MOUNTED AND 2000mm FOR TWO-POST MOUNTED.
5. LETTERS FOR THE STREET NAME AND ALL LEGENDS ON THE SUPPLEMENTARY PLATES SHALL BE SERIES D, AS SPECIFIED IN AS 1744, EXCEPT THAT WHERE THIS WOULD OTHERWISE RESULT IN AN OVERLENGTH SIGN, THE SIGN SHALL NOT BE LENGTHENED BUT THE LETTERING MAY BE MADE PROPORTIONALLY NARROWER TO FIT THE AVAILABLE LENGTH. LETTERS SHALL BE NOT BE NARROWER THAN SERIES C.
6. SIGN COLOUR CODE SHALL BE BLACK LETTERING ON A WHITE REFLECTIVE BACKGROUND. MIN DEPTH OF REFLECTORIZED SECTION OF THE SIGN SHALL BE AT LEAST 130mm.
7. SIGNS TO BE FIXED TO STREET LIGHTS OR POLES WHERE POSSIBLE.

TRAFFIC SPEED	STREET NAME LETTER HEIGHT	STREET TYPE LETTER HEIGHT
LESS THAN 70km/h	100	50
GREATER THAN 70km/h	130	65



REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



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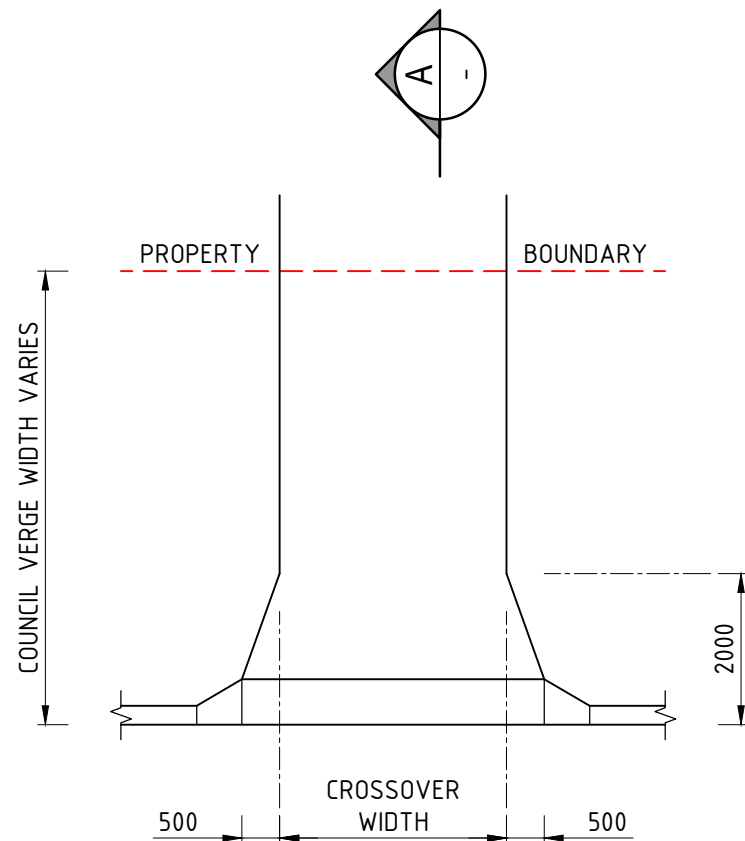
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		JLP

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PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
STREET NAME SIGNS					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	1:25 @ A3	STD-04-01	0

CROSSOVER CONSTRUCTION DETAILS					
CROSSOVER TYPE	CONCRETE THICKNESS	CONCRETE STRENGTH	MESH TYPE	SUB-BASE THICKNESS ON SAND	SUB-BASE THICKNESS ON CLAY
DOMESTIC	100mm	20MPa	-	75mm	100mm
COMMERCIAL/INDUSTRIAL	150mm	25MPa	F62	100mm	125mm
HEAVY INDUSTRIAL	200mm	25MPa	F62	125mm	150mm

