

TYPE 1 CYCLEWAY ENTRANCE AT PURIRI ROAD - PLAN

SCALE - 1:250



A1 REPRODUCTION SCALE

0mm

20

40

60

80

100

CS2 - TYPE 1 CYCLEWAY ENTRANCE

SCALE - 1:50

A3 REPRODUCTION SCALE

0mm

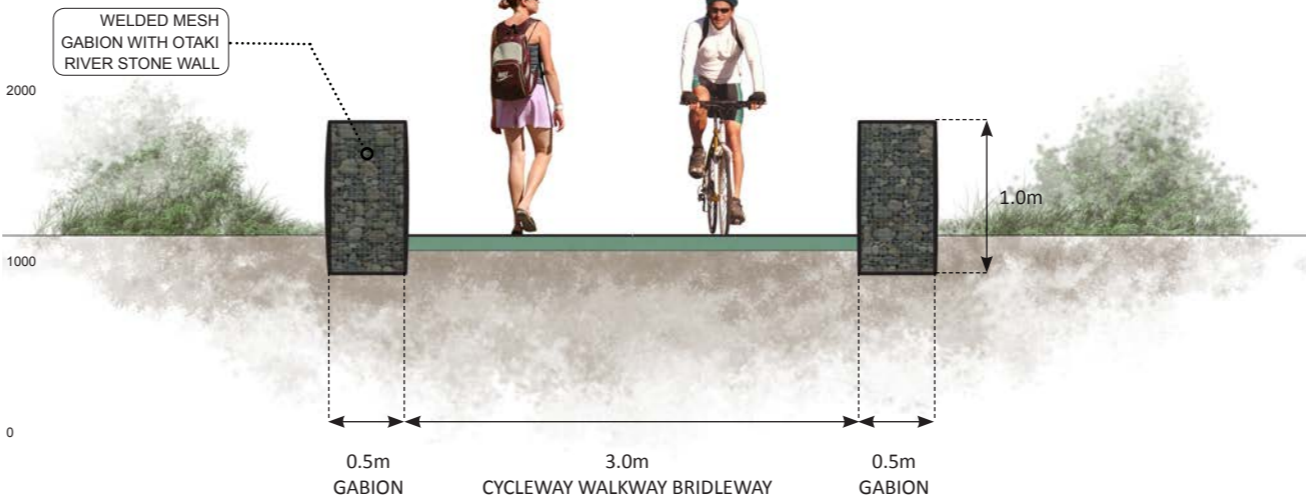
10

20

30

40

50



C	CERTIFIED ISSUE	MP			31/03/15
B	FOR CERTIFICATION	MP			03/03/15
A	PRELIMINARY ISSUE TO KCDC	VB			
No.	Revision	By	Chk	Chk-V	Appd Date

Original Scale (A1)	Design	Drawn	VB	10/12/14	Approved For Construction*
AS SHOWN	Design Verifier				Date
Reduced Scale (A3)	AS SHOWN				



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

Title: SSMP 8 [480-510] - SHEET 11
PURIRI ROAD CWB DETAIL

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

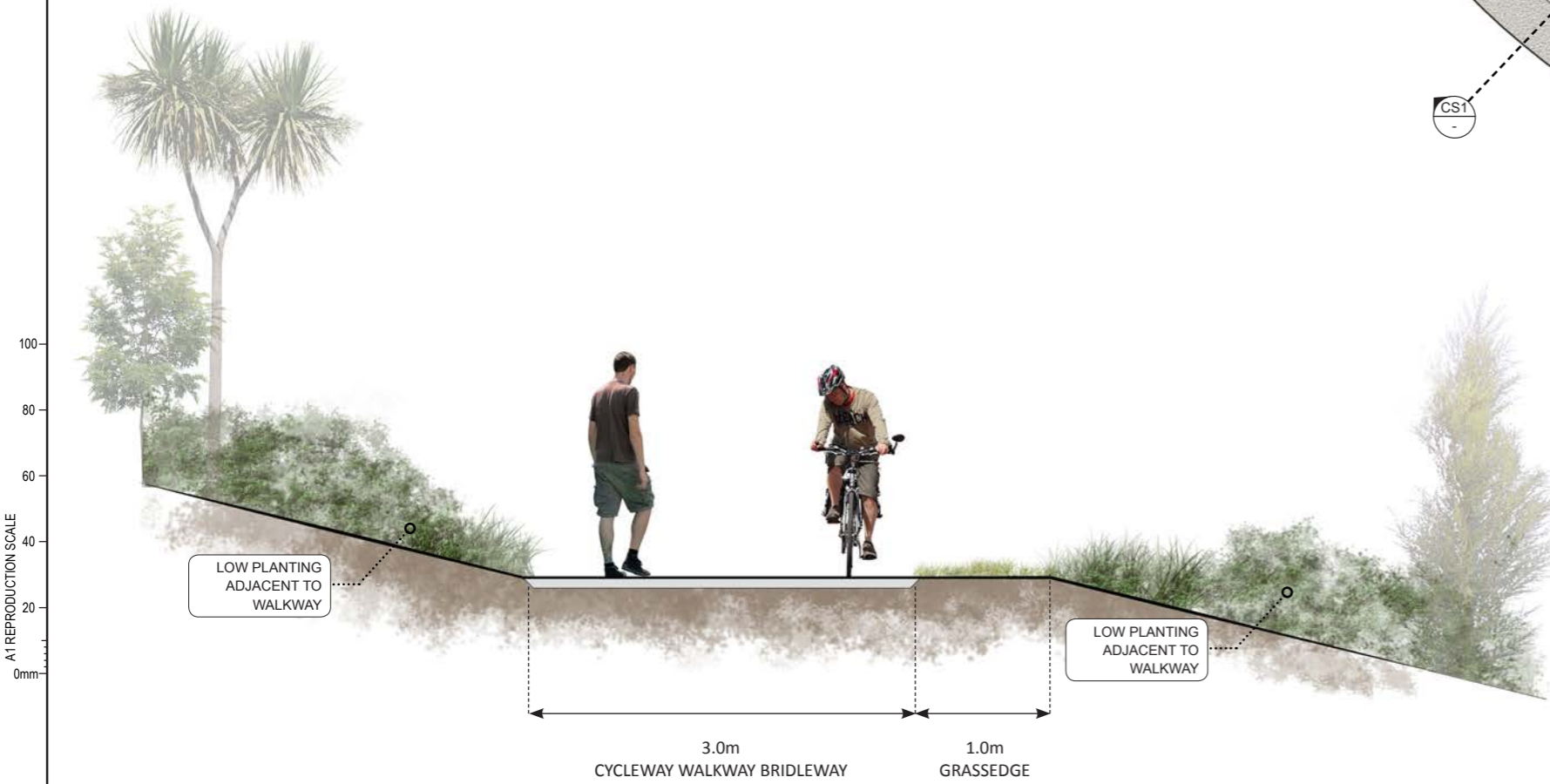
Rev. C

DETAIL DESIGN (DET)

Document No.

