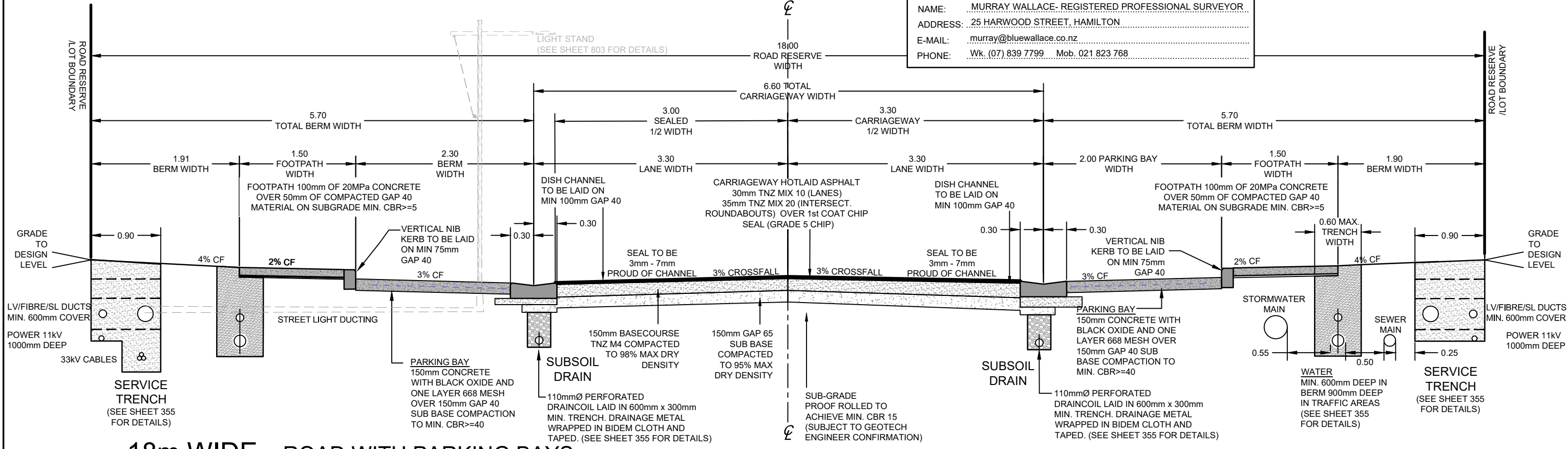


**NOMINATED SUPERVISOR**  
ENGINEERING PLANS FOR CONSTRUCTION

NAME: MURRAY WALLACE- REGISTERED PROFESSIONAL SURVEYOR  
ADDRESS: 25 HARWOOD STREET, HAMILTON  
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PHONE: Wk. (07) 839 7799 Mob. 021 823 768

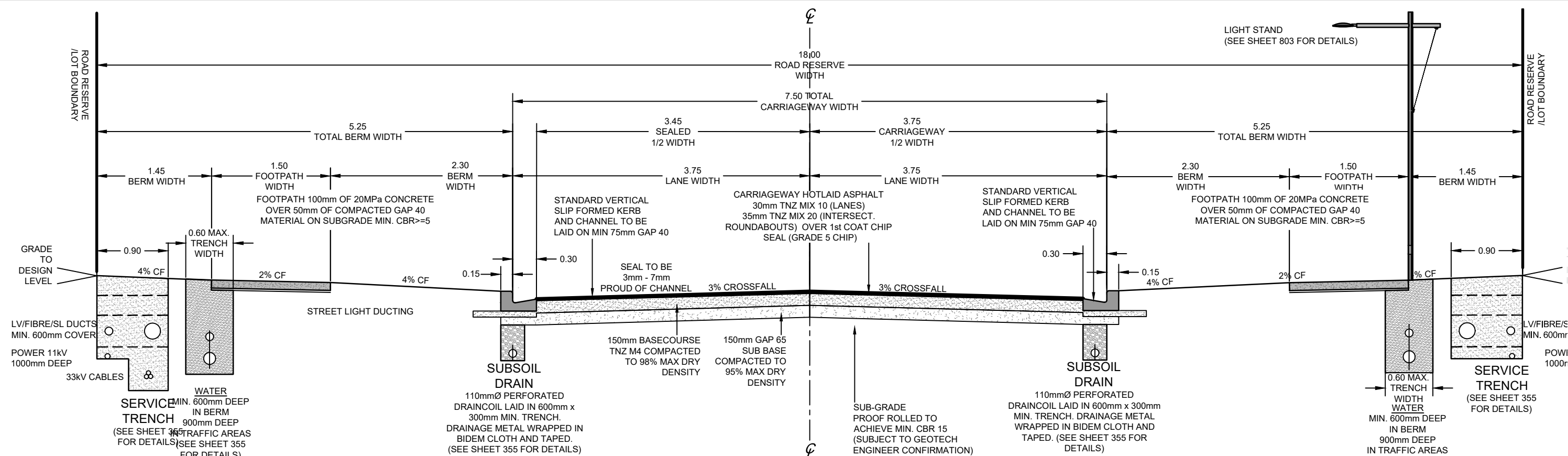


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No.	Amendment	Init.	Date	Designed	JMC	21/03/22	
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2	Issued for Resource Consent	JMC	18/08/21	Checked			
3	Issued for Resource Consent	JMC	21/03/22	Approved			

**Resource Consent**  
**Roading Typical Cross Sections**  
189 Three Mile Bush Road, Kamo, Whangarei  
Prepared for: Hurupaki Holdings Ltd

**Blue Wallace Surveyors Ltd.**  
25 Harwood Street, P O Box 38, Hamilton Central, HAMILTON.  
Phone (07) 839 7799, Fax (07) 839 4455

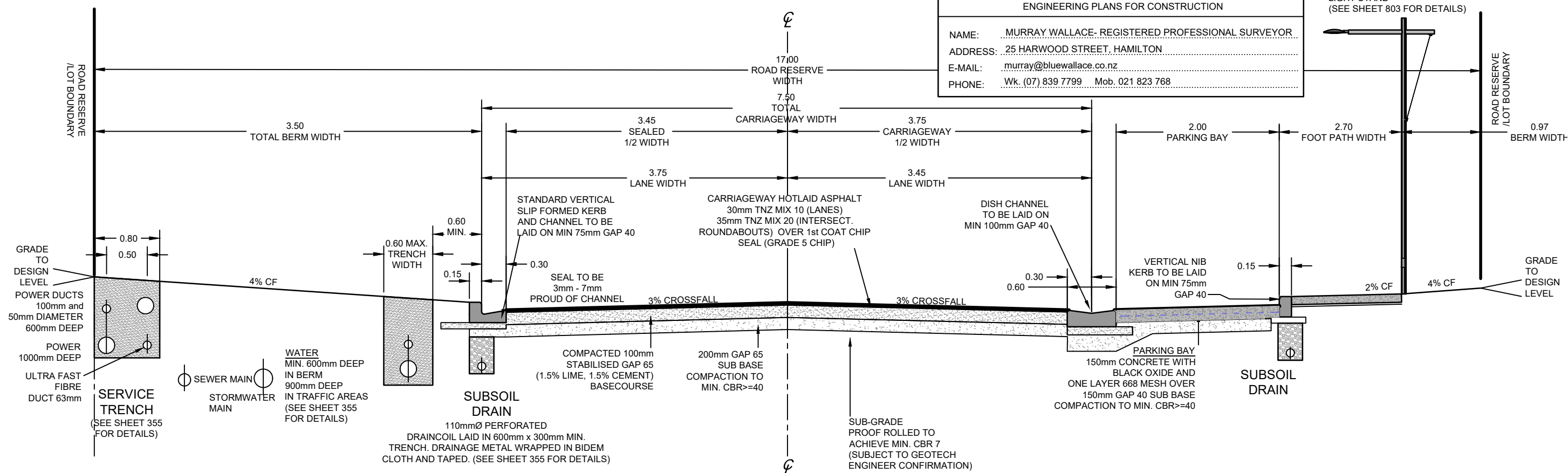
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Height:	One Tree Point Datum
Resource Consent Number:	
BW Ref.	Stg. Purp. Dwg. # Revision:
20183-00-RC-350	3