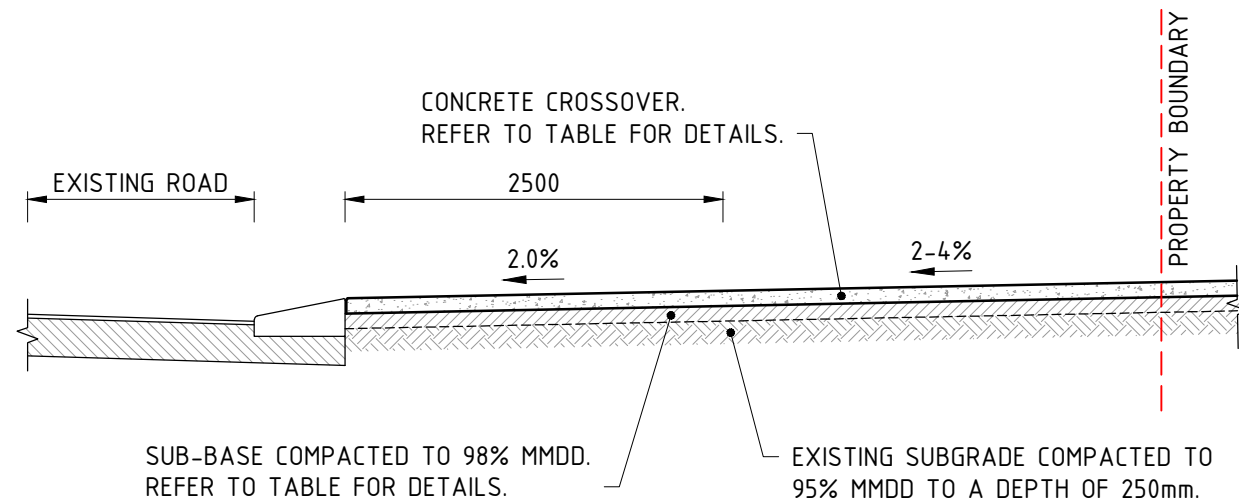
ALLOWABLE CROSSOVER DIMENSIONS			
CROSSOVER CLASS	MINIMUM WIDTH @ BOUNDARY	MAXIMUM WIDTH @ BOUNDARY	MAXIMUM WIDTH @ ROAD
1 OR 2 DWELLINGS ON A SINGLE LOT	3.0m	6.0m	7.0m
SINGLE RESIDENTIAL ON HIGHWAY OR MRD	3.0m	6.0m	7.0m
GROUPED DWELLINGS 3 OR MORE	3.0m	7.5m	7.5m
COMMERCIAL	5.5m	7.5m	7.5m
LIGHT INDUSTRIAL	5.5m	7.5m	7.5m
HEAVY INDUSTRIAL	6.0m	10.0m	10.0m
SERVICE STATIONS	7.5m	10.0m	10.0m



**PLAN**  
SCALE: 1:100

**NOTES:**

- CROSSOVER TO GRADE UP @ 2.0% FROM BACK OF CONCRETE APRON OR MOUNTABLE KERB FOR A DISTANCE OF 2.5m.
- FOR CROSSOVERS CONSTRUCTED ON NON KERBED ROADS ASSUME KERB IN PLACE WHEN ESTABLISHING LEVELS.
- WHERE THERE IS AN EXISTING PATHWAY IN VERGE REFER TO THE SPECIFICATION FOR DETAILS.
- FOR COMMERCIAL/INDUSTRIAL AND HEAVY INDUSTRIAL CROSSOVERS CONCRETE APRONS ARE TO BE REINFORCED WITH F62 MESH.
- FOR CROSSOVERS THAT DO NOT CONFORM TO THESE STANDARD LEVELS CONTACT CITY OF ALBANY FOR FURTHER DETAILS.



**SECTION A-A**  
SCALE: 1:50

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



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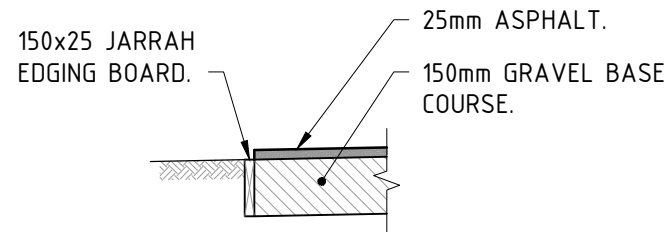
**CONSTRUCTION ISSUE**

AUTHORISED	DESIGNED	DRAWN
		JLP

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PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
STANDARD CROSSOVER - CONCRETE					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	AS SHOWN	STD-05-01	0