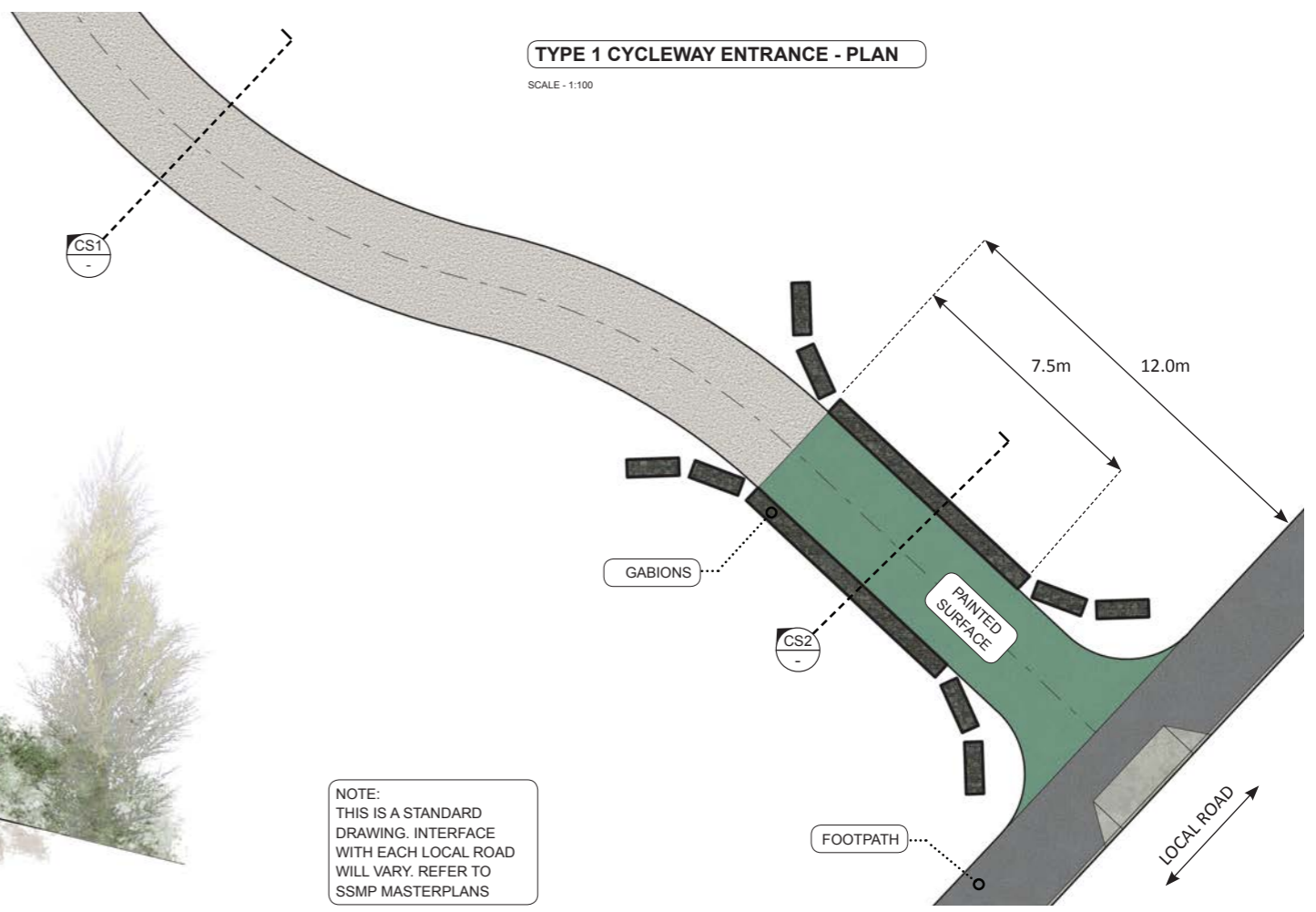
CS1 - TYPICAL CYCLEWAY SECTION

SCALE - 1:50



TYPE 1 CYCLEWAY ENTRANCE - PLAN

SCALE - 1:100



DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk-V	Appd	Date
C	CERTIFIED ISSUE	MP				31/03/15
B	FOR CERTIFICATION	MP				03/03/15
A	PRELIMINARY ISSUE TO KCDC	VB				










Original Scale (A1)	Design	Drawn	Checked	Approved For Construction*
AS SHOWN		VB	10/12/14	
Reduced Scale (A3)	Design Check			Date
AS SHOWN	* Refer to Revision 1 for Original Signature			

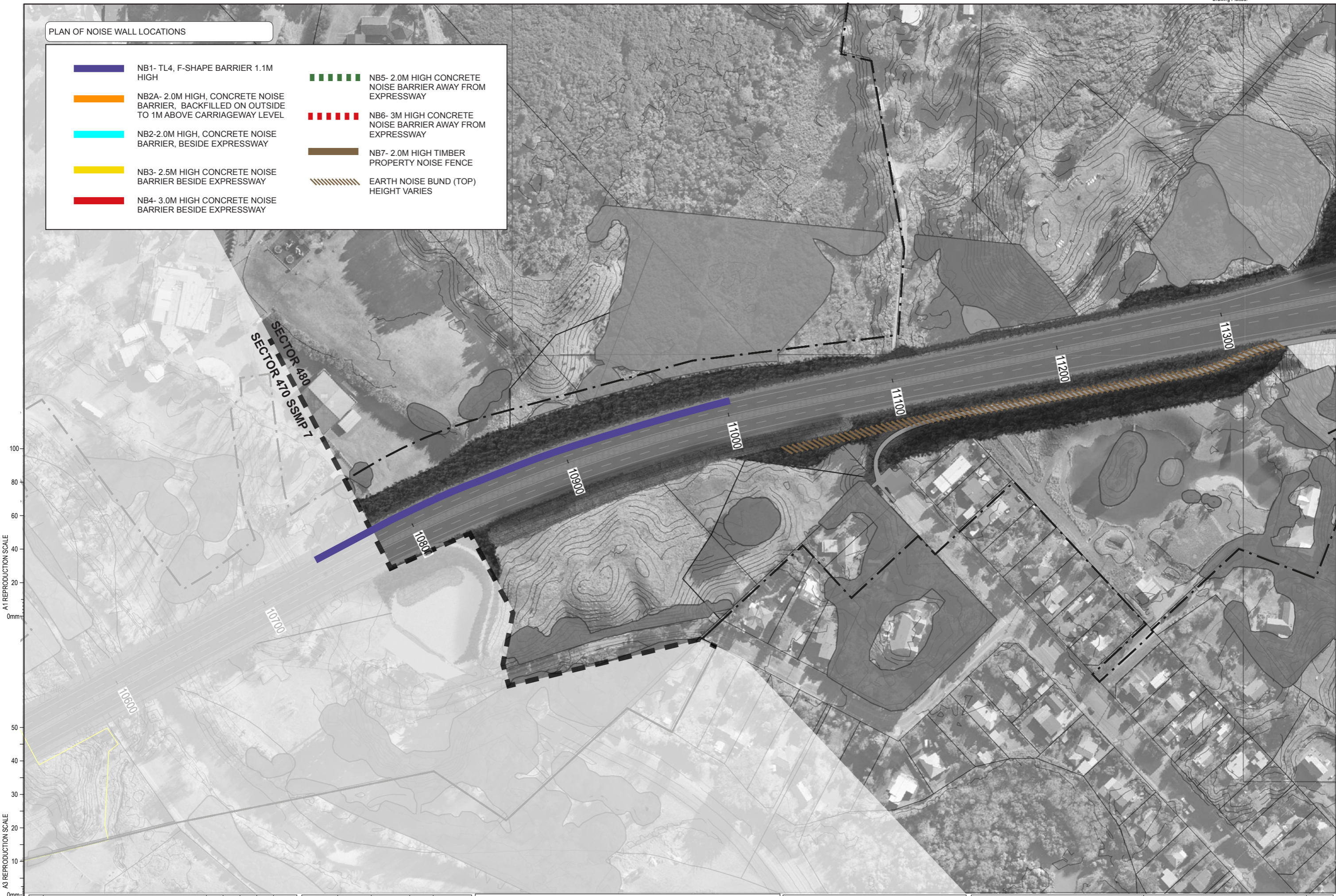
Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 8 [480-510] - SHEET 12
CWBI INTERSECTION - TYPE 1

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

PLAN OF NOISE WALL LOCATIONS

	NB1- TL4, F-SHAPE BARRIER 1.1M HIGH		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

A3 REPRODUCTION SCALE
0mm

DETAIL DESIGN (DET)

C	CERTIFIED ISSUE	MP			31/03/15
B	FOR CERTIFICATION	MP			03/03/15
A	PRELIMINARY ISSUE TO KCDC	VB			
No.	Revision	By	Chk	Chk-V	Appd Date

Original Scale (A1)	Design	Approved For Construction
1:10000	Drawn VB	10/12/14
Reduced Scale (A3)	Design Verifier	Date
1:2000	Design Check	



