PAPAKURA
DISTRICT COUNCIL

Standard Detail Drawings

General

G1	Private Right of Way
G2	Non-residential/Business Private Ways Construction

Roading

R1	Road Name Sign
R2	Services Layout Berm Cross Section (urban)
R3	Design Chart Flexible Pavements
R4	Vehicle Crossing (urban) Footpath Adjacent to Kerb
R5	Vehicle Crossing (urban) Footpath Away from Kerb
R6	Vehicle Crossing (urban) High Speed Turnoff
R7	Vehicle Crossing Commercial
R8	Vehicle Crossing (urban) Drainage via Grass Berm
R9	Vehicle Crossing (urban) Non-standard Berm Slope
R11	Intersection Sight Distance
R13	Cul-de-sac Head Dimensions
R14	Cul-de-sac Head Alternatives
R16	Typical Dimensions Kerb and Channel
R17	Typical Catchpit Details
R19	Recess Catchpit
R21	Wheelchair Ramp Kerb Crossing
R29	Standard Rural Property Entrance – Residential
R31	Private Heavy Vehicle Access
R32	Sand for Use in Replacement of Undercuts in Road Works

Stormwater

SW1	Stormwater Catchment Boundaries
SW2	Design Rainfall DDF Curves
SW3	Onehunga-Manukau Harbour Datums & Tides
SW4	Cast in Situ Reinforced Concrete Drainage Structures
SW5	Precast Manhole Flanged Base up to 4.5m Deep
SW6	Stormwater Manhole Details Cast In-Situ Base
SW7	Precast Manhole Cast In-Situ Base for Pipes >600mm
SW8	Manhole Throat Details
SW9	PE Pipe Manhole Connections
SW10	Stormwater Catchment Boundaries
SW11	Catchpit 1 of 2
SW11	Catchpit 2 of 2
SW13	RAMP Riser for Stormwater House Connections
SW14	Anchor Block Details
SW15	Pipe Bedding
SW16	Inlet and Outlet Structures
SW17	Build Over Influence Zone and Clearances to Manholes
SW18	Foundation/Pipe Clearances for Building Close to Public Drains
SW19	Minimum Freeboard Requirements for Building Adjacent to Floodplains
SW20	Groundwater Recharge Pit for Peat Areas Plan
SW21	Groundwater Recharge Pit for Peat Areas Cross Section
SW22	Recharge Pit Feature Dimensions V Impervious Area

Waste Water

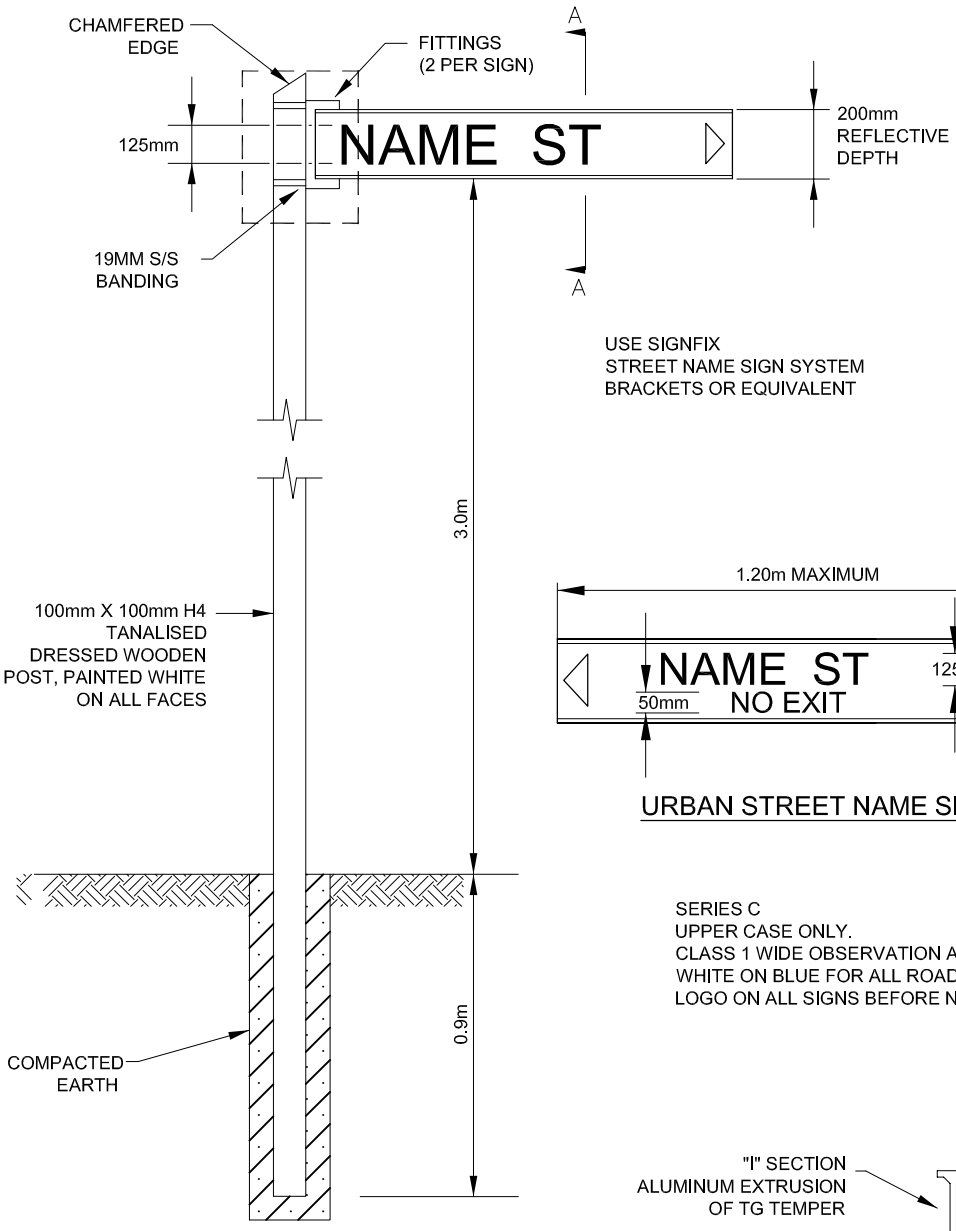
Contact United Water (U.W.I)

Water

Contact United Water (U.W.I.)

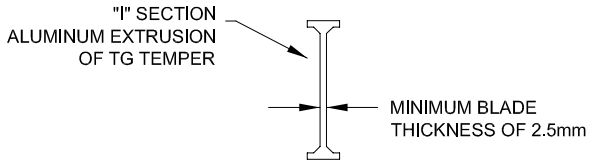
Parks and Reserves

P1	Pedestrian Accessway Details
P3	Standard Park Barriers
P4	Berm Cross-Section for Tree Landscaping
P5	Street Tree Placement



URBAN STREET NAME SIGN

SERIES C
UPPER CASE ONLY.
CLASS 1 WIDE OBSERVATION ANGLE PRISMATIC
WHITE ON BLUE FOR ALL ROAD NAMES.
LOGO ON ALL SIGNS BEFORE NAME.



SECTION A-A

NOTES:

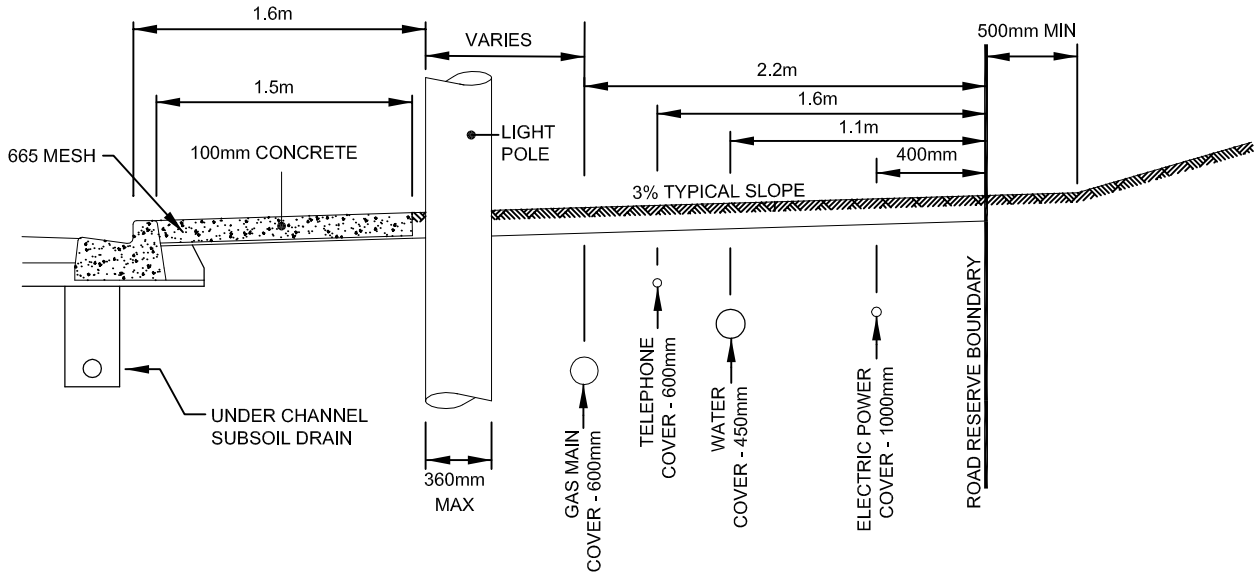
1. THE REFLECTIVE MATERIAL SHALL BE PLACED ON BLADE BEFORE BLUE BACKGROUND TO ENSURE NO EDGES OF THE REFLECTIVE MATERIAL IS SUSCEPTIBLE TO ELEMENTS.
2. REFLECTIVE DEPTH IS THE FLAT SURFACE AVAILABLE FOR THE APPLICATION OF THE REFLECTORISED SIGN BACKGROUND.
3. MID MOUNTED SIGNS SHALL BE INSTALLED ONLY WHEN REQUESTED AND APPROVED BY THE ENGINEER.