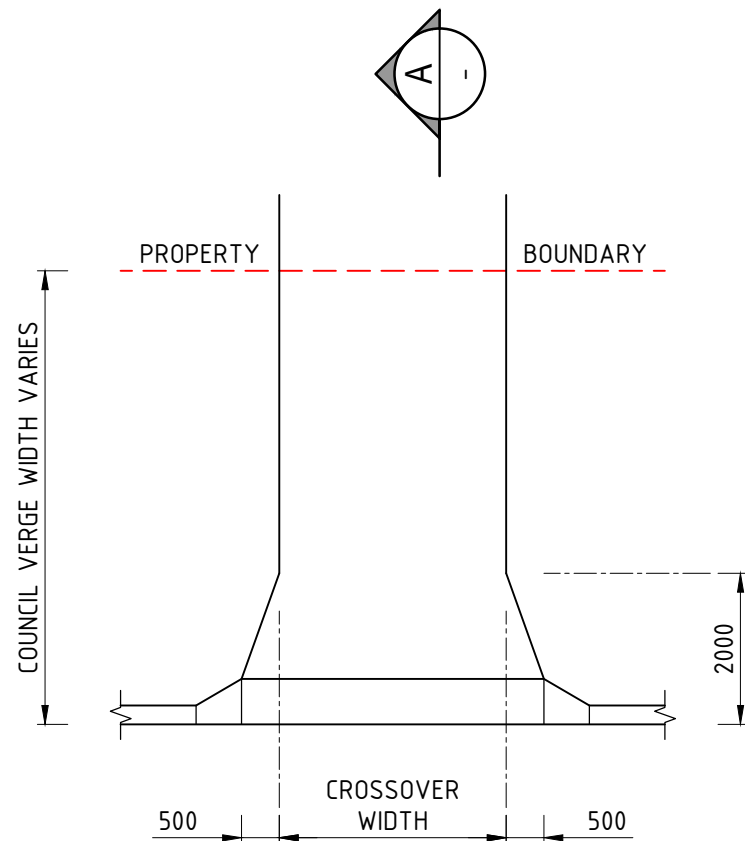
CROSSOVER CONSTRUCTION DETAILS		
CROSSOVER TYPE	SUB-BASE THICKNESS ON SAND	SUB-BASE THICKNESS ON CLAY
DOMESTIC	75mm	100mm
COMMERCIAL/INDUSTRIAL	100mm	125mm
HEAVY INDUSTRIAL	125mm	150mm



### TIMBER EDGING DETAIL

SCALE: 1:20

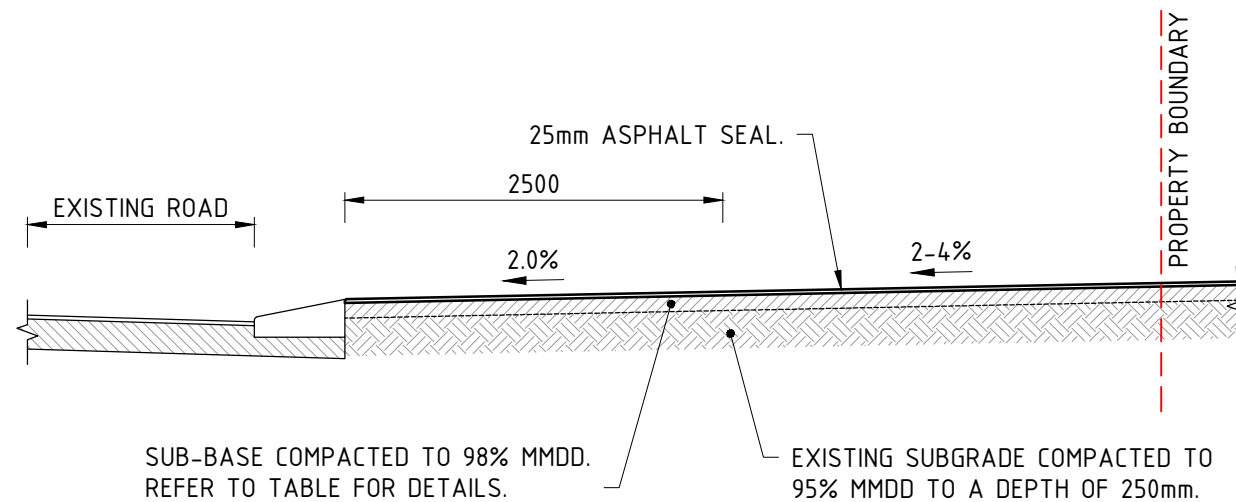
ALLOWABLE CROSSOVER DIMENSIONS			
CROSSOVER CLASS	MINIMUM WIDTH @ BOUNDARY	MAXIMUM WIDTH @ BOUNDARY	MAXIMUM WIDTH @ ROAD
1 OR 2 DWELLINGS ON A SINGLE LOT	3.0m	6.0m	7.0m
SINGLE RESIDENTIAL ON HIGHWAY OR MRD	3.0m	6.0m	7.0m
GROUPED DWELLINGS 3 OR MORE	3.0m	7.5m	7.5m
COMMERCIAL	5.5m	7.5m	7.5m
LIGHT INDUSTRIAL	5.5m	7.5m	7.5m
HEAVY INDUSTRIAL	6.0m	10.0m	10.0m
SERVICE STATIONS	7.5m	10.0m	10.0m