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

Title: SSMP 8 [480-510] - SHEET 13
NOISEWALL LOCATION PLAN

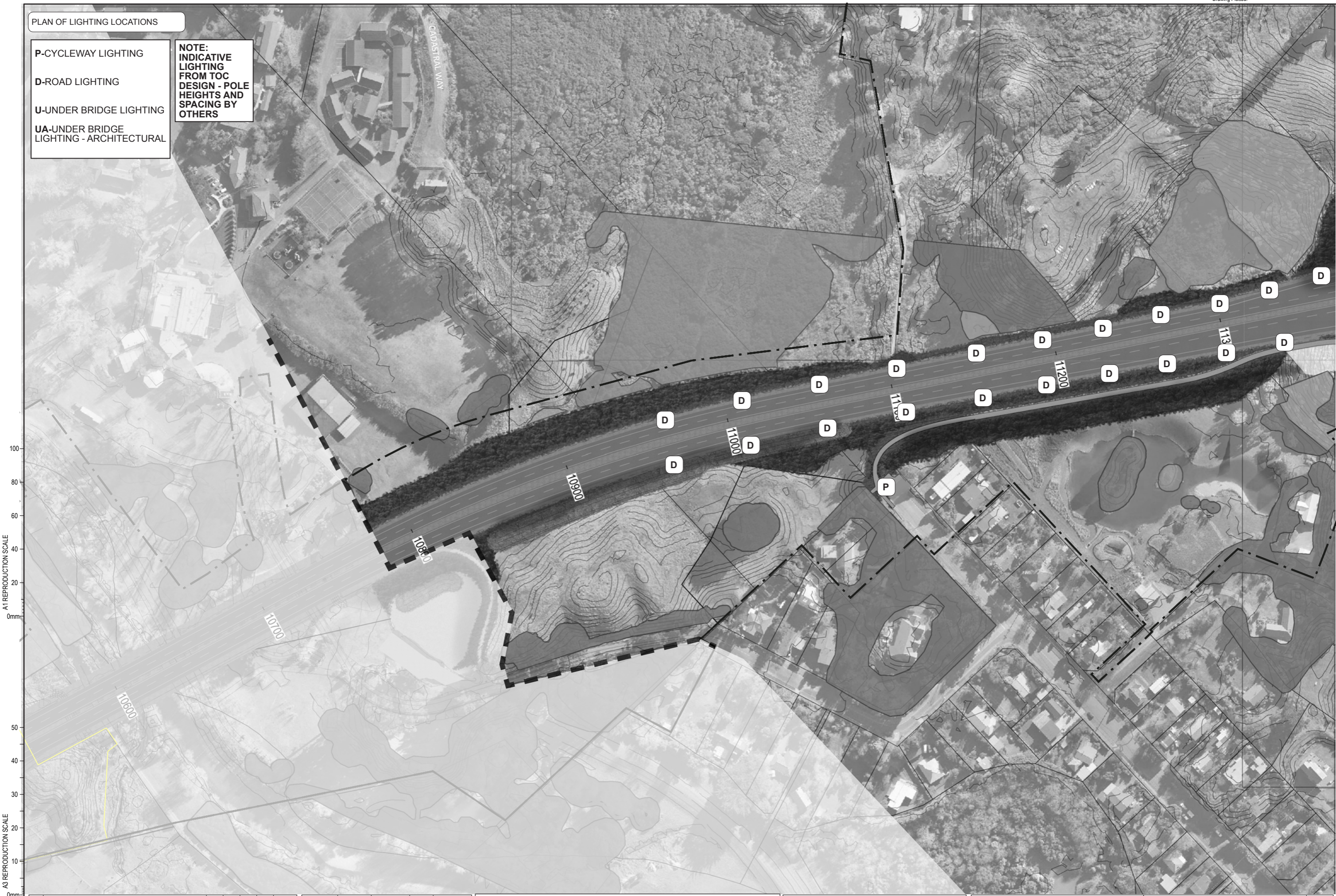
Drawing No: M2PP-121-D-DWG-8601

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)

C	CERTIFIED ISSUE	MP			31/03/15
B	FOR CERTIFICATION	MP			03/03/15
A	PRELIMINARY ISSUE TO KCDC	VB			
No.	Revision	By	Clk	Clk-V	Appd

Original Scale (A1)	Design	Drawn	Approved For Construction*
1:10000		VB	10/12/14
Revised Scale (A3)	Design Verifier		Date
1:2000	Dwg 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 8 [480-510] - SHEET 14 LIGHTING LOCATION 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

A3 REPRODUCTION SCALE

DETAIL DESIGN (DET)

C	CERTIFIED ISSUE	MP			31/03/15	
B	FOR CERTIFICATION	MP			03/03/15	
A	PRELIMINARY ISSUE TO KCDC	VB				
No.	Revision	By	Clk	Clk-V	Appd	Date

Original Scale (A1)	Design	Approved For Construction*
1:1000	Drawn VB	10/12/14
Reduced Scale (A3)	Drawn Verifier	
1:2000	Dwg Check	
	Date	

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY
WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

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

Title: SSMP 8 [480-510] - SHEET 15
LIGHTING LOCATION PLAN

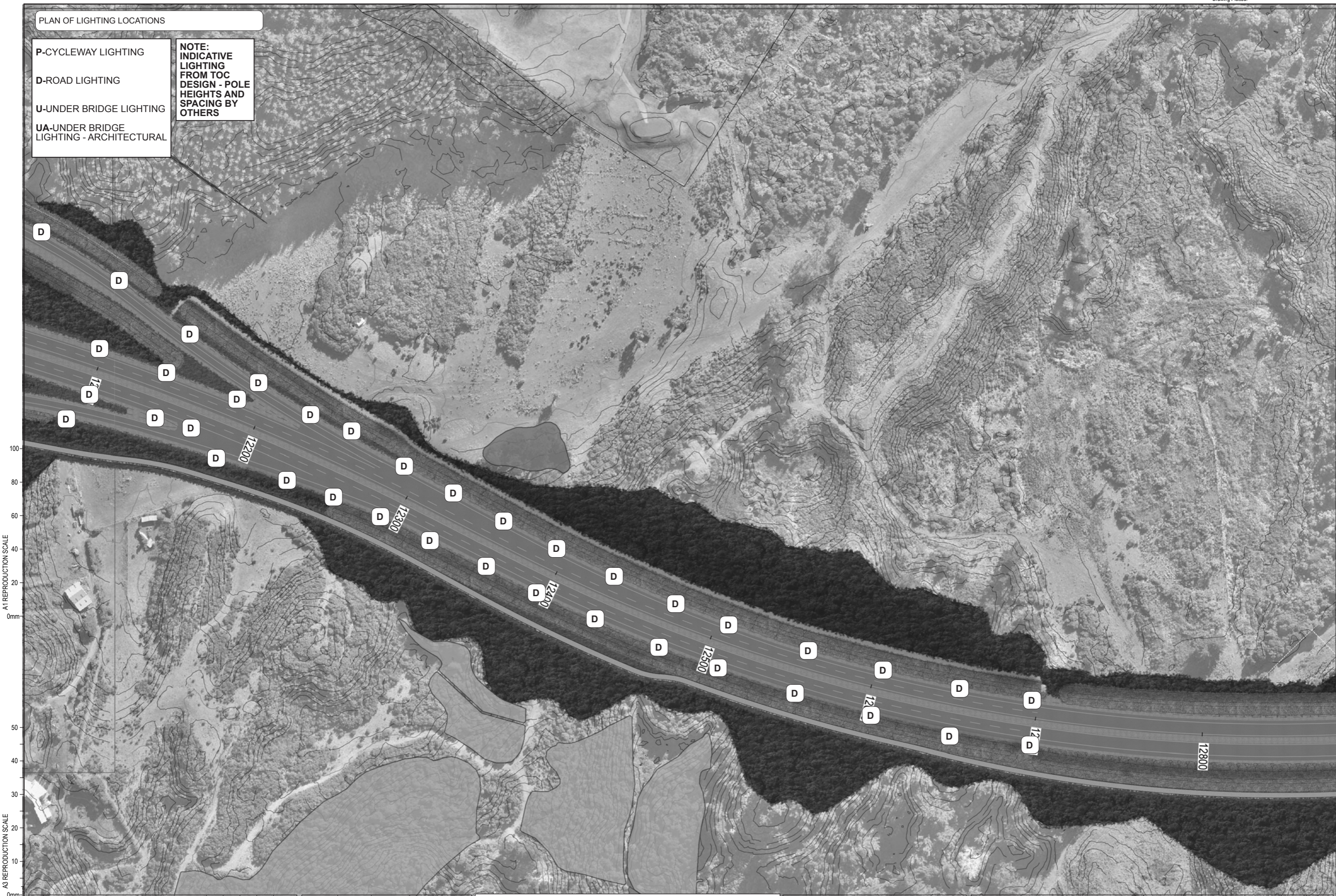
Drawing No: M2PP-121-D-DWG-8702

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)

C	CERTIFIED ISSUE	MP			31/03/15
B	FOR CERTIFICATION	MP			03/03/15
A	PRELIMINARY ISSUE TO KCDC	VB			
No.	Revision	By	Chk	Chk-V	Appd Date

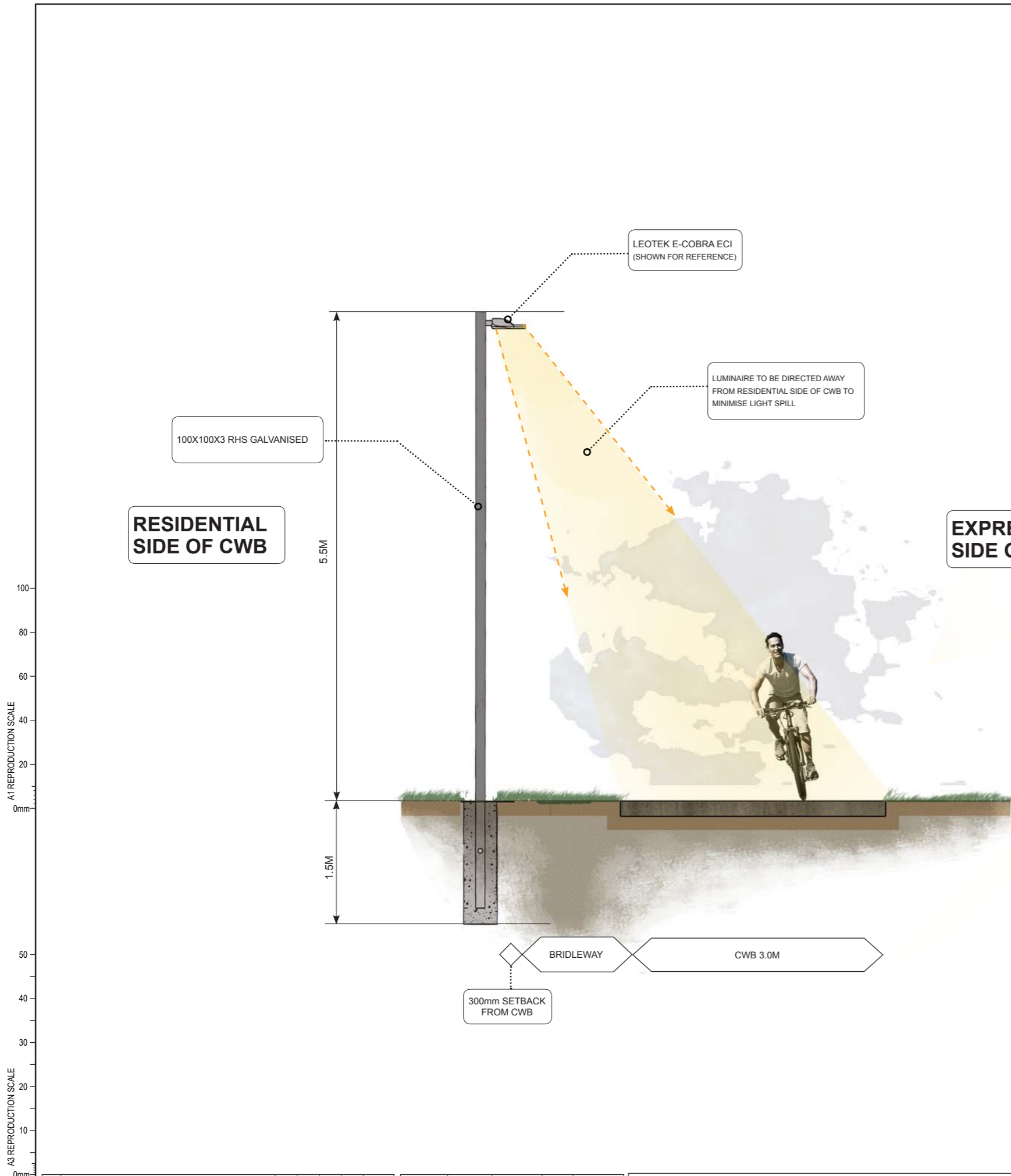
Original Scale (A1)	Design Drawn	VB	10/12/14	Approved For Construction*
AS SHOWN	Diag Verifier			Date
Reduced Scale (A3)	Diag Check			
AS SHOWN	* Refer to Revision 1 for Original Signature			

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

Title: SSMP 8 [480-510] - SHEET 16
LIGHTING LOCATION PLAN

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

Rev: C



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

A3 REPRODUCTION SCALE

DETAIL DESIGN (DET)

C	CERTIFIED ISSUE	MP		31/03/15
B	FOR CERTIFICATION	MP		03/03/15
A	PRELIMINARY ISSUE TO KCDC	VB		
No.	Revision	By	Chk	Appd

Original Scale (A1) AS SHOWN	Design Drawn	10/12/14	Approved For Construction*
Reduced Scale (A3) AS SHOWN	Design Checked		Date