**18m WIDE - ROAD 1**

**NOMINATED SUPERVISOR**  
ENGINEERING PLANS FOR CONSTRUCTION

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 ADDRESS: 25 HARWOOD STREET, HAMILTON  
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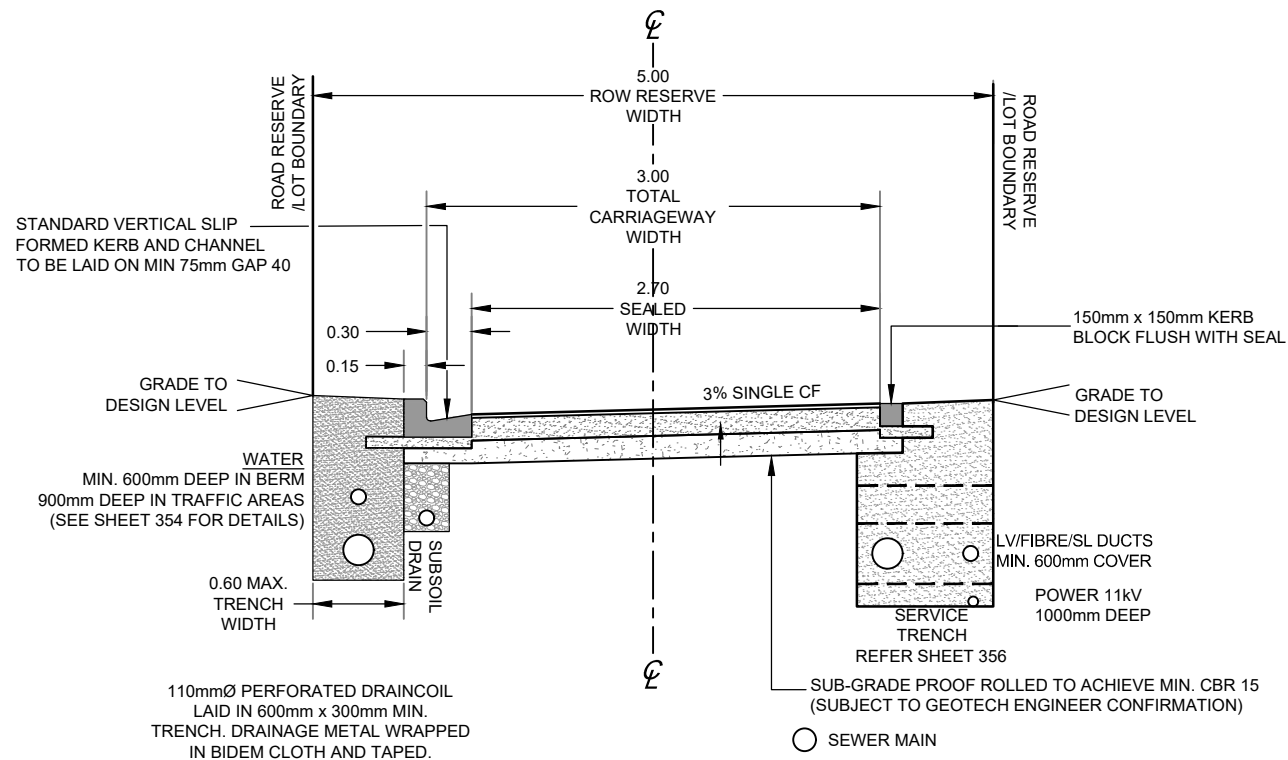
**ROAD 3 - 17m WIDE- ROAD WITH PARKING CH 200.00 - END**

Size	A3	Scale	1:50	DATE:	July 2021		
No.	Amendment	Init.	Date	Designed	JMC	21/03/22	
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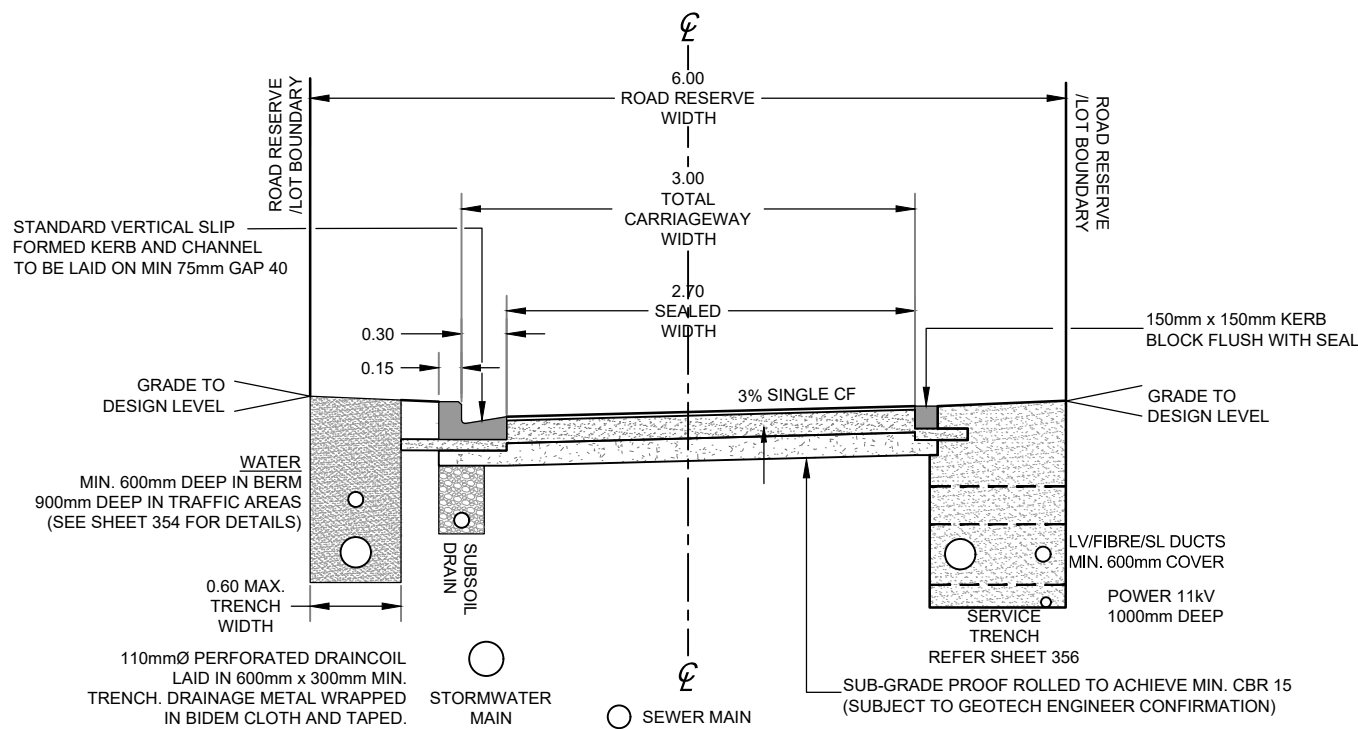
Resource Consent  
**Roading Typical Cross Sections**  
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 Prepared for: Hurupaki Holdings Ltd

**Blue Wallace Surveyors Ltd.**  
 25 Harwood Street, P O Box 38,  
 Hamilton Central, HAMILTON.  
 Phone (07) 839 7799, Fax (07) 839 4455

Datum: Circuit: Mount Eden 2000	
Height: One Tree Point Datum	
Resource Consent Number:	
BW Ref.	Stg. Purp. Dwg. # Revision:
20183-00-RC-351	3



**R.O.W. - 5.0m WIDE**



**R.O.W. - 6.0m WIDE**

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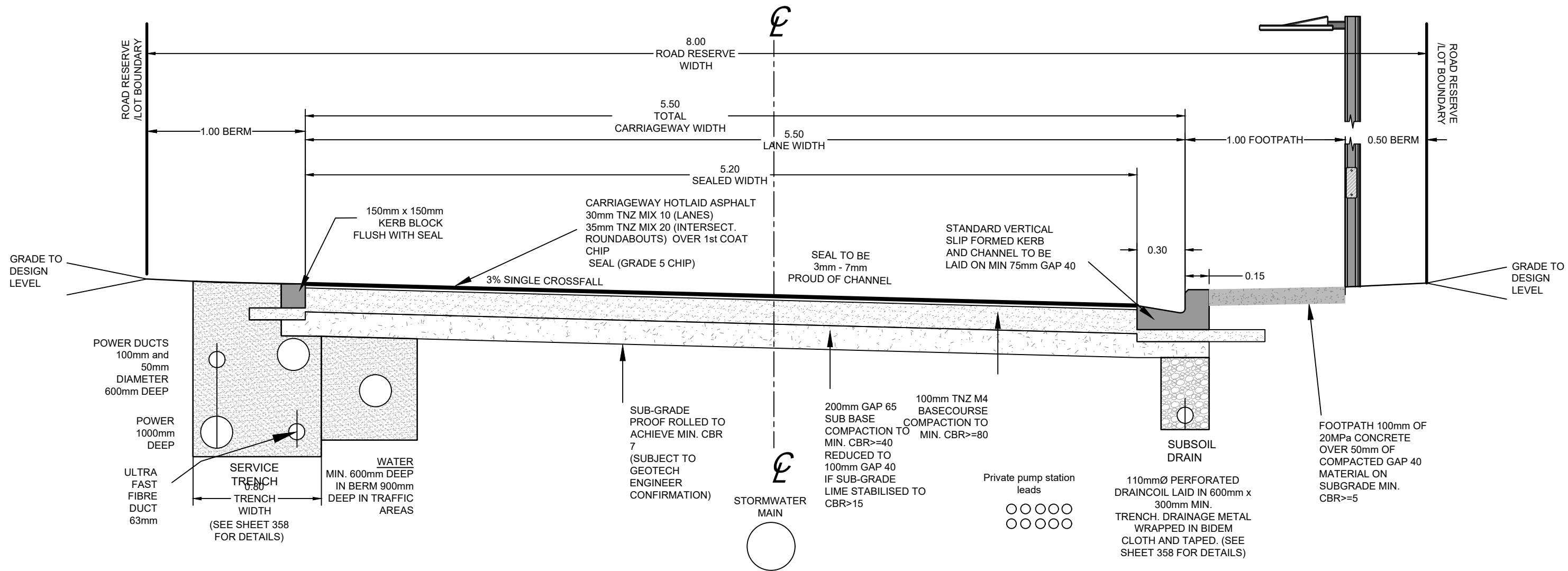
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Resource Consent  
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 189 Three Mile Bush Road, Kamo, Whangarei  
 Prepared for: Hurupaki Holdings Ltd