PAPAKURA DISTRICT COUNCIL

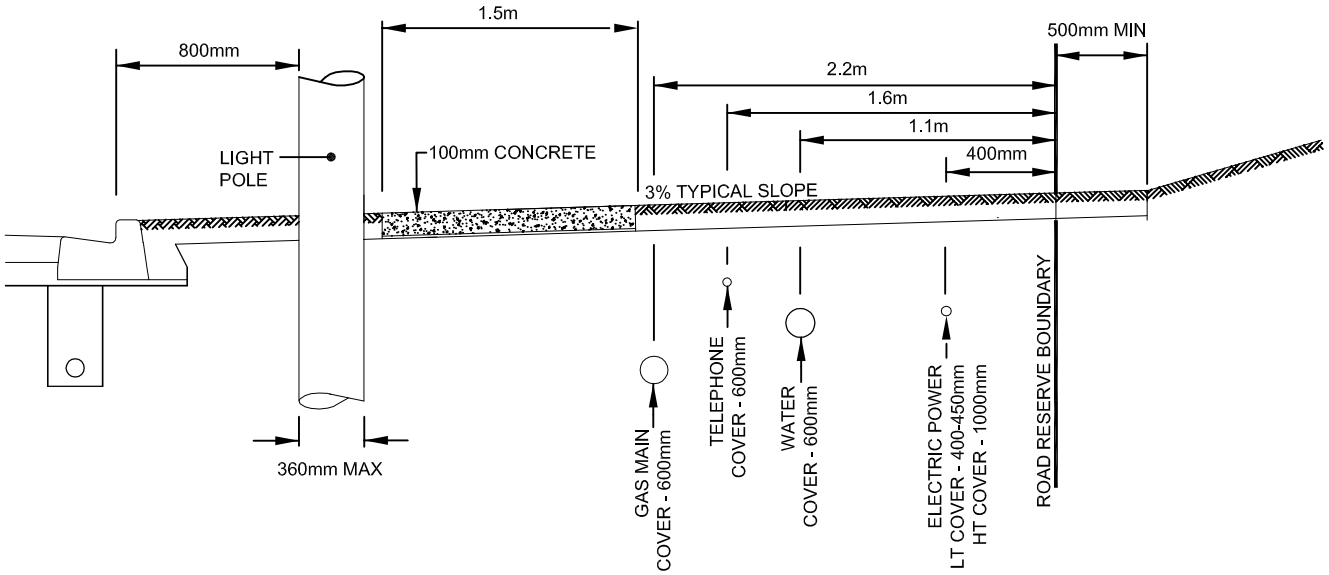
DATE ISSUED: JUNE 2009

DWG NO: R 1

ROAD NAME SIGN



PATH NEXT TO KERB



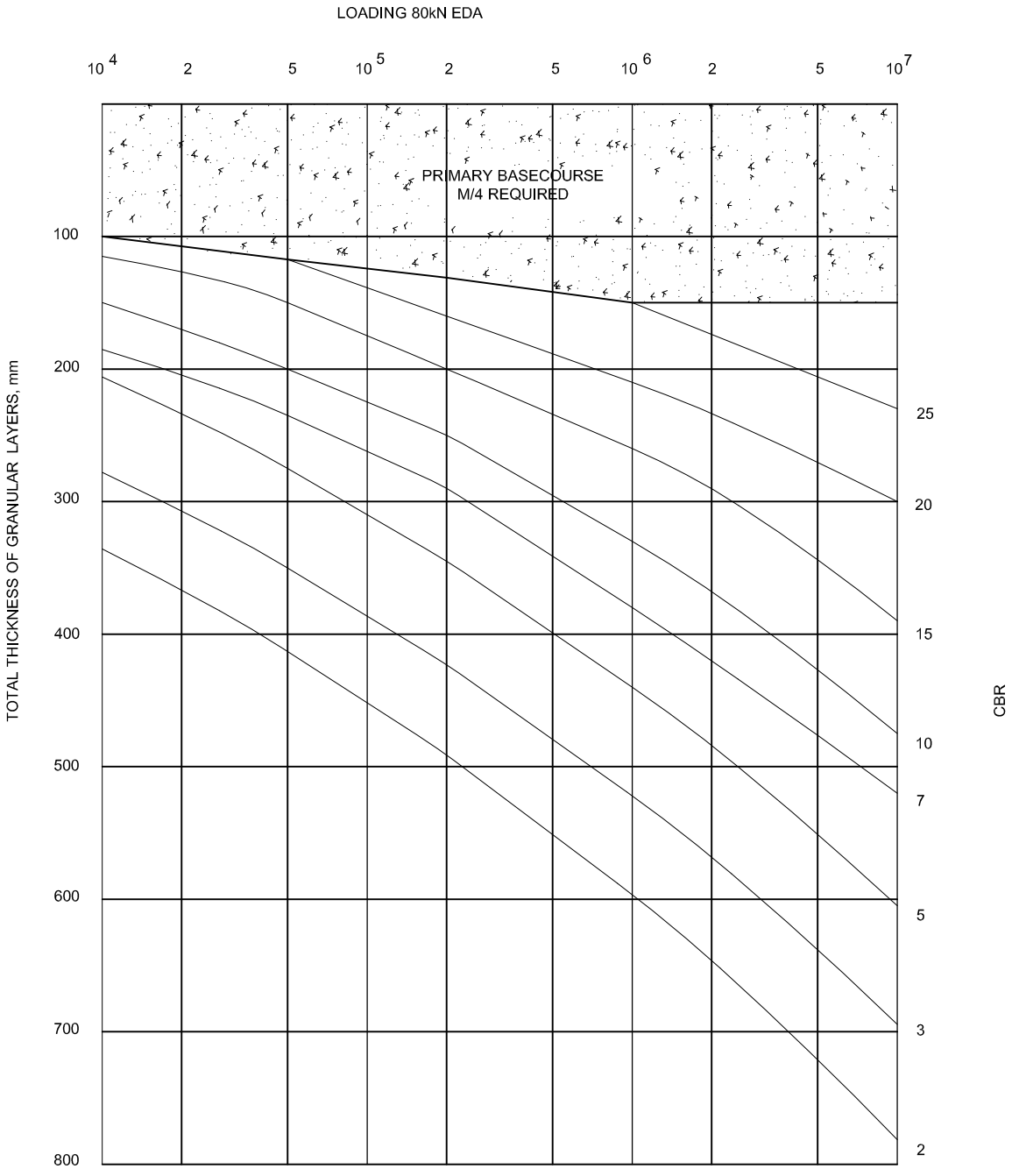
PATH SEPARATED FROM KERB

PAPAKURA DISTRICT COUNCIL

DATE ISSUED: JUNE 2009

DWG NO: R 2

SERVICES LAYOUT BERM CROSS-SECTION URBAN SITUATION



NOTES:

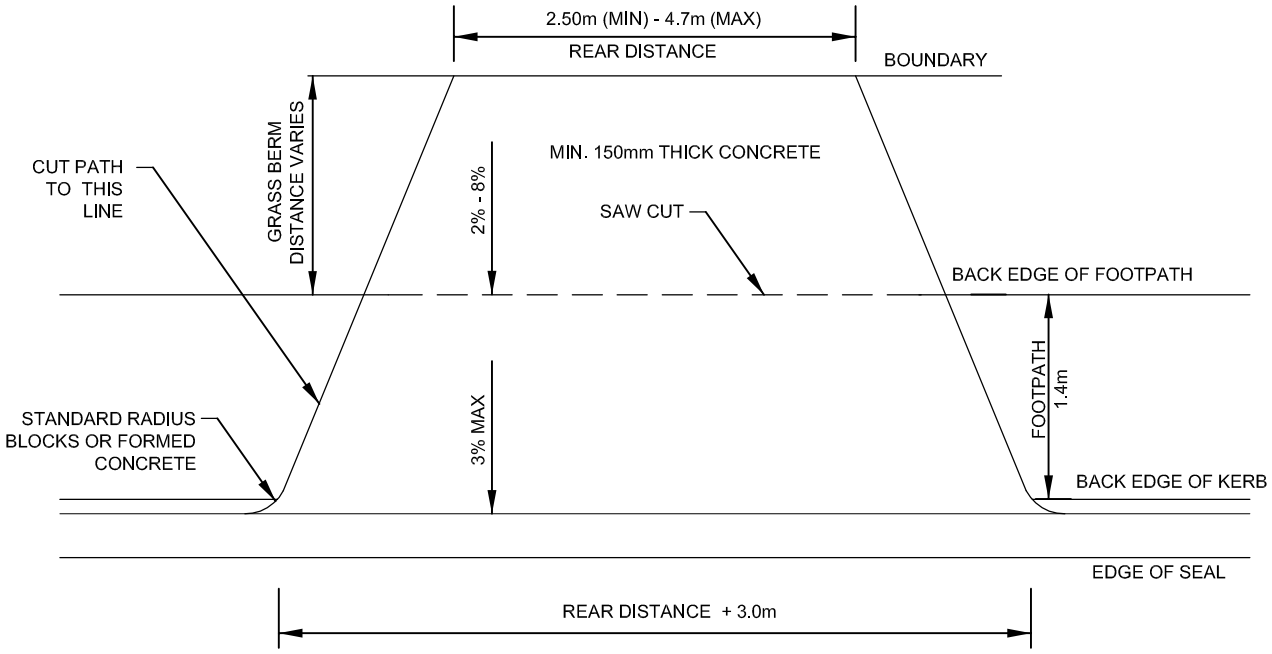
1. THE CURVES GIVE MINIMUM COVER REQUIRED ABOVE THE SUB-GRADE. ALLOWANCE MUST BE MADE FOR LOSS OF MATERIAL THROUGH PENETRATION INTO SOFT SUBGRADES AND CONSTRUCTION TOLERANCES.
2. IF SUBGRADE CBR EXCEEDS 25 IT SHOULD BE TAKEN AS 25.
3. THE MATERIAL REQUIREMENTS SHOWN ARE MINIMUM REQUIREMENTS AND GREATER DEPTHS OF HIGHER QUALITY MATERIALS MAY BE USED IF ECONOMICAL TO DO SO, HOWEVER THE TOTAL DEPTH SHALL NOT BE REDUCED.
4. THE MINIMUM PAVEMENT DEPTH FOR ROADS SHALL BE 250MM.

PAPAKURA
DISTRICT COUNCIL

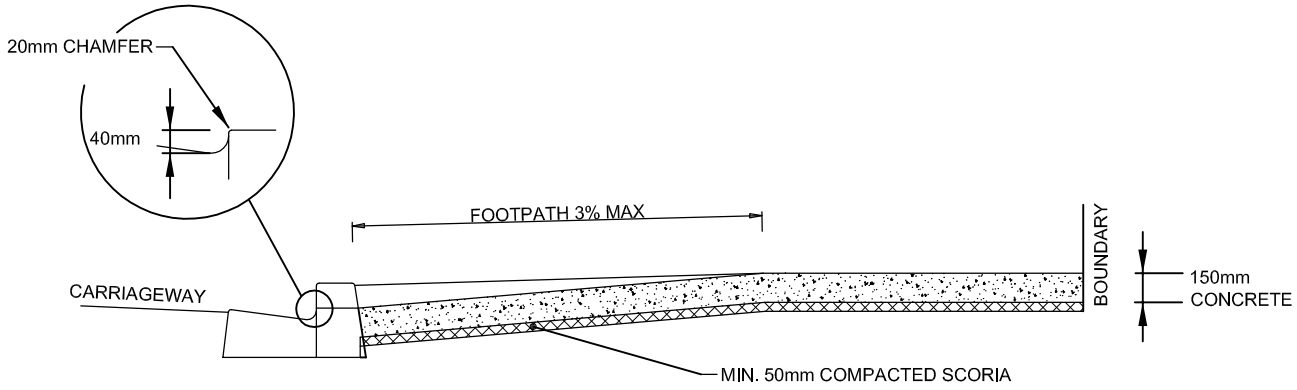
DATE ISSUED: JUNE 2009

DWG NO: R 3

DESIGN CHART FOR FLEXIBLE PAVEMENTS



PLAN



SECTION

NOTES:

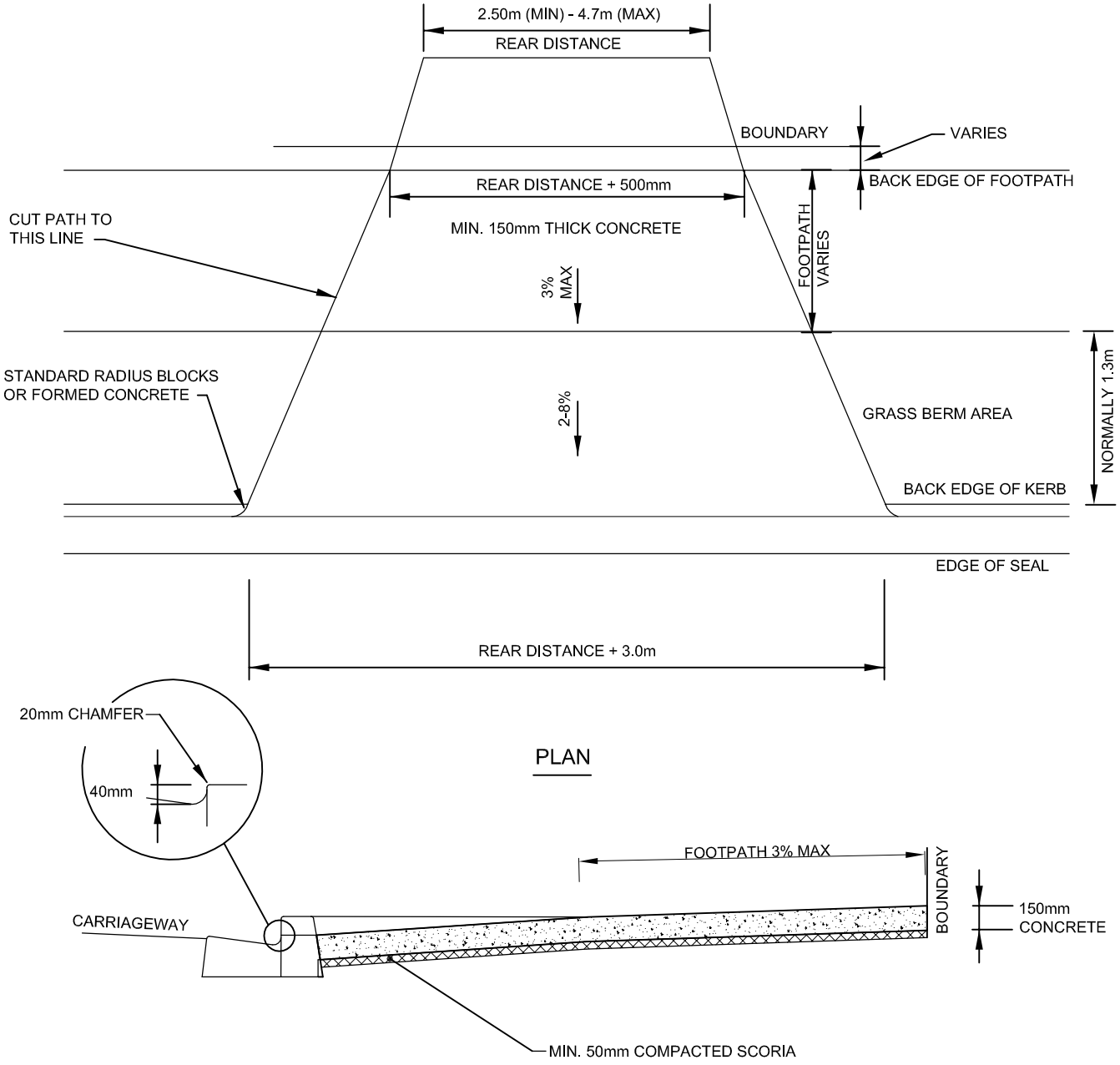
1. MAXIMUM REAR DISTANCE SHALL BE CONSISTENT WITH THE ACCESSWAY/CARRIAGEWAY WIDTHS SPECIFIED IN SCHEDULE 9A OF THE DISTRICT PLAN.
2. CONCRETE STRENGTH SHALL BE 20 MPa AT 28 DAYS.
3. EXCAVATION SHALL BE FENCED AND LIT AT NIGHT.
4. EXISTING CONCRETE TO BE CUT OUT NEATLY AND REMOVED.
5. RESIDENTIAL CROSSING TO BE MIN. 150mm THICK.
6. REFER ALSO TO PDC STANDARD DRAWING R9 - TYPICAL VEHICLE CROSSING SLOPE DETAILS (URBAN).

PAPAKURA
DISTRICT COUNCIL

DATE ISSUED: JUNE 2009

DWG NO: R 4

VEHICLE CROSSING (URBAN) (FOOTPATH ADJACENT TO KERB)



PLAN

SECTION

NOTES:

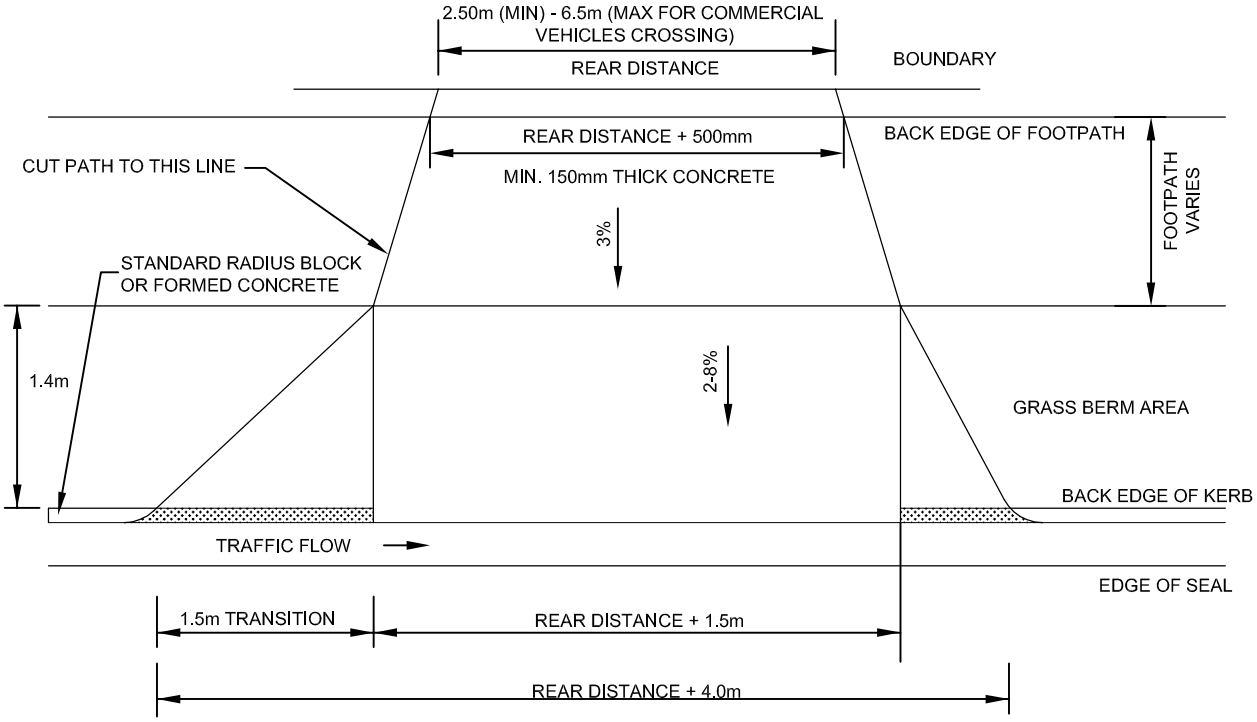
1. MAXIMUM REAR DISTANCE SHALL BE CONSISTENT WITH THE ACCESSWAY/CARRIAGEWAY WIDTHS SPECIFIED IN SCHEDULE 9A OF THE DISTRICT PLAN.
2. CONCRETE STRENGTH SHALL BE 20 MPa AT 28 DAYS.
3. EXCAVATION SHALL BE FENCED AND LIT AT NIGHT.
4. EXISTING CONCRETE TO BE CUT OUT NEATLY AND REMOVED.
5. COMMERCIAL CROSSING PLAN DIMENSIONS TO BE SPECIFICALLY DESIGNED (REFER TO PDC STANDARD R7).
6. RESIDENTIAL CROSSING TO BE MIN. 150mm THICK.
7. REFER ALSO TO PDC STANDARD DRAWING R9 - TYPICAL VEHICLE CROSSING SLOPE DETAILS (URBAN).

PAPAKURA
DISTRICT COUNCIL

DATE ISSUED: JUNE 2009

DWG NO: R 5

VEHICLE CROSSING (URBAN) (FOOTPATH AWAY FROM KERB)



FOOTPATH AWAY FROM KERB

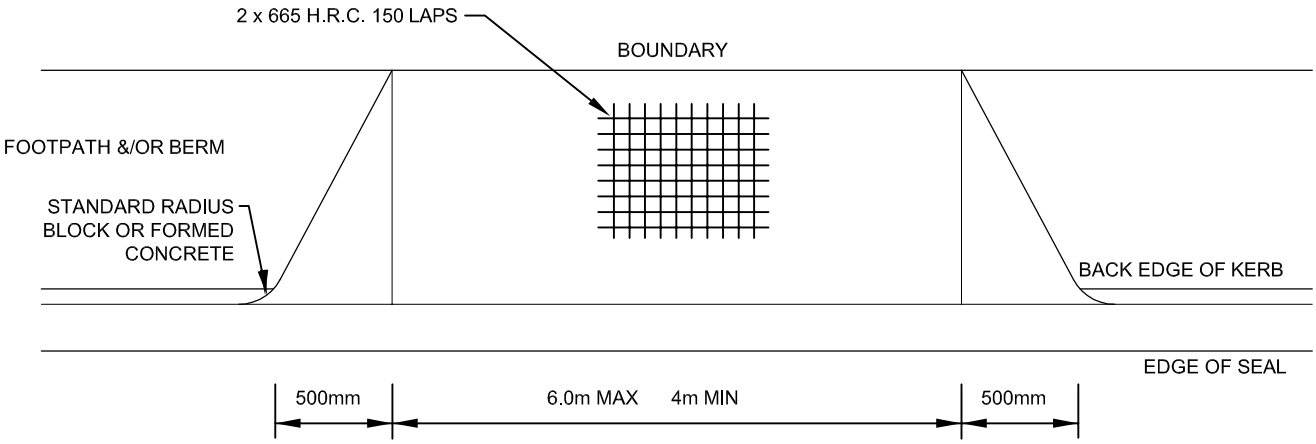
NOTE
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH PDC STANDARD DRAWINGS R4, R5 & R9
2. ONLY TO BE USED WITH SPECIFIC PRIOR APPROVAL FROM COUNCILS DEVELOPMENT ENGINEER WHEN ROAD SPEEDS WARRANT.

