

Drafting and Design Presentation Standards
Volume 2: Road Design Concept and Development Presentation

Part 1: Concept Phase Stage Drawings

March 2024



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Amendment Register

Issue / Rev no.	Reference section	Description of revision	Authorised by	Date
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1 Concept phase drawings

1.1 General

Concept phase drawings provide project information on a broad high level scale, generally for planning and community consultation purposes. Typical applications for concept phase drawings are:

- project proposal
- options analysis, business case
- community consultation, newsletters, public displays, and
- report style drawings and sketches.

1.2 Concept phase drawings presentation

Refer to the *Drafting and Design Presentation Standards Manual (DDPSM) Volume 1, Chapter 2: Appendix 2D – TMR Drawing Sheets*. All text and line work shall be legible when produced in A3 format and shall meet the requirements of the DDPSM Volume 1.

1.2.1 Reference Points (RP)

The drawings shall show:

- the preceding RP and the following RP
- the distance to the start of the project from the preceding RP
- the distance from the start to the end of the project, and
- the distance from the end of the project to the following RP.

Refer to the example below.

Table 1.2.1 – Reference Points

Reference Points				
Preceding RP	Distance to start of job (km)	From start to end of job	From end to following RP	Following RP
10A/5	5.31	0.7	0.40	10A/6

The chainages are to be shown on the drawings in kilometres to two decimals from the start of the gazettal.

1.2.2 Adjoining plans

Each road development plan must bear a reference to the preceding and/or succeeding plan. This reference shall be given in the form of a join line with associated text “Joins Plan ---”. The join line shall be placed at the correct location on all adjoining plans and where practicable, the join line shall be parallel to and near the right and/or left-hand margin of the drawing. A partial overlap between drawings shall be provided, to ensure adjoining information is not omitted.

2 Project proposal

2.1 Purpose

The project proposal defines what is expected to be delivered. This includes:

- Detailing a clear understanding of the requirements that must be articulated during the design development process.
- Defining the scope to the extent where a project cost estimate (concept estimate) can be produced to within $\pm 20\%$ of total project (final) cost.
- Production of a project proposal report is one of the activities that need to be undertaken during the project definition phase stage and drawings may be required to be produced and included within the report, and
- Drawings provide the opportunity for the definition of project scope, what's in / out of scope, any constraints that may affect project delivery, any assumptions that may have been made, and any related proposals that may impact on the project or be impacted by the project.

2.2 Objectives

The primary objective of the project proposal is to:

- Outline the details required to define the project paying particular attention to clarify the objectives of the project and defining project scope.
- Secure funding for delivering the next stages (e.g., for the options analysis and the business case), and
- Seek approval to proceed to the next stage (i.e the options analysis) with assignment of appropriate resources.

2.3 Typical drawing list

A typical drawing list comprises of the below drawing types. Please refer to relevant Sections provided for more information.

- Locality plan and drawing list (Section 2.4).
- Type / Typical cross sections and details (Section 2.5).
- Plan and longitudinal section (Section 2.6).
- Requirement lines (Section 2.7).
- Intersection layout (Section 2.8).
- Public utility plant (Section 2.9).
- Annotated cross sections (Section 2.10).

2.4 Locality plan and drawing list

This drawing is the 'cover sheet' for the drawing set and provides a locality plan and drawing list. For large drawings sets, the locality plan and drawing list will need to be placed on separate drawings to ensure that there is adequate space available for the locality plan.

Considerations

Locality plan

- Scale – select scale to show project site relative to landmarks.
- Use background map that adequately shows extent of project and its relationship to local area, for example, cadastral boundaries (if not available then use Digital Cadastral Database (DCDB)), photo mosaic, etc.
- Orientate the locality plan to match the project plans (where possible).
- Add names of streets, creeks, local landmarks and so on.
- Include north point.

Drawing list

- Add drawing list attribute to standard sheet.
- Include all drawings in the scheme.
- Continue on additional sheet(s) if necessary.