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 Hamilton Central, HAMILTON.  
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Datum:	Circuit: Mount Eden 2000		
Height:	One Tree Point Datum		
Resource Consent Number:	20183-00-RC-352		
BW Ref.	Stg.	Purp.	Dwg. #
			3



**ACCESS 302 - 8m WIDE**

NOMINATED SUPERVISOR	
ENGINEERING PLANS FOR CONSTRUCTION	
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ADDRESS:	25 HARWOOD STREET, HAMILTON
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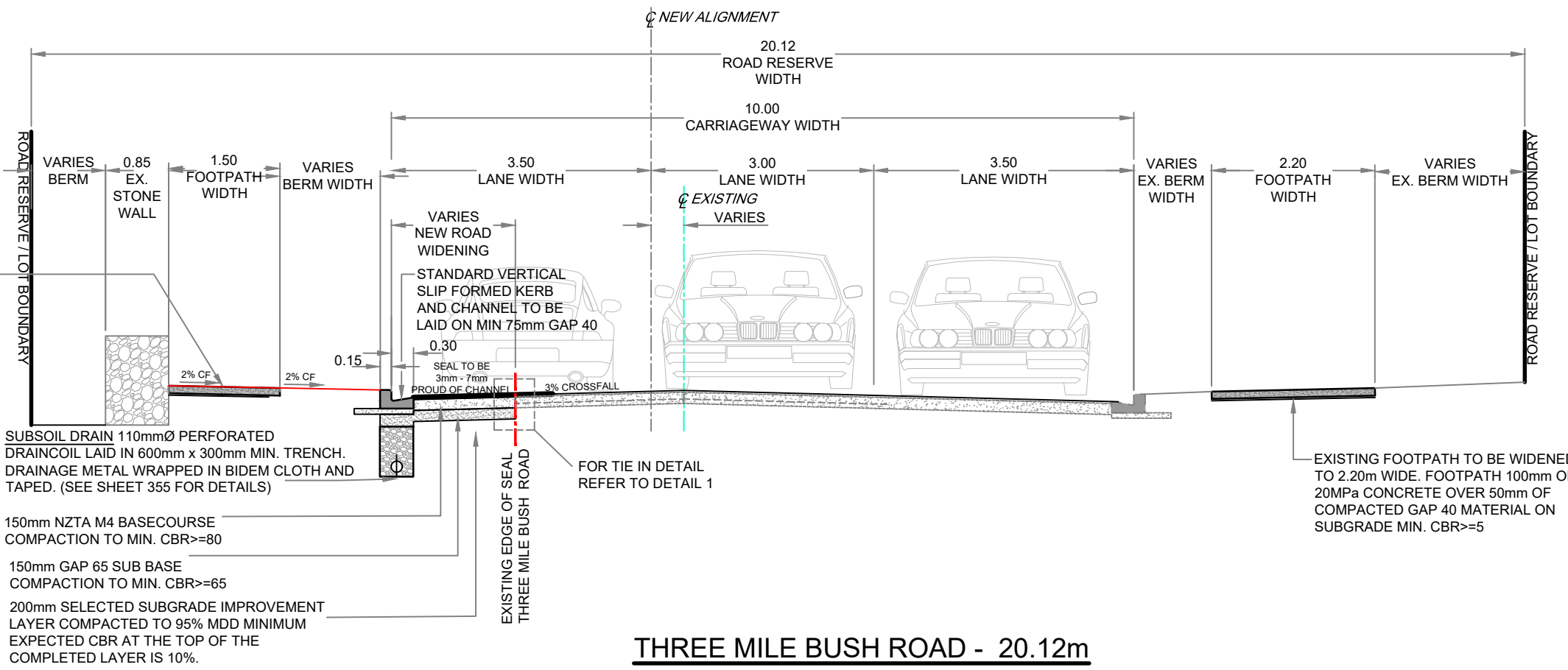
**Engineering Works**  
**Roading Typical Cross Sections**  
 189 Three Mile Bush Road, Kamo, Whangarei  
 Prepared for: Hurupaki Holdings Ltd



**Blue Wallace Surveyors Ltd.**  
 25 Harwood Street, P O Box 38,  
 Hamilton Central, HAMILTON.  
 Phone (07) 839 7799. Fax (07) 839 4455

Datum:	Circuit: Mount Eden 2000
	Height: One Tree Point Datum
Resource Consent Number:	
BW Ref.	Stg. Purp. Dwg. # Revision:
20183-00-RC-353	3

FOOTPATH 100mm OF 20MPa CONCRETE OVER 50mm OF COMPACTED GAP 40 MATERIAL ON SUBGRADE MIN. CBR>=5



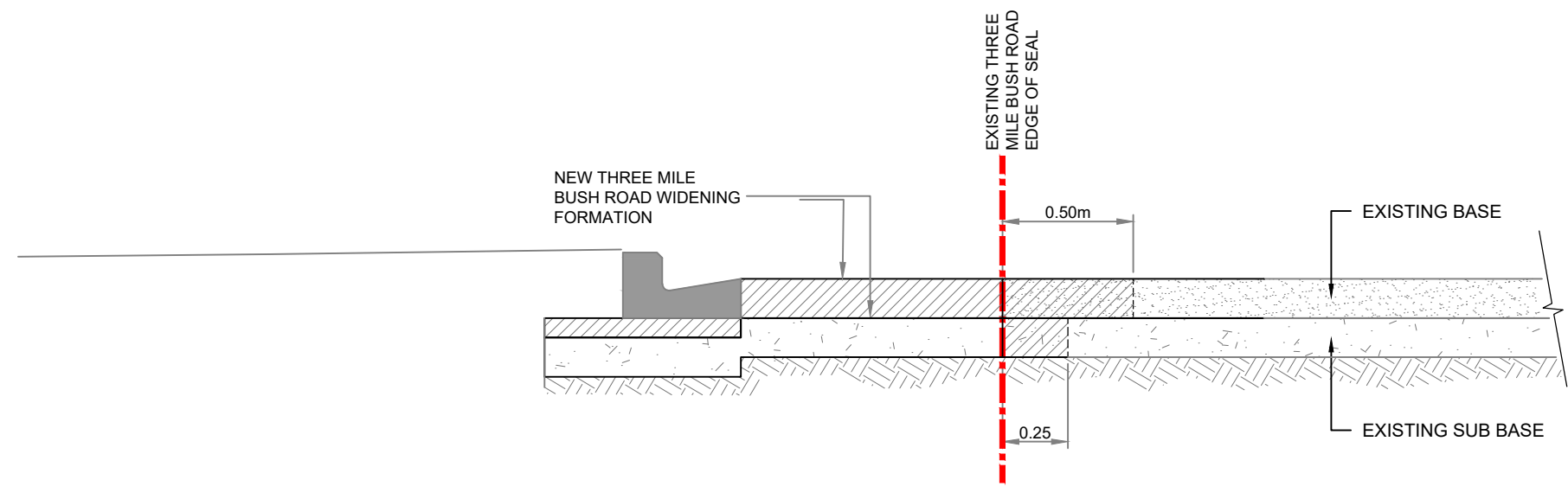
SUBSOIL DRAIN 110mmØ PERFORATED DRAINCOIL LAID IN 600mm x 300mm MIN. TRENCH. DRAINAGE METAL WRAPPED IN BIDEM CLOTH AND TAPED. (SEE SHEET 355 FOR DETAILS)

150mm NZTA M4 BASECOURSE COMPACTION TO MIN. CBR>=80

150mm GAP 65 SUB BASE COMPACTION TO MIN. CBR>=65

200mm SELECTED SUBGRADE IMPROVEMENT LAYER COMPACTION TO 95% MDD MINIMUM EXPECTED CBR AT THE TOP OF THE COMPLETED LAYER IS 10%.

