

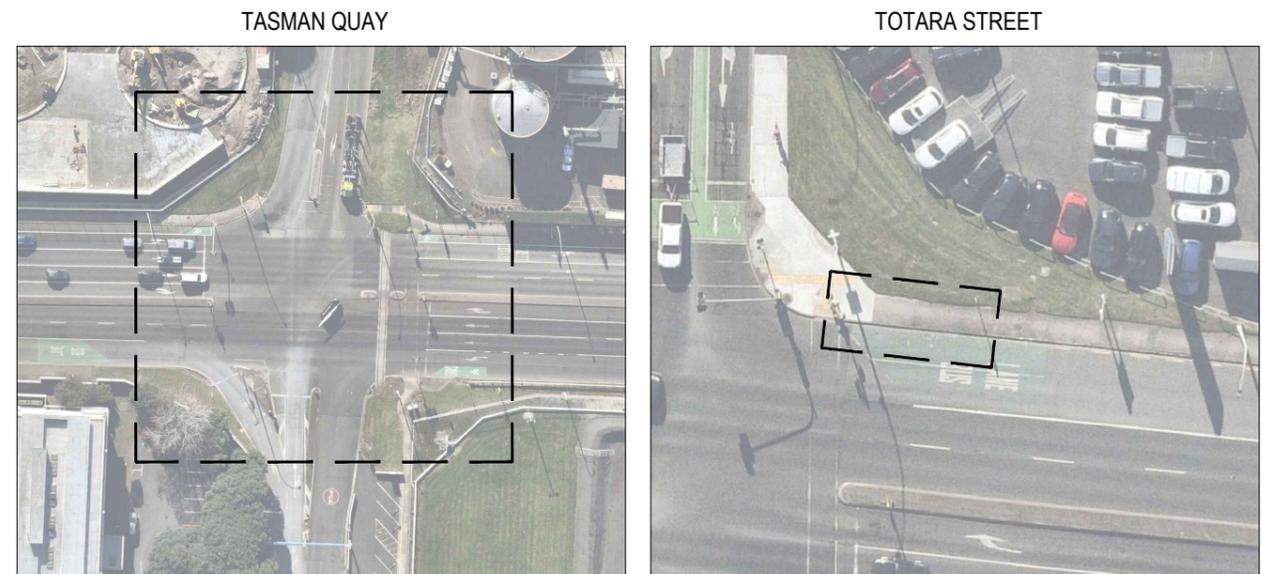
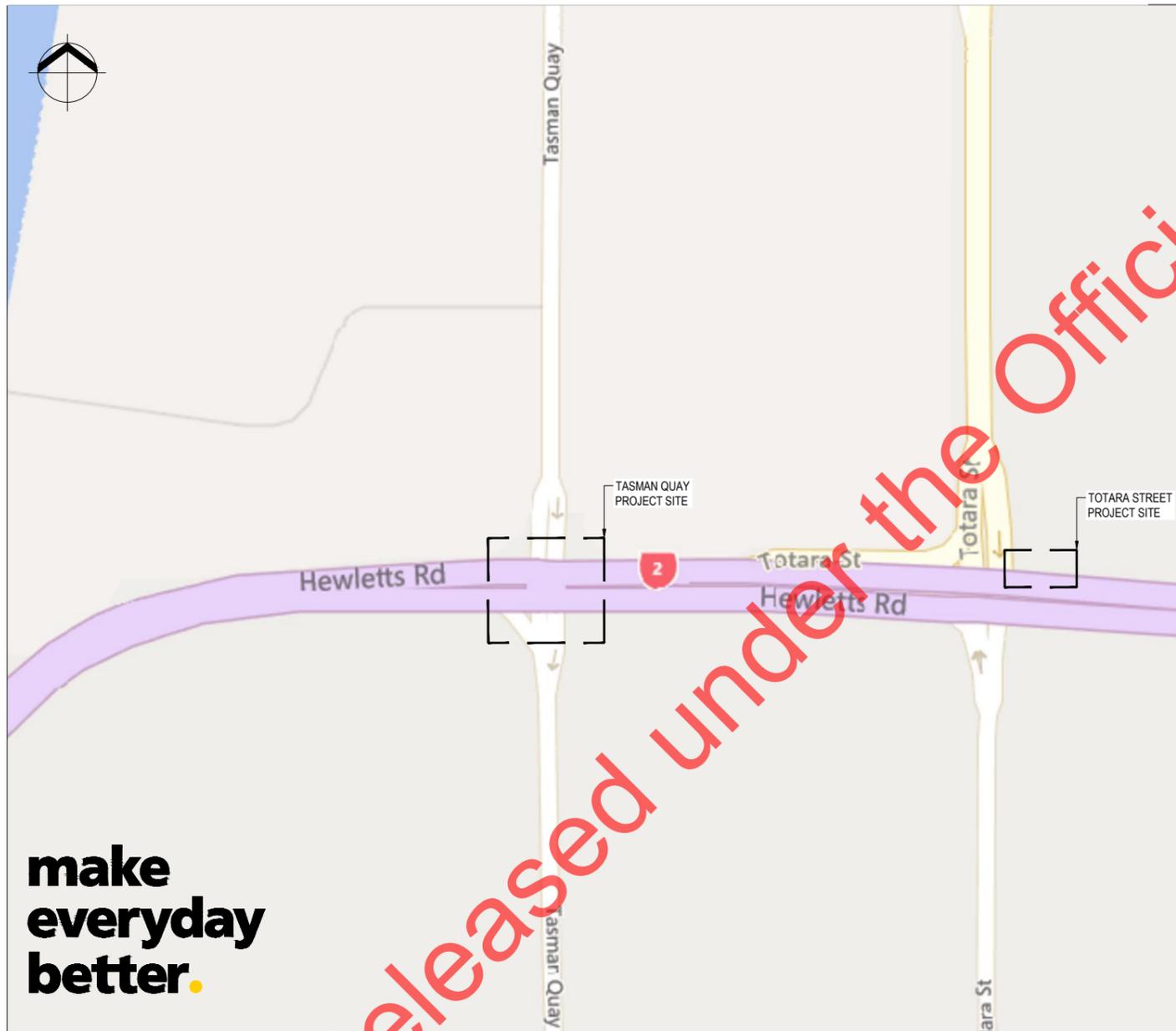
BAY OF PLENTY (BOP) LOW COST LOW RISK (LCLR)

CIVIL

Prepared for NEW ZEALAND TRANSPORT AGENCY WAKA KOTAHI
 Prepared by Beca Limited (Beca)
 At:

Project No.: 3936988
 06 September 2024
 Detailed Design Rev B - Detailed Design Including NZTA Comments

DRAWING LIST	
DRAWING No.	DRAWING TITLE
3936988-04-CA-1001	COVER SHEET AND DRAWING LIST
3936988-04-CA-1002	GENERAL NOTES
3936988-04-CA-1003	SITE STAGING TASMAN QUAY / HEWLETTS ROAD
3936988-04-CA-1041	SITE CLEARANCE TASMAN QUAY / HEWLETTS ROAD
3936988-04-CA-1042	SITE CLEARANCE TOTARA STREET / HEWLETTS ROAD
3936988-04-CA-1101	GENERAL ARRANGEMENT TASMAN QUAY / HEWLETTS ROAD
3936988-04-CA-1102	GENERAL ARRANGEMENT TOTARA STREET / HEWLETTS ROAD
3936988-04-CA-1401	TYPICAL DETAILS
3936988-04-CA-1701	TRAFFIC SIGNAL PLAN TASMAN QUAY / HEWLETTS ROAD
3936988-04-CA-1702	TRAFFIC SIGNAL PHASING, DUCTING AND CABLING PLAN TASMAN QUAY HEWLETTS ROAD
3936988-04-CA-2001	SIGNAGE AND LINE MARKING TASMAN QUAY / HEWLETTS ROAD
3936988-04-CA-2002	SIGNAGE AND LINE MARKING TOTARA STREET / HEWLETTS ROAD
3936988-04-BE-1800	LIGHTING NOTES
3936988-04-BE-1801	LIGHTING LAYOUT TASMAN QUAY / HEWLETTS ROAD
3936988-04-BE-1802	LIGHTING CALCULATION TASMAN QUAY / HEWLETTS ROAD



**make
 everyday
 better.**

1. GENERAL

- 1.1. THE NOTES BELOW ARE TO BE READ IN CONJUNCTION WITH THE DRAWINGS AND SPECIFICATIONS. THE DESIGN DOCUMENT ORDER OF PRECEDENCE IS:
 - i) TECHNICAL DRAWINGS
 - ii) SPECIFICATION
 - iii) TAURANGA CITY COUNCIL INFRASTRUCTURE DEVELOPMENT CODE AND MANUFACTURERS RECOMMENDATIONS
- 1.2. NOTWITHSTANDING AND FOR THE PURPOSE OF TENDERING, WHERE IT'S FOUND TO BE A DISCREPANCY OR CONFLICTING INFORMATION BETWEEN THE DOCUMENTS PROVIDED AND THE NOTES ON THIS SHEET THE TENDERER IS DEEMED TO HAVE ALLOWED FOR THE MORE EXPENSIVE OF THE TWO. THE TENDERER THEN WILL BE REQUIRED TO HIGHLIGHT SUCH ITEMS IN THEIR TENDER FOR THE PRINCIPAL TO REVIEW.
- 1.3. ALL WORKS (INCLUDING TEMPORARY WORK) SHALL COMPLY WITH TCC INFRASTRUCTURE DEVELOPMENT CODE (IDC) REQUIREMENTS UNLESS SPECIFICALLY AMENDED WITHIN THESE DRAWINGS AND THIS SPECIFICATION.

2. STANDARD SPECIFICATIONS

REFERENCE TO ANY STANDARD SHALL INCLUDE ANY AMENDMENTS THERETO AND ANY STANDARD IN SUBSTITUTION THEREFORE.

3. LOW-STRENGTH CONCRETE SUB-BASE

3.1. MATERIALS

- i) CONCRETE COMPRESSIVE STRENGTH; 5MPa AFTER 28-DAYS (NZS 3112) TEST SAMPLES TO BE TAKEN AT THE PLANT EVERY 75m³ OR PART THEREOF PRODUCED PER DAY
- ii) NOMINAL MAXIMUM AGGREGATE SIZE: 19mm
- iii) SLUMP 55 TO 65mm TESTED ON SITE EVERY 75m³ OR PART THEREOF INSTALLED PER DAY
- iv) COMPACTION USING IMMERSION VIBRATORS AS PER CLAUSE 7.6 NZS3109:1997
- v) TOP SURFACE TO BE LEFT ROUGH (NO LESS THAN U5 BROOM FINISH)
- vi) CURING AS PER CLAUSE 7.8.2 NZS 3109 OR BY APPLYING AN APPROVED CURING COMPOUND; OR COVERING WITH POLYTHENE SHEET TO PREVENT UNDUE LOSS OF MOISTURE
- vii) NO CONSTRUCTION VEHICLES INCLUDING ASPHALT PAVING AND COMPACTION EQUIPMENT SHALL BE ALLOWED ON THE CONCRETE SUB-BASE SURFACE WITHIN 7 DAYS AFTER CONCRETE POUR.
- viii) THE CONTRACTOR MAY CHOOSE TO USE 20 MPa CONCRETE FOR THE CONCRETE SUB-BASE FOR FASTER CONSTRUCTION. IN THIS CASE THE CONCRETE SHALL BE CURED AS PER NOTE vi) ABOVE FOR A MINIMUM PERIOD OF 24 HOURS AND ACHIEVE A MINIMUM COMPRESSIVE STRENGTH OF 5 MPa AFTER 24 HOURS. NO CONSTRUCTION VEHICLES INCLUDING ASPHALT PAVING AND COMPACTION EQUIPMENT SHALL BE ALLOWED ON THE CONCRETE SUB-BASE SURFACE WITHIN 24 HOURS AFTER CONCRETE POUR

3.2. CONSTRUCTION

PREPARING THE UNDERLYING COURSE

THE UNDERLYING LAYER SHALL BE INSPECTED FOR ANY WEAK AREAS PRIOR TO PLACEMENT OF ANY SUB-BASE MATERIAL. WEAK AREAS SHALL BE FURTHER EXCAVATED TO A 200mm MIN. BELOW THE UNDERSIDE OF THE NEW SUB-BASE AND BACKFILLED WITH WITH LOW-STRENGTH CONCRETE SUB-BASE.

ALL EXCAVATIONS SHALL BE IN RELATION TO THE EXISTING ADJACENT SURFACE LEVEL.

4. ASPHALTIC CONCRETE

ALL ASPHALT MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE LATEST REVISION OF THESE SPECIFICATIONS AT THE TIME OF TENDER, UNLESS EXPRESSLY NOTED OTHERWISE:

NZTA M/27:2020	SPECIFICATION FOR STONE MASTIC ASPHALT
NZTA M/1-A:2022	SPECIFICATION FOR PERFORMANCE-GRADED ASPHALT BINDER
NZTA M/6:2019	SEALING CHIP
NZTA M/10:2020	SPECIFICATION FOR DENSE GRADED ASPHALTIC CONCRETE
CCNZ BPG04:2021	QUALITY ASSURANCE FOR BITUMINOUS BINDERS
CCNZ BCA E/2:2024	PERFORMANCE OF BITUMEN DISTRIBUTORS
CCNZ/RNZ 9904	CODE OF PRACTICE FOR THE SAFE HANDLING OF BITUMINOUS MATERIALS USING IN ROADING
NZS 4407:2015	METHODS OF SAMPLING AND TESTING ROAD AGGREGATES
NZS 4402:1986	METHODS OF SOIL TESTING FOR CIVIL ENGINEERING PURPOSES (& SUPPLEMENT 1:1988)
ASTM D2397	STANDARD SPECIFICATION FOR CATIONIC EMULSIFIED ASPHALT

4.1. MATERIALS

GENERAL

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE HOT MIX ASPHALT. THE MIX DESIGN SHALL BE IN ACCORDANCE WITH NZTA M/10:2020. THE LABORATORY USED TO DEVELOP THE JOB MIX FORMULA SHALL BE IANZ ACCREDITED FOR THE DESIGN. CONSTRUCTION OF THE ASPHALT LAYER SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF NZTA M/10:2020.

DESCRIPTION	ASPHALT SURFACING	ASPHALT BASE
ASPHALT MIX TYPE	SMA	AC20
TRAFFIC CATEGORY	HEAVY	HEAVY
BINDER GRADE	PG64V	PG64V
ASPHALT DEPTH (MINIMUM)	45mm	80mm

4.2. JOINT CONSTRUCTION

ALL COLD JOINTS SHALL BE TREATED WITH CRAFCO POLYFLEX TYPE 2 OR SIMILAR APPROVED BANDAGE MATERIAL, 50mm EITHER SIDE OF THE JOINT. LONGITUDINAL JOINTS WITHIN THE WHEEL PATHS SHALL BE AVOIDED AND ALL LONGITUDINAL JOINTS ARE TO BE FORMED AT LEAST 300mm FROM WHEEL PATHS. TO BE CONFIRMED ON SITE WITH ENGINEER

4.3. ASPHALT- GENERAL

- i) THE CONTRACTOR SHALL SUBMIT A CURRENT MIX DESIGN FOR EACH ASPHALT MIX SPECIFIED FOR THE PROJECT FOR REVIEW BY THE ENGINEER AT LEAST 7 DAYS PRIOR TO COMMENCEMENT OF PRODUCTION. ASPHALT WITHOUT AN APPROVED MIX DESIGN SHALL NOT BE USED ON SITE.
- ii) A HEAVY TACK COAT TO BE SPRAYED ON THE GRANULAR SURFACE PRIOR TO LAYING AC20 LAYER. TACK COAT TO BE SPRAYED BETWEEN ALL ASPHALT LAYERS UNLESS BOTH THE BOTTOM AND TOP LAYERS ARE CONSTRUCTED WITHIN THE SAME CONSTRUCTION SHIFT.
- iii) ALL ASPHALT LAYERS SHALL BE STEPPED INTO THE EXISTING PAVEMENT AT ALL JOINTS WITH A MINIMUM STEP WIDTH OF 0.2m

PER LAYER FOR ALL LONGITUDINAL JOINTS (PARALLEL TO TRAFFIC DIRECTION) AND 0.5m PER LAYER FOR ALL TRANSVERSE JOINTS (PERPENDICULAR TO TRAFFIC DIRECTION).

- iv) ASPHALT MIXES SHALL BE PLACED AND COMPACTED AT A TEMPERATURE SUITABLE FOR ACHIEVING DENSITY, SURFACE SMOOTHNESS AND OTHER SPECIFIED REQUIREMENTS.
 - v) ALL COMPLETED SURFACES SHALL SHOW NO VISIBLE CRACKING, OR DEFECTS RELATED TO POOR JOINT CONSTRUCTION, OR DEPRESSIONS THAT WILL HOLD WATER TO POND, OR DEVIATE MORE THAN 5mm FROM A 3m STRAIGHT EDGE PLACED IN ANY DIRECTION ON THE MAT.
- UPON COMPLETION OF EACH ELEMENT OF CONSTRUCTION ALL TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

ASPHALT BASE

- i) ALL MATERIALS, CONSTRUCTION AND WORKMANSHIP OF THE ASPHALT BASE LAYER SHALL COMPLY WITH THE LATEST REVISION OF NZTA M/10 SPECIFICATION FOR DENSE GRADED ASPHALTIC CONCRETE, AND THESE NOTES:
- ii) THE AC20 ASPHALT MIX SHALL BE DESIGNED FOR VERY HEAVY TRAFFIC CATEGORY WITH PG64V BINDER GRADE. THE MIX DESIGN REPORT SHALL INCLUDE THE FOLLOWING PERFORMANCE TEST RESULTS:
 - RESILIENT MODULUS AT 25°C
 - MOISTURE SENSITIVITY (TSR %)
 - WHEEL TRACKING TEST AT 60°C
 - AIR VOIDS AT 250 CYCLES.
- iii) THE AC20 MAT THICKNESS SHALL BE EVALUATED FROM CORE DEPTHS. UNLESS AGREED PRIOR WITH THE ENGINEER, THE TOTAL ASPHALT LAYER THICKNESS SHALL NOT BE LESS THAN THE THICKNESS SPECIFIED ON THE DRAWINGS.
- iv) NO RIDE QUALITY REQUIREMENTS APPLY TO THE DENSE GRADED BASE LAYERS.

ASPHALT SURFACING

- i) ALL MATERIALS, CONSTRUCTION AND WORKMANSHIP OF THE STONE MASTIC SURFACING LAYER SHALL COMPLY WITH THE LATEST REVISION OF NZTA M/27 SPECIFICATION FOR STONE MASTIC ASPHALT, AND THESE NOTES:
 - ii) SKID REQUIREMENT - THE CONTRACTOR SHALL SELECT AGGREGATE FOR THE SMA MIX THAT COMPLIES WITH THE SKID RESISTANCE REQUIREMENTS OF NZTA T/10 SPECIFICATION FOR A SITE CATEGORY 1.
 - iii) THE MINIMUM MAT THICKNESS SHALL BE AS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL RECORD THE THICKNESS OF THE MAT BEHIND THE PAVER AT REGULAR INTERVALS AND SUBMIT TO THE ENGINEER FOR REVIEW.
 - iv) THE CONTRACTOR SHALL DETERMINE THE COMPACTION OF THE MAT BY RECORDING THE DENSITY BY NUCLEAR TEST METHODS. CORING OF THE SMA IS NOT REQUIRED.
 - v) ANY AREA OF FINISHED SURFACE THAT HAS BINDER LEVEL WITH OR ABOVE THE TOP OF THE SURFACE OF THE AGGREGATE SHALL BE CONSIDERED FLUSHING. SECTIONS THAT SHOW FLUSHING SHALL BE RECTIFIED USING A METHOD APPROVED BY THE ENGINEER.
- THE FINAL SURFACE SHALL PROVIDE A SMOOTH RIDE WITHOUT BUMPS OR UNEVENNESS.

5. GRASSING

TOPSOIL AREAS SHALL BE SOWN WITH A CERTIFIED GRASS SEED MIXTURE COMPRISING RYE AT 45KG/HA AND CLOVER AT 5 KG/HA, PRETREATED WITH FUNGICIDE AND BIRD REPELLENT.

THE CONTRACTOR SHALL ACHIEVE 100% COVERAGE OF FINE LEAFED GRASS, FREE FROM BROAD LEAFED WEEDS. THE GRASS SHALL BE MOWN TO 20mm WHEN IT REACHES A HEIGHT OF APPROXIMATELY 80mm. MOWING SHALL THEN BE CARRIED OUT MONTHLY UNTIL THE ISSUE OF THE DEFECTS LIABILITY CERTIFICATE.

HYDROSEEDING TO BE IN ACCORDANCE WITH NZTA P39 SECTION 1 AND CONSTRUCTED IN STRICT ACCORDANCE TO THE MANUFACTURERS GUIDELINES

6. CONCRETE FOR RAISED TRAFFIC ISLANDS

CONCRETE STRENGTH TO BE 20MPa AT 28 DAYS. CONCRETE TO CONFORM WITH CLASS U3 OF NZS3114.

7. SUBSOIL

ø110 NEXUS HI-WAY SMOOTH BORE (PUNCHED), BACKFILLED WITH GRADE 3 (CLEAN) SEALING CHIP AND WRAPPED WITH NON-WOVEN GEOTEXTILE STRENGTH CLASS B AND FILTRATION CLASS 1.

ROADING/CLEANING EYES AS TCC IDC T521.

8. KERB AND CHANNEL

REFER TCC IDC CONSTRUCTION STANDARDS AND TCC IDC T421

9. SETOUT

- 9.1. SERVICES LOCATIONS ARE DIAGRAMMATIC ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PHYSICALLY LOCATING THE POSITION OF ALL SUCH UTILITIES AND SHALL ARRANGE WITH THE CONTROLLING AUTHORITIES FOR ANY NECESSARY EXPLORATORY WORK, LOCATION, PROTECTION, ISOLATION, OFFSETTING, REINSTATEMENT OR ALTERATIONS REQUIRED. THE CONTRACTOR SHALL RECORD ANY ALTERATIONS WHICH IT MAKES TO SUCH UTILITIES.
- 9.2. FINAL LAYOUT TO BE AGREED WITH ENGINEER ON SITE PRIOR TO CONSTRUCTION
- 9.3. MEASUREMENTS ARE FROM KERB FACE.
- 9.4. CUTDOWN DIMENSIONS AND SHOWN LOCATIONS ARE THE BOTTOM WIDTH AND DO NOT INCLUDE THE 500mm CHAMFER.
- 9.5. AERIAL IMAGERY HAS BEEN DOWNLOADED FROM THE NEARMAPS DATABASE FOR INDICATIVE PURPOSES. IT IS NOT TO SCALE AND HAS NOT BEEN VERIFIED IN THE FIELD. IMAGERY IS FROM A DATASET DATED 2023.
- 9.6. LOCALITY MAPS SOURCED FROM HTTPS://ARCGIS.COM/APPS/WEBAPPVIEWER, LAND INFORMATION NEW ZEALAND, EAGLE TECHNOLOGY/ ESRI.
- 9.7. PARCEL INFORMATION SOURCED FROM LINZ DATA SERVICE AND LICENSED BY LINZ FOR RE-USE UNDER THE CREATIVE COMMONS ATTRIBUTION 4.0 NEW ZEALAND LICENCE.
- 9.8. SURVEY COORDINATE SYSTEM IS IN ACCORDANCE WITH NZTM2000 NEW ZEALAND TRANSVERSE MERCATOR 2000, WITH NEW ZEALAND VERTICAL DATUM 2016 (NZVD16)

10. LIGHTING

REFER TO DRAWING 3936988-BE-1800 FOR STREET LIGHTING NOTES

11. PAVEMENT MARKINGS

EXTENT OF PAVEMENT MARKING REMOVAL BY WATER/SAND BLASTING METHOD OR USING AN APPROVED METHODOLOGY TO BE AGREED WITH THE ENGINEER.

12. TRAFFIC SIGNALS

REFER TO DRAWING 3936988-04-CA-1701 FOR TRAFFIC SIGNAL NOTES.

Path: P:\3936988\1\WP\04-CAD\Tasman Quay

No.	Revision	By	Chk	Appd	Date
B	DETAILED DESIGN - INCLUDING NZTA COMMENTS				06.09.24
A	DETAILED DESIGN				26.07.24

Original Scale (A1)	Design	S 9(2)(a)	02.07.24	Approved For Construction*
N.T.S	Drawn		02.07.24	
Reduced Scale (A3)	Design Verifier		05.07.24	
N.T.S	Dwg Check		02.07.24	Date

* Refer to Revision 1 for Original Signature

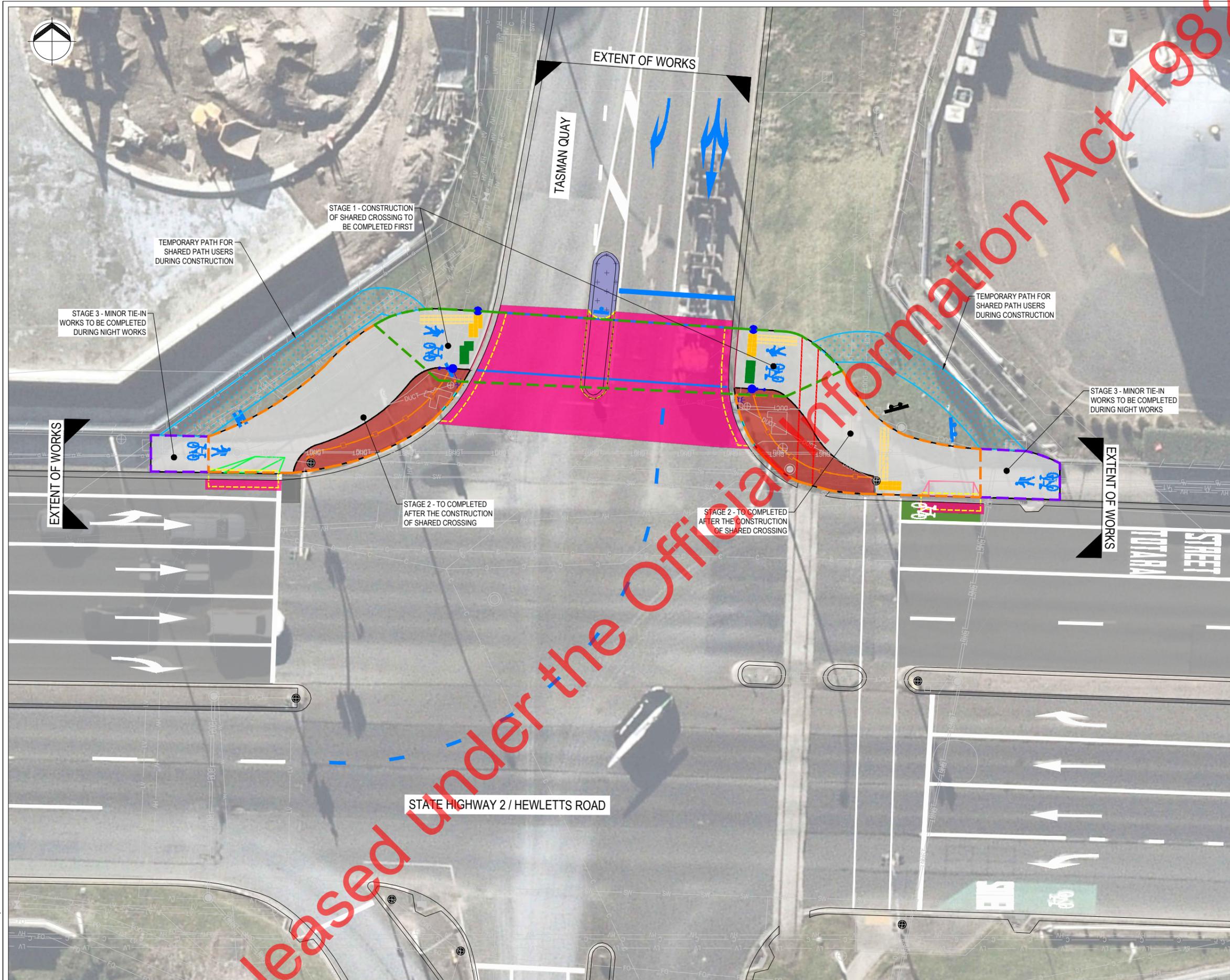


Client: BOP 23/24 LCLR IMPROVEMENTS TASMAN QUAY

Title: GENERAL NOTES

Discipline: CIVIL ENGINEERING	
Drawing No: 3936988-04-CA-1002	Rev: B

DETAILED DESIGN NOT FOR CONSTRUCTION



LEGEND	
ASPHALT SHARED PATH	
COLOURED CONCRETE PATH	
SURFACING REINSTATEMENT	
PAVEMENT REINSTATEMENT	
EXISTING KERB	
KERB CUTDOWN TO TCC IDC T440 DETAIL	
KERB AND CHANNEL TO TCC IDC T421 DETAIL	
CYCLE RAMP (REFER TO CA-1401 DETAIL E)	
PROPOSED NEW TRAFFIC ISLAND DETAIL TO TCC IDC T423	
PROPOSED SIGN	
EXISTING SIGN	
REMOVED SIGN	
EXISTING TRAIN TRACKS TO BE REMOVED	
CYCLE HOOP ON SIGNAL POLE	
PROPOSED HURRICANE PANEL FENCING	
CONSTRUCTION STAGING PATH	
TGSI WARNING INDICATORS	
TGSI DIRECTIONAL INDICATORS	

- NOTES:**
- SERVICES SHOWN IN GREY ARE INDICATIVE ONLY. DATA HAS BEEN SUPPLIED BY SERVICE AUTHORITIES. BECA LTD HOLDS NO RESPONSIBILITY FOR ACCURACY OF SERVICE TYPES OR LOCATIONS.
 - THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING, LOCATING AND PROTECTING ALL SERVICES WITHIN THE SITE EXTENT.
 - REFER TO DRAWING 3936988-04-CA-2001 FOR SIGNAGE AND LINEMARKING LAYOUT.

No.	Revision	By	Chk	Appd	Date
B	DETAILED DESIGN - INCLUDING NZTA COMMENTS				06.09.24
A	DETAILED DESIGN				26.07.24

Original Scale (A1)	1:125	Design	s 9(2)(a)	02.07.24	Approved For Construction*
Reduced Scale (A3)	1:250	Drawn		02.07.24	
		Dwg Verifier		05.07.24	
		Dwg Check		02.07.24	

* Refer to Revision 1 for Original Signature



Client: BOP 23/24 LCLR IMPROVEMENTS TASMAN QUAY

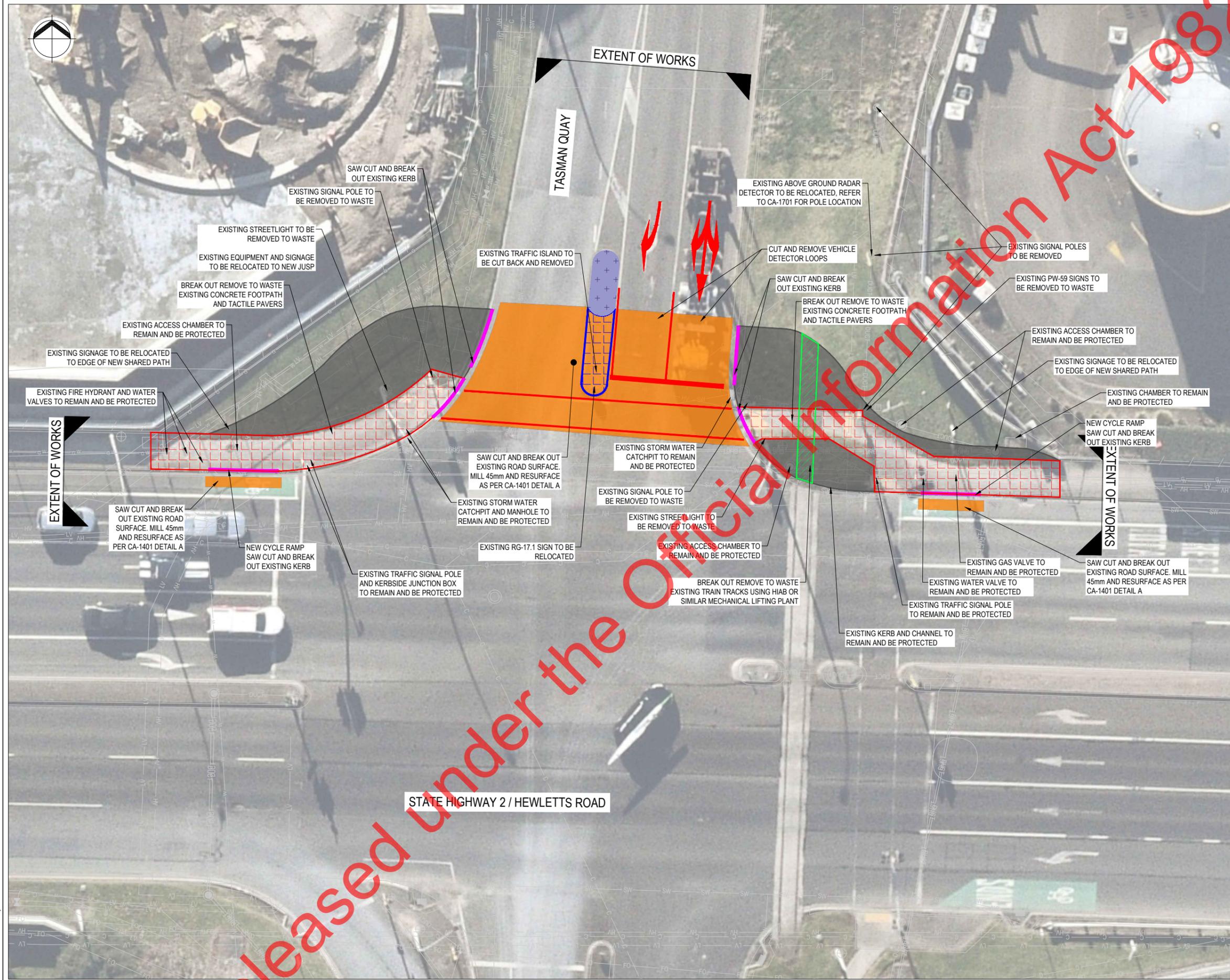
Title: SITE STAGING TASMAN QUAY HEWLETTS ROAD

Discipline	CIVIL ENGINEERING
Drawing No.	3936988-04-CA-1003
Rev.	B

**DETAILED DESIGN
NOT FOR CONSTRUCTION**

LEGEND	
TOPSOIL AND SUBGRADE STRIP FOR SHARED PATH	
SAW CUT AND BREAK OUT EXISTING TRAIN TRACKS	
SAW CUT AND BREAK OUT EXISTING FOOTPATH	
SAW CUT AND BREAK OUT EXISTING TRAFFIC ISLAND	
SAW CUT AND BREAK OUT ROAD SURFACE	
SAW CUT AND BREAK OUT EXISTING KERB	
ROAD MARKING TO BE REMOVED	

- NOTES:**
- SERVICES SHOWN IN GREY ARE INDICATIVE ONLY. DATA HAS BEEN SUPPLIED BY SERVICE AUTHORITIES. BECA LTD HOLDS NO RESPONSIBILITY FOR ACCURACY OF SERVICE TYPES OR LOCATIONS.
 - THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING, LOCATING AND PROTECTING ALL SERVICES WITHIN THE SITE EXTENT.



**DETAILED DESIGN
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
B	DETAILED DESIGN - INCLUDING NZTA COMMENTS				06.09.24
A	DETAILED DESIGN				26.07.24

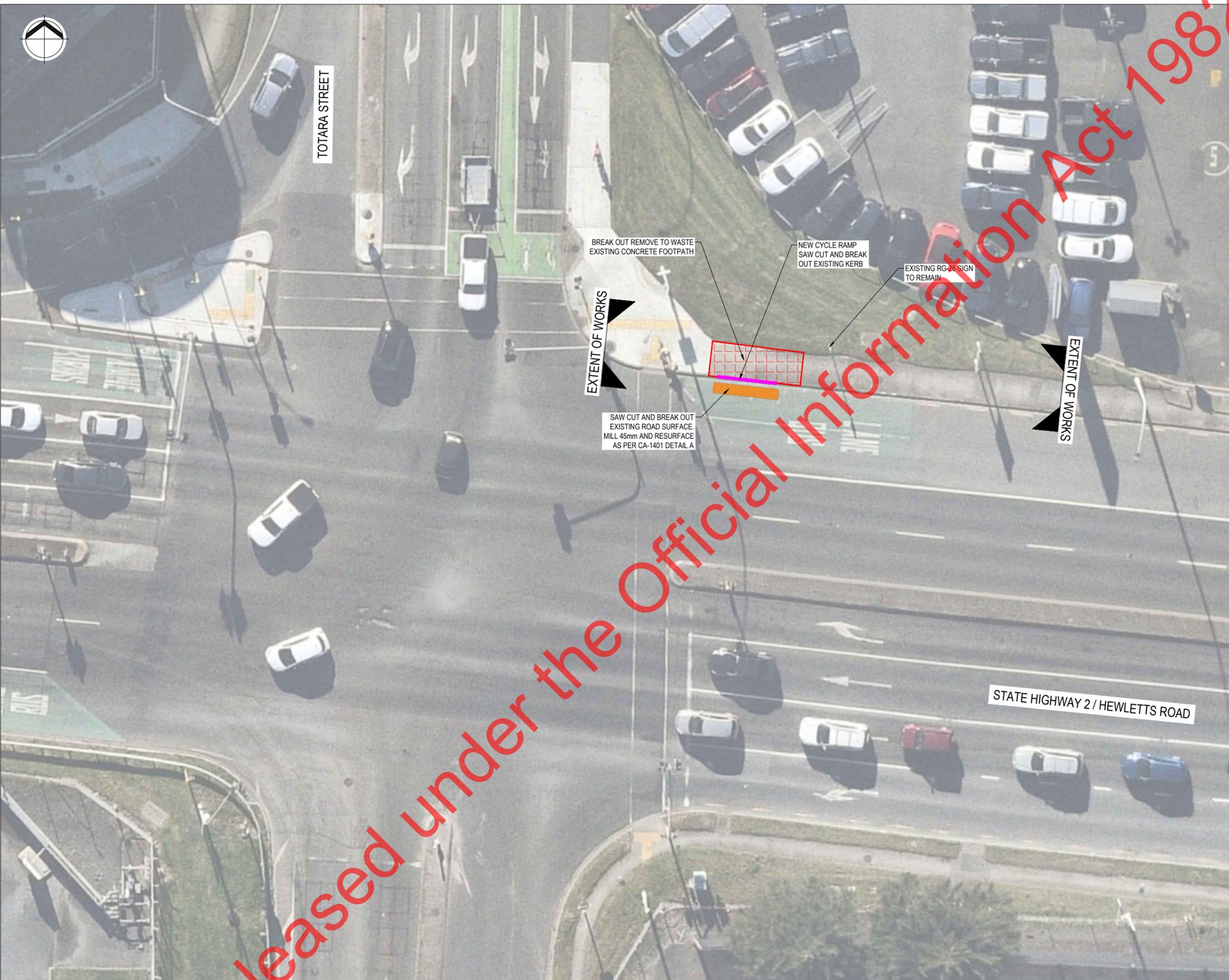
Original Scale (A1)	1:125
Reduced Scale (A3)	1:250
Design	s 9(2)(a)
Drawn	02.07.24
Design Checker	02.07.24
Drawn	05.07.24
Design Checker	02.07.24
* Refer to Revision 1 for Original Signature	



Client: BOP 23/24 LCLR IMPROVEMENTS TASMAN QUAY

Project: SITE CLEARANCE TASMAN QUAY HEWLETTS ROAD

Discipline	CIVIL ENGINEERING
Drawing No.	3936988-04-CA-1041
Rev.	B



LEGEND	
TOPSOIL AND SUBGRADE STRIP FOR SHARED PATH	
SAW CUT AND BREAK OUT EXISTING TRAIN TRACKS	
SAW CUT AND BREAK OUT EXISTING FOOTPATH	
SAW CUT AND BREAK OUT EXISTING TRAFFIC ISLAND	
SAW CUT AND BREAK OUT ROAD SURFACE	
SAW CUT AND BREAK OUT EXISTING KERB	
ROAD MARKING TO BE REMOVED	

- NOTES:**
- SERVICES SHOWN ARE INDICATIVE ONLY. DATA HAS BEEN SUPPLIED BY SERVICE AUTHORITIES. BECA LTD HOLDS NO RESPONSIBILITY FOR ACCURACY OF SERVICE TYPES OR LOCATIONS.
 - THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING, LOCATING AND PROTECTING ALL SERVICES WITHIN THE SITE EXTENT.

DETAILED DESIGN
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	DETAILED DESIGN - INCLUDING NZTA COMMENTS				06.09.24
A	DETAILED DESIGN				26.07.24

Original Scale (A1)	1:125	Design	S 9(2)(a)	02.07.24	Approved For Construction*
Reduce Scale (A3)	1:250	Drawn		02.07.24	
		Design Verifier		05.07.24	
		Dwg Check		02.07.24	

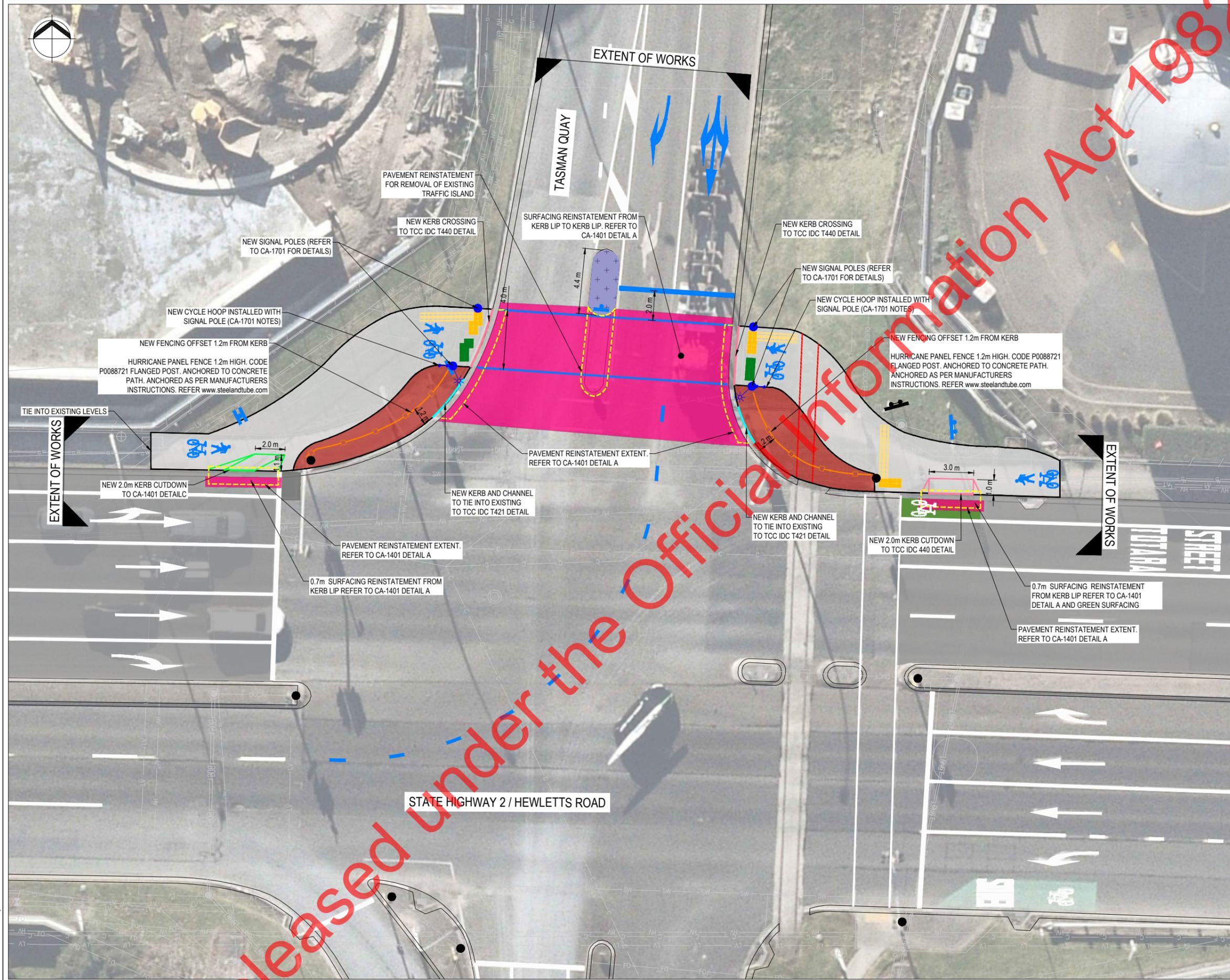
* Refer to Revision 1 for Original Signature



Client: BOP 23/24 LCLR IMPROVEMENTS TASMAN QUAY

Title: SITE CLEARANCE TOTARA STREET HEWLETTS ROAD

Discipline	CIVIL ENGINEERING
Drawing No.	3936988-04-CA-1042
Rev.	B



LEGEND	
ASPHALT SHARED PATH	
COLOURED CONCRETE PATH	
SURFACING REINSTATEMENT	
PAVEMENT REINSTATEMENT	
EXISTING KERB	
KERB CUTDOWN TO TCC IDC T440 DETAIL	
KERB AND CHANNEL TO TCC IDC T421 DETAIL	
CYCLE RAMP (REFER TO CA-1401 DETAIL E)	
PROPOSED NEW TRAFFIC ISLAND DETAIL TO TCC IDC T423	
PROPOSED SIGN	
EXISTING SIGN	
REMOVED SIGN	
EXISTING TRAIN TRACKS TO BE REMOVED	
CYCLE HOOP ON SIGNAL POLE	
PROPOSED HURRICANE PANEL FENCING	
CONSTRUCTION STAGING PATH	
TGSI WARNING INDICATORS	
TGSI DIRECTIONAL INDICATORS	

- NOTES:**
- SERVICES SHOWN IN GREY ARE INDICATIVE ONLY. DATA HAS BEEN SUPPLIED BY SERVICE AUTHORITIES. BECA LTD HOLDS NO RESPONSIBILITY FOR ACCURACY OF SERVICE TYPES OR LOCATIONS.
 - THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING, LOCATING AND PROTECTING ALL SERVICES WITHIN THE SITE EXTENT.
 - REFER TO DRAWING 3936988-04-CA-2001 FOR SIGNAGE AND LINEMARKING LAYOUT.
 - EXTENT OF PAVEMENT AND SURFACING REINSTATEMENT TO BE CONFIRMED ON SITE WITH THE ENGINEER PRIOR TO ANY CONSTRUCTION.

No.	Revision	By	Chk	Appd	Date
B	DETAILED DESIGN - INCLUDING NZTA COMMENTS	s 9(2)(a)			06.09.24
A	DETAILED DESIGN				26.07.24

Original Scale (A1)	1:125	Design	s 9(2)(a)	02.07.24	Approved For Construction*
Reduced Scale (A3)	1:250	Drawn		02.07.24	
		Design Checker		05.07.24	
		Design Date		02.07.24	

* Refer to Revision 1 for Original Signature

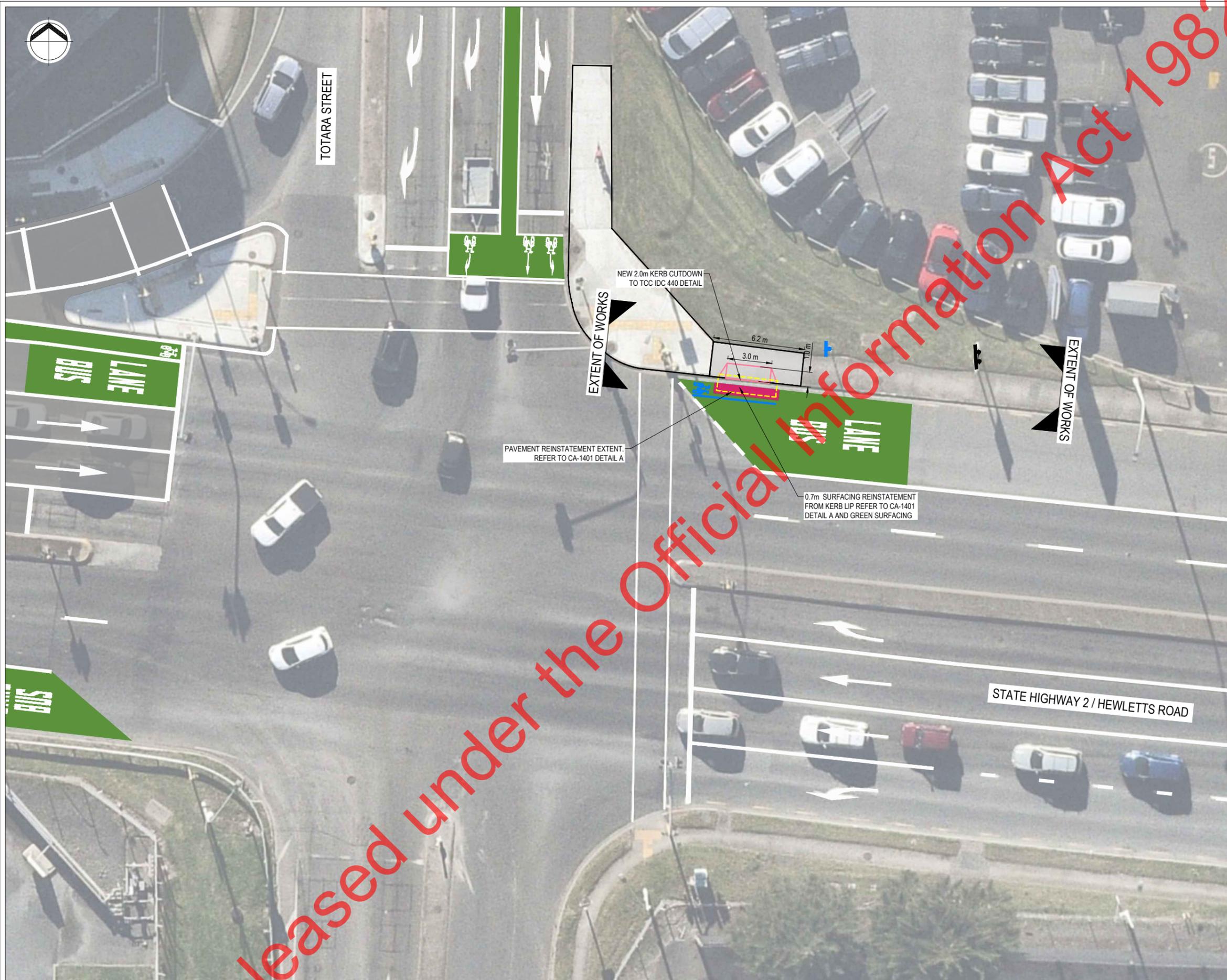


Client: BOP 23/24 LCLR IMPROVEMENTS TASMAN QUAY

Title: GENERAL ARRANGEMENT TASMAN QUAY HEWLETTS ROAD

Discipline	CIVIL ENGINEERING
Drawing No.	3936988-04-CA-1101
Rev.	B

**DETAILED DESIGN
NOT FOR CONSTRUCTION**



LEGEND	
ASPHALT SHARED PATH	
COLOURED CONCRETE PATH	
SURFACING REINSTATEMENT	
PAVEMENT REINSTATEMENT	
EXISTING KERB	
KERB CUTDOWN TO TCC IDC T440 DETAIL	
KERB AND CHANNEL TO TCC IDC T421 DETAIL	
CYCLE RAMP (REFER TO CA-1401 DETAIL E)	
PROPOSED NEW TRAFFIC ISLAND DETAIL TO TCC IDC T423	
PROPOSED SIGN	
EXISTING SIGN	
REMOVED SIGN	
EXISTING TRAIN TRACKS TO BE REMOVED	
CYCLE HOOP ON SIGNAL POLE	
PROPOSED HURRICANE PANEL FENCING	
CONSTRUCTION STAGING PATH	
TGSI WARNING INDICATORS	
TGSI DIRECTIONAL INDICATORS	

- NOTES:**
- SERVICES SHOWN IN GREY ARE INDICATIVE ONLY. DATA HAS BEEN SUPPLIED BY SERVICE AUTHORITIES. BECA LTD HOLDS NO RESPONSIBILITY FOR ACCURACY OF SERVICE TYPES OR LOCATIONS.
 - THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING, LOCATING AND PROTECTING ALL SERVICES WITHIN THE SITE EXTENT.
 - REFER TO DRAWING 3936988-04-CA-2001 FOR SIGNAGE AND LINEMARKING LAYOUT.
 - EXTENT OF PAVEMENT AND SURFACING REINSTATEMENT TO BE CONFIRMED ON SITE WITH THE ENGINEER PRIOR TO ANY CONSTRUCTION.

**DETAILED DESIGN
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
B	DETAILED DESIGN - INCLUDING NZTA COMMENTS				06.09.24
A	DETAILED DESIGN				26.07.24

Original Scale (A1)	Design	S 9(2)(a)	02.07.24	Approved For Construction*
1:125	Drawn		02.07.24	
Reduce Scale (A3)	Design Verifier		05.07.24	
1:250	Design Check		02.07.24	Date

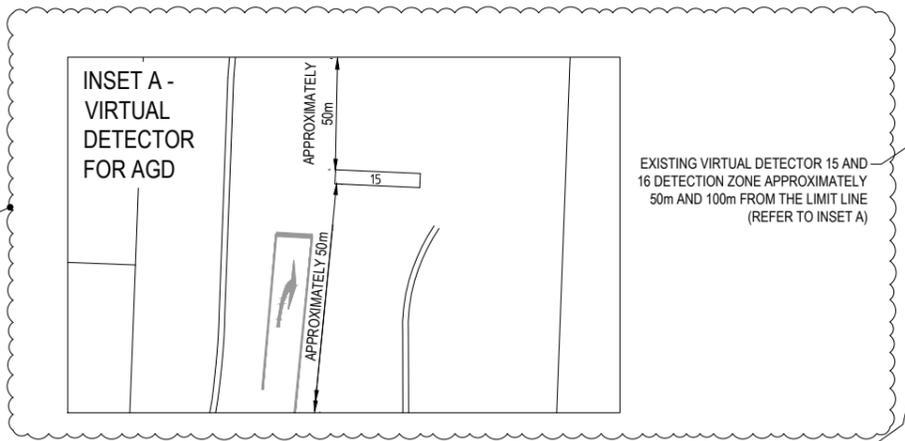
* Refer to Revision 1 for Original Signature



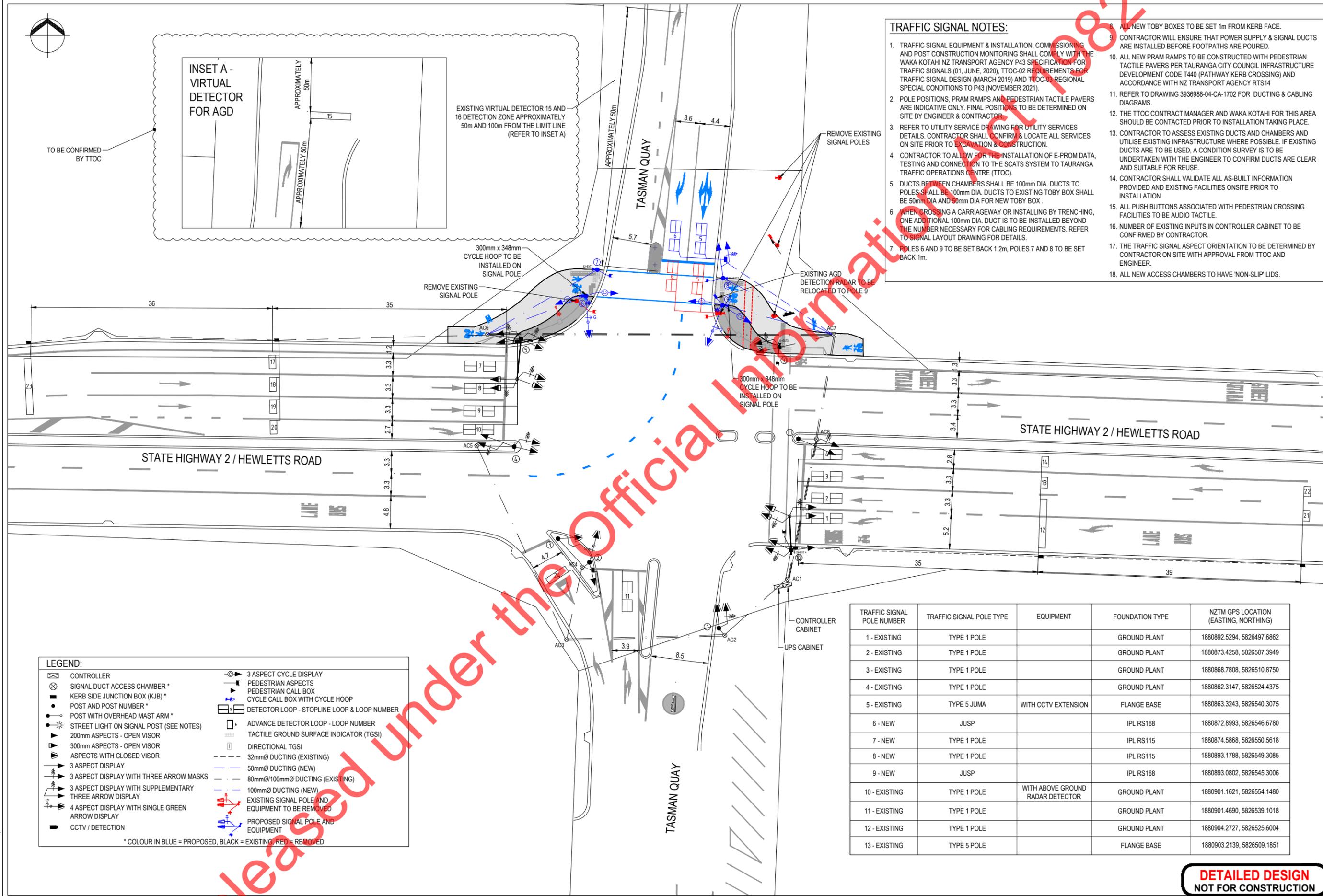
Client: BOP 23/24 LCLR IMPROVEMENTS TASMAN QUAY

Project: GENERAL ARRANGEMENT TOTARA STREET HEWLETTS ROAD

Discipline	CIVIL ENGINEERING
Drawing No.	3936988-04-CA-1102
Rev.	B



- TRAFFIC SIGNAL NOTES:**
- TRAFFIC SIGNAL EQUIPMENT & INSTALLATION, COMMISSIONING AND POST CONSTRUCTION MONITORING SHALL COMPLY WITH THE WAKA KOTAHĪ NZ TRANSPORT AGENCY P43 SPECIFICATION FOR TRAFFIC SIGNALS (01 JUNE, 2020), TTOC-02 REQUIREMENTS FOR TRAFFIC SIGNAL DESIGN (MARCH 2019) AND TTOC-03 REGIONAL SPECIAL CONDITIONS TO P43 (NOVEMBER 2021).
 - POLE POSITIONS, PRAM RAMPS AND PEDESTRIAN TACTILE PAVERS ARE INDICATIVE ONLY. FINAL POSITIONS TO BE DETERMINED ON SITE BY ENGINEER & CONTRACTOR.
 - REFER TO UTILITY SERVICE DRAWING FOR UTILITY SERVICES DETAILS. CONTRACTOR SHALL CONFIRM & LOCATE ALL SERVICES ON SITE PRIOR TO EXCAVATION & CONSTRUCTION.
 - CONTRACTOR TO ALLOW FOR THE INSTALLATION OF E-PROM DATA, TESTING AND CONNECTION TO THE SCATS SYSTEM TO TAURANGA TRAFFIC OPERATIONS CENTRE (TTOC).
 - DUCTS BETWEEN CHAMBERS SHALL BE 100mm DIA. DUCTS TO POLES SHALL BE 100mm DIA. DUCTS TO EXISTING TOBY BOX SHALL BE 50mm DIA AND 60mm DIA FOR NEW TOBY BOX.
 - WHEN CROSSING A CARRIAGEWAY OR INSTALLING BY TRENCHING, ONE ADDITIONAL 100mm DIA. DUCT IS TO BE INSTALLED BEYOND THE NUMBER NECESSARY FOR CABLING REQUIREMENTS. REFER TO SIGNAL LAYOUT DRAWING FOR DETAILS.
 - POLES 6 AND 9 TO BE SET BACK 1.2m, POLES 7 AND 8 TO BE SET BACK 1m.
 - ALL NEW TOBY BOXES TO BE SET 1m FROM KERB FACE.
 - CONTRACTOR WILL ENSURE THAT POWER SUPPLY & SIGNAL DUCTS ARE INSTALLED BEFORE FOOTPATHS ARE POURED.
 - ALL NEW PRAM RAMPS TO BE CONSTRUCTED WITH PEDESTRIAN TACTILE PAVERS PER TAURANGA CITY COUNCIL INFRASTRUCTURE DEVELOPMENT CODE T440 (PATHWAY KERB CROSSING) AND ACCORDANCE WITH NZ TRANSPORT AGENCY RTS14
 - REFER TO DRAWING 3936988-04-CA-1702 FOR DUCTING & CABLING DIAGRAMS.
 - THE TTOC CONTRACT MANAGER AND WAKA KOTAHĪ FOR THIS AREA SHOULD BE CONTACTED PRIOR TO INSTALLATION TAKING PLACE.
 - CONTRACTOR TO ASSESS EXISTING DUCTS AND CHAMBERS AND UTILISE EXISTING INFRASTRUCTURE WHERE POSSIBLE. IF EXISTING DUCTS ARE TO BE USED, A CONDITION SURVEY IS TO BE UNDERTAKEN WITH THE ENGINEER TO CONFIRM DUCTS ARE CLEAR AND SUITABLE FOR REUSE.
 - CONTRACTOR SHALL VALIDATE ALL AS-BUILT INFORMATION PROVIDED AND EXISTING FACILITIES ONSITE PRIOR TO INSTALLATION.
 - ALL PUSH BUTTONS ASSOCIATED WITH PEDESTRIAN CROSSING FACILITIES TO BE AUDIO TACTILE.
 - NUMBER OF EXISTING INPUTS IN CONTROLLER CABINET TO BE CONFIRMED BY CONTRACTOR.
 - THE TRAFFIC SIGNAL ASPECT ORIENTATION TO BE DETERMINED BY CONTRACTOR ON SITE WITH APPROVAL FROM TTOC AND ENGINEER.
 - ALL NEW ACCESS CHAMBERS TO HAVE 'NON-SLIP' LIDS.



LEGEND:

	CONTROLLER		3 ASPECT CYCLE DISPLAY
	SIGNAL DUCT ACCESS CHAMBER *		PEDESTRIAN ASPECTS
	KERB SIDE JUNCTION BOX (KJB) *		PEDESTRIAN CALL BOX
	POST AND POST NUMBER *		CYCLE CALL BOX WITH CYCLE HOOP
	POST WITH OVERHEAD MAST ARM *		DETECTOR LOOP - STOPLINE LOOP & LOOP NUMBER
	STREET LIGHT ON SIGNAL POST (SEE NOTES)		ADVANCE DETECTOR LOOP - LOOP NUMBER
	200mm ASPECTS - OPEN VISOR		TACTILE GROUND SURFACE INDICATOR (TGS)
	300mm ASPECTS - OPEN VISOR		DIRECTIONAL TGS
	ASPECTS WITH CLOSED VISOR		32mmØ DUCTING (EXISTING)
	3 ASPECT DISPLAY		50mmØ DUCTING (NEW)
	3 ASPECT DISPLAY WITH THREE ARROW MASKS		80mmØ/100mmØ DUCTING (EXISTING)
	3 ASPECT DISPLAY WITH SUPPLEMENTARY THREE ARROW DISPLAY		100mmØ DUCTING (NEW)
	4 ASPECT DISPLAY WITH SINGLE GREEN ARROW DISPLAY		EXISTING SIGNAL POLE AND EQUIPMENT TO BE REMOVED
	CCTV / DETECTION		PROPOSED SIGNAL POLE AND EQUIPMENT

* COLOUR IN BLUE = PROPOSED, BLACK = EXISTING, RED = REMOVED

TRAFFIC SIGNAL POLE NUMBER	TRAFFIC SIGNAL POLE TYPE	EQUIPMENT	FOUNDATION TYPE	NZTM GPS LOCATION (EASTING, NORTHING)
1 - EXISTING	TYPE 1 POLE		GROUND PLANT	1880892.5294, 5826497.6862
2 - EXISTING	TYPE 1 POLE		GROUND PLANT	1880873.4258, 5826507.3949
3 - EXISTING	TYPE 1 POLE		GROUND PLANT	1880868.7808, 5826510.8750
4 - EXISTING	TYPE 1 POLE		GROUND PLANT	1880862.3147, 5826524.4375
5 - EXISTING	TYPE 5 JUMA	WITH CCTV EXTENSION	FLANGE BASE	1880863.3243, 5826540.3075
6 - NEW	JUSP		IPL RS168	1880872.8993, 5826546.6780
7 - NEW	TYPE 1 POLE		IPL RS115	1880874.5868, 5826550.5618
8 - NEW	TYPE 1 POLE		IPL RS115	1880893.1788, 5826549.3085
9 - NEW	JUSP		IPL RS168	1880893.0802, 5826545.3006
10 - EXISTING	TYPE 1 POLE	WITH ABOVE GROUND RADAR DETECTOR	GROUND PLANT	1880901.1621, 5826554.1480
11 - EXISTING	TYPE 1 POLE		GROUND PLANT	1880901.4690, 5826539.1018
12 - EXISTING	TYPE 1 POLE		GROUND PLANT	1880904.2727, 5826525.6004
13 - EXISTING	TYPE 5 POLE		FLANGE BASE	1880903.2139, 5826509.1851

**DETAILED DESIGN
NOT FOR CONSTRUCTION**

Path: P:\3936988-04\WIP\04-CAD\Tasman Quay

Original Scale (A1)	1:250	Design	s 9(2)(a)	02.07.24	Approved For Construction*
Reduced Scale (A3)	1:500	Drawn	s 9(2)(a)	02.07.24	
		Checked		02.07.24	
		Appd		02.07.24	
		Date		02.07.24	

* Refer to Revision 1 for Original Signature



Client: BOP 23/24 LCLR IMPROVEMENTS TASMAN QUAY

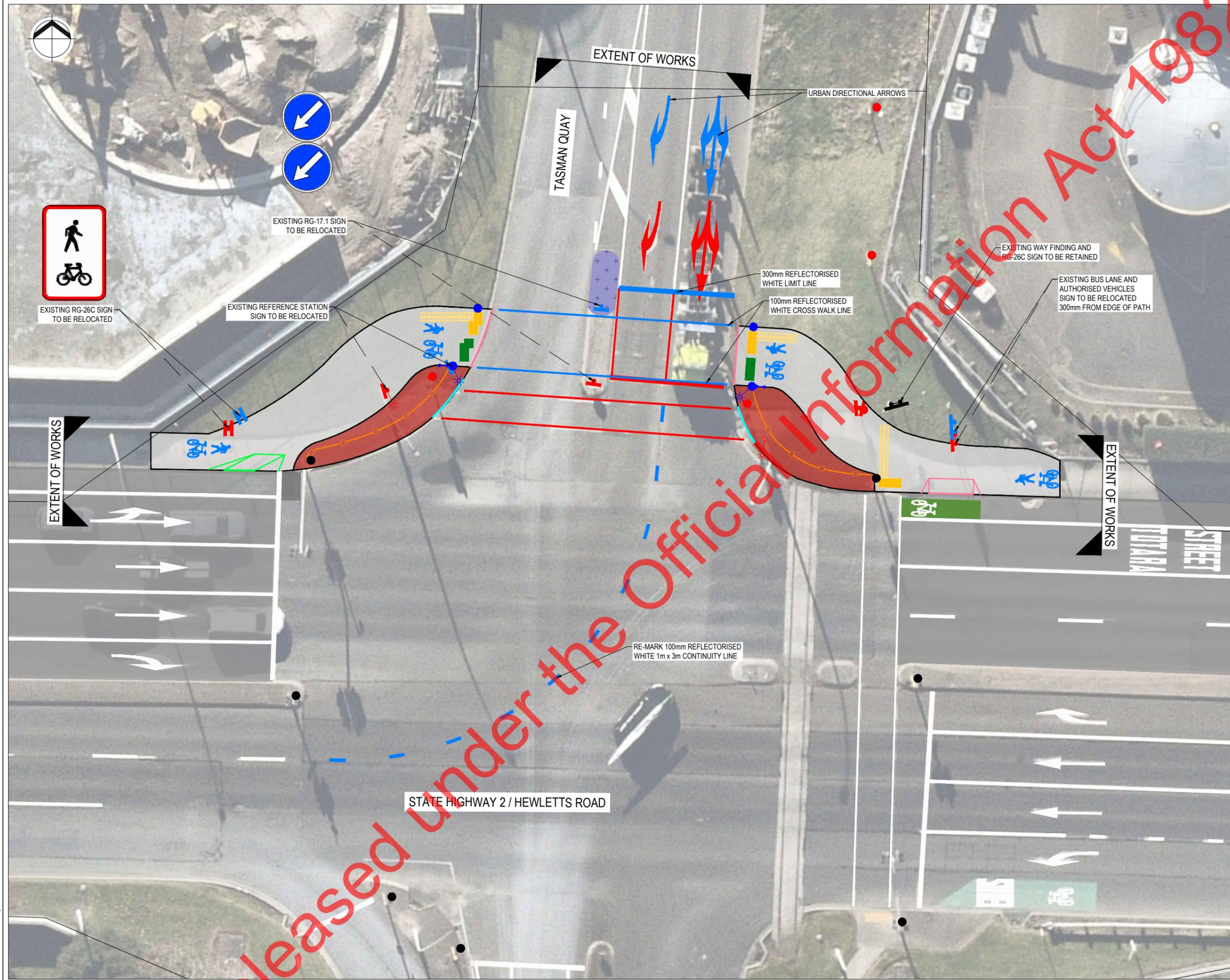
Title: TRAFFIC SIGNAL PLAN TASMAN QUAY HEWLETTS ROAD

Discipline	CIVIL ENGINEERING
Document No.	3936988-04-CA-1701
Rev.	B

www.beca.com

www.beca.com

Document No. 3936988-04-CA-1701.DWG © Beca 2024



LEGEND	
EXISTING ROAD MARKINGS:	
EXISTING CONTINUOUS REFLECTORISED WHITE LINE	
REMOVED CONTINUOUS REFLECTORISED WHITE LINE	
EXISTING REFLECTORISED WHITE CONTINUITY LINE - 1m x 3m	
EXISTING REFLECTORISED WHITE LANE LINE - 3m x 7m	
EXISTING 300mm LIMIT LINE	
EXISTING WHITE DIRECTIONAL ARROWS	
REMOVED WHITE DIRECTIONAL ARROWS	
EXISTING WHITE SHARED PATH MARKING	
EXISTING CYCLE MARKING	
EXISTING GREEN SURFACING	
PROPOSED ROAD MARKINGS:	
CONTINUOUS REFLECTORISED WHITE LINE	
REFLECTORISED WHITE CONTINUITY LINE - 1m x 3m	
300mm LIMIT LINE	
WHITE CYCLE MARKING	
WHITE SHARED PATH MARKING	
RED SURFACING	
SIGNAGE:	
PROPOSED SIGN	
EXISTING SIGN	
REMOVED SIGN	

- NOTES:**
- ALL MARKINGS SHALL BE IN ACCORDANCE WITH NZTA MANUAL OF TRAFFIC SIGNS AND MARKINGS PARTS 1 & 2, THE NZTA P24 PERFORMANCE BASED SPECIFICATION FOR TRAFFIC SIGNS AND THE RSMA COMPLIANCE STANDARD FOR TRAFFIC SIGNS.
 - CONTRACTOR TO SET OUT ALL PROPOSED MARKINGS 2 DAYS IN ADVANCE OF INSTALLATION. THE CONTRACTOR THEN TO IMMEDIATELY INFORM THE ENGINEER OF ANY DISCREPANCIES.
 - ALL NEW PAINT MARKINGS TO BE REFLECTORISED AND SHALL COMPLY WITH TNZ M/7 AND TNZ P/12.
 - THE PAINT SPECIFICATION OF THE NEW PAINT MARKING SHALL MATCH THAT OF THE EXISTING PAINT MARKING.

**DETAILED DESIGN
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
B	DETAILED DESIGN - INCLUDING NZTA COMMENTS				06.09.24
A	DETAILED DESIGN				26.07.24

Original Scale (A1)	Design	S 9(2)(a)	02.07.24	Approved For Construction*
1:125	Drawn		02.07.24	
Reduced Scale (A3)	Design Checker		05.07.24	Date
1:250	Design Checker		02.07.24	

* Refer to Revision 1 for Original Signature



Client: BOP 23/24 LCLR IMPROVEMENTS TASMAN QUAY

Title: SIGNAGE AND LINEMARKING TASMAN QUAY HEWLETTS ROAD

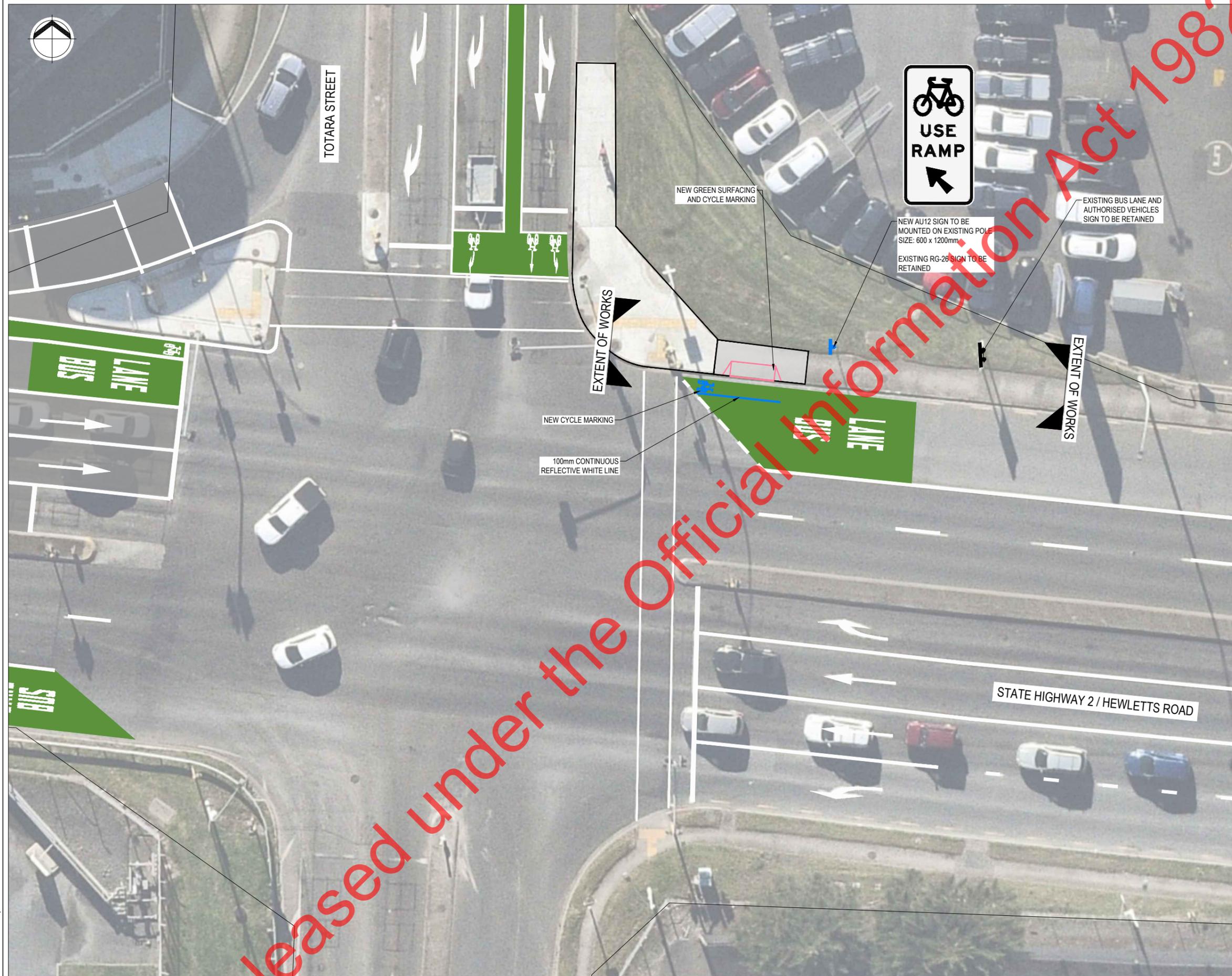
Discipline	CIVIL ENGINEERING
Drawing No.	3936988-04-CA-2001
Rev.	B

Path: P:\3936988-04-CA-2001\CAD\Tasman Quay

www.beca.com

www.beca.com

Document No. 3936988-04-CA-2001.DWG © Beca 2024



LEGEND	
EXISTING ROAD MARKINGS:	
EXISTING CONTINUOUS REFLECTORISED WHITE LINE	
REMOVED CONTINUOUS REFLECTORISED WHITE LINE	
EXISTING REFLECTORISED WHITE CONTINUITY LINE - 1m x 3m	
EXISTING REFLECTORISED WHITE LANE LINE - 3m x 7m	
EXISTING 300mm LIMIT LINE	
EXISTING WHITE DIRECTIONAL ARROWS	
REMOVED WHITE DIRECTIONAL ARROWS	
EXISTING WHITE SHARED PATH MARKING	
EXISTING CYCLE MARKING	
EXISTING GREEN SURFACING	
PROPOSED ROAD MARKINGS:	
CONTINUOUS REFLECTORISED WHITE LINE	
REFLECTORISED WHITE CONTINUITY LINE - 1m x 3m	
300mm LIMIT LINE	
WHITE CYCLE MARKING	
WHITE SHARED PATH MARKING	
RED SURFACING	
SIGNAGE:	
PROPOSED SIGN	
EXISTING SIGN	
REMOVED SIGN	

- NOTES:**
- ALL MARKINGS SHALL BE IN ACCORDANCE WITH NZTA MANUAL OF TRAFFIC SIGNS AND MARKINGS PARTS 1 & 2, THE NZTA P24 PERFORMANCE BASED SPECIFICATION FOR TRAFFIC SIGNS AND THE RSMA COMPLIANCE STANDARD FOR TRAFFIC SIGNS.
 - CONTRACTOR TO SET OUT ALL PROPOSED MARKINGS 2 DAYS IN ADVANCE OF INSTALLATION. THE CONTRACTOR THEN TO IMMEDIATELY INFORM THE ENGINEER OF ANY DISCREPANCIES.
 - ALL NEW PAINT MARKINGS TO BE REFECTORISED AND SHALL COMPLY WITH TNZ M/7 AND TNZ P/12.
 - THE PAINT SPECIFICATION OF THE NEW PAINT MARKING SHALL MATCH THAT OF THE EXISTING PAINT MARKING.

**DETAILED DESIGN
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
B	DETAILED DESIGN - INCLUDING NZTA COMMENTS				06.09.24
A	DETAILED DESIGN				26.07.24

Original Scale (A1)	Design	Date	Approved For Construction*
1:125	s 9(2)(a)	02.07.24	
Reduce Scale (A3)	Design Verifier	02.07.24	
1:250	Dwg Check	02.07.24	

* Refer to Revision 1 for Original Signature



Client: BOP 23/24 LCLR IMPROVEMENTS TASMAN QUAY

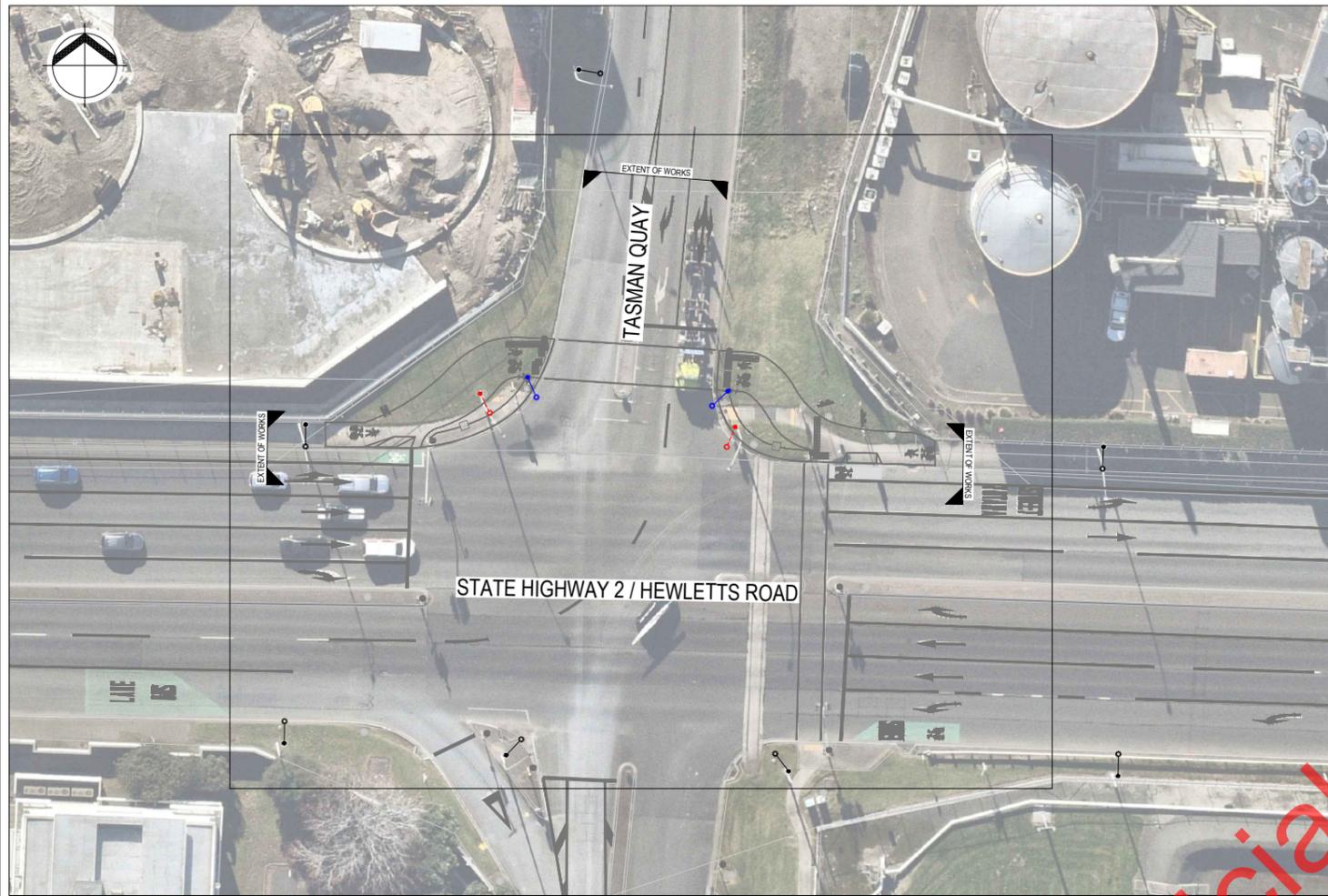
Title: SIGNAGE AND LINEMARKING TOTARA STREET HEWLETTS ROAD

Discipline	Rev.
CIVIL ENGINEERING	B
Document No. 3936988-04-CA-2002	

Released under the Official Information Act 1982

Path: P:\3936988-04-CA-2002\Tasman Quay

www.beca.com

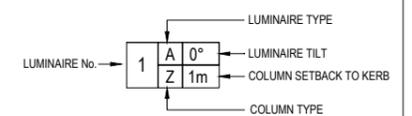


DRAWING SHEET KEY
NTS

NOTES:

1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF POWER UTILITY (POWERCO), LOCAL TERRITORIAL AUTHORITY (NZTA) AND THE REQUIREMENTS OF ELECTRICAL (SAFETY) REGULATIONS 2010, AS/NZS 3000, AS/NZS 3008 AND AS/NZS 1158.
2. ONLY CONTRACTORS APPROVED BY LOCAL TERRITORIAL AUTHORITY CAN WORK ON THE LOCAL TERRITORIAL AUTHORITY STREET LIGHT NETWORK. PLEASE CONTACT THE TEAM LEADER STREET LIGHTS IF YOU REQUIRE FURTHER CLARIFICATION.
3. ENSURE THE RAMM AND SLIM DATABASE IS ACCURATELY UPDATED WITHIN 24 HOURS OF THE INSTALLATION FOR EVERY NEW OR MODIFIED STREETLIGHT LOCATION, AND LIAISE WITH LOCAL TERRITORIAL AUTHORITY TO ENSURE RECORDS ARE APPROPRIATELY COMPLETED.
4. THESE WORKS SHALL INCLUDE THE REMOVAL AND DISPOSAL OF OLD LUMINAIRES AND POLES, UNLESS SPECIFIED OTHERWISE. LPC'S INSTALLED ON EXISTING LUMINAIRES THAT ARE DECOMMISSIONED OR RELOCATED SHALL BE CAREFULLY REMOVED AND LABELLED INDIVIDUALLY WITH THE POLE NUMBER OR NEAREST PHYSICAL ADDRESS, AND RETURNED TO LOCAL TERRITORIAL AUTHORITY - LIGHTING FOR DECOMMISSIONING.
5. ALL LUMINAIRES SHALL BE TILTED AT AN ANGLE OF 0° TO THE HORIZONTAL UNLESS STATED OTHERWISE.
6. EACH LUMINAIRE SHALL BE PROVIDED WITH A 7 - PIN NEMA SOCKET AND A BLANKING PLATE.
7. WE UNDERSTAND IT IS WAKA KOTAHU POLICY NOT TO RE-USE HPS LUMINAIRES. WE HAVE RECEIVED INSTRUCTION FROM CLIENT TO RE-USE HPS LUMINAIRES FOR THIS PROJECT. THE CONTRACTOR SHALL DETERMINE THAT ANY EQUIPMENT TO BE RE-USED IS SERVICEABLE.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL CABLE DESIGN, INCLUDING PROVISION OF NEW POINTS OF SUPPLY, WHERE REQUIRED, EXTENDING AN EXISTING STREET LIGHTING CIRCUIT TO SUPPLY THE NEW INSTALLATION, LIAISON WITH POWER UTILITY AND UPDATING OF POWER UTILITY AND LOCAL TERRITORIAL AUTHORITY RECORDS. CARE MUST BE TAKEN TO AVOID DAMAGE TO TREE ROOTS.
9. MINIMUM STREET LIGHTING SUPPLY CABLE SIZE SHALL BE 1C 10mm² NEUTRAL SCREEN CABLE.
10. CABLE PROTECTION SHALL BE IMPLEMENTED AS PER POWER UTILITY REQUIREMENTS AND AS/NZS 3000.
11. ALL METAL COLUMNS, OUTREACH ARMS AND LUMINAIRES ARE TO BE EFFECTIVELY EARTHED. EARTHING IS TO BE DESIGNED TO CONFORM TO THE REQUIREMENTS OF THE NZ ELECTRICITY (SAFETY) REGULATIONS AND AS/NZS 3000:2007.
12. MOUNTING HEIGHTS ARE TO BE MEASURED WITH RESPECT TO THE LUMINAIRES ABOVE THE CARRIAGEWAY. ORIENTATION ANGLE OF OUTREACH ARMS TO BE AS SHOWN IN DRAWING, NOT PERPENDICULAR TO KERB LINE.
13. WHERE A POLE IS WITHIN 2m OF THE DRIPLINE OF THE TREE, ASSESS WHETHER THE TREE REQUIRES TRIMMING TO MINIMISE SHADOWING, AND NOTIFY THE ENGINEER FOR FURTHER ACTION IF REQUIRED.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL LOCATION OF LIGHTING POLES ON SITE BY TAKING INTO ACCOUNT THE FOLLOWING PRIOR TO INSTALLATION:
 - a. LOCATION OF EXISTING SERVICES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND SERVICES AND LAND INFORMATION NEW ZEALAND MARKERS BEFORE WORK COMMENCES. ANY DAMAGE CAUSED TO EXISTING SERVICES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
 - b. WORK ON OR NEAR EXISTING SERVICES.
 - THE CONTRACTOR SHALL LIAISE WITH THE APPROPRIATE SERVICE PROVIDER IN RELATION TO WORKING ON OR NEAR SERVICES, GIVING APPROPRIATE NOTICE PERIOD. IF NECESSARY, POSITIONS MAY BE ALTERED UP TO 1M WHILE RETAINING GENERAL POLE ARRANGEMENT TO AVOID CLASHES WITH UNDERGROUND SERVICES, CONFIRM WITH ENGINEER FIRST.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FIXING OF OUTREACHES TAKING INTO ACCOUNT WORK ON OR NEAR EXISTING SERVICES.
 - c. PERMITTED LOCATION TOLERANCE
 - 0.5m PARALLEL TO THE CARRIAGEWAY
 - 0.2m PERPENDICULAR TO THE CARRIAGEWAY
 - 0.2m VERTICALLY
 IF THE FINAL POLE LOCATION EXCEEDS THE PERMITTED TOLERANCE FURTHER LIGHTING DESIGN MAY BE REQUIRED.
15. POLE DETAILS SHALL BE AS PER LOCAL TERRITORIAL AUTHORITY ENGINEERING STANDARDS. DEPARTING FROM THE STANDARD INSTALLATION DUE TO GROUND CONDITIONS SHALL BE CONFIRMED BY A WRITTEN APPROVAL PRIOR TO INSTALLATION.
16. LIGHTING COLUMNS SHALL BE INSTALLED AS PER MANUFACTURER INSTRUCTION AND STANDARDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOUNDATION DESIGN OF THE LIGHTING COLUMN IF GROUND CONDITIONS DO NOT SUIT THE COLUMN MANUFACTURER'S STANDARD FOUNDATION DESIGN.

TYPICAL COLUMN DESIGNATION:



LUMINAIRE TYPE LEGEND:

- A EXISTING, NO CHANGE
- B RELOCATED EXISTING HPS LUMINAIRE
- C EXISTING HPS LUMINAIRE TO BE RELOCATED

COLUMN TYPE, MOUNTING HEIGHT:

- X INSTALL NEW 2m OUTREACH EXTENSION ARM AT 12m MOUNTING HEIGHT ON NEW JUSP POLE. REFER TRAFFIC DRAWING 04-CA-1701.
- Y REMOVE COLUMN
- Z EXISTING, NO CHANGE.

DETAILED DESIGN
NOT FOR CONSTRUCTION

Path: P:\3936988\4-HE-1800\CAD\Tasman Quay

No.	Revision	By	Chk	Appd	Date
B	DETAILED DESIGN - INCLUDING NZTA COMMENTS				06.09.24
A	DETAILED DESIGN				18.07.24

Original Scale (A1)	Design	Date	Approved For Construction*
N.T.S.	s 9(2)(a)	04.07.24	
Reduced Scale (A3)	Drawn	Date	
N.T.S.		04.07.24	
	Design Verifier	Date	
		18.07.24	
	Design Check	Date	
		18.07.24	

* Refer to Revision 1 for Original Signature



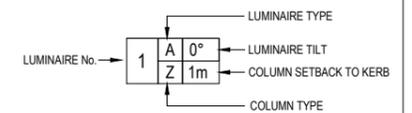
Client: BOP 23/24 LCLR IMPROVEMENTS TASMAN QUAY

Title: TASMAN QUAY HEWLETTS ROAD LIGHTING NOTES

Discipline	Rev.
ELECTRICAL SERVICES	B
Drawing No.	3936988-04-BE-1800



TYPICAL COLUMN DESIGNATION:



LUMINAIRE TYPE LEGEND:

- A EXISTING, NO CHANGE
- B RELOCATED EXISTING HPS LUMINAIRE
- C EXISTING HPS LUMINAIRE TO BE RELOCATED

COLUMN TYPE, MOUNTING HEIGHT:

- X INSTALL NEW 2m OUTREACH EXTENSION ARM AT 12m MOUNTING HEIGHT ON NEW JUSP POLE. REFER TRAFFIC DRAWING 04-CA-1701.
- Y REMOVE COLUMN
- Z EXISTING, NO CHANGE.

**DETAILED DESIGN
NOT FOR CONSTRUCTION**

Path: P:\3936988-04\BECAD\Tasman Quay

No.	Revision	By	Chk	Appd	Date
B	DETAILED DESIGN - INCLUDING NZTA COMMENTS				06.09.24
A	DETAILED DESIGN				18.07.24

Original Scale (A1)	Design	s 9(2)(a)	04.07.24	Approved For Construction*
1:125	Drawn		04.07.24	
Reduced Scale (A3)	Design Verifier		18.07.24	
1:250	Dwg Check		18.07.24	Date

* Refer to Revision 1 for Original Signature



Client: BOP 23/24 LCLR IMPROVEMENTS TASMAN QUAY

Title: TASMAN QUAY HEWLETTS ROAD LIGHTING LAYOUT

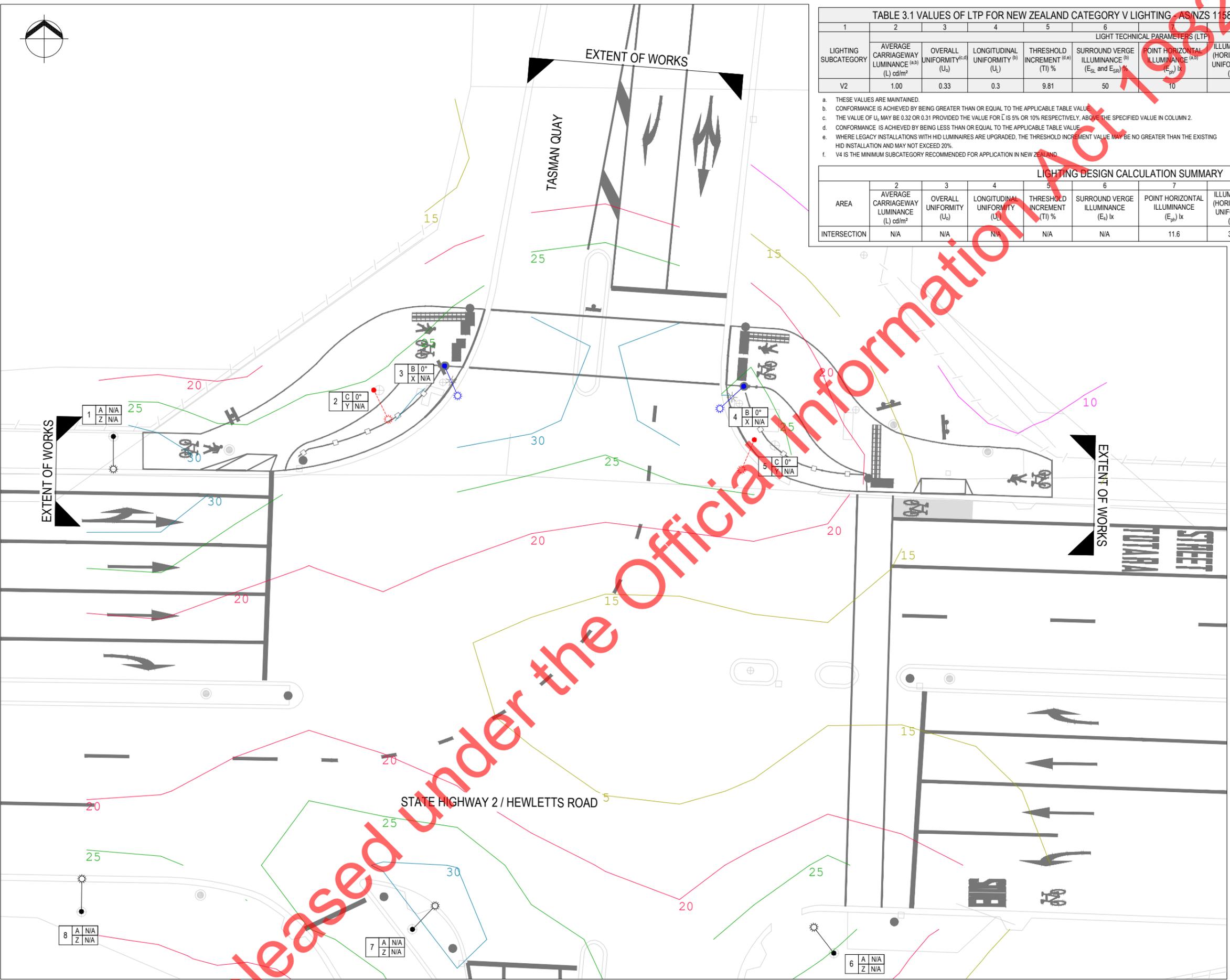
Discipline	ELECTRICAL SERVICES
Drawing No.	3936988-04-BE-1801
Rev.	B



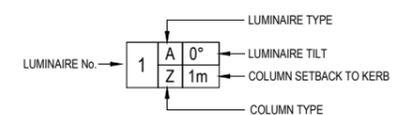
LIGHTING SUBCATEGORY	TABLE 3.1 VALUES OF LTP FOR NEW ZEALAND CATEGORY V LIGHTING - AS/NZS 1158.1:2022								AT TECH DESIGN MANUAL CH 12 CLAUSE 12.3.2
	1	2	3	4	5	6	8	9	
V2	1.00	0.33	0.3	9.81	50	10	8	3	0.38

- a. THESE VALUES ARE MAINTAINED.
- b. CONFORMANCE IS ACHIEVED BY BEING GREATER THAN OR EQUAL TO THE APPLICABLE TABLE VALUE.
- c. THE VALUE OF U_0 MAY BE 0.32 OR 0.31 PROVIDED THE VALUE FOR \bar{L} IS 5% OR 10% RESPECTIVELY, ABOVE THE SPECIFIED VALUE IN COLUMN 2.
- d. CONFORMANCE IS ACHIEVED BY BEING LESS THAN OR EQUAL TO THE APPLICABLE TABLE VALUE.
- e. WHERE LEGACY INSTALLATIONS WITH HID LUMINAIRES ARE UPGRADED, THE THRESHOLD INCREMENT VALUE MAY BE NO GREATER THAN THE EXISTING HID INSTALLATION AND MAY NOT EXCEED 20%.
- f. V4 IS THE MINIMUM SUBCATEGORY RECOMMENDED FOR APPLICATION IN NEW ZEALAND.

LIGHTING DESIGN CALCULATION SUMMARY											
AREA	2	3	4	5	6	7	8	9	MAX SPACING m	POWER DENSITY W/m ²	COMPLIANCE TO CATEGORY
INTERSECTION	N/A	N/A	N/A	N/A	N/A	11.6	3.03	0.016	N/A	N/A	V2



TYPICAL COLUMN DESIGNATION:



- LUMINAIRE TYPE LEGEND:**
- A EXISTING, NO CHANGE
 - B RELOCATED EXISTING HPS LUMINAIRE
 - C EXISTING HPS LUMINAIRE TO BE RELOCATED
- COLUMN TYPE, MOUNTING HEIGHT:**
- X INSTALL NEW 2m OUTREACH EXTENSION ARM AT 12m MOUNTING HEIGHT ON NEW JUSP POLE. REFER TRAFFIC DRAWING 04-CA-1701.
 - Y REMOVE COLUMN
 - Z EXISTING, NO CHANGE.

**DETAILED DESIGN
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
B	DETAILED DESIGN - INCLUDING NZTA COMMENTS				06.09.24
A	DETAILED DESIGN				18.07.24

Original Scale (A1)	1:125	Design	s 9(2)(a)	04.07.24	Approved For Construction*
Reduced Scale (A3)	1:250	Drawn		04.07.24	
		Design Verifier		18.07.24	
		Design Check		18.07.24	



Client: BOP 23/24 LCLR IMPROVEMENTS TASMAN QUAY

Title: TASMAN QUAY HEWLETTS ROAD LIGHTING CALCULATION

Discipline	ELECTRICAL SERVICES
Drawing No.	3936988-04-BE-1802
Rev.	B