Figure 2.4(a) – Locality plan and drawing list – generic example 1

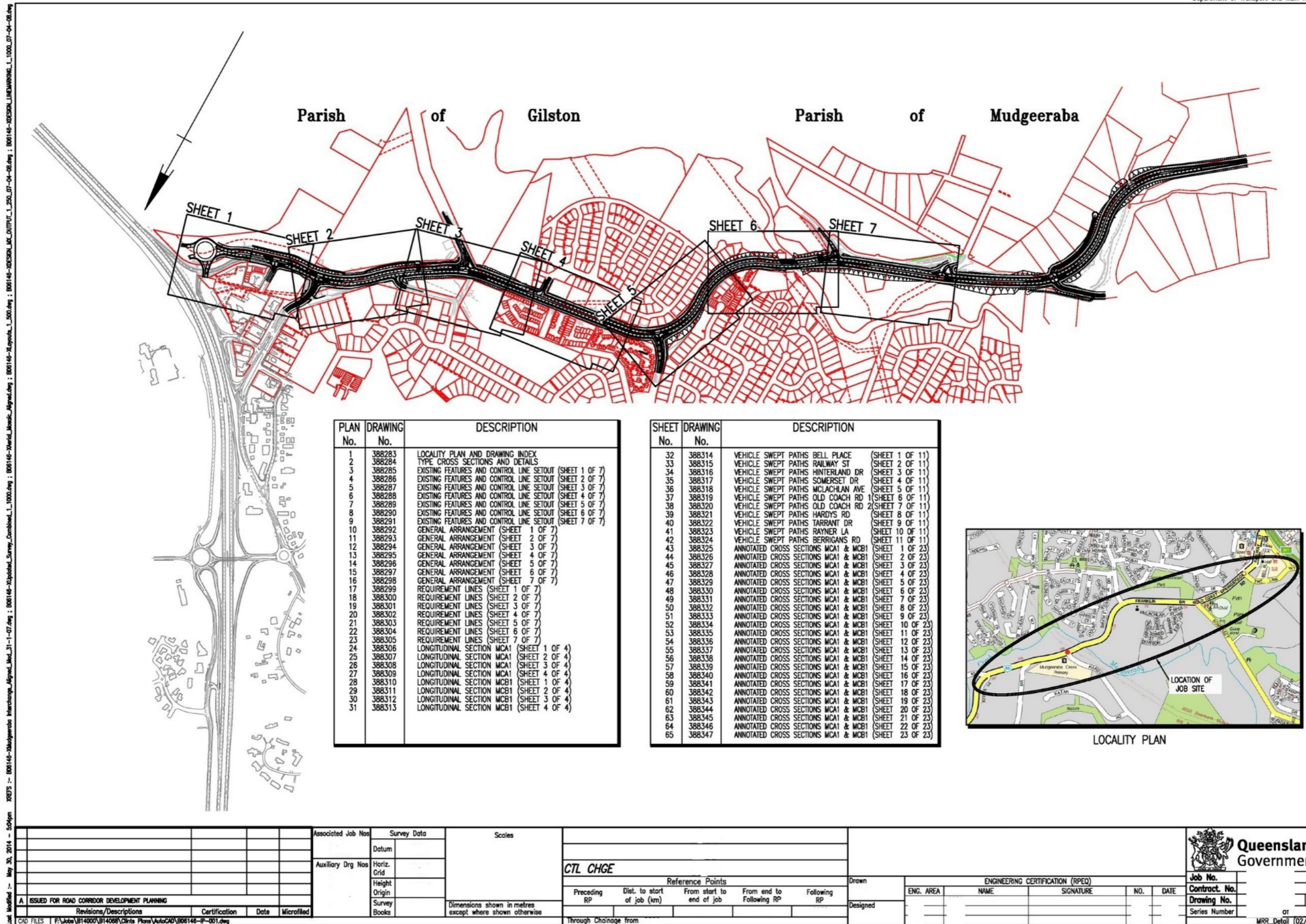


Figure 2.4(b) – Locality plan and drawing list – registered example 1

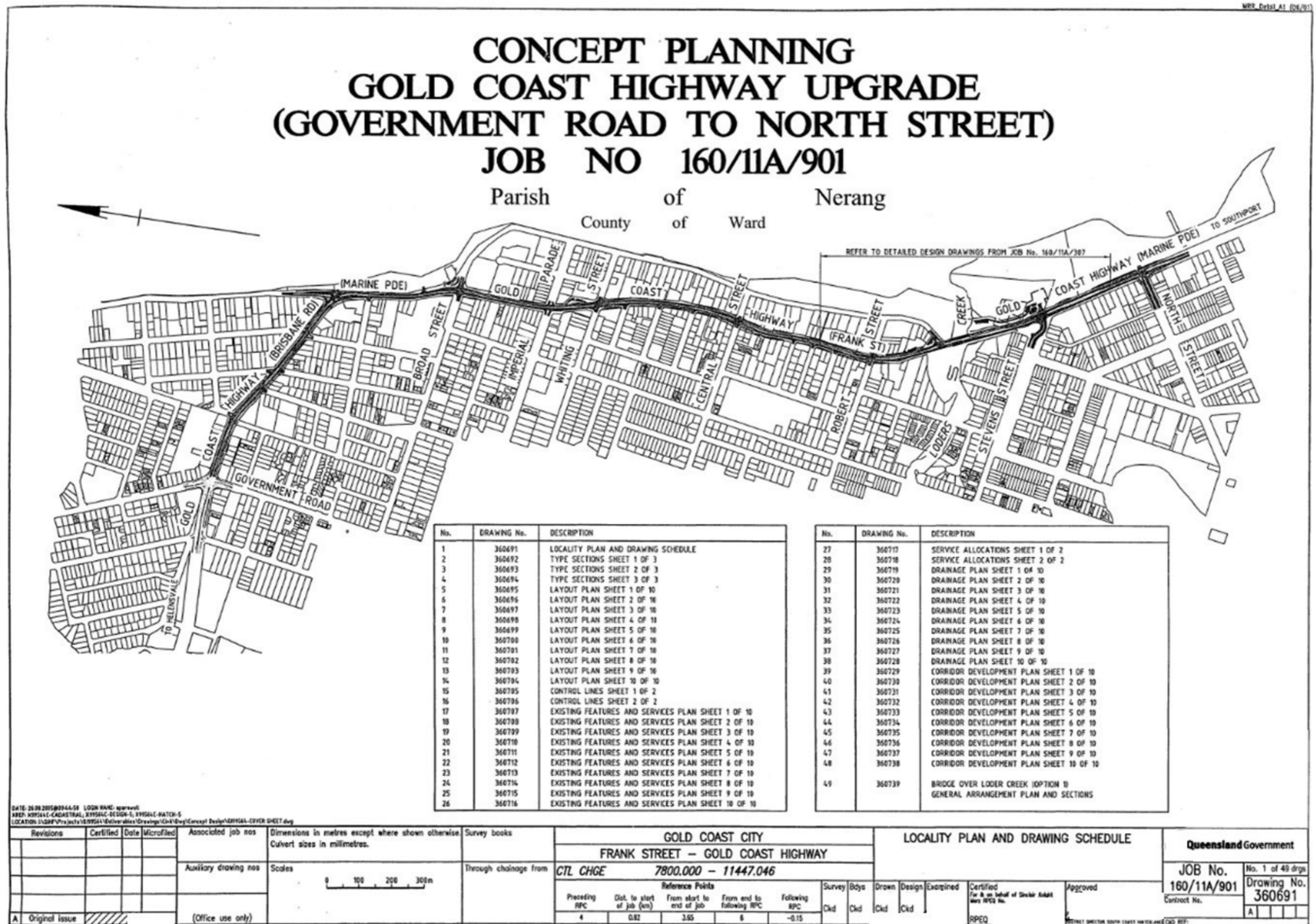


Figure 2.4(c) – Locality plan and drawing list – registered example 2

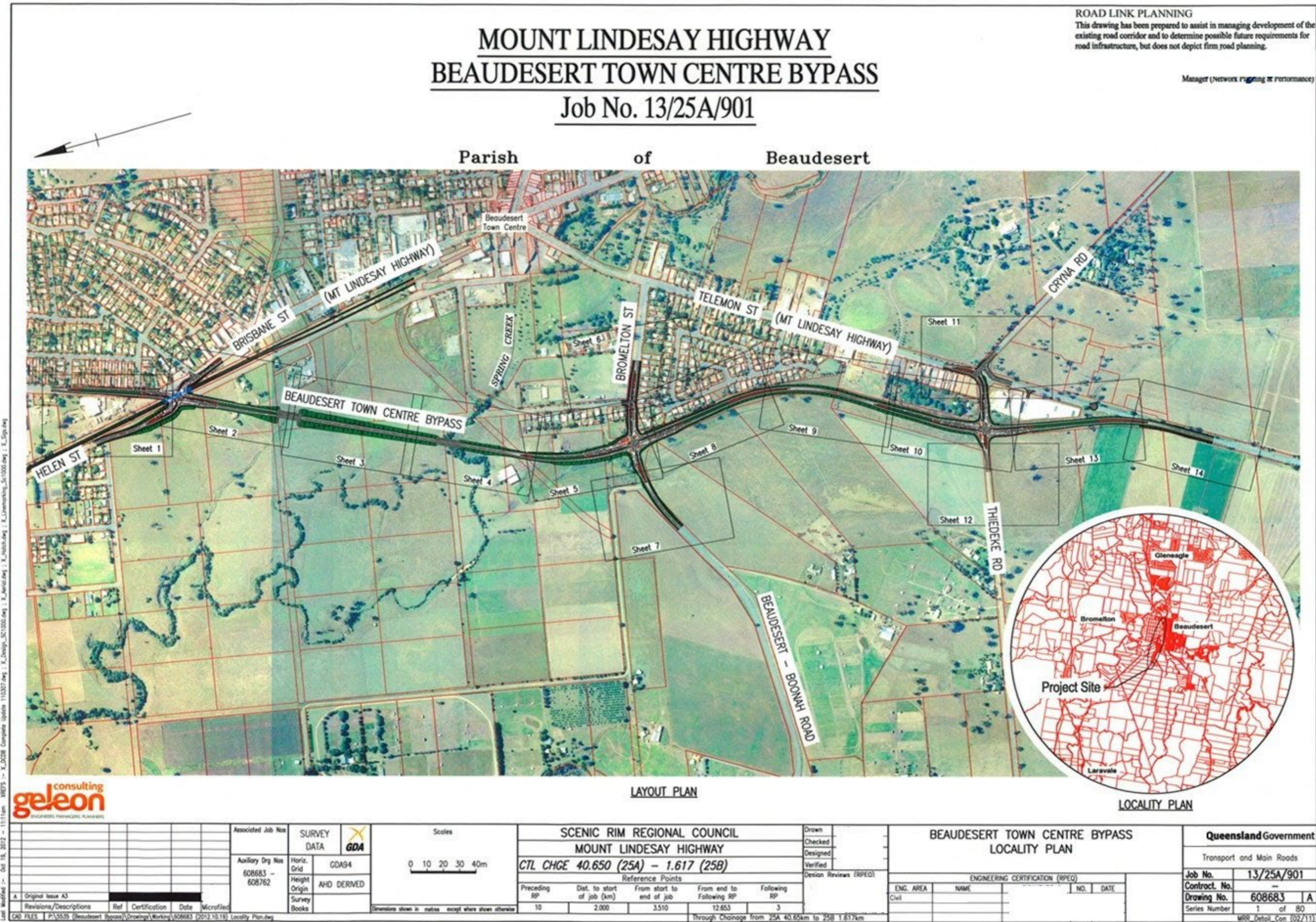


Figure 2.4(e) – Route planning – registered example 1

BURPENGARY CABOOLTURE ROAD (MORAYFIELD ROAD) - ROUTE SAFETY PROJECT

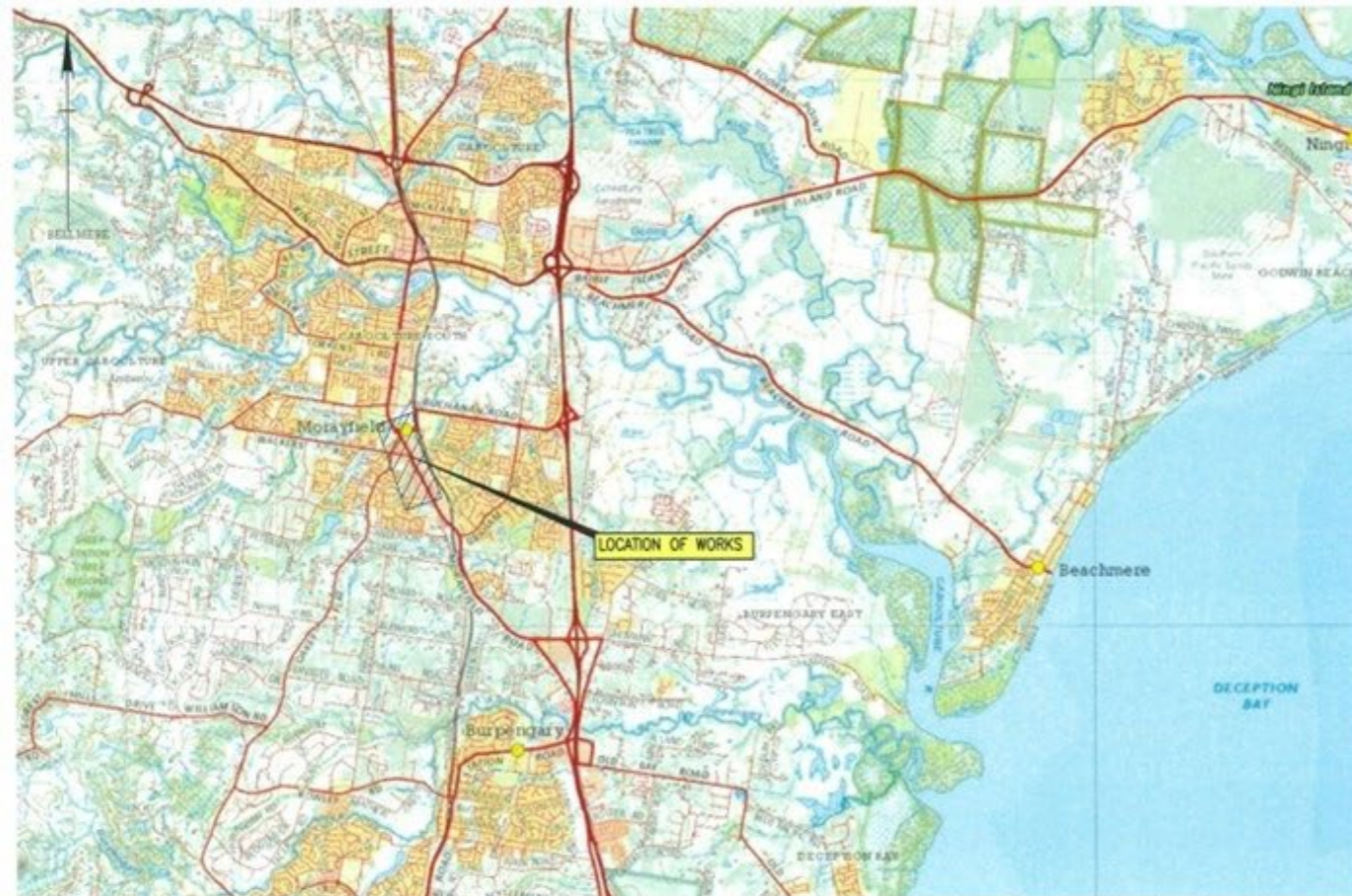
JOB NO. 250/406/659348

SCHEME SUBMITTED (External Consultants or Internal Business Unit):
This design meets the requirements of all relevant Australian Standards, Austroads Guidelines and Transport and Main Roads – Policies, References, Standards, Planning and Design Instructions, Guidelines and the requirements of the project brief/functional specifications.

SIGNED: _____ TITLE: _____
RPEQ No: _____ DATE: _____

SCHEME SCOPE AND FINANCIAL APPROVAL: (Regional Director or Delegate):
I hereby certify that this scheme complies with the intent of the scope and financial limits of the relevant project on QTRIP and the scheme is approved for release in accordance with that program.

SIGNED: _____ TITLE: _____ DATE: _____



DRAWING INDEX

TMR DRAWING NUMBER	REV	SERIES NUMBER	DRAWING DESCRIPTION
793904	A	LP-01	LOCALITY PLAN
793905	A	GN-01	GENERAL LEGEND
793906	A	GN-02	GENERAL NOTES
793907	A	PD-01	PAVEMENT DETAILS
793908	A	GA-101	SITE C - LINDSAY ROAD - GENERAL ARRANGEMENT
793909	A	DS-101	SITE C - LINDSAY ROAD - DETAILED ARRANGEMENT
793910	A	GD-101	SITE C - LINDSAY ROAD - GENERAL DETAILS
