Transport + Location Intelligence

Speed Management Feasibility Assessment

SH 2 – Masterton to Featherston

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1. Introduction

The Speed Management Feasibility Assessment is a phase within the Speed Management Programme (SMP), led by Waka Kotahi. The SMP aims to reduce deaths and serious injury crashes, while supporting overall economic productivity thought managing travel speeds that are safe and appropriate for the road function, design, safety and use, within the road network. The purpose of this report is to assess the feasibility of implementing the recommendations outlined by the Technical Assessment done prior to this stage. It aims to provide design considerations and undertake a high-level constructability check prior to public consultation.

The proposed speed limit change locations have been obtained from the latest version of the Technical Assessment and through subsequent correspondence with Waka Kotahi. The site visits undertaken as part of this Feasibility Assessment have evaluated the appropriateness of the speed limit changes and other supporting infrastructure in the recommended locations, based on site constraints, construction feasibility and road user readability. Any recommended changes to the speed limit change locations are detailed in this Feasibility Assessment report and summarised under Section 3 of this report.

1.1 Corridor Extent

The extent of this corridor includes SH2 from the southern end of Masterton to the southern of Featherston – RS/RP 002-883/4800 to 002-921/552.

1.2 Assumptions and Exclusions

Signage requirements for local roads were not investigated in detail at site. Brief observations during the site visit did not identify any side roads that had significant constraints precluding implementation of speed limit signs (if required) within an acceptable distance (typically 20m) from the intersection with the state highway.

No topographical survey, design or detailed geometrical checks have been carried out as part of the assessment.

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2. Proposed Signage and Infrastructure

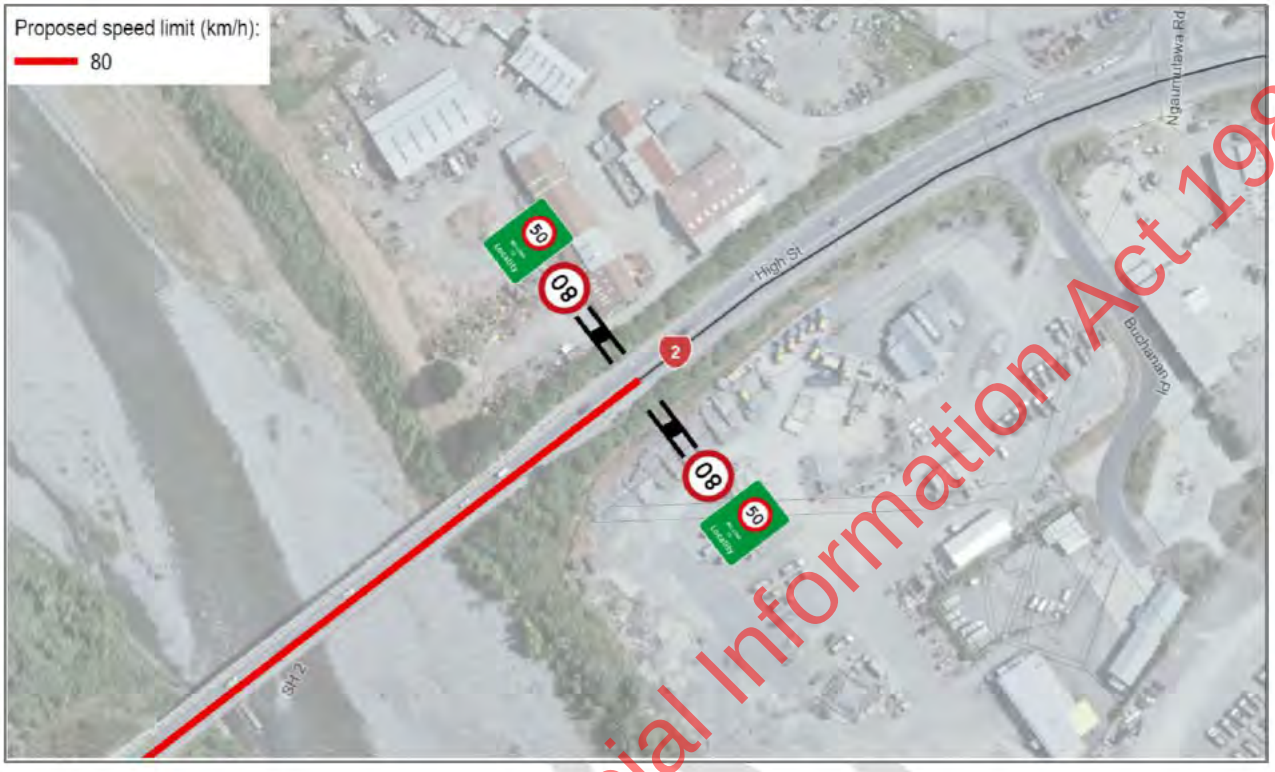
This section of the report outlines the details of the proposed speed limit sign installation along with other recommended infrastructure improvements such as line marking treatments. Recommended repeater sign locations and removal/ changes of other signs along the corridor such as curve advisory signs and temporary speed limit signs are noted under this section.

2.1 Speed Limit Changes

Site 1 –Masterton, southern urban fringe

RS/RP 002-883/4800	
Technical Assessment RS/RP location	002-883/4800
Proposed RS/RP location	***002-883/4800***
Physical Description	SH2, 258m east of SH2/ William Donald Drive intersection
Existing Threshold	Speed limit changes from 50 to 70km/h in the increasing direction.
Proposed Design - Speed limit threshold	• Remove existing speed limit signs as the location does not entail a speed limit change under the proposed speed limit schedule.
Assessment of other signs	N/A
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	N/A
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	N/A
Sight distance at accesses and/or intersecting roads.	N/A
Utilities	N/A
Constructability Constraints	N/A
Risks/Additional commentary	N/A
Matters for Detailed Design Consideration	N/A
Final Decision	The proposed location is feasible.

Site 2 –Masterton, southern end of the urban area



RS/RP 002-883/5716	
Technical Assessment RS/RP location	002-883/5966
Proposed RS/RP location	***002-883/5716*** TA location is changed due to the following reasons - Achieving compliance for a 50km/h speed limit through the Waingawa River Bridge can be difficult - Southern side of the bridge is not self-explaining for a speed limit change, i.e., that there is no noticeable change in land use or road characteristics.
Physical Description	SH2, 204m southwest of SH2/ Ngaumutawa Road intersection
Existing Threshold	The speed limit changes from 70 to 100km/h approximately 60m southwest of the proposed location.
Proposed Design - Speed limit threshold	***Signage*** • Install new signs at 002-883/5716 - 80km/h RS1 signs gated in the increasing direction. - 50km/h RS52 (green Threshold Version A) signs, gated in the decreasing direction. • Remove all existing speed limit signage at the current speed limit change location – 002-883/5776 ***Line Marking*** • Apply Threshold Treatment Type A (See Appendix A for detail)

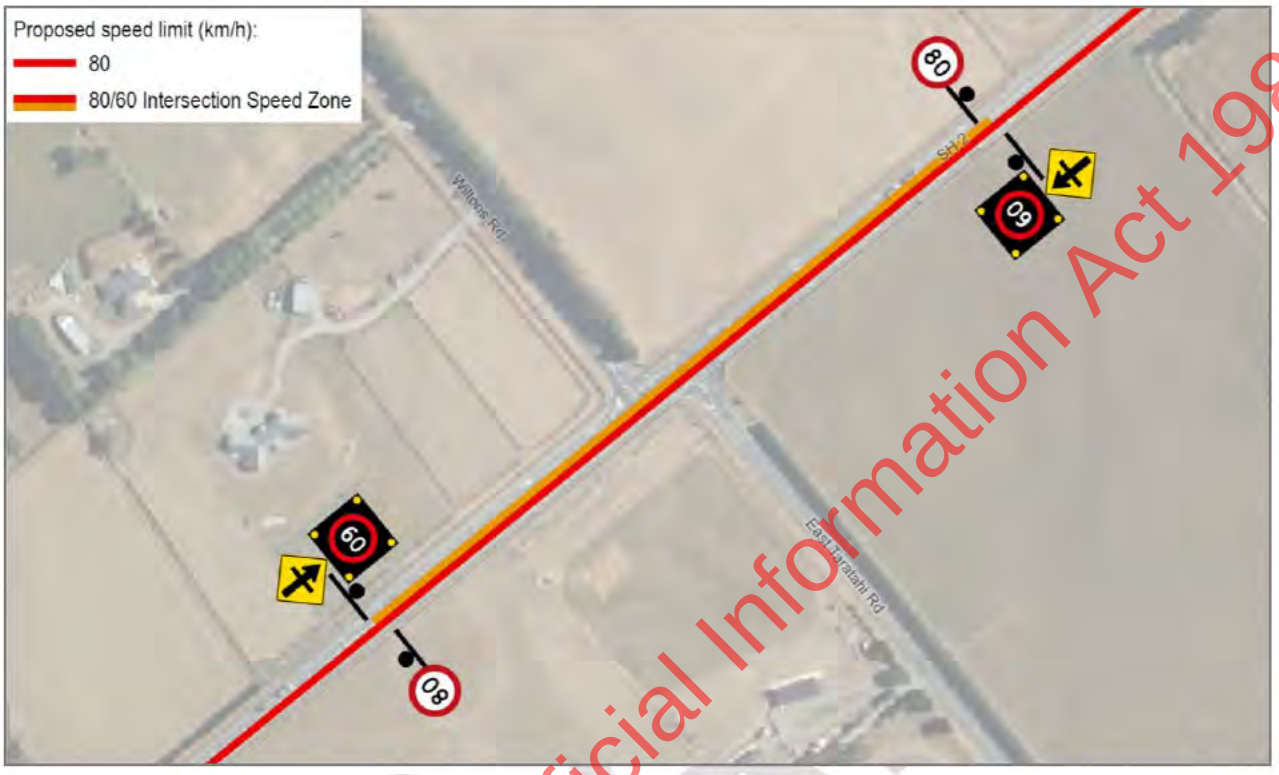
RS/RP 002-883/5716	
Assessment of other signs	The existing intersection warning sign (PW-12) on true RHS, facing the decreasing direction at 883/5716, will conflict with the proposed threshold sign. The sign is currently 143m from the Buchannan Place intersection. With the reduced speed limit through this section, there is scope for the warning sign to be relocated closer to the intersection. MOTSAM notes that the distance between the warning sign and the intersection should be at least 100m for an operating speed of 70km/h and 65m for 50km/h. Accordingly, the sign can be relocated to 883/5666, which is 50m from the proposed threshold sign and approximately 94m from the Buchanan Place intersection.
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓
Sight distance at accesses and/or intersecting roads.	N/A
Utilities	No visible overhead powerlines.
Constructability	Grass berms on both LHS and RHS are not wide enough to accommodate both posts required to mount RS52 signs (LHS berm = 1.2m and RHS berm = 1m). The post closest to the traffic lane may need to be mounted in the sealed shoulder. It is recommended that the kerb is built out into the shoulder to accommodate the sign posts. The sealed shoulder on LHS is 3m wide and on RHS 2.7m wide. The kerb extension at most would need to be 0.7m. Hence the design is not expected to impede cyclist transition from the separated path across the bridge to the on-road cycle lane. Careful design of this will be required at the detailed design stage.
Risks/Additional commentary	N/A
Matters for Detailed Design Consideration	• Relocation of existing intersection warning sign (PW-12) at 002-883/5716 • Details of the kerb buildout (if required and if so to what extent)
Final Decision	The proposed location is feasible. Note, change from the TA location.

Site 3 and Site 4 –Intersection Speed Zone - SH2/ Norfolk Road/ Cornwall Road

RS/RP 002-883/6550 and 883/6894	
Technical Assessment RS/RP location	002-883/6550 002-883/6860
Proposed RS/RP location	***002-883/6550*** *(unchanged)* ***002-883/6894*** Minor change from the TA location at the southern end, so the RIAWS signs can be installed before the left turning lane commences (in decreasing direction). This eliminates the risk of the sign being blocked for through vehicles by a vehicle on the left turning lane. Additionally, the sealed shoulder is wider before the start of the left turning lane and hence provides better separation between the live lane and the sign.
Physical Description	Northern End - SH2, 150m northeast of SH2/ Norfolk Road/ Cornwall Road intersection Southern End - SH2, 200m southwest of SH2/ Norfolk Road/ Cornwall Road intersection
Existing Threshold	N/A

RS/RP 002-883/6550 and 883/6894	
Proposed Design - Speed limit threshold	***002-883/6550*** • Install 60km/h rural intersection activated warning sign and crossroad intersection warning sign (WJ2A) on LHS facing increasing direction (to be mounted on same post) • Install 80km/h RS1 sign on the true RHS facing decreasing direction. ***002-883/6894*** • Install 80km/h RS1 sign on the LHS facing increasing direction • Install 60km/h Rural intersection activated warning sign and crossroad intersection warning sign (WJ2A) on the true RHS facing decreasing direction (to be mounted on same post)
Assessment of other signs	The proposed sign at 883/6550 on the LHS will obscure the existing cyclist warning sign at 883/6570. The cyclist warning sign can be relocated further back from the intersection or towards the intersection as required (location to be determined in detailed design).
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓
Sight distance at accesses and/or intersecting roads.	No sight distance obstructions.
Utilities	Overhead powerlines at 002-883/6550. These are significantly higher than the typical sign height so not expected to create any conflict.
Constructability	N/A
Risks/Additional commentary	The recommended distance between a RIAWS and an intersection is 150m. The proposed separation at the southern end is 200m. However, the presence of an intersection is clearly visible to a driver from the proposed location and therefore the minor divergence from the standard recommendation is considered acceptable.
Matters for Detailed Design Consideration	• Relocation of existing cycle warning sign at 883/6570.
Final Decision	The proposed location is feasible. Note, the change in the TA location at the southern end of the intersection speed zone.

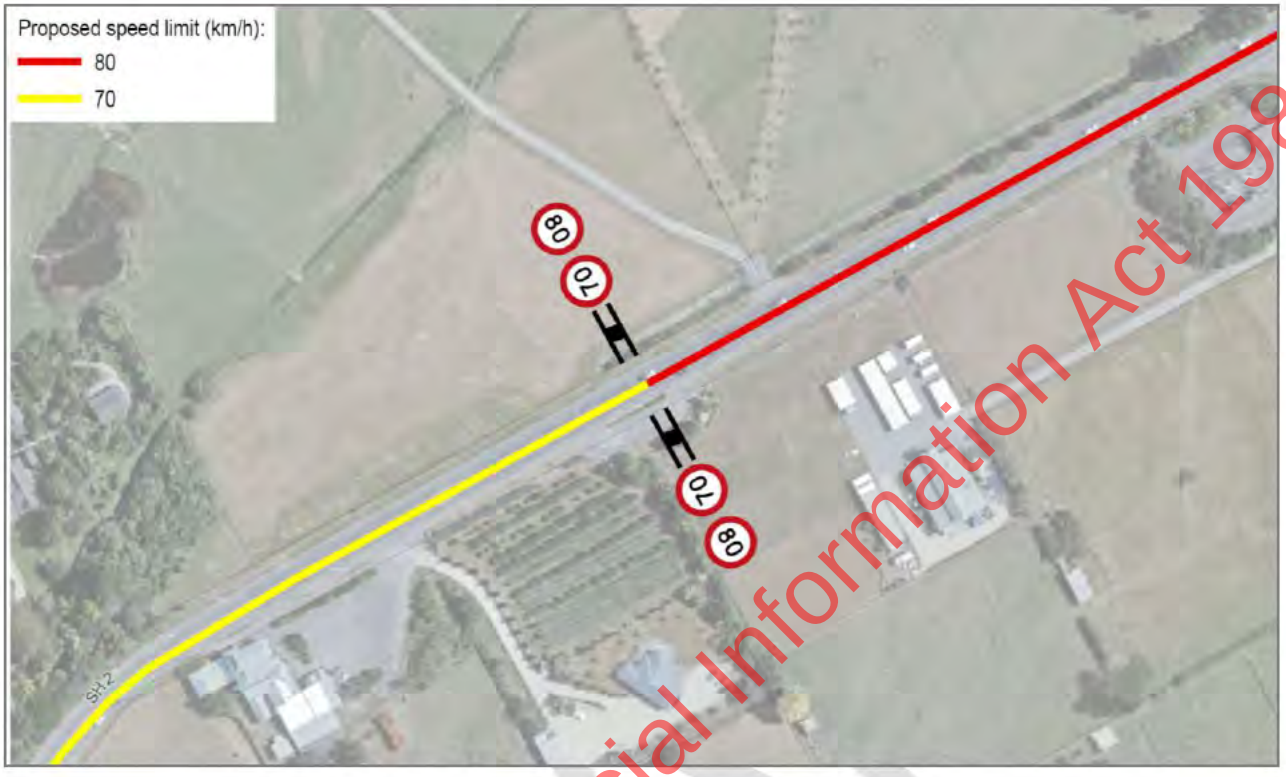
Site 5 and Site 6 –Intersection Speed Zone - SH2/ Wiltons Road/ East Taratahi Road intersection



RS/RP 002-883/8400 and 883/8770	
Technical Assessment RS/RP location	002-883/8400 002-883/8770
Proposed RS/RP location	**002-883/8400** **002-883/8770**
Physical Description	Northern End - SH2, 182m northeast of SH2/ Wiltons Road/ East Taratahi Road intersection Southern End - SH2, 188m southwest of SH2/ Wiltons Road/ East Taratahi Road intersection
Existing Threshold	Existing 70km/h Intersection Speed Zone
Proposed Design - Speed limit threshold	• At both ends of the of the intersection speed zone – Replace the existing 70km/h rural intersection activated warning signs with 60km/h rural intersection activated warning signs – Replace existing 100km/h RS2 signs with 80km/h RS1 signs
Assessment of other signs	N/A
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓

Sight distance at accesses and/or intersecting roads.	No sight distance obstructions.
Utilities	Overhead powerlines on LHS at both ends. No conflict expected as the proposal involves replacing existing signs.
Constructability Constraints	N/A
Risks/Additional commentary	N/A
Matters for Detailed Design Consideration	N/A
Final Decision	The proposed location is feasible.

Site 7 –Carterton, northern urban fringe



RS/RP 002-883/14090	
Technical Assessment RS/RP location	002-883/14090
Proposed RS/RP location	**002-883/14090**
Physical Description	SH2, 248m south-west of Somerset Road
Existing Threshold	Speed limit changes from 100 to 70km/h in the increasing direction
Proposed Design - Speed limit threshold	• Retain existing 70km/h RS1 signs in the increasing direction • Replace 100km/h RS2 signs in the decreasing direction with RS1 80km/h signs
Assessment of other signs	There are several other existing signs in the vicinity. The environment is quite cluttered and would benefit from some rationalisation, as follows: • The PW-17 LH curve warning sign with 65 km/h advisory plate should be relocated 30m south-west from 002-883/14.128 to 002-883/14.158, • The intersection warning sign in the decreasing direction should be relocated around 50m north-east from 002-883/14.085 to 002-883/14.031, and • The 'Riders' permanent warning sign in the decreasing direction should be relocated from 002-883/14.006 further north-east. The need for this sign should also be reviewed as part of any community engagement.
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓

Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓
Sight distance at accesses and/or intersecting roads.	No sight distance obstructions.
Utilities	Overhead powerlines on LHS. These are significantly higher than the typical sign height so not expected to create any conflict.
Constructability Constraints	N/A
Risks/Additional commentary	N/A
Matters for Detailed Design Consideration	N/A
Final Decision	The proposed location is feasible.

Site 8 –Carterton, northern end of the township

RS/RP 002-883/14590	
Technical Assessment RS/RP location	002-883/14590
Proposed RS/RP location	**002-883/14590**
Physical Description	SH2, 204m south-west of Andersons Line
Existing Threshold	Existing Threshold - speed limit changes from 70 to 50km/h in the increasing direction
Proposed Design - Speed limit threshold	No change in the speed limits from the existing, hence no change in signage required. However, it is recommended that the existing threshold signs are replaced with RS52 (green Threshold Version A) signs with the "welcome to" and/ or equivalent Te Reo Māori greeting to be consistent with elsewhere along SH2 and nationwide.
Assessment of other signs	N/A
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓
Sight distance at accesses and/or intersecting roads.	No sight distance obstructions.

Utilities	Existing threshold sign on the LHS is very close to the overhead powerlines. The proposed RS52 signs with the "Welcome to" greeting may be taller than the current threshold signs. The existing ground clearance as well cannot be reduced as the sign sits above a footpath that is used by both cyclists and pedestrians.  
Constructability Constraints	N/A
Risks/Additional commentary	As noted under utilities.
Matters for Detailed Design Consideration	• May require special sign design (customised dimensions etc.) or changes to the overhead services to manage the risk noted above.
Final Decision	The proposed location is feasible. Overhead powerlines very close to the existing threshold signs.

Site 9 –Carterton, northern end of the town centre

RS/RP 002-883/15287	
Technical Assessment RS/RP location	002-883/15307
Proposed RS/RP location	**002-883/15287** Minor change to the TA location to avoid loss of time restricted parking directly outside businesses
Physical Description	SH2, 125m north-east of SH2/ Belvedere Road/ Park Road roundabout
Existing Threshold	N/A
Proposed Design - Speed limit threshold	***Signage*** • Install 40km/h gated RS51 (Green Threshold Version A) signs in the increasing direction. It is recommended the wording on the signs be "Town Centre" • Install 50km/h gated RS1 signs in the decreasing direction Signs are recommended to be provided within newly constructed kerb buildouts in the existing parking lane. ***Line Marking*** • Red Pavement surfacing (a single band of red surface marking, covering lanes in both increasing and decreasing directions and no speed numerals on the road surface)

Assessment of other signs	Roundabout ahead warning sign (WJ1) located at 883/15312 may be obstructed by the proposed speed limit signs. However, the signs will be laterally offset as the speed limit signs are proposed on a kerb buildout. If needed to be relocated, the warning sign can be relocated to 883/15332. This location will still meet the MOTSAM requirement for minimum distance between the warning sign and the roundabout.
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓
Sight distance at accesses and/or intersecting roads.	Signs can be mounted at a height that will not obstruct visibility at the adjoining driveways.
Utilities	Overhead powerlines on LHS. These are significantly higher than the typical sign height so not expected to create any conflict. Underground services to be checked.
Constructability Constraints	N/A
Risks/Additional commentary	The signs could be located above the footpath while still maintaining an accessible path. However, the signs would be too offset from the traffic lane to be effective and may be obstructed by parked vehicles. This is why we have recommended installing the signs within a kerb buildout. If kerb buildouts are provided, there will be some loss of on-street parking. During the site visit, the parking around the location was observed to be well utilised. The location is not directly outside any businesses. Approximately four parking spaces will be lost (two on either side).
Matters for Detailed Design Consideration	• Kerb build out designs for sign placement • Relocation of roundabout warning sign (if required)
Final Decision	The proposed location is feasible. Note, change from the TA location.