PAPAKURA DISTRICT COUNCIL

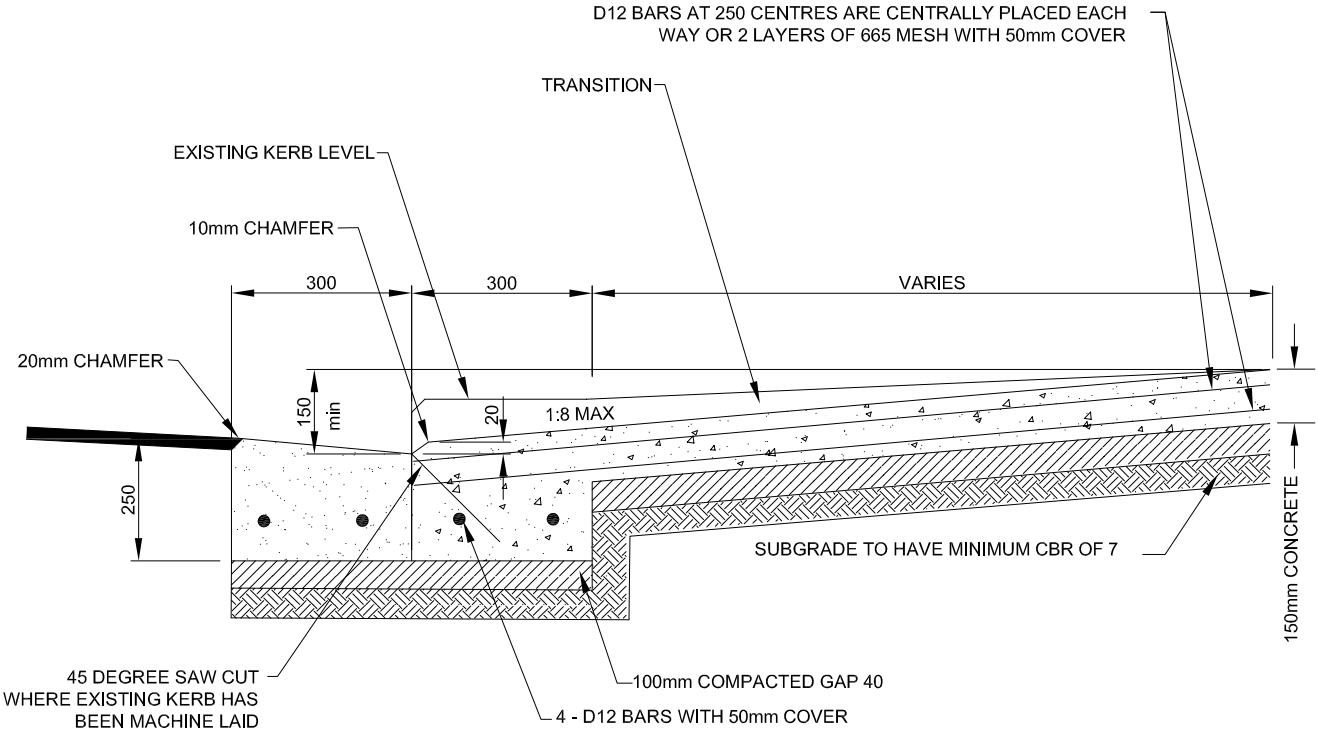
DATE ISSUED: JUNE 2009

DWG NO: R 6

VEHICLE CROSSING (URBAN) (FOR HIGH SPEED TURNOFF)



PLAN



SECTION

NOTES:

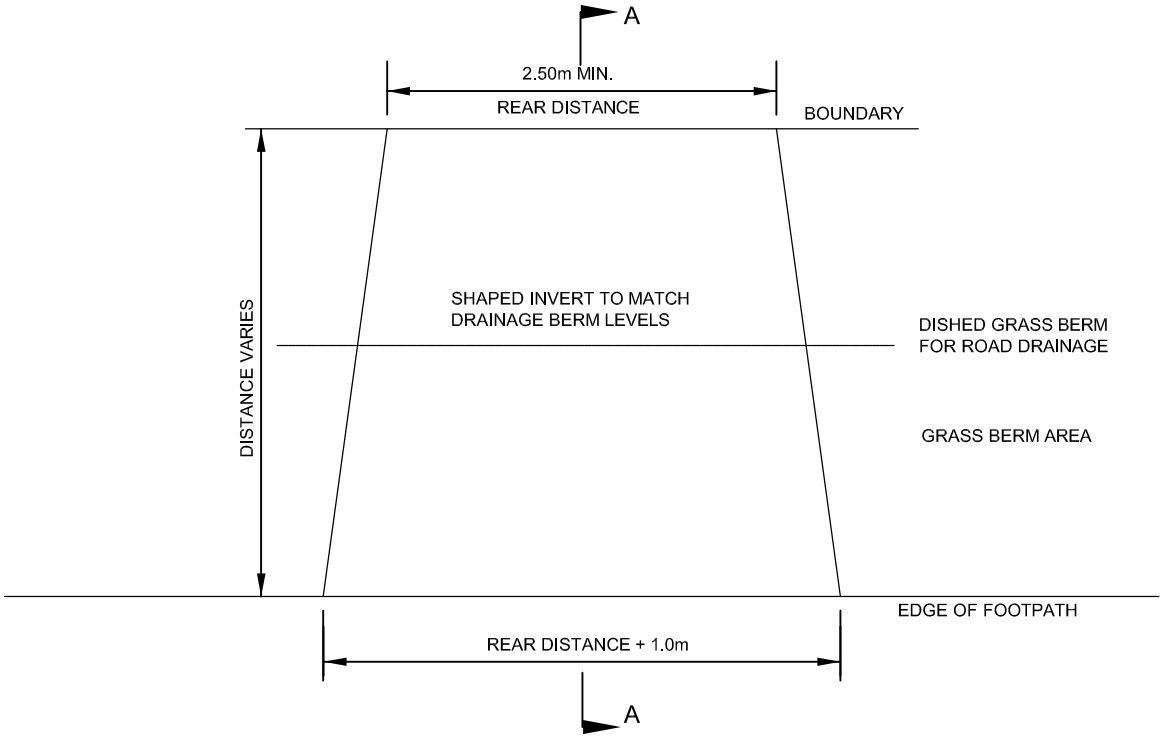
1. ALL CONCRETE TO BE 20 MPa AND CONSTRUCTED IN ACCORDANCE WITH NZS 3109 WITH A BROOM FINISH.
2. CONCRETE POUR MUST TAKE PLACE WITHIN 48 HRS OF EXCAVATION OF ROAD RESERVE & FOOTPATH AT INSPECTION TIME
3. SAW CUT EXPANSION JOINTS AT 4m CENTRES.
4. MOUNTABLE KERBS TO BE CUT OUT BEFORE CONCRETE PLACEMENT.
5. VEHICLE CROSSINGS SHALL BE DESIGNED TO ENABLE THE 90 PERCENTILE CAR TO USE THEM WITHOUT THE GROUNDING OF ANY PART OF THE VEHICLE.
6. THE PREFERRED FOOTPATH LOCATION IS SEPARATED FROM THE KERB AND CHANNEL.

PAPAKURA DISTRICT COUNCIL

DATE ISSUED: JUNE 2009

DWG NO: R 7

VEHICLE CROSSING (COMMERCIAL)



PLAN

TYPICAL SECTION A - A

NOTES:-

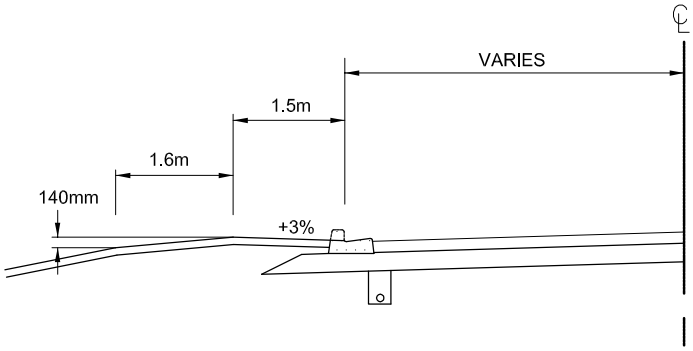
1. WORK MUST BE INSPECTED BY THE COUNCIL REPRESENTATIVE BEFORE ANY CONCRETE IS POURED.
2. CONCRETE STRENGTH SHALL BE 20 MPA AT 28 DAYS.
3. EXCAVATION SHALL BE FENCED AND LIT AT NIGHT.
4. EXISTING CONCRETE TO BE CUT OUT NEATLY AND REMOVED.
5. COMMERCIAL CROSSING DIMENSIONS TO BE SPECIFICALLY DESIGNED.
6. RESIDENTIAL CROSSING TO BE MIN. 150MM THICK. ONE LAYER OF 665 MESH TO BE USED.
7. COMMERCIAL CROSSING SHALL BE MINIMUM OF 150MM WITH THICK 2 LAYERS 665 MESH.
8. REFER ALSO TO PDC STANDARD DRAWING R 9 - TYPICAL VEHICLE CROSSING SLOPE DETAILS.(URBAN)

PAPAKURA
DISTRICT COUNCIL

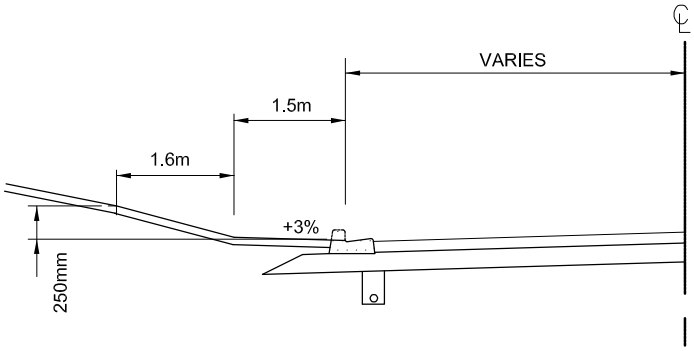
DATE ISSUED: JUNE 2009

DWG NO: R 8

VEHICLE CROSSING (URBAN) FOR USE WHERE ROAD DRAINAGE IS VIA GRASS BERM



TYPICAL DRIVEWAY DETAIL - DESCENDING



TYPICAL DRIVEWAY DETAIL - ASCENDING

NOTES:-

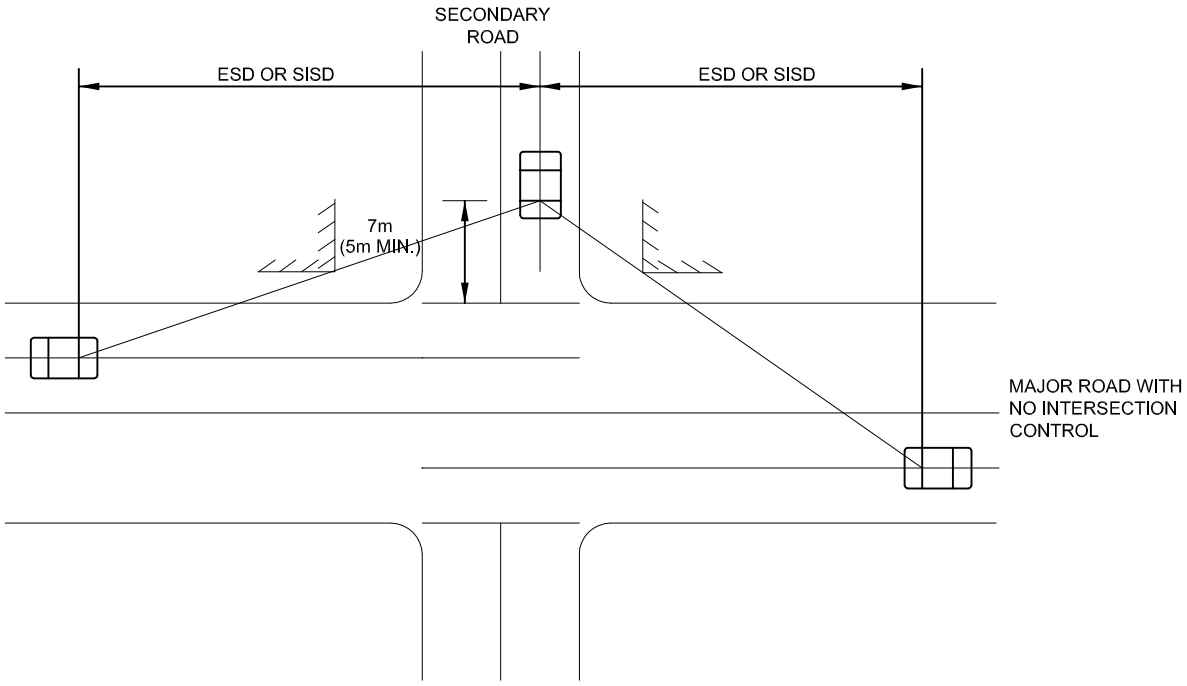
1.THIS DESIGN IS THE ABSOLUTE LIMIT IN SLOPE SHAPE TO GIVE A 90 PERCENTILE VEHICLE ACCESS TO PROPERTY WITHOUT SCRAPING THE UNDERSIDE OF THE VEHICLE.