NZ TRANSPORT AGENCY
WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

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

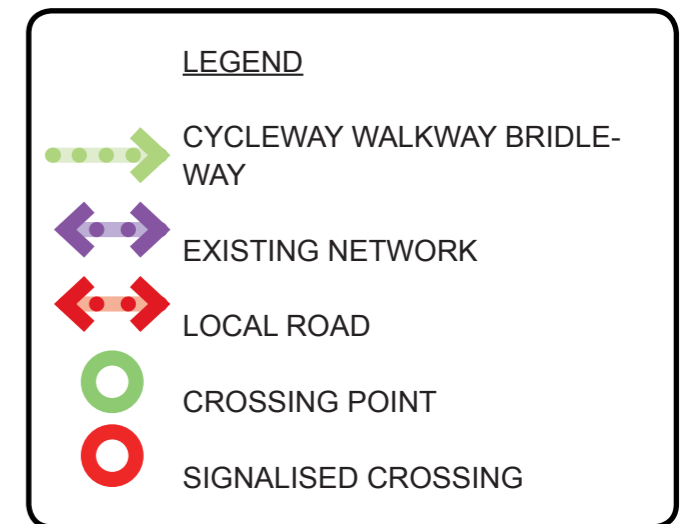
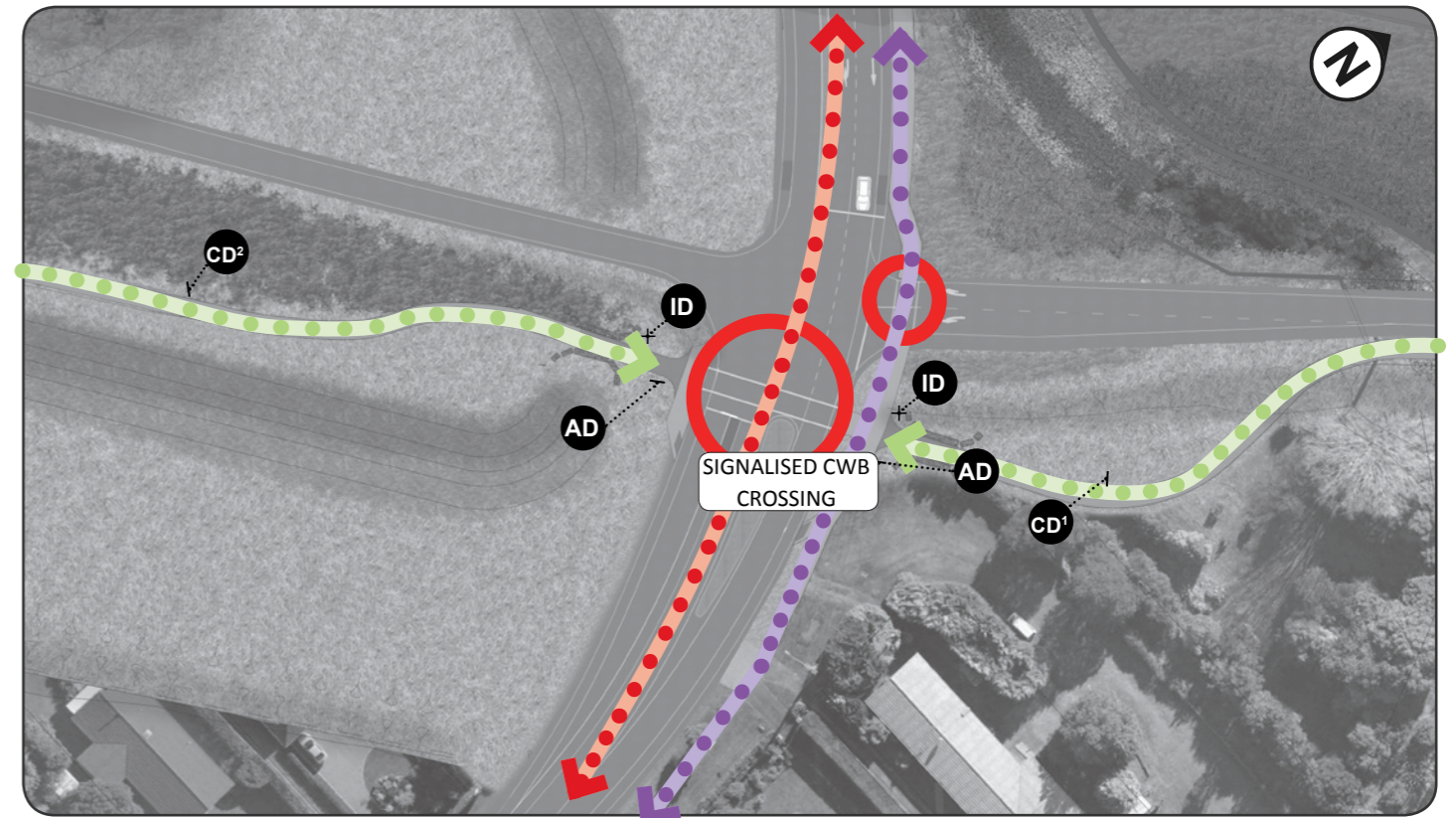
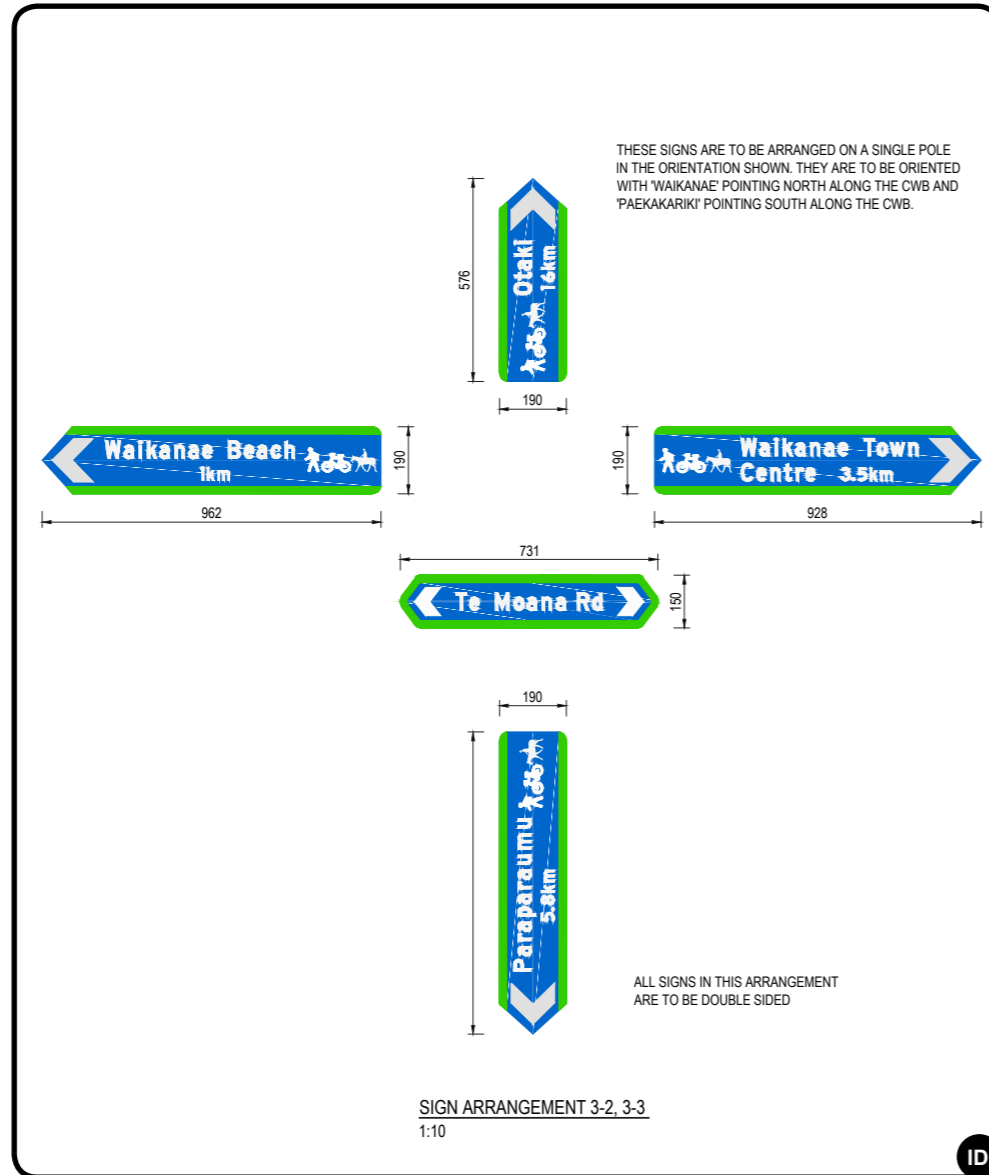
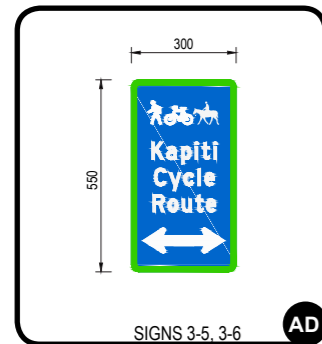
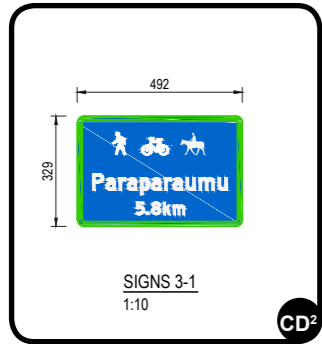
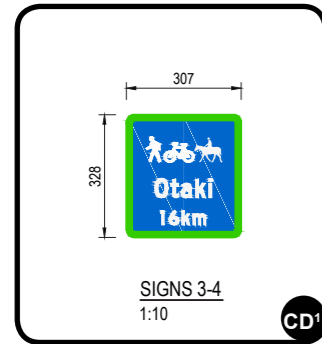
Title: SSMP 8 [480-510] - SHEET 17
CWB LIGHTING