793911	A	CL-101	SITE C - LINDSAY ROAD - CONTROL LINE SETOUT
793912	A	GA-201	SITE D - SHOPPING CENTRE ACCESS - GENERAL ARRANGEMENT
793913	A	DS-201	SITE D - SHOPPING CENTRE ACCESS - DETAILED ARRANGEMENT
793914	A	CL-201	SITE D - SHOPPING CENTRE ACCESS - CONTROL LINE SETOUT
793915	A	GA-301	SITE E - GAFFIELD STREET - GENERAL ARRANGEMENT
793916	A	DS-301	SITE E - GAFFIELD STREET - DETAILED ARRANGEMENT
793917	A	GA-401	SITE F - WALKERS ROAD - GENERAL ARRANGEMENT
793918	A	DS-401	SITE F - WALKERS ROAD - DETAILED ARRANGEMENT
793919	A	GD-401	SITE F - WALKERS ROAD - GENERAL DETAILS
793920	A	CL-401	SITE F - WALKERS ROAD - CONTROL LINE SETOUT
793921	A	GA-501	SITE G - OAKY FLAT ROAD - GENERAL ARRANGEMENT
793922	A	DS-501	SITE G - OAKY FLAT ROAD - DETAILED ARRANGEMENT
793923	A	CL-501	SITE G - OAKY FLAT ROAD - CONTROL LINE SETOUT
793924	A	TS-01	TRAFFIC SIGNAL INSTALLATION - SHOPPING CENTRE ACCESS - OPERATIONS AND ELECTRICAL
793925	A	TS-02	TRAFFIC SIGNAL INSTALLATION - GAFFIELD STREET - OPERATIONS AND ELECTRICAL
793926	A	TS-03	TRAFFIC SIGNAL INSTALLATION - GAFFIELD STREET - PITS AND DUCTS
793927	A	TS-04	TRAFFIC SIGNAL INSTALLATION - WALKERS ROAD - OPERATIONS AND ELECTRICAL
793928	A	TS-05	TRAFFIC SIGNAL INSTALLATION - WALKERS ROAD - PITS AND DUCTS
793929	A	TS-06	TRAFFIC SIGNAL INSTALLATION - OAKY FLAT ROAD - OPERATIONS AND ELECTRICAL
793930	A	TS-07	TRAFFIC SIGNAL INSTALLATION - OAKY FLAT ROAD - PITS AND DUCTS
793931	A	RL-01	RATE 2 ROAD LIGHTING - COVER PAGE - WALKERS ROAD
793932	A	RL-02	RATE 2 ROAD LIGHTING - SITE LAYOUT - WALKERS ROAD
793933	A	RL-03	RATE 2 ROAD LIGHTING - SITE LAYOUT - WALKERS ROAD

LOCALITY PLAN
NOT TO SCALE

Associated Job No:		Survey Data		Scales		MOROTON BAY REGIONAL COUNCIL		LOCALITY PLAN		
Auxiliary Dwg No:		Datum: GDA 94		NTS		BURPENGARY - CABOOLTURE ROAD (RD 406)				
A ORIGINAL ISSUE		Horiz. Grid: MG84 56		Dimensions shown in metres except where shown otherwise		CTL CHGE 180 - 7180		Drawn:		Contract No. CN-10434
Revisions/Descriptions:		Height Origin: AHD DERIVED		Survey Books: MR101167		Reference Points		ENGINEERING CERTIFICATION (RPEQ)		Drawing No. 793904 - A
Certification:		Date:		Microfiled:		Preceding RP: 2A		NAME:		Series Number: LP-01 of 01
Date:		Date:		Date:		Dist. to start of job (km): 2.62		SIGNATURE:		MRB_Detail (08/21/3)
Date:		Date:		Date:		From start to end of job: 1.43		NO.:		
Date:		Date:		Date:		From end to Following RP: 0.59		DATE:		
Date:		Date:		Date:		Following RP: 3				
Date:		Date:		Date:		Through Change from TGA OFF RAMP 3.45				

2.5 Type / Typical cross section and details

A type / typical cross section details the nominal cross section profile of the road (it represents the standard on a straight and delivers consistency of profile). A project may have more than one type / typical cross section to cover different requirements, for example: “A – Roadway Excavation and Embankment”, “B – Floodway Formation”. There may also be more than one Roadway Excavation and Embankment type in a project, for example: “A – Roadway Excavation and Embankment” and “B – Roadway Excavation and Embankment”.

Type / Typical cross sections are actual project cross sections representing design details to be adopted at particular locations and possibly in like situations if there is no separate type / typical cross section. These drawings identify the project extents in cross section form. Type / Typical cross section drawings are generally required for complex projects where there are considerable cross sectional changes throughout the job. The type / typical cross section drawings may contain additional details which are relevant to the cross section profile, for example pavement tie-ins, kerb details, etc.

Considerations

- Scale – select scale to adequately show detail and fit page.
- Show fully dimensioned type / typical cross sections.
- Label traffic lanes, auxiliary lanes, shoulders, median separation, etc.
- Show edge drainage treatments – K&C, table drains, swales.
- Show median treatments.
- Show roadside barrier treatments.
- Show pavement details.
- Show verge rounding.
- Show fencing – noise barriers, footpaths.
- Identify existing and proposed boundaries.
- Show cut / fill slopes.
- Identify subsoil pavement drainage.
- Show relative location of control lines.
- Use various type sections as necessary to cover alternative treatments throughout the project.
- Extent over which each type / typical cross section applies.

Figure 2.5(a) – Type / Typical cross sections and details – generic example

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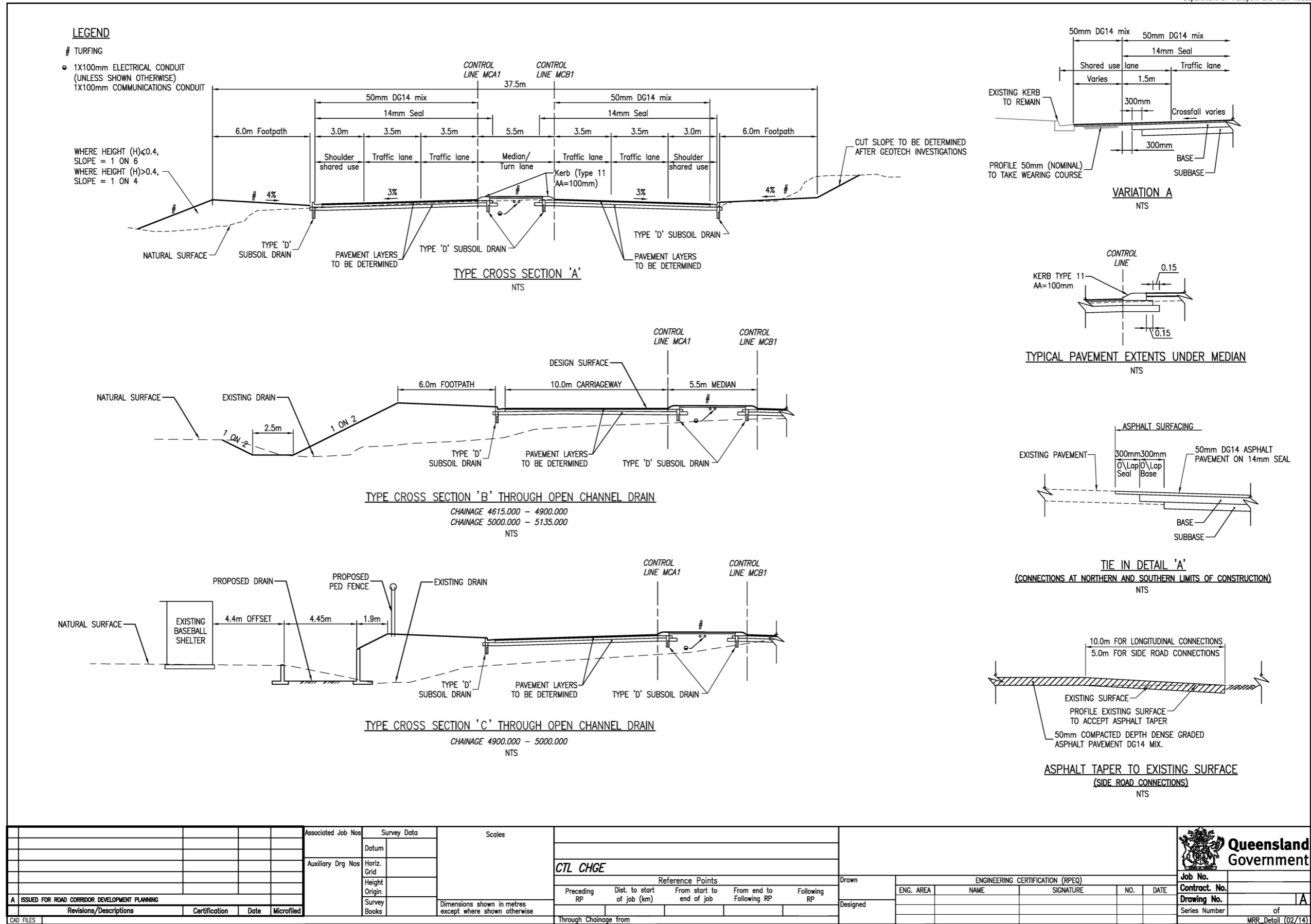
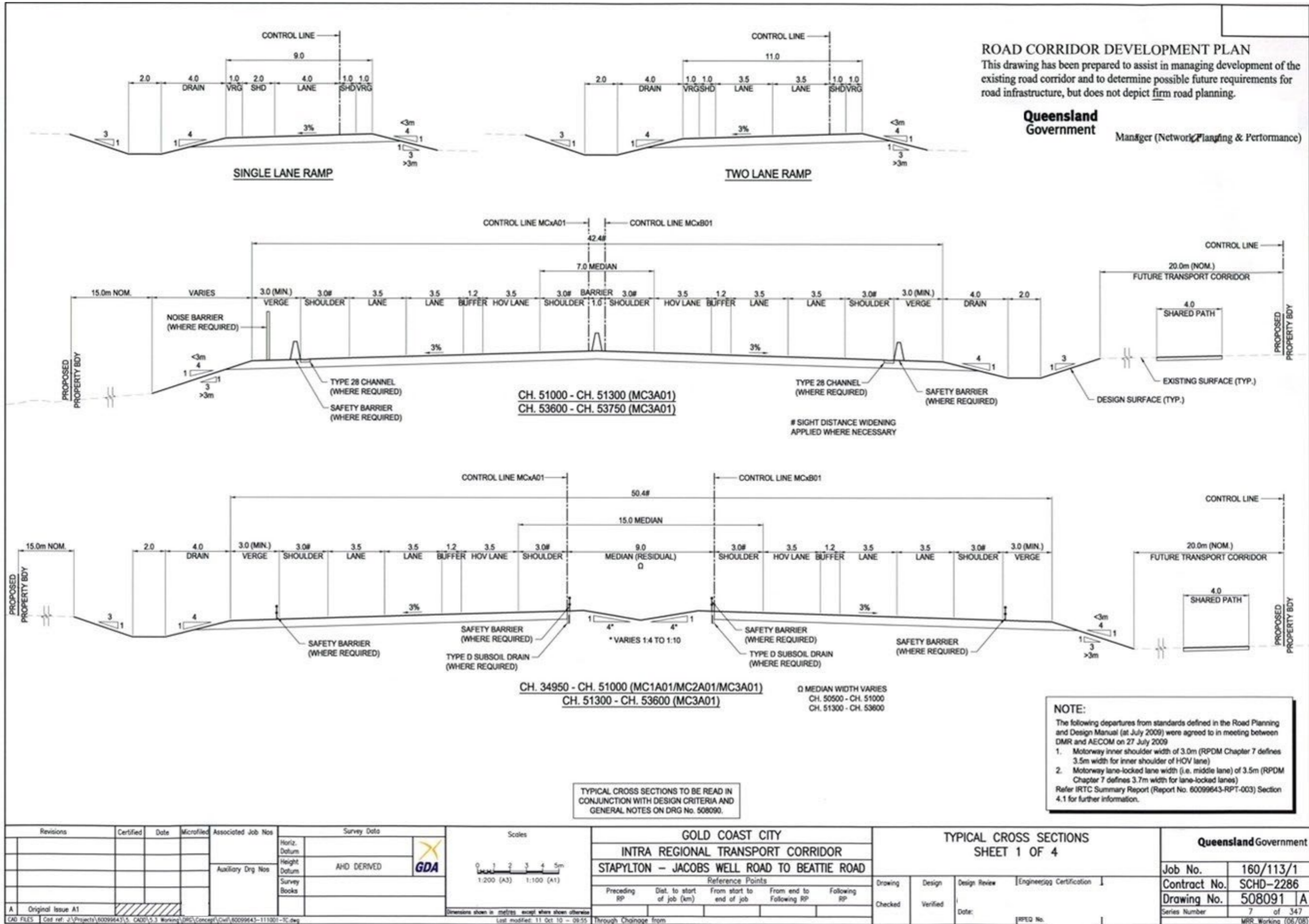


Figure 2.5(b) – Type / Typical cross sections and details – registered example



2.6 Working Plan and longitudinal section

Working Plan and longitudinal section drawings detail the road geometry and vertical profile for the project. Construction details may be included in the drawing.

Considerations

Scale

- Usually 1:1000 (Horizontal) and 1:200 (Vertical) at A1.