PAPAKURA
DISTRICT COUNCIL

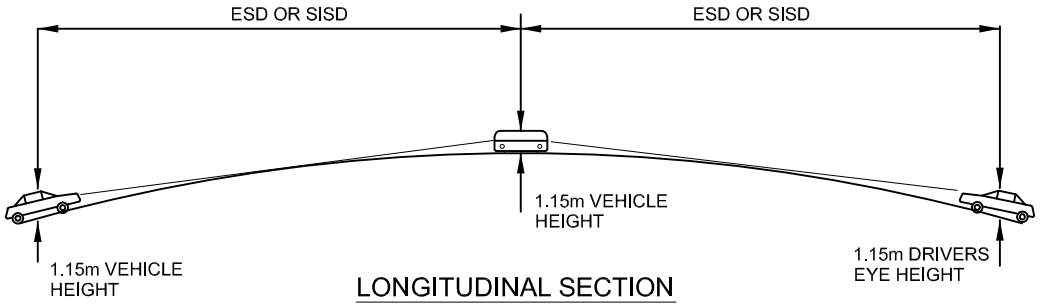
DATE ISSUED: JUNE 2009

DWG NO: R 9

TYPICAL VEHICLE CROSSING SLOPE DETAILS (URBAN) (NON STANDARD BERM)



PLAN



LONGITUDINAL SECTION

DESIGN SPEED (Km/h)	ENTERING SIGHT DISTANCE (m)	SAFE INTERSECTION SIGHT DISTANCE (m)	
		RURAL	URBAN
40	100	70	60
50	125	90	80
60	160	115	105
70	220	140	130
80	305	175	165
90	400	210	
100	500	250	
110	500	290	
120	500	330	

NOTES

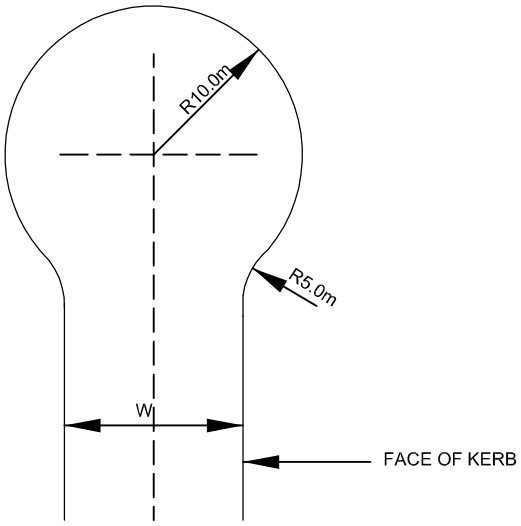
1. IT IS DESIRABLE THAT PLANTS ARE PLACED FAR ENOUGH BACK FROM THE INTERSECTION SO THAT EVEN WHEN MATURE THE ENTERING SIGHT DISTANCE (ESD) IS MAINTAINED.
2. IN ALL CASES SAFE INTERSECTION SIGHT DISTANCES (SISD) MUST BE MET.
3. SEE TRANSIT NEW ZEALAND'S GUIDELINES FOR PLANTING FOR ROAD SAFETY FOR MORE DETAILS.

PAPAKURA DISTRICT COUNCIL

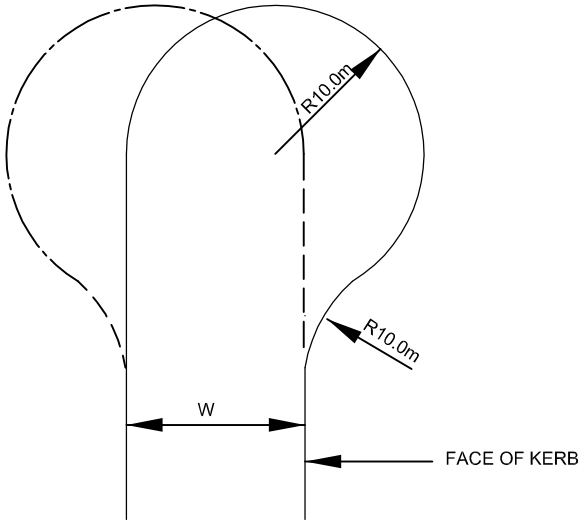
DATE ISSUED: JUNE 2009

DWG NO: R 11

INTERSECTION SIGHT DISTANCE REQUIREMENTS



CIRCULAR TURNING AREA FOR RESIDENTIAL CUL-DE-SAC



R=10.0m FOR WIDTH <7.8m
R=12.0m FOR WIDTH >7.8m

OFFSET CIRCULAR TURNING AREA FOR RESIDENTIAL CUL-DE-SAC

NOTES:-
1. THE TURNING AREA DIMENSIONS SHOWN ARE MINIMUM.

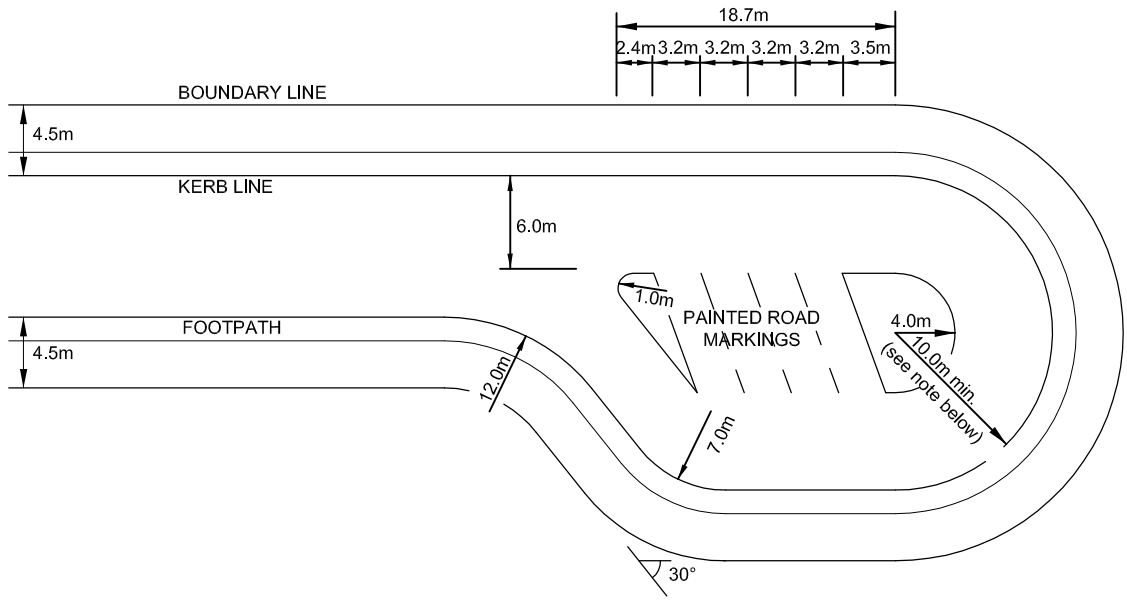
2. INDUSTRIAL OR COMMERCIAL AREAS, THE RADIUS OF THE CUL-DE-SAC TURNING AREAS SHALL BE 12.5m.

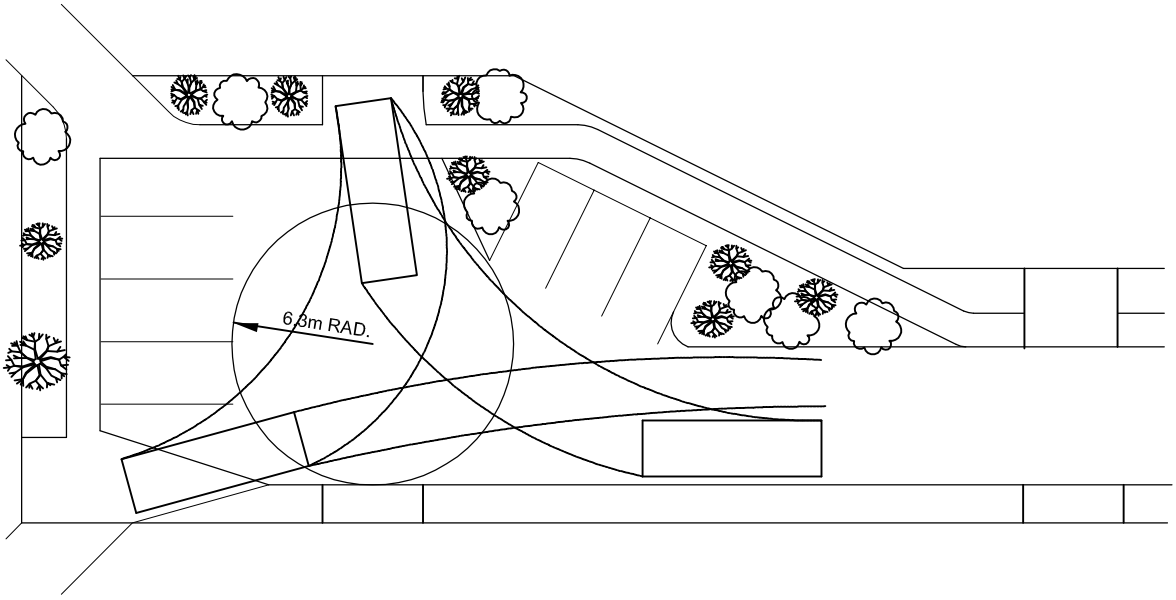
PAPAKURA
DISTRICT COUNCIL

DATE ISSUED: JUNE 2009

DWG NO: R 13

URBAN STREET DIMENSION OF CUL-DE-SAC HEAD





EXAMPLE OF CUL-DE-SAC HEAD ILLUSTRATING:
- MINIMUM TURNING CIRCLE
- KERBSIDE CROSSING ALLOWING THREE POINT TURN FOR HEAVY VEHICLES
- REDUCED CARRIAGEWAY WHERE PARKING AND PASSING PROVISION SPECIFICALLY DESIGNED

NOTES:
1. THE 10.0M RADIUS MAY INCLUDE THE FOOTPATH WIDTH IF THE FOOTPATH IS BUILT TO THE SAME STANDARDS AS COMMERCIAL VEHICLE CROSSINGS, AND MOUNTABLE KERBING IS USED.

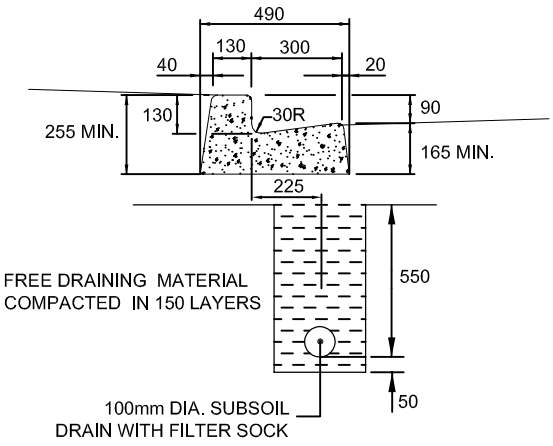
2. IF VEHICLE CROSSINGS ARE USED IN TURNING MOVEMENTS THEY SHALL BE CONSTRUCTED TO COMERCIAL STANDARDS.

PAPAKURA DISTRICT COUNCIL

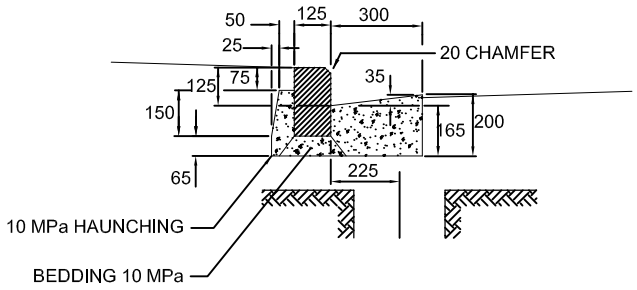
DATE ISSUED: JUNE 2009

DWG NO: R 14

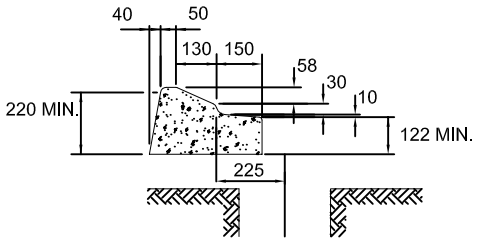
ALTERNATIVE CUL-DE-SAC HEADS



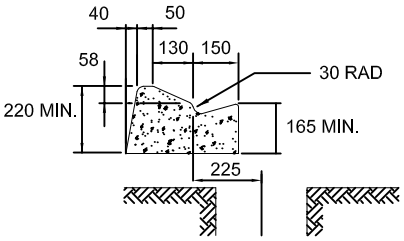
SLIP-FORMED VERTICAL KERB AND CHANNEL
WITH UNDER CHANNEL DRAIN



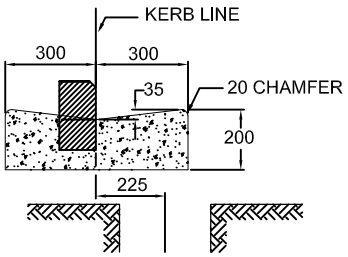
PRE-CAST VERTICAL KERB AND
IN-SITU CHANNEL



SLIP-FORMED LOW PROFILE
KERB AND NIB



SLIP-FORMED LOW PROFILE
KERB AND CHANNEL



DISH CHANNEL - PARKING BAYS

NOTES:-

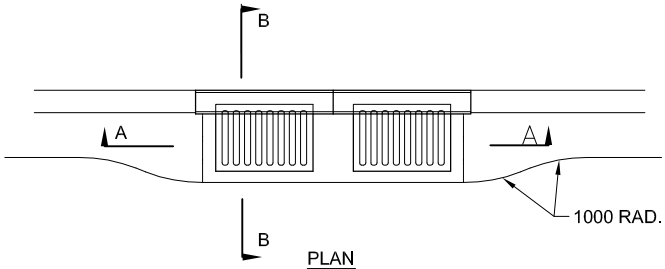
1. CONCRETE GRADES PRECAST KERB BLOCKS - 20 MPa IN-SITU CHANNEL AND EDGING STRIP - 20 MPa SLIP FORMED CONCRETE - 20 MPa
2. UNDER CHANNEL DRAINS SHALL BE APPROVED DRAIN PIPE OF 100mm INTERNAL DIAMETER UNLESS SPECIFIED OR SCHEDULED OTHERWISE. DEPTH BELOW SUB-GRADE 550mm OR TO SPECIFIC DESIGN.
3. JOINTING PRE-CAST KERBS - 10 mm MIN. NEATLY POINTED WITH CEMENT MORTAR. SLIP-FORMED KERBS - CRACKING CONTROL JOINTS SAW CUT AT MAX. 5m INTERVALS (WHERE FOOTPATH ADJOINS KERB, CONTROL JOINT TO COINCIDE WITH EVERY SECOND FOOTPATH JOINT).