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

Rev: C

A1 REPRODUCTION SCALE

A3 REPRODUCTION SCALE



C	CERTIFIED ISSUE	MP			31/03/15	
B	FOR CERTIFICATION	MP			03/03/15	
A	PRELIMINARY ISSUE TO KCDC	VB				
No.	Revision	By	Chk	Chk-V	Appd	Date

Original Scale (A1)	Design	Approved For Construction*
AS SHOWN	Drawn VB	10/12/14
Reduced Scale (A3)	Design Verifier	
AS SHOWN	Design Check	

* 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 8 [480-510] - SHEET 18
CWB SIGNAGE

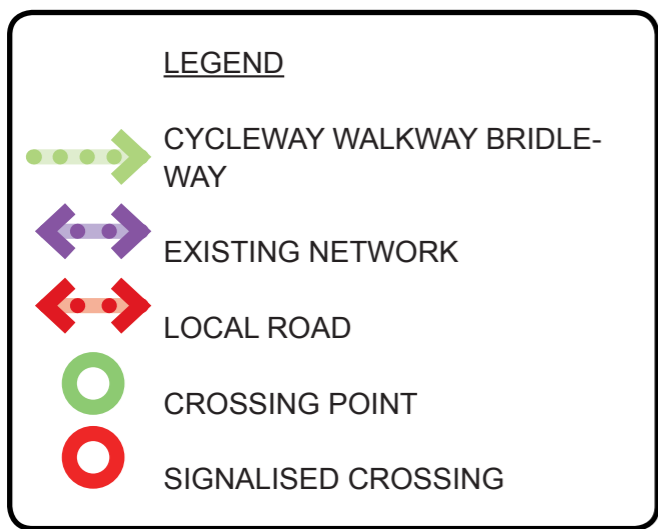
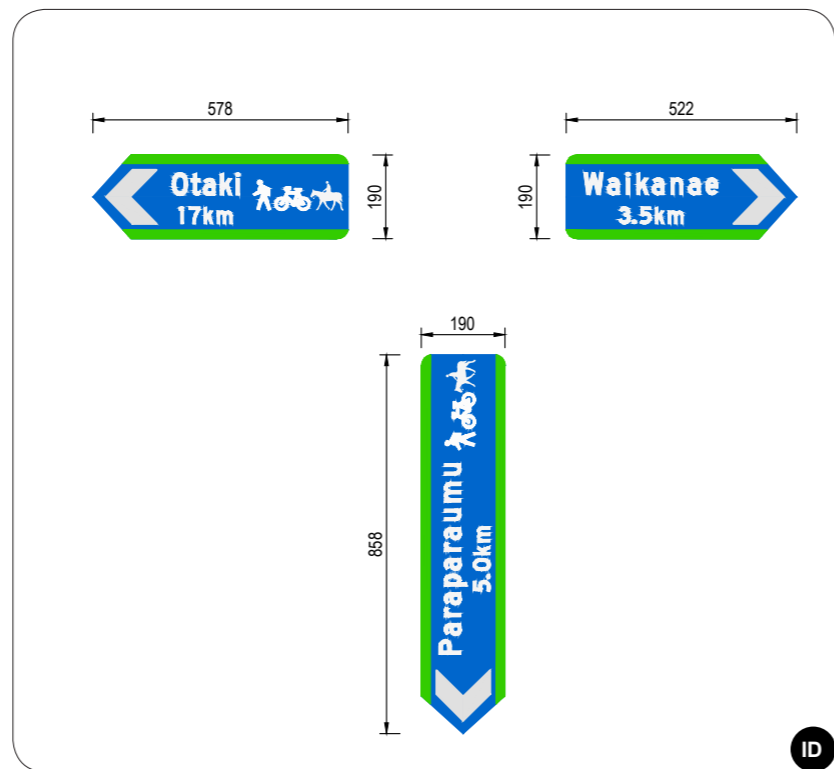
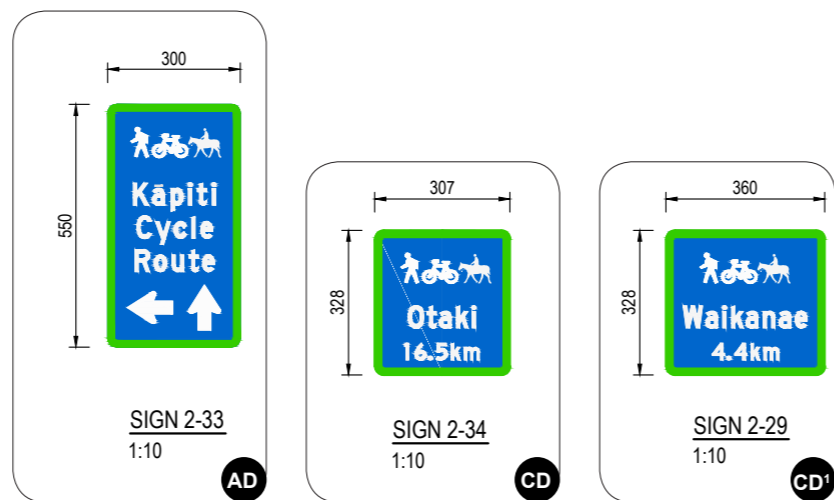
Drawing No: M2PP-121-D-DWG-8901

Rev: C

A1 REPRODUCTION SCALE

A3 REPRODUCTION SCALE

0mm
20
40
60
80
100



C	CERTIFIED ISSUE	MP			31/03/15
B	FOR CERTIFICATION	MP			03/03/15
A	PRELIMINARY ISSUE TO KCDC	VB			
No.	Revision	By	Chk	Chk-V	Appd Date

Original Scale (A1)	Design	Drawn	10/12/14	Approved For Construction*
AS SHOWN	Day Verifier	VB		
Reduced Scale (A3)	Day Check			Date
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 8 [480-510] - SHEET 19
CWV SIGNAGE

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

Rev: C

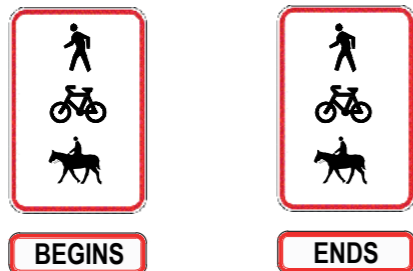
TYPICAL SIGN TYPES:

AI - ADVANCED INFO SIGNS

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

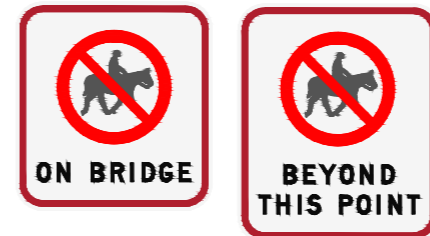
AI - Advance Information Signs are not an essential requirement for public access tracks or cycle routes, nor are they standardised in terms of their design and layout. These signs may, if desired and appropriate, be installed at or near the start point of the route to provide detailed information, such 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.

EB - END OF BRIDLEWAY SIGNS



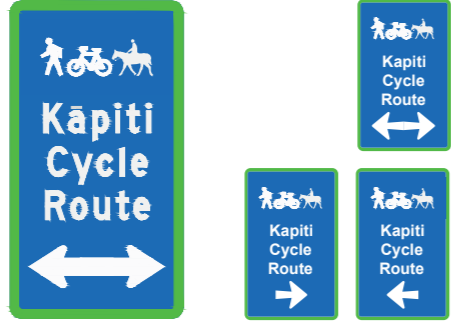
ID - INTERSECTION DIRECTION



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

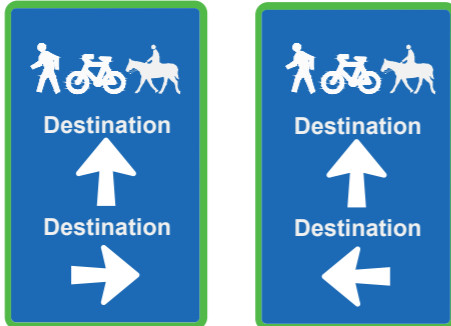


CD - The Confirmation Direction Sign is used to confirm the direction/destination of travel after an intersection it is intended to provide assurance to cyclists. The CD sign features a straight ahead arrow and should include both Information about the destination and the distance.