Background

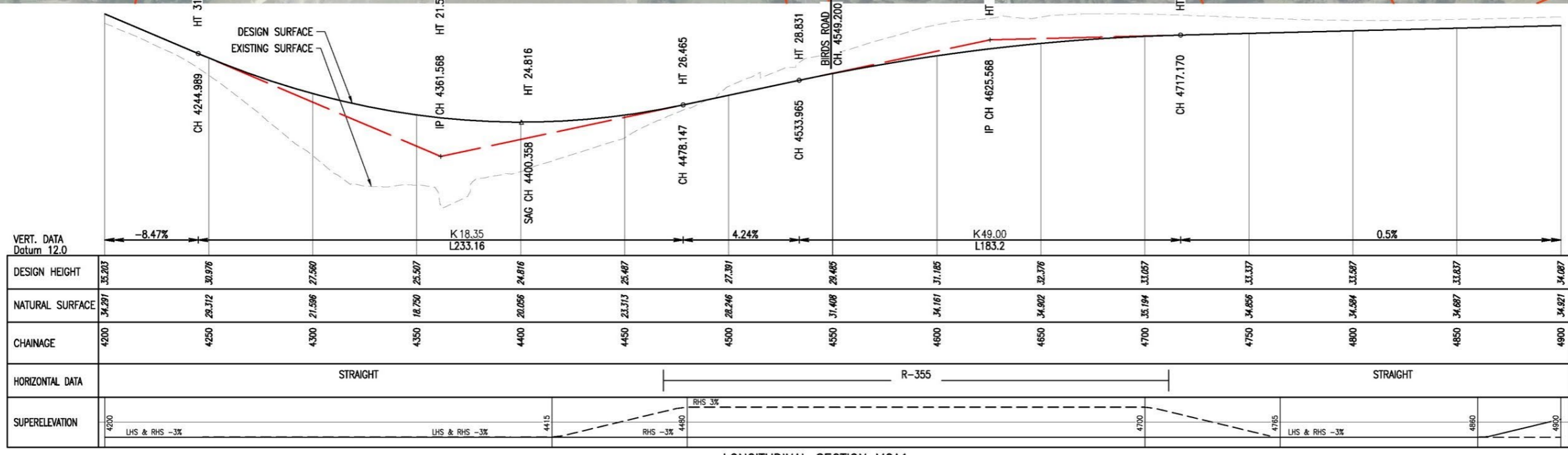
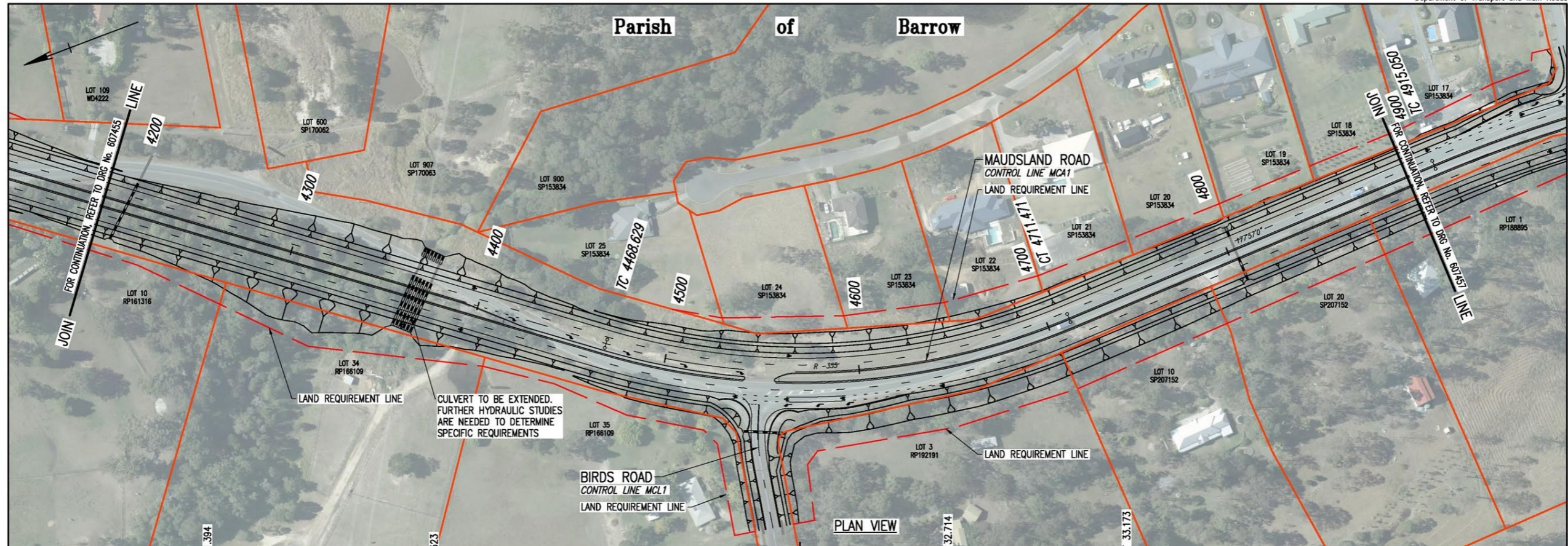
- Aerial photogrammetry augmented with ground topographical survey (if available).

Drawing

- Show proposed roadway alignment including K&C, medians, islands, footpaths, batters.
- Show Cadastral boundaries in red colour (if not available then use DCDB).
- Provide horizontal alignment and vertical profile details (use K values for vertical geometry).
- Show design speed details on the longitudinal table.
- Show land requirement boundaries.
- Show proposed land requirement lines (generally offset 5-10 m from toe / top of batters).
- Show all existing and proposed Public Utility Plans (PUP) (If separate PUP drawings are not required).
- Show cross drainage culverts and structures.
- Show longitudinal drainage features (If separate Drainage drawings are not required).

Figure 2.6(a) – Plan and longitudinal section – generic example

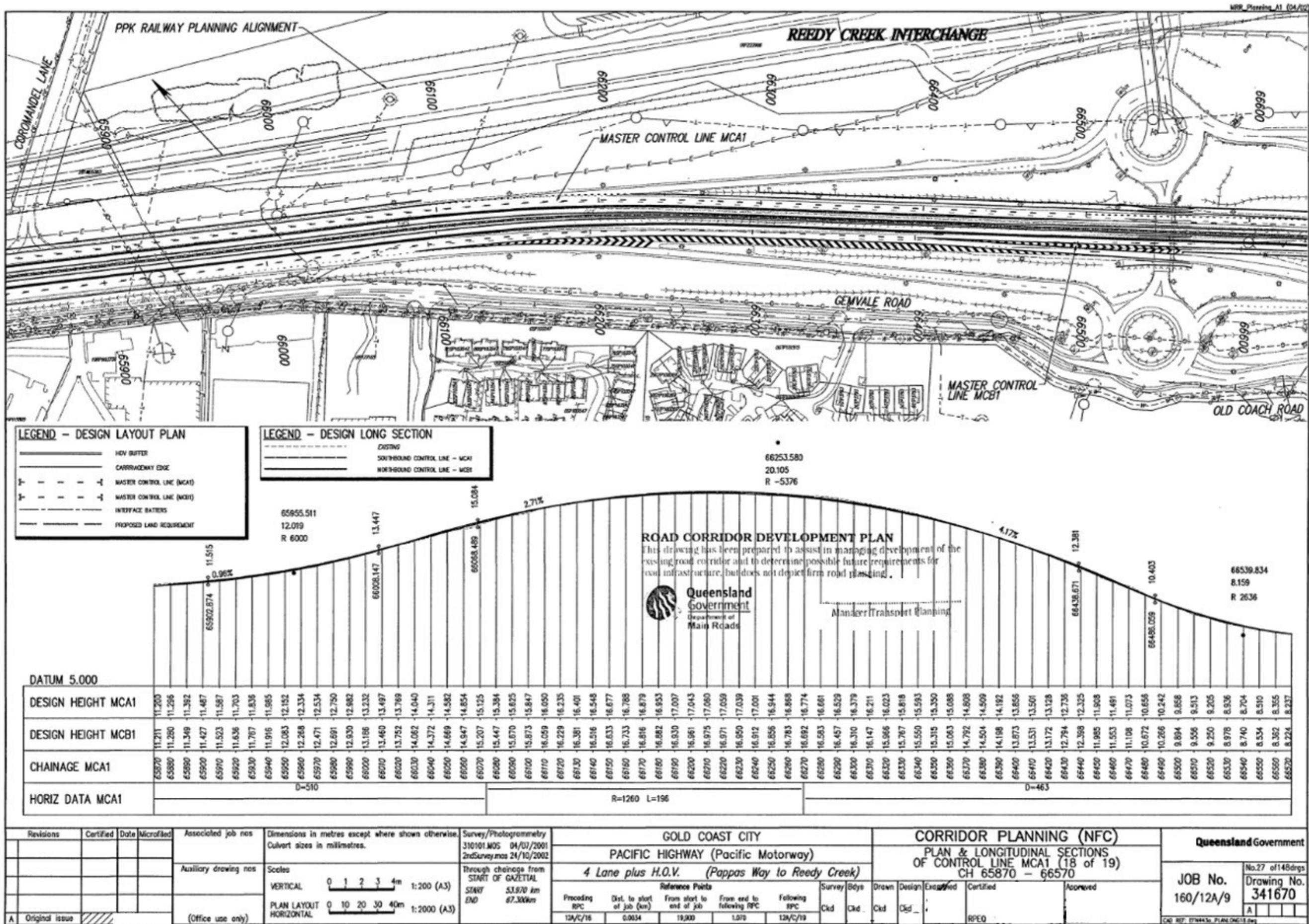
Department of Transport and Main Roads



LONGITUDINAL SECTION MCA1

Associated Job Nos		Survey Data		Scales		Reference Points		ENGINEERING CERTIFICATION (RPEQ)		Queensland Government	
Datum		Horiz. Grid		PLAN & HORIZ. SECTION 1:1000 (A1)		Preceding RP		NAME		Job No.	
Auxiliary Drg Nos		Height Origin		VERTICAL SECTION 1:200 (A1)		Dist. to start of job (km)		SIGNATURE		Contract No.	
Survey Books		Dimensions shown in metres except where shown otherwise				From start to end of job		NO.		Drawing No.	
A ISSUED FOR ROAD CORRIDOR DEVELOPMENT PLANNING		Revisions/Descriptions		CAD FILES		From end to Following RP		DATE		Series Number	
Certification		Date		Microfiled		Through Chainage from				MRR Detail (02/14)	

Figure 2.6(b) – Plan and longitudinal section – registered example



2.7 Requirement lines

The requirement line drawing shows the land requirement lines needed to accommodate the proposed road alignment. Refer to DDPSM Volume 1, Chapter 4: *Property Interests* for presentation details.

