

Project Name:	Infrastructure Alliance			Inspection Key <i>Use in sections 3, 4 and 5.</i> A Action B Report by Breach C Check D Dimension Inspection E Examine H Hold Point I Inspection M Monitor on Random Basis O Operation R Review S Subcontractor V Visual Verification W Witness Point	Responsibilities <i>Use in sections 3, 4 and 5.</i>			
Project Number:	062				Role Key		Name	Signature/ Initial
Customer:	Hamilton City Council				FP	Foreperson		
Contract Number:	550580				SV	Supervisor	Conrad Ferreira	
Area/ Sub-System:		Lot ID Number:			MM	Maintenance manager	Darrin Williams	
		Version:			QE	Quality engineer	Gurjiwan Brar	
ITP Number:					OM	Operations manager	Wayne Bowden	
ITP Description:	Kerb and Channel Renewals				RM	Renewals manager		
Discipline:					AM	Alliance manager		
Specification:					PM	Project manager		
Drawings:	Refer to relative RITS and SWMS			PE	Project engineer			
Prepared By: <i>(Name)</i>		Date:						
Quality Specified:	ISO 9001							

ITP Close-Out by Downer	Name:		Signature:		Date:	
Downer Approval	Name:		Signature:		Date:	
Customer Approval	Name:		Signature:		Date:	