**PLAN**  
SCALE: 1:100

**NOTES:**

- CROSSOVER TO GRADE UP @ 2.0% FROM BACK OF CONCRETE APRON OR MOUNTABLE KERB FOR A DISTANCE OF 2.5m.
- FOR CROSSOVERS CONSTRUCTED ON NON KERBED ROADS ASSUME KERB IN PLACE WHEN ESTABLISHING LEVELS.
- WHERE THERE IS AN EXISTING PATHWAY IN VERGE REFER TO THE SPECIFICATION FOR DETAILS.
- FOR CROSSOVERS THAT DO NOT CONFORM TO THESE STANDARD LEVELS CONTACT CITY OF ALBANY FOR FURTHER DETAILS.



**SECTION A-A**  
SCALE: 1:50

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



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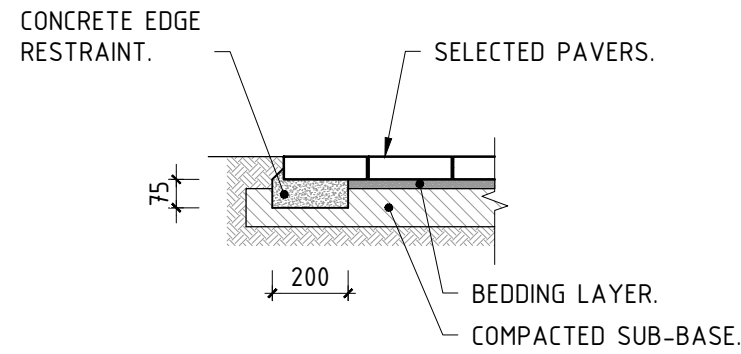
## CONSTRUCTION ISSUE

AUTHORISED	DESIGNED	DRAWN
		JLP

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PROJECT					
CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
STANDARD CROSSOVER - ASPHALT					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	AS SHOWN	STD-05-02	0

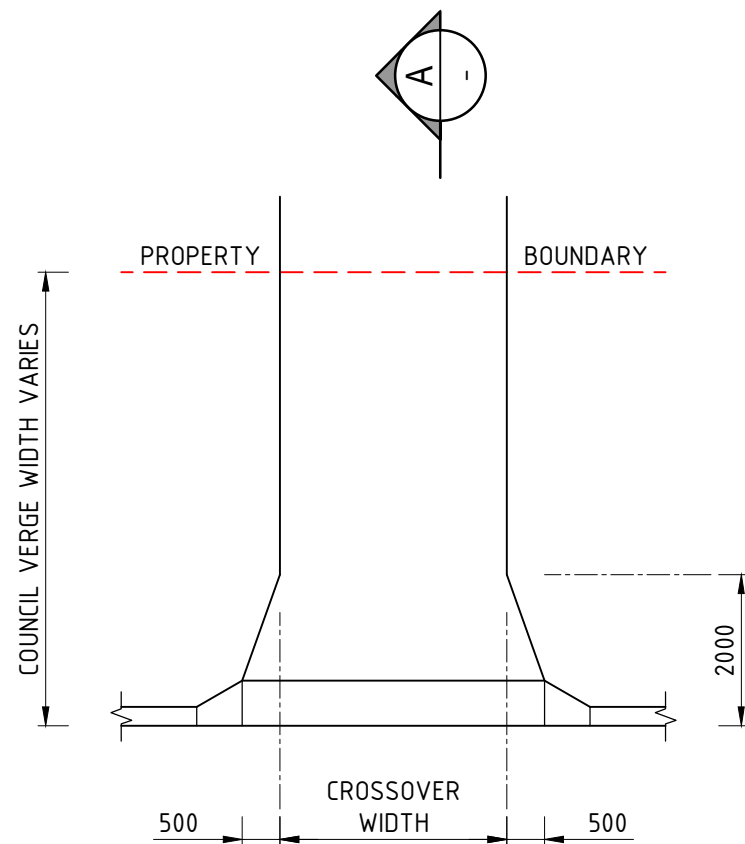
CROSSOVER CONSTRUCTION DETAILS		
CROSSOVER TYPE	SUB-BASE THICKNESS ON SAND	SUB-BASE THICKNESS ON CLAY
DOMESTIC	75mm	100mm
COMMERCIAL/INDUSTRIAL	100mm	125mm
HEAVY INDUSTRIAL	125mm	150mm