Considerations

Scale

- Usually 1:1000 at A1.

Drawing

- Show proposed roadway alignment including K&C, medians, islands, footpaths, batters (grey line).
- Show cadastral boundaries in red colour (if not available then use DCDB).
- Show proposed land requirement lines (generally offset 5-10 m from toe / top of batters).
- Show land descriptions, for example lot and RP numbers.
- Show area required. Label as 'About' (Abt).
- Show co-ordinates of land requirement line.
- Hatch area of land required.

Figure 2.7(a) – Requirement lines – generic example

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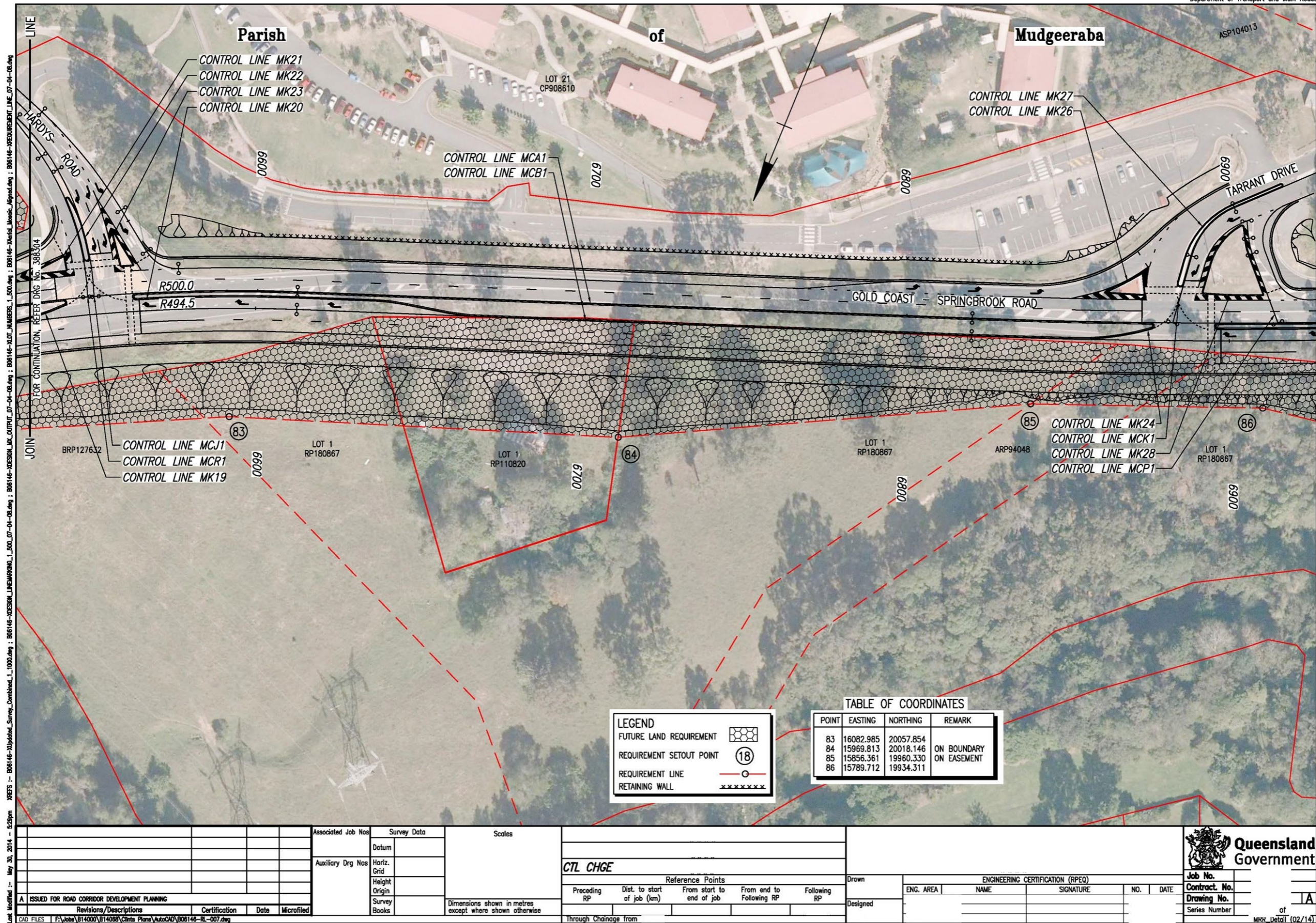
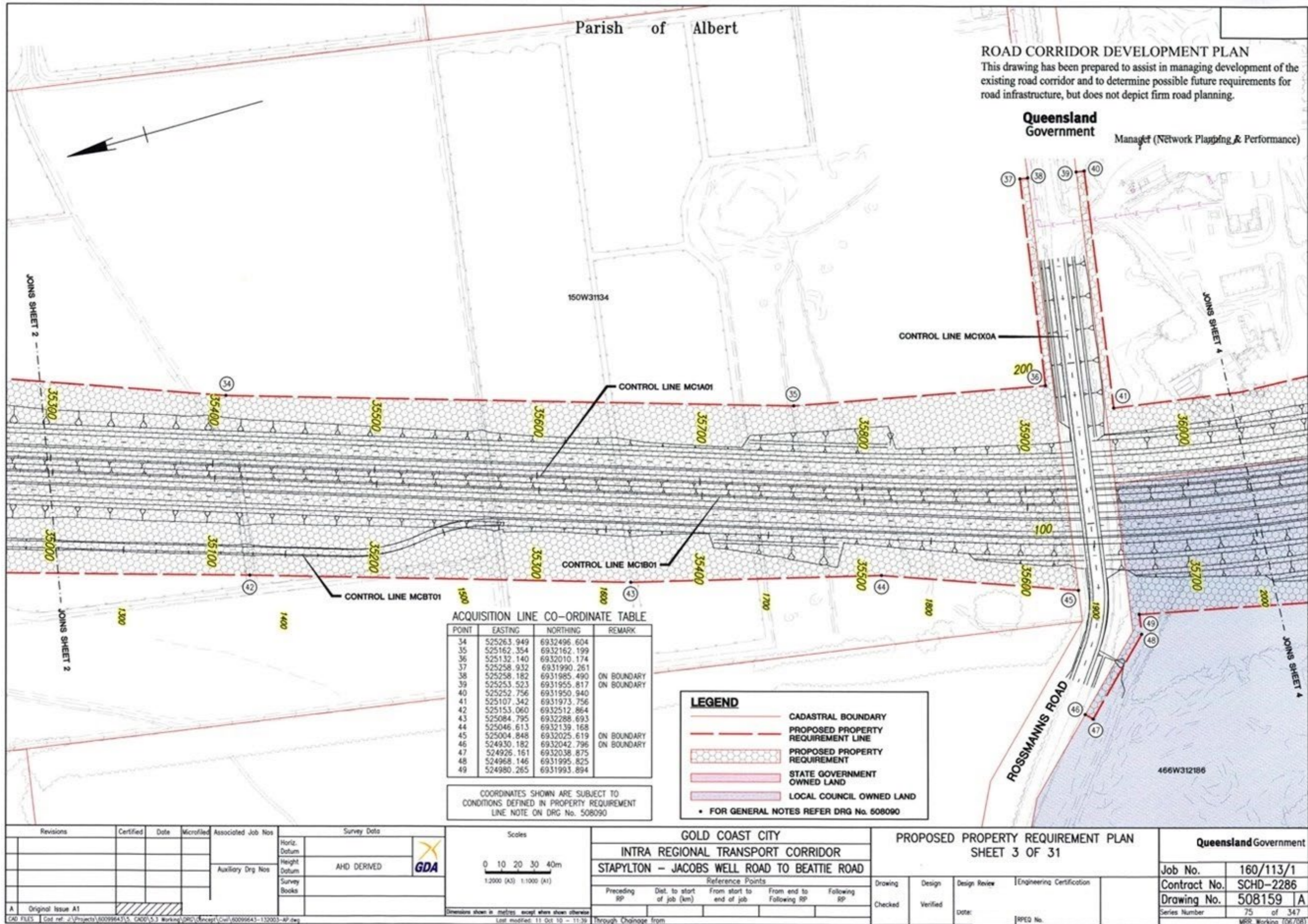