PAPAKURA
DISTRICT COUNCIL

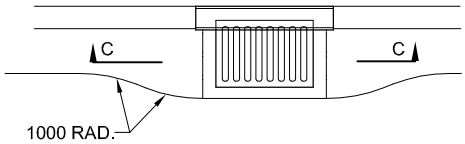
DATE ISSUED: JUNE 2009

DWG NO: R 16

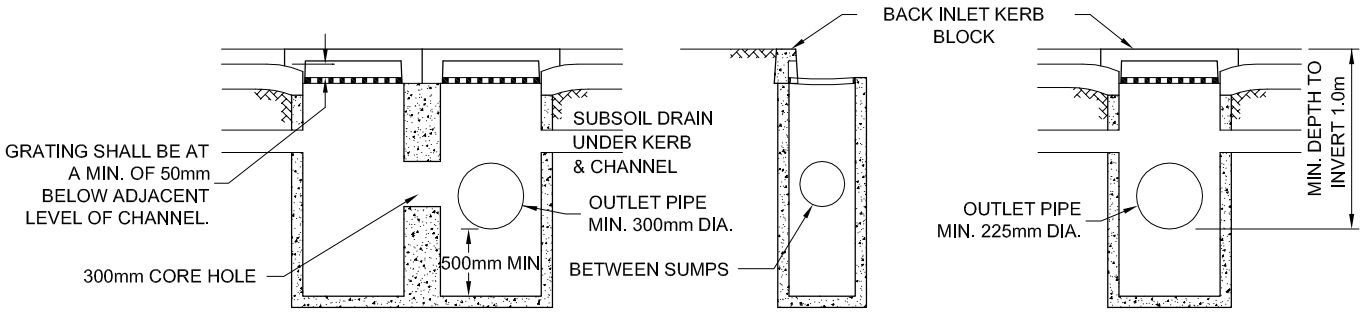
TYPICAL DIMENSIONS FOR KERB AND CHANNEL



PLAN



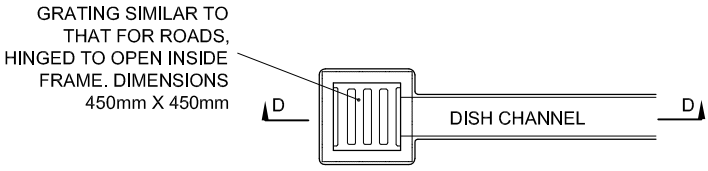
PLAN



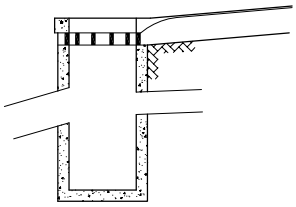
SECTION A-A SECTION B-B SECTION C-C

DOUBLE SUMP WITH BACK INLET KERB BLOCK

SINGLE SUMP WITH BACK INLET KERB BLOCK

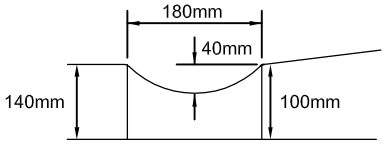


PLAN



SECTION D-D

NOTES
1. CONCRETE TO BE 20 MPa. AT 28 DAYS



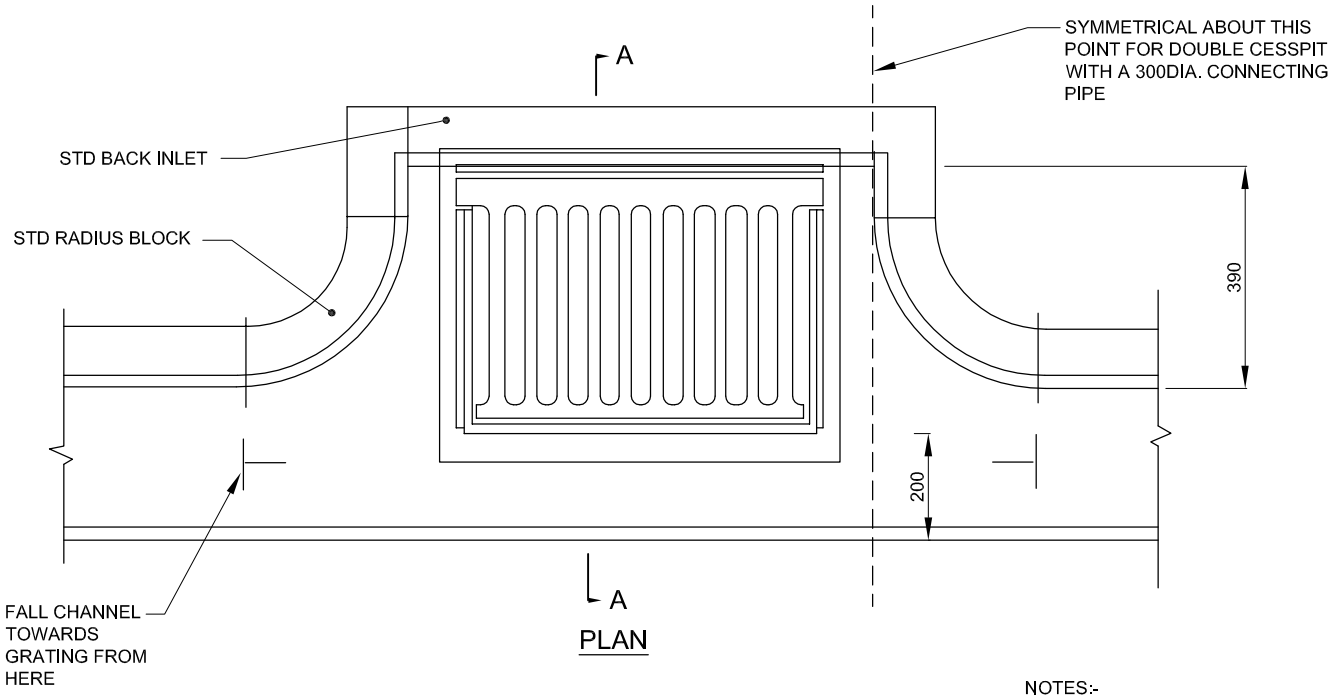
DISHED CHANNEL - FOOTPATH

PAPAKURA DISTRICT COUNCIL

DATE ISSUED: JUNE 2009

DWG NO: R 17

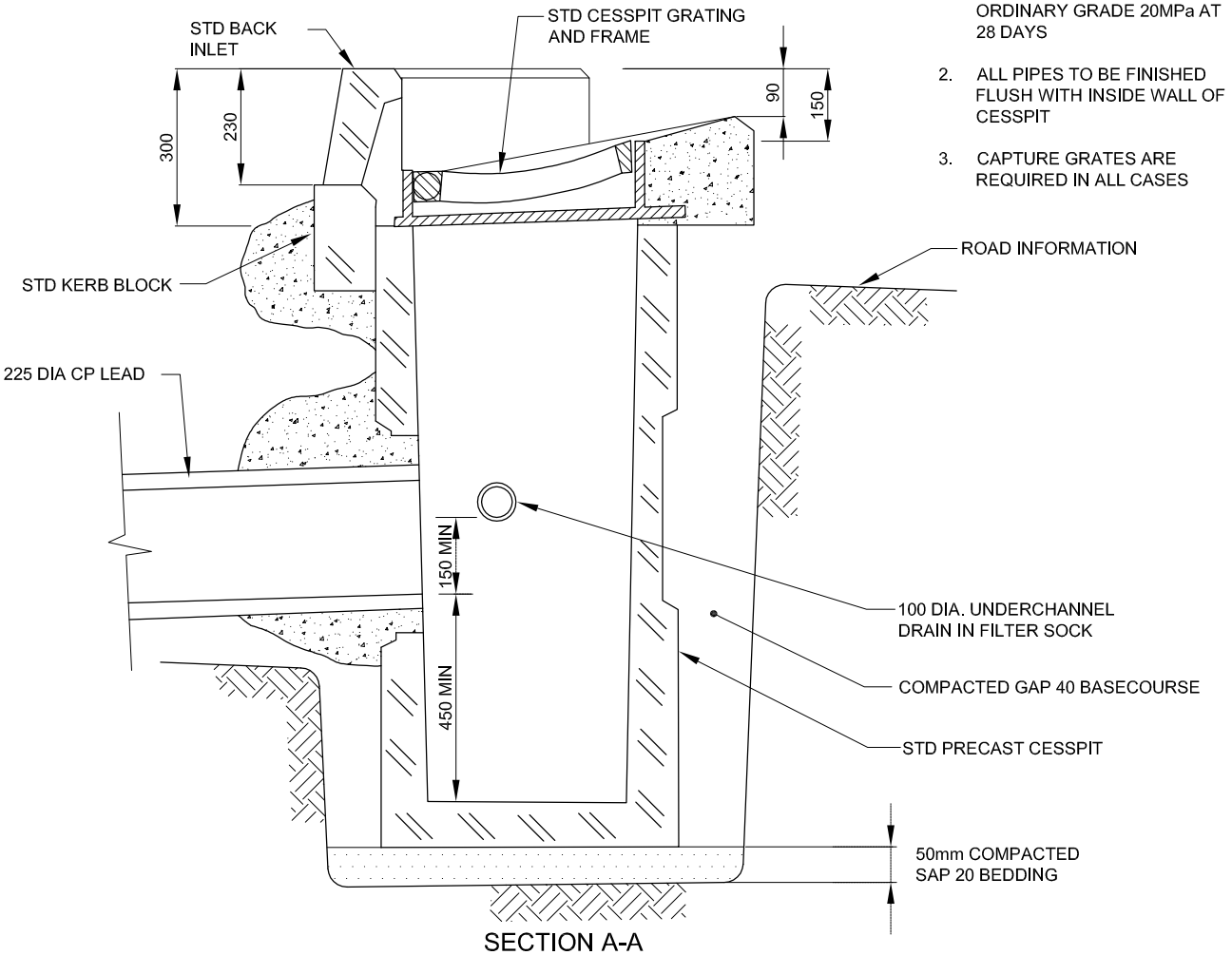
TYPICAL CATCHPIT DETAILS



PLAN

NOTES:-

1. ALL CONCRETE TO BE ORDINARY GRADE 20MPa AT 28 DAYS
2. ALL PIPES TO BE FINISHED FLUSH WITH INSIDE WALL OF CESSPIT
3. CAPTURE GRATES ARE REQUIRED IN ALL CASES



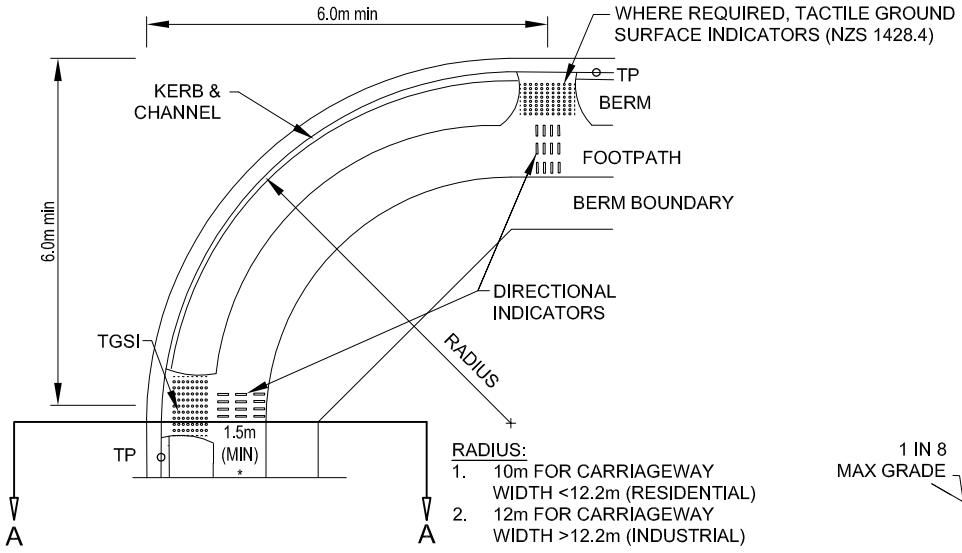
SECTION A-A

PAPAKURA DISTRICT COUNCIL

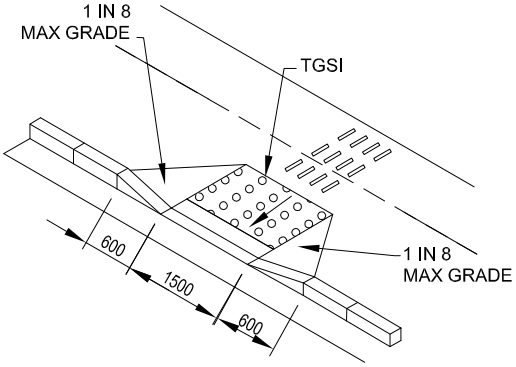
DATE ISSUED: JUNE 2009

DWG NO: R 19

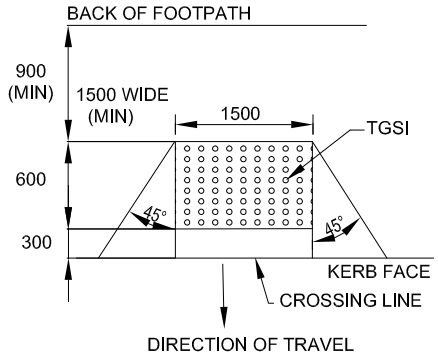
RECESS CATCHPIT



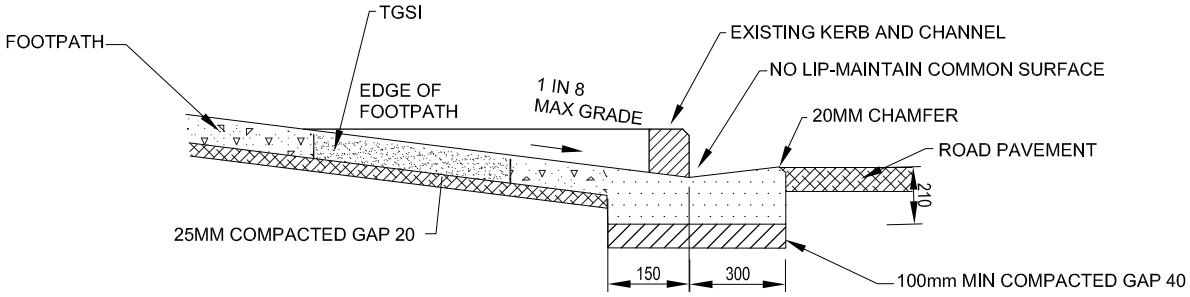
PLAN
UNSIGNALISED INTERSECTIONS



SURFACE FINISH TO KERB RAMPS



PLAN



TYPICAL SECTION (A-A)

NOTES:

1. ALL CONCRETE TO BE 20MPa, CONSTRUCTED IN ACCORDANCE WITH NZS 3109 WITH U3 BROOM FINISH TO NZS 3114.
2. TACTILE GROUND SURFACE INDICATORS SHALL BE YELLOW IN COLOUR, MANUFACTURED AND INSTALLED IN ACCORDANCE WITH AS/NZS 1428.4 AND LTNZ RTS 14.
3. TACTILE GROUND SURFACE INDICATORS TO EXTEND FULL WIDTH OF DROP SECTION.
4. TACTILE GROUND SURFACE INDICATORS TO BE ALIGNED WITH DIRECTION OF TRAVEL.
5. DIRECTIONAL INDICATORS 600mm (MIN) USED WHERE CROSSING IS OFFSET FROM PATH OF TRAVEL.
6. CATCHPITS SHALL BE LOCATED A MINIMUM OF 1m CLEAR UPSTREAM OF PRAM CROSSINGS.

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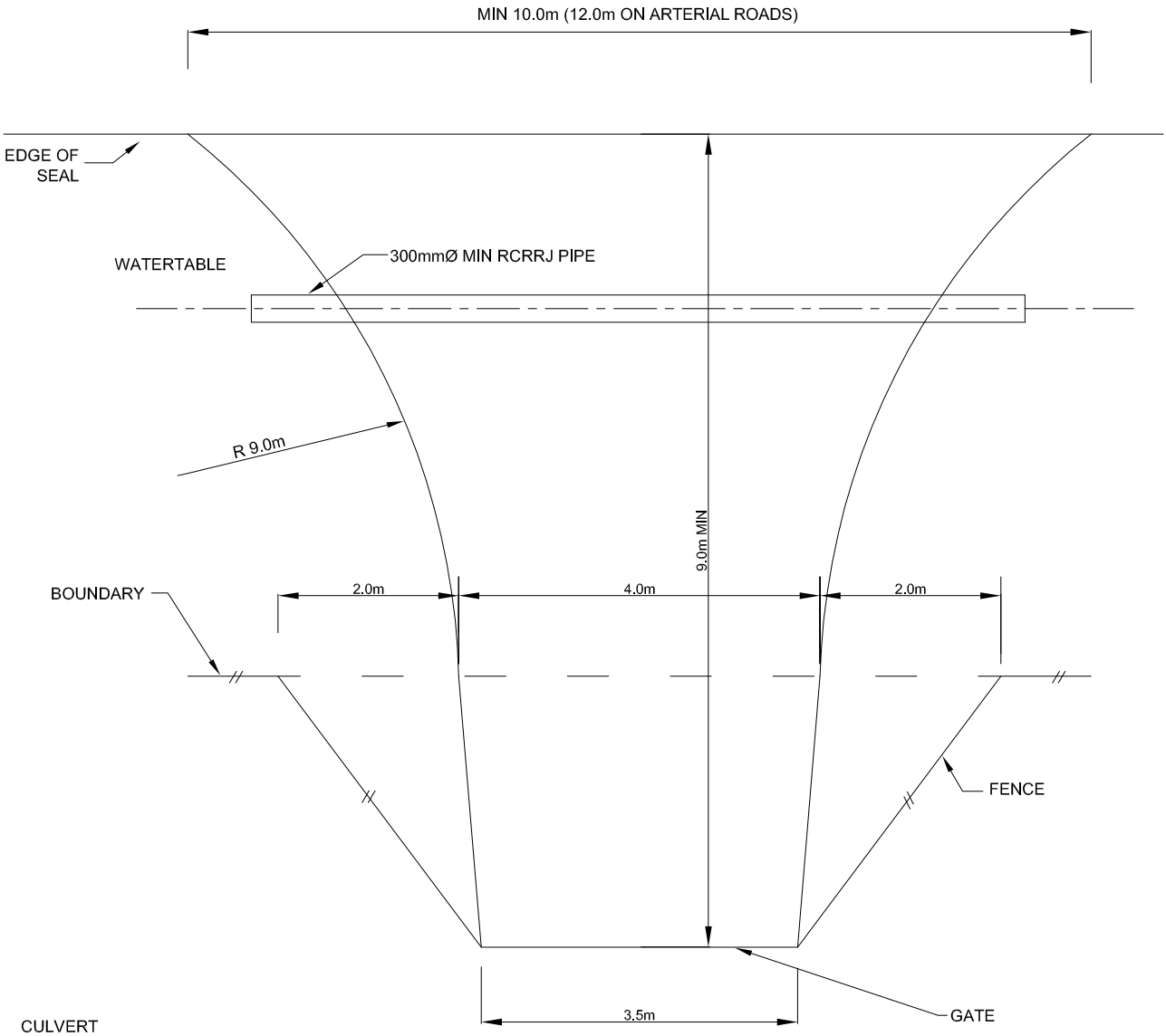
CONCRETE FOOTPATH WHEELCHAIR RAMP KERB CROSSING



1. CULVERT

1.1. IF THE PROPERTY ENTRANCE CROSSES A ROADSIDE WATERTABLE A CULVERT PIPE SHALL BE INSTALLED. THE CULVERT PIPE SHALL BE OF SUFFICIENT SIZE TO CARRY THE FLOWS ARISING FROM THE UPSTREAM CATCHMENT AND SHALL HAVE A MINIMUM DIAMETER OF 300mm. A RCRRJ CLASS X PIPE SHALL BE USED.