EXISTING FOOTPATH TO BE WIDENED TO 2.20m WIDE. FOOTPATH 100mm OF 20MPa CONCRETE OVER 50mm OF COMPACTED GAP 40 MATERIAL ON SUBGRADE MIN. CBR>=5



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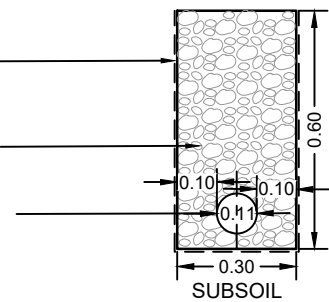
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20183-00-RC-354				3

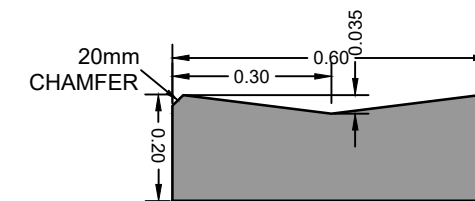
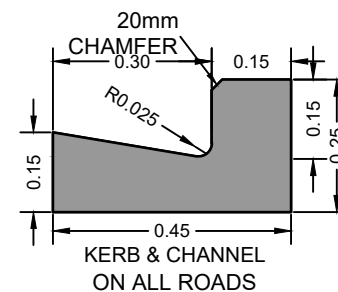
S:\2020\201832\_ENGINEERING\1\_DRAWINGSPLOTTING\_DRAWINGS\20183-EN-01-350-0-ROADING\_XS.DWG

BOUNDARIES OF TRENCH TO BE LINED WITH FILTER FABRIC (BIDIM A14) WITH 200mm OVERLAP  
 BACKFILL TRENCH WITH 20/7 'PAGES' DRAINAGE METAL  
 110mmØ PERFORATED DRAINCOIL, NOVAFLOW OR EQUIVALENT TO BE 450mm BELOW SUBGRADE & 700mm MIN. BELOW TOP OF KERB

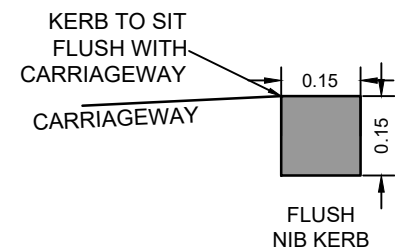


SUBSOIL DRAIN  
 (refer WDC - EES, Sec. 3.4.15.2)  
 (refer WDC - EES, Sheet 14)  
 SUBSOIL DRAINS TO BE CONSTRUCTED AFTER STABILISATION OF SUBGRADE

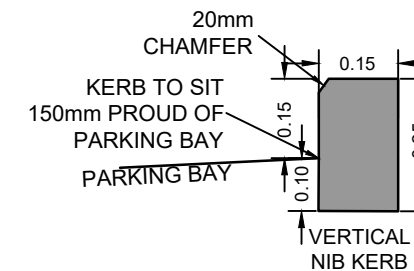
**RESIDENTIAL ROAD**  
 SUB SOIL DRAIN DETAIL



DISH CHANNEL AT FRONT OF PARKING BAYS

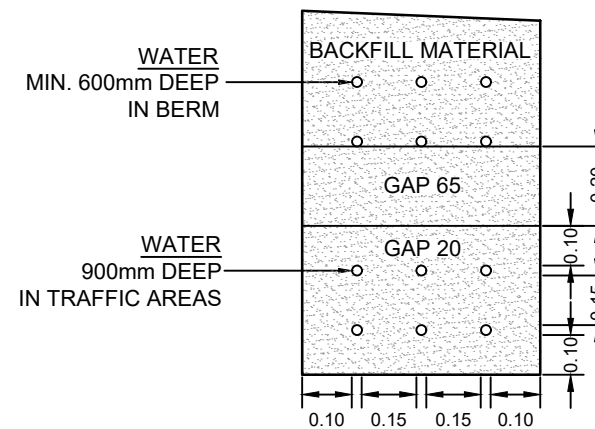


FLUSH NIB KERB  
 ON HIGH SIDE OF SINGLE CROSSFALL ACCESSWAYS

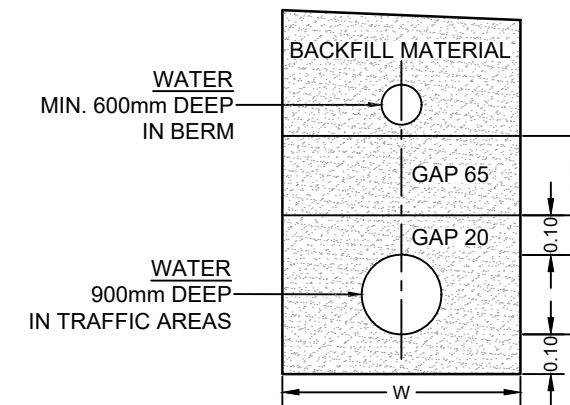


AT REAR OF PARKING BAYS BASED ON STANDARD KERB & CHANNEL WITHOUT CHANNEL

**RESIDENTIAL ROAD**  
 KERB DETAIL DIAGRAMS



SERVICE TRENCH FOR WATER IN PRIVATE ROADS



SERVICE TRENCH FOR WATER IN PUBLIC ROADS

W	TYPE OF PIPE
D + 400	PE

**RESIDENTIAL ROAD**  
 WATER RETICULATION

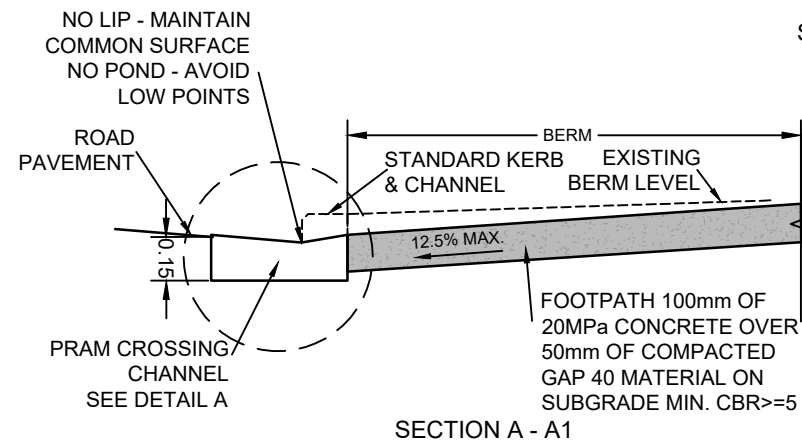
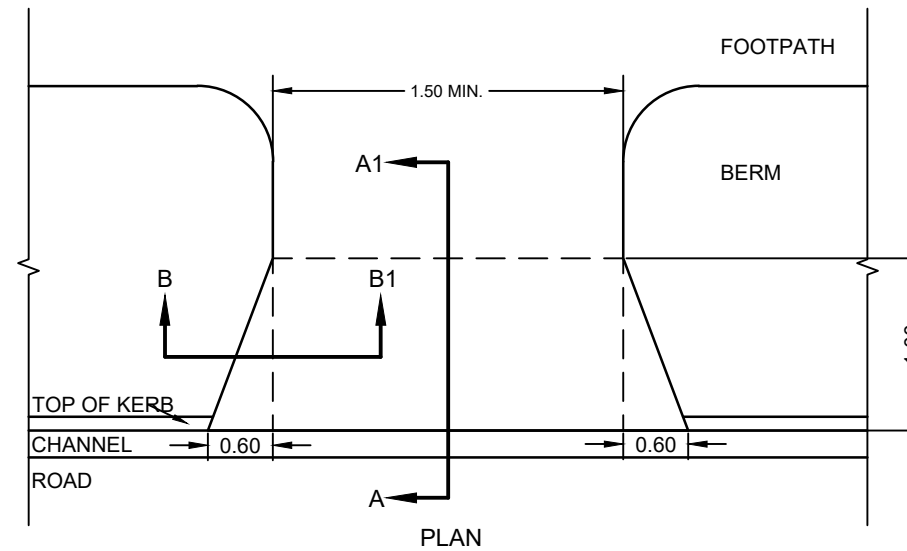
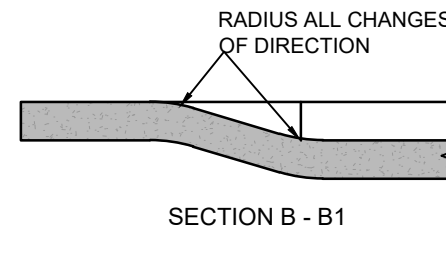
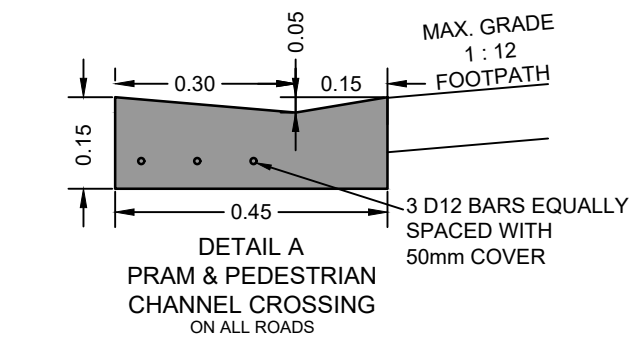
NOMINATED SUPERVISOR	
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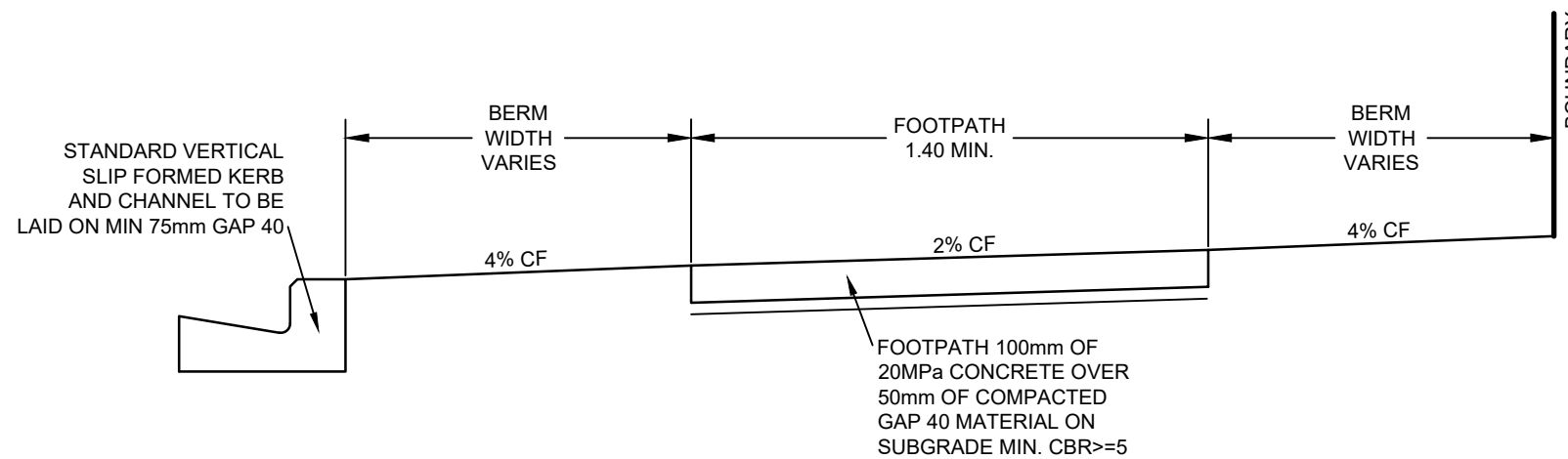
Resource Consent  
**Roading Detail Sheet**  
 189 Three Mile Bush Road, Kamo, Whangarei  
 Prepared for: Hurupaki Holdings Ltd