**PAVING EDGE RESTRAINT DETAIL**

SCALE: 1:20

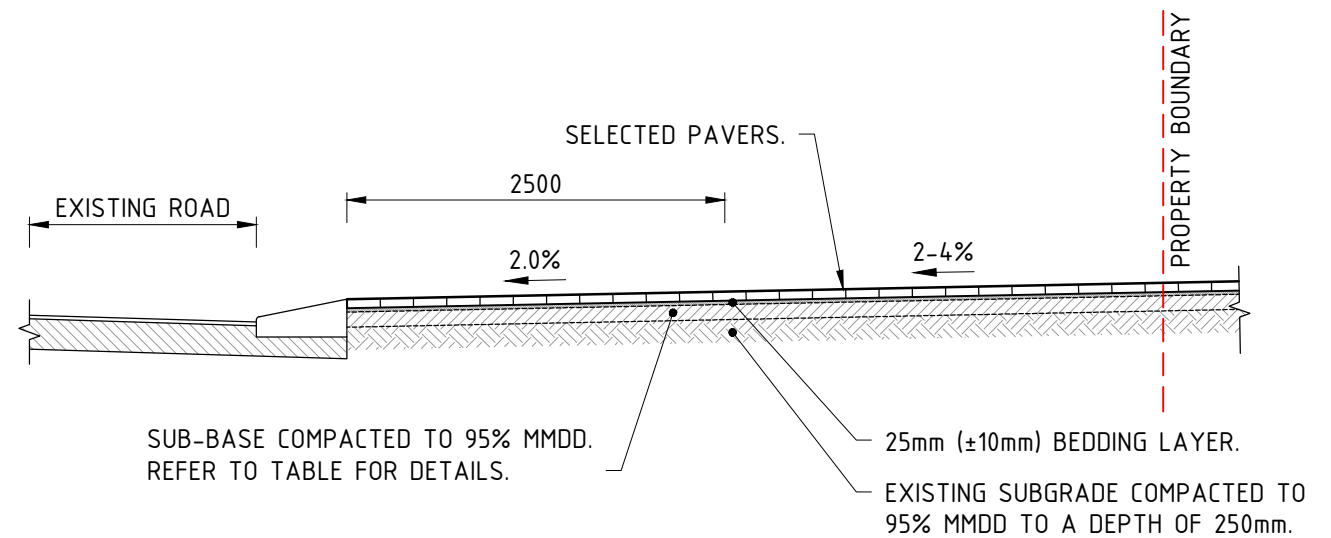
ALLOWABLE CROSSOVER DIMENSIONS			
CROSSOVER CLASS	MINIMUM WIDTH @ BOUNDARY	MAXIMUM WIDTH @ BOUNDARY	MAXIMUM WIDTH @ ROAD
1 OR 2 DWELLINGS ON A SINGLE LOT	3.0m	6.0m	7.0m
SINGLE RESIDENTIAL ON HIGHWAY OR MRD	3.0m	6.0m	7.0m
GROUPED DWELLINGS 3 OR MORE	3.0m	7.5m	7.5m
COMMERCIAL	5.5m	7.5m	7.5m
LIGHT INDUSTRIAL	5.5m	7.5m	7.5m
HEAVY INDUSTRIAL	6.0m	10.0m	10.0m
SERVICE STATIONS	7.5m	10.0m	10.0m