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 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
0mm 20 40 60 80 100
A3 REPRODUCTION SCALE
0mm 10 20 30 40 50

C	CERTIFIED ISSUE	MP			31/03/15
B	FOR CERTIFICATION	MP			03/03/15
A	PRELIMINARY ISSUE TO KCDC	VB			
No.	Revision	By	Chk	Chk-V	Appd

Original Scale (A1)	Design	Drawn	VB	10/12/14	Approved For Construction*
AS SHOWN	Drawn	VB			Date
Scale (A3)	Diag Verifier				
AS SHOWN	Diag Check				

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

Title:	SSMP 8 [480-510] - SHEET 20
	TYPICAL SIGNAGE

Drawing No:	M2PP-121-D-DWG-8903
Rev:	C

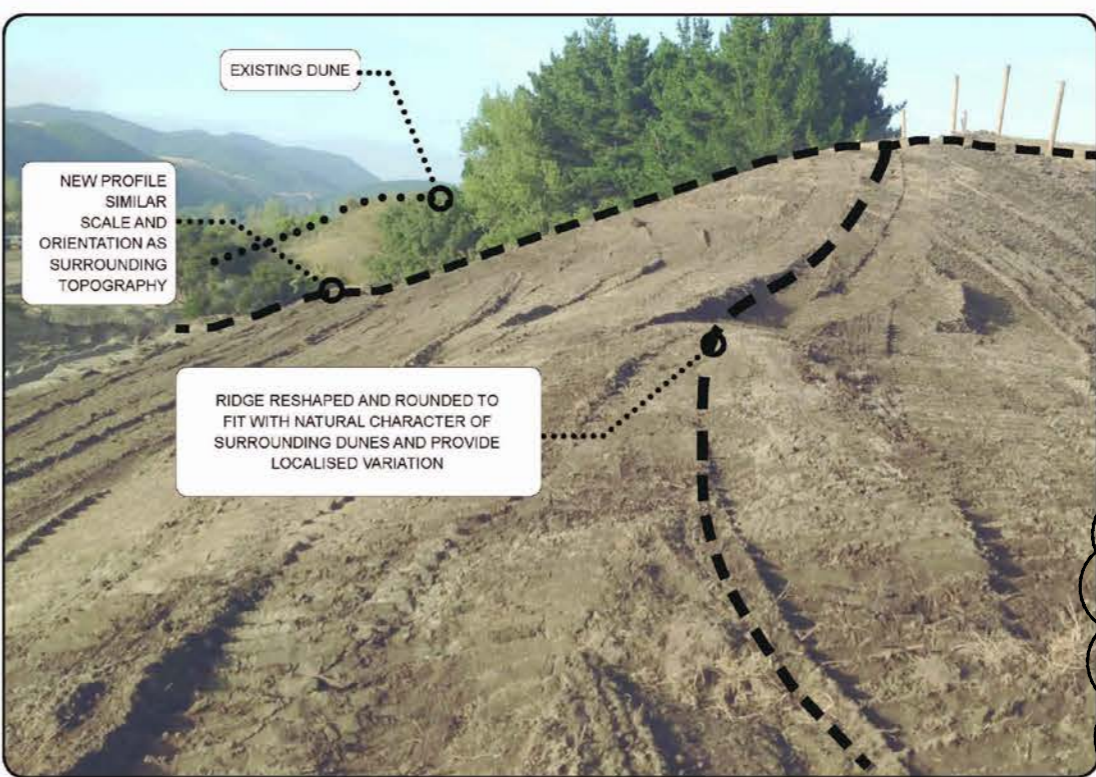
DETAIL DESIGN (DET)

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.

A3 REPRODUCTION SCALE
0mm
20
40
60
80
100

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

Original Scale (A1)	Design	Drawn	24.04.14	Approved For Construction
NTS	B FAULKNER	V BILLETT	24.04.14	P BRADSHAW
Reduced Scale (A3)	Design	Checked	Date	Date
NTS	G F-B	G F-B	05.05.14	05.05.14

NZ TRANSPORT AGENCY
WAKA KOTAHI

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

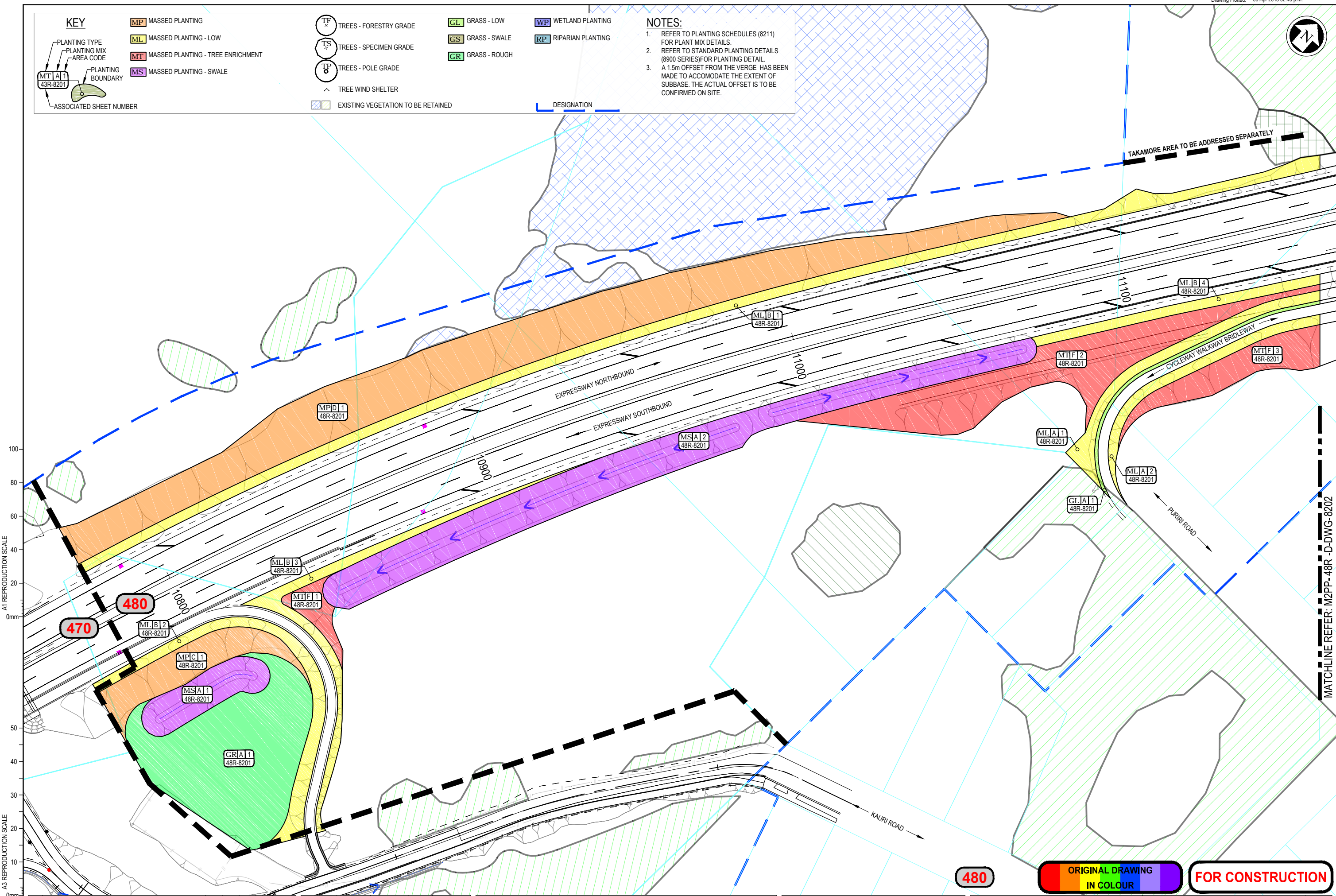
Drawing No: M2PP-23R-D-DWG-8904
Rev: 2

KEY

PLANTING TYPE PLANTING MIX AREA CODE	MASSES PLANTING	TREES - FORESTRY GRADE	GRASS - LOW	WETLAND PLANTING
PLANTING BOUNDARY	MASSES PLANTING - LOW	TREES - SPECIMEN GRADE	GRASS - SWALE	RIPARIAN PLANTING
ASSOCIATED SHEET NUMBER	MASSES PLANTING - TREE ENRICHMENT	TREES - POLE GRADE	GRASS - ROUGH	
	MASSES 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
0mm 20 40 60 80 100