**Blue Wallace Surveyors Ltd.**  
 25 Harwood Street, P O Box 38,  
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 Phone (07) 839 7799, Fax (07) 839 4455

Datum:	Circuit: Mount Eden 2000
	Height: One Tree Point Datum
Resource Consent Number:	
BW Ref.	Stg. Purp. Dwg. # Revision:
20183-00-RC-355	3



**TYPICAL CROSS SECTION**  
PRAM CROSSING DETAIL



**CONCRETE FOOTPATH**  
**DETAILS**

NOMINATED SUPERVISOR	
ENGINEERING PLANS FOR CONSTRUCTION	
NAME:	MURRAY WALLACE- REGISTERED PROFESSIONAL SURVEYOR
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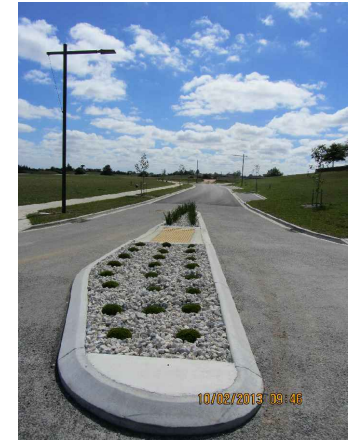
Resource Consent  
**Roading Detail Sheet**  
189 Three Mile Bush Road, Kamo, Whangarei  
Prepared for: Hurupaki Holdings Ltd

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Resource Consent Number:	
BW Ref.	Stg. Purp. Dwg. # Revision:
20183-00-RC-356	3

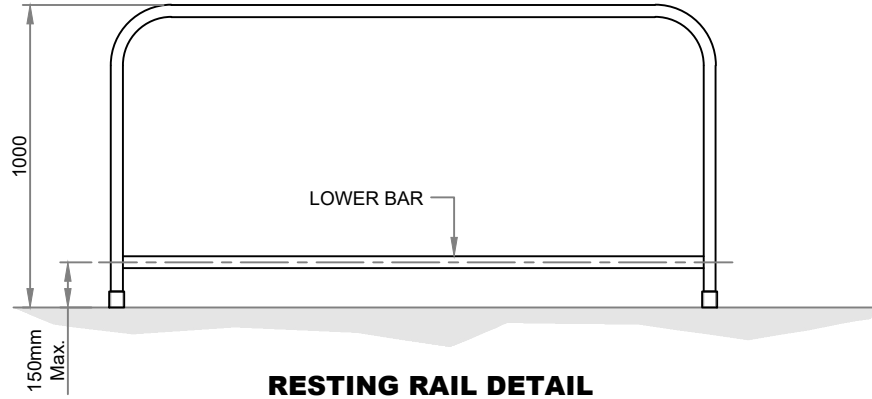
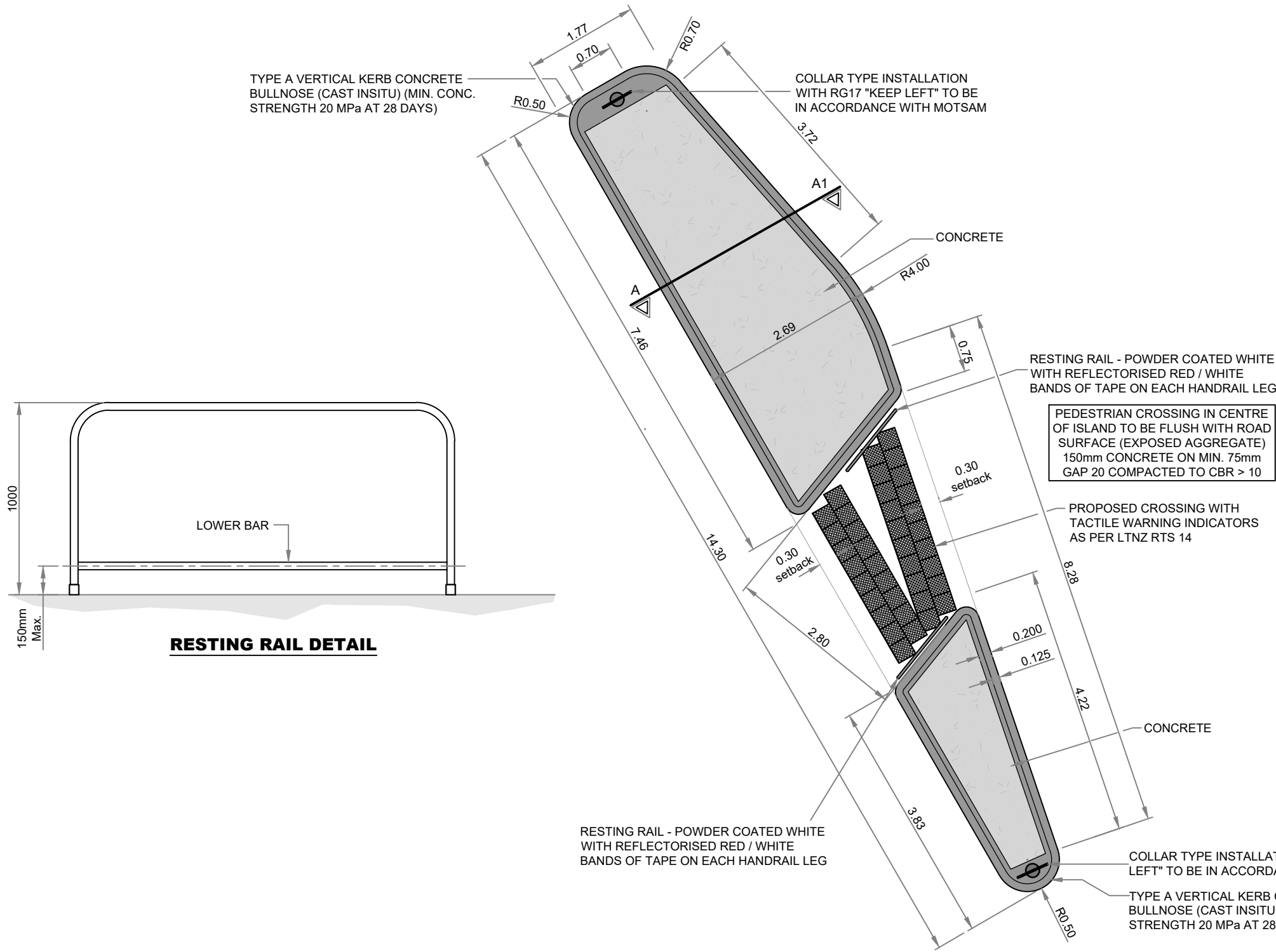
TYPE A VERTICAL KERB CONCRETE BULLNOSE (CAST INSITU) (MIN. CONC. STRENGTH 20 MPa AT 28 DAYS)