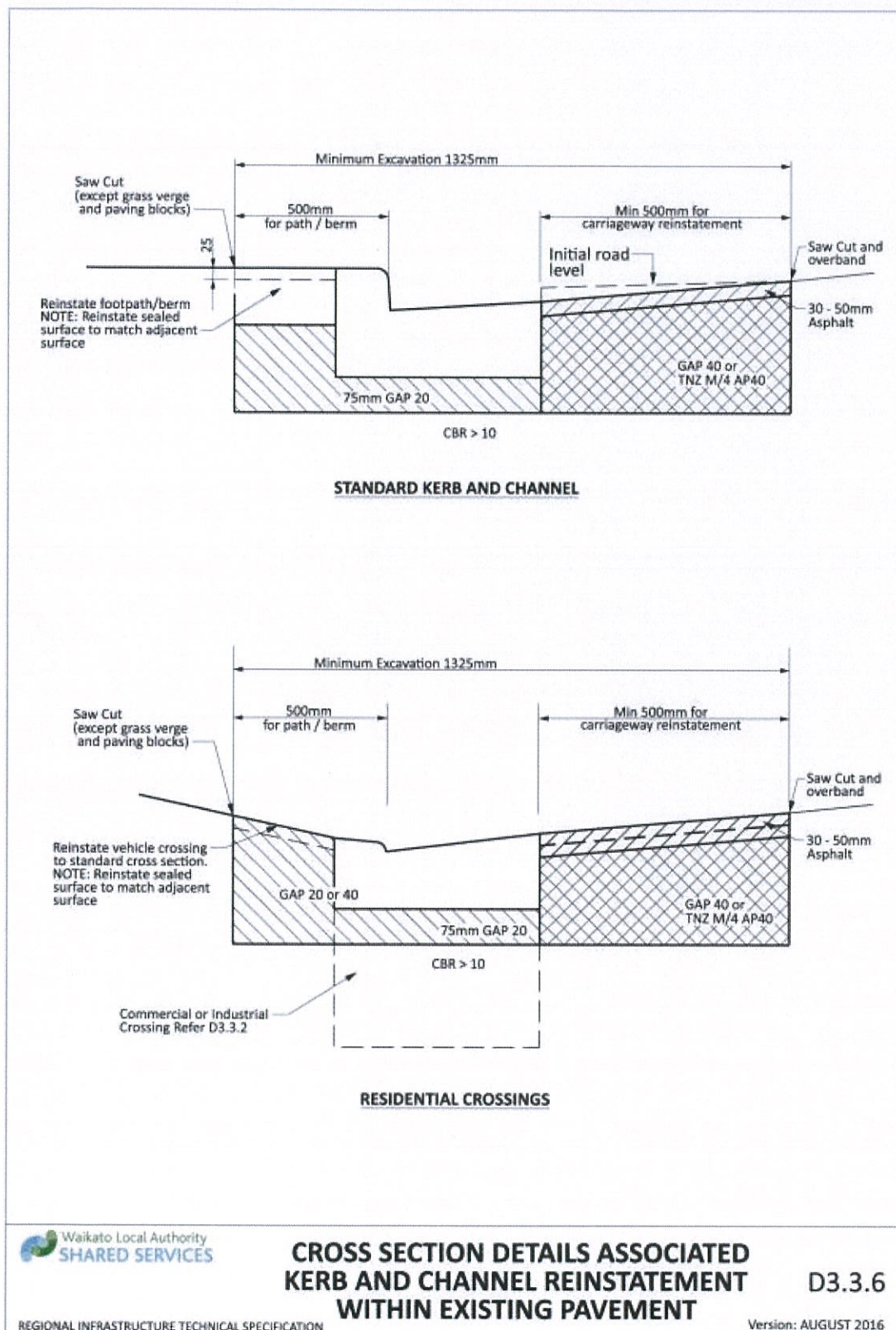
Inspection and Test Plan

SECTION 3 - Notifications									
Item No.	Activity/ Task Description	Inspection Point: Quality Control Activity.	Acceptance Criteria	Verifying Document	Frequency	Inspection /Test Key	Role key	Authoriser signature & Date	
3.1	Site inspection	Site walk over with supervisor and foreperson	Visual inspection	ITP	Once	V	SV FP		
3.2	Service location and permits issued	All services located and marked. Permits issued	Permits issued and received by qualified staff only	Relative permits	As permits expire	V	FP		
3.3	Work pack checklist	Check the work pack checklist	Copy of work pack with all documents	Work pack	Once	V	FP		
SECTION 4 - Construction									
4.1	Environmental controls	Apply environmental controls to site.	Consider drainage, noise, dust, weather.	Work pack	Once	V	FP		
4.2	Saw cutting	Kerb and channel cut twice, vertically and at a right angle to the kerb.	Existing sealed surface cut parallel to kerb and at a distance of 500mm	Refer to DN-ZH-SWMS026	Once	V	FP		
4.3	Excavation	Remove existing kerb. Pot hole. Excavation no deeper than 300mm	Visual subgrade inspection	Refer to RITS D3.3.6	Once	V	FP		
4.4	Preparing subgrade if inspection fails	Subgrade further compacted or excavate the unsuitable material and replace	Visual inspection	Refer to RITS D3.3.6	Once	V	FP		
4.5	Pavement Material	Compacted layer of GAP40 75mm deep shall be placed over subgrade.	Clegg test every 10m shall not be less than 12 CIV after 4 blows.	Refer to RITS D3.3.6	Every 10m, surface of GAP40	H	SV QE		

Inspection and Test Plan

4.6	Concrete Works	Damp the prepared surface and check the weather conditions, Use concrete from certified plant	Machine not be used to pour curves less than 5m radii.	Refer to DN-ZH-SWMS026	Throughout the activity.	V	FP		
4.7	Contraction/ Expansion joints	Maximum spacing of 3m and minimum 50mm deep	Concrete paths provide smooth and even surface after finishing.	Refer to DN-ZH-SWMS026	Throughout the activity	V	FP		
4.8	Curing of concrete	Curing period shall not be less than 1 day OR 36 hours?	Visual inspection	Refer to DN-ZH-SWMS026	Throughout the activity	V	FP		
4.9	Backfilling	GAP40 compacted 40mm below lip of kerb. Pit sand behind kerb in berm 100mm below top of kerb.	Clegg test shall not be less than 40 CIV.	Refer to RITS 3.4.6.7	Every 10m, surface of GAP40	H	SV FP		
4.10	Joining the carriageway	The carriageway to be married into the existing carriageway and new kerb lip.	concrete must have reached sufficient strength before applying any AC or Chip seal layer	Refer to RITS 3.4.6.7	Once	V	FP		
4.11	Site reinstatement	Berms reinstated with top soil and grass seeded.	Minimum of 100mm of topsoil and grass seed applied.	Refer to RITS 2.2.4.6	Once	V	FP		
SECTION 5 – Post Construction Audit									
5.1	Post Completion Audit	Have kerb adaptors been installed? Any visual crack observed? Photos taken? As-built updated?	Refer to RITS	Post completion Report	After the completion of job	W	SV		

COMMENTS



Drawing 3-18: Cross section details associated kerb and channel reinstatement within existng pavement

Note: extended exposure of the subgrade to wet weather causes degradation of the subgrade's performance, the entire surface of the subgrade should be protected to ensure it is smooth, compacted, firm and uniform.