A3 REPRODUCTION SCALE
0mm 10 20 30 40 50

MATCHLINE REFER: M2PP-48R-D-DWG-8202

No.	Revision	By	Chk	Chk-V	Appd	Date
1	FOR CONSTRUCTION	MP	MM	DH	SW	09.04.15

Original Scale (A1)	1:500	Design	F. BAGGALEY	30.09.14	Approved For Construction
Reduced Scale (A3)	1:1000	Drawn	M. POWELL	30.09.14	D. STIRRAT
		Design Checker	B. EVANS	10.03.15	
		Design Checker	M. MEERVELD	08.04.15	Date 09.04.13



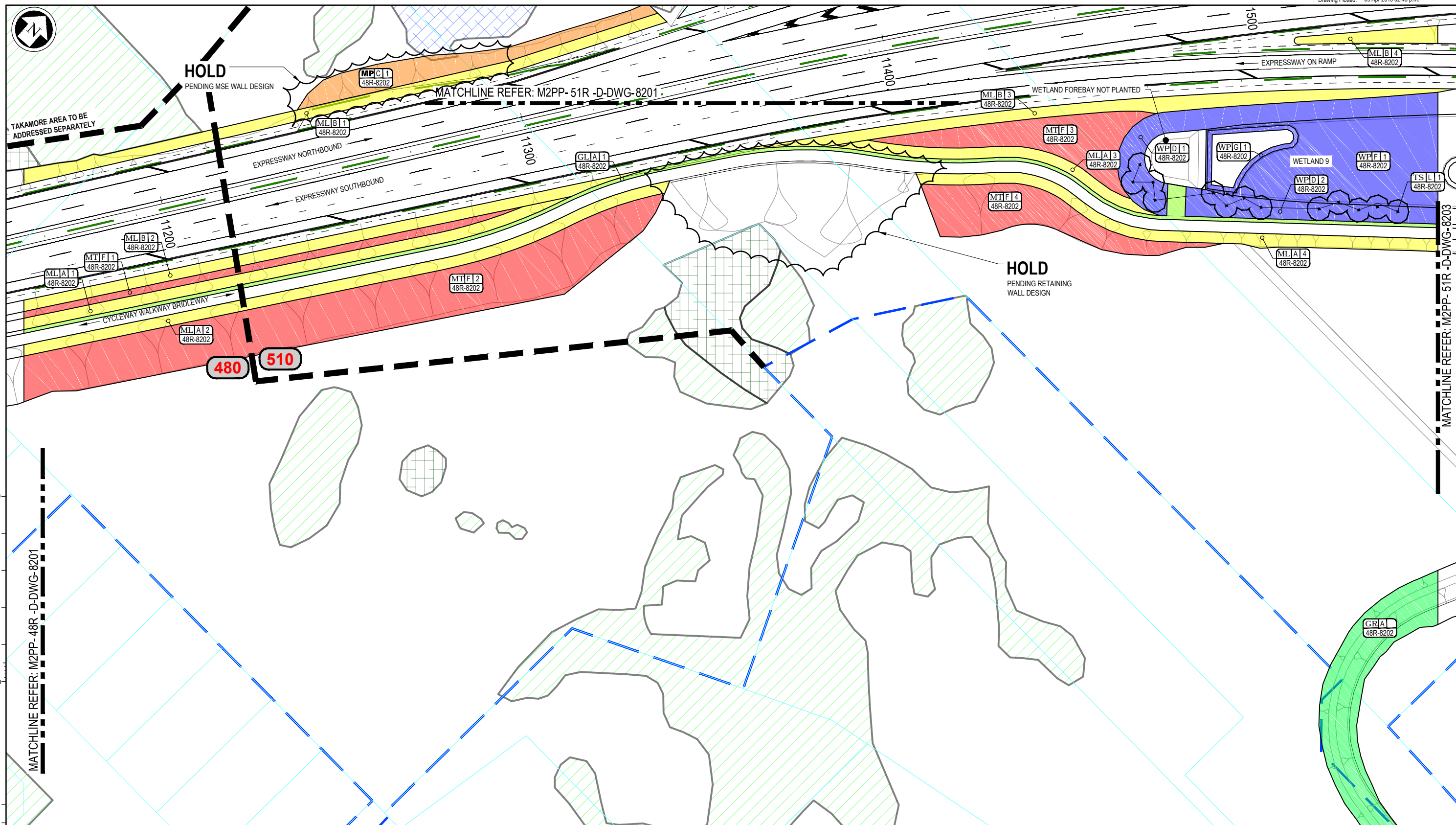
MacKays to Peka Peka
Wellington Northern Corridor

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

Title: SECTOR 480 EXPRESSWAY PLANTING PLANS SHEET 1

Drawing No: M2PP-48R-D-DWG-8201
Rev: 1

480 ORIGINAL DRAWING IN COLOUR FOR CONSTRUCTION



A1 REPRODUCTION SCALE
0mm 20 40 60 80 100

A3 REPRODUCTION SCALE
0mm 10 20 30 40 50

MATCHLINE REFER: M2PP-48R-D-DWG-8201

MATCHLINE REFER: M2PP-51R-D-DWG-8203

KEY		NOTES:	
MP MASSED PLANTING	TP_x TREES - FORESTRY GRADE	GL GRASS - LOW	1. REFER TO PLANTING SCHEDULES (8211) FOR PLANT MIX DETAILS. 2. REFER TO STANDARD PLANTING DETAILS (8900 SERIES) FOR PLANTING DETAIL. 3. 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.
ML MASSED PLANTING - LOW	TP₊ TREES - SPECIMEN GRADE	GS GRASS - SWALE	
MT MASSED PLANTING - TREE ENRICHMENT	TP_o TREES - POLE GRADE	GR GRASS - ROUGH	
MS MASSED PLANTING - SWALE	△ TREE WIND SHELTER	WP WETLAND PLANTING	
PLANTING TYPE PLANTING MIX AREA CODE PLANTING BOUNDARY ASSOCIATED SHEET NUMBER	△ EXISTING VEGETATION TO BE RETAINED	RP RIPARIAN PLANTING	
		DESIGNATION	

480 510 ORIGINAL DRAWING IN COLOUR FOR CONSTRUCTION

No.	Revision	By	Chk	Chk-V	Appd	Date
1	FOR CONSTRUCTION	MP	MM	DH	SW	09.04.15

Original Scale (A1)	Design	Drawn	Drawn Date	Approved For Construction
1:500	F BAGGALLEY	M POWELL	30.09.14	D STIRRAT
Reduced Scale (A3)	Dwg Verifier	B EVANS	10.03.15	
1:1000	Dwg Check	M MEERVELD	08.04.15	Date 09.04.15



MacKays to Peka Peka
Wellington Northern Corridor

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

Title: SECTOR 480 EXPRESSWAY PLANTING PLANS SHEET 2

Drawing No: M2PP-48R-D-DWG-8202
Rev: 1