**PLAN**  
SCALE: 1:100

**NOTES:**

- CROSSOVER TO GRADE UP @ 2.0% FROM BACK OF CONCRETE APRON OR MOUNTABLE KERB FOR A DISTANCE OF 2.5m.
- FOR CROSSOVERS CONSTRUCTED ON NON KERBED ROADS ASSUME KERB IN PLACE WHEN ESTABLISHING LEVELS.
- WHERE THERE IS AN EXISTING PATHWAY IN VERGE REFER TO THE SPECIFICATION FOR DETAILS.
- FOR CROSSOVERS THAT DO NOT CONFORM TO THESE STANDARD LEVELS CONTACT CITY OF ALBANY FOR FURTHER DETAILS.



**SECTION A-A**

SCALE: 1:50

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



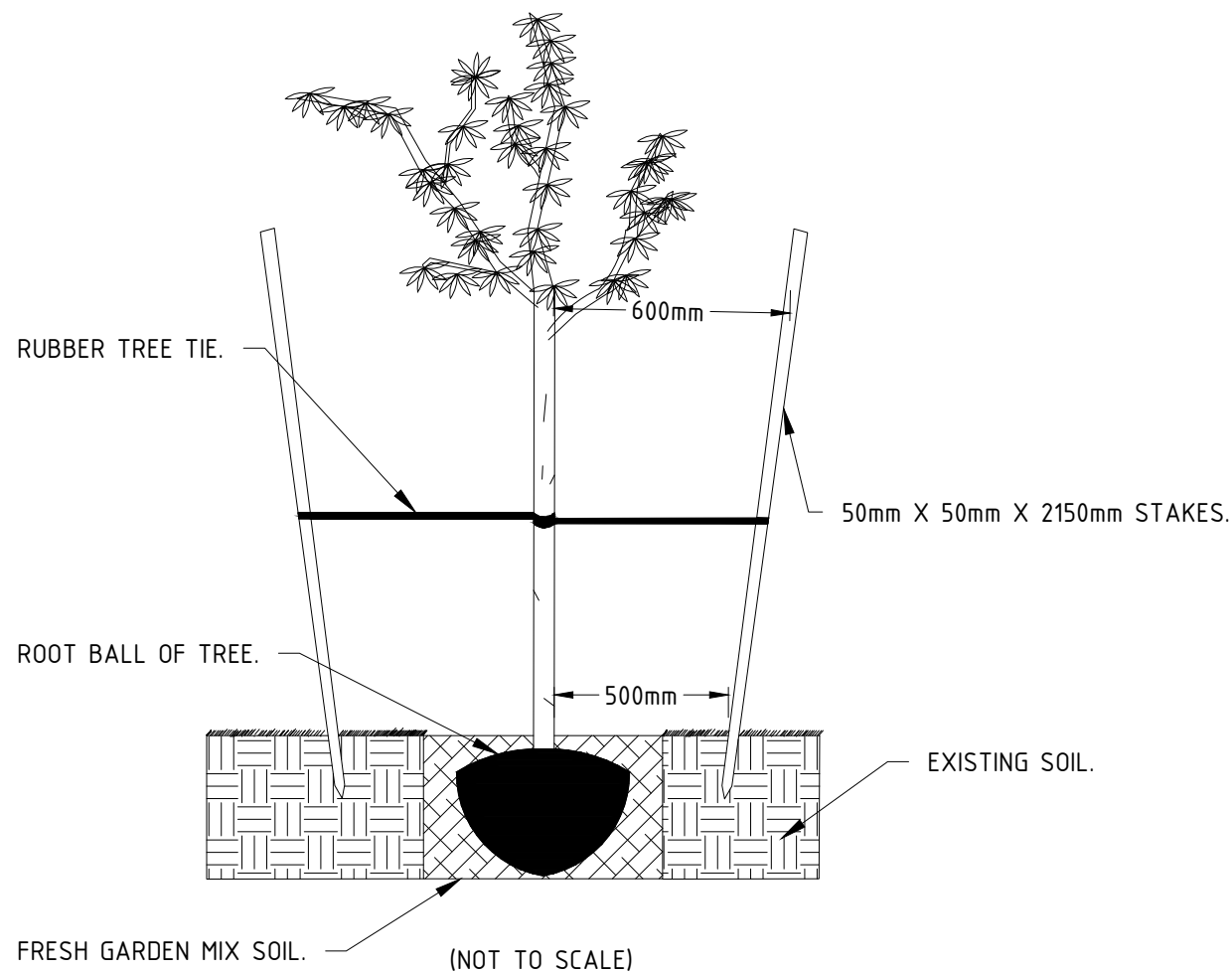
102 NORTH ROAD, YAKAMIA WA 6330  
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 Website: www.albany.wa.gov.au