1.2. ANY UNSUITABLE BEDDING MATERIAL SHALL BE REMOVED AND REPLACED WITH SAND OR GAP 40.

1.3. ALL CULVERTS SHALL BE LAID STRAIGHT AND AT A CONSTANT GRADE WITH THE SOCKET END AT THE UPSTREAM INLET. THE ENDS OF THE CULVERT PIPE SHALL EXTEND A MINIMUM OF 0.5 METRES BEYOND THE METAL FORMATION.

1.4. THE APPLICANT SHALL BE RESPONSIBLE FOR ENSURING THAT THE CULVERT PIPE IS FULLY OPEN AT ALL TIMES.

1.5. IF THE PROPERTY ENTRANCE CROSSES A DRAIN OR WATERCOURSE THE APPLICANT SHALL OBTAIN APPROVAL FROM THE APPROPRIATE DRAINAGE BOARD OR REGIONAL COUNCIL PRIOR TO COMMENCING CONSTRUCTION.

2. PAVEMENT

2.1. A MINIMUM OF 100mm OF GOOD QUALITY GAP 40 BASECOURSE METAL SHALL BE PLACED, TRIMMED AND COMPACTED FROM THE EDGE OF SEAL TO THE GATE. A SUB-BASE LAYER MAY ALSO BE REQUIRED IF POOR SUB-GRADE CONDITIONS ARE ENCOUNTERED.

2.2. THE BASECOURSE METAL SHALL BE TRIMMED TO PROVIDE A CROWN IN THE CENTRE OF THE ENTRANCE TO ENSURE ADEQUATE SURFACE DRAINAGE TO PREVENT PONDING.

2.3. THE GRADE OF THE ENTRANCE BE 3% FOR AT LEAST 5M FROM THE EDGE OF SEAL AND THE REMAINING LENGTH SHALL NOT EXCEED 1 IN 8.

3. SURFACING

3.1. ALL NEW PROPERTY ENTRANCES SHALL BE SEALED FROM THE EDGE OF THE SEALED CARRIAGEWAY TO THE GATE.

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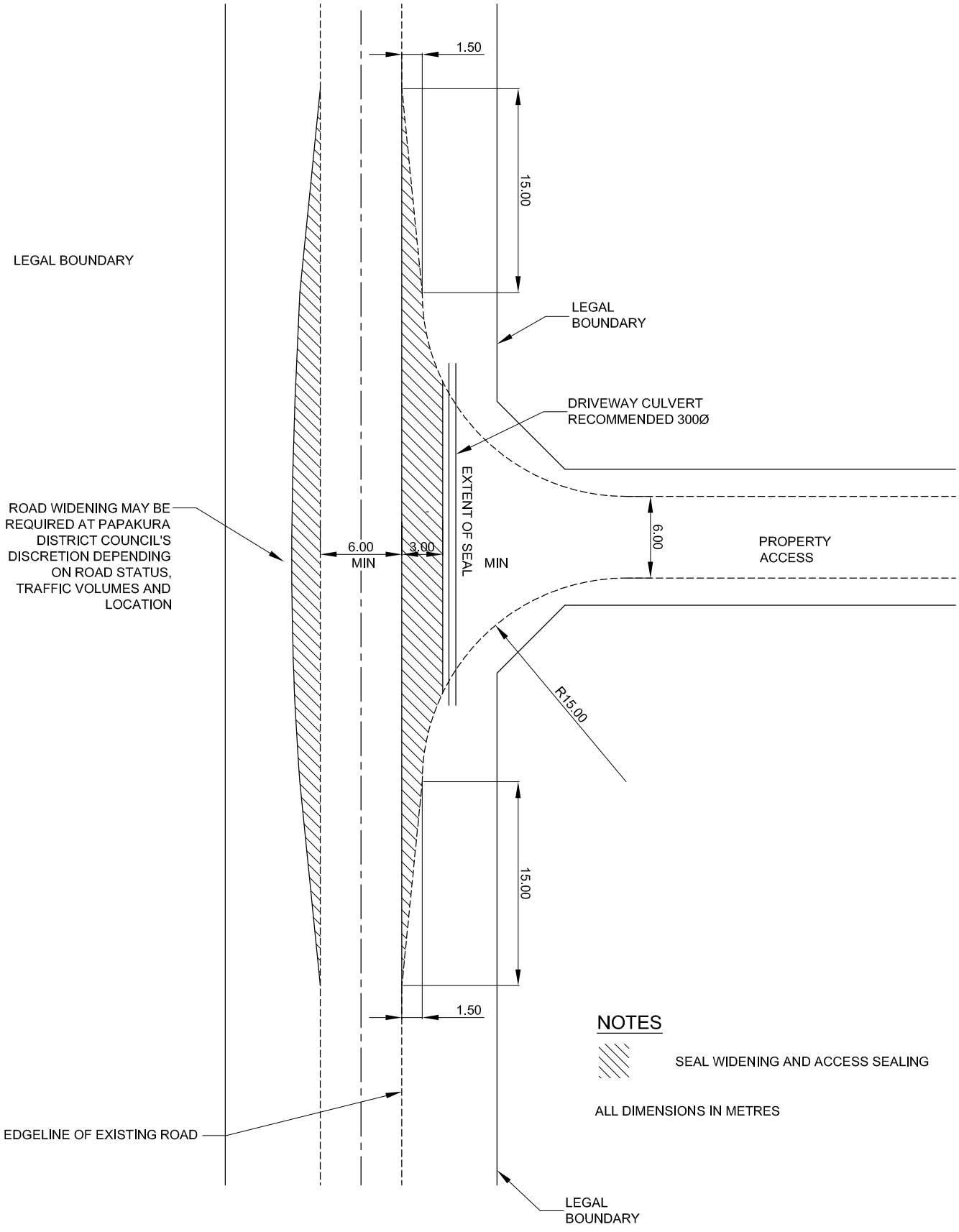
STANDARD RURAL PROPERTY ENTRANCE (RESIDENTIAL USE)



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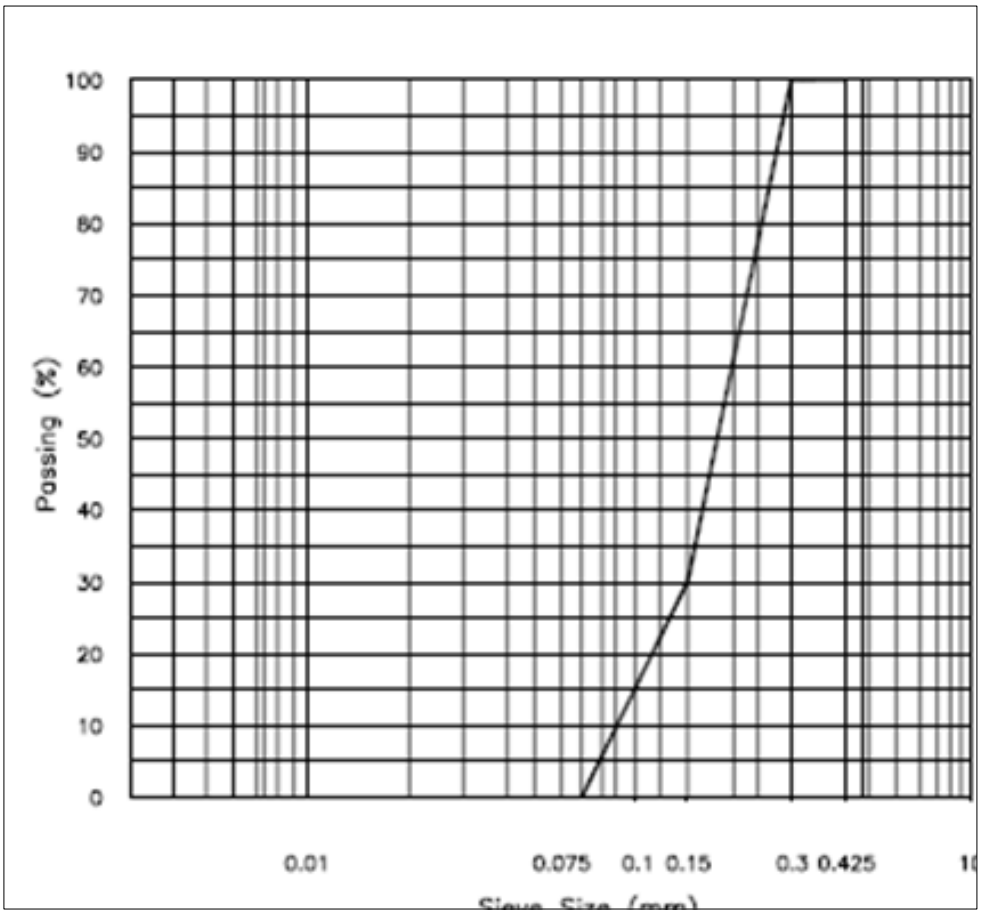
PRIVATE ACCESS HEAVY VEHICLES (e.g. TANKERS)

GRADING ENVELOPE



NOTES:

1. THIS APPROVAL IS FOR WOODHILL SAND AS SUPPLIED BY WINSTONE AGGREGATES LTD.
2. THE SAND SHALL BE A FINE GRAINED SILTY BLACK SAND WITHOUT A CLAY FRACTION.
3. PROPERTIES OF SAMPLE TESTED ON 16 MARCH 1995

SIEVE SIZE (um)	PERCENTAGE PASSING
425	100
300	99
150	32
75	0

4. CBR: 50% AT MAX, DENSITY OF 1.9t/m (TO ASTM D2049 - 69), PERMEABILITY: AVERAGE 1.337x10 m/sec TO BS 1377.

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SAND FOR USE IN REPLACEMENT OF UNDERCUTS IN ROADWORKS