Site 10 – Carterton, southern end of the town centre

RS/RP 002-883/16099	
Technical Assessment RS/RP location	002-883/16099
Proposed RS/RP location	**002-883/16099**
Physical Description	SH2, 8m southwest of Seddon Street intersection
Existing Threshold	N/A
Proposed Design - Speed limit threshold	***Signage*** • Install 50km/h gated RS1 signs in the increasing direction. • Install 40km/h gated RS51 (Green Threshold Version A) signs in the decreasing direction. It is recommended the wording on the signs to be "Town Centre" Signs are recommended to be provided within newly constructed kerb buildouts in the existing parking lane. ***Line Marking*** Red Pavement surfacing (a single band of red surface marking, covering lanes in both increasing and decreasing directions and no speed numerals on the road surface)

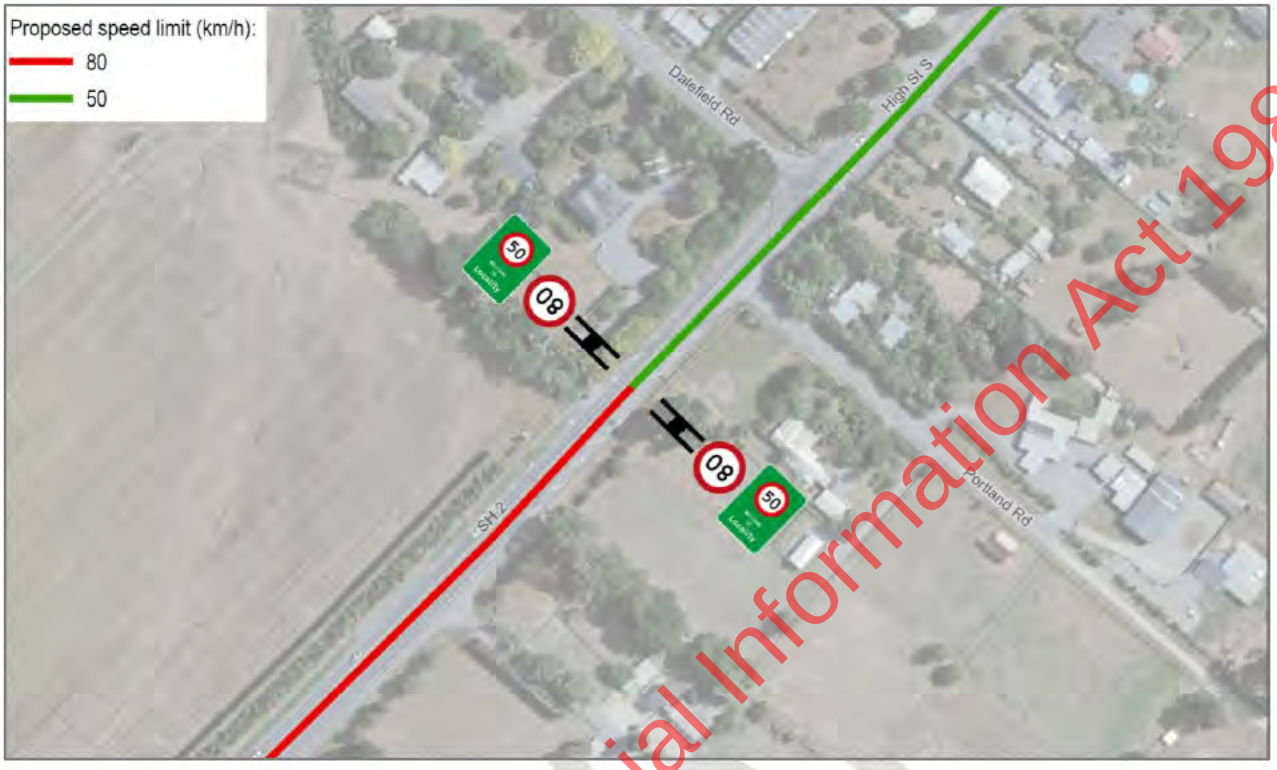
Assessment of other signs	The pedestrian crossing warning sign (WU3) facing the decreasing direction at 883/16115 will need to be relocated approximately 30m further towards the crossing to avoid visual conflict with the proposed speed limit signs. As per the MOTSAM guidance, pedestrian crossing warning signs should be located at least 50m in advance of the crossing, this separation can be achieved with the relocation proposed above. The vertical hump (WN2) warning sign at 883/ 16095 can be removed if needed to avoid sign clutter. WN2 signs are not mandatory prior to a raised crossing and with the reduced speed limit the usefulness of the sign diminishes.
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓
Sight distance at accesses and/or intersecting roads.	Signs can be mounted at a height that will not obstruct visibility at the adjoining driveways and Seddon Street intersection.
Utilities	Overhead powerlines on LHS. These are significantly higher than the typical sign height so not expected to create any conflict. Underground services to be checked.
Constructability Constraints	N/A
Risks/Additional commentary	Signs are recommended to be mounted on kerb buildouts for the reasons noted previously. Some loss of on-street parking is expected (approximately four spaces, two on either side). The demand for kerbside parking appears to be noticeably less than at the other end of the town (as observed during the site visit).
Matters for Detailed Design Consideration	• Kerb build out designs for sign placement • Relocation of pedestrian crossing warning sign (WU3) at 883/16115 and vertical hump (WN2) warning sign at 883/ 16095.
Final Decision	The proposed location is feasible.

Site 11 and 12 –Variable school speed limit – Saint Mary's School, Ponatahi Christian School and South End School

RS/RP 002-883/16200 and 883/16980	
Technical Assessment RS/RP location	002-883/16200 002-883/16980
Proposed RS/RP location	***002-883/16200*** ***002-883/16980***
Physical Description	Northern End - SH2, 38m north-east of Richmond Road Southern End - SH2, 70m north-east of Moreton Road
Existing Threshold	Existing "School Zone 40 when children present" signs at both locations.
Proposed Design - Speed limit threshold	***002-883/6550*** Replace existing static school zone variable speed limit signs with, – 30km/h RS6V sign in the increasing direction - LHS. – 50km/h RS61 school zone ends sign in the decreasing direction – true RHS. ***002-883/6894*** Replace existing static school zone variable speed limit signs with, – 50km/h RS61 school zone ends sign in the increasing direction - LHS. – 30km/h RS6V sign in the decreasing direction – true RHS
Assessment of other signs	N/A

Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓
Sight distance	No sight distance obstructions.
Utilities	Overhead powerlines on LHS at both locations. As the proposal is for replacing existing signs this is not expected to be of concern.
Constructability	N/A
Risks/Additional commentary	All side roads intersecting the school speed limit zone, apart from Clifton Ave and Howard Street currently have school speed limit signs ("School Zone 40 when children present" facing traffic approaching SH2 and "school zone end" facing traffic leaving SH2). It is recommended that the sign locations are retained, but the signs are replaced to reflect the updated 30km/h variable speed limit and the specific times the variable speed limit applies (RS6, facing traffic approaching SH2 and RS61 facing traffic leaving SH2). This needs to be undertaken in consultation with the local council. New static variable school zone speed limit signs can be installed on Clifton Ave and Howard Street within 20m of intersections with SH2.
Matters for Detailed Design Consideration	Local road sign placement – require liaising with the local council regarding updating existing signs and installing new signs on local roads intersecting the school variable speed limit zone
Final Decision	The proposed location is feasible.

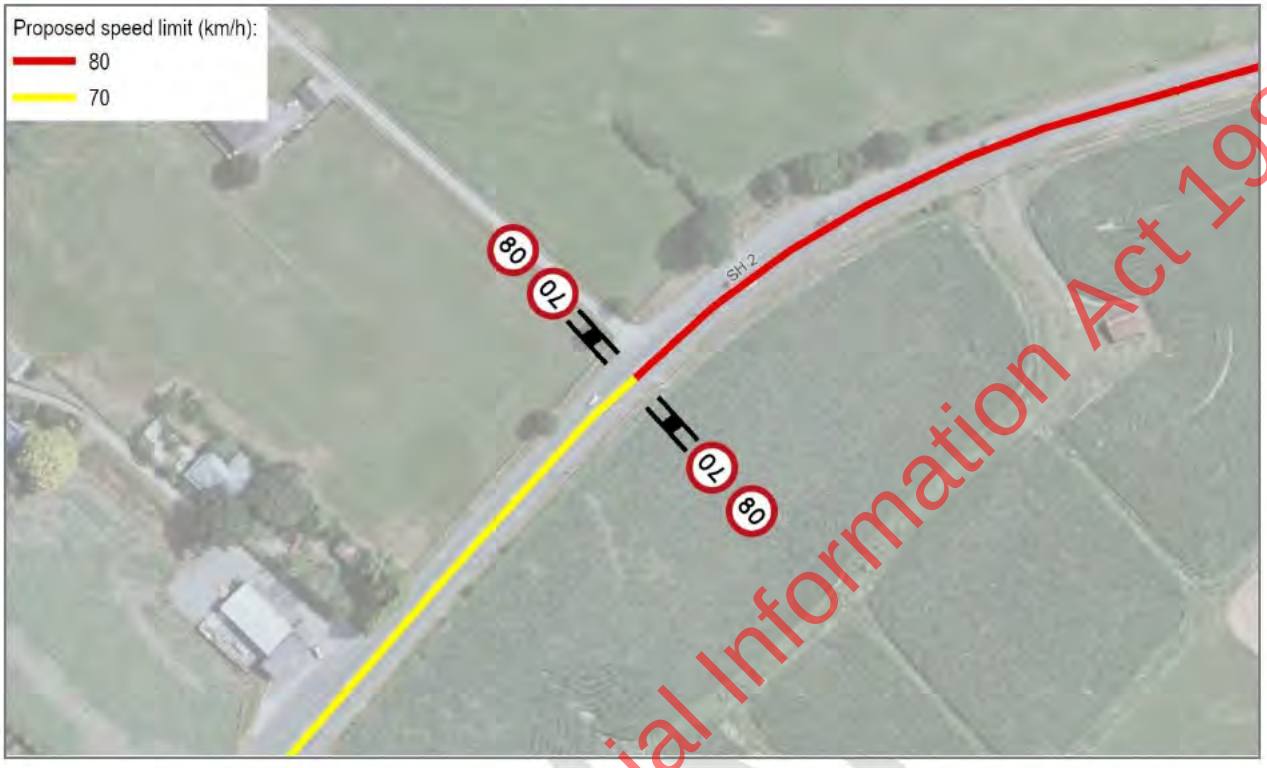
Site 13 - Carterton, southern end of the urban area



RS/RP 002-883/18430	
Technical Assessment RS/RP location	002-883/18430
Proposed RS/RP location	***002-883/18430***
Physical Description	SH2, 45m southwest of Portland Road
Existing Threshold	Existing Threshold - Speed limit changes from 50 to 100km/h in the increasing direction
Proposed Design - Speed limit threshold	• Replace existing 100km/h RS2 signs with 80km/h RS1 signs in the decreasing direction • No change in the speed limits in the decreasing direction. However, it is recommended that the existing threshold signs are replaced with RS51 signs with the "welcome to" and/ or equivalent Te Reo Māori greeting to be consistent with elsewhere along SH2 and nationwide.
Assessment of other signs	N/A
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	The existing separation between the threshold signs (lateral distance between the inner sign edges) is 10.2m, falling short of the desired minimum of 10.5m. The existing foundation may not necessarily require relocation to achieve the desired separation, as the signs could be mounted asymmetrically on the poles to achieve the desired lateral separation.
Sight distance at accesses and/or intersecting roads.	No sight distance obstructions.

Utilities	No overhead services observed.
Constructability Constraints	N/A
Risks/Additional commentary	N/A
Matters for Detailed Design Consideration	N/A
Final Decision	The proposed location is feasible.

Site 14 – Greytown, northern urban fringe



RS/RP 002-905/1251	
Technical Assessment RS/RP location	Not Assessed
Proposed RS/RP location	***002-905/1251***
Physical Description	SH2, 545m northeast of Hupenui Road
Existing Threshold	Speed limit changes from 100 to 70km/h in the increasing direction
Proposed Design - Speed limit threshold	• Retain existing speed limit signs in the increasing direction • Replace 100km/h RS2 signs in the decreasing direction with RS1 80km/h signs
Assessment of other signs	N/A
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓
Sight distance at accesses and/or intersecting roads.	No sight distance obstructions.
Utilities	Overhead powerlines on LHS. No conflict expected as the proposal involves replacing existing signs.
Constructability Constraints	N/A
Risks/Additional commentary	N/A

Matters for Detailed Design Consideration	N/A
Final Decision	The proposed location is feasible.

Site 15 – Greytown, northern end of the urban area

RS/RP 002-905/2041	
Technical Assessment RS/RP location	Not Assessed
Proposed RS/RP location	***002-905/2041***
Physical Description	SH2, 50m northeast of North Street
Existing Threshold	Existing Threshold - Speed limit changes from 70 to 50km/h in the increasing direction
Proposed Design - Speed limit threshold	No change in the speed limits from the existing. However, it is recommended that the existing threshold signs are replaced with RS52 signs with the "welcome to" and/ or equivalent Te Reo Māori greeting to be consistent with elsewhere along SH2 and nationwide.
Assessment of other signs	N/A
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓
Sight distance at accesses and/or intersecting roads.	No sight distance obstructions.

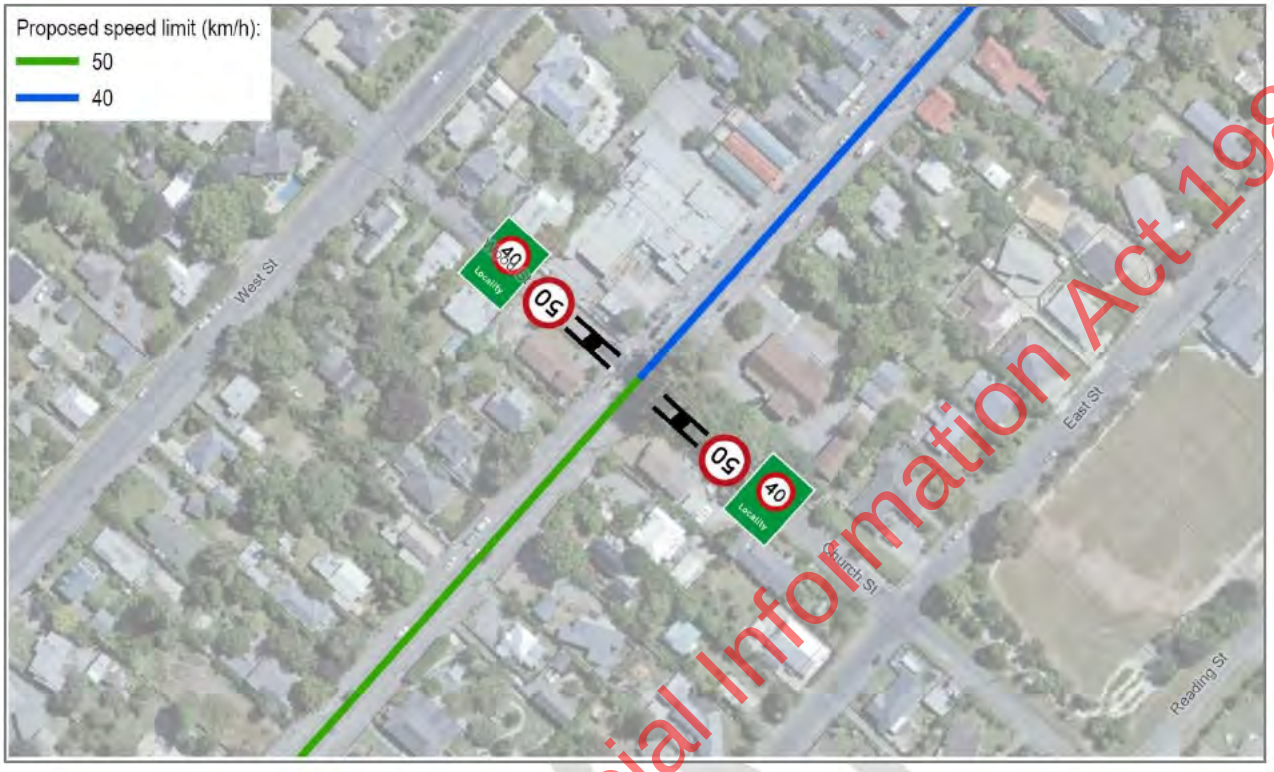
Utilities	Overhead powerlines on LHS. Existing threshold signs are close to the overhead powerlines and the proposed RS52 signs with the "Welcome to" greeting may be taller than the current threshold signs. 
Constructability Constraints	N/A
Risks/Additional commentary	As noted under utilities.
Matters for Detailed Design Consideration	• May require special signs design/ changes to mounting height or changes to the overhead services to manage the risk noted above.
Final Decision	The proposed location is feasible. Overhead powerlines very close to the existing threshold signs.

Site 16 –Greytown, northern end of the town centre

RS/RP 002-905/2670	
Technical Assessment RS/RP location	002-905/2686
Proposed RS/RP location	**002-905/2670** Minor change to the TA location to provide adequate separation from the Jellico Street/ Kuratawhiti Street/ SH2 intersection.
Physical Description	SH2, 40m north-east of Jellico Street/ Kuratawhiti Street/ SH2
Existing Threshold	N/A
Proposed Design - Speed limit threshold	***Signage*** • Install 40km/h gated RS51 (Green Threshold Version A) signs in the increasing direction. The wording on the signs is recommended to be "Town Centre" • Install Gated RS1 50km/h signs in the decreasing direction Signs are recommended to be provided on kerb buildouts. ***Line Marking*** Red Pavement surfacing (a single band of red surface marking, covering lanes in both increasing and decreasing directions and no speed numerals on the road surface)
Assessment of other signs	The pedestrian crossing warning sign (WU3) facing the increasing direction (905/2681) and the presence of pedestrians warning sign facing the decreasing direction (905/2703) may conflict with the proposed speed limit signs. These signs can however be easily relocated to the opposite side of the intersection 905/ 2706, which will meet the MOTSAM requirement for minimum separation between the warning sign and the crossing.

Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓
Sight distance at accesses and/or intersecting roads.	Signs can be mounted at a height that will not obstruct visibility at the adjoining driveways.
Utilities	Overhead powerlines on LHS.These are significantly higher than the typical sign height so not expected to create any conflict.
Constructability Constraints	N/A
Risks/Additional commentary	Signs are recommended to be mounted on kerb buildouts for the same reasons noted under the Carterton town centre speed limits. There will be some loss of kerbside parking. During the site visit the kerbside parking around the location was observed to be well utilised. The location is not directly outside any businesses. Approximately four parking spaces will be lost (two on either side)
Matters for Detailed Design Consideration	• Kerb build out designs for sign placement • Relocation of pedestrian crossing and presence of pedestrians warning signs in increasing and decreasing directions respectively (if required)
Final Decision	The proposed location is feasible.

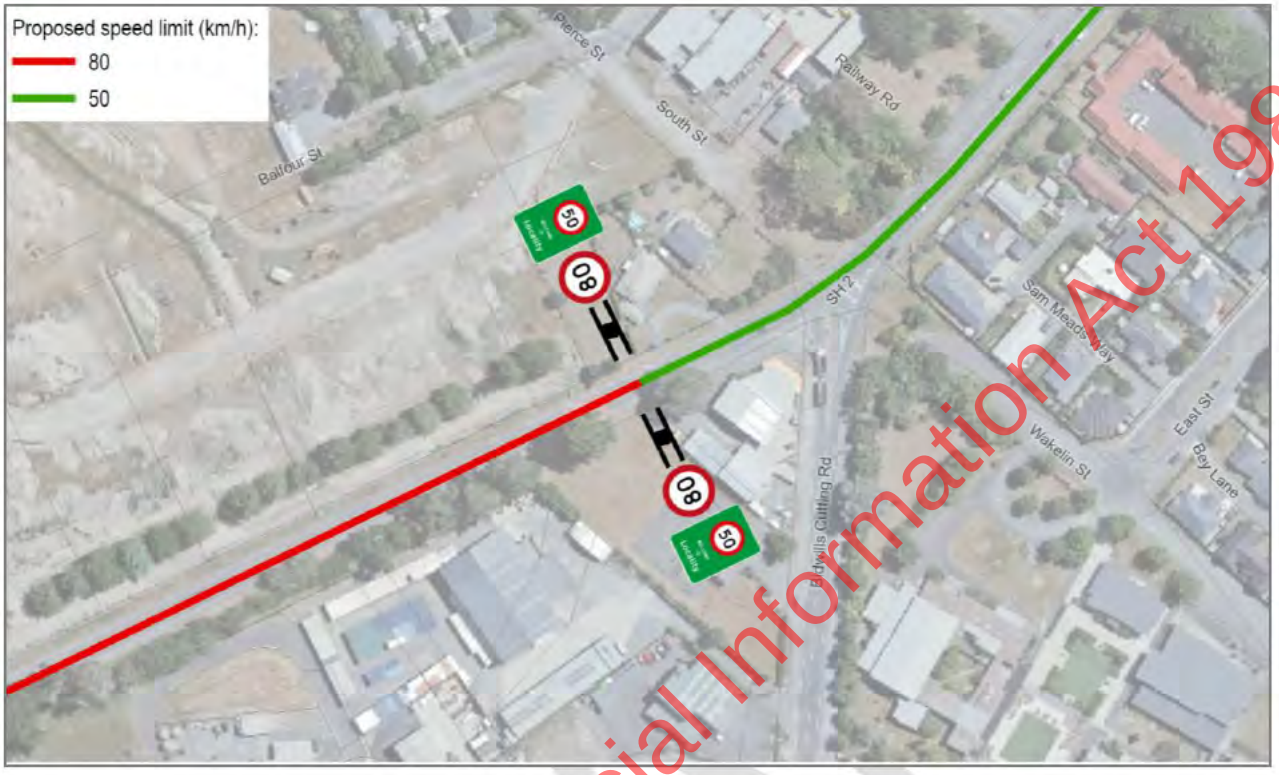
Site 17 –Greytown, southern end of the town centre



RS/RP 002-905/3320	
Technical Assessment RS/RP location	002-905/3320
Proposed RS/RP location	***002-905/3320***
Physical Description	SH2, 10m southwest of SH2/ Wood Street/ Church Street intersection
Existing Threshold	N/A
Proposed Design - Speed limit threshold	***Signage*** • Install Gated RS1 50km/h signs in the increasing direction. • Install gated RS51 (Green Threshold Version A) signs in the decreasing direction. It is recommended the wording on the signs to be "Town Centre" Signs are recommended to be provided on kerb buildouts. ***Line Marking*** Red Pavement surfacing (a single band of red surface marking, covering lanes in both increasing and decreasing directions and no speed numerals on the road surface)
Assessment of other signs	No conflicting signs in the immediate vicinity
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓

Sight distance at accesses and/or intersecting roads.	Signs can be mounted at a height that will not obstruct visibility at the adjoining driveways and Church Street/ Wood Street intersection.
Utilities	Overhead powerlines on LHS. These are significantly higher than the typical sign height so not expected to create any conflict.
Constructability Constraints	N/A
Risks/Additional commentary	Signs are recommended to be mounted on kerb build outs for the reasons noted previously. Some loss of on-street parking is expected (approximately four spaces, two on either side). The demand for kerb side parking appears to be noticeably less than at the other end of the town (as was observed during the site visit).
Matters for Detailed Design Consideration	• Kerb build out designs for sign placement
Final Decision	The proposed location is feasible.

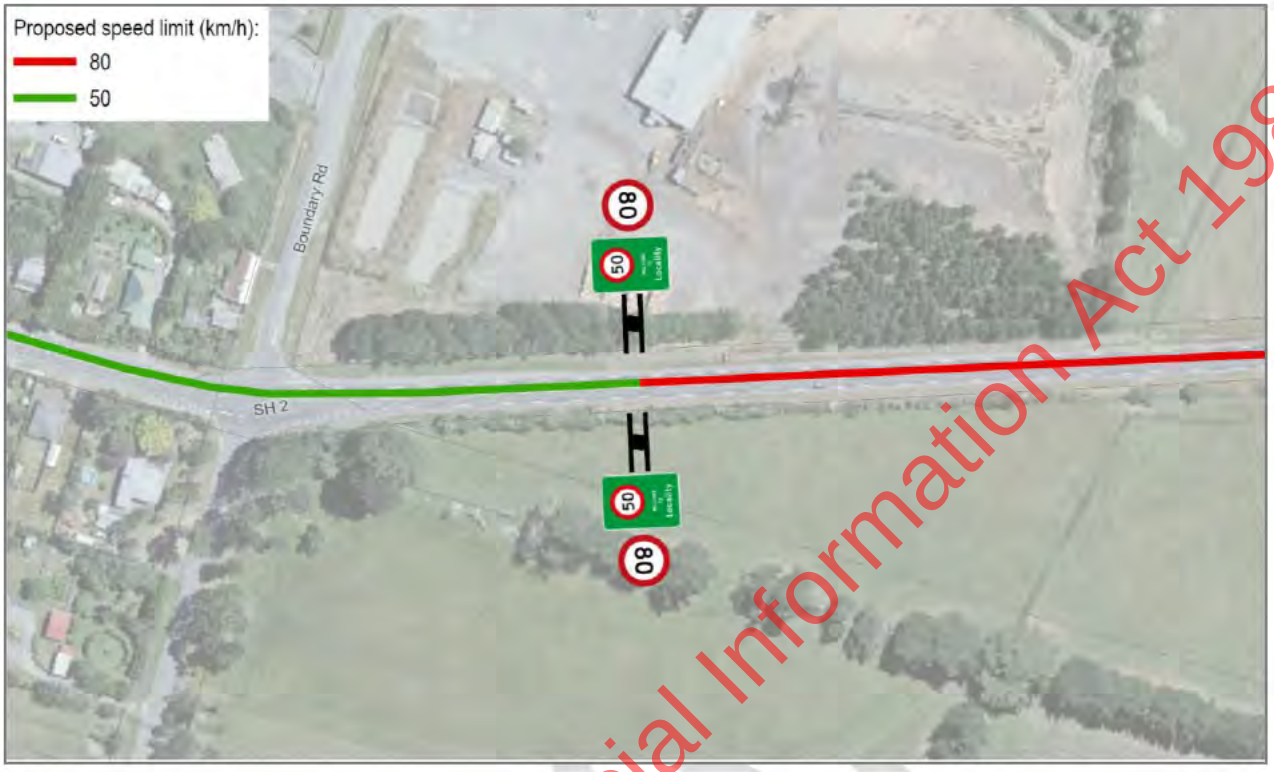
Site 18 - Greytown, southern end of the urban area



RS/RP 002-883/4800	
Technical Assessment RS/RP location	002-905/4500
Proposed RS/RP location	***002-905/4500***
Physical Description	SH2, 80m southwest of Bidwills Cutting Road
Existing Threshold	Existing Threshold - Speed limit changes from 50 to 100km/h in the increasing direction
Proposed Design - Speed limit threshold	• Replace existing 100km/h RS2 signs with 80km/h RS1 signs • No change in the speed limits in the decreasing direction. However, it is recommended that the existing threshold signs are replaced with RS51 signs with the "welcome to" and/ or equivalent Te Reo Māori greeting to be consistent with elsewhere along SH2 and nationwide.
Assessment of other signs	No conflicting signs in the immediate vicinity

RS/RP 002-883/4800	
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	On the true LHS, the threshold sign entering Greytown is significantly obstructed by vegetation growing from a mature tree. It is recommended that lower vegetation is removed so that visibility to the sign is restored. 
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓
Sight distance at accesses and/or intersecting roads.	No sight distance obstructions.
Utilities	No overhead services observed.
Constructability Constraints	N/A
Risks/Additional commentary	N/A
Matters for Detailed Design Consideration	N/A
Final Decision	The proposed location is feasible.

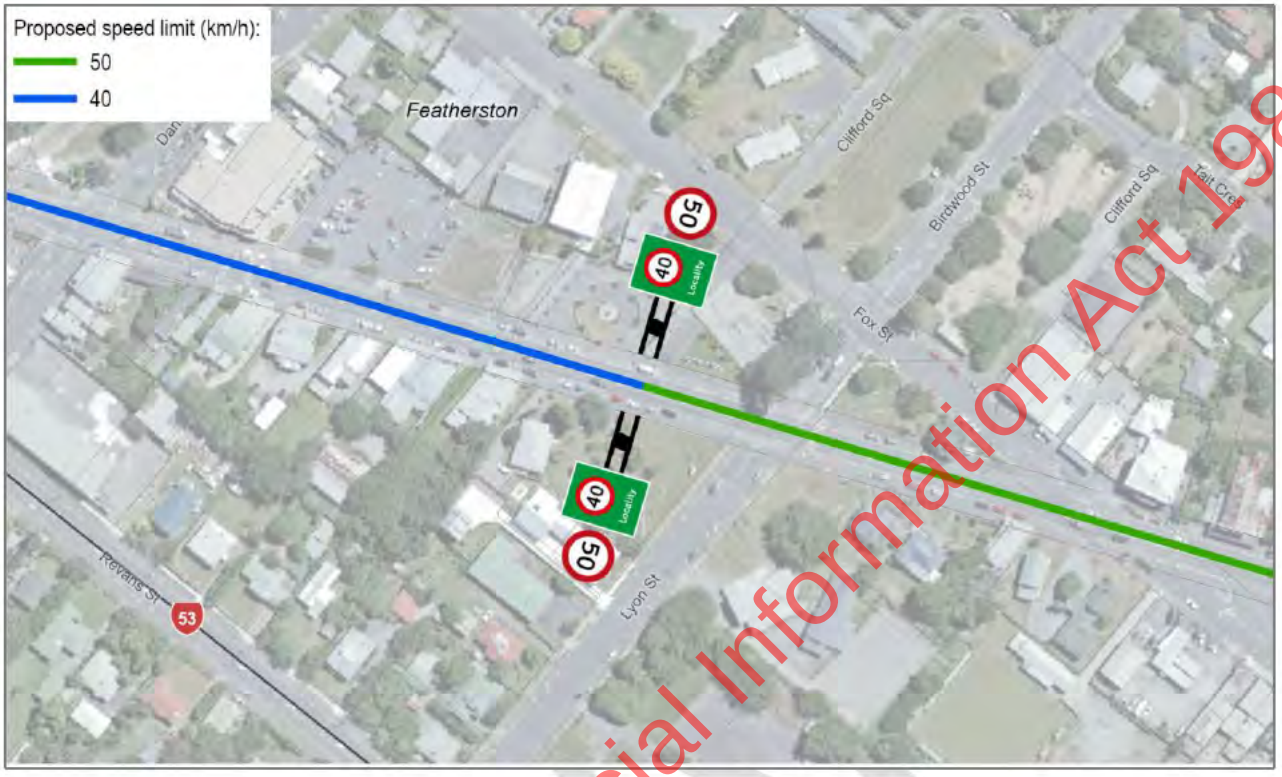
Site 19 – Featherston, northern end of the urban area



RS/RP 002-905/14440	
Technical Assessment RS/RP location	002-905/14440
Proposed RS/RP location	***002-905/14440***
Physical Description	SH2, 128m east of Boundary Road
Existing Threshold	Existing Threshold - speed limit changes from 100 to 70km/h in the increasing direction
Proposed Design - Speed limit threshold	• Replace existing 70km/h threshold signs in the increasing direction with, RS52 (green Threshold Version A) 50km/h signs. • Replace existing 100km/h RS2 signs in the decreasing direction with RS1 80km/h signs. • Remove existing speed limit signs at 905/14900 (existing roundels where the speed limit changes from 70km/h to 50km/h.)
Assessment of other signs	N/A
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓
Sight distance at accesses and/or intersecting roads.	No sight distance obstructions.

Utilities	Overhead powerlines on LHS. Adequate vertical clearance from the signs, hence not expected to be of concern.
Constructability Constraints	N/A
Risks/Additional commentary	N/A
Matters for Detailed Design Consideration	N/A
Final Decision	The proposed location is feasible.

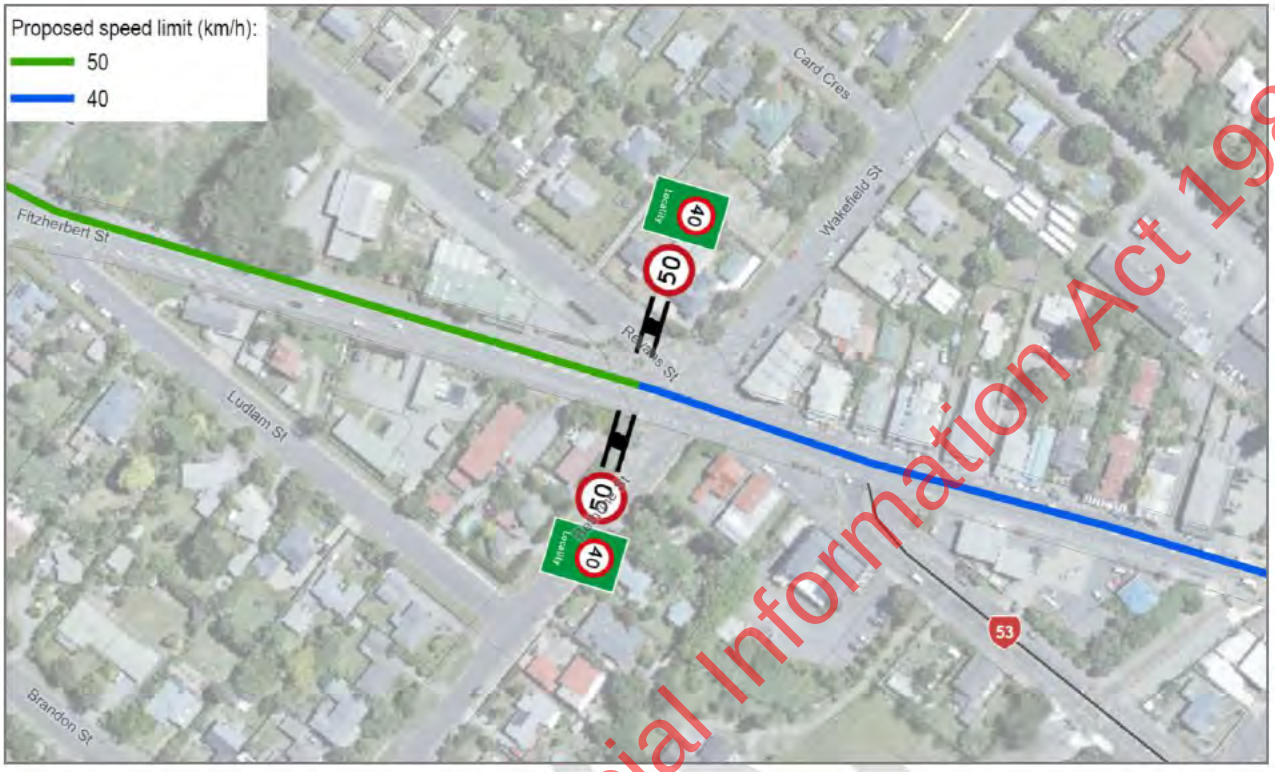
Site 20 – Featherston, northern end of the town centre



RS/RP 002-905/15539	
Technical Assessment RS/RP location	002-905/15539
Proposed RS/RP location	***002-905/15539***
Physical Description	SH2, 44m west of Lyon Street/ Birdwood Street intersection
Existing Threshold	N/A
Proposed Design - Speed limit threshold	***Signage*** • Install 40km/h gated RS51 (Green Threshold Version A) signs in the increasing direction. The wording on the signs is recommended to be "Town Centre" • Install Gated RS1 50km/h signs in the decreasing direction Signs are recommended to be provided on kerb buildouts. ***Line Marking*** Red Pavement surfacing (a single band of red surface marking, covering lanes in both increasing and decreasing directions and no speed numerals on the road surface)
Assessment of other signs	The proposed sign on the RHS will be located close to the pedestrian crossing warning sign (WU3) facing the decreasing direction at 905/15556. The pedestrian crossing sign should be moved approximately 30m towards the town centre (in the increasing direction) to avoid conflict. It cannot be moved towards the crossing as the minimum required distance between the warning sign and the crossing will be not met.

Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓
Sight distance at accesses and/or intersecting roads.	No sight distance obstructions.
Utilities	No overhead power lines observed.
Constructability Constraints	N/A
Risks/Additional commentary	Signs are recommended to be mounted on kerb buildouts for the same reasons noted under the Carterton and Greytown town centre speed limits. There will be some loss of marked kerbside parking. During the site visit the kerbside parking around the location was observed to be well utilised. The location however is not directly outside any businesses. Approximately four parking spaces will be lost (two on either side). It is recommended that Waka Kotahi consider providing a raised platform for the existing zebra crossing at 905/15469. This will aid in reinforcing the entry to high activity, lower speed area.
Matters for Detailed Design Consideration	• Kerb build out designs for sign placement • Relocation of pedestrian crossing warning sign in decreasing direction.
Final Decision	The proposed location is feasible.

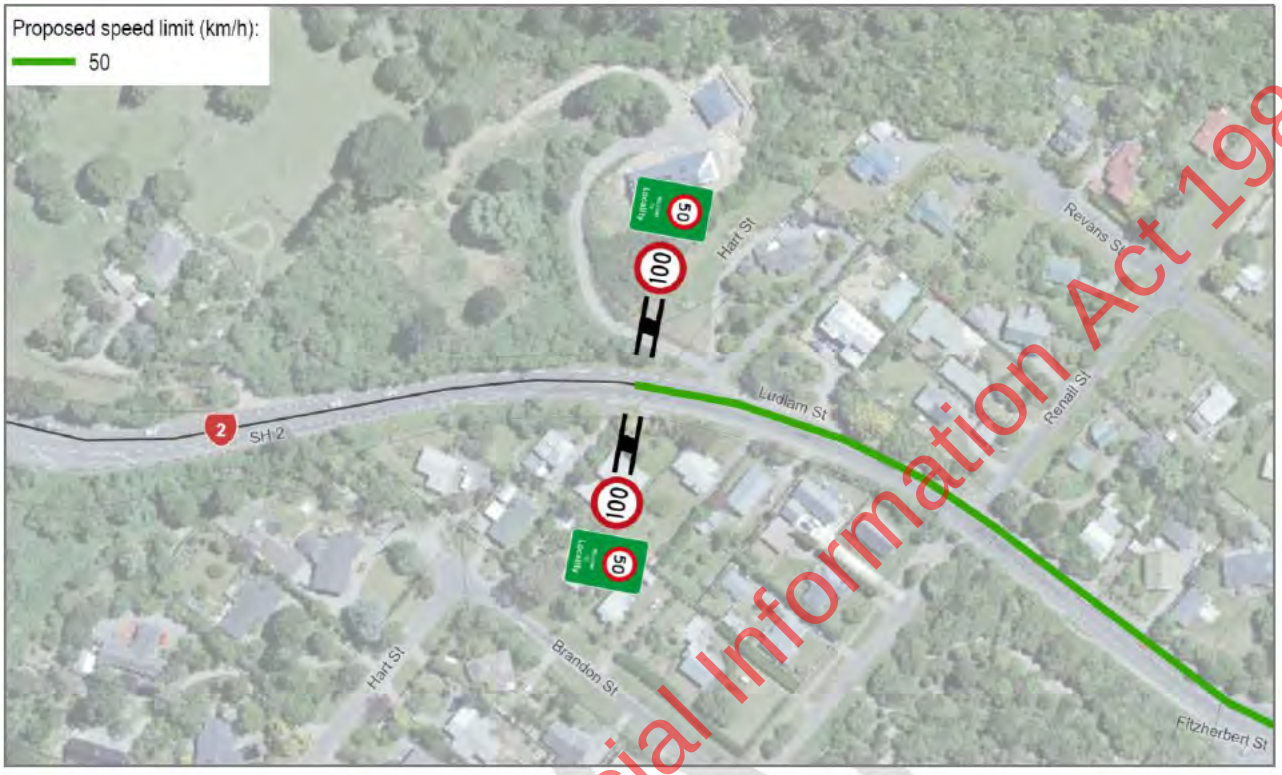
Site 21 – Featherston, southern end of the town centre



RS/RP 002-921/085	
Technical Assessment RS/RP location	002-921/099
Proposed RS/RP location	***002-921/085*** Minor change in the TA location so the RHS sign can be placed on the berm rather than the footpath (RHS footpath is too narrow to allow for an accessible path if a sign post is implemented on the footpath edge)
Physical Description	SH2, 25m northwest of SH2/ Wakefield Street/ Bethune Street intersection
Existing Threshold	N/A
Proposed Design - Speed limit threshold	***Signage*** • Install Gated RS1 50km/h signs in the increasing direction. • Install gated RS51 (Green Threshold Version A) signs in the decreasing direction. It is recommended the wording on the signs to be "Town Centre". ***Line Marking*** Red Pavement surfacing (a single band of red surface marking, covering lanes in both increasing and decreasing directions and no speed numerals on the road surface)

Assessment of other signs	There are two information signs on the RHS berm facing the decreasing direction (information centre 600m ahead sign mounted on a short pole and turn left in 300m for EV charging sign mounted on a lamp post). The proposed speed limit sign may obstruct these information signs. These signs can be readily relocated to the opposite side of the Wakefield Street/ Bethune Street intersection whilst still retaining their relevance. Both signs could potentially be mounted on existing posts or poles.
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	✓
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	✓
Sight distance at accesses and/or intersecting roads.	No sight distance obstructions.
Utilities	Overhead powerlines on LHS. Sufficient vertical clearance can be achieved, hence not expected to be of concern.
Constructability Constraints	N/A
Risks/Additional commentary	Given that the shoulders are narrow and there is no kerbside parking, LHS and RHS signs can be mounted on the footpath and the berm respectively. The footpath at the location is 3.7m wide and hence the proposed sign placement will not impede an accessible path.
Matters for Detailed Design Consideration	• Relocation of information signs facing the decreasing direction on the RHS
Final Decision	The proposed location is feasible.

Site 22 – Featherston, southern urban fringe



RS/RP 002-921/552	
Technical Assessment RS/RP location	002-921/580
Proposed RS/RP location	***002-921/552*** Minor change in the TA location to allow adequate space for threshold signs
Physical Description	SH2, 250m west of Moore Street/ Watt Street intersection
Existing Threshold	Speed limit changes from 50 to 70km/h approximately 330m east (925/219) of the proposed location. Speed limit changes from 70 to 100km/h approximately 75 west (925/ 580). of the location.
Proposed Design - Speed limit threshold	***Signage*** • Install Gated RS2 100km/h signs in the increasing direction. • Install 50km/h gated RS52 (Green Threshold Version A) signs in the decreasing direction. • Remove existing speed limit signs at 925/219 and 925/580 ***Line Marking*** Extend the existing short flush median west of the SH2/Moore Street/ Watt Street up the proposed location (See Appendix D for outline plans)
Assessment of other signs	N/A

RS/RP 002-921/552	
Advance visibility to proposed signs (Minimum requirement of 120m in rural areas and 60m in urban areas)	Advance visibility to the true LHS threshold sign in the increasing direction is restricted by the curved alignment of the road. However, the true RHS sign will remain unobstructed. At least 60m of advance visibility is available in the increasing direction to both LHS and RHS signs. Vegetation on LHS berm will need to be trimmed and maintained. Visibility to signs in the increasing direction is less important than in the decreasing direction, as the signs inform of a speed limit increase departing Featherston.
Sign to Sign lateral separation (a minimum of 10.5m required to allow for over dimension vehicles)	Achieving the minimum lateral sign separation may be challenging in this location. Key carriageway dimensions are as follows. – Edge line to ridgeline – 7.1m – LHS sealed shoulder – 1.8m – RHS sealed shoulder – 0.9m – LHS berm - approx. 2.5m The berm on the RHS slopes up steeply immediately after the end of the seal. Minor earthworks will likely be needed to reduce the berm gradient so the threshold signs can be installed. The possibility of achieving the 10.5m separation will depend on how far from the edge of the seal the RHS sign can be mounted. If the 10.5m minimum separation is not achievable, the signs could be designed with collapsible posts. The proposed location provides the best availability of space and any minor changes to the location will not achieve a better outcome.  *Figure: RHS berm looking in the decreasing rection*
Sight distance at accesses and/or intersecting roads.	The proposed LHS sign is very close to a residential driveway. However, the curved road alignment at the location means the sight distance at the driveway is unlikely to be adversely affected. The sign also will be mounted at a height that will not interfere with the drivers' line of sight.
Utilities	No overhead services observed.

RS/RP 002-921/552	
Constructability Constraints	Minor earthworks will likely be required to reduce the gradient of the RHS berm. There is a culvert within 5 – 10m of the preferred location in the RHS berm..  
Risks/Additional commentary	The presence of a culvert close to the proposed location and likely requirement of earthwork on the RHS berm as noted above.
Matters for Detailed Design Consideration	• RHS berm gradient (if the gradient needs to be reduced, and if so to what extent) • Proposed sign interaction with the culvert on RHS • Special sign design if the minimum lateral spacing of 10.5m cannot be achieved.
Final Decision	The proposed location is feasible. Minor earthworks likely required on RHS berm to reduce gradient.

2.2 Proposed repeater sign locations

The following outlines all locations in this network corridor where double sided, gated repeater signs are proposed to be placed. These signs will match the speed limit proposed in the Technical Assessment. Repeater signs are proposed at regular intervals as speed limit of 80km/h may not necessarily be self-explaining through these network sections. Identified repeater sign locations are only indicative, however they have been chosen so that there is adequate sight distance, sufficient roadway width to install gated signs and generally free of any constructability constraints.

The maximum permissible separation between repeater signs for a speed limit of 80km/h is 2.7km. The proposed locations noted above are approximately 1.5km – 2.5km apart from each other. Hence, if any specific constraints are identified at any given site, the location can be shifted by approximately 100 metres without having to adjust the other repeater locations along the corridor to meet the spacing requirement.

Table 2.1 Proposed repeater sign locations

RS/RP	*Distance (m) from previous speed limit signs (repeater signs/ thresholds/ Intersection speed signs/ school zone signs) in the increasing direction.*
002- 883/10180	1749
002- 883/11880	1700
002- 883/20860	2430
002- 905/1260	1673
002- 905/6604	2104
002- 905/8754	2150
002- 905/10554	1800
002- 905/12880	2326
002- 905/14440	1560

2.3 Existing sign removal/ modification

Curve Advisory Signs

Curve advisory signs along the corridors should be removed or replaced where the sign indicates a speed that is higher than the proposed speed. The following scheme of signs removal/ amendment is proposed:

- Horizontal alignment warning signage (WM1 to WM8) and supplementary curve advisory speed plate (WG5) - Remove the supplementary curve advisory speed plate (WG5) where the advisory speed is above the recommended new speed limit. Retain the horizontal alignment warning signage.
- Curve Advisory Chevron (WYS1 – WYS4).- Remove chevron signs where the advisory speed is above the recommended new speed limit. Replace with series of WYC Chevron signs to delineate the curve

Table 2.2 Curve Advisory signs to be removed

RS/RP	Direction	True Location
002-0883/12206	Increasing	LHS
002-0883/12611	Decreasing	RHS

Table 2.3 Curve Advisory Chevrons to be removed and replaced

RS/RP	Direction	True Location
002-0883/12397	Increasing	RHS
002-0883/12430	Decreasing	RHS

'Your Speed' Signs

These signs generally display the wording "Slow Down" when vehicles exceed the speed limit or a set speed threshold. This speed threshold will have to change accordingly when the speed limit on a road section with a 'your speed' sign changes. Your speed signs at the following location are currently on a 70km/h section which is proposed to reduce to 50km/h.

- 002-0905/14674
- 002-0921/385

Existing Repeater Signs

There are existing repeater signs on several locations on the corridor, predominantly on urban 50km/h sections. Some of these signs will need to be removed either due being in conflict with the proposed speed limit or being too close to a proposed speed limit change location, hence carrying potential to confuse drivers.

RS/RP	Direction	True Location
002-0883/16149	Increasing and decreasing	Gated
002-0883/16613	Increasing and decreasing	Gated
002-0905/3270	Increasing and decreasing	Gated

2.4 Proposed Slow Vehicle Bays

Three existing passing lanes along the assessment corridor are proposed to be converted into slow vehicle bays. The design of the slow vehicle bays is based on Waka Kotahi Traffic Control Devices Manual (TCDM) Part 5 – Traffic control devices for general use between intersections (December 2020). The outline plans for each slow vehicle bay are shown in Appendix C. It should be noted that these plans are based on aerial imagery and key observations and measurements undertaken at site and not informed by any form of survey data. These plans are only intended for assessing the overall feasibility and any high-level details of the design. The more detailed elements of the design (removal of existing signs and line markings and installation of new signs and markings including the delineation) will be finalised during the detailed design stage once the survey data is available.

During correspondence with Waka Kotahi, it was agreed that the slow vehicle bays should be kept at the same length as the current passing lanes, rather than reducing them to 300m, the maximum length recommended in TCDM for slow vehicle bays.

Design details on each of the slow vehicle bay is summarised below.

Slow Vehicle Bay 1 – Southwest of Carterton

The existing passing lane starts at RS/RP 883/18445 and ends at RS/RP 883/18980, with a total length of 535m. The width of the passing lane ranges from 3.6m to 3.8m with approximately 0.3m wide double yellow marked centreline. Site visit observations and measurements on site show that the conversion of existing passing lane into a slow vehicle bay is feasible.

Proposed slow vehicle bay as well as the traffic lanes are 3.5m wide. The width of the proposed wide centreline ranges from 0.6m to 1.2m. The sealed shoulder for the new layout is at least 1.5m wide on both sides. This is expected to be sufficient to accommodate cyclists using this section of the road. Overall, additional seal widening will not be required for the proposed layout.

Slow Vehicle Bay 2 - Southwest of Greytown

The existing passing lane starts at RS/RP 905/5290 and ends at RS/RP 905/6070, with a total length of 780m. The passing lane is 3.5m to 3.7m wide with approximately 0.3m wide double yellow marked centreline. Site visit observations and measurements on site show that the conversion of existing passing lane into a slow vehicle bay is feasible.

Proposed slow vehicle bay as well as the traffic lanes in both directions are 3.5m wide. The proposed wide centre line is 0.6m wide. The sealed shoulder width is at least 1.4m on both sides. As such the design is not expected to impede safe cyclist movements along this road section, despite the current shoulder being narrowed down (by 0.1m along much of the section and up to 0.9m towards end of the section) to accommodate the wide centreline treatment. Overall, additional seal widening will not be required for the proposed layout.

Slow Vehicle Bay 3 - East of Featherston

The existing passing lane starts at RS/RP 905/12660 and ends at RS/RP 905/12010 (in decreasing direction) with a total length of 650m. The width of the passing lane ranges from 3.5m to 3.7m with approximately 0.3m wide double yellow marked centreline. Site visit observations and measurement on site show that the existing passing can be converted to a slow vehicle bay.

Proposed slow vehicle bay as well as the adjacent lane is 3.4m wide, with the lane in the opposite direction being 3.5m wide. The proposed wide centreline is 0.5m wide. The sealed shoulders are at least 1.4m wide on both sides, which will be sufficient to accommodate cyclists using this section of the road. Overall, additional seal widening will not be required for the proposed layout.

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3. Summary

Table 3.1 provides a summary of the proposed treatments and recommended supplementary infrastructure along with the conclusions on implementation feasibility for the assessment corridor

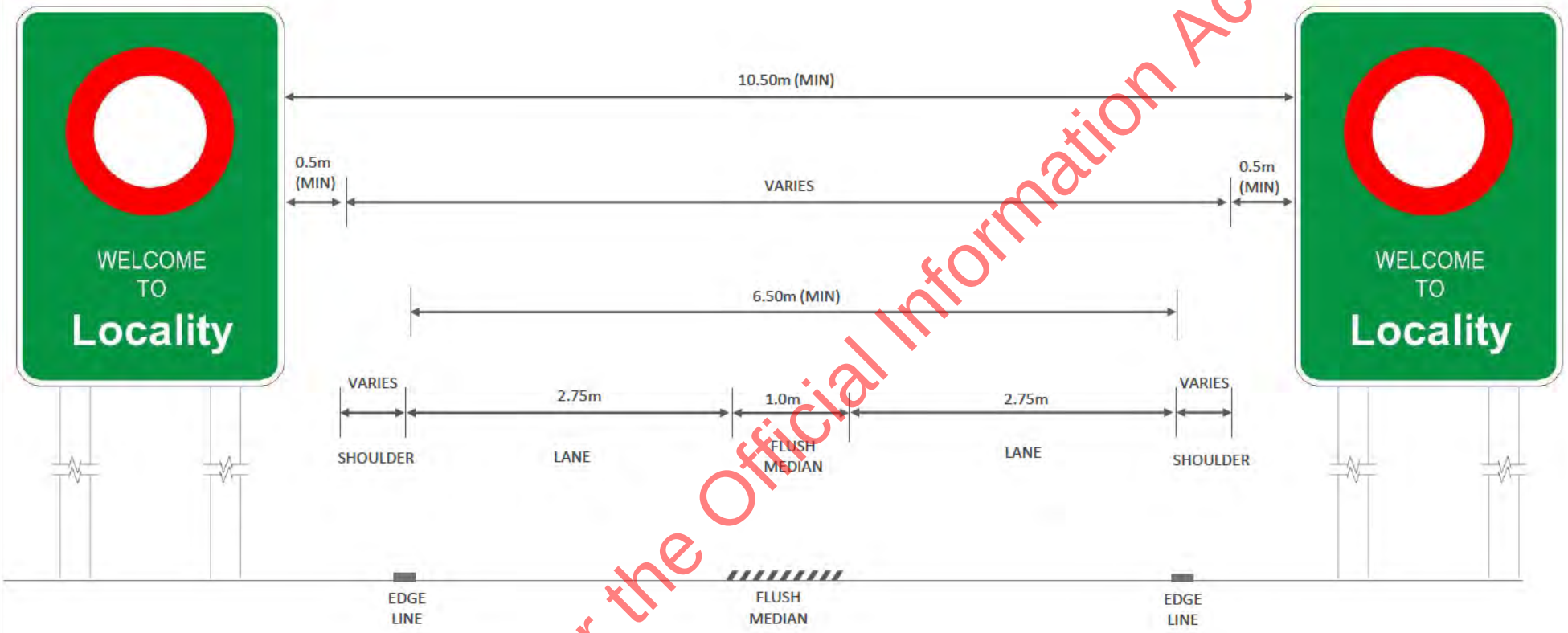
Table 3.1 Summary of proposed treatments

Reference	Speed Limit change	Initial RS/RP	Proposed RS/RP	Proposed treatment	Reason for location change	Location feasibility	Matters to be considered at detailed design
Site 1	N/A	883/4800	Unchanged	Remove signs	N/A	Feasible	N/A
Site 2	50 to 80km/h	883/5966	883/5716	Threshold	Achieving compliance for a 50km/h speed limit through the Waingawa River Bridge can be difficult/ Ta location is not self-explaining for a speed limit change due to lack of change in land use or road characteristics.	Feasible, Note change from TA location	Relocation of existing intersection warning sign (PW-12) at 002-883/5716 Details of the kerb buildout (if required and if so to what extent)
Site 3	80 to 60km/h intersection speed zone	883/6550	unchanged	Rural intersection activated warning sign and	N/A	Feasible	Relocation of existing Cycle warning sign at 883/6570.
Site 4	60km/h intersection speed zone to 80km/h	883/6860	883/6894	Rural intersection activated warning sign and	To place sign in advance of left turning lane	Feasible, Note change from TA location	N/A
Site 5	80 to 60km/h intersection speed zone	883/8400	Unchanged	Replace existing 70km/h Rural intersection activated warning sign with 60km/h signs.	N/A	Feasible	N/A
Site 6	60km/h intersection speed zone to 80km/h	883/8770	Unchanged	Replace existing 70km/h Rural intersection activated warning sign with 60km/h signs.	N/A	Feasible	N/A
Site 7	80 to 70km/h	883/14090	Unchanged	Roundels (existing)	N/A	Feasible	N/A
Site 8	70 to 50km/h	883/14090	Unchanged	Threshold (existing)	N/A	Feasible, possible conflict with	May require special signs design (customised dimensions etc.) or changes to the overhead services to manage

Reference	Speed Limit change	Initial RS/RP	Proposed RS/RP	Proposed treatment	Reason for location change	Location feasibility	Matters to be considered at detailed design
						overhead services	potential conflict with overhead powerlines.
Site 9	50 to 40km/h	883/15307	883/15287	Threshold (smaller RS51 "Town Centre" signs)	Minimise impact on on-street parking directly outside local businesses.	Feasible, Note change from TA location	Kerb build out designs for sign placement Relocation of roundabout warning sign (if required)
Site 10	40 to 50km/h	883/16099	Unchanged	Threshold (smaller RS51 "Town Centre" signs)	N/A	Feasible	Kerb build out designs for sign placement Relocation of pedestrian crossing warning sign (WU3) at 883/16115 and vertical hump (WN2) warning sign at 883/ 16095.
Site 11	50 to 30km/h school VSL	883/16200	Unchanged	School VSL	N/A	Feasible	Local road sign placement – require liaising with the local council regarding updating existing signs and installation of new signs.
Site 12	30km/h school VSL to 50km/h	883/16980	Unchanged	School VSL	N/A	Feasible	Local road sign placement – require liaising with the local council regarding updating existing signs and installation of new signs.
Site 13	50 to 80km/h	883/18430	Unchanged	Threshold (existing)	N/A	Feasible	N/A
Site 14	80 to 70km/h	N/A	905/1251	Roundels (Existing)	N/A	Feasible	N/A
Site 15	70 to 50km/h	N/A	905/2041	Threshold (Existing)	N/A	Feasible, possible conflict with overhead services	May require special signs design/ changes to mounting height or changes to the overhead services to manage potential conflict with overhead powerlines.
Site 16	50 to 40km/h	905/2686	905/2670	Threshold (smaller RS51 "Town Centre" signs)	To provide adequate separation from the Jellico Street/ Kuratawhiti Street/ SH2 intersection	Feasible, Note change from TA location	Kerb build out designs for sign placement Relocation of pedestrian crossing (905/2681) and presence of pedestrians warning signs (905/2703) in increasing

Reference	Speed Limit change	Initial RS/RP	Proposed RS/RP	Proposed treatment	Reason for location change	Location feasibility	Matters to be considered at detailed design
							and decreasing directions respectively (if required)
Site 17	40 to 50km/h	905/3320	Unchanged	Threshold (smaller RS51 "Town Centre" signs)	N/A	Feasible	Kerb build out designs for sign placement
Site 18	50 to 80km/h	905/4500	Unchanged	Threshold (Existing)	N/A	Feasible	N/A
Site 19	80 to 50km/h	905/14440	Unchanged	Threshold (Existing)	N/A	Feasible	N/A
Site 20	50 to 40km/h	905/15539	Unchanged	Threshold (smaller RS51 "Town Centre" signs)	N/A	Feasible	Kerb build out designs for sign placement Relocation of pedestrian crossing warning sign in decreasing direction.
Site 21	40 to 50km/h	921/099	921/085	Threshold (smaller RS51 "Town Centre" signs)	To enable the RHS sign to be placed on the berm rather than the footpath	Feasible, Note change from TA location	Relocation of information signs facing the decreasing direction on the RHS
Site 22	50 to 100km/h	921/580	921/552	Threshold	To allow adequate space for threshold signs	Feasible, Note change from TA location. Minor earthworks likely required on RHS berm	RHS berm gradient (if the gradient needs to be reduced, and if so to what extent) Proposed sign interaction with the culvert on RHS Special sign design if the minimum lateral spacing of 10.5m cannot be achieved.

Appendix A: Proposed Standard Threshold Treatment



TYPICAL TRESHOLD TREATMENT - TYPE A

*NOTE: Provide diagonal shoulder stipe marking if sealed shoulder width is > 1.0m

NOT TO SCALE

TYPICAL TRESHOLD TREATMENT, TYPE A – EXISITNG EXAMPLES

Ohakune

Entering Ohakune township from the west

View exiting Ohakune township

Bulls

Entering Bulls township from the North

View exiting Bulls township

Appendix B: Proposed Speed Limit Schedule and Sign Placements

N

SHEET 1

INSET 1: Masterton

INSET 2: Norfolk Rd/Cornwall Rd

INSET 3: Wiltons Rd/East Taratahi Rd

SHEET 2

INSET 4: Carterton A

INSET 5: Carterton B

INSET 6: Carterton C

INSET 7: Carterton D

INSET 8: Carterton E

SHEET 3

INSET 9: Greytown A

INSET 10: Greytown B

INSET 11: Greytown C

INSET 12: Greytown D

SHEET 5

SHEET 4

INSET 14: Featherston B

INSET 13: Featherston A

Key

Proposed speed limit (km/h):

- 80
- 80/60 Intersection Speed Zone
- 70
- 60
- 50
- 50/30 School Zone VSL
- 40

0 10 km

Map data sources include: Ableyy, Waka Kotahi NZ Transport Agency, LINZ

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

OVERVIEW

ableyy Beca

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Original size: A3 Original scale: 1:80,000 Date exported: 27/08/2021 2:27 PM

N

INSET 1: Masterton

INSET 2: Norfolk Rd/Cornwall Rd

INSET 3: Wiltons Rd/East Taratahi Rd

002-0883-B/4800
Remove existing speed limit signs (both directions)

002-0883-B/10180

002-0883-B/11880

002-0883-B/12206
Remove curve advisory sign

002-0883-B/12397
Remove curve advisory sign

002-0883-B/12611
Remove curve advisory sign

002-0883-B/12430
Remove curve advisory sign

Waingawa
David Lowes Lane
Norfolk Rd
Wiltons Rd
Norman Ave
Waingawa Rd
Ahumahi Rd
Pakiki Rd
SH 2
High St
Solway Cres
South Belt
Harley St
Gimson St
South Rd
Hughes Line
East Taratahi Rd
Perrys Rd
Cornwall Rd
Dorset Rd
Chester Rd
Nicholson Rd

Key
- Remove sign
- Repeater (80km/h)

Proposed speed limit (km/h):
- 80
- 80/60 Intersection Speed Zone
- 70
- 60
- 50
- 50/30 School Zone VSL
- 40

0 1 2 3 km

Map data sources include: Abley, Waka Kotahi NZ Transport Agency, LINZ

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

SHEET 1 of 5

abley Beca

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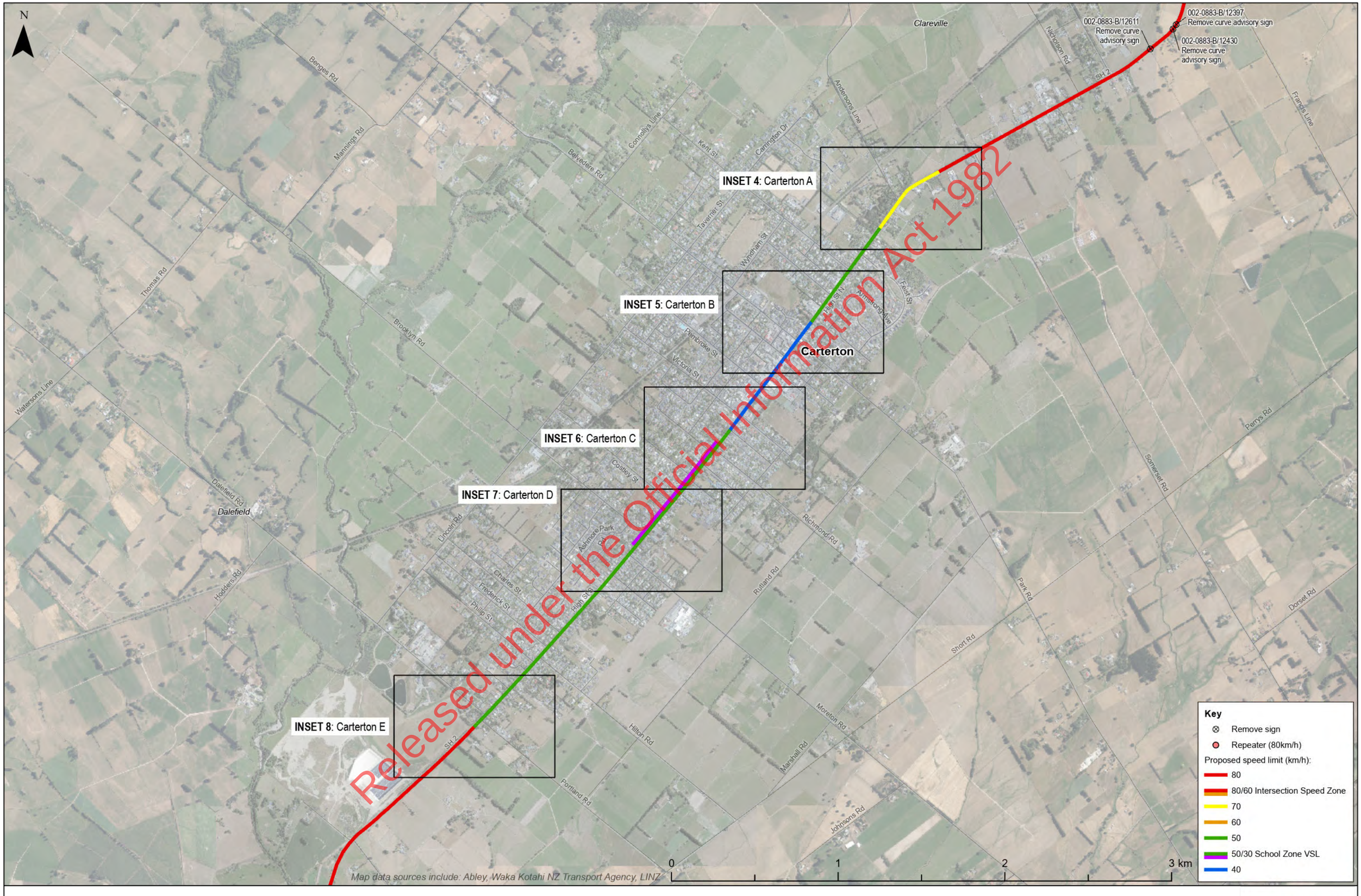

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

SHEET 2 of 5

abley Beca

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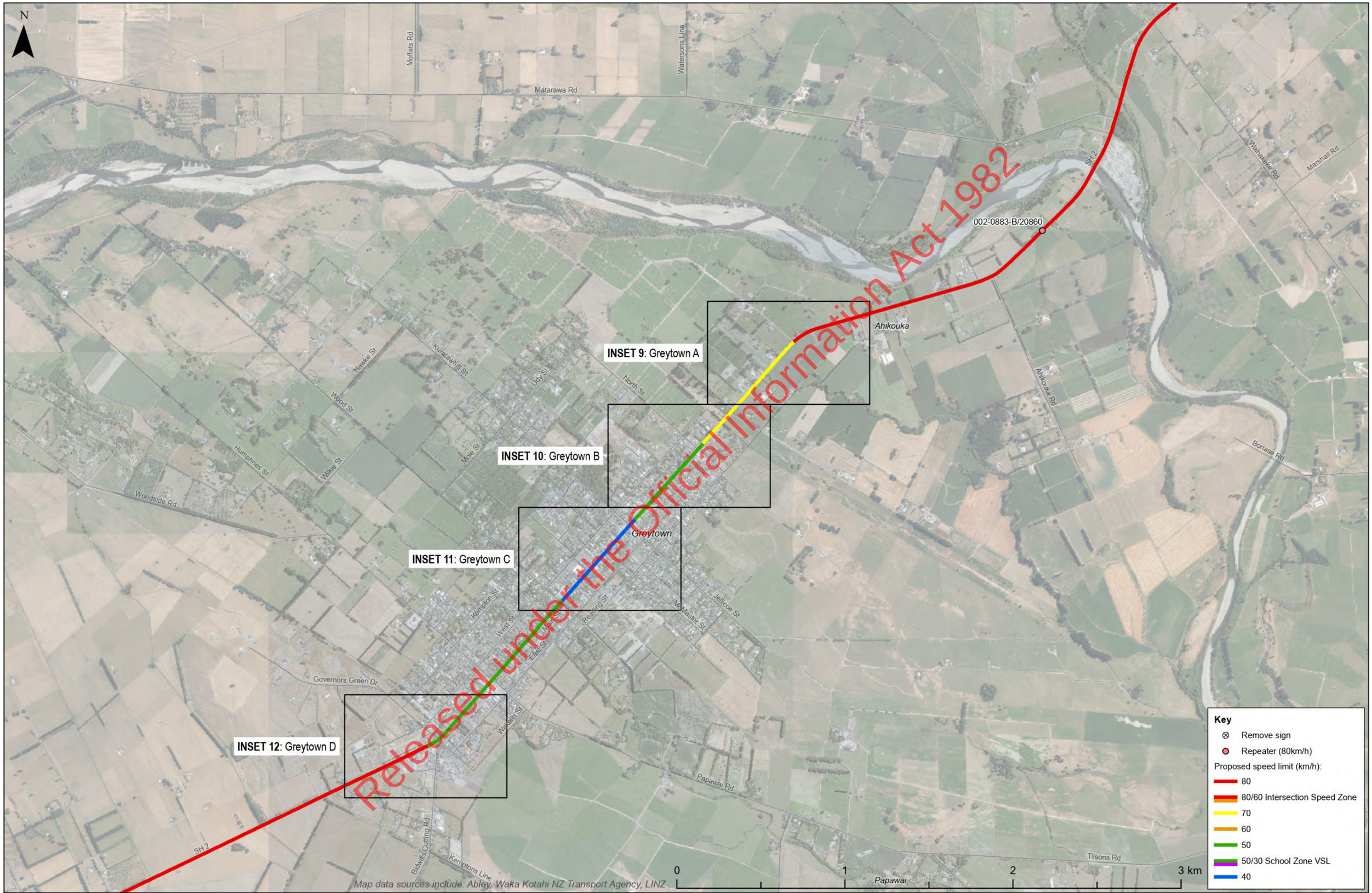

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

SHEET 3 of 5

ableq Beca

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SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

SHEET 4 of 5

abley Beca

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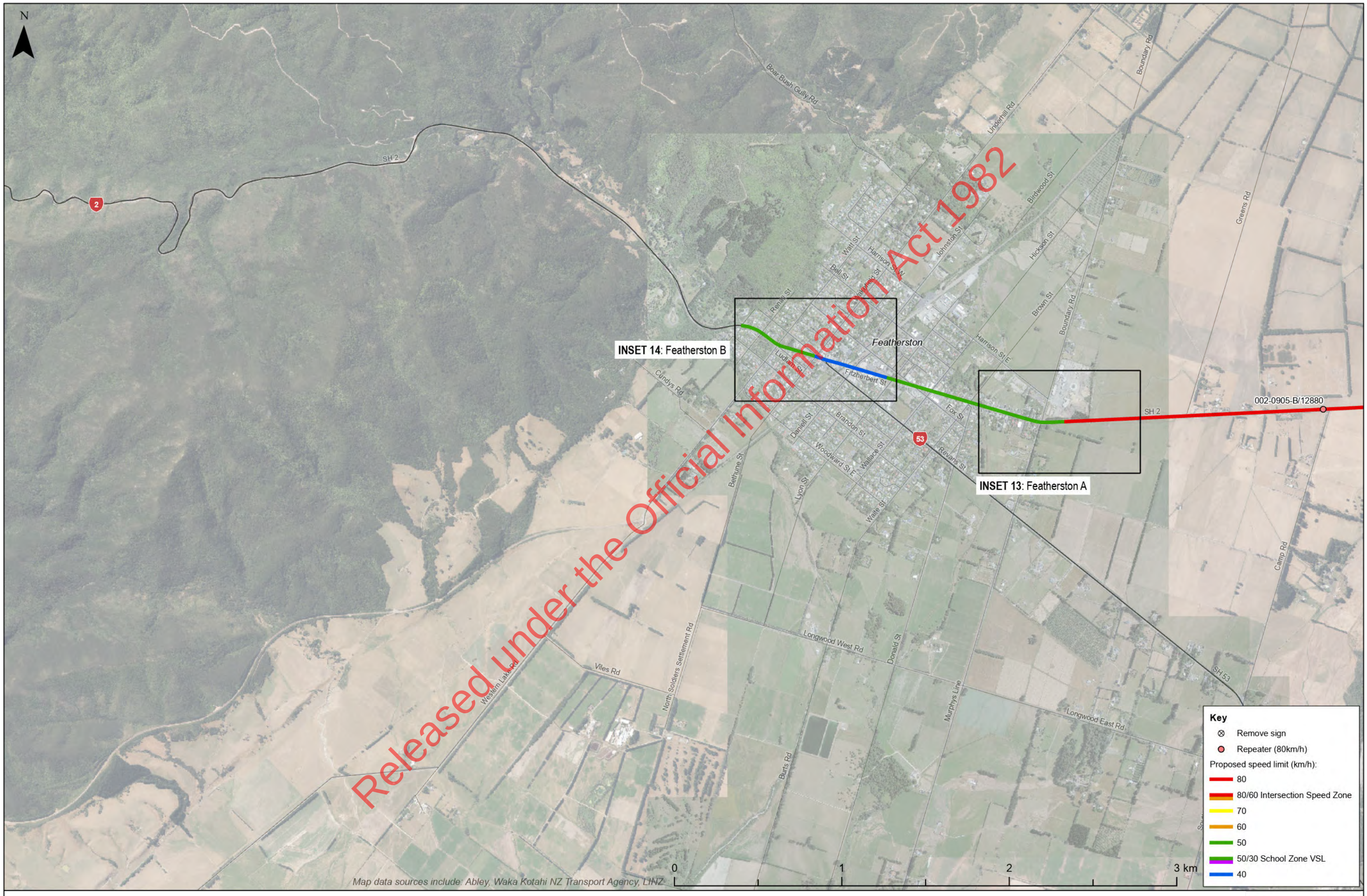

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

SHEET 5 of 5

ableq Beca

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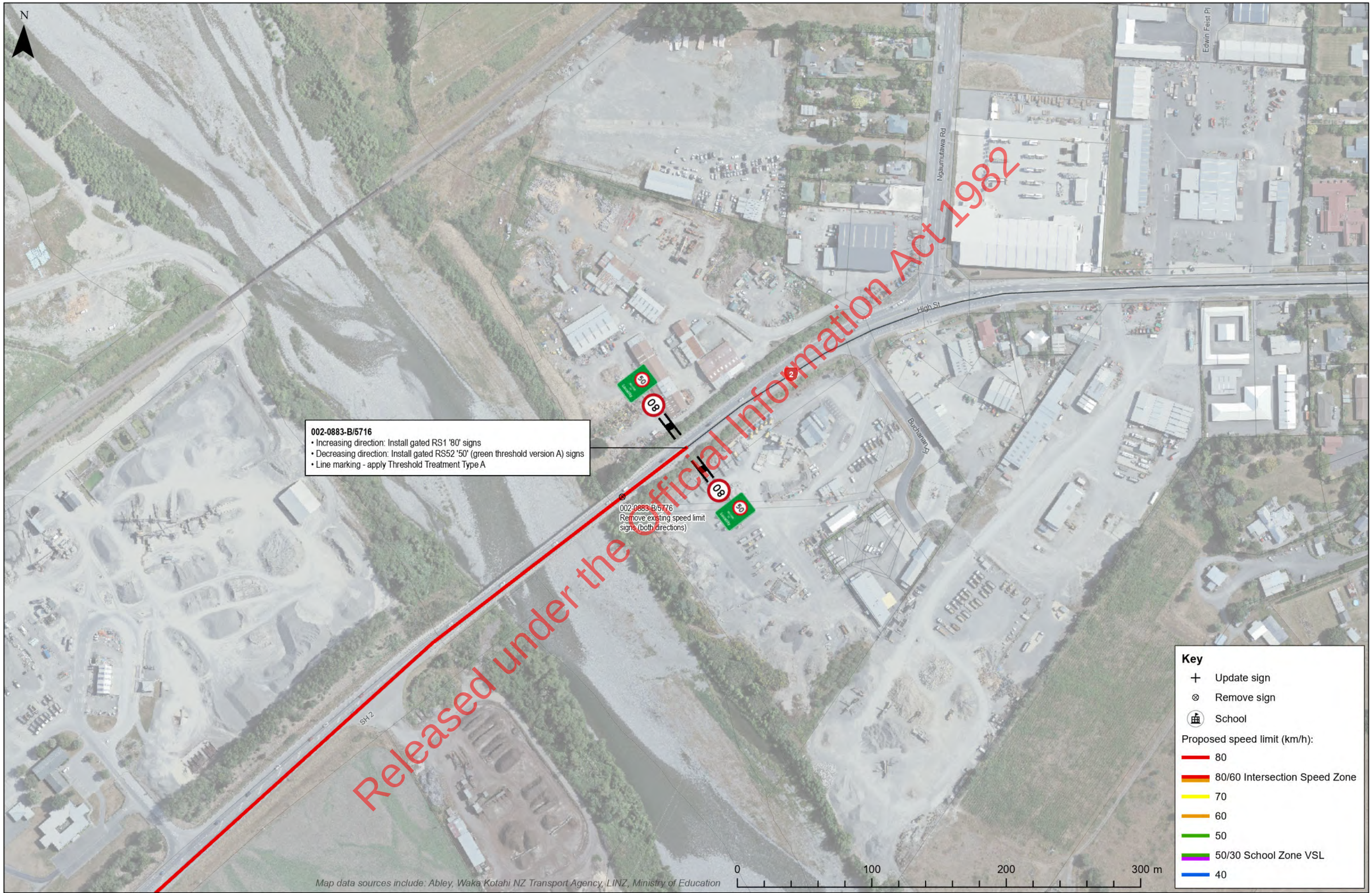

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

INSET 1 of 14: Masterton

abley beca

Path: C:\Users\dale\OneDrive - Abley Ltd\Work_covid\SMP\SH2 Masterton to Featherston FA\SH2 Masterton to Featherston FA.aprx

Original size: A3 Original scale: 1:2,500 Date exported: 27/08/2021 2:59 PM

N

Norfolk Rd

Waingawa Rd

Norfolk Rd

002-0883-B/6550
- Increasing direction: Install WJ2A '60' rural intersection activated warning sign and crossroad intersection warning sign - LHS
- Decreasing direction: Install RS1 '80' sign - RHS

80

60

SH 2

002-0883-B/6894
- Increasing direction: Install RS1 '80' sign - LHS
- Decreasing direction: Install WJ2A '60' rural intersection activated warning sign and crossroad intersection warning sign - RHS

80

Cornwall Rd

Norman Ave

Key
- Update sign
- Remove sign
- School

Proposed speed limit (km/h):
- 80
- 80/60 Intersection Speed Zone
- 70
- 60
- 50
- 50/30 School Zone VSL
- 40

0 100 200 300 m

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

INSET 2 of 14: Norfolk Rd/Cornwall Rd

abley Beca

Path: C:\Users\dale\OneDrive - Abley Ltd\Work_covid\SMP\SH2 Masterton to Featherston FA\SH2 Masterton to Featherston FA.aprx

Original size: A3 Original scale: 1:2,500 Date exported: 27/08/2021 2:59 PM

N

Wiltons Rd

East Taratahi Rd

SH2

002-0883-B/8400
- Increasing direction: Replace existing '70' rural intersection activated warning signs with '60' rural intersection activated warning sign - LHS
- Decreasing direction: Replace existing RS2 '100' RS2 signs with RS1 '80' RS1 sign - RHS

002-0883-B/8770
- Increasing direction: Replace existing RS2 '100' RS2 signs with RS1 '80' RS1 sign - RHS
- Decreasing direction: Replace existing '70' rural intersection activated warning signs with '60' rural intersection activated warning signs

Key
- Update sign
- Remove sign
- School

Proposed speed limit (km/h):
- 80
- 80/60 Intersection Speed Zone
- 70
- 60
- 50
- 50/30 School Zone VSL
- 40

0 100 200 300 m

Map data sources include: Abley, Waka Kotahi NZ Transport Agency, LINZ, Ministry of Education

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

INSET 3 of 14: Wiltons Rd/East Taratahi Rd

abley Beca

Path: C:\Users\dale\OneDrive - Abley Ltd\Work_covid\SMP\SH2 Masterton to Featherston FA\SH2 Masterton to Featherston FA.aprx

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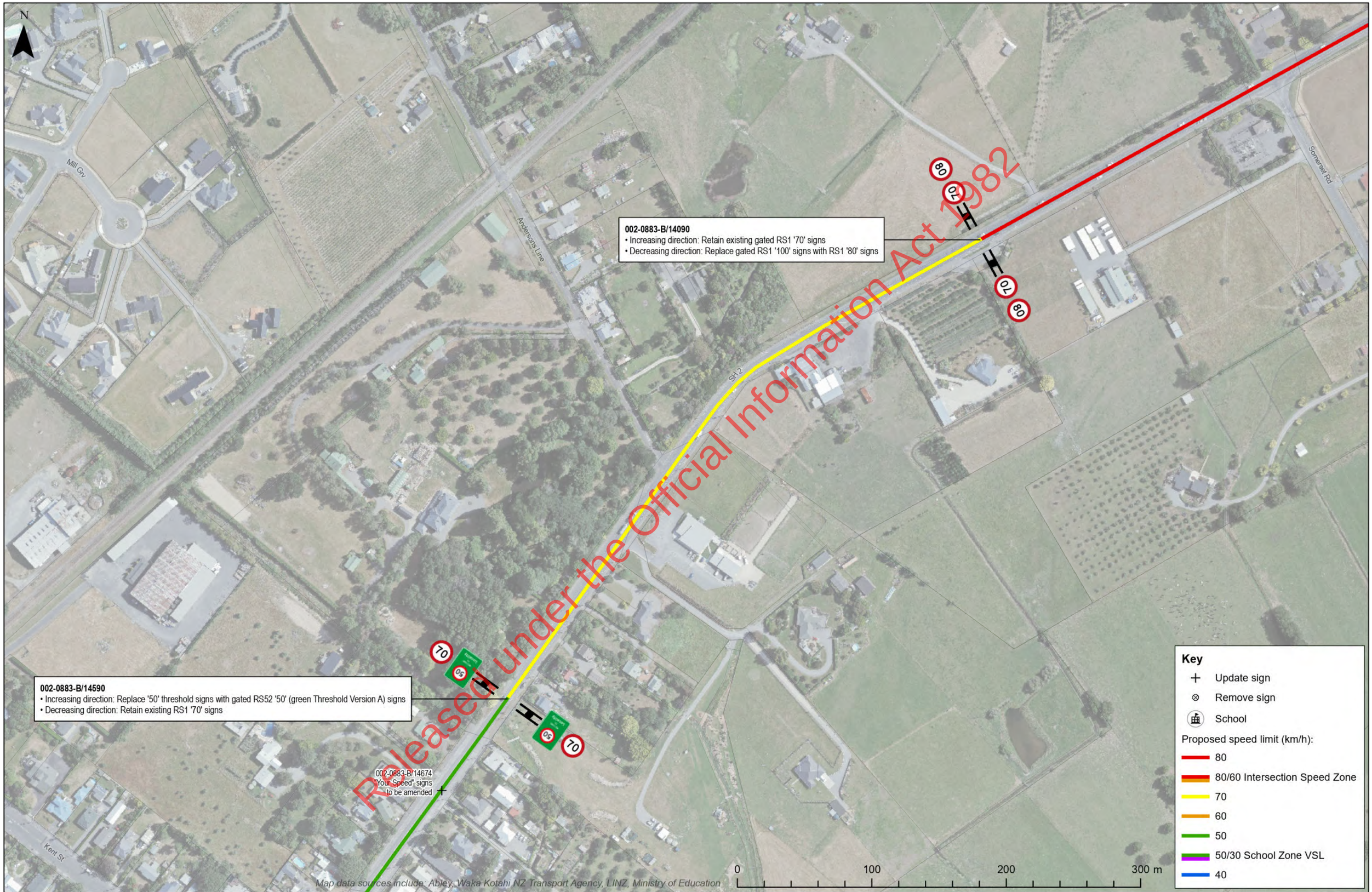

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

INSET 4 of 14: Carterton A

abley Beca

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N

002-0883-B/15287
- Increasing direction: Install gated RS51 '40' (green threshold version A) signs with 'Town Centre'
- Decreasing direction: Install gated RS1 '50' signs
- Red pavement surfacing

Carterton

Wyndham St
Alexis Green Lane
Tasman Cres
Kent St
Plimsoll St
Rhodes St
Nobal St
Armstrong Ave
Austin Reid Ave
Whitestone St
Belvedere Rd
Devon Lane
Hereford Dr
Angus Pl
De Lacey Lane
Davy St
Faraday St
Broadway
Masson St
Stubbs Lane
McKenzie Tce
William Wong Pl
Ballinger Pl
Memorial Sq
Park Rd
Dixon St
Nelson Cres
Holloway St
Pembroke St
Barrett Pl
Garrison St
Feist St
Hornsby St

Key
- Update sign
- Remove sign
- School

Proposed speed limit (km/h):
- 80
- 80/60 Intersection Speed Zone
- 70
- 60
- 50
- 50/30 School Zone VSL
- 40

0 100 200 300 m

Map data sources include: Abley, Waka Kotahi NZ Transport Agency, LINZ, Ministry of Education

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

INSET 5 of 14: Carterton B

abley Beca

Path: C:\Users\dale\OneDrive - Abley Ltd\Work_covid\SMP\SH2 Masterton to Featherston FA\SH2 Masterton to Featherston FA.aprx

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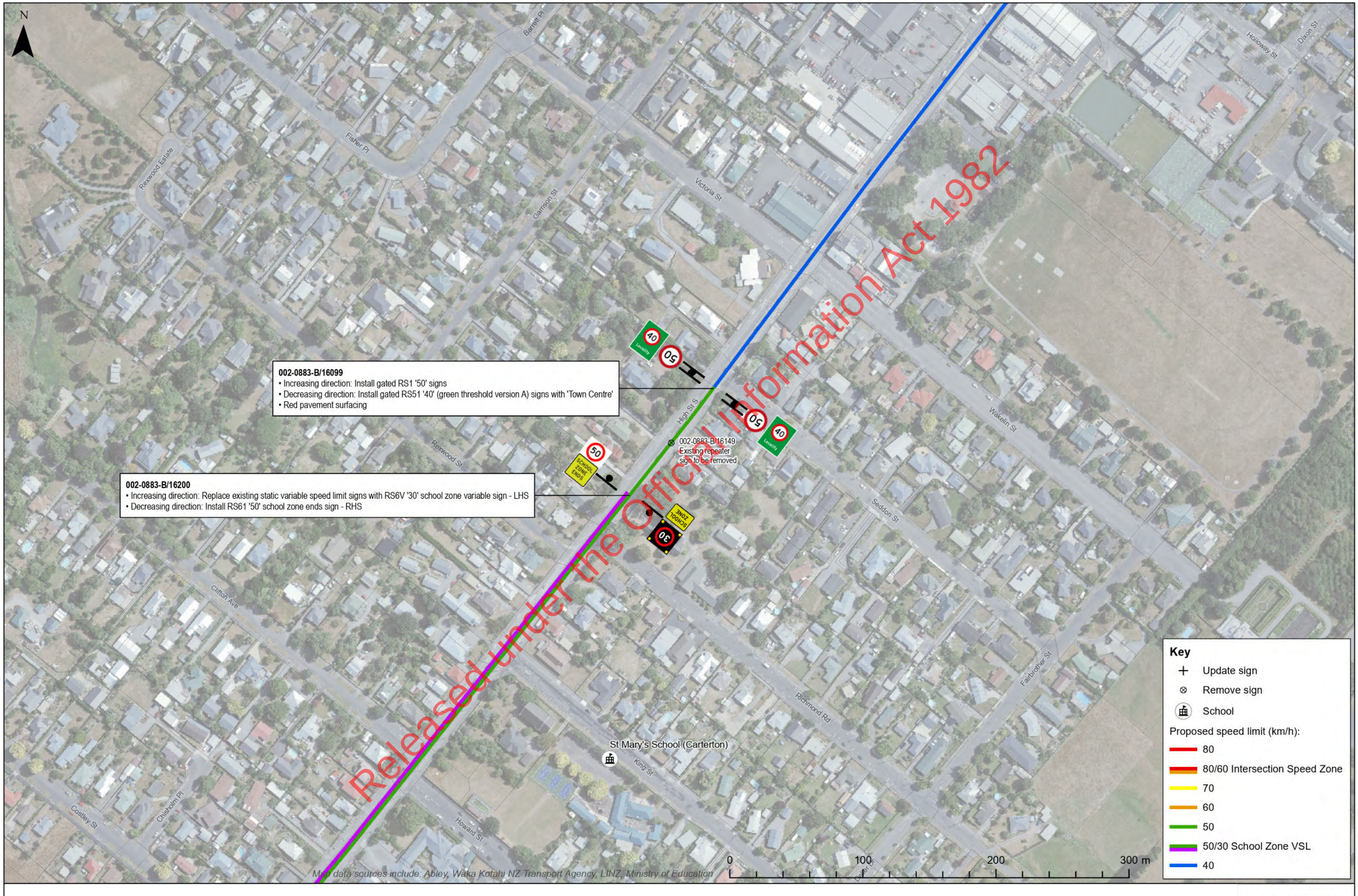

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

INSET 6 of 14: Carterton C

abley Beca

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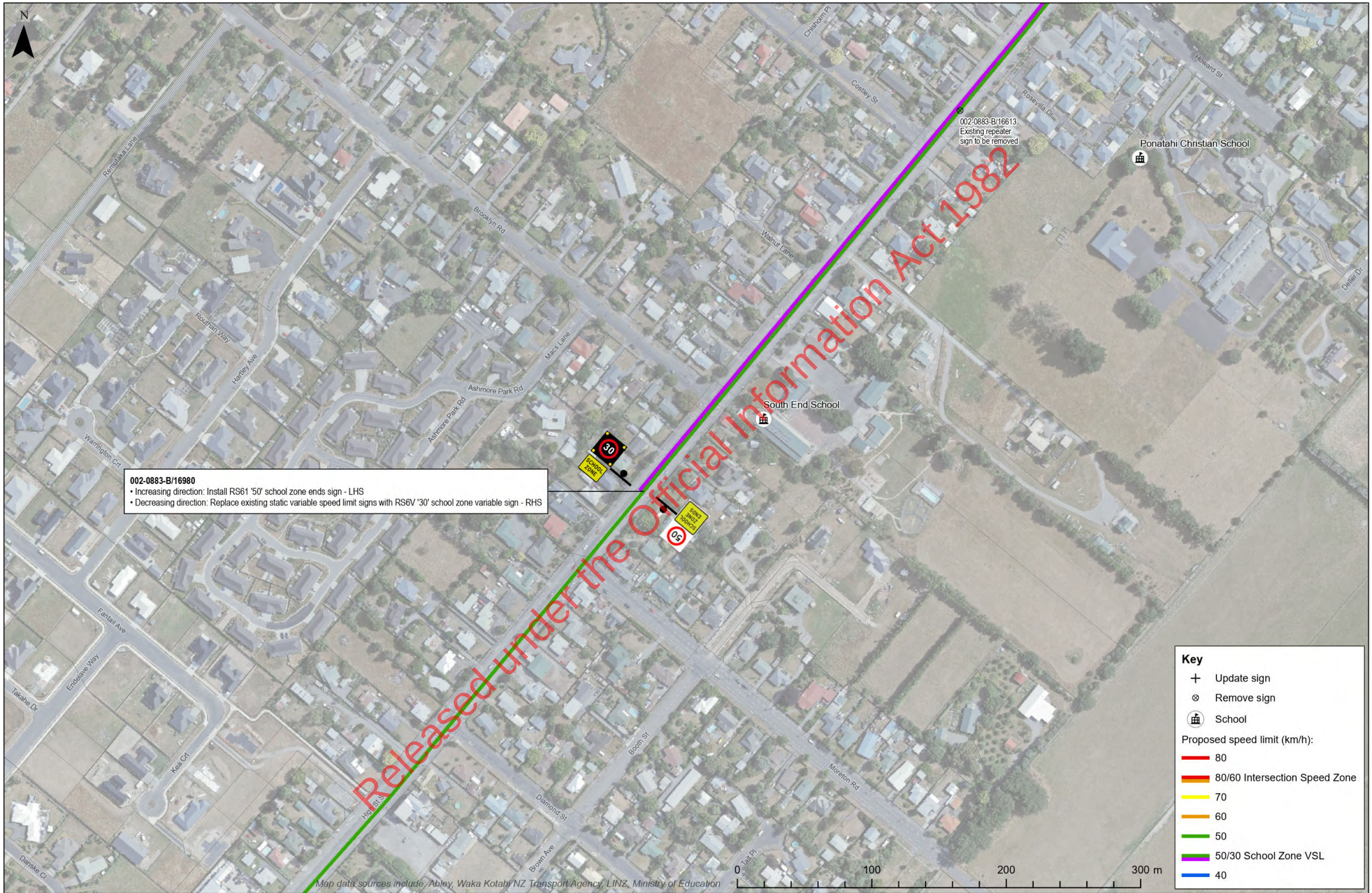

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

INSET 7 of 14: Carterton D

abley Beca

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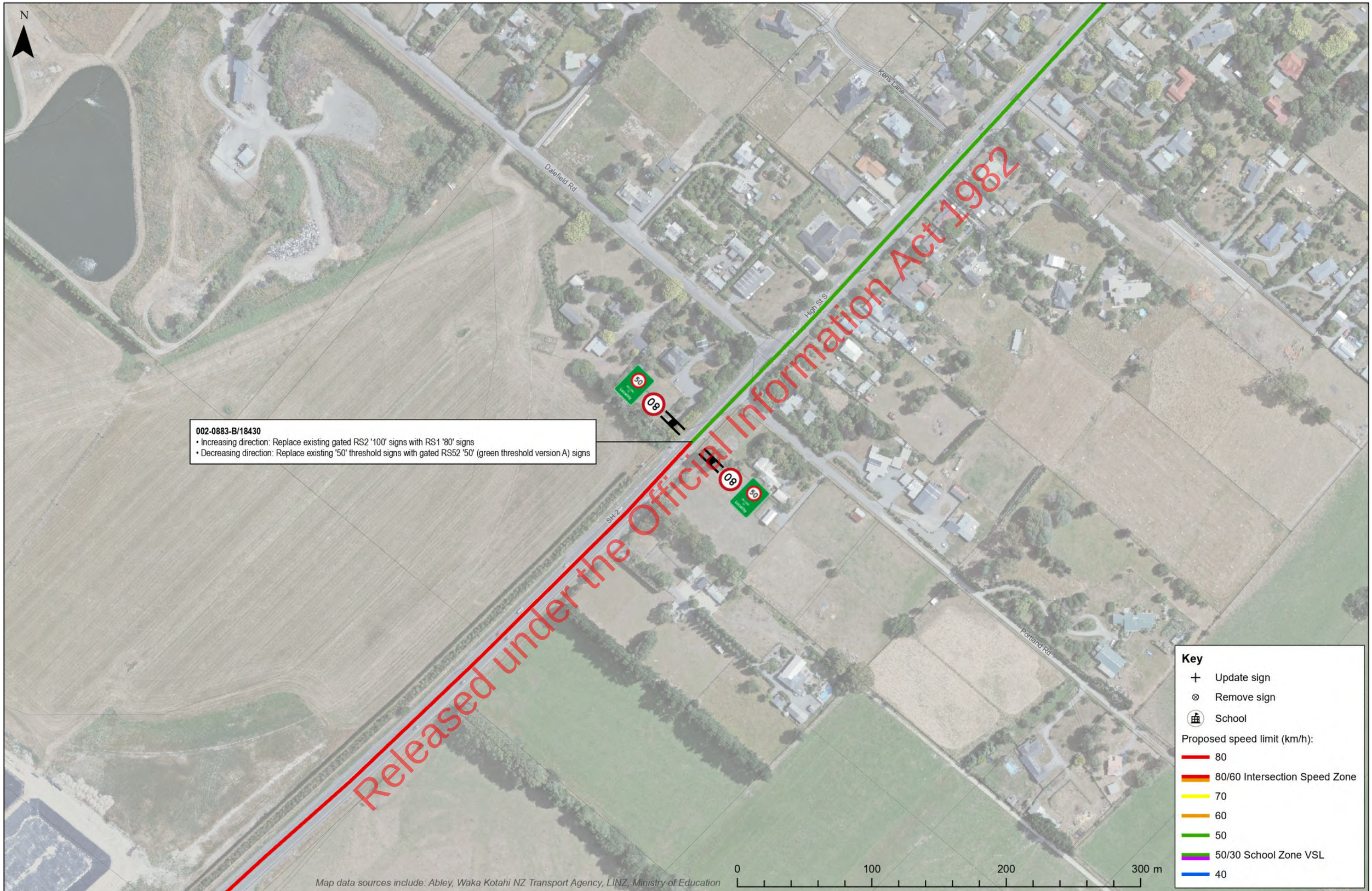

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

INSET 8 of 14: Carterton E

abley Beca

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Original size: A3 Original scale: 1:2,500 Date exported: 27/08/2021 2:59 PM

N

002-0905-B/1251
- Increasing direction: Retain existing RS1 '70' signs
- Decreasing direction: Replace RS2 '100' signs with gated RS1 '80' signs

80 70

70 80

SH2

Reading St

Key
- Update sign
- Remove sign
- School

Proposed speed limit (km/h):
- 80
- 80/60 Intersection Speed Zone
- 70
- 60
- 50
- 50/30 School Zone VSL
- 40

0 100 200 300 m

Map data sources include: Abley, Waka Kotahi NZ Transport Agency, LINZ, Ministry of Education

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

INSET 9 of 14: Greytown A

abley Beca

Path: C:\Users\dale\OneDrive - Abley Ltd\Work_covid\SMP\SH2 Masterton to Featherston FA\SH2 Masterton to Featherston FA.aprx

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SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

INSET 10 of 14: Greytown B

abley beca

Path: C:\Users\dale\OneDrive - Abley Ltd\Work_covid\SMP\SH2 Masterton to Featherston FA\SH2 Masterton to Featherston FA.aprx

Original size: A3 Original scale: 1:2,500 Date exported: 27/08/2021 2:59 PM

N

002-0905-B/2670
- Increasing direction: Install gated RS51 '40' (green threshold version A) signs with 'Town Centre'
- Decreasing direction: Install gated RS1 '50' signs
- Red pavement surfacing

002-0905-B/3320
- Increasing direction:Install gated RS1 '50' signs
- Decreasing direction: Install gated RS51 '40' (green threshold version A) signs with 'Town Centre'
- Red pavement surfacing

002-0905-B/3270
Existing repeater sign to be removed

Greytown School

Greytown

Westwood Ave
Kuratawhiti St
Farley Ave
Peony Dr
Oak View Pl
West St
Hastwell St
East St
Clara Anne Grv
Jellicoe St
Reading St
Horton St
Kempton St
Wood St
McMaster St

Key
- Update sign
- Remove sign
- School

Proposed speed limit (km/h):
- 80
- 80/60 Intersection Speed Zone
- 70
- 60
- 50
- 50/30 School Zone VSL
- 40

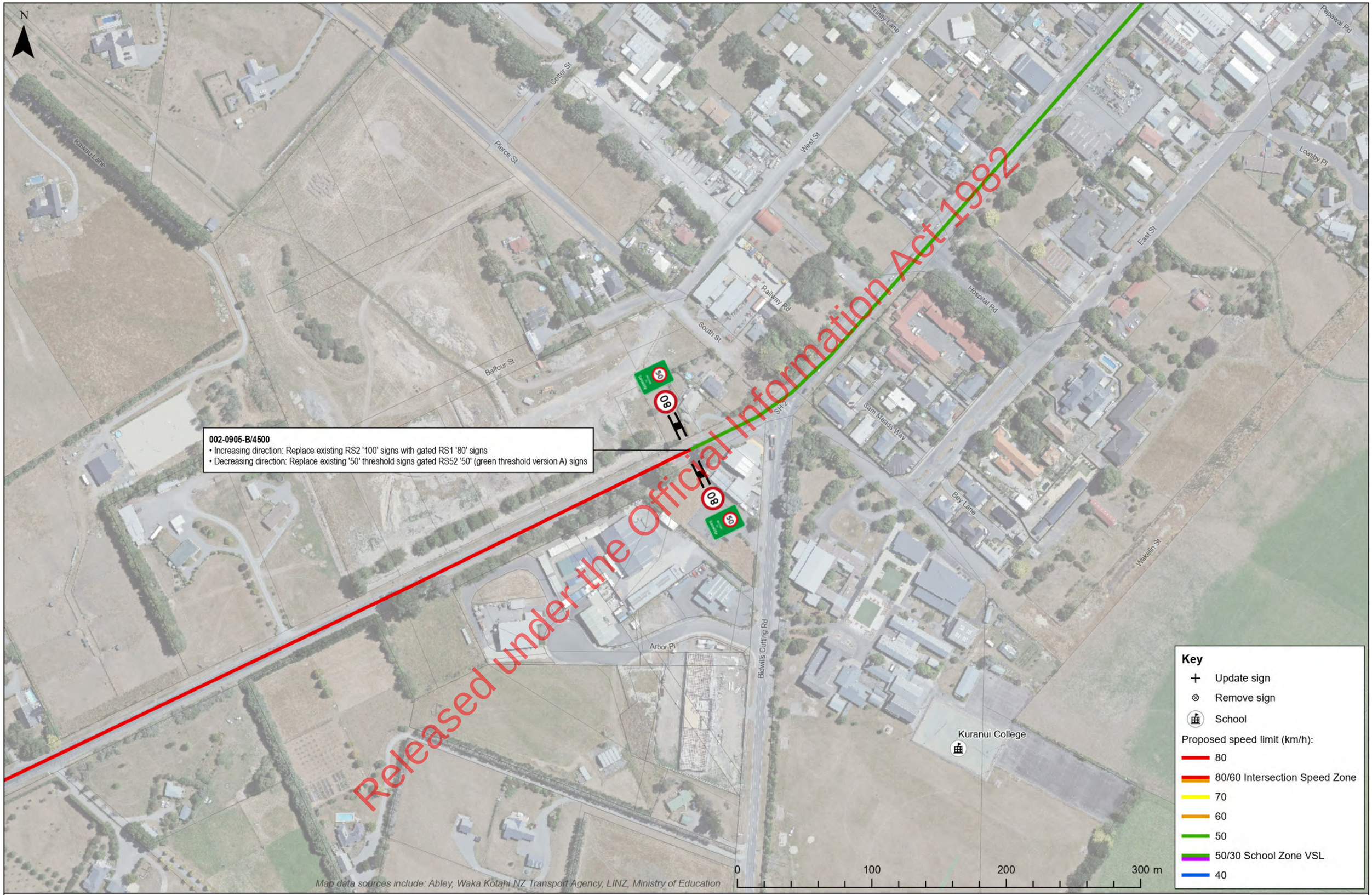
0 100 200 300 m

Map data sources include: Abley, Waka Kotahi NZ Transport Agency, LINZ, Ministry of Education

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

INSET 11 of 14: Greytown C

abley Beca



SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

INSET 12 of 14: Greytown D

abley Beca

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Original size: A3 Original scale: 1:2,500 Date exported: 27/08/2021 2:59 PM

N

Brown St

Harrison St E

Boundary Rd

Fitzherbert St

SH 2

002-0905-B/14900
Remove existing speed limit signs (both directions)

002-0905-B/14440
- Increasing direction: Replace existing '70' threshold signs with gated RS52 '50' (green threshold version A) signs.
- Decreasing direction: Replace existing '100' RS2 signs with RS1 '80' signs.

Key
- Update sign
- Remove sign
- School

Proposed speed limit (km/h):
- 80
- 80/60 Intersection Speed Zone
- 70
- 60
- 50
- 50/30 School Zone VSL
- 40

0 100 200 300 m

Map data sources include: Abley, Waka Kotahi NZ Transport Agency, LINZ, Ministry of Education

SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

INSET 13 of 14: Featherston A

abley Beca

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SPEED MANAGEMENT FEASIBILITY ASSESSMENT
SH2 Masterton to Featherston (3.4.004)

INSET 14 of 14: Featherston B

abley Beca

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Appendix C: Proposed Slow Vehcile Bays (draft outline plans)

Appendix C1: Slow Vehicle Bay 1 – Southwest of Carterton

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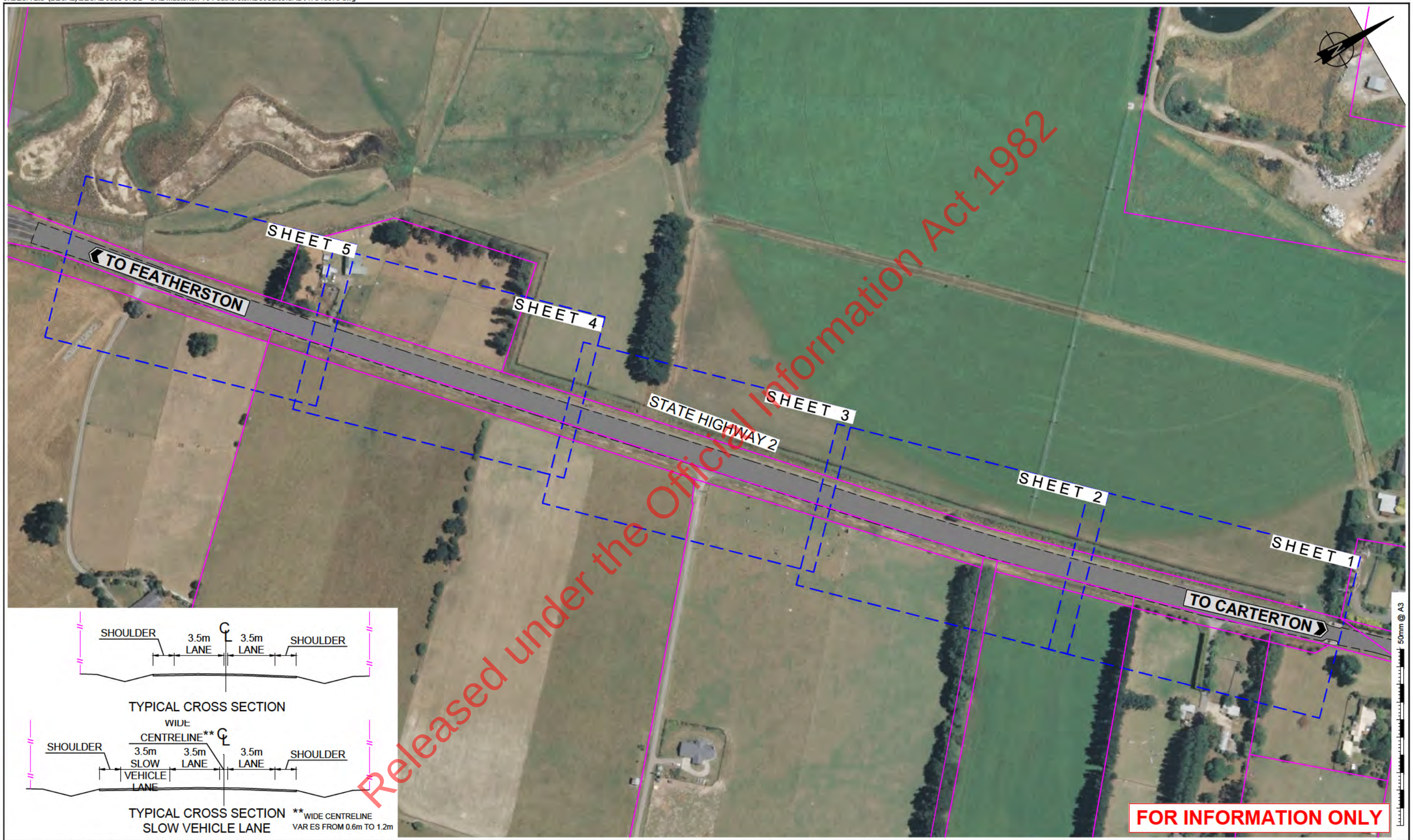

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FOR INFORMATION ONLY

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WAKA KOTAHI NZ TRANSPORT AGENCY

Design	BB
Drawn	BB
Checked	PD
Issued	23/08/2021
Scale	1:2500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 1

RS/RP 883/18.43 – 883/19.98

Proposed Overview Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10678
Sheet	1 of 1
Revision	0

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WAKA KOTAHI NZ TRANSPORT AGENCY

Design	BB
Drawn	BB
Checked	PD
Issued	23/08/2021
Scale	1:500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 1

RS/RP 883/18.43 – 883/19.98

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10678
Sheet	1 of 5
Revision	0

J:\BECA Ltd (BECAL)\BECAL-J005-37DD - SH2 Masterton To Featherston\DocCalcs\CAD\ATC10678 dwg

EXISTING EDGE LINE

NEW EDGE LINE

DOUBLE YELLOW NO PASSING LINES

STATE HIGHWAY 2

1.7m

1.2m

3.5m

3.5m

3.5m

2.3m

JOIN LINE SHEET 3

JOIN LINE SHEET 1

TO FEATHERSTON

TO CARTERTON

RS/RP 883/18.787

LEGEND

- EDGE OF SEAL
- NEW PAVEMENT MARKINGS
- EXISTING PAVEMENT MARKINGS
- PAVEMENT MARKINGS TO BE REMOVED
- NEW SIGN
- EXISTING SIGN TO BE REMOVED

50mm @ A3

FOR INFORMATION ONLY

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WAKA KOTAHI NZ TRANSPORT AGENCY

Design	BB
Drawn	BB
Checked	PD
Issued	23/08/2021
Scale	1:500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 1

RS/RP 883/18.43 – 883/19.98

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10678
Sheet	2 of 5
Revision	0

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FOR INFORMATION ONLY

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WAKA KOTAHI NZ TRANSPORT AGENCY

Design	BB
Drawn	BB
Checked	PD
Issued	23/08/2021
Scale	1:500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 1
RS/RP 883/18.43 – 883/19.98
Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10678
Sheet	3 of 5
Revision	0

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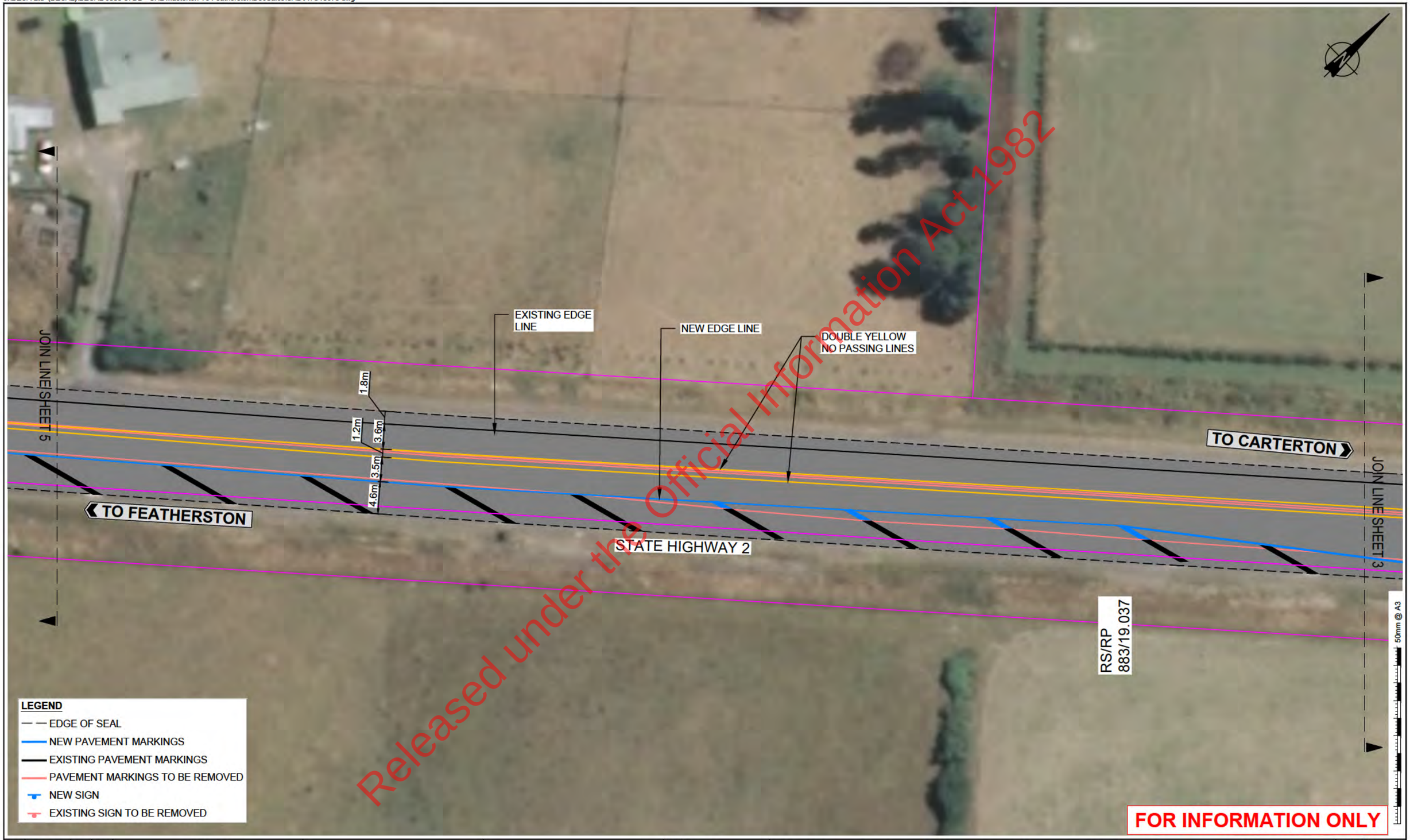

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WAKA KOTAHI NZ TRANSPORT AGENCY

Design	BB
Drawn	BB
Checked	PD
Issued	23/08/2021
Scale	1:500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 1

RS/RP 883/18.43 – 883/19.98

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10678
Sheet	4 of 5
Revision	0

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Design	BB
Drawn	BB
Checked	PD
Issued	23/08/2021
Scale	1:500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 1

RS/RP 883/18.43 – 883/19.98

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10678
Sheet	5 of 5
Revision	0

Appendix C2: Slow Vehcile Bay 2 – Southwest of Greytown

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Design	BB
Drawn	BB
Checked	PD
Issued	23/08/2021
Scale	1:2500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 2

RS/RP 905/5.29 - 905/6.07

Proposed Overview Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10680
Sheet	1 of 1
Revision	0

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FOR INFORMATION ONLY

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abley

WAKA KOTAHI NZ TRANSPORT AGENCY

Design	BB
Drawn	BB
Checked	PD
Issued	23/08/2021
Scale	1:500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay

RS/RP 905/5.29 - 905/6.07

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10680
Sheet	1 of 6
Revision	0

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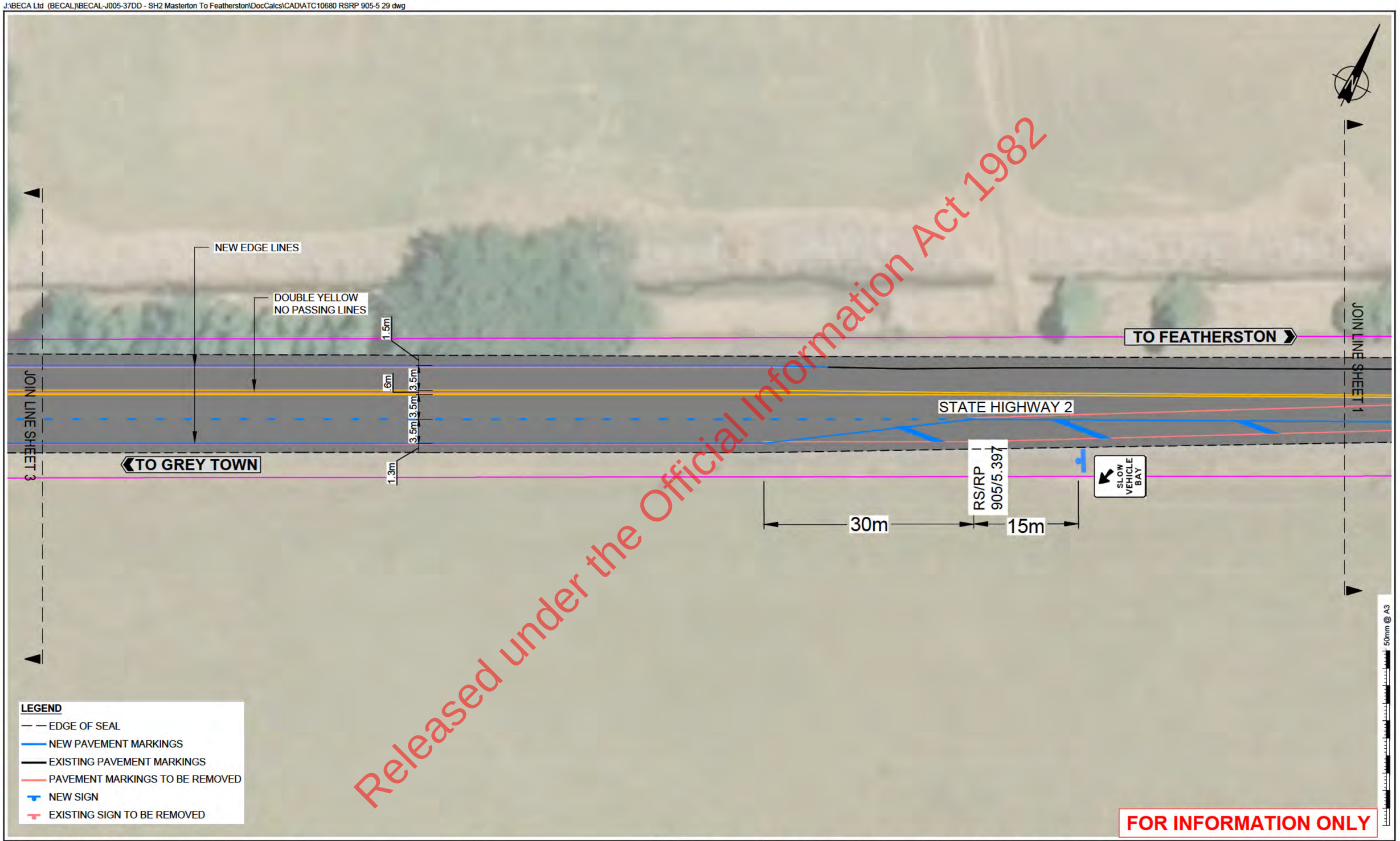

FOR INFORMATION ONLY

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Design	BB
Drawn	BB
Checked	PD
Issued	23/08/2021
Scale	1:500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay
RS/RP 905/5.29 - 905/6.07
Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10680
Sheet	2 of 6
Revision	0

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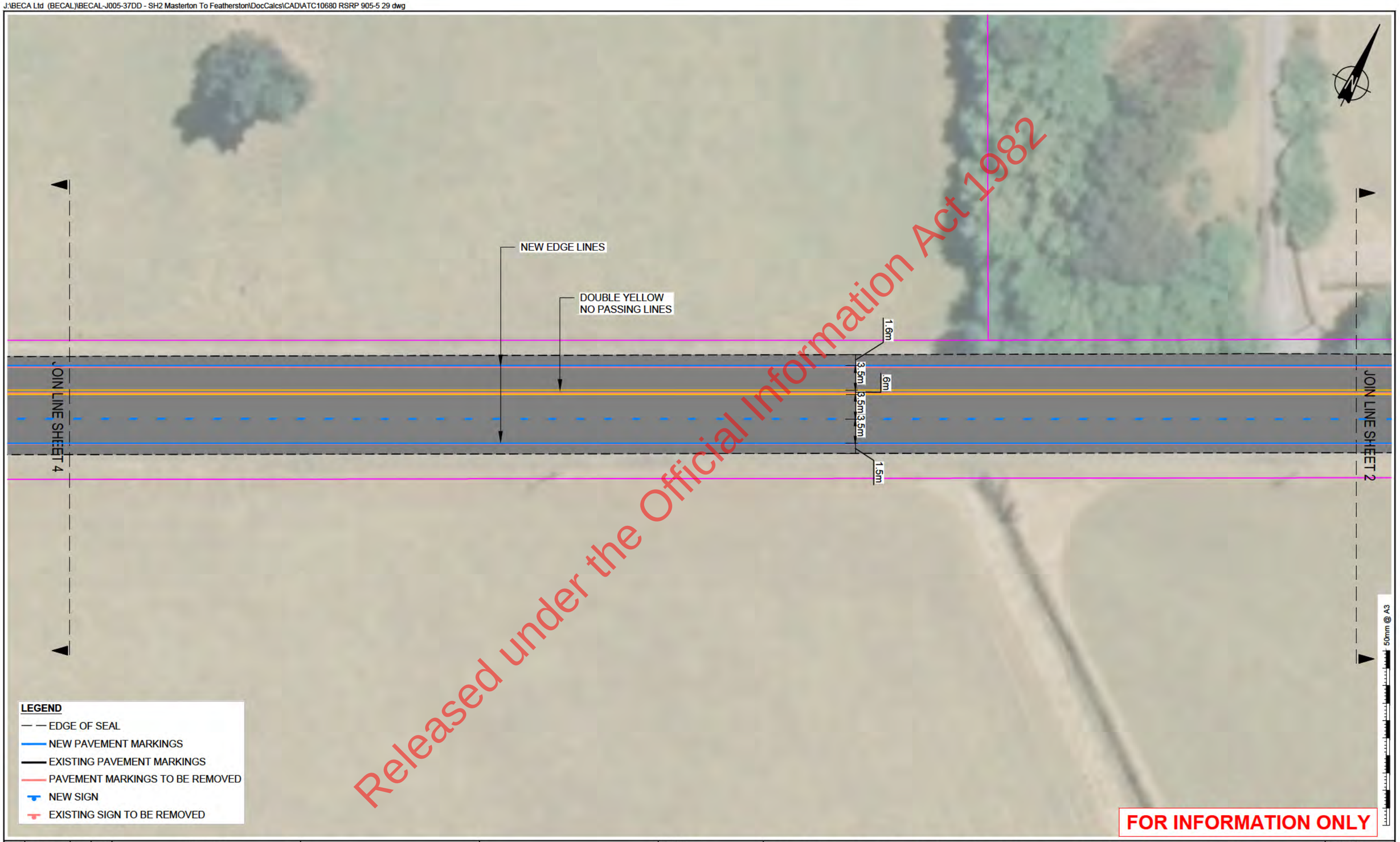

LEGEND

- EDGE OF SEAL
- NEW PAVEMENT MARKINGS
- EXISTING PAVEMENT MARKINGS
- PAVEMENT MARKINGS TO BE REMOVED
- NEW SIGN
- EXISTING SIGN TO BE REMOVED

FOR INFORMATION ONLY

Rev	Date	By	Chk	Description
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Design	BB
Drawn	BB
Checked	PD
Issued	23/08/2021
Scale	1:500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay

RS/RP 905/5.29 - 905/6.07

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10680
Sheet	3 of 6
Revision	0

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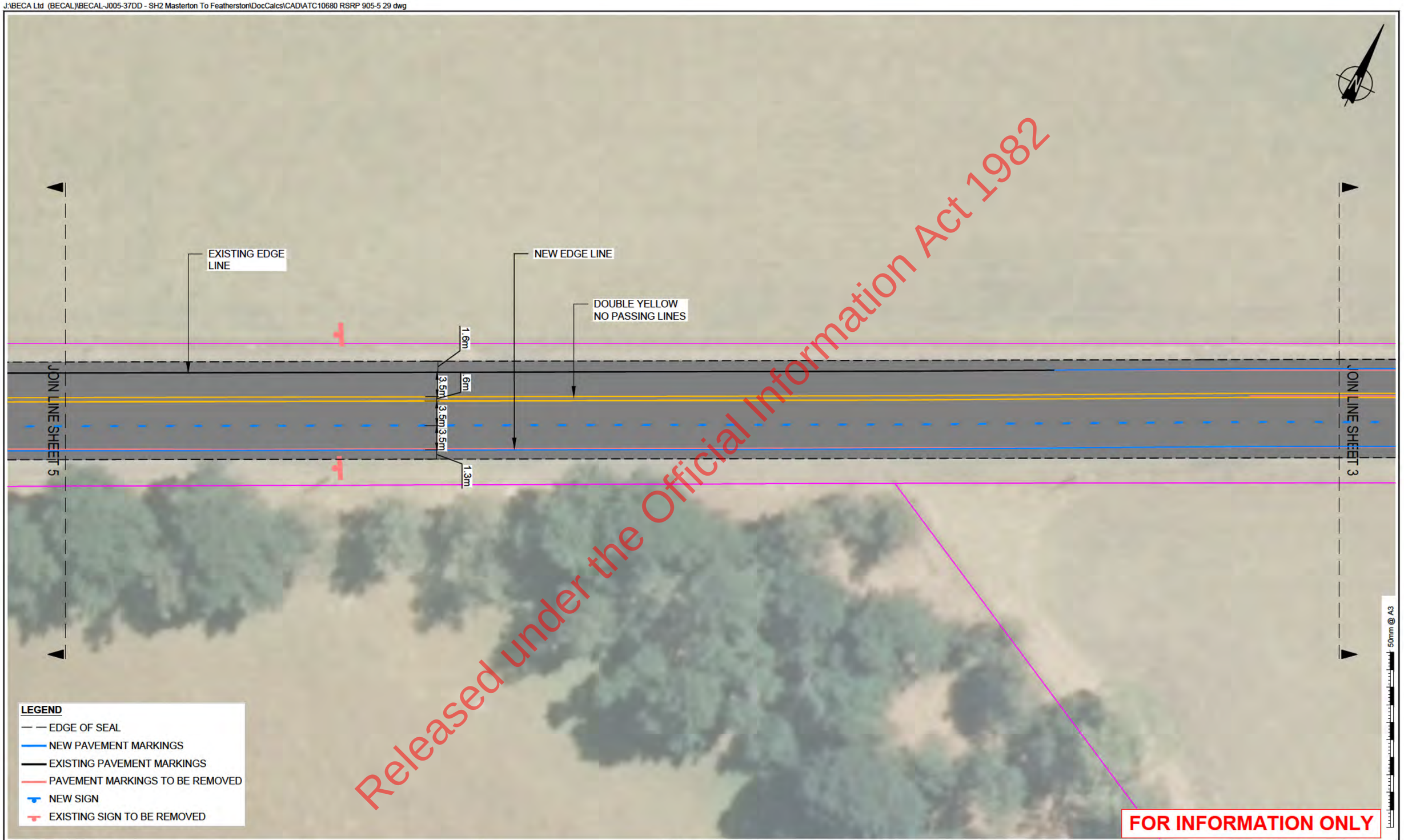

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WAKA KOTAHI NZ TRANSPORT AGENCY

Design	BB
Drawn	BB
Checked	PD
Issued	23/08/2021
Scale	1:500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 2

RS/RP 905/5.29 - 905/6.07

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10680
Sheet	4 of 6
Revision	0

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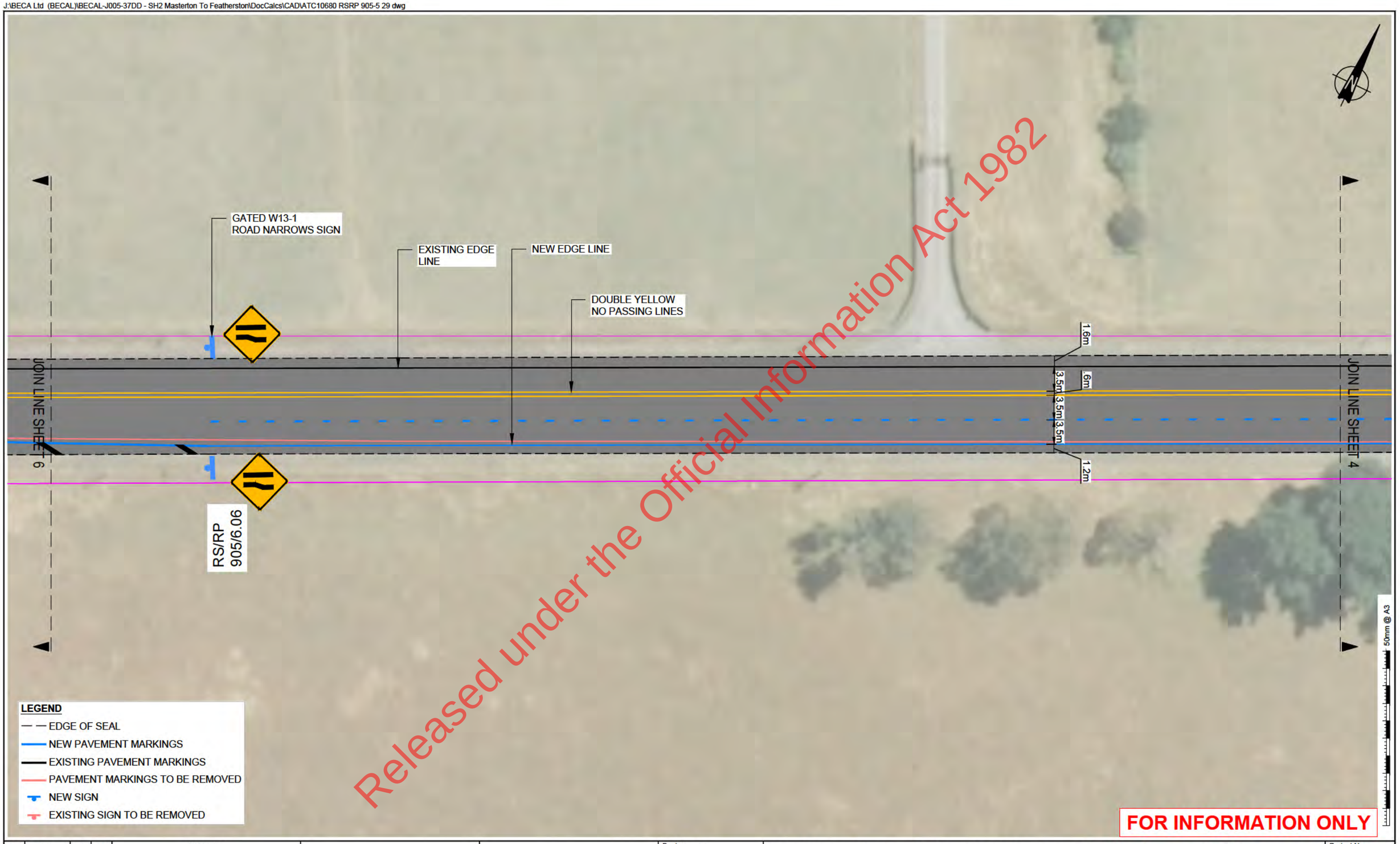

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Design	BB
Drawn	BB
Checked	PD
Issued	23/08/2021
Scale	1:500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay
RS/RP 905/5.29 - 905/6.07
Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10680
Sheet	5 of 6
Revision	0

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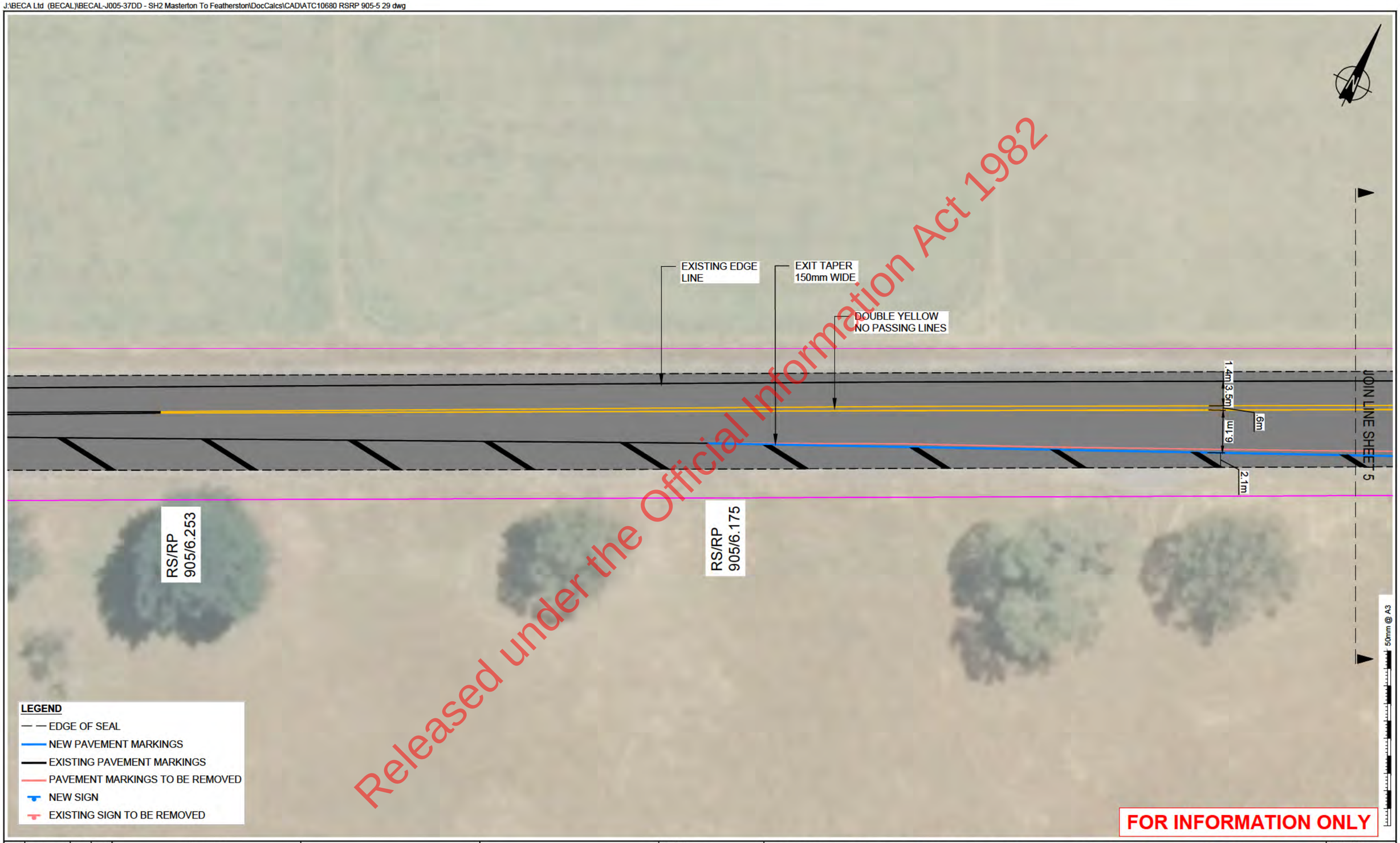

LEGEND

- EDGE OF SEAL
- NEW PAVEMENT MARKINGS
- EXISTING PAVEMENT MARKINGS
- PAVEMENT MARKINGS TO BE REMOVED
- NEW SIGN
- EXISTING SIGN TO BE REMOVED

FOR INFORMATION ONLY

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SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay
RS/RP 905/5.29 - 905/6.07
Proposed Layout Plan

Project No.	BECAL-J005-37DD
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Appendix C3: Slow Vehcile Bay 1 – East of Featherston

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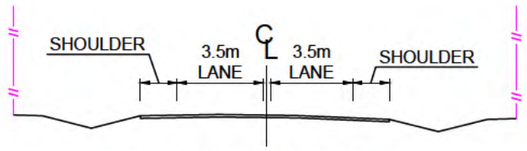
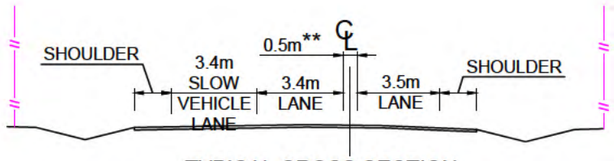


TYPICAL CROSS SECTION



TYPICAL CROSS SECTION
SLOW VEHICLE LANE

**WIDE CENTRELINE

50mm @ A3

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Design	BB
Drawn	BB
Checked	PD
Issued	23/08/2021
Scale	1:3000 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 3
RS/RP 905/12.66 - 905/12.01
Proposed Overview Plan

Project No.	BECAL-J005-37DD
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SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 3

RS/RP 905/12.66 - 905/12.01

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10681
Sheet	1 of 6
Revision	0

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SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 3

RS/RP 905/12.66 - 905/12.01

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10681
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Revision	0

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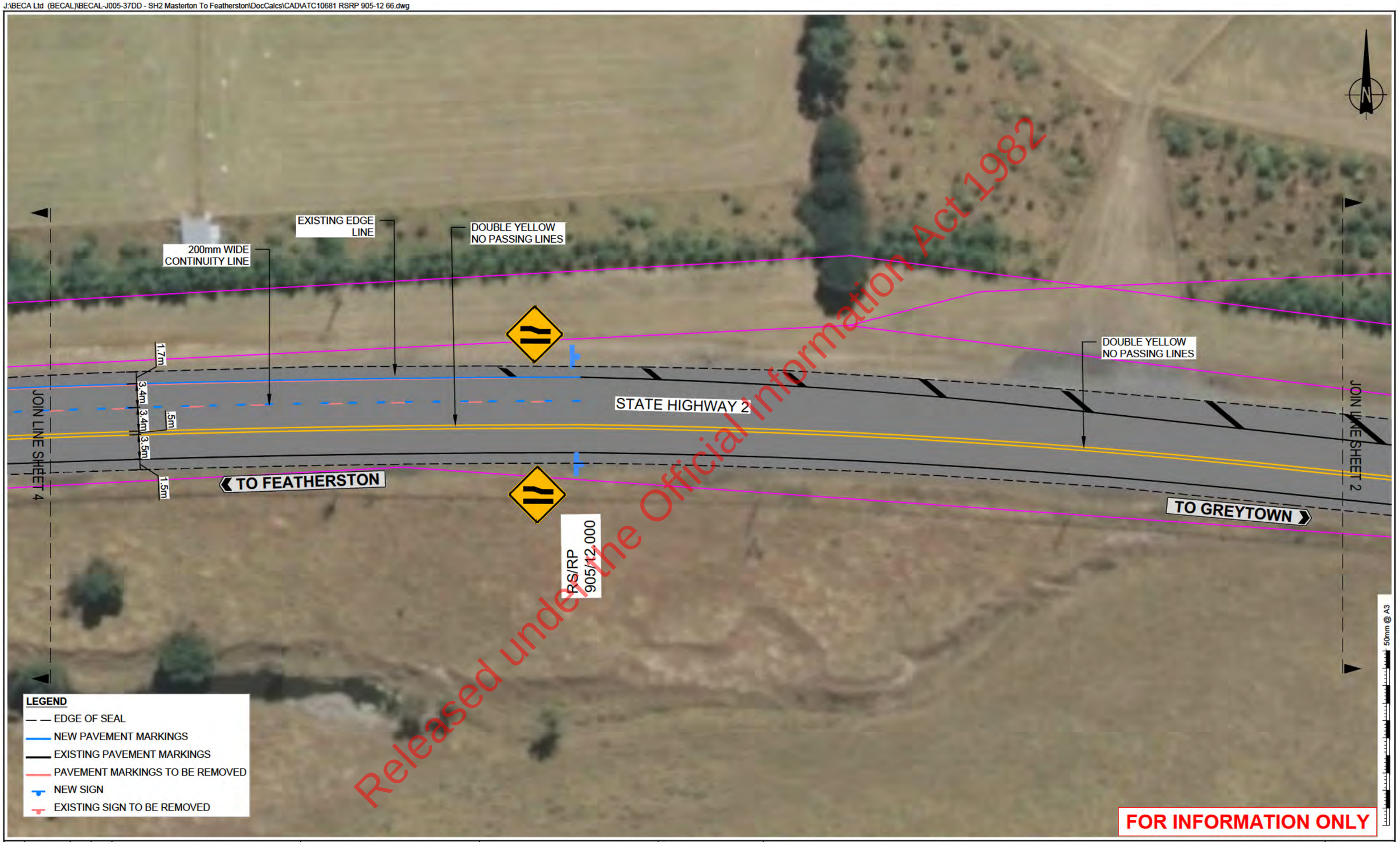

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SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 3

RS/RP 905/12.66 - 905/12.01

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10681
Sheet	3 of 6
Revision	0

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SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 3

RS/RP 905/12.66 - 905/12.01

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10681
Sheet	4 of 6
Revision	0

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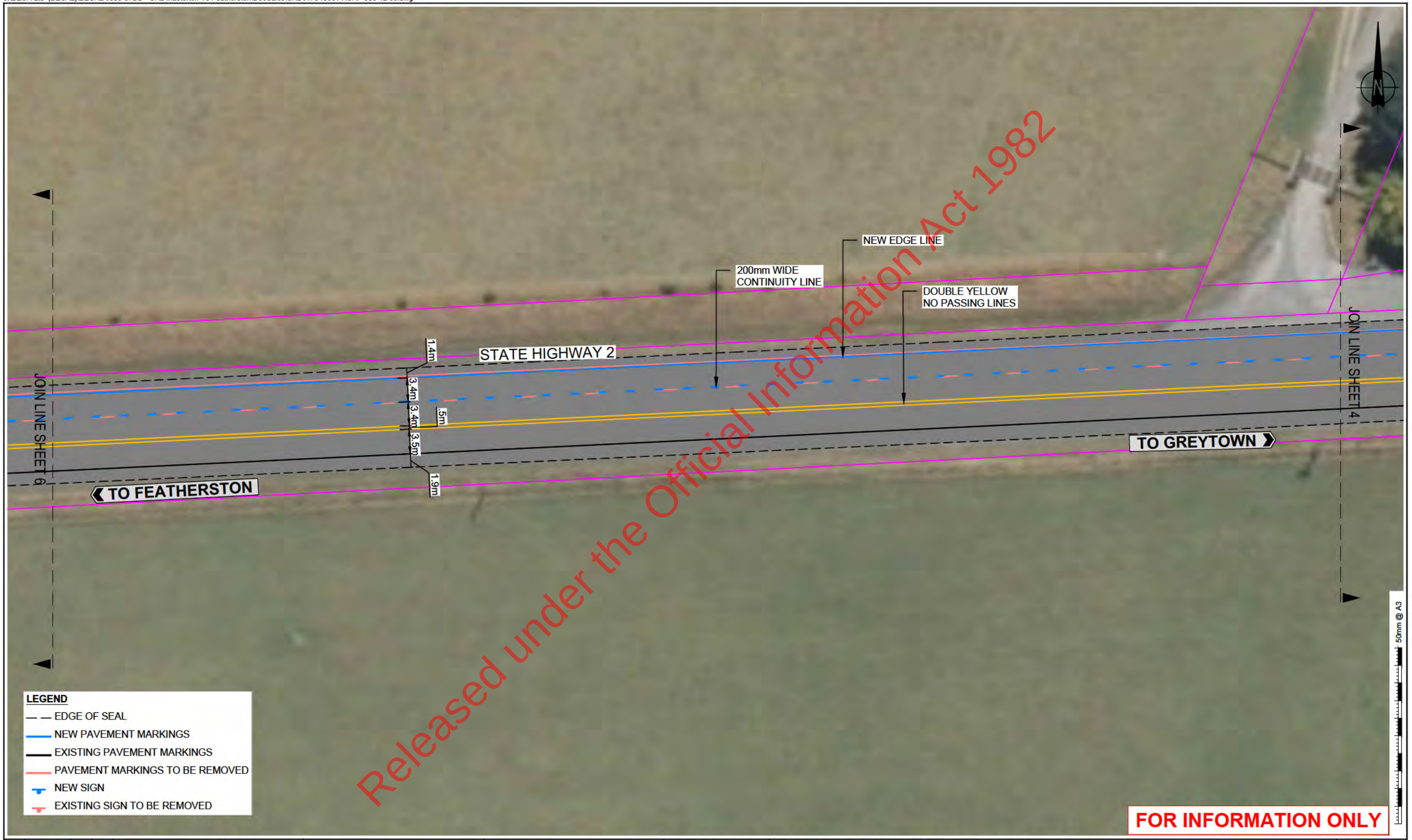

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WAKA KOTAHI NZ TRANSPORT AGENCY

Design	BB
Drawn	BB
Checked	PD
Issued	23/08/2021
Scale	1:500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 3

RS/RP 905/12.66 - 905/12.01

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10681
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Revision	0

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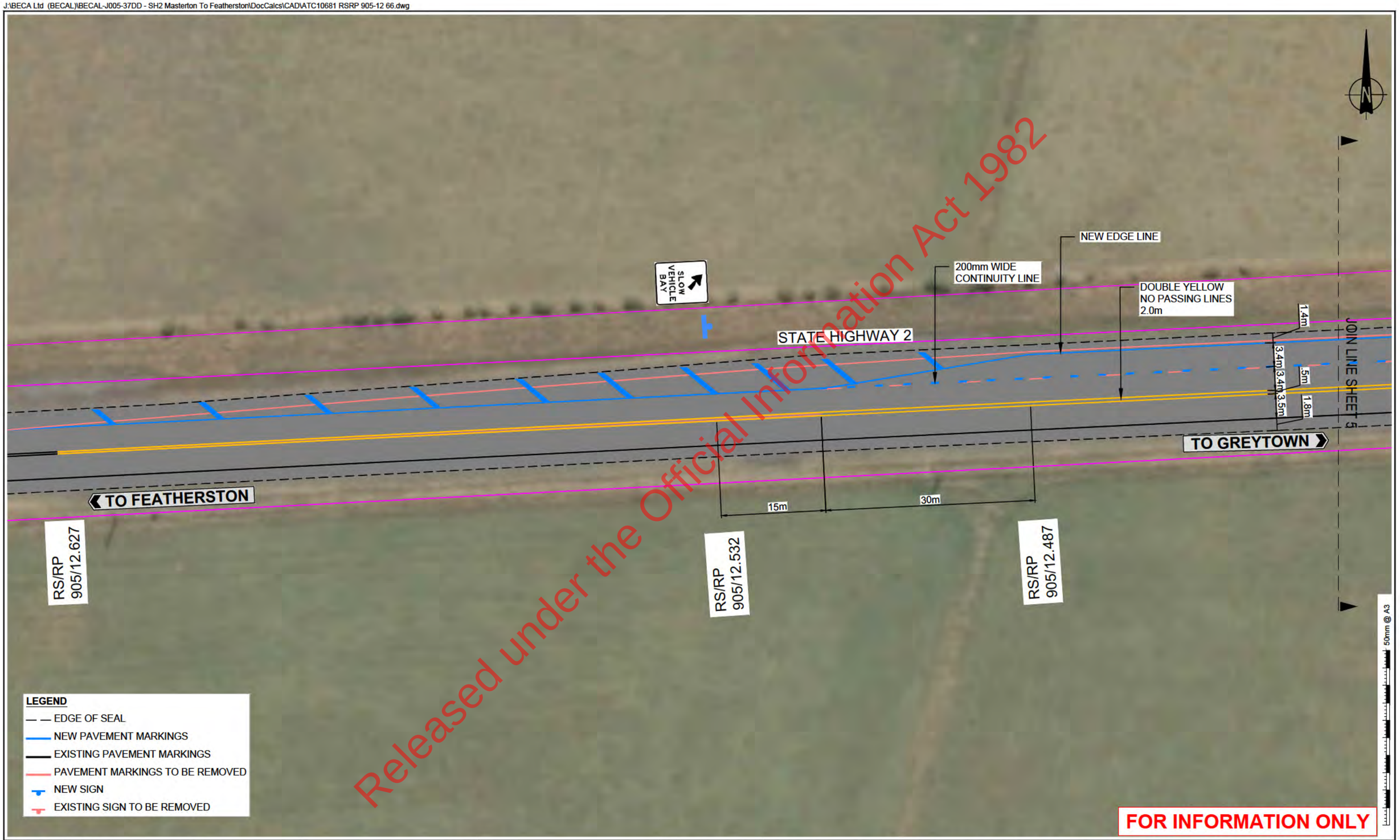

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Issued	23/08/2021
Scale	1:500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Slow Vehicle Bay 3

RS/RP 905/12.66 - 905/12.01

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10681
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Revision	0

Appendix D: Proposed Flush Median Extension – West of Featherston

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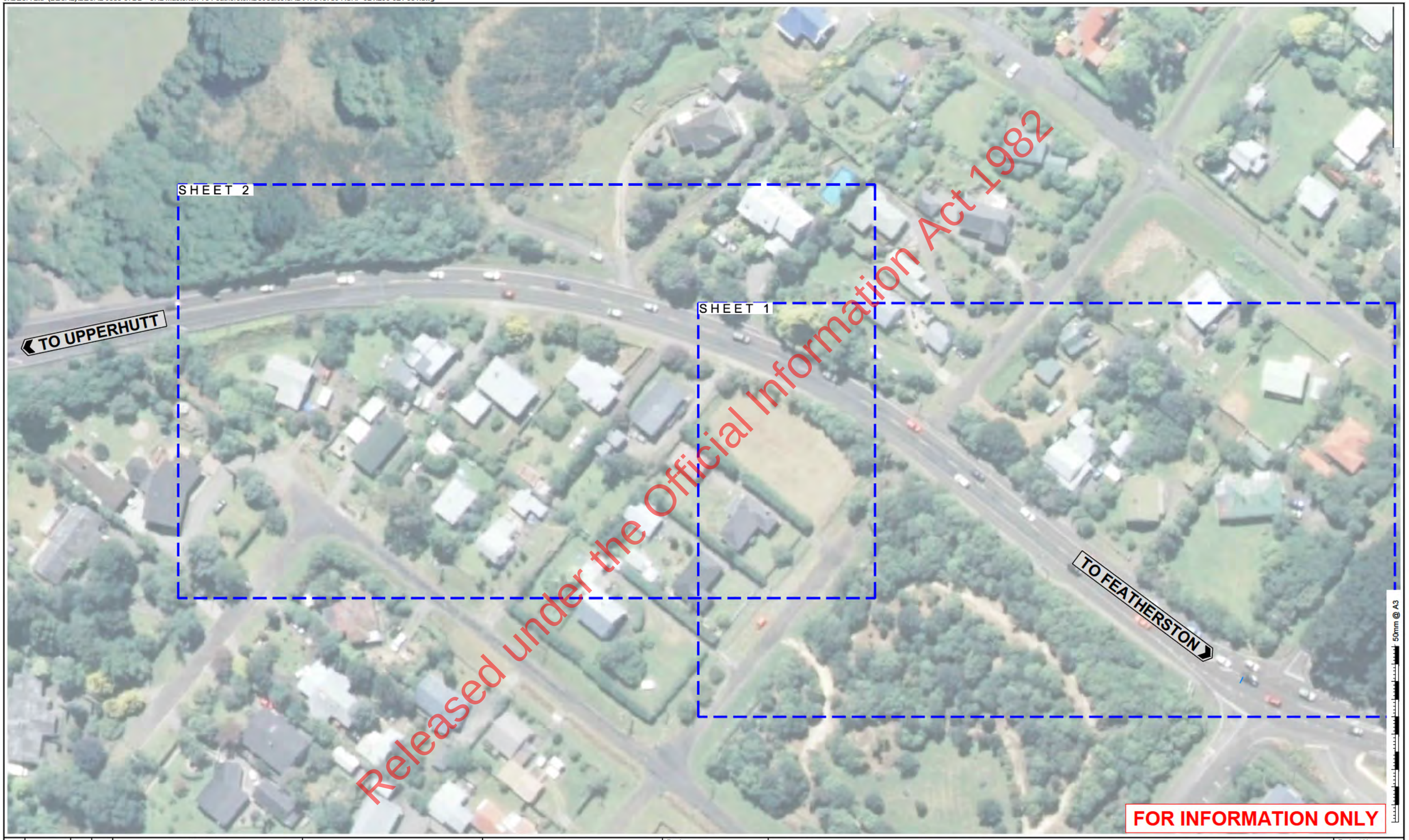

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Design	BB
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Issued	27/08/2021
Scale	1:1000 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Flush Median Extension

RS/RP 921/0.300 - 921/0.580

Proposed Overview Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10706
Sheet	1 of 1
Revision	0

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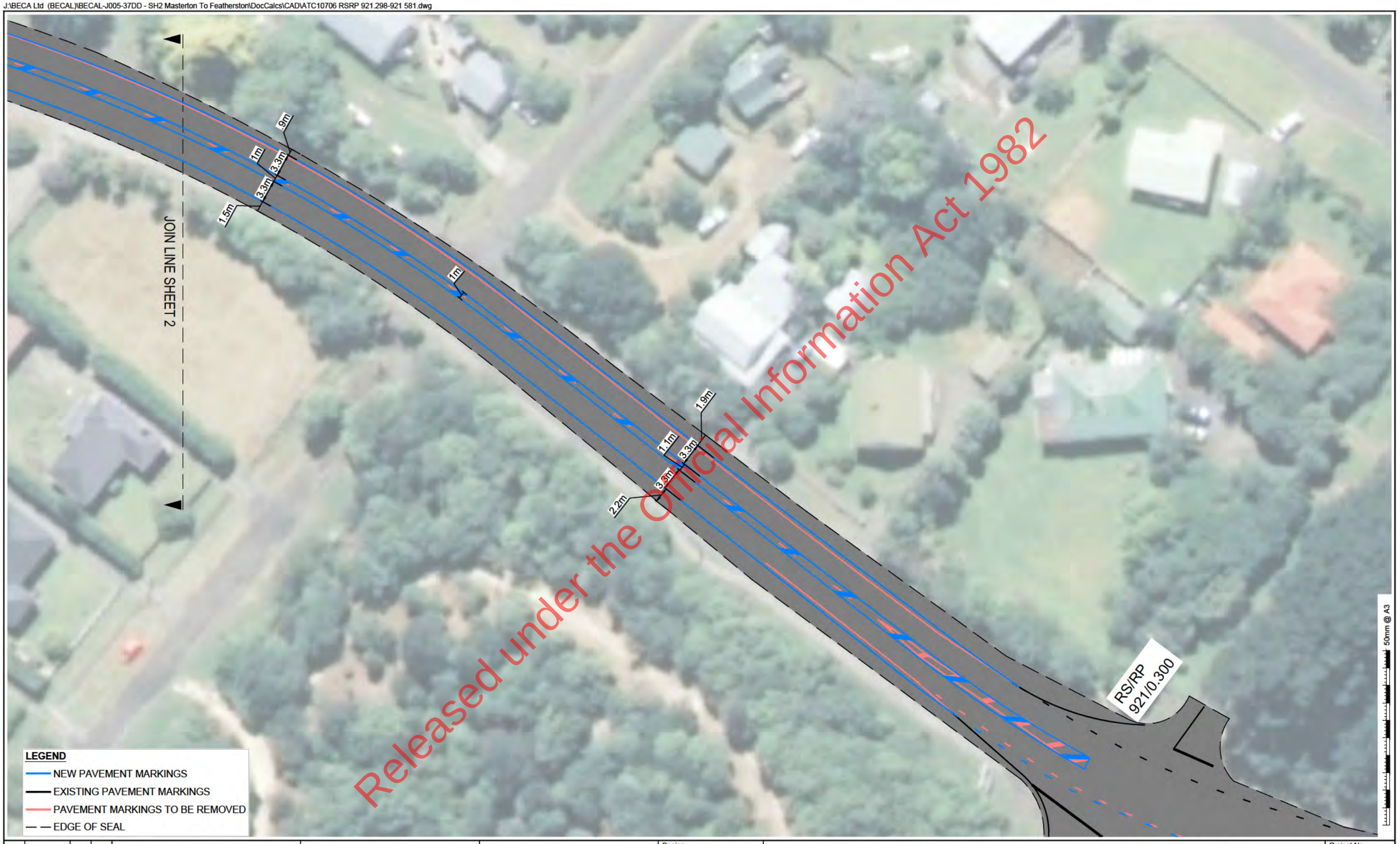

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WAKA KOTAHI NZ TRANSPORT AGENCY

Design	BB
Drawn	BB
Checked	PD
Issued	27/08/2021
Scale	1:500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Flush Median Extension

RS/RP 921/0.300 - 921/0.580

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10706
Sheet	1 of 2
Revision	0

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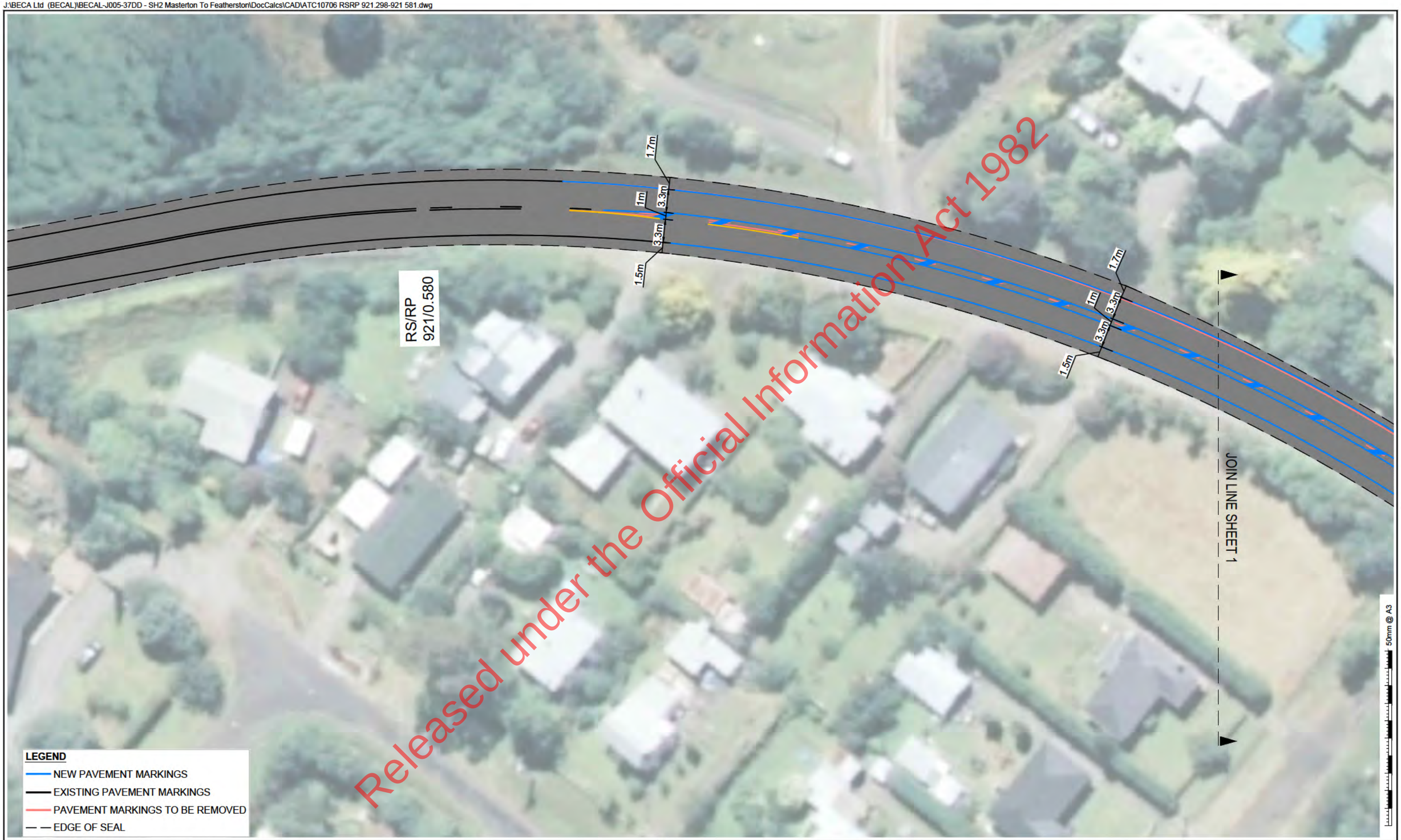

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Design	BB
Drawn	BB
Checked	PD
Issued	27/08/2021
Scale	1:500 @ A3

SH2 Masterton to Featherston Feasibility Assessment

Flush Median Extension

RS/RP 921/0.300 - 921/0.580

Proposed Layout Plan

Project No.	BECAL-J005-37DD
Dwg #	ATC10706
Sheet	2 of 2
Revision	0