COLLAR TYPE INSTALLATION WITH RG17 "KEEP LEFT" TO BE IN ACCORDANCE WITH MOTSAM

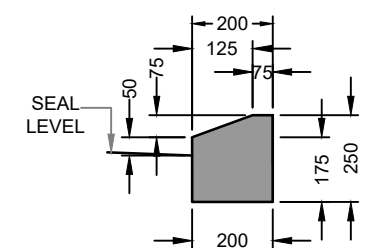


**SPLITTER ISLAND DETAIL**

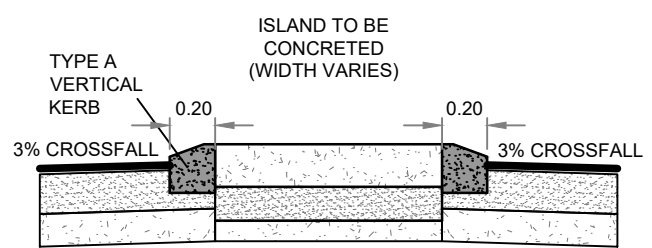
PHOTO EXAMPLE



**RESTING RAIL DETAIL**



**TYPE 'A' KERB DETAIL**



**SECTION A - A1 THRU SPLITTER ISLAND**

**SPLITTER ISLAND DETAIL**

**NOMINATED SUPERVISOR**  
ENGINEERING PLANS FOR CONSTRUCTION

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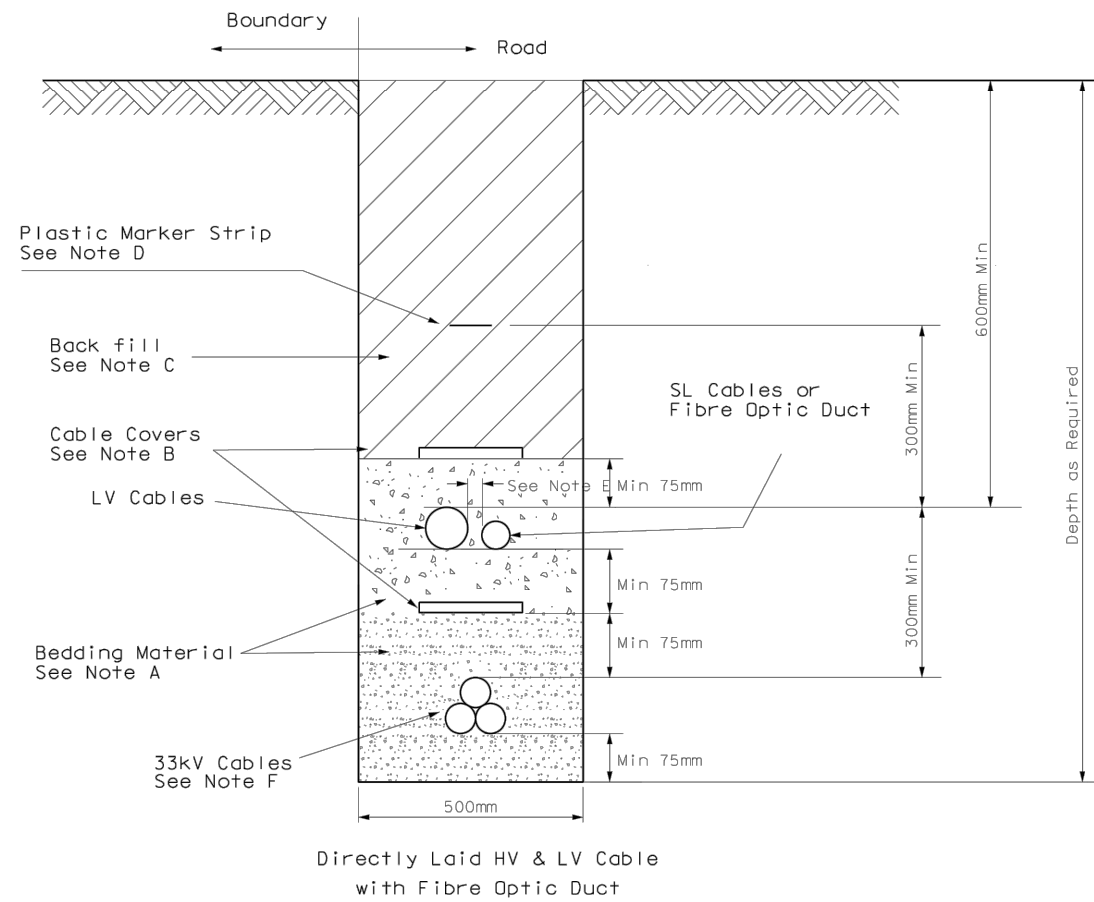


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Datum:	Circuit: Mount Eden 2000		
Height:	One Tree Point Datum		
Resource Consent Number:	20183-00-RC-357		
BW Ref.	Stg.	Purp.	Dwg. #
			3



Power Cabling Only



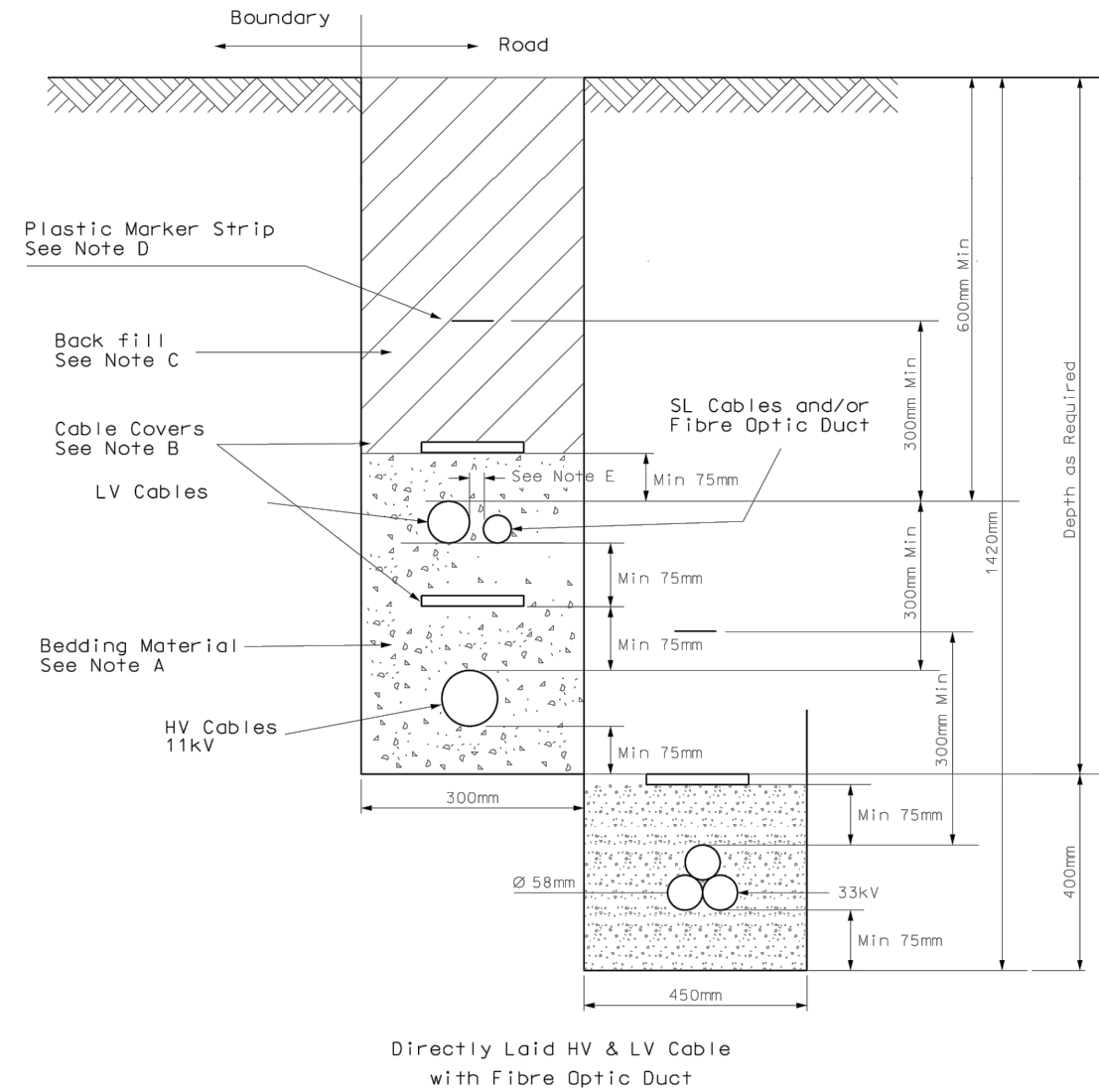
Directly Laid HV & LV Cable with Fibre Optic Duct

NOTES:

- A. Bedding material either sand or 'clean' soil. Thermal backfill to be used for 33kV Cable (Pap 7)
- B. Covers to comply with AS/NZS 3000:2007 3.11.3 and 3.11.4 and AS4702-2000 and shall be located 75mm above cables and ducts. Cable covers shall be at least 150mm in width and overlap at least 40mm each side of the cable.
- C. Back Fill, generally use fill from trench but ensure no large stones or sharp objects are placed back in the trench.
- D. Marker strip to comply with AS/NZS 3000:2007 3.11.4.5 and be 100mm wide, coloured orange, with words 'Electrical Cable Below'.
- E. Where practical provide some separation (75mm or greater) between direct laid LV and SL cable / fibre optic duct.
- F. HV 11kV Cable to be minimum 450mm from boundary (refer ENS 3.3.85 and 2F173s1)

	Rev	Amendments	By	Checked	Date	Title <b>33kV Trench Profile                  Three Mile Bush Rd</b>	Drawn	C. Parkes	Date	7/10/19
	A.1	Initial Design	CP				Checked		Date	
	A.2	Remove Telecom	CP			Approved		Date		
						Issue	A.2	Date		
Head Office 28 Mt Pleasant Road Private Bag 9018 Telephone 0-9-430 1803 Facsimile 0-9-430 1804 http://www.northpower.co.nz						Plan Number	2F375s2			
Scale NTS Sheet size A4										

Power Cabling Only

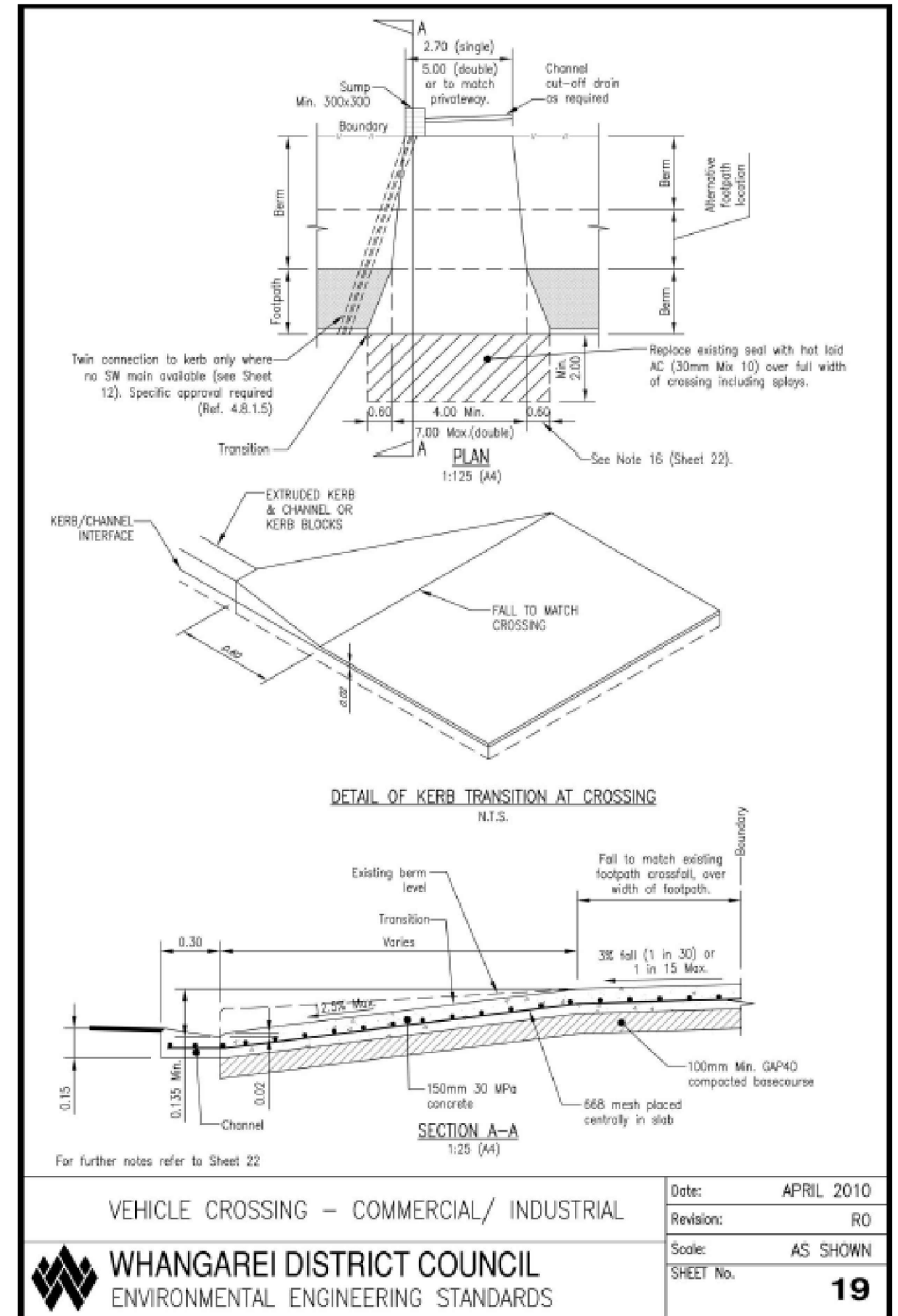
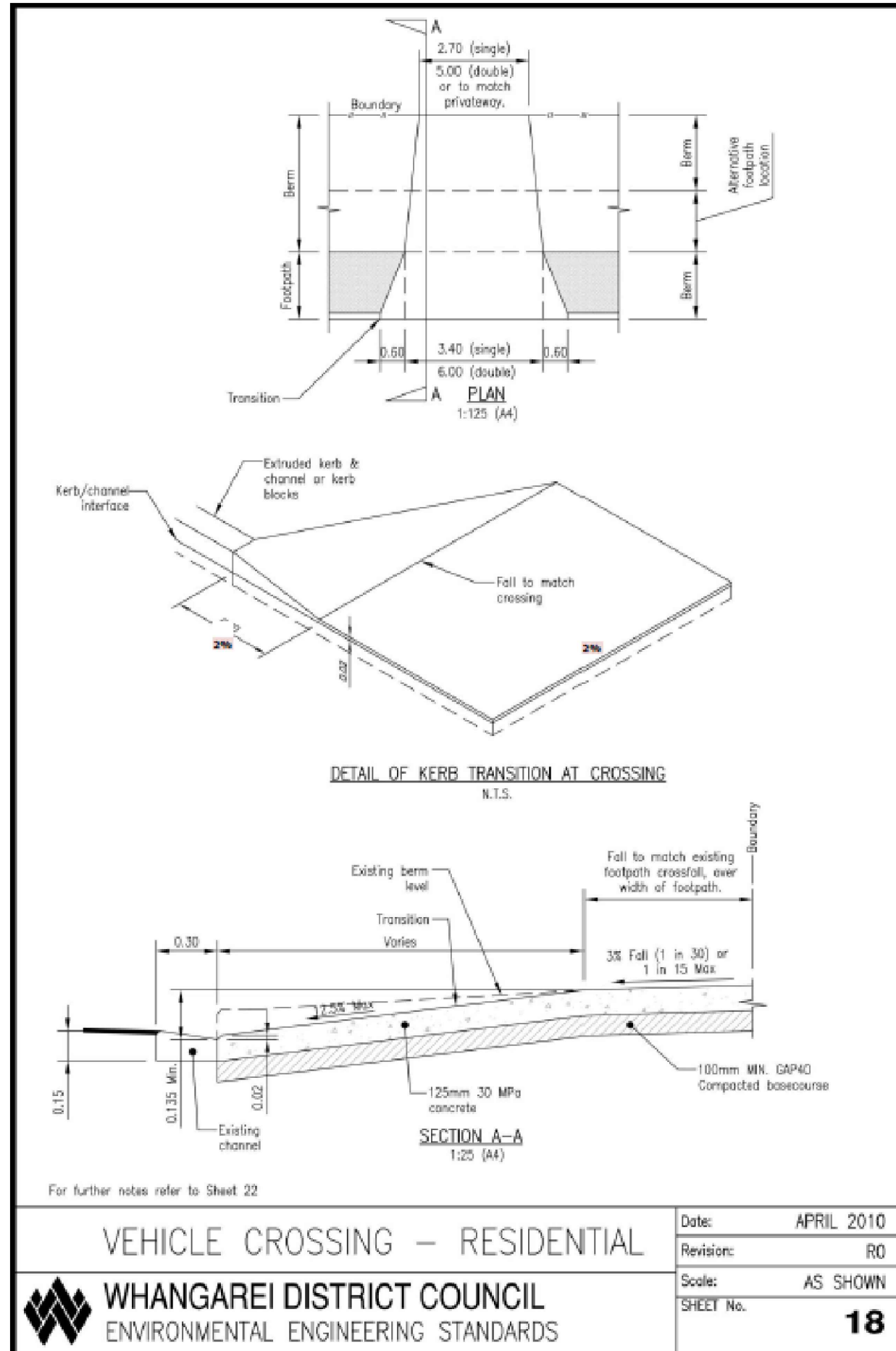


Directly Laid HV & LV Cable with Fibre Optic Duct

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- E. Where practical provide some separation (75mm or greater) between direct laid LV and SL cable / fibre optic duct.
- F. HV 11kV Cable to be minimum 450mm from boundary (refer ENS 3.3.85 and 2F173s1)

	Rev	Amendments	By	Checked	Date	Title <b>33/11kV Trench Profile                  Three Mile Bush Rd</b>	Drawn	C. Parkes	Date	4/10/19
	A.1	Initial Design	CP				Checked		Date	
	A.2	Remove Telecom	CP			Approved		Date		
						Issue	A.2	Date		
Head Office 28 Mt Pleasant Road Private Bag 9018 Telephone 0-9-430 1803 Facsimile 0-9-430 1804 http://www.northpower.co.nz						Plan Number	2F375s1			
Scale NTS Sheet size A4										



Vehicle Crossings for Lots 53-55 & 35-39

WDC 8036

**Sheet 22 Vehicle Crossing Notes**

**RESIDENTIAL, COMMERCIAL AND INDUSTRIAL CROSSINGS**

1. All concrete to be 30 MPa strength at 28 days.
2. Crossings to be constructed to match existing footpath and channel levels and be graded to give sufficient clearance to the underside of all vehicles.
3. The alternative channel crossing detailed on Sheet 20 may only be used with specific approval. It is for use only where thick overlay of existing seal precludes the standard option.
4. If no footpath, allowance shall be made for such with a 3% crossfall to the kerb.
5. Kerb transitions to be constructed of similar materials to the adjacent kerb or cast in situ concrete. See Sheet 12 for details.
6. Where the footpath or adjacent property level is below the channel level, ramp the crossing up from the channel to control surface water while maintaining vehicle clearance. A freeboard of 200mm above the channel is required to contain stormwater within the road.
7. Gradient of crossing not to exceed 12.5% (1 in 8).
8. Crossings for all private ways shall be commercial grade to Sheet 19.
9. Edges of footpath and back of channel to be saw cut.
10. All crossings require council inspection prior to pouring concrete.
11. If the edge of the crossing is within 1m of a crack or joint in an existing footpath then that section of footpath shall be replaced.
12. Commercial and industrial channels to be reinforced with an extension of the 668 mesh.
13. Where a street pump is located within the proposed crossing, the pump shall be relocated to the side of the crossing and reconnected to the council storm water system.
14. Refer to Sheet 16 for vehicle crossing over a drainage swale.
15. Stormwater kerb connections generally not permitted. (See Section 4.8.1.5).
16. Splay width may need to be increased in some circumstances to accommodate an 11.5m rigid truck.
17. For commercial crossings provide a 2m strip of hot laid AC over full width including splays.

**RURAL CROSSINGS**

1. Pipes are to be RCRRJ Class "4" (formerly Class "2").
2. Pipes are to be adequate for the upstream catchment, but not less than 300mm dia or the downstream culvert and shall be constructed to the correct line and level to maintain drainage paths.
3. Provide concrete or stonework headwalls and/or concrete aprons. Pipe ends are to extend beyond the edge of the crossing a distance that allows the gradient to invert to be no steeper than 1V:3H.
4. Gateways shall be located to allow vehicle parking clear of the road shoulder.
5. Minimum sight distance requirements for entrance crossings are to comply with Sheet 14.
6. All crossings adjoining sealed public roads are to be sealed or concrete, to the property boundary.
7. Concrete access ways shall start at least 0.5m outside of the existing edge of seal or 0.5m outside of the carriageway width required by the standard whichever is the further.
8. Concrete entrance crossings are to be 125mm of 30MPa concrete for light vehicle access. Heavy vehicle crossings shall be 150mm thick of 30MPa concrete reinforced with 665 mesh unless specifically designed.
9. Unsealed crossings shall comprise not less than 125mm GAP 6S and 75mm GAP40 or 200mm GAP 40 (compacted depths).
10. For application of Type 2 crossing refer to Section 3.4.10.3.
11. Where local widening is required (Types 2 and 3) the tapers shall be sealed.

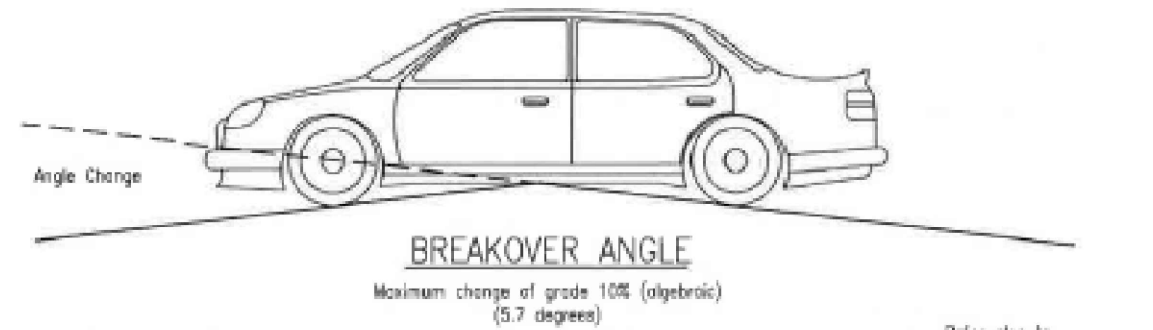
VEHICLE CROSSING NOTES  
(FOR RESIDENTIAL, COMMERCIAL, INDUSTRIAL AND RURAL USE)

Date: APRIL 2010  
Revision: R0  
Scale: AS SHOWN  
SHEET No. **22**

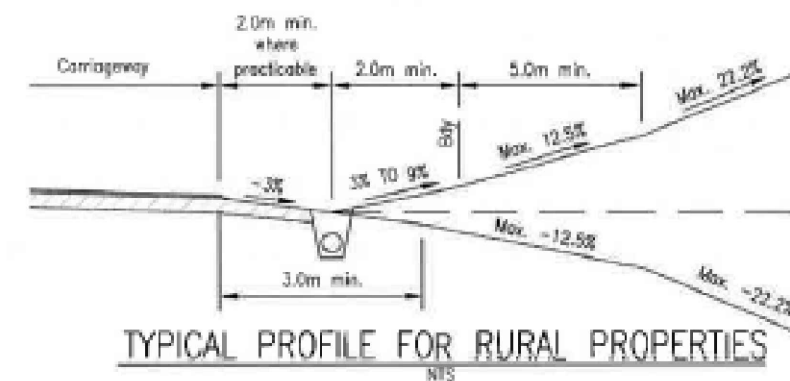
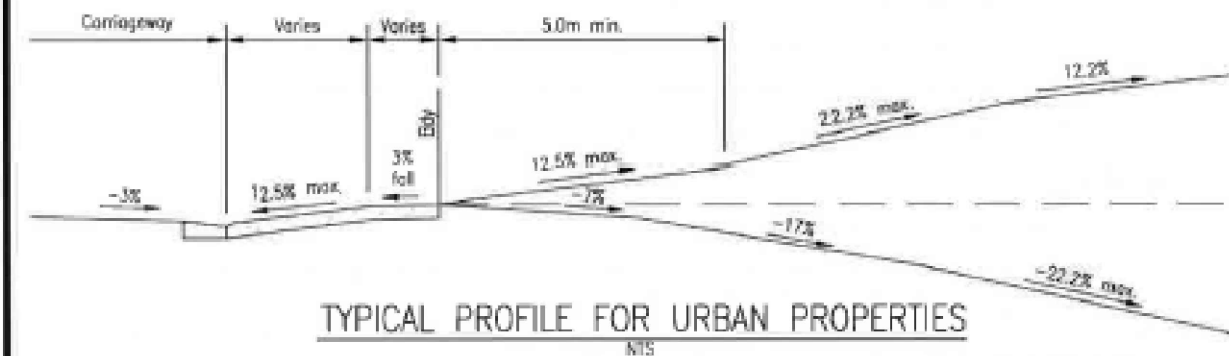
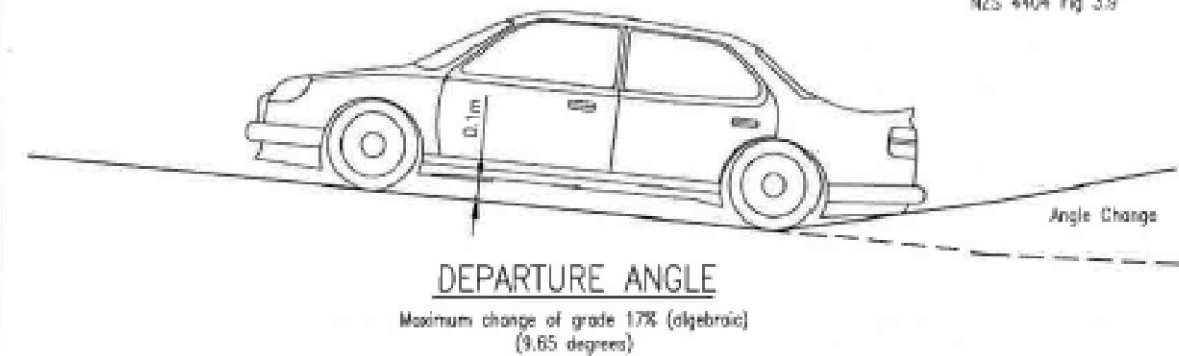


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**Sheet 23 Vehicle Crossing – Max Graded Profiles For Urban/Rural**



Refer also to  
NZS 4404 Fig 3.9



**NOTES:**

1. Maximum grade changes to occur at not less than 2.0m intervals.
2. Based on 90 percentile car as at 1990 with minimum ground clearance of 100mm.

VEHICLE CROSSING –  
MAXIMUM GRADED PROFILES FOR URBAN/ RURAL PROPERTIES

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Revision: R0  
Scale: NTS  
SHEET No. **23**



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