3.4.6.5 Kerb and Channel Foundation

After the subgrade has been approved, a compacted layer of GAP40 75mm deep shall be placed. Compaction shall be to refusal. The surface of the GAP40 shall be smooth and uniform, suitable for the placing of the kerb and channel concrete.

3.4.6.6 Kerb and Channel Placing

Refer Clause 3.3.14.2 for details on concrete placement.

3.4.6.7 Joining to Carriageway

After the kerb and channel concrete has reached sufficient strength, the carriageway shall be married into the existing carriageway (with banding) and new kerb and channel lip. If not already achieved during the kerb base construction, the carriageway shall be excavated to the existing subgrade and at least 200mm deep at the channel face. The excavation base shall be flat and level up to the edge of the saw cut seal. All excavated faces shall be vertical.

The subgrade shall be compacted to a CBR of at least 10. The basecourse metal (NZTA M/4 or GAP40) shall be placed on the prepared subgrade in layers not exceeding 150mm and compacted to refusal. The depth of basecourse is dependent on the surfacing, either asphalt or chip seal, but not less than 200mm (i.e. 25mm of asphalt surfacing).

3.4.6.8 Kerb and Channel in New Pavement

In accordance with clause 3.4.5.6, except all references to carriageway protection and reinstatement shall not be required for this activity.

3.4.6.9 Catchpits

Refer to [Stormwater Section](#) for details; the details also show a list of the permitted precast components.

The construction specification described in [Stormwater Section](#).

Catchpits shall be accurately positioned so that the grate and kerb block fit neatly into the kerb and channel. Rectangular pits shall be oriented with the longer side parallel to the kerb. Grates are to be cycle friendly.

3.4.6.10 Subgrade Drainage

Refer to [Drawing D3.4.1](#) for details. NZTA specifications F/2 : Pipe Subsoil Drain Construction and F/5 : Corrugated Plastic Pipe Subsoil Drain Construction shall apply.

Where subsoil drains are required, as shown on the Drawing or directed by Council, they shall be placed behind the kerb unless shown or directed to be in front of the kerb.

The subsoil drains shall consist of an approved filter drainpipe, 100mm to 150mm diameter, or equivalent, in a trench backfilled with an approved filter material around the conduit. The conduit shall have a grade not less than 1:200 to discharge into the catchpit.

2.2.4.3 End Product Specification

Where an end product specification is required, the desired compaction criteria of the placed and compacted fill are specified and the earthworks contractor is free to choose whatever method of compaction they wish to achieve the targets specified.

2.2.4.4 Frequency of Tests

During the earthworks, soil tests need to be undertaken on the placed fill to ensure the necessary degree of compaction is being achieved. The methods of testing and frequency of tests shall be specified and included in the Fill Design Report.

2.2.4.5 Cuttings and Embankments

For cuttings and embankments formed as part of the earthworks, details of analytical methods used to determine slope stability are to be included. As part of this, the engineering properties and relevant ground investigation information is required.

As these earthwork features can affect the groundwater and surface run off, or need drainage measures to ensure stability, details of the drainage must be included.

If embankments form part of the proposed site works, settlement calculations must be included and justified from ground investigation data.

Details of any special measures to analyse slope or control settlements shall be included.

2.2.4.6 Topsoil

Top soiled surfaces shall be between 150–300mm consolidated depth, and shall consist of the outermost layer of natural soil with the highest concentration of organic matter and microorganisms, and generally be free of vegetation, large clumps, excessive and large stones, and be suitable for easy spreading in an even layer.

This topsoiling should endeavour to mimic the pre-existing conditions.

2.3 CONSTRUCTION AND FINAL DOCUMENTATION

2.3.1 Construction

During construction, site inspection and or testing shall be undertaken by a suitability qualified geo-professional with the requirements outlined in the geotechnical assessment report.

If any archaeological site or waahi tapu is discovered or disturbed during the works, Iwi and the Council shall be notified immediately

2.3.2 Dust Management

Reference should be made to MfE's Good Practice Guide for Assessing and Managing Dust.

During dry weather, where there is more than 400 m² of bare soil exposed on a development, one or more of the measures below is to be employed to reduce wind erosion and the amount of airborne dust emanating from the site: