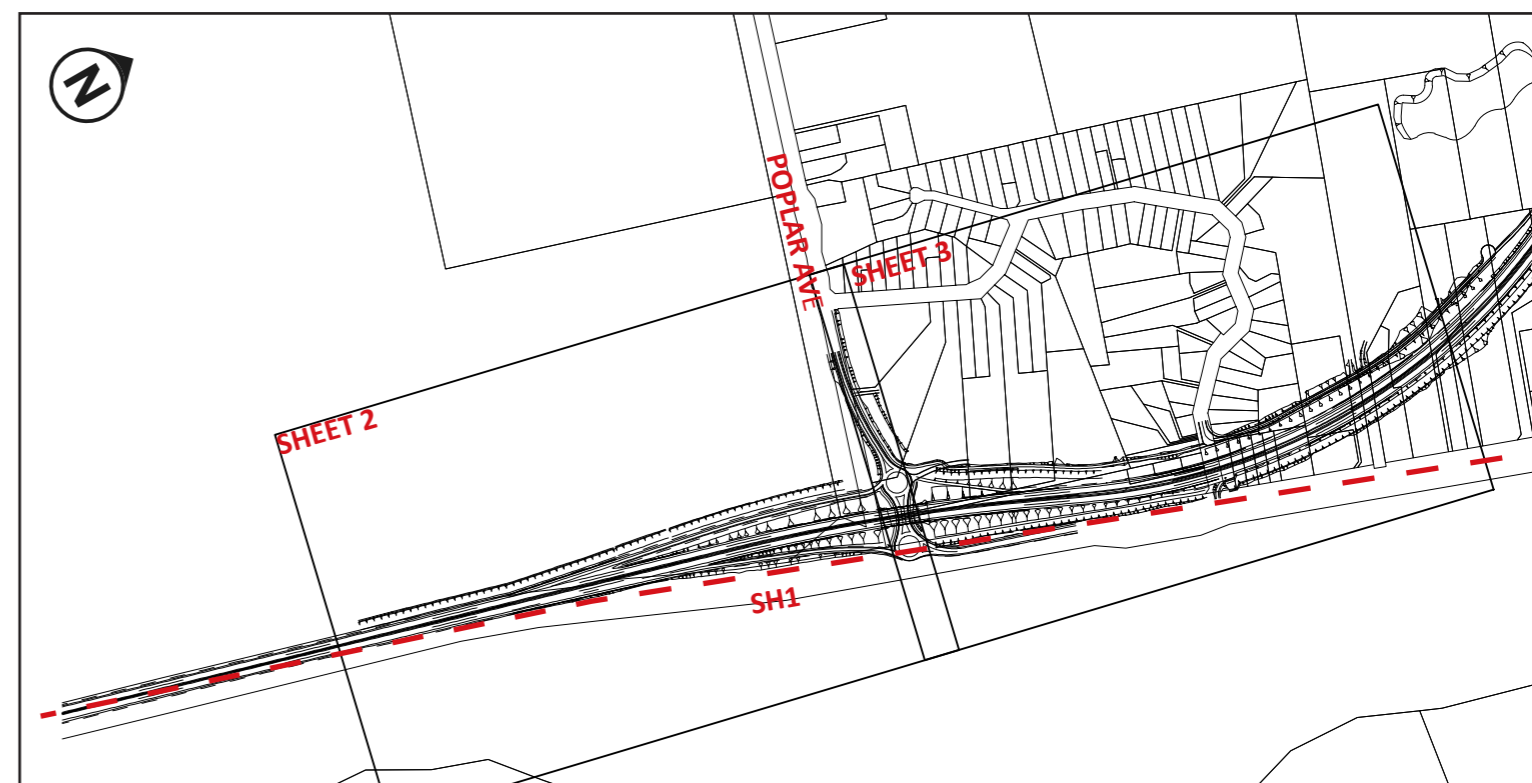


Site Specific Management Plan 001 - [sector 320]
MacKays to Peka Peka Expressway

17 DECEMBER 2014 - REV C - CERTIFIED ISSUE



SITE SPECIFIC MANAGEMENT PLAN - RAUMATI SOUTH [SSMP 1 - SECTOR 320]

For the purposes of the SSMP certification it is assumed that the consent conditions for the Mackays to Peka Peka Expressway, as determined by the Board of Inquiry under Section 149R of the Resource Management Act (1991) will be read in conjunction.

SSMP Exclusions or omissions:

- If there are discrepancies between master plans and the detailed planting plans the detailed plans take precedence.

1.0 SSMP REVISION HISTORY			
REVISION NO:	DATE:	STATUS:	ISSUED TO:
REV A	29.08.2014	Draft for review	KCDC
REV B	10.10.2014	Issue for certification	KCDC
REV C	17.12.2014	Certification issue	KCDC

2.0 SSMP CERTIFICATION DETAILS POSITION				
PREPARED BY M2PP ALLIANCE	NAME:	POSITION:	SIGNATURE:	DATE:
	Bron Faulkner	Landscape Architect		09.10.14
	Frazer Baggeley	Urban Design		09.10.14
	Matiu Park	Ecologist		26.09.14
	Stephen Fuller	Ecologist		10.10.14
	Boyden Evans	Landscape Architect		09.10.14
M2PP ALLIANCE APPROVAL	NAME:	POSITION:	SIGNATURE:	DATE:
	David Callan	Sector Manager		10.10.14
	Peter Bradshaw	Design Manager		10.10.14
	Dennis Hunt	Technical Director		13.10.14
	Malory Osmond	Consents/Compliance Manager		09.10.14
CERTIFICATION	NAME:	POSITION:	SIGNATURE:	DATE:
Reviewed by Julia Williams, Landscape, KCDC and Deyana Popova, Urban Design, KCDC	Andrew Guerin	KCDC		15.12.14

2.1 POST CERTIFICATION CHANGES							
DRAWING/PAGE TITLE:	DRAWING NUMBER:	DRAWINGS STATUS:	REVISION NO:	DESCRIPTION OF CHANGE:	ISSUED TO:	CERTIFIED BY:	DATE:
SSMP 1 [320] - SHEET16 - CWB sign type summary	M2PP-121-D-DWG-8901	Revision/Update	D	Signs updated to include horse symbol- All CWB signs to be updated as per this sheet	KCDC		3/5/16
SSMP 1 [320] - SHEET18 - Type 1 CWB entrance detail	M2PP-121-D-DWG-8802	New Sheet added	A	CWB entrance structures- design change to precast units. To replace 'gabions' on sheet 14	KCDC		3/5/16
SSMP 1 [320] - SHEET19 - Te Atiawa Column Design	M2PP-121-D-DWG-8803	New Sheet added	A	Page added to illustrate Te Atiawa design to be applied to Poplar bridge columns (sand blasted etching)	KCDC		3/5/16




SITE SPECIFIC MANAGEMENT PLAN RAUMATI SOUTH [SSMP 1 – SECTOR 320]

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SITE SPECIFIC MANAGEMENT PLAN
 RAUMATI SOUTH (SSMP 1 – 320)

For the purposes of the SSMP certification it is assumed that the consent conditions for the MacKays to Peka Peka Expressway, as determined by the Board of Inquiry under Section 149R of the Resource Management Act (1991) will be read in conjunction.

1. SSMP CERTIFICATION DETAILS		Signature	Date
A. PREPARED BY M2PP ALLIANCE:	Boyden Evans (Landscape Architect)		7/10/14
	Bron Faulkner (Landscape Architect)		9/10/14
	Matiu Park (Ecologist)		26/09/2014
	Stephen Fuller (Ecologist)		10.10.14
	Frazer Baggaley (Landscape Architect)		09/10/14
B. M2PP ALLIANCE APPROVAL	David Cailan (Sector Manager)		10/10/2014
	Peter Bradshaw (Design Manager)		10.10.14
	Dennis Hunt (Technical Director)		13 Oct 2014
	Malory Osmond (Compliance Manager)		9/10/14
C. CERTIFICATION	Andrew Guerin (KCDC) [Reviewed by Julia Williams, Landscape, KCDC and Deyana Popova Urban Design, KCDC]		15/12/14

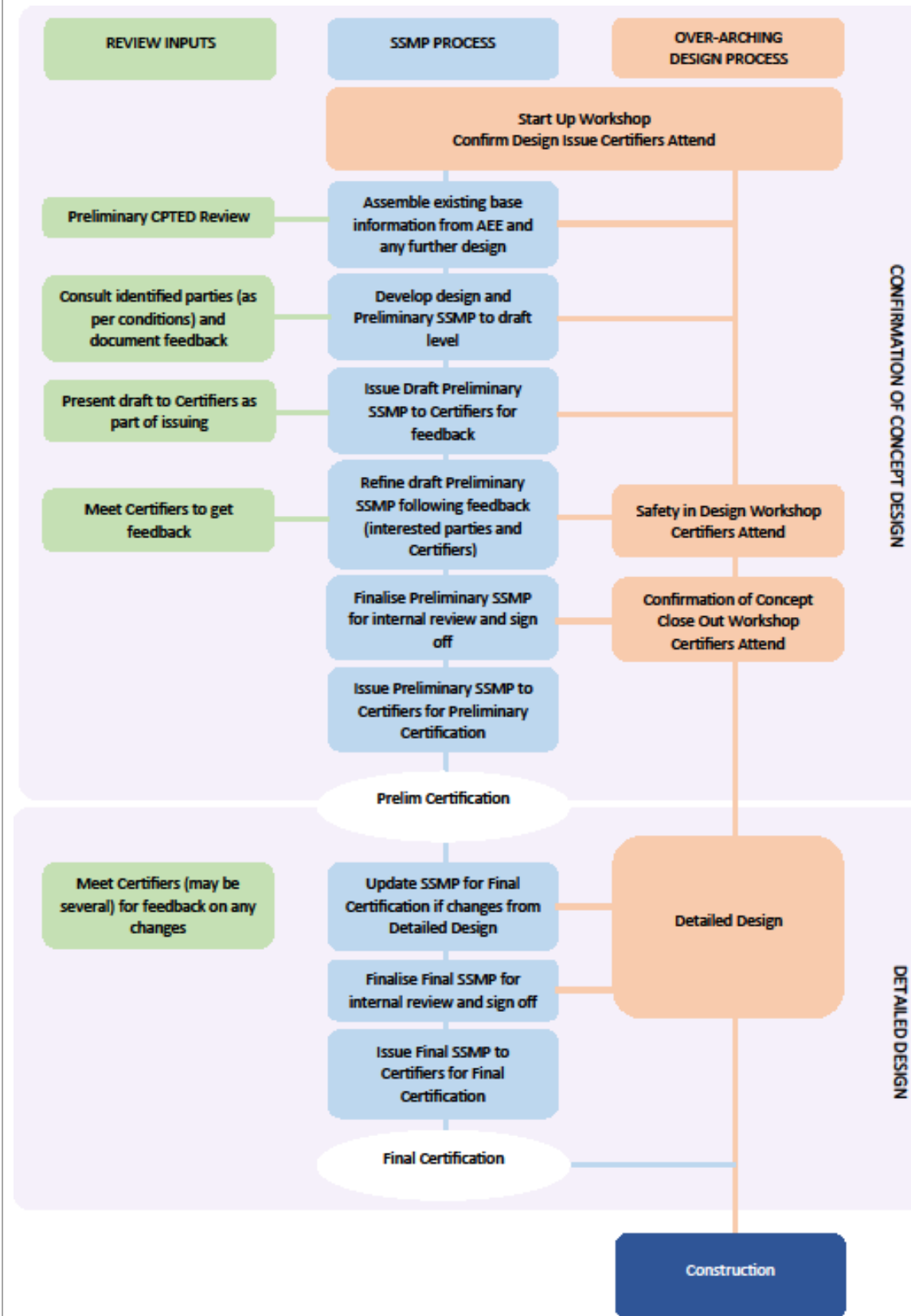
1A. REVISION HISTORY			
REVISION No	DATE	STATUS	ISSUED TO
Rev A	29.08.2014	Draft for review	KCDC
Rev B	10.10.2014	Issue for certification	KCDC
Rev C	17.12.2014	Certified Issue	KCDC

2. INTRODUCTION	
D. PURPOSE	<p>The consent conditions for the MacKays to Peka Peka Expressway, as determined by the Board of Inquiry under Section 149R of the Resource Management Act (1991), set out the matters to be covered in the Site Specific Management Plans (SSMP).</p> <p>A total of 11 SSMPs will be prepared that address all the required sectors of the Expressway. The level of detail in the SSMP varies according to whether landscape, ecology or urban design aspects are being addressed and the nature of the environment the Expressway traverses at any particular point.</p> <p>The purpose the SSMP is to assist the implementation of the applicable management plans by providing site specific detailed design and construction responses to address specific context and environmental conditions and circumstances of each applicable sector of the route and in accordance with the staging identified in the programme. Each SSMP must be consistent with, and be implemented in accordance with, the respective Management Plan and consent conditions.</p> <p>This document (including Appendix 1 Plans) incorporates three interrelated SSMPs, covering landscape, urban design, and the cycle, walking and bridleway (CWB). The intention of combining these SSMPs is to ensure integration between all disciplines, maximise the benefits of mitigation works within each sector and to reduce reporting and monitoring requirements. The consent conditions (DC.64) also require the preparation of a Network Integration Plan (NIP). This SSMP shall address the requirements of DC.64 a) and b) ii) as they relate to the details of the CWB. Note: this SSMP does not include any areas of ecological mitigation works as part of the Site Specific Ecological Management Plan (SSEMP) requirements, although it does take into account consideration of ecological loss or modification of areas of valued habitat.</p> <p>SSMPs are to be prepared in consultation with various stakeholders including iwi, interest and residents' groups as directed by conditions. Appendix 2 describes the matters raised in consultation and the responses made.</p> <p>The SSMPs have been prepared through an iterative process to allow discussion between the Alliance and certifiers. This has included further advancement of design in response to feedback on the preliminary issue. The aim will be to establish and agree as much of the landscape, ecology, urban design and CWB design through the initial 'confirmation of design' phase (refer to section D below) to give the best possible definition to the Project design elements as early as possible.</p>
E. GENERAL PROJECT DESCRIPTION REFER APPENDIX 1 SHEETS 1, -7	<p>This SSMP covers the area of the Expressway including the Poplar Avenue interchange and north to Leinster Avenue. This SSMP addresses the following;</p> <ul style="list-style-type: none"> • Two span split deck bridge over Poplar Avenue, supported by two columns per deck, (four columns based in Poplar Ave road median). • Spill through bridge abutments faced with exposed stone precast panel adjacent to Poplar Avenue. • Two roundabouts to connect northbound off ramp (west) and southbound on ramp (east) to form a partial interchange. • CWB begins at the western roundabout of the Poplar Ave interchange, and joins to a link running parallel to Poplar Avenue from Leinster Road intersection. • CWB will be lit. • Closure of access from Leinster Road to existing SH1. Design details relating to the end of Leinster Road are not part of this SSMP and will be addressed in SSMP 2 (Sectors 330-350). • Upgrading and extension of an existing culvert under Poplar Avenue (Culvert 8), a small tributary drain of the Whareroa Stream. • Riparian planting in the watercourse beyond the riprap at the culvert headwall. • Massed planting of Expressway embankments and roundabouts. • Expressway emergency turn around west roundabout. • Tie-ins to existing SH1 and Poplar Avenue. • Planted stormwater swales. • Creation of planted earth noise bund, starting south of Leinster Avenue and continuing north into sector 330 (SSMP2) .
F. SSMP EXISTING AREA DESCRIPTION REFER APPENDIX 1 SHEETS 2 & 3 AND ULDF SECTION 3.10	<ul style="list-style-type: none"> • The southern end of the route is located at the toe of the Raumati Escarpment, on the eastern edge of Queen Elizabeth Park (QE Park). QE Park, a GWRC regional park, occupies the full width of the coastal plain and dunelands and is recognised as forming part of an important open space link comprising an area of continuous and mostly unmodified dunes between the coast and the foothills of the Tararua Range. Historically, this area was subject to extensive swamp drainage. This area of the Park is dominated by grazed pasture with patches of gorse, wet pasture and rushland, and rows of semi mature manuka associated with some of the drains. • An operational clean fill site with access off Poplar Avenue is located at the northern end of the Park just west of the Expressway embankment. • The Raumati Escarpment provides a strongly defined eastern edge to the sand plain with its steep, semi-vegetated slopes contrasting with the flat openness of the coastal plain. The Escarpment is protected as a reserve and is identified as an Outstanding Natural Landscape and listed as a Significant Natural Area in the KCDC District Plan. Large areas of remnant and regenerating native forest cover much of the escarpment, interspersed with large areas of shrubland and rank grassland. • QE Park has a distinctive rural character, and is quite different to the character of the SH1/NIMT rail corridor situated at the toe of the escarpment. • The Leinster Avenue residential community is located to the west of this sector, with most of the residences separated from the Expressway by mature trees and distances of more than 100m. The exception to this is six dwellings within 100m of the Expressway on the south side of Leinster Road.

G. PROCESS

DIAGRAM 1 – SSMP DEVELOPMENT PROCESS

The process followed in preparing the SSMPs has followed is described in Diagram 1 below.



H. CONDITIONS OF CONSENT
[SUMMARY]

General

- Requirement to develop Site Specific Management Plans (SSMPs) for landscape and urban design purposes (DC.7), ecological purposes (G.42C), and CWB (DC.59A g).

Landscape

- Condition DC57(f) lists the matters to be provided and in summary includes:
 - Vegetation to be retained;
 - Vegetation protection measures;
 - Proposed Planting (including the stages)
 - Fernbird habitat created;
 - Maintenance standards;
 - Detailed specifications;
 - A maintenance regime;
 - Landscape treatment of any noise barriers;
 - Landscape treatment for pedestrian and cycle facilities.

Ecology

- An SSEMP is not required for SSMP 1, although this SSMP takes into account areas of identified ecological value.

Urban Design

- Condition DC.59A e) requires SSUDPs to be prepared for locations where the Expressway interacts with local vehicular and non-vehicular pedestrian/cyclist movement. For SSMP 1 the locations include: (i) Poplar Avenue
- DC.59A f) lists the matters to be provided and in summary includes detailed design of for the benefit of pedestrians, cyclists and others:
 - Lighting;
 - Footpath and on-road cycle lane design (1.5m on road and 2.0m footpaths);
 - Safe crossing points for CWB;
 - Visual treatment of structures and landscape (retaining walls, noise mitigation structures and landforms);
 - Local property access;
 - Landscape treatment (LMP and SSMLPs);
 - Bridge piers and abutment design (location of piers, scale and materials);
 - Signage;
- Condition DC.59A g) requires preparation of a SSUDP for the Cycleway, Walkway and Bridleway (CWB) path network and include:
 - Final alignment and form of CWB.
 - Provision for a 3.0m wide two-way path
 - Connections
 - Boardwalks;
 - Lighting, safety provisions for crossing of local roads
 - CPTED review.

- In addition, SSMP 1 shall consider the following in relation to Condition 59A i) i):

Poplar Avenue Interchange;

1. *Legibility of the cycle and walking network, recognising the location adjacent to Queen Elizabeth Park and the start of the Expressway CWB.*
2. *Signage locations to recognize the likely scale and number of signs necessary to identify and regulate movement around the intersection.*

	<p>Network Integration Plan Condition DC.64 a) in relation to the CWB; Condition DC.64 b) ii) in relation to lighting.</p>
<p>3. CONSULTATION</p>	<ul style="list-style-type: none"> • The preparation of the SSLMP and SSUDP (under Conditions DC.57 e), DC.57A, G42 d) and DC.59A j)) requires consultation with the following parties: <ul style="list-style-type: none"> - Te Āti Awa ki Whakarongotai; - Te Runanga O ToaRangatira Inc., where construction works are located within or directly adjacent to QE Park. - Kāpiti Coast District Council (KCDC). - Greater Wellington Regional Council (GWRC), where construction works are located within or directly adjacent to QE Park. - Friends of QE Park. - Kāpiti Cycling Incorporated and the Implementation Group of the Kāpiti Coast District Council Advisory on Cycleways, Walkways and Bridleways in respect of the CWB and any cycle or pedestrian connections. - Raumati South Resident's Association - Relevant Landscape focus areas DC 57A a) Detailed below; <p>SSMP 1 contains one Landscape Focus Area</p> <p><i>When developing landscape design solutions as part of preparing the SSLMPs, the Requiring Authority shall undertake consultation with residents whose properties are located close to the Expressway in the following Landscape Focus Areas (identified for their sensitivity to visual effects):</i></p> <p><i>iv) Leinster Avenue</i></p>

4. URBAN DESIGN	CONDITIONS – URBAN DESIGN	RESPONSES – URBAN DESIGN
<p>A. LIGHTING REFER APPENDIX 1 Sheets 11-13</p>	<p>DC.59 f) i) Lighting for the benefit of pedestrians and cyclists DC.64 a), b), ii)</p>	<p>The CWB where it runs parallel to Poplar Avenue will be lit by the Poplar Avenue street lighting on the north side of the road. From the Poplar Avenue interchange north the CWB will be lit by overhead lights.</p> <p>Street lighting and architectural lighting will be installed under the Poplar Avenue bridge.</p> <p>The Expressway and ramps will be lit over the extent of the interchange, including on and off ramps. Light pole spacing will enable the Expressway bridge to be lit from either end with no light poles required on the bridge itself.</p> <p>The luminaire detail for all of the above lighting will be finalised for the whole project as part of detailed design.</p>
<p>B. CWB REFER TO APPENDIX 1 SHEETS 2-6, 13-16, ALSO REFER TO CPTED REVIEW COMMENTS</p>	<p>DC.59A f) ii) and iii) and DC59A g), DC.59A i) xi) and DC.57 c) DC.64 a), b), ii).</p> <ul style="list-style-type: none"> • Footpath and on road cycle lane on-road (2.0m and 1.5m) • Intersection of the CWB and Local Roads to be safe for crossing • Alignment of CWB • Provision for a 3.0 m wide two way path that is generally parallel with Expressway • Locations for connections (immediate and future) • Boardwalks • Lighting and safety provisions for local road crossings • CPTED review 	<p>A link to the CWB begins at the intersection of Poplar Ave and Leinster Road, running parallel to Poplar Avenue. This section of CWB will effectively tie into KCDC's future plans for developing Poplar Ave with a CWB connection to QE park cycle way entrance at Matai Road (to the west) path that runs the length of Poplar Avenue. There will not be a CWB 'entrance' with gabion blocks etc at the point where the path begins at the corner of Poplar and Leinster Ave. From the interchange, the CWB follows the Expressway on the western side to Leinster Road (where this sector ends) and beyond.</p> <p>CWB comprises a formed 3.0 m wide chipseal and where practicable a grass verge of up to 1.0m wide for horse riders, on the non-expressway side of the sealed path. The CWB is designed to provide access for maintenance vehicles, although this use will be very infrequent.</p> <p>A 1.5m shoulder will be provided on Poplar Ave to Accommodate cyclists, A 4.5m carriageway and 2x0.5m shoulder will be provided under the Expressway between the two roundabouts.</p> <p>Provision is being made for a 'southern gateway entrance' to the CWB, near the western roundabout at the interchange. This will at least incorporate the low gabion barriers as being used at other entrances, Flat Grassed area with space for informal seating and provision for signage 'kiosk'. Details of southern gateway subject to consultation.</p> <p>There is no formed footpath under the Poplar Avenue bridge, as discussed and agreed with KCDC. However, the 5.0m wide berm between the kerb and bridge abutment allows for a footpath either side of the road in the future.</p> <p>There are no local road crossings for the CWB in this sector.</p> <p>Planting will generally be kept at low heights adjacent to the CWB to maintain sightlines along the CWB.</p> <p>An initial CPTED review of the project identified the key design considerations:</p> <ul style="list-style-type: none"> • No tall elements that could create 'outside rooms' or places to hide. • Clear sight lines at intersections. • Ensure clear views to the exits of CWB. • Remove tall vegetation from CWB intersections • Low planting adjacent to CWB (3-5m wide strip for the majority of the CWB) and at bridge abutments. • The 'tagability' of surface materials. <p>A CPTED assessment of this SSMP has subsequently been completed and considers the design meets the CPTED requirements.</p>
<p>C. RETAINING WALLS AND NOISE MITIGATION STRUCTURES</p>	<p>DC.59A f) iv) Retaining wall structures, in terms of their scale, and materials and noise mitigation structures and</p>	<p>A 600m section of earth noise bund will be constructed to provide noise attenuation for the residential area starting approximately 150m south of Leinster Road, and continuing north into Sector 330 (SSMP2). This bund will be planted with mixed indigenous vegetation to minimize the landscape and visual effects.</p>

REFER TO APPENDIX 1 SHEETS 9&10	landforms in terms of their fit in the landscape and visual treatment.	There are no noise walls, or road barriers designed for noise mitigation located in this SSMP area. There are no retaining walls located in this sector.
D. LOCAL PROPERTY ACCESS REFER TO APPENDIX 1 SHEET 3	DC.59A f) v) Local property access to provide for existing and future needs	Provision for future access to a potentially landlocked property has been made via a grassed strip, extending south from the eastern end of Leinster Avenue (Refer SHEET 3).
E. BRIDGE ABUTMENTS REFER TO APPENDIX 1 SHEET 7 AND APPENDIX 3	DC.59A f) iv) Bridge piers and abutments design to address the location of piers and the treatment of abutments to address their scale and materials.	<p>Detail of the Poplar Avenue overbridge design is outlined in Appendix 3. Appendix 3 also outlines the extent of any design changes to the overpass since NOR /AEE documentation.</p> <p>The bridge consists of two separate decks each supported by two columns, grounded in the Poplar Avenue road median, (4 columns in total). The abutments are inclined at 1v:2h from a 1.0m high vertical toe wall. The bridge abutments will be faced with precast exposed aggregate panels. A 300mm wide concrete vertical border between the panels.</p> <p>A series of planted embankments have been incorporated into the abutment face with the expressway embankment to soften the transition and improve visual amenity in this area.</p> <p>5.0m wide berms are proposed between the road kerb and the abutment toe. These berms will be surfaced with compacted Kapiti Blue gravel chip in all areas under the bridge deck footprints. Outside of the bridge decks, all berms will be grassed. These berms have been designed to provide sufficient space for footpaths if required in the future.</p> <p>A light shaft from the gap between the split bridge decks will also contribute to the visual amenity under the bridge.</p> <p>Architectural lighting will be provided under the bridge.</p>
F. OTHER CONDITIONS	<p>DC 59A i) :In addition, SSMP 1 shall consider the following</p> <p>i) <i>Poplar Avenue Interchange;</i></p> <p>3. <i>Legibility of the cycle and walking network, recognising the location adjacent to Queen Elizabeth Park and the start of the Expressway CWB.</i></p> <p>4. <i>Signage locations to recognize the likely scale and number of signs necessary to identify and regulate movement around the intersection.</i></p>	<p>3. Refer comments in B. CWB above.</p> <p>4. Signage will be designed to meet safety and route information requirements. Refer signage SHEETS 15 and 16</p>

5. LANDSCAPE + ECOLOGY	CONDITIONS – LANDSCAPE + ECOLOGY	RESPONSES – LANDSCAPE + ECOLOGY
A. DUNES AND DRYLAND VEGETATION REFER TO APPENDIX 1 SHEETS 2, 3, M2PP-32R-D-DWG-8701 to 8704 and M2PP-23R-D-DWG-8904	<p>Condition DC.57 f) specifies exotic trees to be retained.</p> <p>Re-shaping of dune landforms disturbed by construction of the Expressway.</p>	<p>There are no identified valued areas of terrestrial indigenous vegetation within this SSMP.</p> <p>Exotic trees to be retained are identified on the 'Vegetation to be Retained' plan.</p>

B. STREAMS AND RIPARIAN WORKS	Condition G.42 b) requires specific lengths of stream mitigation.	There are no areas of ecological mitigation, (stream diversions or ecological riparian planting areas), within this SSMP area.
C. WETLANDS	Condition G.42 b) requires specific areas of wetland mitigation.	There are no wetland ecological mitigation requirements within this SSMP area.
D. SALVAGE	Condition G.34 m) sets out the salvage requirements for vegetation in SSMP 5.	There are no salvage requirements within this SSMP.
E. VEGETATION TO BE RETAINED REFER TO APPENDIX 1 – M2PP-32R-D-DWG-8701 to 8704	Conditions: DC.57 f) i) and DC.42C c) i) and G.34m) – identification of vegetation to be retained. Refer: Landscape Management Plan, sections 8.21 to 8.28 and Attachment 2: Principles, Methods and Procedures: Pre-construction. Ecological Management Plan, sections 7.1 to 7.18.	There are no identified areas of valued indigenous vegetation that require consideration within this SSMP. Vegetation to be retained plans have been certified by KCDC. Exotic trees to be retained are also identified on the 'Vegetation to be Retained' plans.
F. VEGETATION TO BE CLEARED REFER TO APPENDIX 1 – M2PP-32R-D-DWG-8701 to 8704	Conditions: DC.57 f) i) and DC.42C c) i) identification of vegetation to be removed. Refer: Landscape Management Plan, sections 8.21 to 8.28 and Attachment 2: Principles, Methods and Procedures: Pre-construction. Ecological Management Plan, sections 7.1 to 7.18.	Project Ecologist and Project Landscape Architect to provide briefing to Constructors prior to vegetation clearance and protection work commencing; briefing to identify any hold points during vegetation clearance process. Much of the vegetation has already been cleared in this SSMP area in accordance with the certified Vegetation Retention Plans and with ecological and landscape supervision. Vegetation to be mulched and stockpiled shall exclude aggressive weed species that could result in potential ongoing management problems (e.g. blackberry, gorse, <i>Convolvulus</i> , and willows). As outlined earlier, this SSMP area includes large areas of gorse – although this species does not require ongoing management. Stored mulch to be periodically inspected for evidence of aggressive weed species and if present sprayed with appropriate herbicide. The Project Ecologist/Project Landscape Architect shall observe any removal or modification of indigenous vegetation.
G. INDIGENOUS FAUNA	Conditions G.34 n) and the EMP (Appendix 3, section 7) - freshwater fish requirements for diversions and culverts in perennial and intermittent water bodies (including drains). There are no other requirements for rare or threatened fauna within this SSMP area.	Within this SSMP there is one culvert located within a perennial or intermittent stream that require consideration of fish passage/fish rescue as follows: <ul style="list-style-type: none"> • Culvert 8 – Whareroa Drain tributary (upgrade of an existing culvert under Poplar Avenue). <p>Immediately prior to any stream reclamation process / diversion / culvert installation, the section of stream to be reclaimed shall be isolated and fish present will be safely captured for translocation by accepted methods as provided in the EMP.</p> <p>Prior to livening of the new culvert, an extensive fish capture and removal will be required in accordance with the EMP. At least 5 working days prior to the livening of the new culvert, a plan for capture and relocation of fish will be finalised and provided to GWRC in accordance with the EMP.</p> <p>All fish that are captured shall be transferred upstream to the nearest equivalent habitat to limit their exposure to any increased turbidity that is caused during the stream reclamation process / diversion / culvert installation.</p>
H. LANDFORMS REFER TO APPENDIX 1 SHEETS 2, 3, 4, 5, 6	Condition DC.57 c) - SSLMPs shall be consistent with the Landscape Management Plan, ULDF (Technical Report 5), the Ecological Management Plan, the relevant Site Specific Urban Design Plan, and the Network Integration Plan as relevant.	The SSMP 1 Designation corridor is relatively narrow with the Expressway earthworks footprint occupying much of the space. The Poplar Avenue interchange will occupy much of the designation. The peat in this area has been removed for the overpass and expressway embankments preloaded. 'Brown rock' has been used for preloading and some of this material will remain in place on the Expressway embankments. Refer cross section on Sheet 4.

		<p>In other areas where there is organic material (i.e. the limited topsoil development) shall be stripped and stockpiled separately for future use. Contract documentation and the Landscape Specifications (Appendix 4) provides details on topsoil stripping and storage.</p> <p>All exposed areas shall be temporarily protected in accordance with the approved construction methodology to limit erosion from wind and rain and also to minimise dust issues in adjoining properties.</p>
I. WETLAND CREATION AND RESTORATION	Condition G. 41 c) ii)	N/A There are no ecological mitigation requirements within this SSEMP.
J. STREAM CREATION AND RESTORATION	Condition G.42 and G.42C	N/A There are no ecological mitigation requirements within this SSEMP.
K. CULVERT INSTALLATION REFER TO APPENDIX 1 SHEETS 2 & 3	<p>The Whareoa Drain tributary is a small tributary of the Whareroa Stream, a regionally significant stream listed in the Regional Freshwater Plan. The Whareroa Drain has its outlet within QE Park. Only one culvert in this SSMP requires fish passage and associated fish rescue:</p> <ul style="list-style-type: none"> Culvert 8 – replacement of an existing 25 m long culvert (450 mm diameter) under Poplar Ave with a new 33.5 metre long (525mm diameter) culvert. <p>Several smaller flow balancing culverts are required in SSMP 1 that do not have fish passage or fish rescue requirements.</p>	<p>Culvert installation shall require the following in all culverts that require fish passage:</p> <ul style="list-style-type: none"> Culverts shall not constrict the flow such that velocities are increased to more than 0.3m -1.0m per second to ensure fish passage for existing freshwater fish species is retained. Entrance and exit of culverts shall be below the stream invert, and ensure any hard substrates (head wall, steps etc) do not affect flow and swimming passage. During construction special attention shall be given to the protection of native fish within any section of stream being culverted. Where the existing channel is to be lost or drained as part of culvert installation, fish capture and transfer will be required prior to water loss in accordance with the EMP (Appendix 3 of EMP). As far as practicable, Culvert 8 shall be constructed either by installing a diversion around the work area and installing the culvert in the dry channel, or by constructing the culverts adjacent to the stream and then diverting water into the culvert on completion. <p>Culvert installation shall be supervised through the construction phase (and sign-off) by Project Ecologist and Project Hydrologist.</p> <p>Briefing at the outset of construction to contractors by Project Ecologist.</p> <p>Briefings through final design, site layout and prior to final completion shall be undertaken with Regional Council.</p>
L. MITIGATION PLANTING REFER TO APPENDIX 1 – SHEETS 2 & 3 AND M2PP-32R-D-DWG-8701 to 8704	Conditions DC.57 f) - Landscape mitigation requirements -	<p>There are four planting types within this SSMP required for landscape and visual mitigation as follows:</p> <p>Massed planting: Planting plans illustrate typical planting layout and species composition. Plant grades will be a mix of 0.5 and 1.0 litre grades planted at 1.0m centres.</p> <p>Stormwater and riparian wetland species mix: (not for offset ecological mitigation): Planting plans illustrate proposed layout and species mix. Plant grades will be a mix of 0.5 and 1.0 litre (or equivalent) planted at 0.75m centres.</p> <p>Planted swales: Stormwater swales will be planted with oioi (<i>Apodasmia similis</i>).</p> <p>Grass: low grow grass mix along edge of Expressway to make good and to tie in with existing cover.</p> <p>Landscape and ecological success mitigation planting requirements and approvals are covered in Section V of this SSMP.</p>
M. PLANTING METHODS AND SPECIFICATIONS REFER TO APPENDIX 4	DC 57 f) - planting methods and specifications Refer: Landscape Management Plan, sections 8.41 – 8.59 and Attachment 2: Principles, Methods and Procedures: Pre-construction and Construction.	<p>Planting shall be undertaken during 3 month planting window only (beginning June until the end of August). Planting may be carried out during a 2- week shoulder period either side of this but it will depend on environmental conditions. No planting shall be undertaken outside the June-August planting window unless approved by Project Landscape Architect.</p> <p>Planting substrate shall be a minimum of 300mm deep, consolidated, and free from rilling and erosion before mulch placement.</p>

		<p>On embankments formed of 'brown rock' that will be planted a minimum of 1.0m of soil mix will be spread.</p> <p>Organic mulch shall be placed over the area to be planted at least 2 weeks prior to planting to allow for settlement. <i>Note: organic mulch shall not be used within the areas of stormwater treatment that are subject to temporary or permanent inundation. For these areas, alternative plant protection techniques will be used (e.g. staking and proprietary matting mechanisms).</i></p> <p>No planting shall be undertaken until site is approved by Project Landscape Architect to be free of aggressive pest plant species. Planting shall be delayed in areas where aggressive pest plants are detected until these are removed or sufficiently controlled.</p> <p>Plant supplier to confirm all plants are well hardened off prior to planting.</p> <p>Species composition shall be in accordance with species percentages.</p> <p>All indigenous plant set out and groupings to be random, but reflecting natural assemblages as directed by Project Landscape for the relevant mitigation requirements.</p> <p>Plant selection shall take into account engineering and service constraints.</p> <p>All planted areas shall be temporarily fenced to assist with plant protection.</p>
N. WEED CLEARANCE REFER TO APPENDIX 4	<p>Conditions: DC.57 f) vii) B - weed control and clearance. Refer: Landscape Management Plan, sections 8.16 to 8.20 and Attachment 2: Principles, Methods and Procedures: Pre-construction and Construction.</p>	<p>All invasive plants shall be controlled in planting areas prior to planting in accordance with the GWRC Regional Pest Management Strategy (2002-22) and as directed by the Project Landscape Architect for landscape mitigation areas.</p>
O. GROUND PREPARATION REFER TO APPENDIX 4	<p>Condition DC.57 f) Refer: Landscape Management Plan, sections 8.35 to 8.40 and Attachment 2: Principles, Methods and Procedures: Pre-construction and Construction.</p>	<p>All areas to be planted shall be sprayed with a certified and approved herbicide.</p> <p>All areas to be planted shall be free of actively growing grass, weeds, and any extraneous material removed.</p> <p>Any localised drilling or erosion of planted areas shall be remedied prior to placement of approved soil mix.</p> <p>Project Landscape Architect to approve all finished earthwork areas prior to placement of approved soil mix.</p> <p>Approved soil mix comprising salvaged peat, stripped topsoil, sand and compost shall be placed and lightly compacted to a depth of 300mm over other areas to be planted. In areas where 'brown rock' is used as structural fill (rather than sand) the topsoil/growing media shall be 1.0m thick.</p>
P. MULCHING REFER TO APPENDIX 4	<p>Condition DC.57 f) Refer: Landscape Management Plan, sections 8.41 – 8.59 and Attachment 2: Principles, Methods and Procedures: Pre-construction and Construction.</p>	<p>100mm of organic mulch shall be placed lightly over all areas to be planted (with the exception of temporarily or permanently inundated areas as outlined above).</p> <p>Mulch shall be left for 2 weeks to settle prior to commencement of any planting.</p>
Q. PLANT SUPPLY REFER TO APPENDIX 4	<p>Condition DC.57 f) Refer: Landscape Management Plan, sections 8.41 – 8.59 and Attachment 2: Principles, Methods and Procedures: Pre-construction and Construction.</p>	<p>All indigenous plants shall be sourced from Manawatu Ecological Region, with a focus on the Foxton Ecological District.</p> <p>All plants shall be hardened off prior to planting.</p>
R. PLANTING PROGRAMME / STAGING	<p>Condition DC.57 f) Refer: Landscape Management Plan, sections 8.41 – 8.59 and Attachment 2: Principles, Methods and Procedures: Pre-construction and Construction.</p>	<p>Planting shall be staged according to completion of construction works.</p> <p>No planting shall be carried out in areas where there is a risk of damage from adjoining construction activities.</p> <p>Construction Manager shall confirm areas where construction is completed and area is ready for planting.</p>

		<p>Planting shall be completed only within June-August planting window unless otherwise approved by Project Landscape Architect.</p> <p>All areas to be planted shall be photographed and details recorded to form part of baseline information.</p>
<p>S. PLANT MAINTENANCE REFER TO APPENDIX 4</p>	<p>Condition DC.57 f) Refer: Landscape Management Plan, sections 8.60 – 8.62 and Attachment 2: Principles, Methods and Procedures: Post-Construction.</p>	<p>All planted areas shall be photographed on completion of planting and details recorded to be included as part of baseline information.</p> <p>Terrestrial planting, both indigenous and exotic shall be maintained for 3 years.</p> <p>Planting shall be maintained according to the maintenance plan as set out in the Landscape specifications (Appendix 4).</p> <p>Monitoring reports on plant survival and establishment and the frequency and success of the maintenance regime shall be completed by the Project Landscape Architect (in consultation with the Project Ecologist in relation to riparian planting) as follows:</p> <ul style="list-style-type: none"> • 1 month after planting completed and then • 3 months • 6 months • 12 months • 2 years; and • Twice yearly thereafter until the end of the maintenance period. <p>Monitoring reports shall include dates of visits, condition of vegetation, condition of fencing, issues arising, actions required, together with photographs.</p> <p>Monitoring reports on completion shall be provided to KCDC Landscape Reviewer.</p> <p>Monitoring reports shall cease to be prepared for those areas where the performance standards have been met ahead of the maintenance period.</p>
<p>T. PEST PLANT MANAGEMENT REFER TO APPENDIX 4</p>	<p>DC.57 f) – control of pest plants.</p>	<p>Weed surveys shall be carried out annually in spring to track the introduction of weeds and their spread and to recommend appropriate management in accordance with the GWRC Regional Pest Management Strategy (2002-22).</p>
<p>U. PEST ANIMAL MANAGEMENT REFER TO APPENDIX 4</p>	<p>DC.57 f), control of pest animals.</p>	<p>Pest monitoring shall be carried out annually in spring to track the introduction of browsing animal pests and their spread and to recommend appropriate management in accordance with the GWRC Regional Pest Management Strategy (2002-22).</p>
<p>V. PROTECTION REQUIREMENTS REFER TO APPENDIX 4</p>	<p>Condition DC.57 c) – temporary and permanent protection.</p>	<p>Temporary fences shall be erected as part of the protection of valued vegetation to be retained.</p> <p>All areas of landscape mitigation planting within the operational designation shall be fenced following planting, maintained and protected in accordance with the consent conditions as outlined in the LMP.</p>
<p>W. LANDSCAPE AND ECOLOGICAL SUCCESS MONITORING – POST CONSTRUCTION</p>	<p>DC. 57 c) - monitoring and adaptive management requirements to confirm landscape and ecological mitigation success has been achieved are as follows (as outlined in the LMP):</p> <p>DC.53 c), DC.57 f) - 3 year Defects Liability and Maintenance Period for all terrestrial planting and a 4 year Defects Liability and Maintenance Period for wetland and riparian planting.</p> <p>DC. 57 c) - at the completion of planting, each area of mitigation will be reviewed by the Project</p>	<p>In relation to landscape mitigation planting, success measures are as follows:</p> <ul style="list-style-type: none"> • 80% canopy closure at the time of Final Completion whereby a sustainable plant community has been established and where plants have grown to create a canopy that shades the ground and suppresses weed growth. • Invasive terrestrial weed species successfully controlled.

	Landscape Architect and a report prepared on the parameters above.	
X. ADAPTIVE MANAGEMENT – POST CONSTRUCTION	Condition DC.57 c) – adaptive management and condition	In the event that mitigation planting does not achieve the objectives within the consent timeframes, the Project Landscape Architect will prepare a report, including recommendations for remedial work or additional mitigation, and ongoing monitoring and reporting through the Adaptive Management process.
6. REFERENCES	<ul style="list-style-type: none"> • Landscape Management Plan (LMP), July 2013 • Urban and Landscape Design Framework, Technical Report 5, MacKays to Peka Peka Expressway • Assessment of Landscape and Visual Effects, including Appendices A and B, Technical Report 7 	

M2PP-121-D-PLNM-0001

Appendix 1: DRAWING SET

Site Specific Management Plan 001 - [sector 320]
MacKays to Peka Peka Expressway

17 DECEMBER 2014 - REV C - CERTIFIED ISSUE

SSMP#	SECTOR	NAME	NOTES
SSMP1	310/320	RAUMATI SOUTH	ISSUED IN TWO PARTS: -SSMP1- 310 -SSMP1- 320
SSMP2	330/340/350	RAUMATI NORTH	
SSMP3	360/370/380	WHAREMAUKU BASIN	
SSMP4	410/420	KAPITI MAZENGARB	
SSMP5&6	430/440/460	OTAIHANGA NORTH&SOUTH	
SSMP7	470	WAIKANA E RIVER	
SSMP8	480/510	TE MOANA	
SSMP9	520	NGARARA	
SSMP10	530/540/550/580	PEKA PEKA SOUTH	ISSUED IN TWO PARTS: -SSMP10-550 -SSMP10-530/540/580
SSMP11	560/570	PEKA PEKA NORTH	



	ROAD		SSMP SHEET (ROAD)		SSMP SHEET (BRIDGE)		PARCEL BOUNDARIES
	SSMP BOUNDARY		CURRENT SSMP SHEET (ROAD)		CURRENT SSMP SHEET (BRIDGE)		CONSTRUCTION BOUNDARY

A1 REPRODUCTION SCALE
0mm
20
40
60
80
100

A3 REPRODUCTION SCALE
0mm
10
20
30
40

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LK	11/10/14	Approved For Construction*
1:25,000	Drawn	VB	11/10/14	Date
Reduced Scale (A3)	Design Verifier			
1:50,000	Design Check			

* Refer to Revision 1 for Original Signature



Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

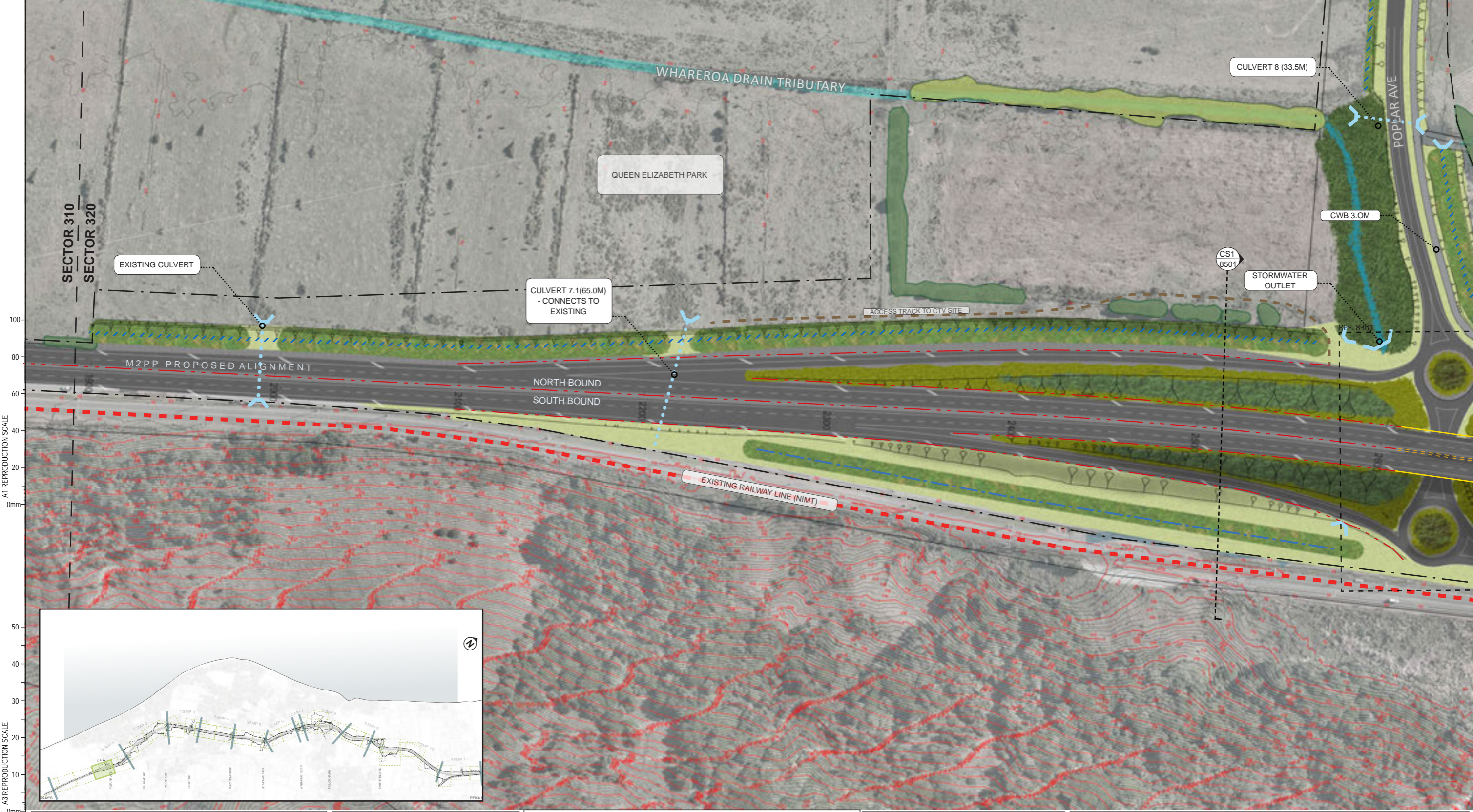
Title: SSMP 1 [320] - SHEET 1
LOCATION PLAN

Drawing No: M2PP-121-D-DWG-8000

Rev: C

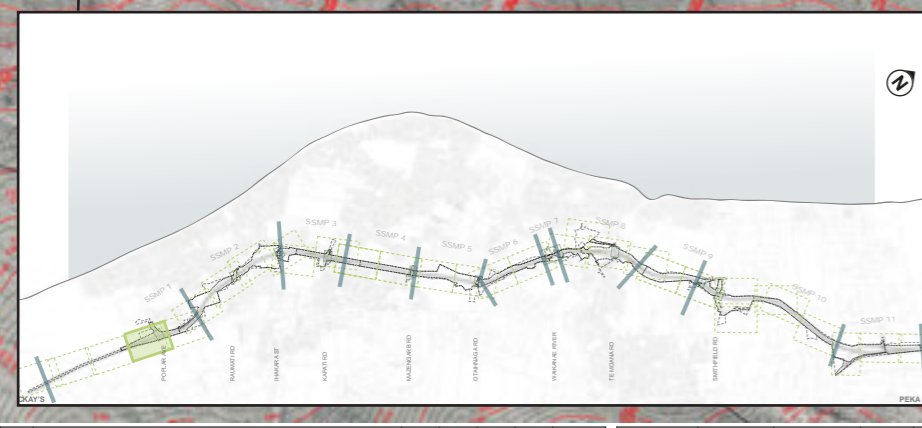


General	Urban Design	Landscape	Ecology	CWB
Designation Boundary	Concrete Bridge Barrier	Individual Retained Trees	Retained Valued Terrestrial Vegetation	Loose Chip CWB
Wire Barrier	Concrete Noise Wall	Retained Vegetation	Retained Valued Wetland Vegetation	Chip Seal CWB
W-Barrier	Culvert Headwall	Grass	Planted Indigenous Terrestrial Habitat	Concrete CWB
Barrier Transition	Retaining Wall	Massed Planting	Planted Indigenous Wetland Habitat	Existing Access Track or CWB
Concrete Traffic Barrier	Bridge Deck	Massed Planting with Tree Enrichment	Stream Mitigation / Riparian Habitat	
Culvert	Bridge Abutment	Wetland / Riparian Planting	Existing Water Body	
Swale	Bridge Piers	Massed planting low	Batter Slope	
Planted Swale	2.0m Timber Noise Fence	Specimen Tree	Tadpole	
Flood Storage Area				
Visualisation Viewpoint				



A1 REPRODUCTION SCALE
0mm

A3 REPRODUCTION SCALE
0mm



No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Design	LK	11/10/14	Approved For Construction*
Drawn	VB	11/10/14	Date
Design Verifier			
Design Check			

* Refer to Revision 1 for Original Signature

Project SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320] - SHEET 2 MASTERPLAN

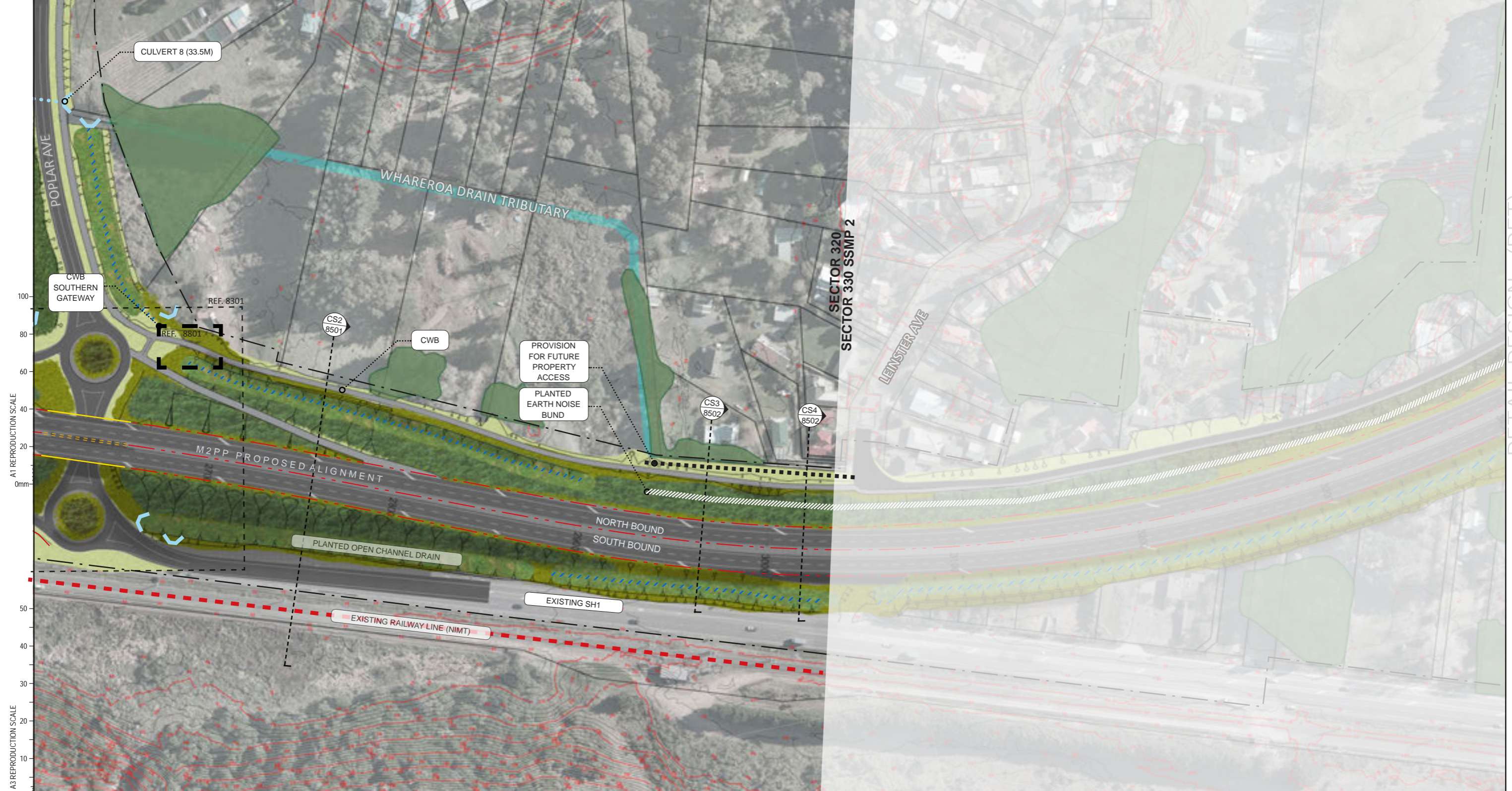
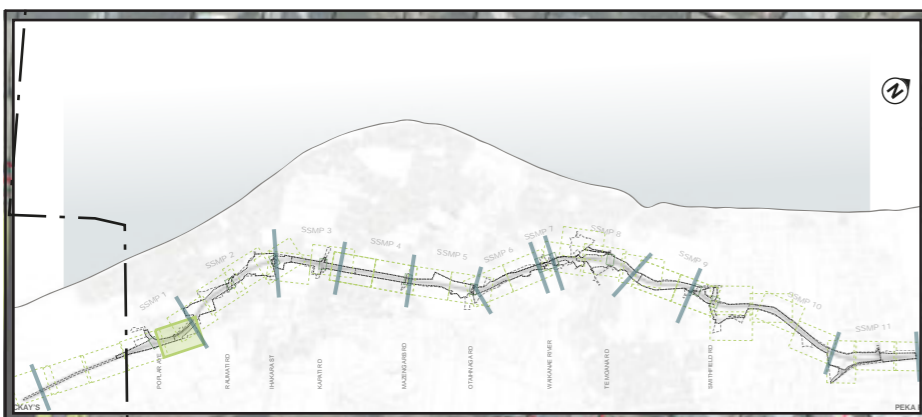
Drawing No: M2PP-121-D-DWG-8101

Rev. C

DETAIL DESIGN (DET)



General	Urban Design	Landscape	Ecology	CWB
- - - Designation Boundary	Concrete Bridge Barrier	Individual Retained Trees	Retained Valued Terrestrial Vegetation	Loose Chip CWB
- - - Wire Barrier	Concrete Noise Wall	Retained Vegetation	Retained Valued Wetland Vegetation	Chip Seal CWB
- - - W-Barrier	Culvert Headwall	Grass	Planted Indigenous Terrestrial Habitat	Concrete CWB
- - - Barrier Transition	Retaining Wall	Massed Planting	Planted Indigenous Wetland Habitat	Existing Access Track or CWB
- - - Concrete Traffic Barrier	Bridge Deck	Massed Planting with Tree Enrichment	Stream Mitigation / Riparian Habitat	
- - - Culvert	Bridge Abutment	Wetland / Riparian Planting	Existing Water Body	
- - - Swale	Bridge Piers	Massed planting low	Batter Slope	
- - - Planted Swale	2.0m Timber Noise Fence	Specimen Tree	Tadpole	
- - - Flood Storage Area				
● Visualisation Viewpoint				



A1 REPRODUCTION SCALE
0mm

A3 REPRODUCTION SCALE
0mm

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LK	11/10/14	Approved For Construction*
1:250	Drawn	VB	11/10/14	Date
Reduced Scale (A3)	Design Verifier			
1:500	Design Check			

* Refer to Revision 1 for Original Signature

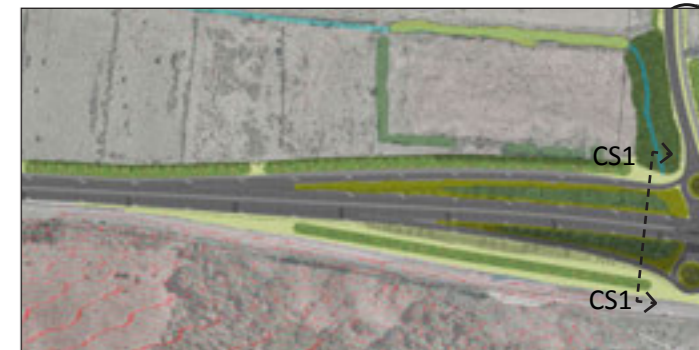
Project SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320] - SHEET 3
MASTERPLAN

Drawing No: M2PP-121-D-DWG-8102

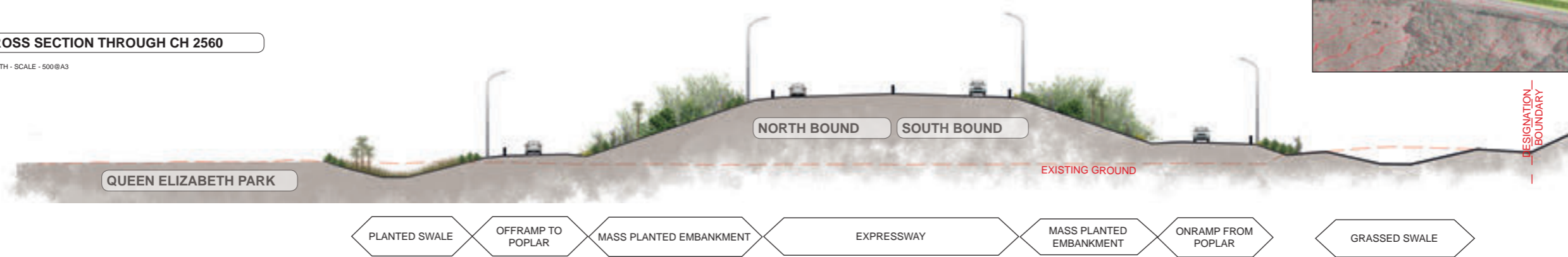
Rev. C

SSMP LOCATION MAP-M2PP-121-D-GPH-8101



CS1 - CROSS SECTION THROUGH CH 2560

FACING NORTH - SCALE - 500@A3



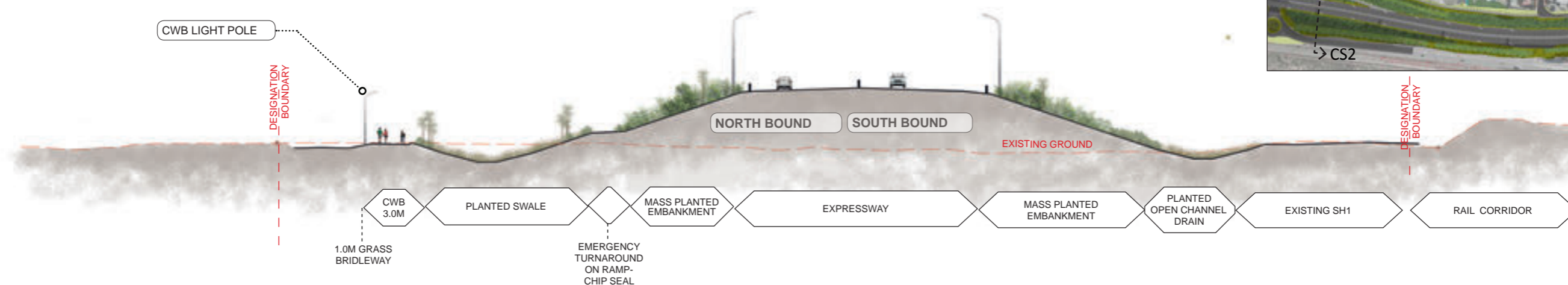
SSMP LOCATION MAP-M2PP-121-D-GPH-8102



CS2 - CROSS SECTION THROUGH CH 2720

FACING NORTH - SCALE - 500@A3

A1 REPRODUCTION SCALE
0mm 20 40 60 80 100



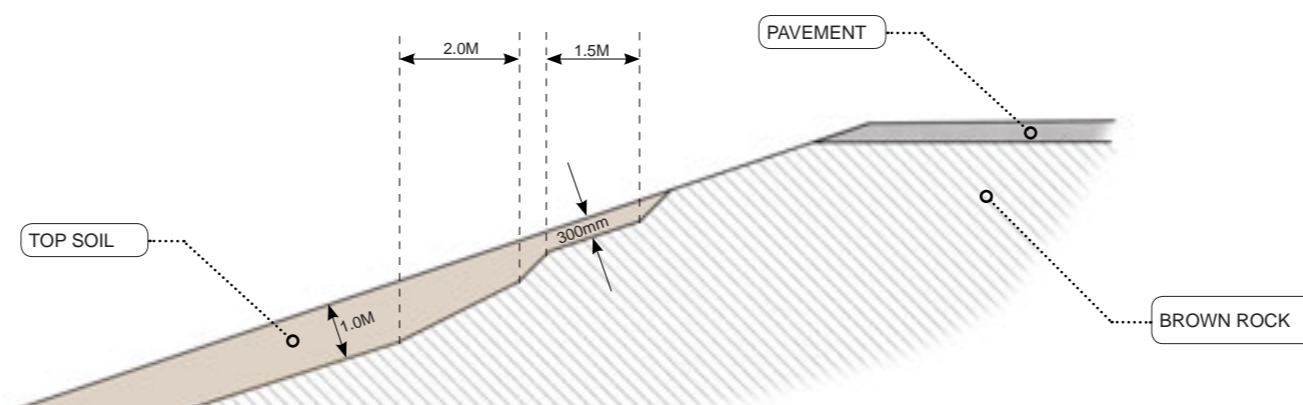
TOPSOIL / PAVEMENT TRANSITION SECTION

FACING NORTH - SCALE - 125@A3

A3 REPRODUCTION SCALE
0mm 10 20 30 40 50

TYPICAL DETAIL WHERE BATTER SLOPE IS 3H : 1V

WHERE THERE IS PEAT PLACEMENT IN LIEU OF FULL DEPTH TOPSOIL, THE TOP 300MM SHALL BE QUALITY TOP SOIL OR PEAT BLEND.



No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LK	11/10/14	Approved For Construction*
AS SHOWN	Drawn	VB	11/10/14	Date
Reduced Scale (A3)	Design Check			
AS SHOWN	* Refer to Revision 1 for Original Signature			



Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

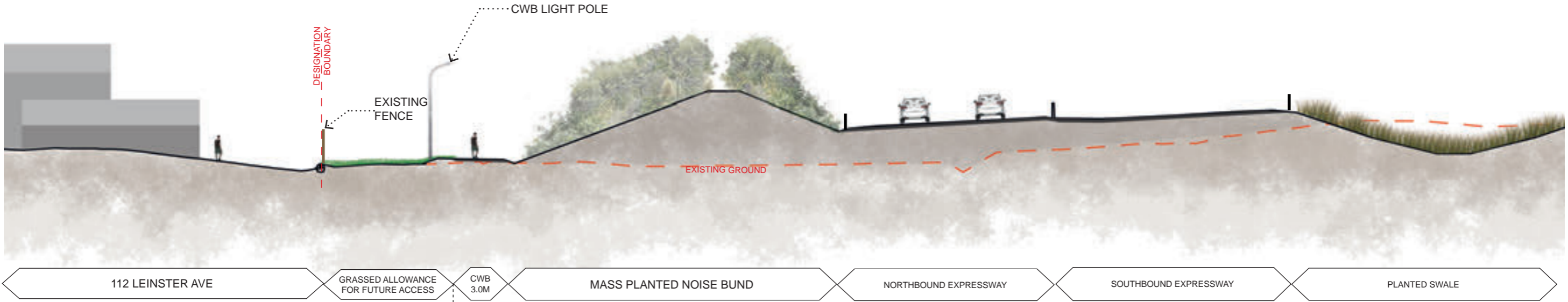
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Document No: M2PP-121-D-DWG-8501

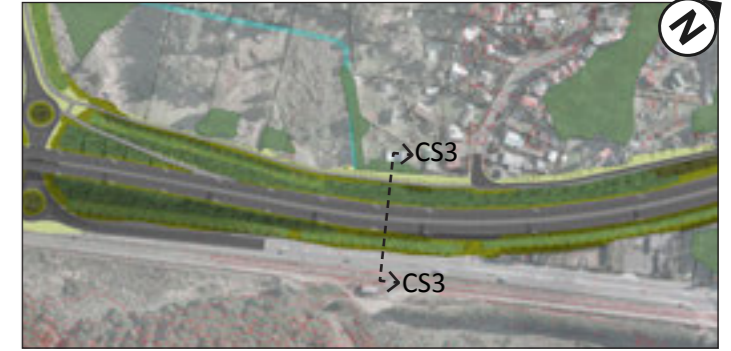
Rev: C

CS3 - CROSS SECTION THROUGH CH 2960

FACING NORTH - SCALE - 250@A3



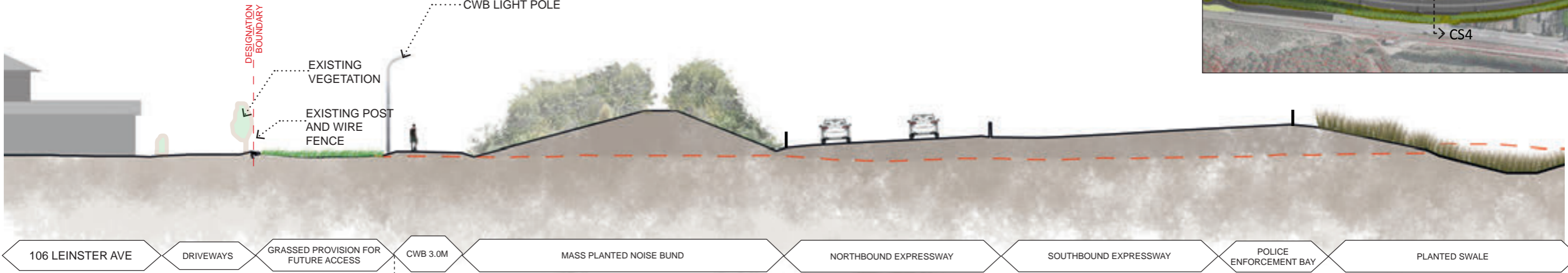
SSMP LOCATION MAP-M2PP-121-D-GPH-8102



A1 REPRODUCTION SCALE

CS4 - CROSS SECTION THROUGH CH 3040

FACING NORTH - SCALE - 250@A3



SSMP LOCATION MAP-M2PP-121-D-GPH-8102



A3 REPRODUCTION SCALE

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LK	11/10/14	Approved For Construction*
AS SHOWN	Drawn	VB	11/10/14	
Reduced Scale (A3)	Design Verifier			
AS SHOWN	Design Check			

* Refer to Revision 1 for Original Signature



Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320]- SHEET 5 SECTION

Drawing No: M2PP-121-D-DWG-8502

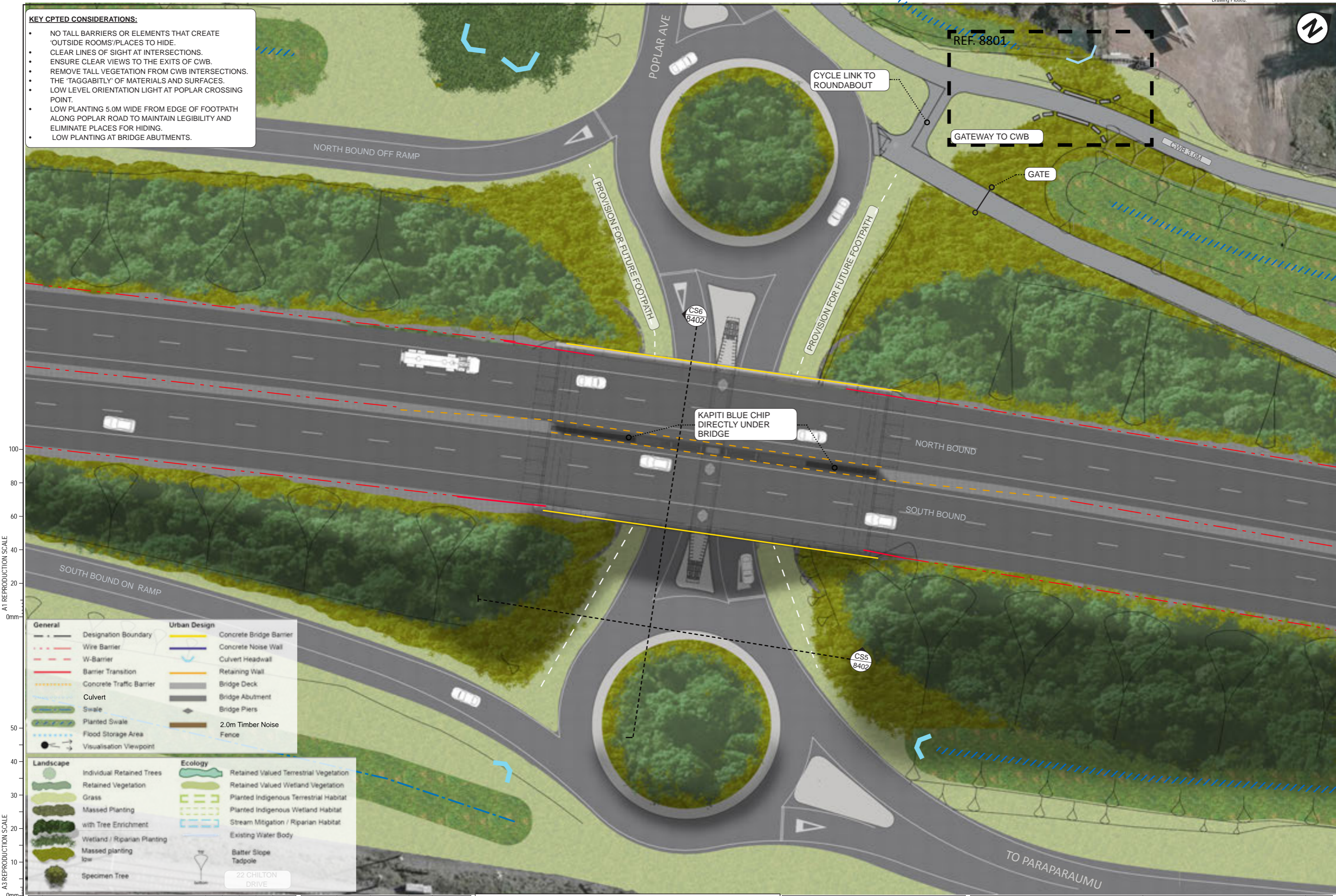
Rev: C

DETAIL DESIGN (DET)



KEY CPTED CONSIDERATIONS:

- NO TALL BARRIERS OR ELEMENTS THAT CREATE 'OUTSIDE ROOMS'/PLACES TO HIDE.
- CLEAR LINES OF SIGHT AT INTERSECTIONS.
- ENSURE CLEAR VIEWS TO THE EXITS OF CWB.
- REMOVE TALL VEGETATION FROM CWB INTERSECTIONS.
- THE 'TAGGABITLY' OF MATERIALS AND SURFACES.
- LOW LEVEL ORIENTATION LIGHT AT POPLAR CROSSING POINT.
- LOW PLANTING 5.0M WIDE FROM EDGE OF FOOTPATH ALONG POPLAR ROAD TO MAINTAIN LEGIBILITY AND ELIMINATE PLACES FOR HIDING.
- LOW PLANTING AT BRIDGE ABUTMENTS.



A1 REPRODUCTION SCALE

A3 REPRODUCTION SCALE

General		Urban Design	
	Designation Boundary		Concrete Bridge Barrier
	Wire Barrier		Concrete Noise Wall
	W-Barrier		Culvert Headwall
	Barrier Transition		Retaining Wall
	Concrete Traffic Barrier		Bridge Deck
	Culvert		Bridge Abutment
	Swale		Bridge Piers
	Planted Swale		2.0m Timber Noise Fence
	Flood Storage Area		
	Visualisation Viewpoint		

Landscape		Ecology	
	Individual Retained Trees		Retained Valued Terrestrial Vegetation
	Retained Vegetation		Retained Valued Wetland Vegetation
	Grass		Planted Indigenous Terrestrial Habitat
	Massed Planting		Planted Indigenous Wetland Habitat
	with Tree Enrichment		Stream Mitigation / Riparian Habitat
	Wetland / Riparian Planting		Existing Water Body
	Massed planting low		Batter Slope
	Specimen Tree		Tadpole

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LK	11/10/14	Approved For Construction*
1:250	Drawn	VB	11/10/14	
Reduced Scale (A3)	Design Verifier			
1:500	Design Check			

NZ TRANSPORT AGENCY
MacKays to Peka Peka
 Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
 RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320] - SHEET 6
 BRIDGE MASTERPLAN

Drawing No: M2PP-121-D-DWG-8301

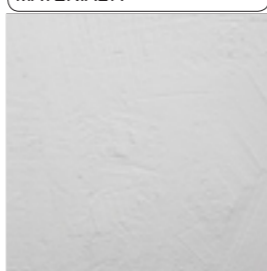
Rev: C

DETAIL DESIGN (DET)

CS5 - CROSS SECTIONAL ELEVATION- POPLAR AVE BRIDGE

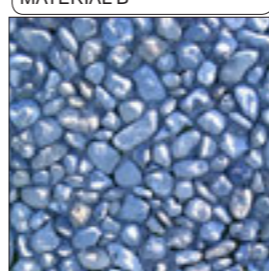
FACING WEST SCALE - 1:200@A3

MATERIAL A

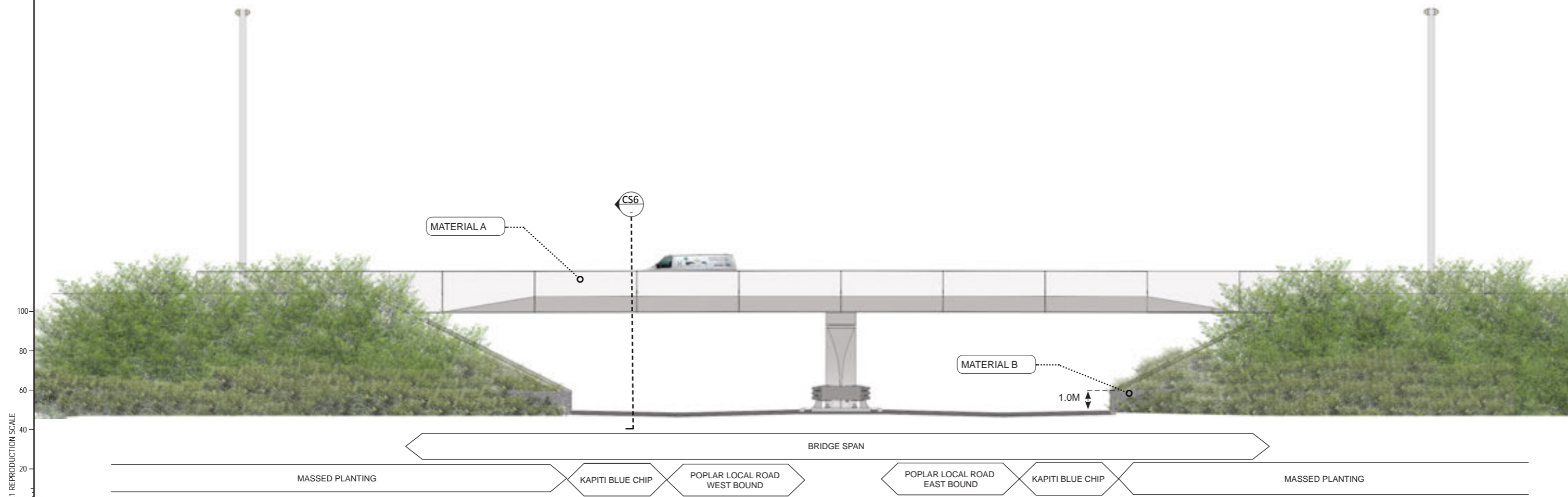
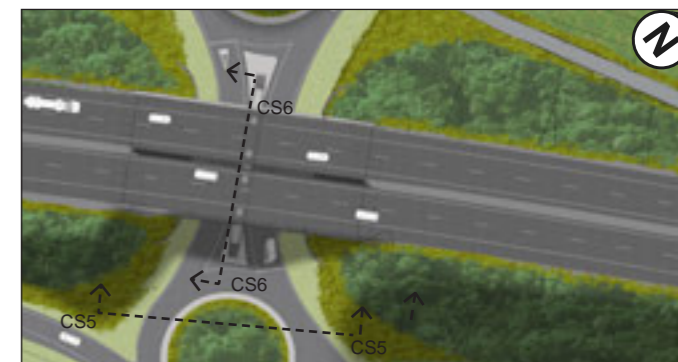


BRIDGE BARRIER:
PRECAST
CONCRETE WITH
2 COATS WHITE
KIEB COATING &
ANTI GRAFFITI
PROTECTION-
PENDING SAMPLE
PANEL APPROVAL

MATERIAL B

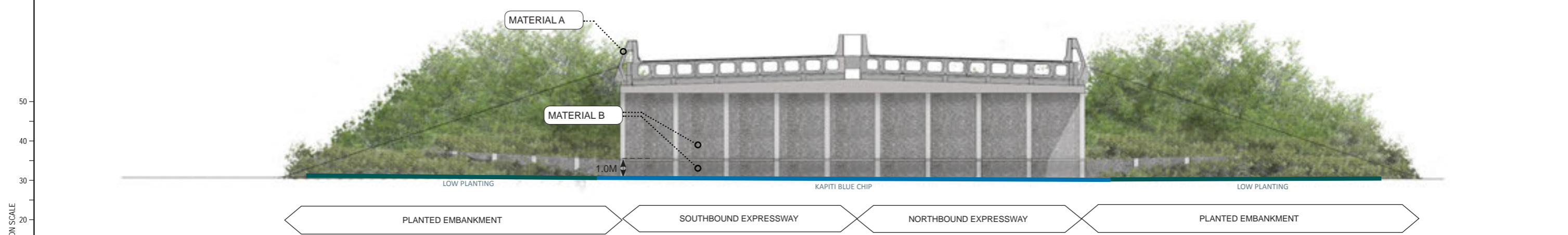


BRIDGE ABUTMENT:
PRECAST
CONCRETE PANEL
WITH INLAID OTAKI
PEB 20MM STONE
AND MATT GRAFFITI
PROTECTION-
PENDING SAMPLE
PANEL APPROVAL



CS6-CROSS SECTIONAL ELEVATION-ABUTMENT

FACING SOUTH SCALE - 1:200@A3



No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LJK	11/10/14	Approved For Construction?
AS SHOWN	Drawn	VB	11/10/14	
Reduced Scale (A3)	Design Check			Date
AS SHOWN				



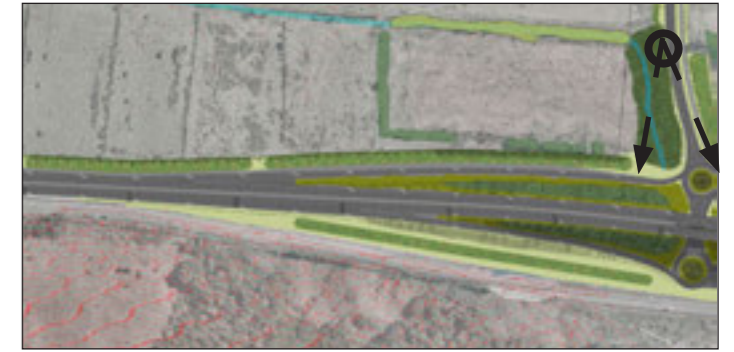
Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320]- SHEET 7
BRIDGE ELEVATIONS

Drawing No: M2PP-121-D-DWG-8402

Rev: C

VISUALISATION CONTEXT



A1 REPRODUCTION SCALE
0mm
20
40
60
80
100

VISUALISATION - POPLAR AVE BRIDGE (WEST SIDE OF BRIDGE LOOKING EAST FROM POPLAR AVENUE)

A3 REPRODUCTION SCALE
0mm
10
20
30
40
50

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LK	11/10/14	Approved For Construction*
AS SHOWN	Drawn	VB	11/10/14	
Roadwork	Design Verifier			
Scale (A3)	Design Check			Date
AS SHOWN	* Refer to Revision 1 for Original Signature			



Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320] - SHEET 8
POPLAR AVE










Drawing No: M2PP-121-D-DWG-8801

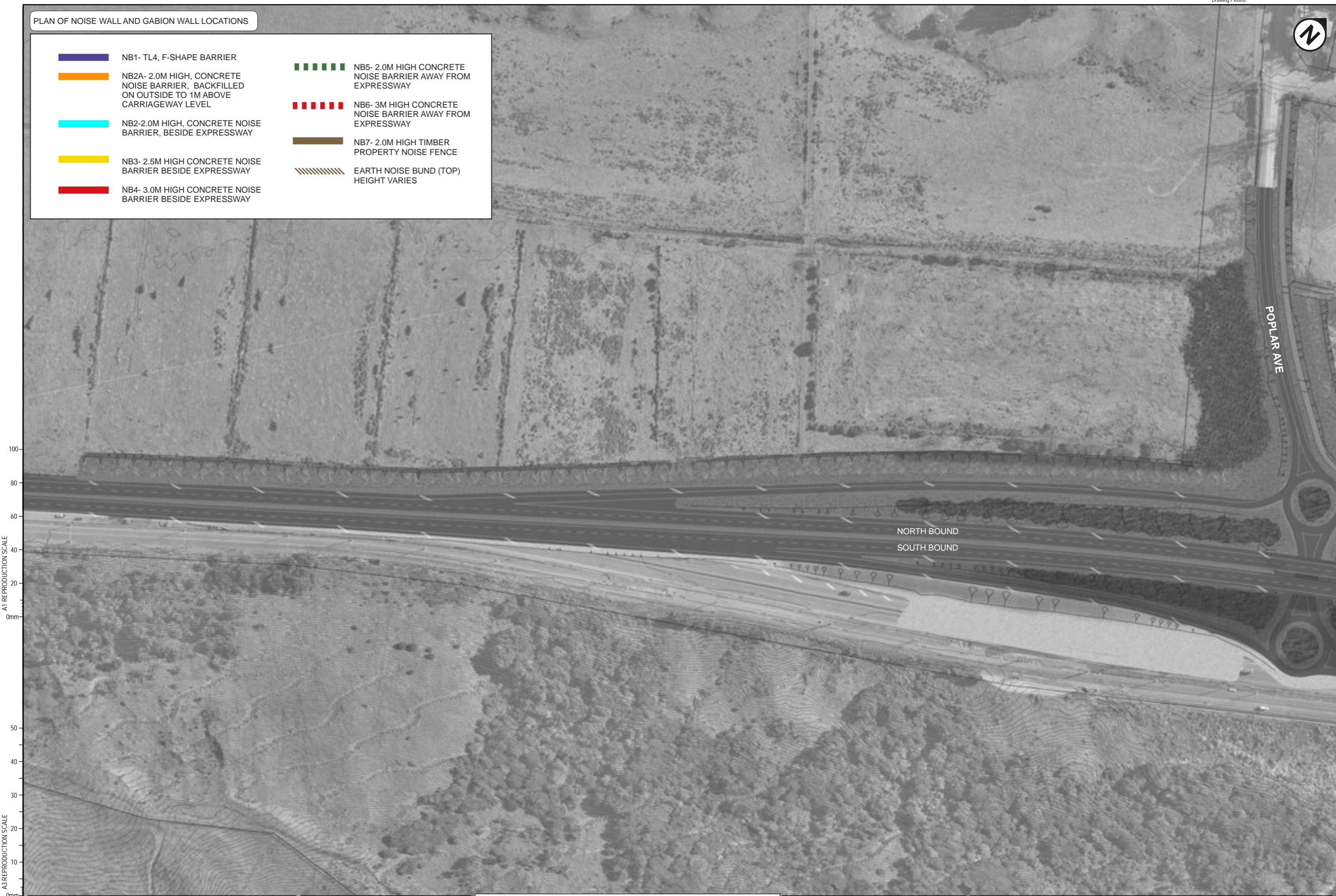
Rev: C

DETAIL DESIGN (DET)



PLAN OF NOISE WALL AND GABION WALL LOCATIONS

	NB1- TL4, F-SHAPE BARRIER		NB5- 2.0M HIGH CONCRETE NOISE BARRIER AWAY FROM EXPRESSWAY
	NB2A- 2.0M HIGH, CONCRETE NOISE BARRIER, BACKFILLED ON OUTSIDE TO 1M ABOVE CARRIAGEWAY LEVEL		NB6- 3M HIGH CONCRETE NOISE BARRIER AWAY FROM EXPRESSWAY
	NB2- 2.0M HIGH, CONCRETE NOISE BARRIER, BESIDE EXPRESSWAY		NB7- 2.0M HIGH TIMBER PROPERTY NOISE FENCE
	NB3- 2.5M HIGH CONCRETE NOISE BARRIER BESIDE EXPRESSWAY		EARTH NOISE BUND (TOP) HEIGHT VARIES
	NB4- 3.0M HIGH CONCRETE NOISE BARRIER BESIDE EXPRESSWAY		



A1 REPRODUCTION SCALE
0mm 20 40 60 80 100

A3 REPRODUCTION SCALE
0mm 10 20 30 40 50

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LK	11/10/14	Approved For Construction*
1:1000	Drawn	VB	11/10/14	Date
Reduced Scale (A3)	Design Verifier			
1:2000	Design Check			

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY
MACKAYS TO PEKA PEKA

Project SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320]-SHEET 9
NOISE WALL LOCATIONS

Drawing No: M2PP-121-D-DWG-8601

Rev: C



PLAN OF NOISE WALL AND GABION WALL LOCATIONS

- NB1- TL4, F-SHAPE BARRIER
- NB2A- 2.0M HIGH, CONCRETE NOISE BARRIER, BACKFILLED ON OUTSIDE TO 1M ABOVE CARRIAGEWAY LEVEL
- NB2- 2.0M HIGH, CONCRETE NOISE BARRIER, BESIDE EXPRESSWAY
- NB3- 2.5M HIGH CONCRETE NOISE BARRIER BESIDE EXPRESSWAY
- NB4- 3.0M HIGH CONCRETE NOISE BARRIER BESIDE EXPRESSWAY
- NB5- 2.0M HIGH CONCRETE NOISE BARRIER AWAY FROM EXPRESSWAY
- NB6- 3M HIGH CONCRETE NOISE BARRIER AWAY FROM EXPRESSWAY
- NB7- 2.0M HIGH TIMBER PROPERTY NOISE FENCE
- EARTH NOISE BUND (TOP) HEIGHT VARIES



A1 REPRODUCTION SCALE
0mm 20 40 60 80 100

A3 REPRODUCTION SCALE
0mm 10 20 30 40 50

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LJK	11/10/14	Approved For Construction*
1:1000	Drawn	VB	11/10/14	Date
Ridicoid Scale (A3)	Design Verifier			
1:2000	Design Check			

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY
MUNKA KODSAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320] - SHEET 10
NOISE WALL LOCATIONS

Drawing No: M2PP-121-D-DWG-8602

Rev. C



PLAN OF LIGHTING LOCATIONS

- P-CYCLEWAY LIGHTING
- D-ROAD LIGHTING
- U-UNDER BRIDGE LIGHTING
- UA-UNDER BRIDGE LIGHTING - ARCHITECTURAL

NOTE:
INDICATIVE
LIGHTING
FROM TOC
DESIGN - POLE
HEIGHTS AND
SPACING BY
OTHERS



A1 REPRODUCTION SCALE
0mm

A3 REPRODUCTION SCALE
0mm

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LJK	11/10/14	Approved For Construction*
1:250	Drawn	VB	11/10/14	
Reduced Scale (A3)	Design Verifier			Date
1:500	Design Check			

Project SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320] - SHEET 11
LIGHTING PLAN

Drawing No: M2PP-121-D-DWG-8701
Rev: C



PLAN OF LIGHTING LOCATIONS

- P-CYCLEWAY LIGHTING
- D-ROAD LIGHTING
- U-UNDER BRIDGE LIGHTING
- UA-UNDER BRIDGE LIGHTING - ARCHITECTURAL

NOTE:
INDICATIVE
LIGHTING
FROM TOC
DESIGN - POLE
HEIGHTS AND
SPACING BY
OTHERS



A1 REPRODUCTION SCALE
0mm 20 40 60 80 100

A3 REPRODUCTION SCALE
0mm 10 20 30 40 50

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LK	11/10/14	Approved For Construction*
1:250	Drawn	VB	11/10/14	Date
Reduced Scale (A3)	Dwg Verifier			
1:500	Dwg Check			

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY
MUNKA EDISANI

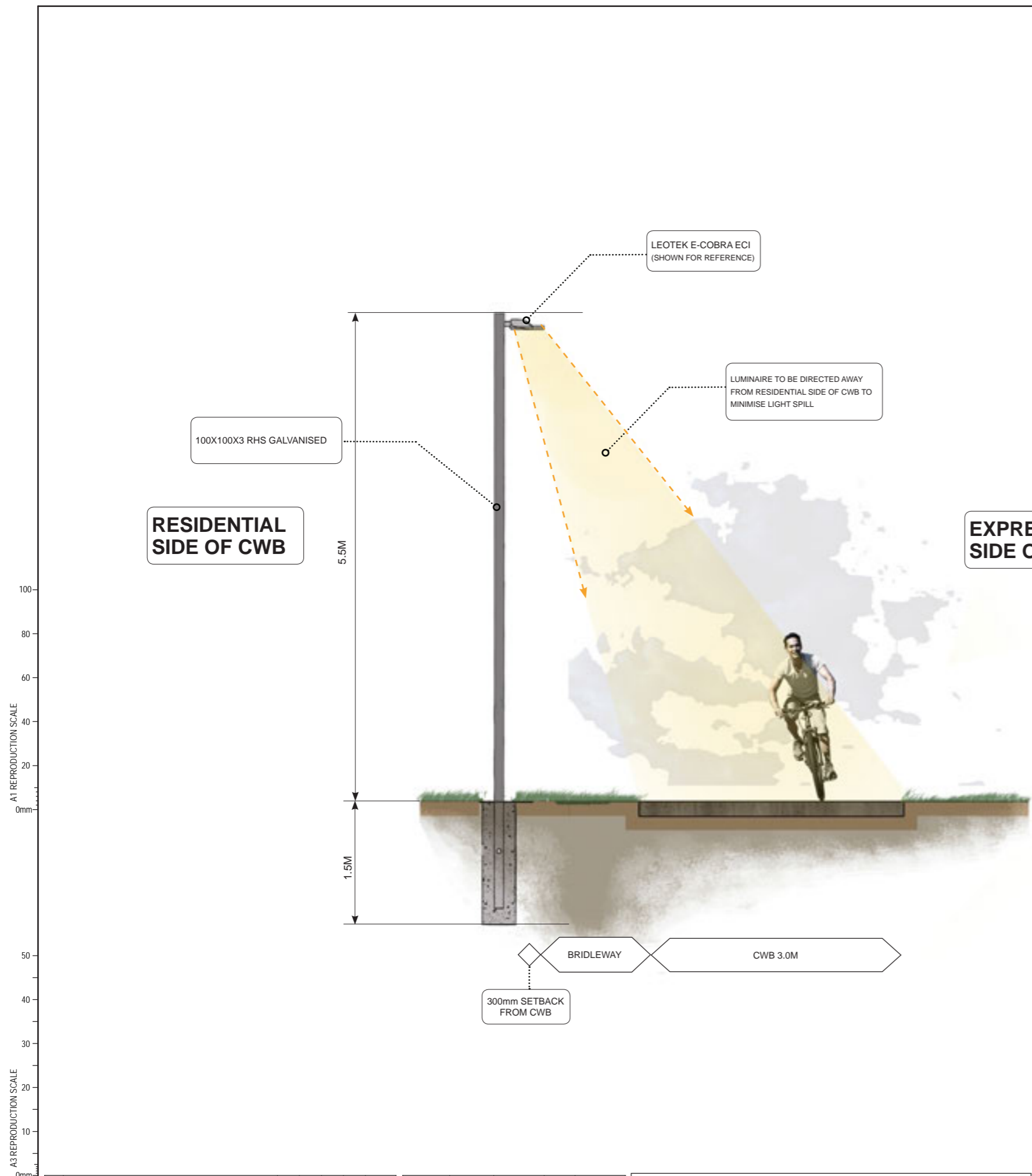
MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320] - SHEET 12
LIGHTING PLAN

Drawing No: M2PP-121-D-DWG-8702
Rev: C

DETAIL DESIGN (DET)



EXPRESSWAY SIDE OF CWB

RESIDENTIAL SIDE OF CWB

POLE HEIGHT	POLE SPACING	EXTRAPOLATED PROJECT QUANTITY
4.5M	26M	135
5.0M	28M	126
5.5M	30M	117
6.0M	31M	114
6.5M	32M	110

OPTIMUM POLE SPACING - COLUMN HEIGHT RATIO WITH SUGGESTED LUMINR (LEOTEK E-COBRA ECI)

A1 REPRODUCTION SCALE
0mm
20
40
60
80
100

A3 REPRODUCTION SCALE
0mm
10
20
30
40
50

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LJK	11/10/14	Approved For Construction*
AS SHOWN	Drawn	VB	11/10/14	Date
Reduced Scale (A3)	Design Checker			
AS SHOWN	Refer to Revision 1 for Original Signature			



Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320] - SHEET 13 INDICATIVE LIGHT POLE CONFIGURATION

Drawing No: M2PP-121-D-DWG-8703

Rev: C

CWB GATEWAY - PLAN
SCALE - 1:100

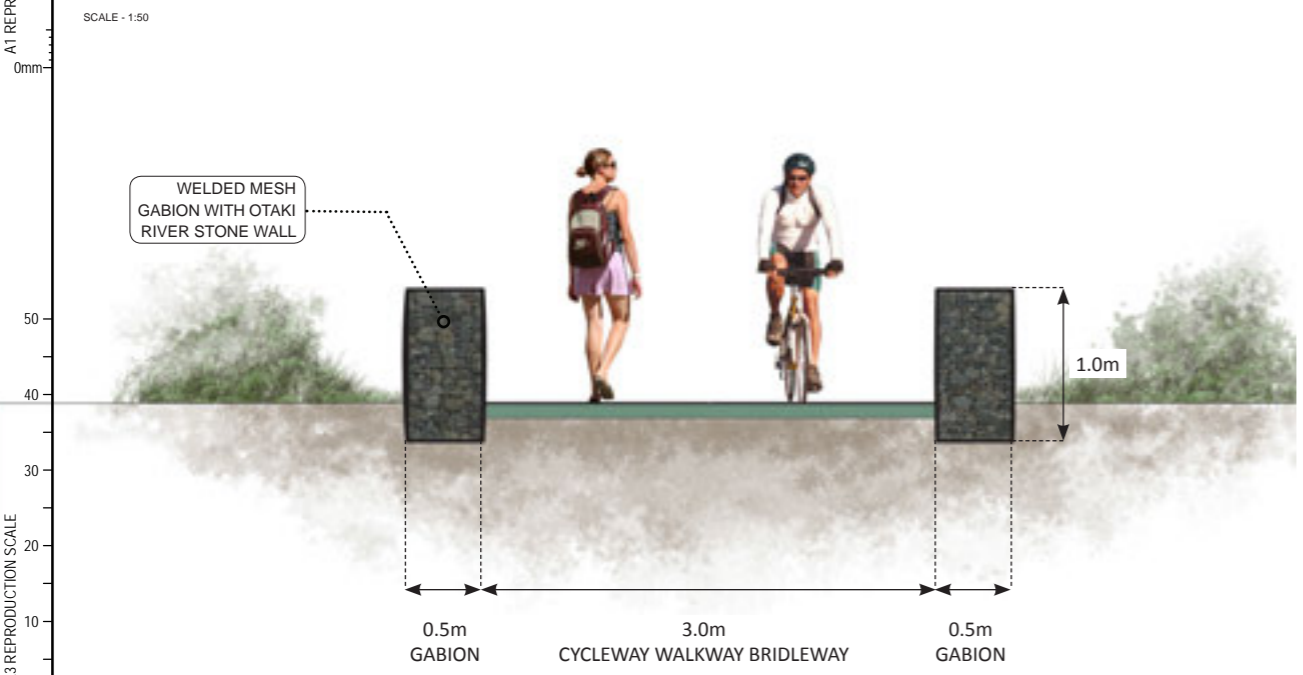
CS1 - TYPICAL CYCLEWAY SECTION
SCALE - 1:50



GROUND LEVEL VIEW OF CYCLEWAY ENTRANCE



CS2 - TYPE 1 CYCLEWAY ENTRANCE
SCALE - 1:50



A1 REPRODUCTION SCALE

A3 REPRODUCTION SCALE

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LJK	11/10/14	Approved For Construction?
AS SHOWN	Drawn	VB	11/10/14	Date
Reduced Scale (A3)	Design Verifier			
AS SHOWN	Design Check			

NZ TRANSPORT AGENCY
MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

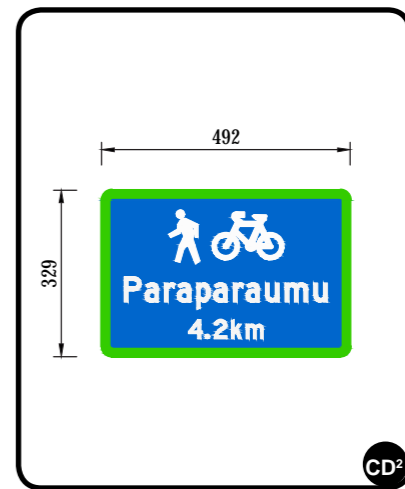
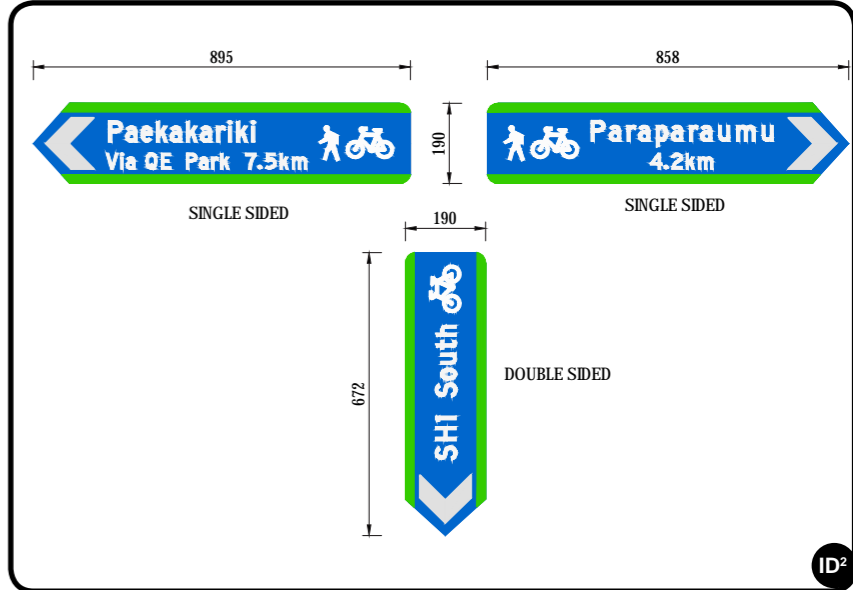
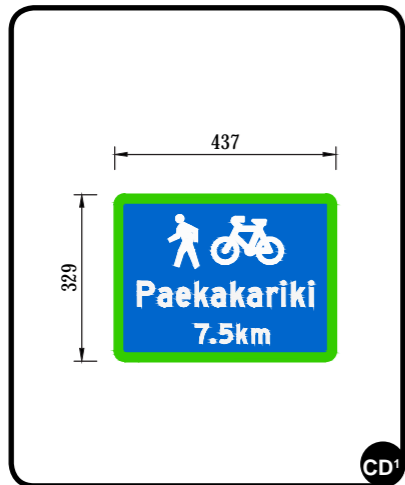
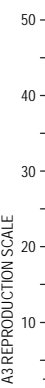
Title: SSMP 1 [320] - SHEET 14
CWB INTERSECTIONS

Drawing No: M2PP-121-D-DWG-8801

Rev: C

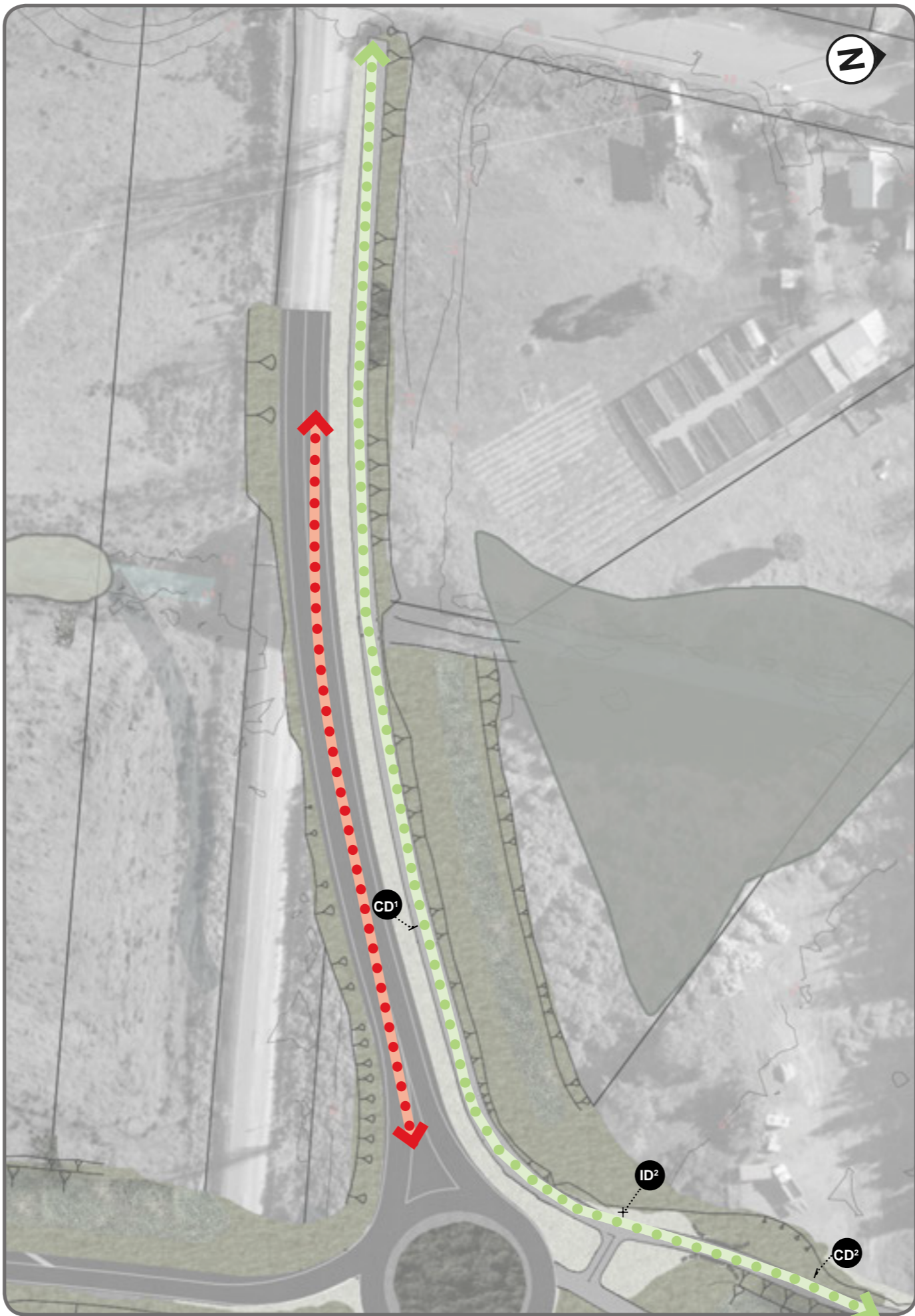
A1 REPRODUCTION SCALE

A3 REPRODUCTION SCALE



LEGEND

- CYCLWAY WALKWAY BRIDLEWAY
- EXISTING NETWORK
- LOCAL ROAD
- CROSSING POINT



No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LK	11/10/14	Approved For Construction*
AS SHOWN	Drawn	VB	11/10/14	Date
Reduced Scale (A3)	Design Checker			
AS SHOWN	Refer to Revision 1 for Original Signature			

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 1 [320] - SHEET 15
SIGNAGE LOCATION PLAN

Drawing No: M2PP-121-D-DWG-8902
Rev: C

DETAIL DESIGN (DET)

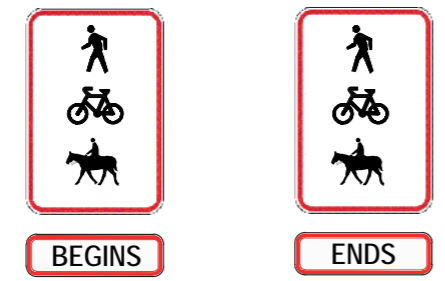
TYPICAL SIGN TYPES:

AI - ADVANCED INFO SIGNS

AT START OF ROUTE.
INCLUDES:
• MAP & INFO
• LENGTH & DURATION OF RIDE / WALK

AI - Advance Information Signs are not an essential requirement for public access tracks or cycle routes, nor are they standardised in terms of their design and layout. These signs may, if desired and appropriate, be installed at or near the start point of the route to provide detailed information, such as a map and information about the length and duration to ride etc. These signs should be clearly visible from the road, allowing cyclists and pedestrians a safe place to stop clear of the roadway or cycleway to read the information.

BE - BEGINNING AND ENDING SIGNS



BE - Begins/Ends Signs are used to indicate the start and/or end point of a cycle route. They will include route specific information. Route Begins Signs should be installed on the left hand side of the CWB immediately beyond or adjacent to any advance information sign or at a logical starting point for the cycle route.

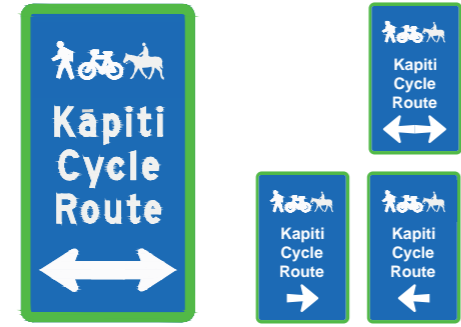
ID - INTERSECTION DIRECTION



ID - The Intersection Direction Sign is located at or as near as possible to the actual intersection. Should include both Information about the destination and the distance.

Multiple signs and destinations to be on one post

AD01 - ADVANCED DIRECTION SIGN - ON LOCAL ROAD APPROACHING CWB



AD - The purpose of the Advance Direction Sign is to give cyclists prior warning, to enable them to make decisions and, if necessary, place themselves in the best position to make any change in direction required before they reach the intersection. These signs should be used in any situation where the cyclist could easily miss making a required turn at an approaching intersection.

To occur 40-60m in advance of an intersection and should only include Information about the destination, not the distance.

CD - CONFIRMATION DIRECTION

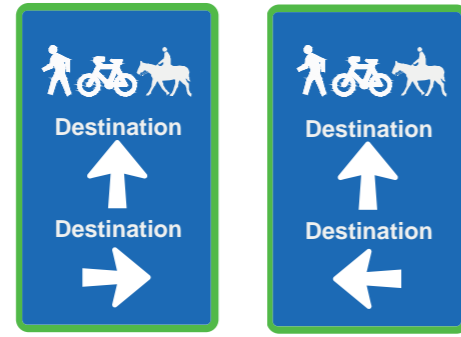


CD - The Confirmation Direction Sign is used to confirm the direction/ destination of travel after an intersection it is intended to provide assurance to cyclists. The CD sign features a straight ahead arrow and should include both Information about the destination and the distance.

As a general rule of thumb, these signs should be installed; between 20-50m beyond an intersection where an Advance Direction Sign has been used and should generally be visible from that intersection;

Cyclists should see a CD sign at least every 15-30 minutes of typical cyclist travel, or every 5-10 km.

AD - ADVANCED DIRECTION - ON CWB



AD - The purpose of the Advance Direction Sign is to give cyclists prior warning, to enable them to make decisions and, if necessary, place themselves in the best position to make any change in direction required before they reach the intersection. These signs should be used in any situation where the cyclist could easily miss making a required turn at an approaching intersection.

To occur 40-60m in advance of an intersection and should only include Information about the destination, not the distance.

LOCAL ROAD INTERSECTION SIGNS



LR + GW - Local road (LR) and Giveaway (GW) signs should to be used where the CWB crosses a local road. These are to be located at or as near as possible to the actual intersection. Where possible the LR should be kept to one per intersection and be able to be read by people on either side of the intersection. Both the LR and GW should share the same post and or be incorporated onto an existing post.

A1 REPRODUCTION SCALE

A3 REPRODUCTION SCALE

No.	Revision	By	Chk	Chk.V	Appd	Date
D	POST CERTIFICATION AMMENDMENT	MP				01/09/15
C	CERTIFIED ISSUE	VB				10/11/14

Original Scale (A1)	Design	LK	11/10/14	Approved For Construction?
NTS	Drawn	VB	11/10/14	Date
Ridroad Scale (A3)	Design Verifier			
NTS	Design Check			



Project	SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
	RP 1012/0.00 TO 1023/5.00

Title	SSMP 1 [320] - SHEET 16
	CWB SIGN TYPE SUMMARY

Drawing No.	M2PP-121-D-DWG-8901
Rev.	D

DETAIL DESIGN (DET)

Document No.

Best Practice Examples from Sector 460

Below are examples of successful dune rounding conducted in sector 460 (western side of alignment between approx. chainage 9700-10,000).



- Seamless blending with landforms beyond designation
- Rounding and gradients are a continuation of adjoining landforms



- Dune rounding at edge of boundary fits with existing profile
- Rounding and gradients are at a similar character and scale to surrounding landforms
- Horizontal shaping and undulation with similar character to surrounding dune context
- During dune rounding, form a positive fall across the earthworks and ensure there are no ruts, sags or ground depressions to avoid water collecting and potentially destabilising the slope.



- Natural appearance. Avoid uniform, engineered profiles.

ORIGINAL DRAWING
IN COLOUR
FOR CONSTRUCTION

- **This guidance does not negate the requirement for the landscape architect to sign off these works prior to spreading topsoil.**
- The obligation to round earthwork cuts in the dune country, avoiding a geometric engineered finish, is a requirement of the consent conditions, the UDLF and the LMP (see below).
- Ideally, this shaping should have been incorporated into the earthworks design model, for implementation on site via the Trimble system. However, inclusion of flowing contours proved unworkable in the MX model so it was agreed that 'on site' instruction by the Design Team with the Construction Team was the best approach.
- Earthworks in sector 460 have been completed to a standard that meets the consent design requirements. Consequently, the dune shaping in 460 (depicted at right) is the design standard for 'dune rounding' for the entire M2PP project.

Consent Conditions

Condition DC.57 b) The purpose of each SSLMP shall be to help ensure detailed landscape design of the Project accords with the principles set out in the Urban and Landscape Design Framework (Technical Report 5) in order to achieve the outcomes and standards required under Condition DC.53C, having regard to the local character and context and ecological conditions within each sector or stage of the route. SSLMPs are required for all sectors/stages of the Expressway.

Condition DC.57 f) Each SSLMP shall include details of landscape design, including the following matters:
xi) Consideration of:
A. The landforms and character, including streams;

UDLF(Urban Design and Landscape Framework)

The dunes are the 'signature' landforms encountered along the Expressway corridor. In the first instance the route alignment seeks to avoid significant dunes if possible. However, loss or modification of some dunes will be inevitable in places given the confined corridor available and the scale of the Expressway footprint. Integrating the Expressway linear form into the dune landforms is a key design objective.

Design Concept
The dune forms and other natural landform features have been avoided as best they can in the alignment of the Expressway. However, the Expressway will create change to landforms and the approach will be to 'naturalise' the changes as far as practicable, to integrate those changes with local topographical patterns.

- Design Principles**
The following principles will apply to the landform design:
3. Design or modify landforms to acknowledge and reflect the local topographical pattern (scale, orientation, profile).
 5. Shape (roll off) the tops of cut/ fill faces so the faces integrate with the existing dune profiles as far as practicable and minimise risk of water and wind erosion.
 6. Shape visual and noise mitigation bunds to appear as 'natural' landform, avoiding engineered appearances unless these forms are a component of a designed 'land art' formation.

LMP(Landscape Management Plan)

Attachment 2: Principles, Methods and Procedures (pg.6)
Ensure finished earthworks physically and visually relate to adjoining landforms and that they reflect the Design Principles as set out in the Urban and Landscape Design Framework.

- Shape noise and visual mitigation bunds to appear as 'natural' landforms where practicable.
- Avoid unnecessary disturbance to natural landforms.
- Re-shaping of dunes to achieve a 'natural' appearance is likely to require extending earthworks into surrounding topography.

A1 REPRODUCTION SCALE
0mm
20
40
60
80
100
A3 REPRODUCTION SCALE
0mm
10
20
30
40

No.	Revision	By	Chk	CHK.V	Appd	Date
2	REVISED BASED ON GEOTECHNICAL INPUT	MP	MP	BF	DIS	07.08.14
1	FOR CONSTRUCTION	MP	GFB	DH	DC	07.05.14

Original Scale (A1)	Design	Drawn	Date	Approved For Construction
NTS	B FAULKNER	V BILLETT	24.04.14	P BRADSHAW
Reduced Scale (A3)	Dwg Verifier	B EVANS	05.05.14	Date 09.05.14
NTS	Dwg Check	G F B	05.05.14	

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY
WAKA KOTAHAI
MacKays to Peka Peka
Wellington Northern Corridor

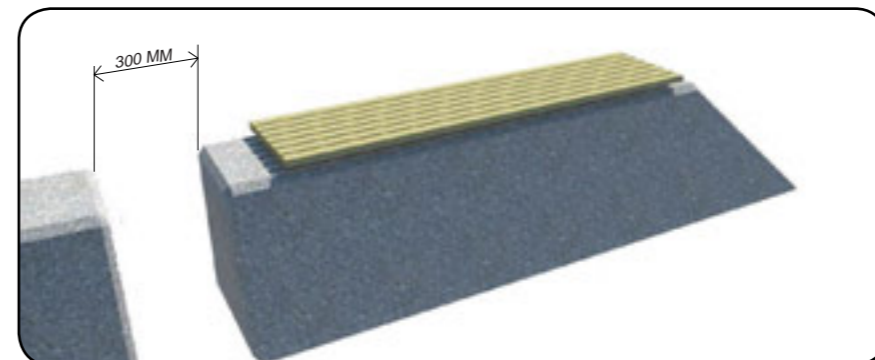
Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: STANDARD DETAILS
DUNE ROUNDING DETAIL

Drawing No: M2PP-23R-D-DWG-8904
Rev: 2

CYCLEWAY ENTRANCE TYPE 1 - TYPICAL PLAN

SCALE - 1:150 @ A3



HARDWOOD TIMBER SLAT SEAT



HARDWOOD TIMBER SLAT SEAT EXAMPLE

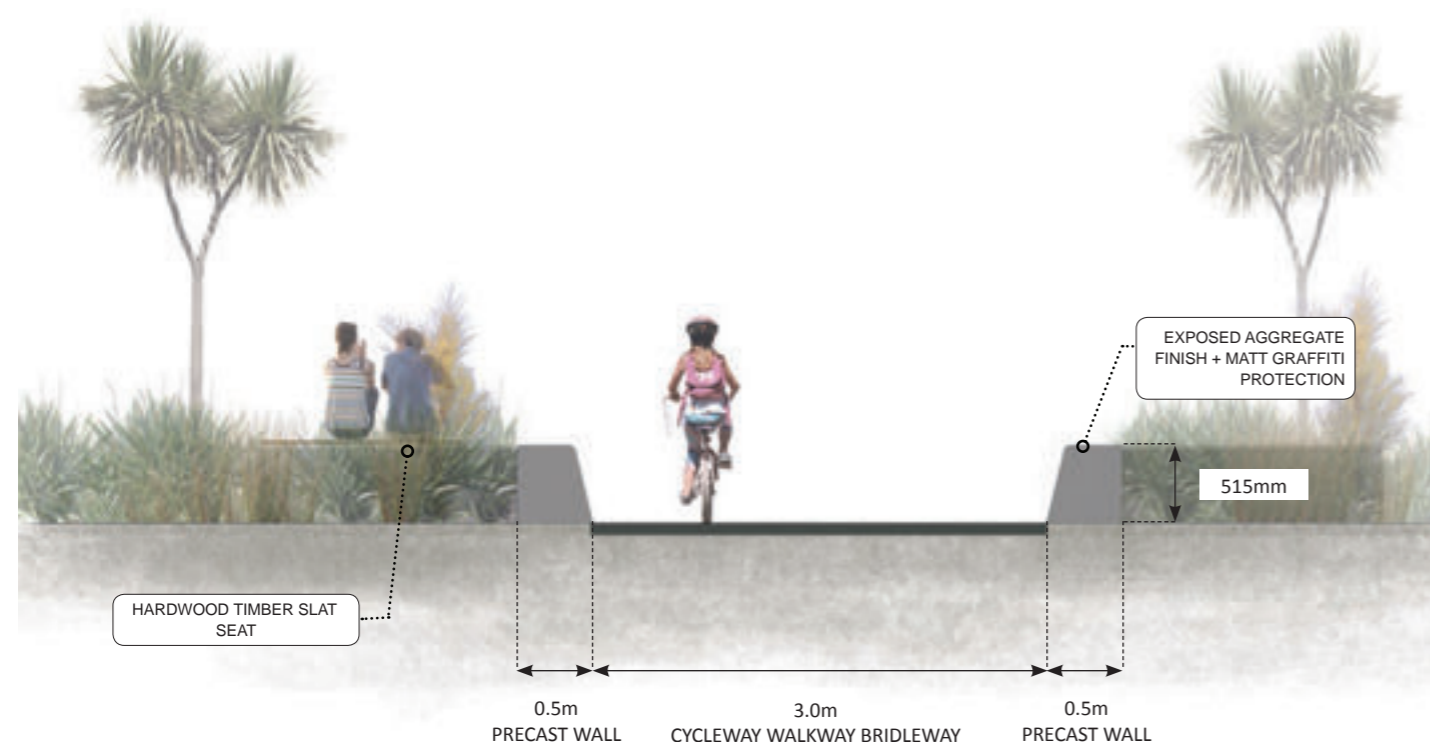
GROUND LEVEL VIEW OF TYPICAL TYPE 1 CYCLEWAY ENTRANCE



CS1 - CYCLEWAY ENTRANCE TYPE 1 - TYPICAL SECTION

SCALE - 1:50 @ A3

A3 REPRODUCTION SCALE



No.	Revision	By	Chk	Chk.V	Appd	Date
A	POST CERTIFICATION ISSUE	FB				01.09.15

Original Scale (A1)	Design	FB	01.09.15	Approved For Construction*
Reduced Scale (A3)	Drawn	MP	01.09.15	
	Design Verifier			
	Design Check			

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY
WAIKA KOTAHAE

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

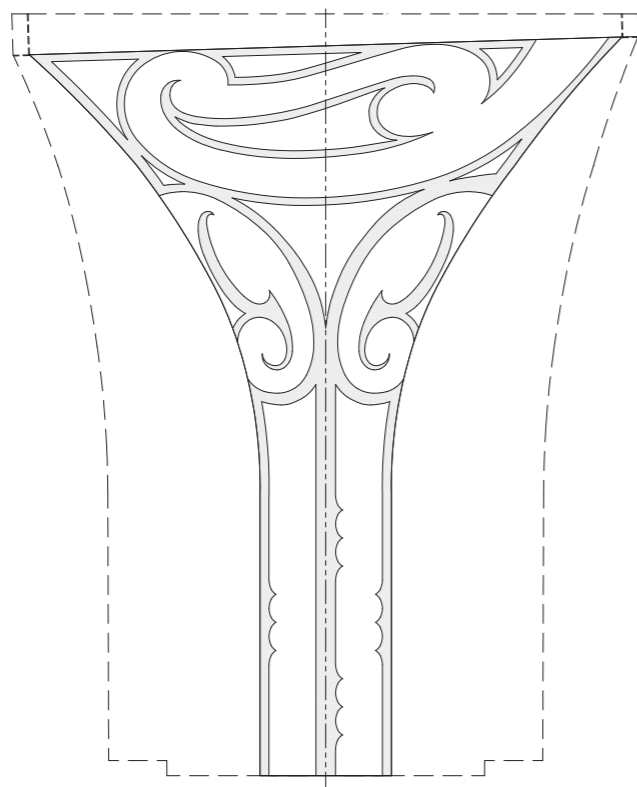
Title: SSMP 1 [320] - SHEET18
TYPE 1 CWB ENTRANCE DETAIL

Drawing No: M2PP-121-D-DWG-8802

Rev. A

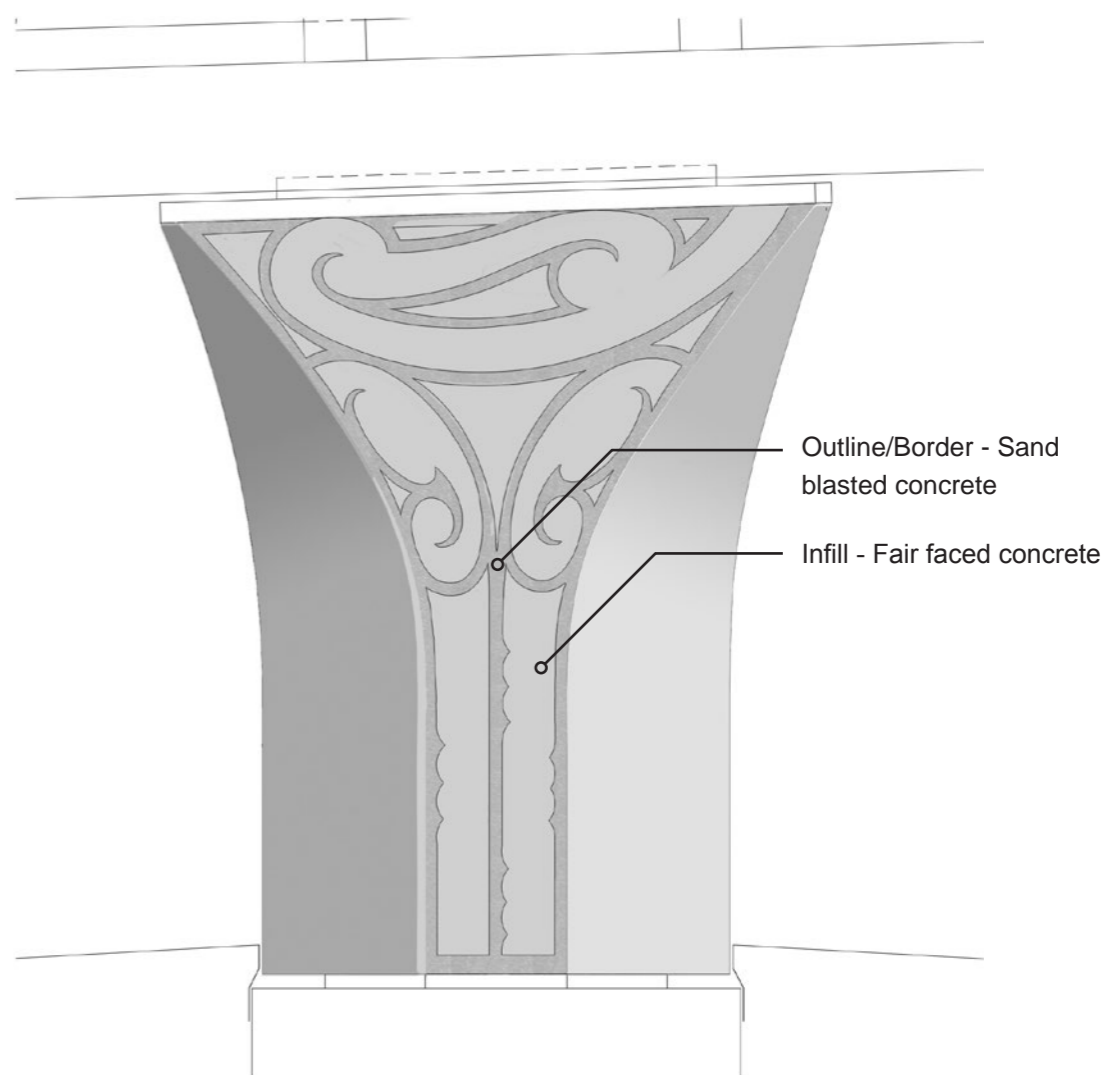
COLUMN TREATMENT - VECTOR DRAWING FOR STENCIL SETOUT

SCALE - 1:50 @ A3



COLUMN TREATMENT - RENDERED IMPRESSION

SCALE - 1:50 @ A3



A1 REPRODUCTION SCALE
0mm 20 40 60 80 100

A3 REPRODUCTION SCALE
0mm 10 20 30 40 50

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
A	POST CERTIFICATION ISSUE	FB				01.09.15

Original Scale (A1)	Design	FB	01.09.15	Approved For Construction*
Reduced Scale (A3)	Drawn	MP	01.09.15	Date
	Design Verifier			
	Design Check			
* Refer to Revision 1 for Original Signature				



Project:	SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00
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Title:	SSMP 1 [320] - SHEET19 TE ATIAWA COLUMN DESIGN
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Drawing No:	M2PP-121-D-DWG-8803
-------------	---------------------


Rev.	A
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VEGETATION TO BE RETAINED

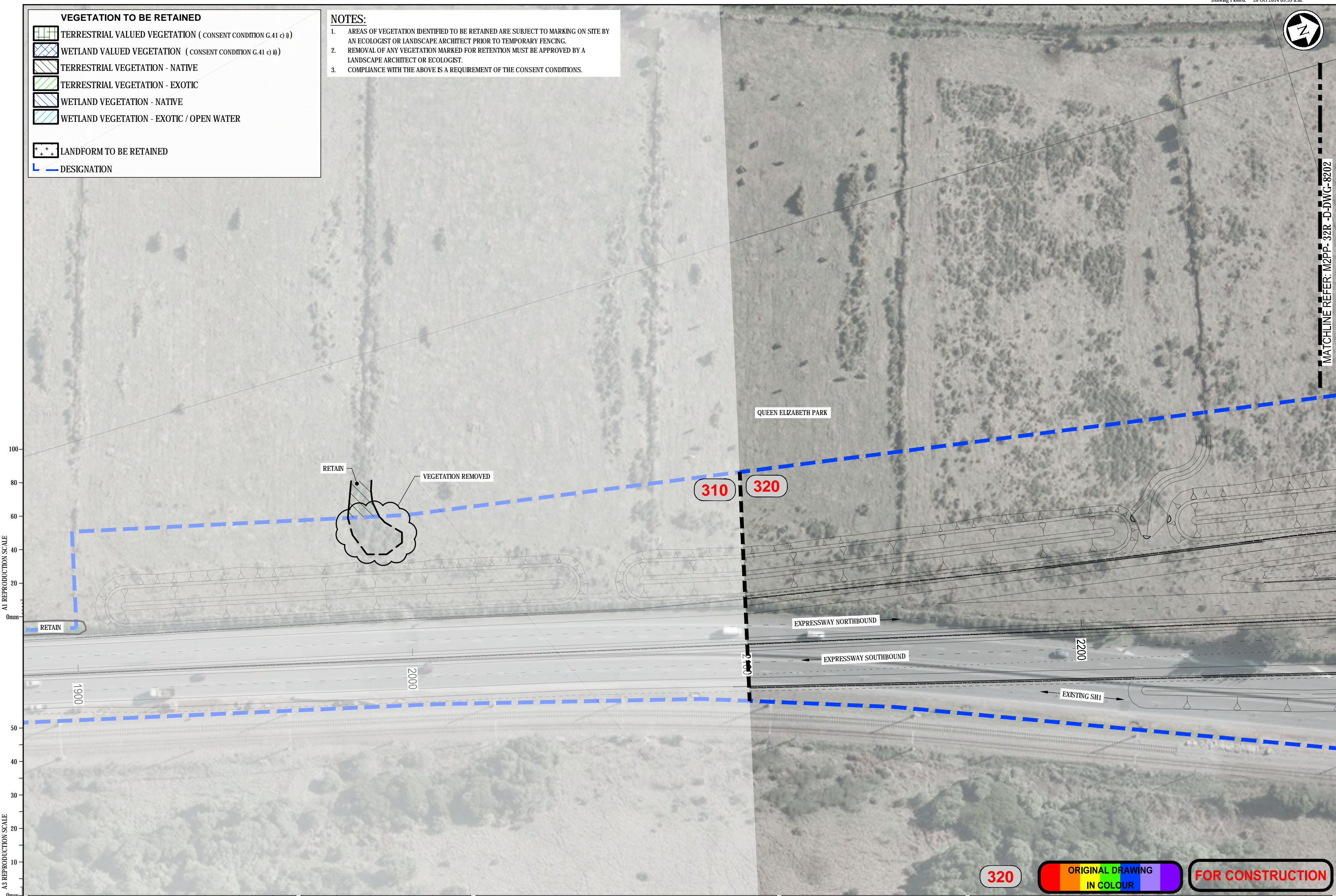
-  TERRESTRIAL VALUED VEGETATION (CONSENT CONDITION G.41 c) i)
-  WETLAND VALUED VEGETATION (CONSENT CONDITION G.41 c) ii)
-  TERRESTRIAL VEGETATION - NATIVE
-  TERRESTRIAL VEGETATION - EXOTIC
-  WETLAND VEGETATION - NATIVE
-  WETLAND VEGETATION - EXOTIC / OPEN WATER

 LANDFORM TO BE RETAINED

 DESIGNATION

NOTES:

1. AREAS OF VEGETATION IDENTIFIED TO BE RETAINED ARE SUBJECT TO MARKING ON SITE BY AN ECOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO TEMPORARY FENCING.
2. REMOVAL OF ANY VEGETATION MARKED FOR RETENTION MUST BE APPROVED BY A LANDSCAPE ARCHITECT OR ECOLOGIST.
3. COMPLIANCE WITH THE ABOVE IS A REQUIREMENT OF THE CONSENT CONDITIONS.



A1 REPRODUCTION SCALE
0mm

A3 REPRODUCTION SCALE
0mm

No.	Revision	By	Chk	Chk-V	Appd	Date
4	FOR CONSTRUCTION - REVISED AS NOTED	MP	GFB	DH	DC	24.10.14
3	FOR KCDC CERTIFICATION - REVISED AS NOTED	MP	GFB	DH	DC	23.05.14
2	FOR KCDC CERTIFICATION - REVISED AS NOTED	MP	GFB	DH	DC	21.05.14
1	FOR CONSTRUCTION	MP	WGH	DH	SW	13.11.13

Original Scale (A1)	Design	Drawn	Design Date	Approved For Construction
1:500	B FAULKNER	M POWELL	19.09.13	P BRADSHAW
Reduced Scale (A3)	Design Check	Date		
1:1000	W HOLCROFT	13.11.13	Date 15.11.13	

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY
WAIKA KOTAHU

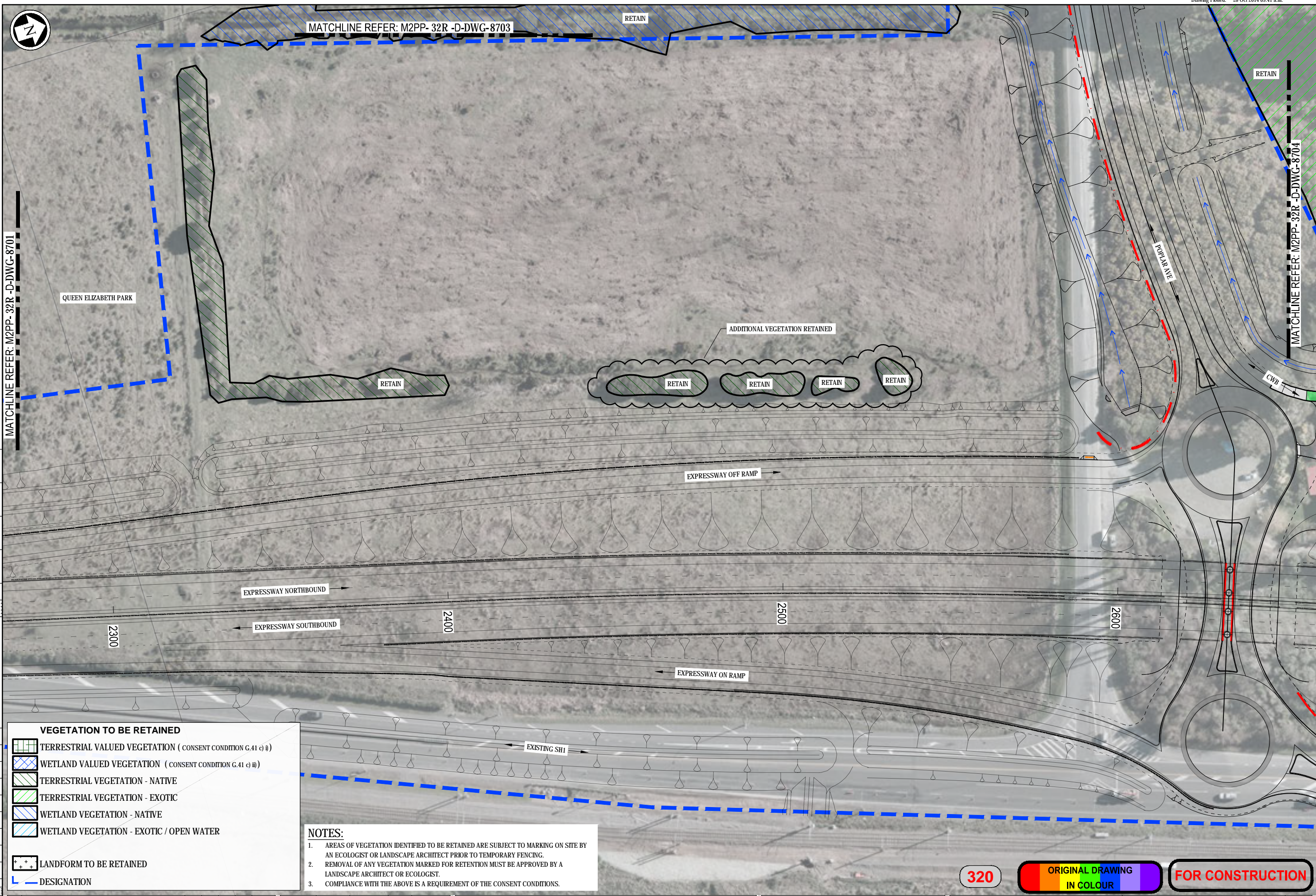
MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: POPLAR AVE INTERCHANGE VEGETATION TO BE RETAINED SHEET 1

Drawing No: M2PP-32R-D-DWG-8701
Rev: 4

320 ORIGINAL DRAWING IN COLOUR FOR CONSTRUCTION



MATCHLINE REFER: M2PP-32R-D-DWG-8701

MATCHLINE REFER: M2PP-32R-D-DWG-8704

A1 REPRODUCTION SCALE
0mm 20 40 60 80 100

A3 REPRODUCTION SCALE
0mm 10 20 30 40 50

VEGETATION TO BE RETAINED						
	TERRESTRIAL VALUED VEGETATION (CONSENT CONDITION G.41 c) i)					
	WETLAND VALUED VEGETATION (CONSENT CONDITION G.41 c) ii)					
	TERRESTRIAL VEGETATION - NATIVE					
	TERRESTRIAL VEGETATION - EXOTIC					
	WETLAND VEGETATION - NATIVE					
	WETLAND VEGETATION - EXOTIC / OPEN WATER					
	LANDFORM TO BE RETAINED					
	DESIGNATION					

NOTES:

- AREAS OF VEGETATION IDENTIFIED TO BE RETAINED ARE SUBJECT TO MARKING ON SITE BY AN ECOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO TEMPORARY FENCING.
- REMOVAL OF ANY VEGETATION MARKED FOR RETENTION MUST BE APPROVED BY A LANDSCAPE ARCHITECT OR ECOLOGIST.
- COMPLIANCE WITH THE ABOVE IS A REQUIREMENT OF THE CONSENT CONDITIONS.

No.	Revision	By	Chk	Chk-V	Appd	Date
3	FOR CONSTRUCTION - REVISED AS NOTED	MP	GFB	DH	DC	24.10.14
2	FOR KCDC CERTIFICATION - REVISED AS NOTED	MP	GFB	DH	DC	21.05.14
1	FOR CONSTRUCTION	MP	WGH	DH	SW	13.11.13

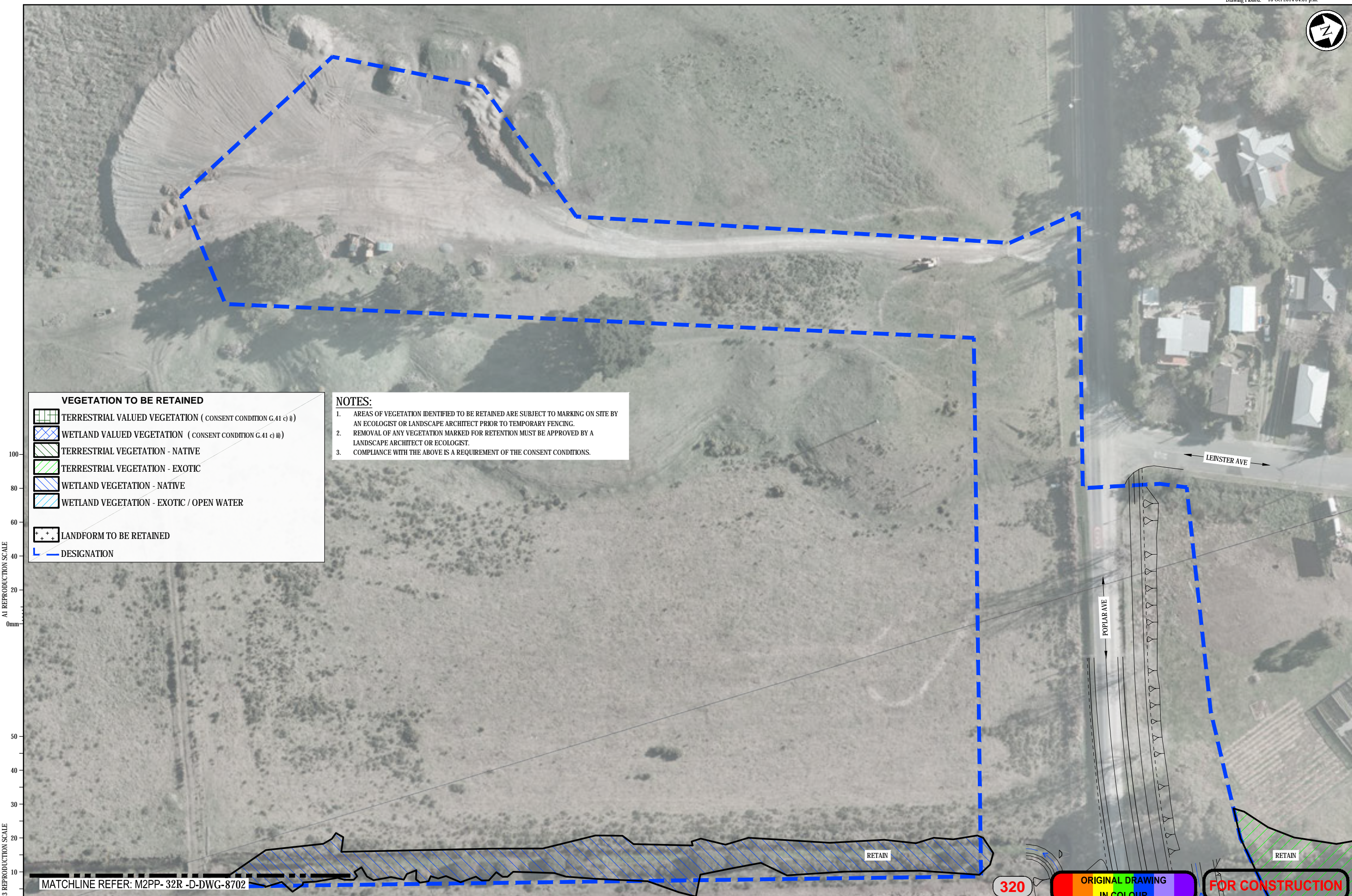
Original Scale (A1)	Design	Drawn	Checked	Date	Approved For Construction
1:500	B FAULKNER	M POWELL	P BRADSHAW	19.09.13	
Reduced Scale (A3)	Dwg Verifier	Dwg Check	Date		
1:1000	B EVANS	W HOLCROFT	13.11.13	15.11.13	

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

320 ORIGINAL DRAWING IN COLOUR FOR CONSTRUCTION

Title: POPLAR AVE INTERCHANGE VEGETATION TO BE RETAINED SHEET 2

Drawing No: M2PP-32R-D-DWG-8702 Rev: 3



VEGETATION TO BE RETAINED

	TERRESTRIAL VALUED VEGETATION (CONSENT CONDITION G.41 c) ii)
	WETLAND VALUED VEGETATION (CONSENT CONDITION G.41 c) iii)
	TERRESTRIAL VEGETATION - NATIVE
	TERRESTRIAL VEGETATION - EXOTIC
	WETLAND VEGETATION - NATIVE
	WETLAND VEGETATION - EXOTIC / OPEN WATER
	LANDFORM TO BE RETAINED
	DESIGNATION

NOTES:

1. AREAS OF VEGETATION IDENTIFIED TO BE RETAINED ARE SUBJECT TO MARKING ON SITE BY AN ECOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO TEMPORARY FENCING.
2. REMOVAL OF ANY VEGETATION MARKED FOR RETENTION MUST BE APPROVED BY A LANDSCAPE ARCHITECT OR ECOLOGIST.
3. COMPLIANCE WITH THE ABOVE IS A REQUIREMENT OF THE CONSENT CONDITIONS.

A1 REPRODUCTION SCALE
0mm

A3 REPRODUCTION SCALE
0mm

MATCHLINE REFER: M2PP- 32R -D-DWG-8702

No.	Revision	By	Chk	Chk.V	Appd	Date
2	FOR CONSTRUCTION - NO CHANGE IFC	MP	WCH			24.10.14
1	FOR CONSTRUCTION	MP	WCH	SW		13.11.13

Original Scale (A1)	Design	Drawn	Checked	Approved For Construction
1:500	B FAULKNER 19.09.13	M POWELL 19.09.13	P BRADSHAW 12.11.13	
Reduced Scale (A3)	Dwg Verifier	Dwg Check	Date	
1:1000	W HOLCROFT 13.11.13	15.11.13		

* Refer to Revision 1 for Original Signature

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: POPLAR AVE INTERCHANGE
VEGETATION TO BE RETAINED
SHEET 3

Drawing No: M2PP-32R-D-DWG-8703
Rev: 2

320

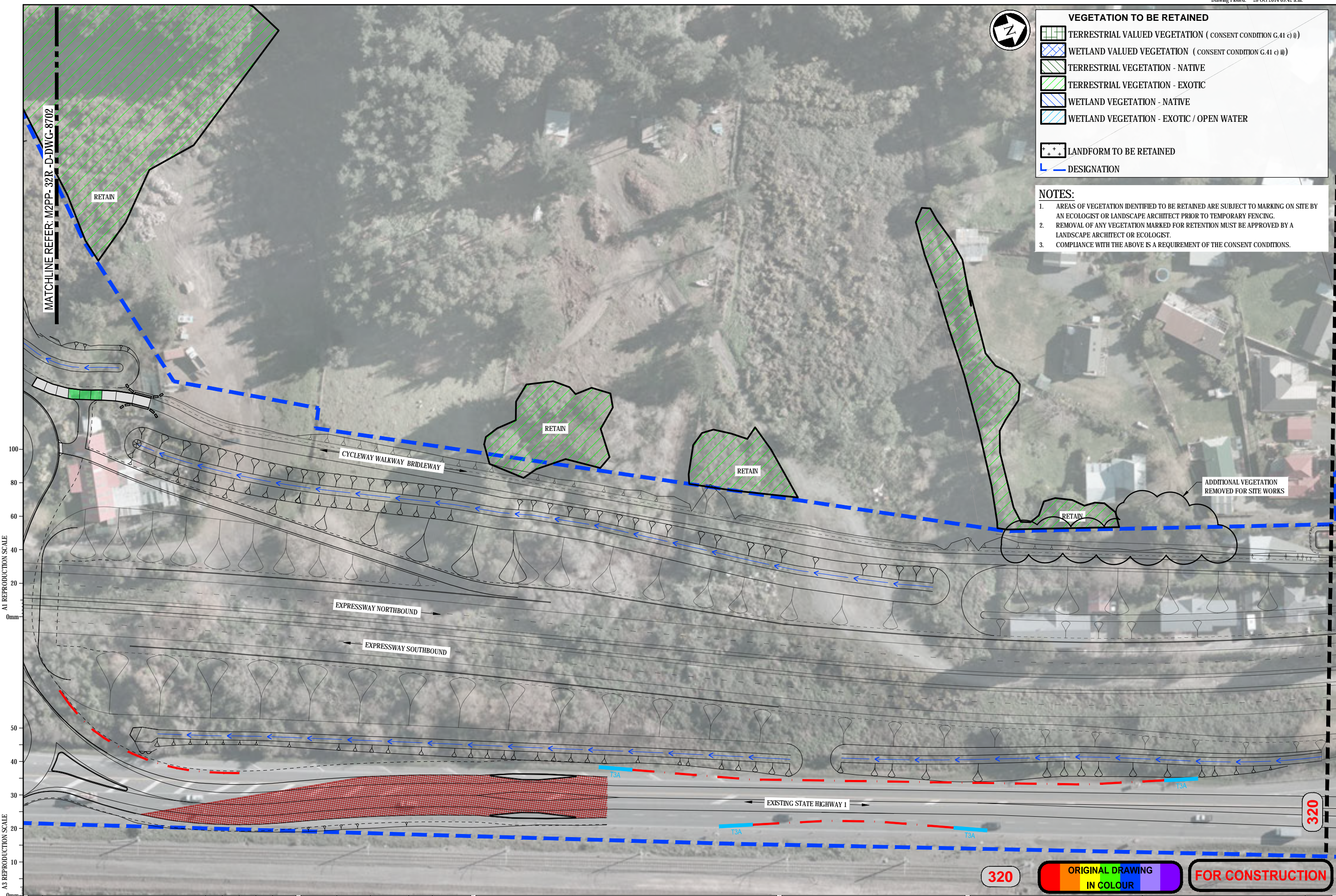
ORIGINAL DRAWING
IN COLOUR

FOR CONSTRUCTION



VEGETATION TO BE RETAINED	
	TERRESTRIAL VALUED VEGETATION (CONSENT CONDITION G.41 c) i)
	WETLAND VALUED VEGETATION (CONSENT CONDITION G.41 c) ii)
	TERRESTRIAL VEGETATION - NATIVE
	TERRESTRIAL VEGETATION - EXOTIC
	WETLAND VEGETATION - NATIVE
	WETLAND VEGETATION - EXOTIC / OPEN WATER
	LANDFORM TO BE RETAINED
	DESIGNATION

- NOTES:**
- AREAS OF VEGETATION IDENTIFIED TO BE RETAINED ARE SUBJECT TO MARKING ON SITE BY AN ECOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO TEMPORARY FENCING.
 - REMOVAL OF ANY VEGETATION MARKED FOR RETENTION MUST BE APPROVED BY A LANDSCAPE ARCHITECT OR ECOLOGIST.
 - COMPLIANCE WITH THE ABOVE IS A REQUIREMENT OF THE CONSENT CONDITIONS.



A1 REPRODUCTION SCALE
0mm 100 80 60 40 20

A3 REPRODUCTION SCALE
0mm 10 20 30 40 50

No.	Revision	By	Chk	Chk-V	Appd	Date
2	FOR CONSTRUCTION - REVISED AS NOTED	MP	GFB	DH	DC	24.10.14
1	FOR CONSTRUCTION	MP	WCH	DH	SW	13.11.13

Original Scale (A1)	Design	Drawn	Date	Approved For Construction
1:500	B FAULKNER	M POWELL	19.09.13	P BRADSHAW
Reduced Scale (A3)	Dwg Verifier	B EVANS	12.11.13	
1:1000	Dwg Check	W HOLCROFT	13.11.13	Date 15.11.13

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: POPLAR AVE INTERCHANGE
VEGETATION TO BE RETAINED
SHEET 4

Drawing No:	M2PP-32R-D-DWG-8704	Rev:	2
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320

ORIGINAL DRAWING
IN COLOUR

FOR CONSTRUCTION



KEY

MP MASSED PLANTING	TF TREES - FORESTRY GRADE	GL GRASS - LOW	WP WETLAND PLANTING
ML MASSED PLANTING - LOW	TS TREES - SPECIMEN GRADE	GS GRASS - SWALE	RP RIPARIAN PLANTING
MT MASSED PLANTING - TREE ENRICHMENT	TP TREES - POLE GRADE	GR GRASS - ROUGH	
MS MASSED PLANTING - SWALE	^ TREE WIND SHELTER		
PLANTING TYPE PLANTING MIX AREA CODE PLANTING BOUNDARY ASSOCIATED SHEET NUMBER	EXISTING VEGETATION TO BE RETAINED	DESIGNATION	

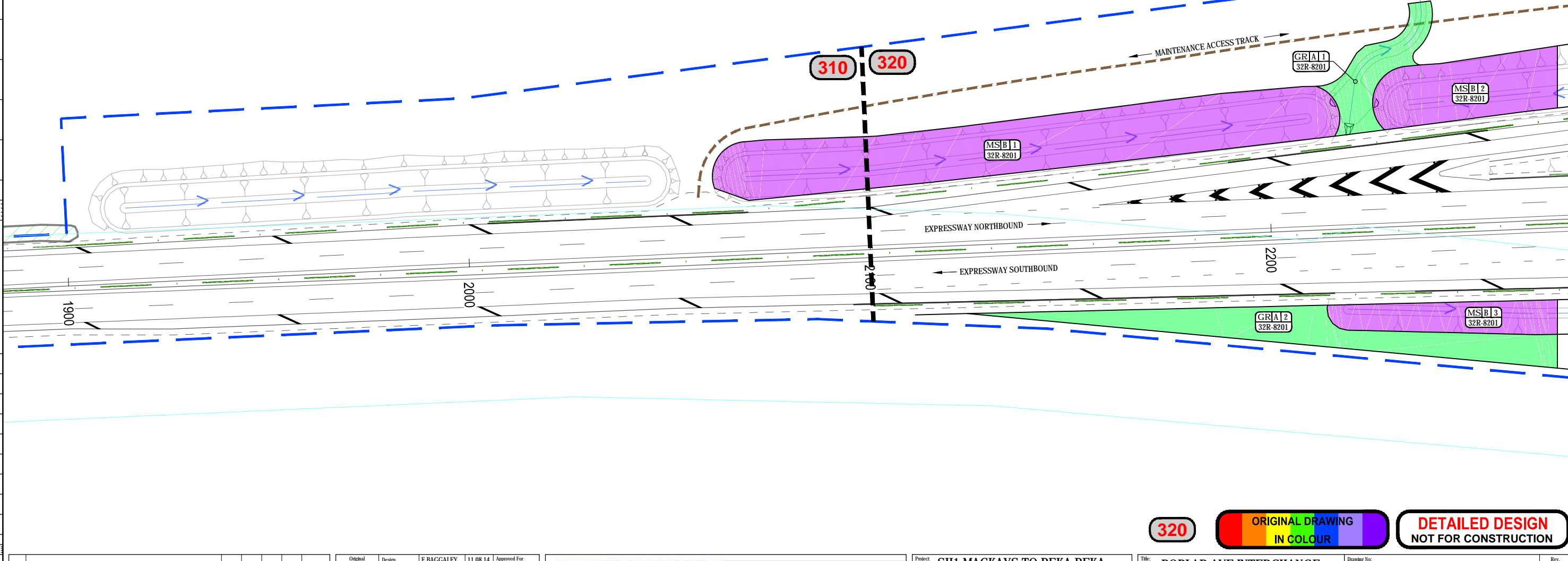
QUEEN ELIZABETH PARK

NOTES:

- REFER TO PLANTING SCHEDULES (8211) FOR PLANT MIX DETAILS.
- REFER TO STANDARD PLANTING DETAILS (8900 SERIES) FOR PLANTING DETAIL.
- A 1.5m OFFSET FROM THE VERGE HAS BEEN MADE TO ACCOMMODATE THE EXTENT OF SUBBASE. THE ACTUAL OFFSET IS TO BE CONFIRMED ON SITE.

A1 REPRODUCTION SCALE

A3 REPRODUCTION SCALE



MATCHLINE REFER: M2PP-32R-D-DWG-8202

No.	Revision	By	Chk	Chk-V	Appd	Date
A	FOR DETAILED DESIGN	MP	GFB	DH	DC	24.10.14

Original Scale (A1)	Design	F BAGGLEY	11.08.14	Approved For Construction*
1:500	Drawn	M. POWELL	11.08.14	
Reduced Scale (A3)	Dwg Verifier	B EVANS	24.10.14	
1:1000	Dwg Check	G F-B	24.10.14	Date

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: POPLAR AVE INTERCHANGE PLANTING PLAN SHEET 1

Drawing No: M2PP-32R-D-DWG-8201 Rev: A

320 ORIGINAL DRAWING IN COLOUR DETAILED DESIGN NOT FOR CONSTRUCTION

MATCHLINE REFER: M2PP- 32R -D-DWG-8204

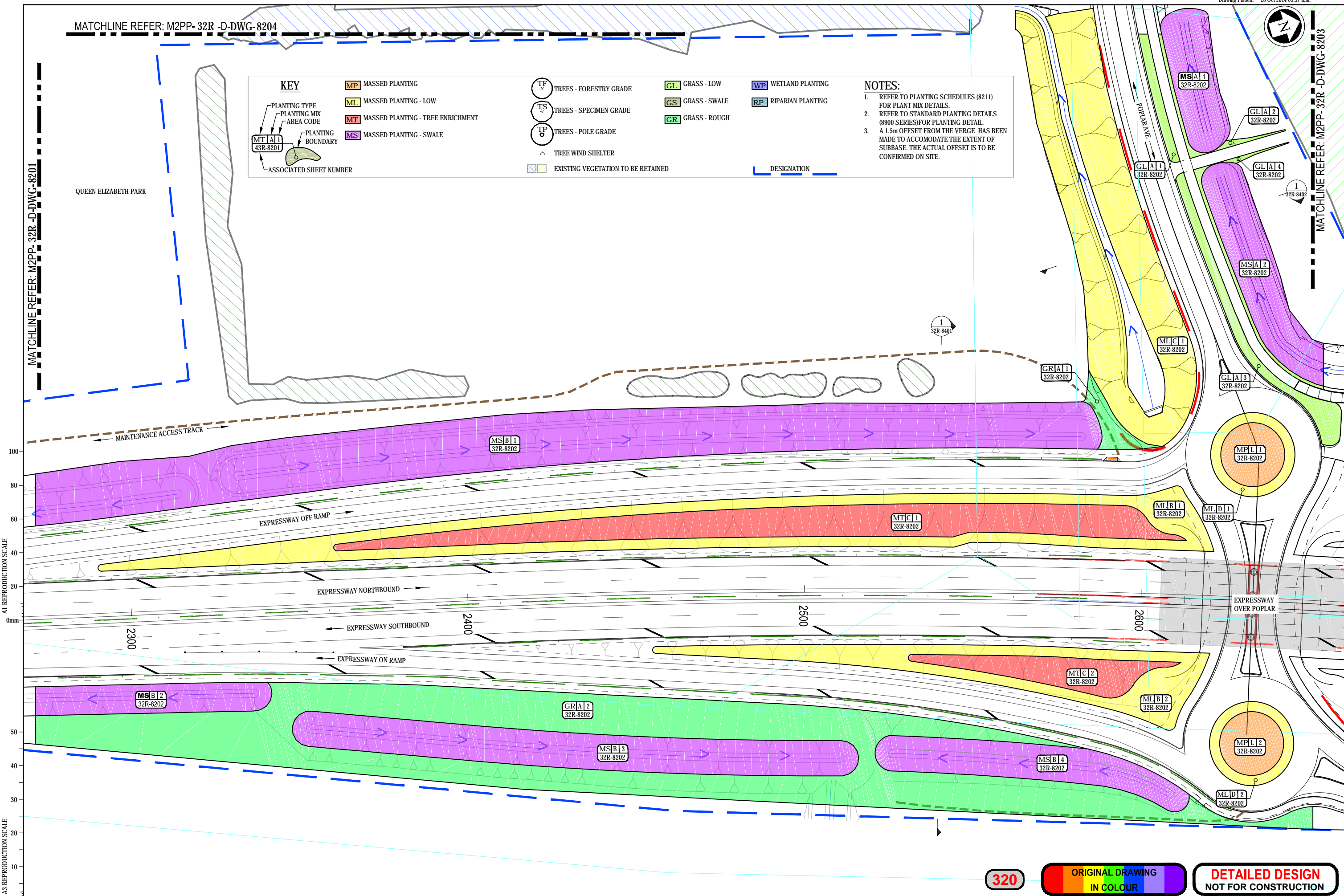
MATCHLINE REFER: M2PP- 32R -D-DWG-8203

KEY

PLANTING TYPE PLANTING MIX AREA CODE	MASSED PLANTING	TREES - FORESTRY GRADE	GRASS - LOW	WETLAND PLANTING
PLANTING BOUNDARY	MASSED PLANTING - LOW	TREES - SPECIMEN GRADE	GRASS - SWALE	RIPARIAN PLANTING
ASSOCIATED SHEET NUMBER	MASSED PLANTING - TREE ENRICHMENT	TREES - POLE GRADE	GRASS - ROUGH	
	MASSED PLANTING - SWALE	TREE WIND SHELTER		
		EXISTING VEGETATION TO BE RETAINED		DESIGNATION

NOTES:

- REFER TO PLANTING SCHEDULES (8211) FOR PLANT MIX DETAILS.
- REFER TO STANDARD PLANTING DETAILS (8900 SERIES) FOR PLANTING DETAIL.
- A 1.5m OFFSET FROM THE VERGE HAS BEEN MADE TO ACCOMMODATE THE EXTENT OF SUBBASE. THE ACTUAL OFFSET IS TO BE CONFIRMED ON SITE.



MATCHLINE REFER: M2PP- 32R -D-DWG-8201

A1 REPRODUCTION SCALE

A3 REPRODUCTION SCALE

No.	Revision	By	Chk	Chk-V	Appd	Date
A	FOR DETAILED DESIGN	MP	GFB	DH	DC	24.10.14

Original Scale (A1)	Design	Drawn	Date	Approved For Construction*
1:500	F BAGGLEY	M. POWELL	11.08.14	
Reduced Scale (A3)	Dwg Verifier	B EVANS	24.10.14	
1:1000	Dwg Check	C F-B	24.10.14	

* Refer to Revision 1 for Original Signature

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

320 ORIGINAL DRAWING IN COLOUR DETAILED DESIGN NOT FOR CONSTRUCTION

Title: POPLAR AVE INTERCHANGE PLANTING PLAN SHEET 2	Drawing No: M2PP-32R-D-DWG-8202	Rev: A
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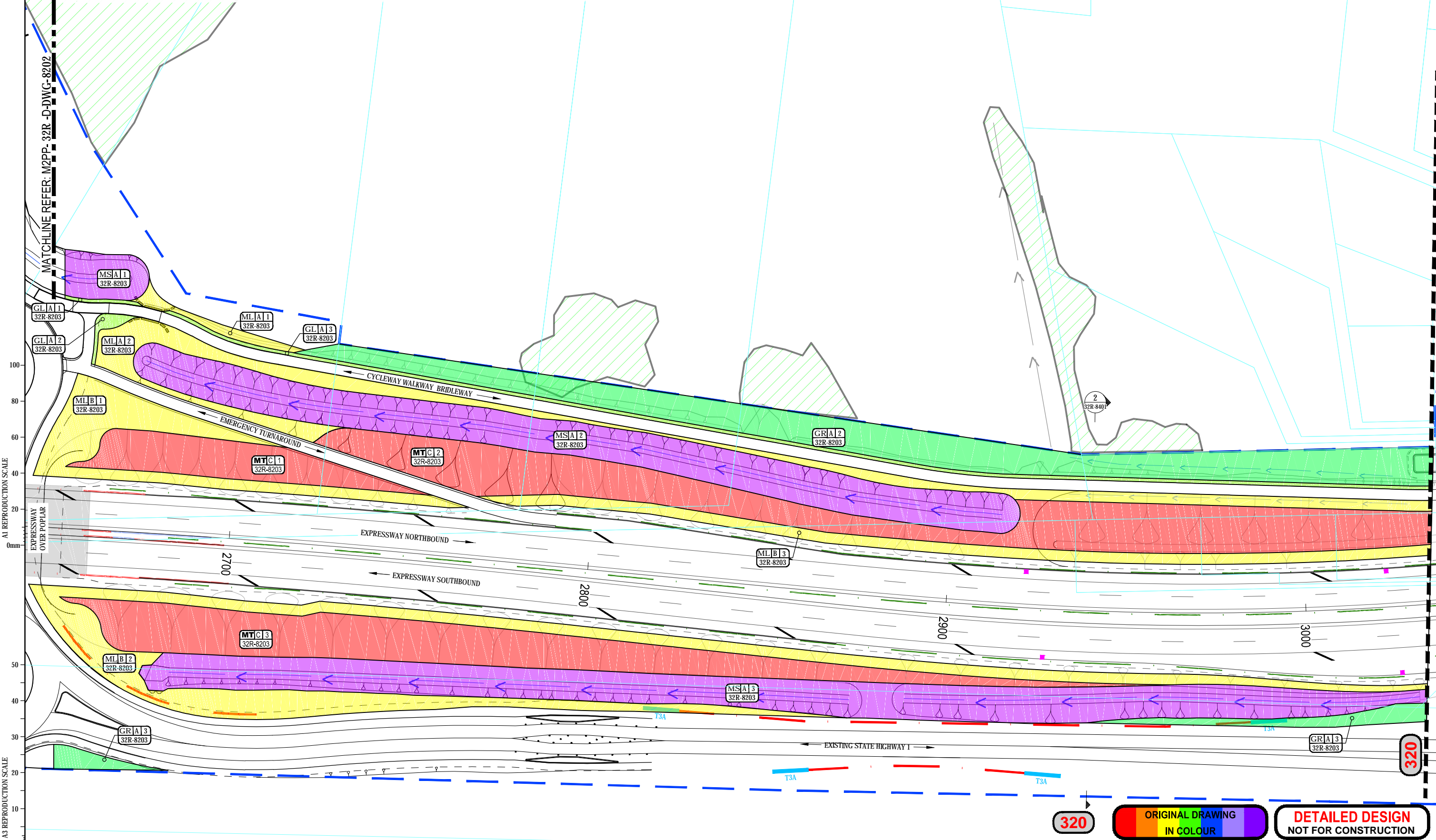
KEY

MT MASSES PLANTING - TREE ENRICHMENT	TF TREES - FORESTRY GRADE	GL GRASS - LOW	WP WETLAND PLANTING
ML MASSES PLANTING - LOW	TS TREES - SPECIMEN GRADE	GS GRASS - SWALE	RP RIPARIAN PLANTING
MS MASSES PLANTING - SWALE	TP TREES - POLE GRADE	GR GRASS - ROUGH	
TREE WIND SHELTER	EXISTING VEGETATION TO BE RETAINED		

DESIGNATION

NOTES:

- REFER TO PLANTING SCHEDULES (8211) FOR PLANT MIX DETAILS.
- REFER TO STANDARD PLANTING DETAILS (8900 SERIES) FOR PLANTING DETAIL.
- A 1.5m OFFSET FROM THE VERGE HAS BEEN MADE TO ACCOMMODATE THE EXTENT OF SUBBASE. THE ACTUAL OFFSET IS TO BE CONFIRMED ON SITE.



A1 REPRODUCTION SCALE
0mm

A3 REPRODUCTION SCALE
0mm

No.	Revision	By	Chk	Chk-V	Appd	Date
A	FOR DETAILED DESIGN	MP	GFB	DH	DC	24.10.14

Original Scale (A1)	1:500	Design	F BAGGLEY	11.08.14	Approved For Construction*
Reduced Scale (A3)	1:1000	Drawn	M. POWELL	11.08.14	
		Dwg Checker	B EVANS	24.10.14	Date
		Dwg Check	C F-B	24.10.14	Date

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY
WAIKA KOTAHU

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: POPLAR AVE INTERCHANGE PLANTING PLAN SHEET 3

Drawing No: M2PP-32R-D-DWG-8203
Rev: A

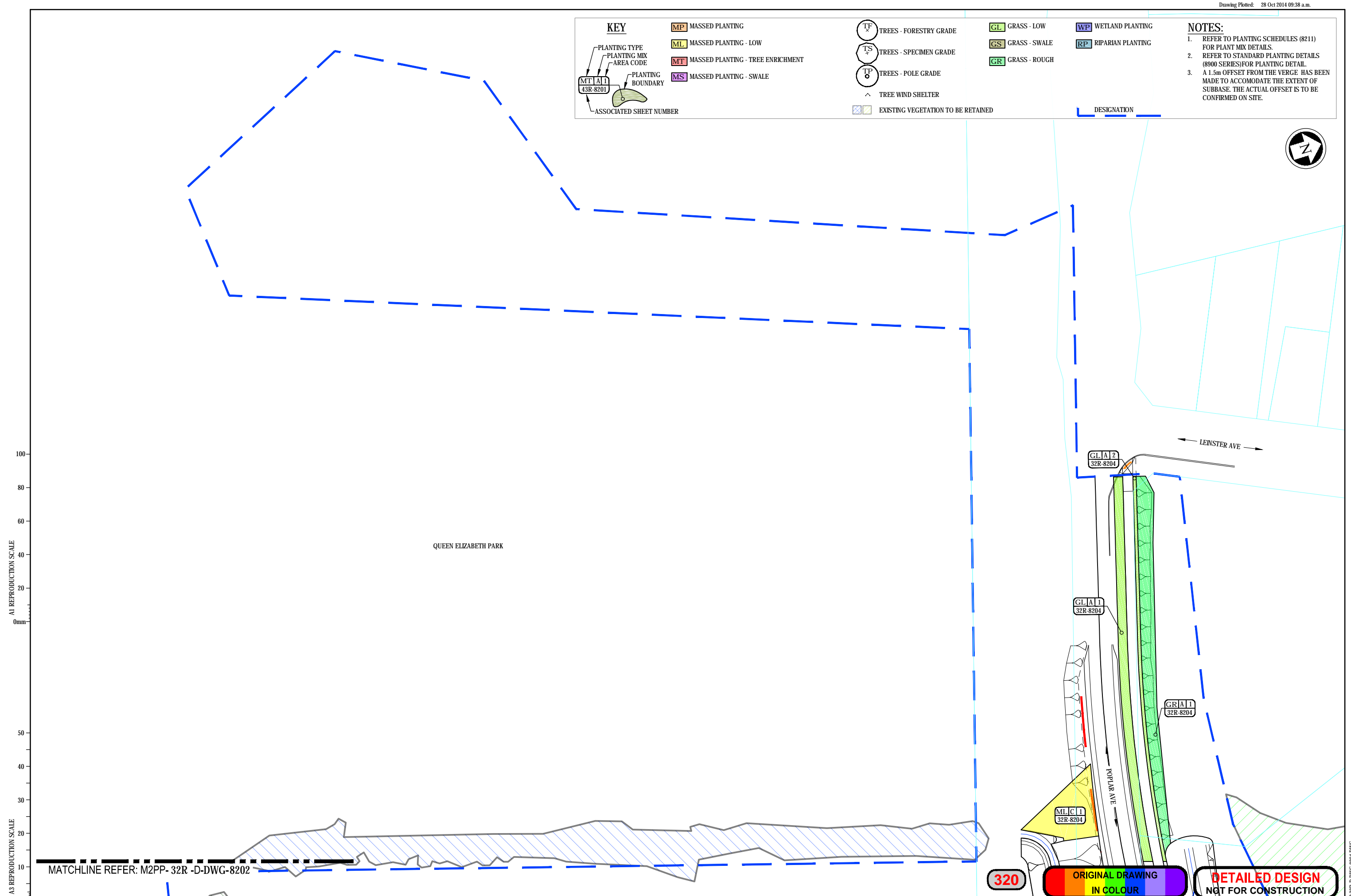
320 ORIGINAL DRAWING IN COLOUR DETAILED DESIGN NOT FOR CONSTRUCTION

KEY

PLANTING TYPE PLANTING MIX AREA CODE	MASSED PLANTING	TREES - FORESTRY GRADE	GRASS - LOW	WETLAND PLANTING
PLANTING BOUNDARY	MASSED PLANTING - LOW	TREES - SPECIMEN GRADE	GRASS - SWALE	RIPARIAN PLANTING
ASSOCIATED SHEET NUMBER	MASSED PLANTING - TREE ENRICHMENT	TREES - POLE GRADE	GRASS - ROUGH	
	MASSED PLANTING - SWALE	TREE WIND SHELTER		
		EXISTING VEGETATION TO BE RETAINED		

NOTES:

- REFER TO PLANTING SCHEDULES (8211) FOR PLANT MIX DETAILS.
- REFER TO STANDARD PLANTING DETAILS (8900 SERIES) FOR PLANTING DETAIL.
- A 1.5m OFFSET FROM THE VERGE HAS BEEN MADE TO ACCOMMODATE THE EXTENT OF SUBBASE. THE ACTUAL OFFSET IS TO BE CONFIRMED ON SITE.



A1 REPRODUCTION SCALE

A3 REPRODUCTION SCALE

No.	Revision	By	Chk	Chk-V	Appd	Date
A	FOR DETAILED DESIGN	MP	GFB	DH	DC	24.10.14

Original Scale (A1)	Design	Drawn	Date	Approved For Construction*
1:500	F BAGGALEY	M. POWELL	11.08.14	
Reduced Scale (A3)	Dwg Verifier	B EVANS	24.10.14	
1:1000	Dwg Check	G F-B	24.10.14	

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY
WAIKA KOTAHU

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: POPLAR AVE INTERCHANGE PLANTING PLAN SHEET 4

Drawing No: M2PP-32R-D-DWG-8204
Rev: A

320 ORIGINAL DRAWING IN COLOUR DETAILED DESIGN NOT FOR CONSTRUCTION

A3 REPRODUCTION SCALE

PLANT TYPE	PLANT MIX	BOTANICAL NAME	COMMON NAME	GRADE	% MIX	NOTES
MASSED LOW EDGE PLANTING - ADJUST TO TOP OF ROAD						
NL	A	Arundo donax	Reed	1.0 m	10%	Front edge
ML	A	Arundo donax	Reed	1.0 m	10%	Back
ML	A	Carex flacca	Flax sedge	1.0 m	10%	Front edge
ML	A	Carex flacca	Flax sedge	1.0 m	10%	Back edge
NL	A	Carex flacca	Flax sedge	1.0 m	10%	Front edge
NL	A	Carex flacca	Flax sedge	1.0 m	10%	Back edge
ML	A	Cyperus tenuis	Small tussock	1.0 m	10%	Back
ML	A	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
ML	A	Cyperus tenuis	Small tussock	1.0 m	10%	Back
NL	A	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
NL	A	Cyperus tenuis	Small tussock	1.0 m	10%	Back
ML	A	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
ML	A	Cyperus tenuis	Small tussock	1.0 m	10%	Back
MASSED LOW EDGE PLANTING - ADJUST TO TOP OF ROAD						
NL	B	Arundo donax	Reed	1.0 m	10%	Front edge
NL	B	Arundo donax	Reed	1.0 m	10%	Back
ML	B	Carex flacca	Flax sedge	1.0 m	10%	Front edge
ML	B	Carex flacca	Flax sedge	1.0 m	10%	Back edge
NL	B	Carex flacca	Flax sedge	1.0 m	10%	Front edge
NL	B	Carex flacca	Flax sedge	1.0 m	10%	Back edge
ML	B	Cyperus tenuis	Small tussock	1.0 m	10%	Back
ML	B	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
ML	B	Cyperus tenuis	Small tussock	1.0 m	10%	Back
NL	B	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
NL	B	Cyperus tenuis	Small tussock	1.0 m	10%	Back
ML	B	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
ML	B	Cyperus tenuis	Small tussock	1.0 m	10%	Back
MASSED LOW PLANTING - ADJUST TO TOP OF ROAD						
ML	B	Arundo donax	Reed	1.0 m	10%	Front edge
MASSED LOW EDGE PLANTING - ADJUST TO TOP OF ROAD						
NL	C	Arundo donax	Reed	1.0 m	10%	Front edge
ML	C	Arundo donax	Reed	1.0 m	10%	Back
ML	C	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
ML	C	Cyperus tenuis	Small tussock	1.0 m	10%	Back
NL	C	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
NL	C	Cyperus tenuis	Small tussock	1.0 m	10%	Back
ML	C	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
ML	C	Cyperus tenuis	Small tussock	1.0 m	10%	Back

PLANT TYPE	PLANT MIX	BOTANICAL NAME	COMMON NAME	GRADE	% MIX	NOTES
MASSED PLANTING - ADJUST TO TOP OF ROAD						
MP	A	Arundo donax	Reed	1.0 m	10%	Front edge
MP	A	Arundo donax	Reed	1.0 m	10%	Back
MP	A	Carex flacca	Flax sedge	1.0 m	10%	Front edge
MP	A	Carex flacca	Flax sedge	1.0 m	10%	Back edge
MASSED PLANTING - TRAFFIC MARGIN						
MT	A	Arundo donax	Reed	1.0 m	10%	Front edge
MT	A	Arundo donax	Reed	1.0 m	10%	Back
MT	A	Carex flacca	Flax sedge	1.0 m	10%	Front edge
MT	A	Carex flacca	Flax sedge	1.0 m	10%	Back edge
MT	A	Cyperus tenuis	Small tussock	1.0 m	10%	Back
MT	A	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
MT	A	Cyperus tenuis	Small tussock	1.0 m	10%	Back
MT	A	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
MT	A	Cyperus tenuis	Small tussock	1.0 m	10%	Back
MT	A	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
MT	A	Cyperus tenuis	Small tussock	1.0 m	10%	Back
MT	A	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
MT	A	Cyperus tenuis	Small tussock	1.0 m	10%	Back
MASSED SWALE PLANTING						
MS	A	Arundo donax	Reed	1.0 m	10%	Front edge
MASSED SMALL PLANTING - WITH WOODY PLANTS AT TOP EDGES						
ML	A	Arundo donax	Reed	1.0 m	10%	Front edge
ML	A	Arundo donax	Reed	1.0 m	10%	Back
ML	A	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
ML	A	Cyperus tenuis	Small tussock	1.0 m	10%	Back
ML	A	Cyperus tenuis	Small tussock	1.0 m	10%	Front edge
ML	A	Cyperus tenuis	Small tussock	1.0 m	10%	Back
GRASS						
GL	A	Poa annua	Annual meadow grass	100	100%	Grass seed to top of road
GL	A	Poa annua	Annual meadow grass	100	100%	Grass seed to top of road

No.	Revision	By	Chk	Appd	Date	
A	FOR DETAILED DESIGN	MP	GFB	DH	DC	24.10.14

Original Scale (A1)	Design	F BAGALLEY	16.09.14	Approved For Construction*
NTS	Drawn	M POWELL <td>16.09.14 <td></td> </td>	16.09.14 <td></td>	
Reduced Scale (A3)	Design	B EVANS <td>24.10.14 <td></td> </td>	24.10.14 <td></td>	
NTS	Checked	C F B <td>24.10.14 <td></td> </td>	24.10.14 <td></td>	



Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: POPLAR AVE INTERCHANGE PLANTING SCHEDULE

320	DETAILED DESIGN NOT FOR CONSTRUCTION
Drawing No:	M2PP-32R-D-DWG-8211
Rev:	A

M2PP-121-D-PLNM-0001

Appendix 2: CONSULTATION, FEEDBACK AND RESPONSES
Site Specific Management Plan 001 - [sector 320]
MacKays to Peka Peka Expressway

17 DECEMBER 2014 - REV C - CERTIFIED ISSUE

The following tables set out the responses to comments raised by reviewers and those parties consulted in regard to the preliminary SSMP. The project responses are either reflected in the certification issue to which this Appendix pertains, or have been directed to other processes for action, or have been considered but for the reasons noted not agreed to. The parties consulted are those identified by the consent conditions and for Raumati are:

- Te Āti Awa ki Whakarongotai;
- Te Runagna O ToaRangatira Inc., where construction works are located within or directly adjacent to QE Park.
- Kāpiti Coast District Council (KCDC).
- Greater Wellington Regional Council (GWRC), where construction works are located within or directly adjacent to QE Park.
- Friends of QE Park.
- Kāpiti Cycling Incorporated and the Implementation Group of the Kāpiti Coast District Council Advisory on Cycleways, Walkways and Bridleways in respect of the CWB and any cycle or pedestrian connections.
- Raumati South Resident's Association
- Relevant Landscape focus areas (Leinster Avenue)

COMMENTS ON DRAFT ISSUE SSMP1: RAUMATI SOUTH			
KCDC REVIEWERS COMMENTS [JW=Julia Williams- Landscape Architect; DP = Deyana Popova-Urban Designer]			
<i>Draft issue for comment 1.9.14, follow up feedback meeting 5.9.14</i>			
<i>Page</i>		<i>Reviewers Comments</i>	<i>Management Plan Author's response</i>
		Would like to see an additional cross section that runs through the Leinster Ave residential properties.	Two additional cross sections added to SSMP 1
		CWB entrance: given its importance as the start ('gateway') of the CWB, keen to see this as a bespoke design rather than 'standard' treatment. Including bespoke design of gate to Emergency Turnaround on ramp.	Referred to design team – looking to include a flat area at entrance for informal seating / picnic and provision for future signage kiosk.
		Include cross section illustrating how the brown rock with 1.0m topsoil will be handled to ensure topsoil is keyed in place and the topsoil depths and associated planting.	This has be included in the SSMP 1 - sheet 4.
		Cross section CS3 (DWG 8402) wrongly labelled as Mazengarb Bridge	Updated

COMMENTS RELATING TO QE PARK ,DRAFT SSMP1; MEETING 22 AUGUST 2014					
GWRC REVIEWERS COMMENTS IN RELATION TO QE PARK [Sharon Lee GW, Wayne Boness, Brendan Bulliff]					
FRIENDS OF QUEEN ELIZABETH PARK - Jan Nisbet Andrea Wilson					
<i>Condition Reference</i>	<i>Condition Detail</i>	<i>Reviewer/ commenter</i>	<i>GWRC Reviewer's comment</i>	<i>reference in SSMP</i>	<i>Management Plan Author's response</i>
			GWRC concerned about the potential for downstream effects from the upgrading of Culvert 8 under Poplar Avenue on the adjoining paddocks.		Alliance Ecologist Matiu Park explained that a larger upgraded culvert will replace the existing culvert and that it will maintain the existing hydrology.
			GWRC seek confirmation re GWRC land within the construction designation and its future management, how much of the construction designation area will be required in the permanent designation?		The design and construction planning are currently in progress for this area and once confirmed we will be able to provide an update to GWRC on the status and timing for the land in question.
			GWRC want to see wetlands developed in this area which is consistent with the QE Park Sustainable Management Plan.		It was acknowledged that wetland development in this area had been raised by GWRC in BOI witness caucusing but nothing specific was included in the consent conditions. Wetland development is not currently part of the M2PP Expressway scope of works.

COMMENTS ON DRAFT ISSUE SSMP1: RAUMATI SOUTH – draft issued for review feedback meeting 29.8.14					
KAPITI CYCLING INC.[LS= Lyn Sleath]					
IMPLEMENTATION GROUP OF KCDC ADVISORY ON CYCLEWAYS, WALKWAYS AND BRIDLEWAYS: [JN= Jan Nisbet]					
KCDC- CWB PLANNER [SK Stuart Kilmester]					
<i>Condition Reference</i>	<i>Condition Detail</i>	<i>Reviewer/ commenter</i>	<i>Comment</i>	<i>reference in SSMP</i>	<i>Management Plan Author's response</i>
		LS	Further to my previous comments, we are happy to accept the revised details involving lower gabions and with the pathway width maintained at 3.00 m.		No response required
		LS	Suggest that at road crossings the design should follow the model used by KCDC at the Otaihanga Road crossing near Southwards, with grab rails, audible surfacing, and markings.		There are no road crossing in this SSMP. The Alliance considers the CWB design, where it meets local roads, adequately signals to cyclists that a crossing is imminent. NZTA and M2PP traffic safety auditors strongly oppose the use of bollards or barriers on cycleways that can cause harm to cyclists.
		SK	Ensure that the southern entrance to the CWB(near Poplar Ave) has sufficient space for signage and for groups to gather. No further comments (email 2.9.2014)		As per KCDC review comments

LANDSCAPE FOCUS AREA- DC 57A A) iv) Leinster Avenue COMMENTS ON DRAFT DESIGN DETAIL TABLED AT DROP IN SESSION 1.9.2014

RAUMATI SOUTH RESIDENT'S ASSOCIATION, meeting with Mary Campbell-Lee 26.8.14 and Information drop-in session 1.9.14

Condition Reference	Condition Detail	Reviewer/commenter	GWRC Reviewer's comment	reference in SSMP	Management Plan Author's response
DC 57A A) iv)		Nicky Harrison 106a Leinster Ave	Request a cross section through their property		Prepared and sent
			Would like turning area at the end of Leinster Ave to avoid vehicles using private driveways to turn around, as they do now.		Request passed on to design team, detail of this is part of SSMP 2 which is running a few weeks behind SSMP 1
			Would like to be involved with any development of the 'left over' triangle of land adjacent to 107 Leinster Ave.		This detail of this is part of SSMP 2 which is running a few weeks behind SSMP 1. Will be grassed and left as open space. Land currently owned by NZTA, until final ownership/management is determined at the end of the project, no development will be considered. Development of this area is not part of the M2PP Expressway project.
		Trevor Daniell 72 Leinster Ave	Would like adequate turning circle at end to Leinster Ave.		Request passed on to design team, detail of this is part of SSMP 2 which is running a few weeks behind SSMP 1
		Dick and Dawn Thomas 112 Leinster Ave	Request a cross section through their property Would like to see cul-de-sac at end of Leinster Ave for turning vehicles before the Leinster Ave extension. Understands from earlier consultation that turning area would be provided. Request speed bumps along Leinster Ave extension to deter boy-racers Would like boundary fence on southern boundary concerned about security adjacent to CWB		Prepared and sent Detail of this is part of SSMP. Turning area provided at end of Leinster Road Request passed on to Design team. Detail of this is part of SSMP 2 Request passed on to Design team. Detail of this is part of SSMP 2 w is running a few weeks behind SSMP 1
		Caren Ashford 107 Leinster Ave	Would like to see cul-de-sac at end of Leinster Ave for turning vehicles before the Leinster Ave extension. Does not want extension to be a full road that extends off end of Leinster. Requests for traffic calming measures (speed bump) at start of Leinster Road extension to deter boy racers Request vegetation selection at end of Leinster to be attractive to native birds		This detail is addressed in SSMP 2. Turning area will be provided at end of Leinster Road Detail of this is part of SSMP 2 Detail of this is part of SSMP

RAUMATI SOUTH RESIDENT'S ASSOCIATION, meeting with Mary Campbell-Lee 26.8.14 and Information drop-in session 1.9.14					
<i>Condition Reference</i>	<i>Condition Detail</i>	<i>Reviewer/commenter</i>	<i>GWRC Reviewer's comment</i>	<i>reference in SSMP</i>	<i>Management Plan Author's response</i>
			Raised questions about the area of offset mitigation planting from area OB (West of expressway near Raumati Manuka) to area OC on the eastern side of the expressway (FWS OC)		The offset mitigation planned for OB will be accommodated in the wetland to the east of the expressway (flood storage area OC) which was originally not going to be planted.
			Particular condition relating to the NIF and the urban design and landscape treatment of Leister Ave, relating to planting of embankments.		The embankments will be planted, as discussed and included in the planting plans.
		Tony Brown 110 Leinster Ave	Considers that 'speed humps' are not required in Leinster Ave, as requested by at least one other submitter.		It is our understanding from comments and feedback received that traffic calming was requested for the new length of the Leinster extension, (not in the existing part of Leinster Ave. The design team is considering if the installation of some traffic calming measures in the new Leinster Ave extension are necessary.
		Tony Brown 110 Leinster Ave	Concern that the noise reducing earth bund appears to terminate at the south boundary of 120 Leinster Avenue, sooner than indicated at the initial presentation of the M2PP proposal. The bund must be extended south by at least 50 metres to meet the promised 3dB reduction.		The noise bund as shown on the SSMP drawings aligns with the Acoustic engineers recommendations presented at the Board of Inquiry. This is, as you mention, 50 m from the south boundary of 112 Leinster Ave.
		Livingstone's Nursery	Very concerned that access is not being provided from garden centre portion of the Leinster Ave property to Poplar Ave.		Matter subject to property agreement with NZTA. Property has existing access of Leinster Avenue.
		Elia & Nikki Van Iddekinge 14 Leinster Ave	Requested clarification of provision for access from Poplar Avenue to 14 Leinster Ave.		Matter subject to property agreement with NZTA. Property has existing access of Leinster Avenue.

COMMENTS ON SSMP1:					
TE ATIAWA KI WHAKARONGATAI					
GENERAL COMMENTS - TO BE APPLIED TO ALL SSMP'S					
<i>Condition Reference</i>	<i>Condition Detail</i>	<i>Reviewer/commenter</i>	<i>Comment</i>	<i>reference in SSMP</i>	<i>Management Plan Author's response</i>
57 e) i	SSMP to be prepared in consultation with Te Atiawa ki Whakarongatai	M2PP Alliance	A workshop was held with Te Atiawa on the 23 October 2014. The workshop had two key focus areas: 1. Te Atiawa to review and comment on the SSMPs. Provide formal comment.		Formal comment received for SSMPs 1-10 at the workshop held on 23 October 2014

	General comment to be applied to all SSMPs		<p>2. Identify key opportunities for input into the design of the elements within the expressway with a focus on the CWB and interpretation signage. Agree a methodology, deliverables and program.</p> <p>3. Alliance to prepare a draft design framework by the end of November 2014 and hold a second workshop with Te Atiawa</p>		In addition, the Alliance design team are working with Te Atiawa ki Whakarongatai to develop design of some elements along the expressway and CWB corridor. This work considers the whole Expressway route. The first stage, currently underway, will identify the particular locations of significance to Te Atiawa. If these locations occur within this SSMP area, landscape elements or features will be designed and incorporated into the CWB corridor, in consultation with Te Atiawa.
57 e) i	<p>SSMPs to be prepared in consultation with Te Atiawa ki Whakarongatai and Takamore Trust</p> <p>General comment to be applied to all SSMPs</p>	Hemi Sundgren, Te Atiawa ki Whakarongatai	<p>Te Atiawa request that in general terms the design of the expressway meets tangata whenua values. There is to be a particular focus on water bodies, terrestrial and wetland planting, however It is important to Te Atiawa that iwi expectations are also met in regards to:</p> <ul style="list-style-type: none"> • Design/aesthetic values of built elements • Ecological values • Landuse and the physical environment • Cultural and historical values 		
57 e) i	<p>SSMPs to be prepared in consultation with Te Atiawa ki Whakarongatai and Takamore Trust</p> <p>General comment to be applied to all SSMP's</p>	Hemi Sundgren, Te Atiawa ki Whakarongatai	Te Atiawa request input into the naming of new waterbodies created as part of the project. (such as the new wetlands to the south of the Wharemauku Stream currently referred to as flood storage area 2)		
57 e) i	<p>SSMPs to be prepared in consultation with Te Atiawa ki Whakarongatai and Takamore Trust</p> <p>General comment to be applied to all SSMP's</p>	Hemi Sundgren, Te Atiawa ki Whakarongatai	<p>Where possible planting within the expressway is to consider Iwi values in regards but not limited to:</p> <ul style="list-style-type: none"> • Maori customary practice, kaupapa Māori • Flax cultivation (pā harakeke) • Mahinga kai • Planting for medicinal use rongoā māori <p>Specific areas of interest, land use, planting type will be identified in individual SSMP comments.</p>		
SPECIFIC COMMENTS – SSMP 1					
57 e) i	<p>SSMPs to be prepared in consultation with Te Atiawa ki Whakarongatai</p> <p>SSMP 1 specific comment 23/10/2014</p>	Hemi Sundgren, Te Atiawa ki Whakarongatai	The Poplar Ave-QE Park area is significant to; Ngati Toa, Te Atiawa and Ngati Raukawa. The area is referred to as Mataihuka after the nearby Mataihuka Pa site. Te Atiawa would like to acknowledge the significance of Mataihuka as a place. Te Atiawa suggest that this could be achieved through the naming of the area, adding Mataihuka to the CWB entrance/'gateway' and the introduction of		

			interpretative signage to provide information on the history and importance of the area.		
57 e) i	SSMPs to be prepared in consultation with Te Atiawa ki Whakarongatai SSMP 1 specific comment 23/10/2014	Hemi Sundgren, Te Atiawa ki Whakarongatai	Opportunity to create a gateway entrance at the approach to the proposed Poplar Ave bridge or CWB entrance that acknowledges Te Atiawa 'Rohe'		
57 e) i	SSMPs to be prepared in consultation with Te Atiawa ki Whakarongatai SSMP 1 specific comment 23/10/2014	Hemi Sundgren, Te Atiawa ki Whakarongatai	Kohekohe and karaka trees were grown in the area close to Mataihuka Pa for food and medicinal purposes. Te Atiawa request that these tree species be included in the Poplar/Mataihuka area.		

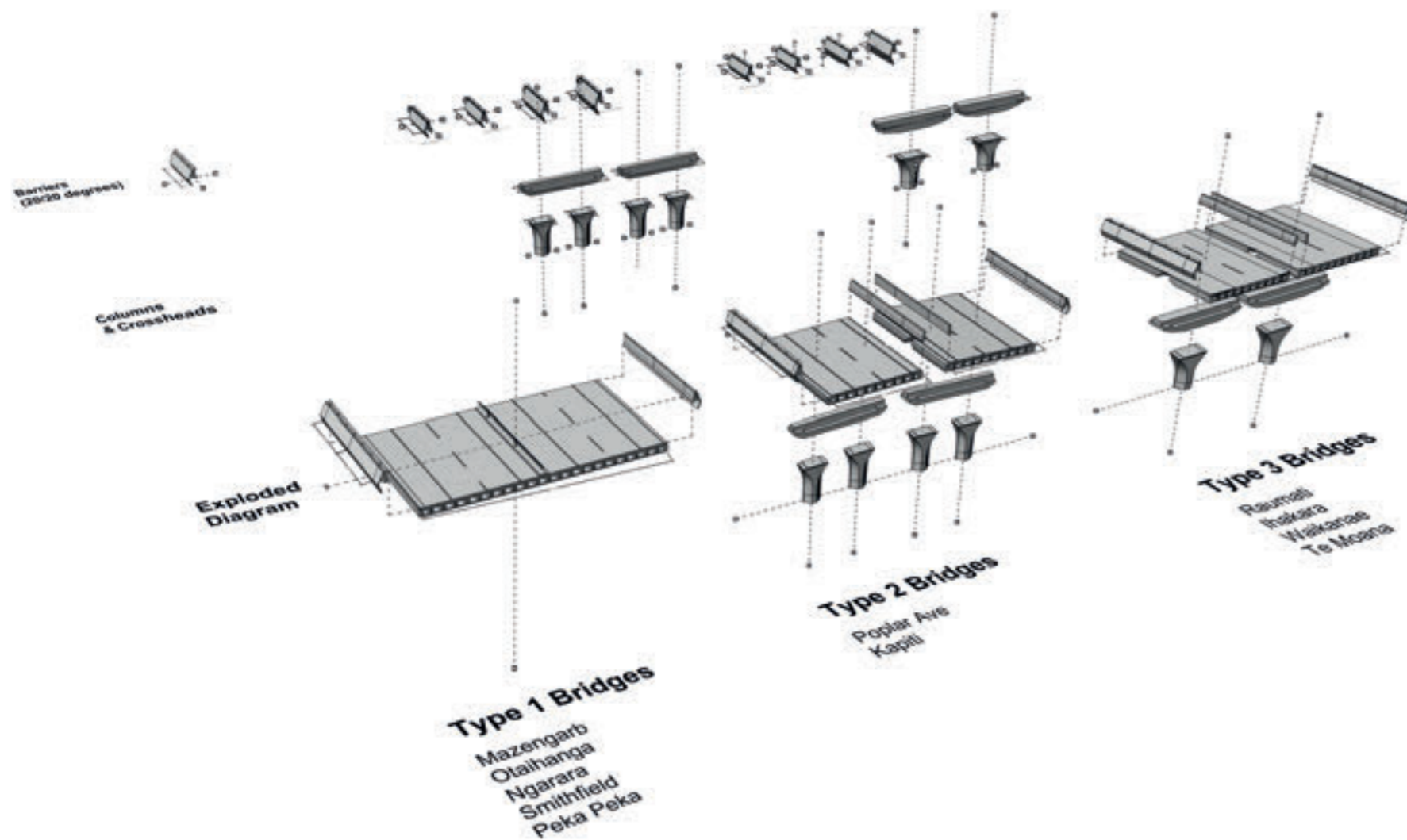
COMMENTS ON PRELIMINARY ISSUE SSMP1: TE RUNAGNA O TOA RANGATIRA INC. IN RELATION TO QE PARK.					
<i>Condition Reference</i>	<i>Condition Detail</i>	<i>Reviewer/commenter</i>	<i>Comment</i>	<i>reference in SSMP</i>	<i>Management Plan Author's response</i>
			No formal response has been received.		Record of communication ; 29/8/14 Meeting requested w Reina Solomon and Jennie Smeaton to discuss upcoming draft SSMP. 10/9/14 Follow up request for meeting with attached plans from draft SSMP. 12/9/14 Draft SSMP issued with request for comment.

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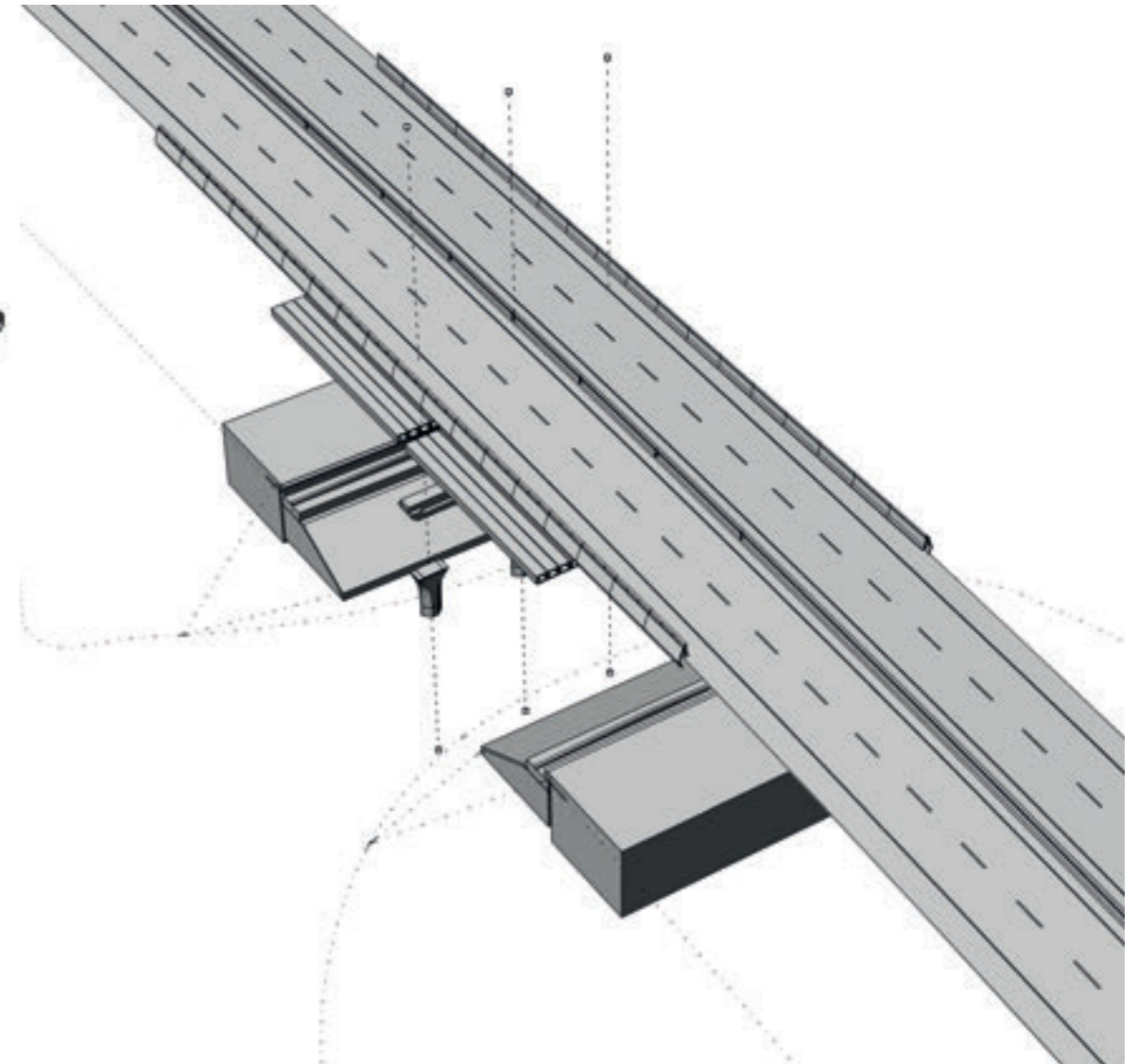
Appendix 3: BRIDGE SUMMARY- POPLAR AVE BRIDGE
Site Specific Management Plan 001 - [sector 320]
MacKays to Peka Peka Expressway

18TH SEPTEMBER 2014 - REV B

Bridges as a series of components



Proposed Poplar exploded isometric



Design Objectives

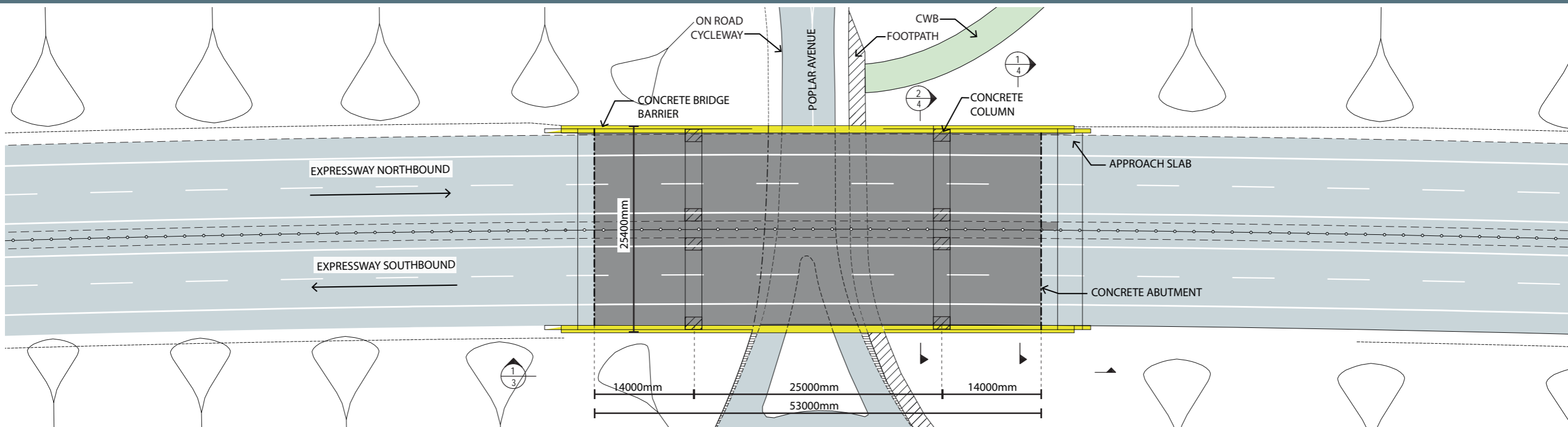
With reference to the Urban and Landscape Design Framework (Technical Report 5) (ULDF) there are four design objectives for the bridges and their respective contexts. These four objectives are overarching aims for the project and have been extracted from the Design Concept statements in two sections of the ULDF: Local Road Interface Design (section 5.7) and Bridge Design (section 5.8).

The purpose of extracting these objectives is to enable any changes to bridge structures and their context made through the concept and detailed design process to be considered at the highest level of the design intent. There are design principles in each of the sections as noted above and these too form a basis for considering the development of the designs for the bridges and their context.

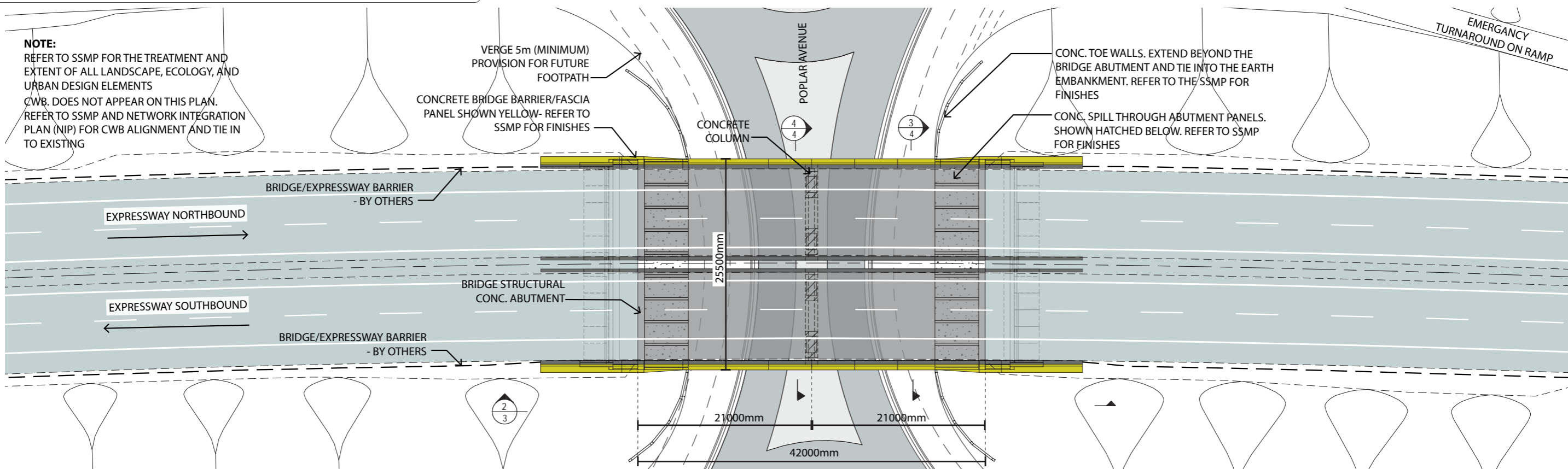
As is typical in a design evaluation process, any aspects of design that do not align with the design principles would be elevated to consideration against the design objectives.

Design Objectives:

1. The public spaces of the roads and streets take primacy over the experience of the Expressway users. Local people will be making slower movements and as a consequence the bridges will be more visually apparent to them than to people travelling along the Expressway.
2. As a new element in the landscape, the bridges respect the surrounding landscape and are expressed in terms of their horizontality, fluidity and simplicity because the landscape is relatively low key and low in scale; having several 'feature' bridges would become both visually complex and overwhelming in scale.
3. Bridges are formed as a whole from a single kit of parts, which allows the components to be repeated and a similar approach used at the multiple crossings to register as a 'family' of bridges because people will have multiple interactions day to day with the Expressway and this approach promotes simplicity and visual continuity.
4. Utilise concrete prefabricated parts because this allows fine levels of quality control, cost benefits and significant improvements in construction time at the crossings and reduces disturbance to the area.



AEE PLAN- POPLAR AVENUE CROSSING - 1:500@A3



PROPOSED PLAN- POPLAR AVENUE CROSSING - 1:500@A3

Design development

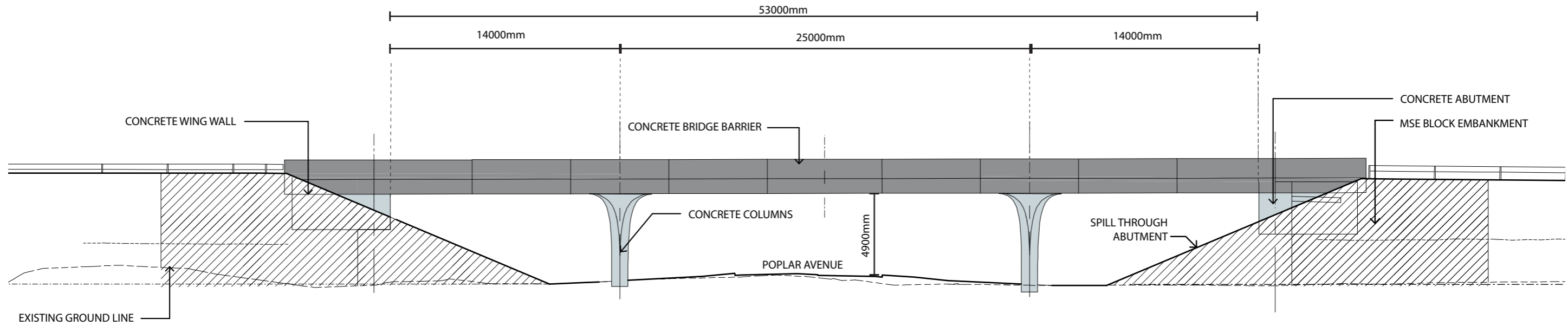
1. Reduced bridge Length. Reduced number of spans from 3 to 2
2. Column locations and number adjusted
3. Column profile developed
4. Local road design developed
5. Removed footpath from under Poplar Ave bridge

6. Change to split deck

Rationale

1. More efficient bridge design. Columns no longer sit between the verge and spill through abutments.
2. Reduced number of spans, reduce columns - 4 columns vs 8
3. Increased structural core based on geotech investigations carried out post AEE, while still providing the sculptural outer.
4. Local road design refined since AEE. Roundabouts are closer,

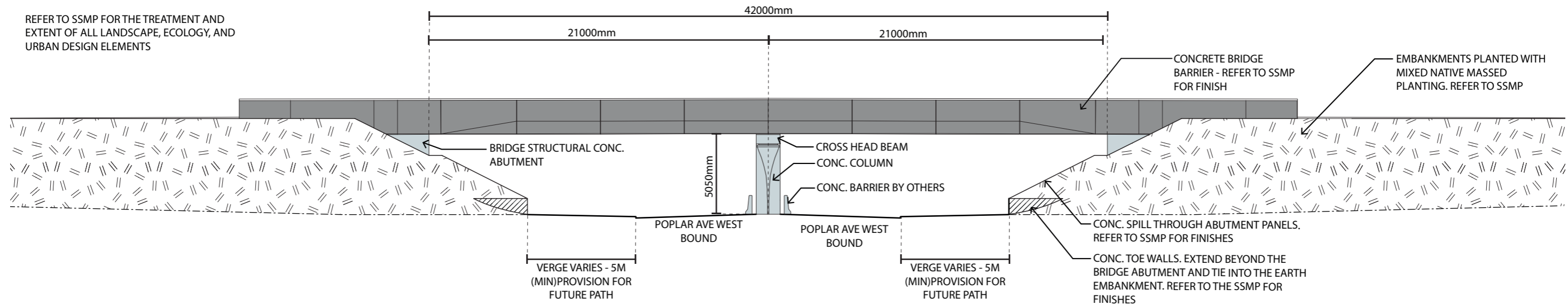
5. increased central median
CWB Connects to old SH1 via Leinster Ave pedestrian bridge. Provision for future pedestrian/cycle link as part of KCDC SH1 revocation work. Refer to SSMP for more detail.
6. Allows light penetration, bridge performs better seismically



1. AEE ELEVATION - POPLAR AVENUE CROSSING ELEVATION - 1:250@A3

NOTE:

REFER TO SSMP FOR THE TREATMENT AND EXTENT OF ALL LANDSCAPE, ECOLOGY, AND URBAN DESIGN ELEMENTS



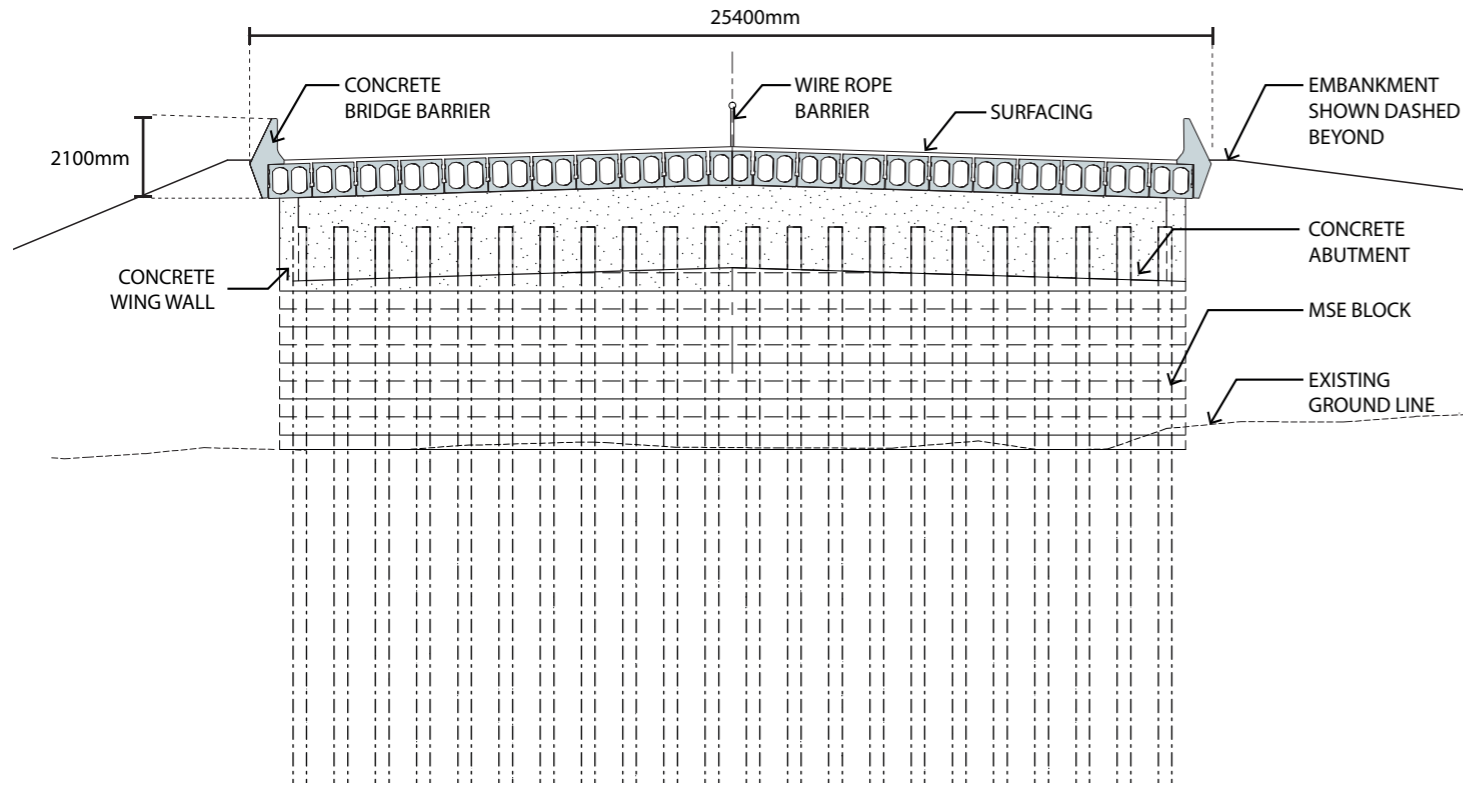
2. PROPOSED ELEVATION - POPLAR AVENUE CROSSING EAST ELEVATION - 1:250@A3

Design development

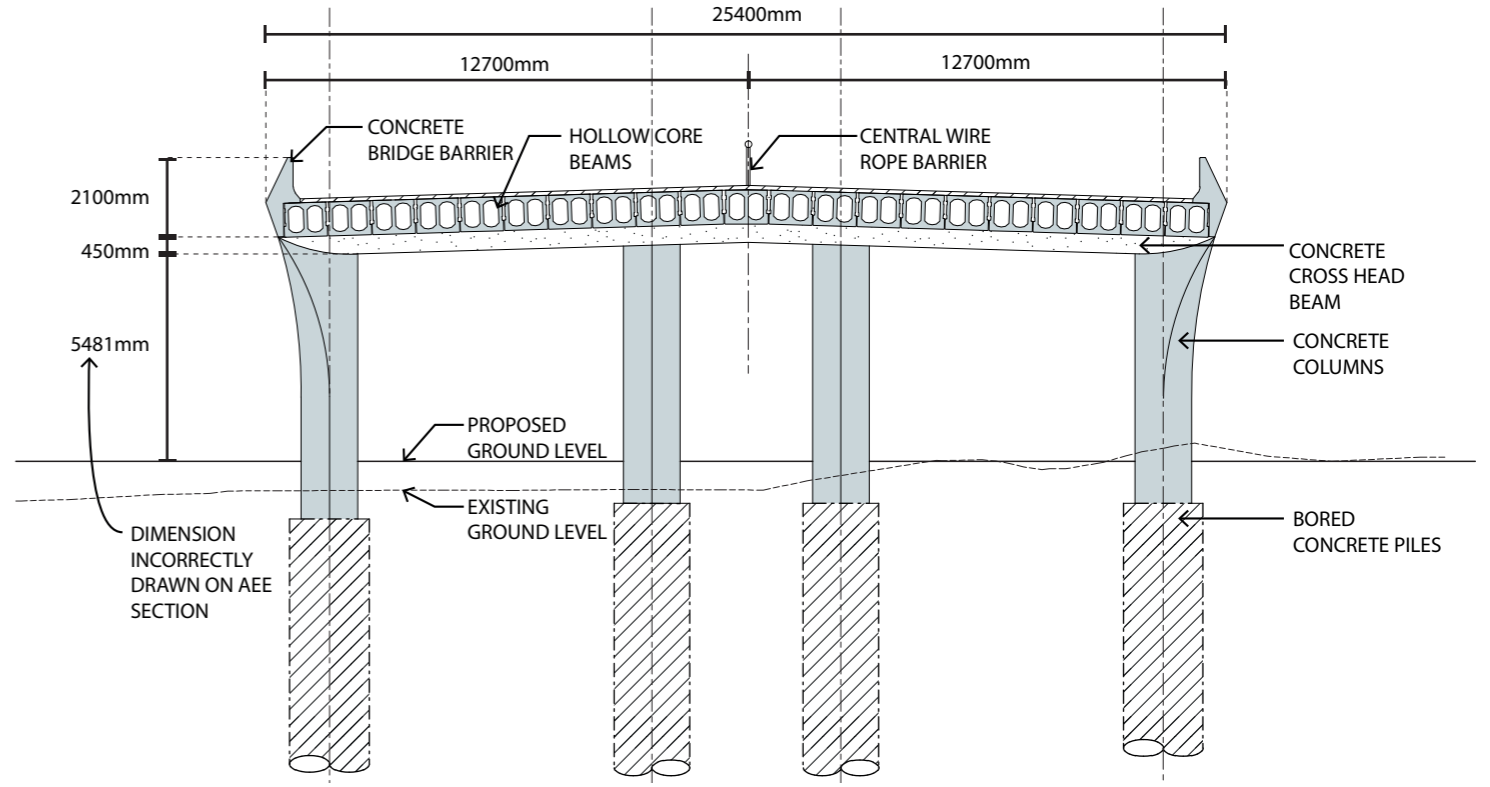
- 1. Reduced overall length of bridge, Reduced number of spans from 3 to 2
- 2. Column locations adjusted
- 3. Column profile developed
- 4. Local road design developed
- 5. Removal of footpath under Poplar Ave bridge

Rationale

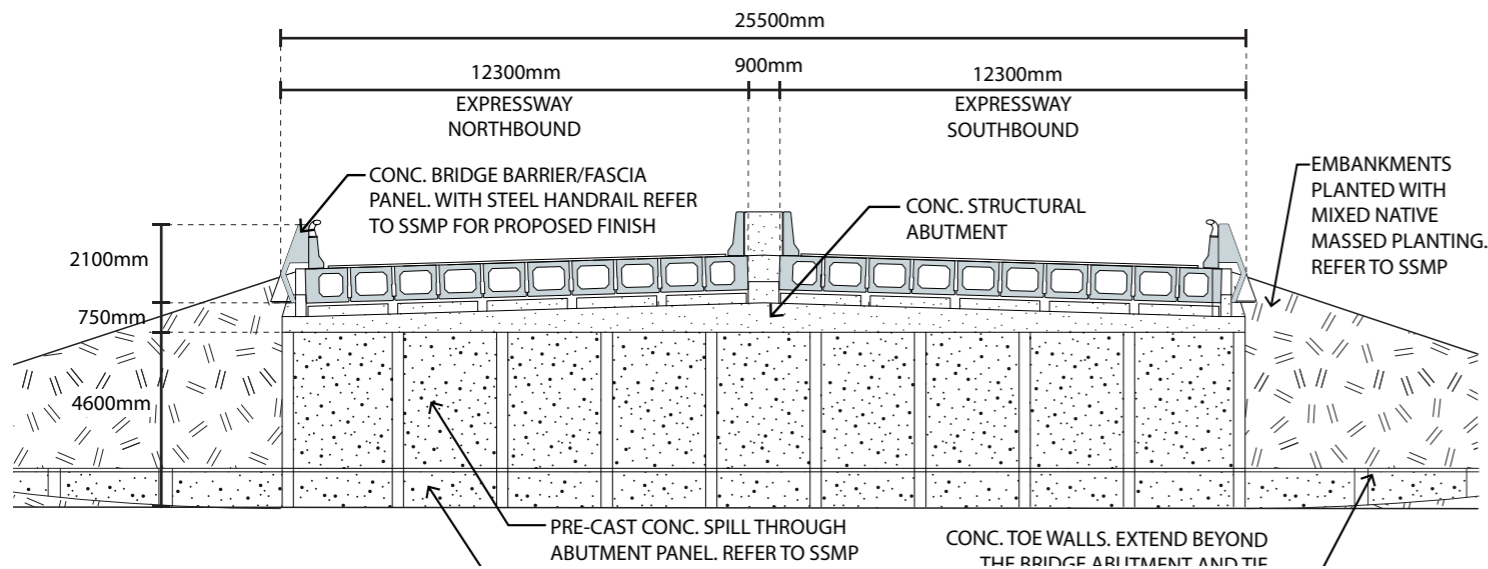
- 1. More efficient bridge design. Columns no longer sit between the verge and spill through abutments.
- 2. Reduced number of spans, reduce columns - 4 columns vs 8. Columns moved away from pedestrians.
- 3. Increased structural core based on geotech investigations carried out post AEE, while still providing the sculptural outer.
- 4. Local road design refined since AEE. Roundabouts are closer increased central median to allow for centrally placed columns
- 5. CWB Connects to old SH1 via Leinster Ave pedestrian bridge. Provision for future pedestrian/cycle link as part of KCDC SH1 revocation work. Refer to SSMP for more detail.



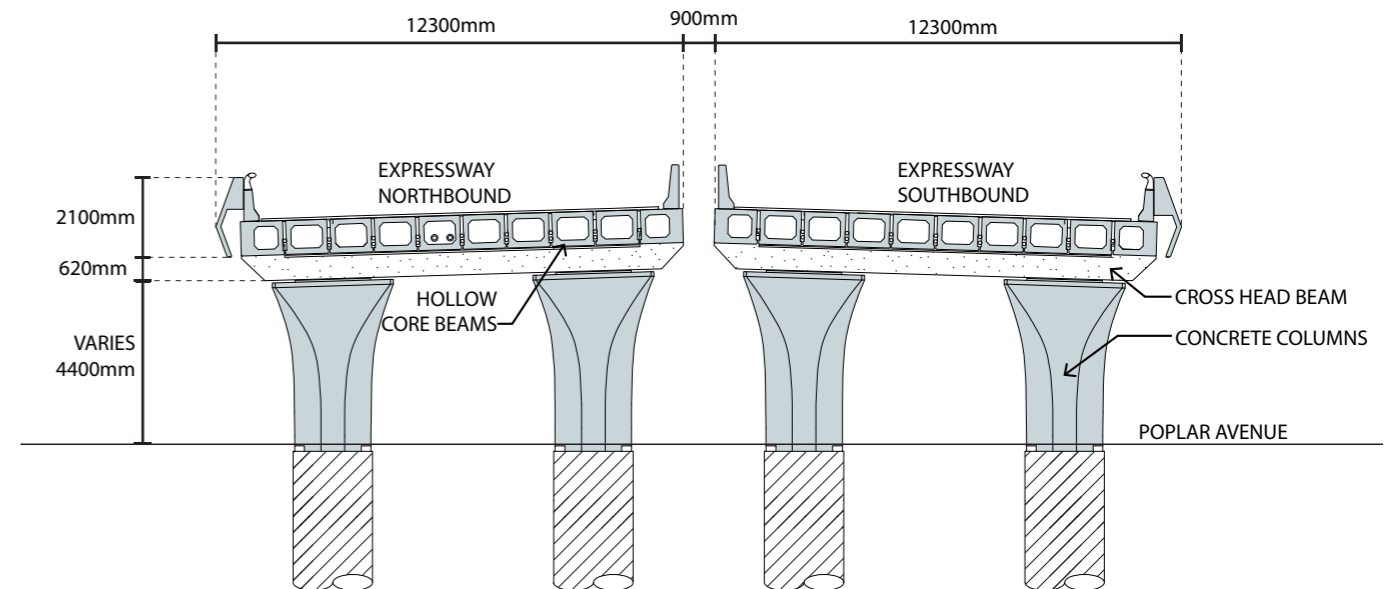
1. AEE SECTIONAL ELEVATION - POPLAR AVENUE CROSSING (NORTH ABUTMENT) - 1:200@A3



2. AEE SECTIONAL ELEVATION - POPLAR AVENUE BRIDGE CROSSING (LOOKING NORTH) - 1:200@A3



3. PROPOSED SECTIONAL ELEVATION - POPLAR AVENUE CROSSING (NORTH ABUTMENT) - 1:200@A3



4. PROPOSED SECTIONAL ELEVATION - POPLAR AVENUE CROSSING (LOOKING NORTH) - 1:200@A3

Design development

1. More detail provided for abutment treatment
2. Cross head depth has increased
3. Column profile developed
4. Simply supported structure
5. Change to split deck
6. Handrail shown on top of barrier

Rationale

1. Lack of resolution in AEE. Abutment design developed
2. Simply supported structure requires platform to seat beams
3. Increased structural core based on geotech investigations carried out post AEE, while still providing the sculptural outer.
4. Constructibility issues because of seismic requirements. Integral connections difficult to build without increasing

5. structural element sizes further.
6. Allows light penetration, bridge performs better seismically
7. Safety requirement for cyclists using the expressway



AEE VISUALISATION - POPLAR AVENUE CROSSING (NORTH SIDE OF POPLAR LOOKING EAST) SITUATION FOLLOWING CONSTRUCTION



PROPOSED VISUALISATION - POPLAR AVENUE CROSSING (NORTH SIDE OF POPLAR LOOKING EAST)

NOTE: TO BETTER REPRESENT THE BRIDGE, THE PROPOSED VISUALISATION HAS BEEN DRAWN FROM A VANTAGE POINT THAT IS CLOSER TO THE BRIDGE THAN THE ORIGINAL AEE RENDER

Elements	AEE Design	Current Design	Developments	Why?	ULDF Principles
<p>Column Front elevation 1:100@A3</p>			<ol style="list-style-type: none"> 1. Column base width increase hexagonal column rather than flattened diamond at base of column 2. Column moved in-board. Cross head lower (approx 200mm) 	<ol style="list-style-type: none"> 1. To provide increased structural core to the column based on geotech investigations carried out post AEE, while still providing the sculptural outer. 2. Simply supported structure requires platform to seat beam. 	<ol style="list-style-type: none"> 1. Please refer to ULDF principles summary on sheet; 7 of this document. With particular reference to principle number; 1, 2, 3, 5, 8, 11 and 13
<p>Column Side elevation 1:100@A3</p>			<ol style="list-style-type: none"> 1. Column base width increase hexagonal column rather than flattened diamond at base of column 2. Column moved in-board. Cross head lower (approx 200mm) 3. Column height reduced 4. Concrete road safety barrier added to Poplar Ave median 	<ol style="list-style-type: none"> 1. To provide increased structural core to the column based on geotech investigations carried out post AEE, while still providing the sculptural outer. 2. Simply supported structure requires platform to seat beam. 3. To allow for the changes to the cross head. Development of local road levels 4. Safety. Poplar Ave road design developed, column location changed 	<ol style="list-style-type: none"> 1. Please refer to ULDF principles summary on sheet; 7 of this document. With particular reference to principle number 1, 2, 3, 5, 8, 11 and 13
<p>Cross Head & barrier junction 1:100@A3</p>			<ol style="list-style-type: none"> 1. Barrier shape changed 2. Column moved in-board. Cross head lower (approx 250mm) 3. Handrail shown on top of barrier 	<ol style="list-style-type: none"> 1. To improve shadow line 2. Simply supported structure requires platform to seat beam. 3. Safety requirement for cyclists using the expressway 	<ol style="list-style-type: none"> 1. Please refer to ULDF principles summary on sheet; 7 of this document. With particular reference to principle number 1, 2, 3, 4, 8 and 13

ULDF principle	Assessment of ULDF principles
1. Make the bridges generally consistent in their form so they register as a 'family' and provide some visual continuity within the local environment	Proposed Poplar Avenue bridge is different from the AEE bridge, but the form remains consistent with other proposed bridges. The consistency across the bridges overall has become even more consistent as there is less variation in types from that shown in AEE. Accordingly, there is enhanced consistency in the local environment.
2. Express the bridges as simple forms that sit across the changes in landscape and are not seen as strong statement in their own right	Proposed bridge form remains a visually simple structure and sits across the landscape as an horizontal element. The bridge is not seen as making a statement in its own right. The bridge appears 'heavier' in that the piers have doubled in width. However, there is a reduction in the number of piers from AEE.
3. Unite the bridge elements of pier, cross head, deck and barrier as one sculptural form and ensure services are concealed from view	Proposed bridge form is different than the AEE in that the piers have been repositioned to sit beneath the bridge deck and are centralised. However, the principle of united piers, cross head, deck and barrier remains upheld, albeit in a new pier configuration. The profile from the crease of the barrier to the sloping cross head end to the shaped pier continues to show the bridge as a united single form.
4. Ensure the form of the bridges from the underside is visually appealing to recognise the primacy of the local roads user's experience in design consideration	The space beneath the bridge will be no less visually appealing than the AEE bridge and maybe perceived as better given a simpler reduced number of piers (albeit that those being proposed are larger in size).
5. Design the intersection of the piers with the ground in concert with the local road interface design of abutment forms and materials (refer to local road interface design principles)	Proposed bridge piers are located to provide good clearance for local road movements and the centralised position leaves areas on the abutment side clear of piers and this space is accordingly more open. The abutments continue to be set at a slope that provides for light penetration. These will be treated in a consistent way with the other local road abutments.
6. Light the spaces beneath local road over bridges to enhance the quality of the space including the use of natural light penetration where the local road has a higher frequency of pedestrian cycling and other non-vehicular users	Proposed bridge differs from AEE in that the proposed split in the deck will allow some natural light penetration to the local road and space below. There is architectural lighting to be provided under the bridge to recognise the position of the Poplar Avenue Bridge as the gateway into the Raumati, Raumati South residential/urban area.
7. Use architectural lighting to emphasise the sculptural forms of the bridges and light units that are readily serviceable from the ground	Proposed bridge will be lit from beneath. The objective will be to light the external barrier and pier/columns to enhance and accentuate their architectural forms.
8. Utilise the opportunity provided by multiple bridges to make a system of parts that can be repeated at each location and improve efficiency of construction	Proposed bridge, as in the AEE, remains of the same systematised approach to allow repetition of parts at other locations and improves the efficiency of construction.
9. Use textured finishes within the bridge elements surfaces' to provide a crafted finish – avoid printed forms	The proposed finish on the Poplar Avenue Bridge barriers will be fair faced concrete with a white wash, applied concrete coating to ensure colour and tonal uniformity between panels. The other elements – columns, cross head and deck will be simple, fair faced concrete without the applied white wash coating to help make these elements visually recessive relative to the barrier. Matt graffiti protection to be applied to all bridge elements surfaces. The material for the bridge abutments is to be developed. Refer to the SSMP for further detail on the proposed finishes.
10. Repeat the bridge design concepts within the design of pedestrians bridges recognising that these may be able to utilise lighter weight materials	Not relevant
11. Develop each bridge crossing design considering the piers types best suited to the location	Proposed Poplar Avenue bridge piers are different than those in AEE design. The AEE design did have bridge types where piers were located beneath the bridge and others where the piers were co-planar to the barrier and on the outside edge. The proposed new structure is shorter in length with fewer piers whilst maintaining the 'spill through' abutments for the lightness of space beneath.
12. Locate bridge piers associated with bridge watercourse crossings away from riparian edges to prevent need to armour stream edges	Not relevant.
13. Ensure that the integrity and significance of the bridge forms as important to the amenity of the community is not accorded any less priority than the other design requirements of the project	Proposed bridge form at Poplar Avenue has seen the consideration of all the contributing factors of visual amenity, CPTED, structural design in a high seismic zone, and constructibility.



M2PP-121-D-PLNM-0001

Appendix 4: LANDSCAPE SPECIFICATION
Site Specific Management Plan 001 - [sector 320]
MacKays to Peka Peka Expressway

SEE SEPARATE A4 BOUND DOCUMENT.