**CONSTRUCTION ISSUE**

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		JLP

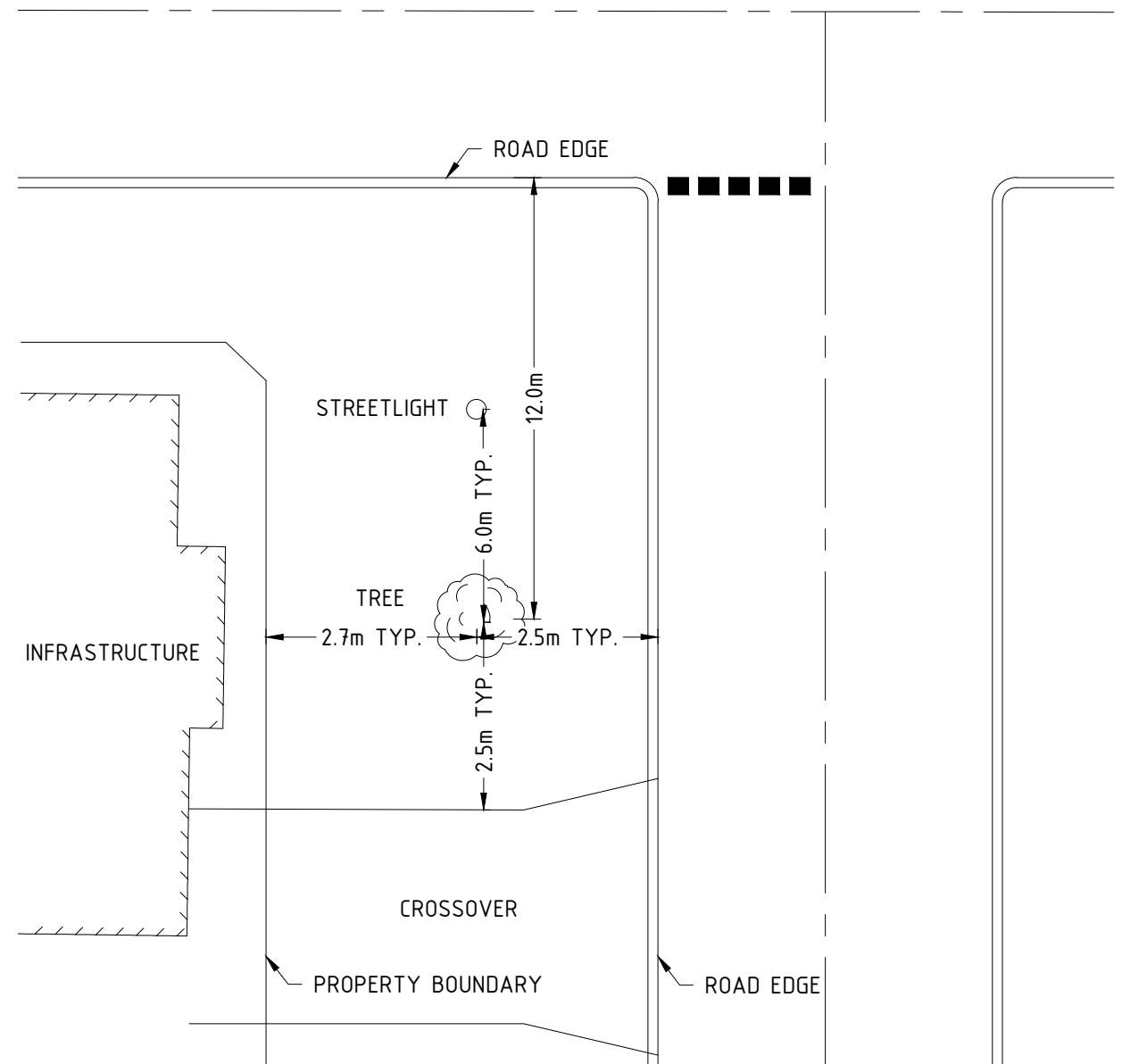
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CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS					
DRAWING NAME					
STANDARD CROSSOVER - PAVED					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	AS SHOWN	STD-05-03	0



## TREE PLANTING REQUIREMENTS

1. HOLES TO BE DUG 50mm LARGER IN ALL DIRECTIONS THAN THE ROOT BALL OF TREE BEING PLANTED.
2. HOLES TO BE BACK FILLED WITH FRESH GARDEN MIX SOIL. SOIL SHALL BE SUPPLIED FREE OF WEEDS AND SEEDS.
3. FRESH SOIL LEVEL TO BE 30mm LOWER THAN RESIDENT SOIL LEVEL TO ALLOW FOR A RESERVOIR FOR WATERING.
4. TREES TO BE UNDER PRUNED FOR SIGHT LINES AND MOWING ACCESS.
5. TWO 50mm X 50mm X 2150mm STAKES TO BE PLACED 500mm FROM TRUNK AND ANGLED OUTWARDS TO 600mm FROM TRUNK. POSITIONED TO OFFER MAXIMUM PROTECTION FROM VEHICLES AND PEDESTRIANS.
6. RUBBER TREE TIE TO BE TIED  $\frac{1}{3}$  OF THE HEIGHT OF TREE UP THE TRUNK. RUBBER TIE WIDTH TO BE GREATER THAN 10mm.
7. APPLY A QUARTER CUP OF NATIVE FERTILIZER UNDER TREE AND A QUARTER CUP ON TOP OF ROOT BALL. WATER IMMEDIATELY AFTER PLANTING.
8. TREES ARE RECOMMENDED TO BE 30L TO 35L IN SIZE AS SMALLER TREES ESTABLISH AND GROW BETTER IN THE LONGER TERM.
9. ALL STREET TREES ARE TO BE PLANTED WITH A ROOT BARRIER.
10. TREES SHALL BE SUPPORTED BY MAINTENANCE AND WATERING FOR 2 SUMMER PERIODS TO ENSURE FULL ESTABLISHMENT.

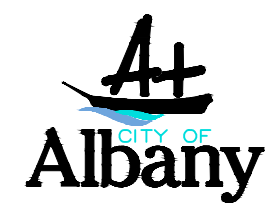


## TREE PLANTING DISTANCES/LOCATION

N.T.S.

1. TREES TO BE PLANTED AS CENTRALLY AS PRACTICABLE TO THE SPACE OFFERED ON THE VERGE, TAKING INTO ACCOUNT THE EFFECT TO DRIVEWAYS, GATES AND THE FOLLOWING REQUIREMENTS.
2. 2.7m ALIGNMENT FROM THE PROPERTY BOUNDARY (BUT CAN BE A RANGE OF 2.4m TO 3.0m) IN ACCORDANCE WITH THE UTILITY PROVIDERS' CODE OF PRACTICE FOR WA.
3. IDEALLY 2.5m FROM THE KERB FACE. FOR SMALLER VERGES, MINIMUM OF 1.5m FROM KERB FACE.
4. MINIMUM OF 2.5m FROM STRUCTURAL ELEMENTS (I.E. WALLS AND FOUNDATIONS).
5. MINIMUM OF 12.0m FROM INTERSECTING KERB ALIGNMENTS ON CORNER PROPERTIES.
6. IDEALLY 2.5m FROM CROSSOVERS, FOOTPATHS, SOAKWELLS AND DRAINAGE/SERVICE INSPECTION PITS, MINIMUM OF 1.5m FOR SMALLER VERGES.
7. MINIMUM OF 6.0m FROM A STREET LIGHT, UNLESS OTHERWISE APPROVED BY THE CITY.
8. TREE PLANTING IN ROADS CONTROLLED BY THE MRWA SHALL COMPLY WITH MRWA STANDARDS.

REV	DESCRIPTION	APPROVED	DATE
0	APPROVED		



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## CITY OF ALBANY ENGINEERING SERVICES STANDARD CONSTRUCTION DRAWINGS

DRAWING NAME					
TREE PLANTING DETAILS					
DRAWING No	FILE REF	JOB No	SCALE	SHEET No	REV
-	-	-	AS SHOWN	STD-06-01	0