Figure 2.7(b) – Requirement lines – registered example



2.8 Intersection layout

This drawing details the intersection layout and the proposed intersection controls, for example traffic signals, roundabout and so on.

The provisions for cyclists and pedestrians are indicated on the drawings.

Considerations

Scale

- Usually 1:500 (Horizontal) at A1.

Background

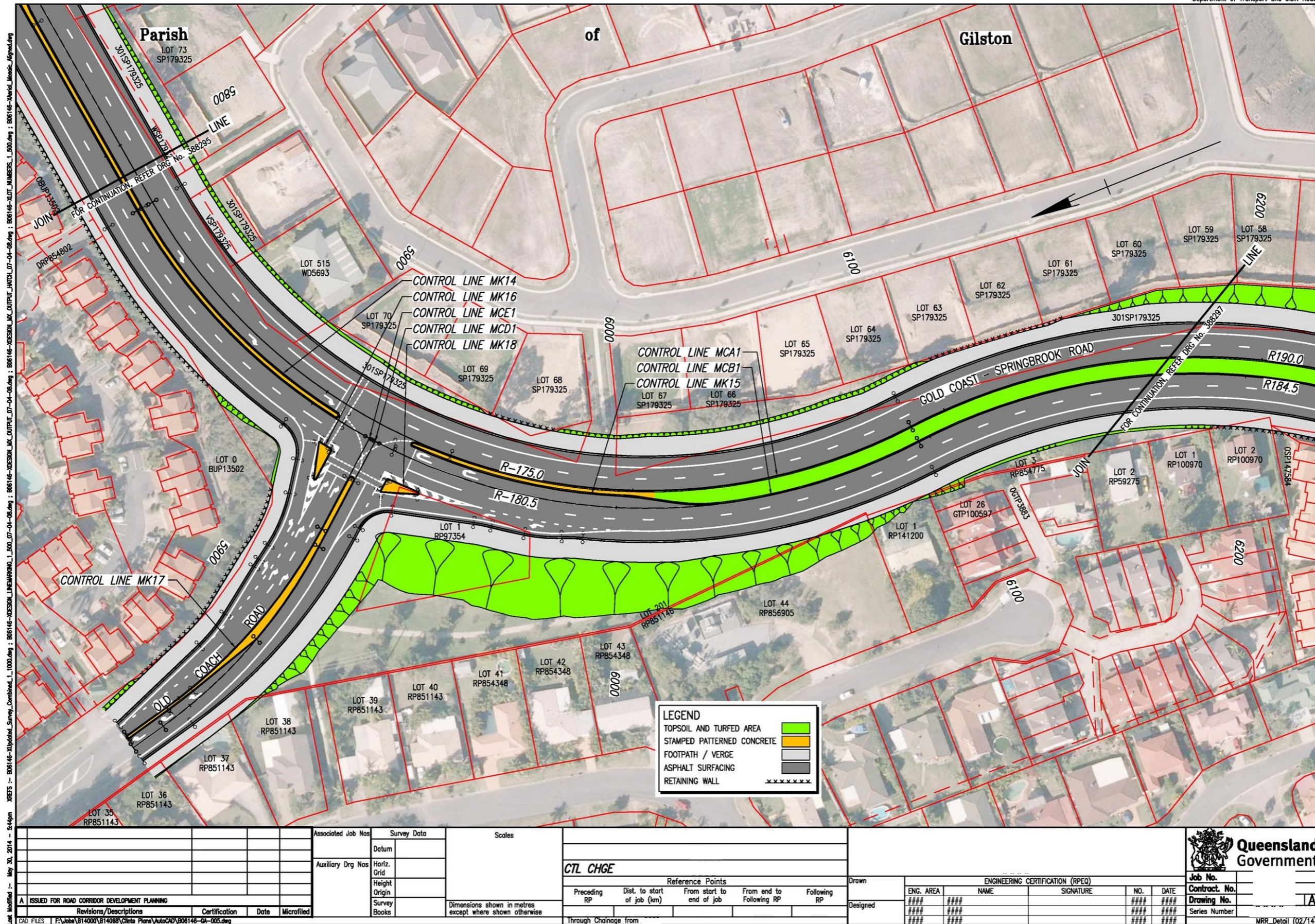
- Aerial photogrammetry augmented with ground topographical survey.

Drawing

- Show proposed intersection layout including K&C, pavement markings, medians, islands, footpaths, batters.
- Show pedestrian and cyclist facilities.
- Show cadastral boundaries in red colour (if not available then use DCDB).
- Show proposed land requirement lines (generally offset 5-10 m from toe / top of batters).

Figure 2.8(a) – Intersection layout – generic example 1

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Associated Job Nos		Survey Data		Scales		Reference Points		ENGINEERING CERTIFICATION (RPEQ)		Job No.	
Auxiliary Drg Nos		Datum				Preceding RP		NAME		Contract No.	
		Horiz. Grid				Dist. to start of job (km)		SIGNATURE		Drawing No.	
		Height Origin				From start to end of job				Series Number	
		Survey Books		Dimensions shown in metres except where shown otherwise		From end to Following RP				MRR_Detail (02/14)	
						Following RP					
A ISSUED FOR ROAD CORRIDOR DEVELOPMENT PLANNING		Certification		Date		Through Change from		Drawn		DESIGNED	
Revisions/Descriptions		Date		Microfilmed				ENG. AREA		NO. DATE	
CAD FILES F:\Jobs\B14000\B14088\Clients\Plan\AutoCAD\B06146-04-005.dwg								###		###	

Figure 2.8(b) – Intersection layout – registered example 1

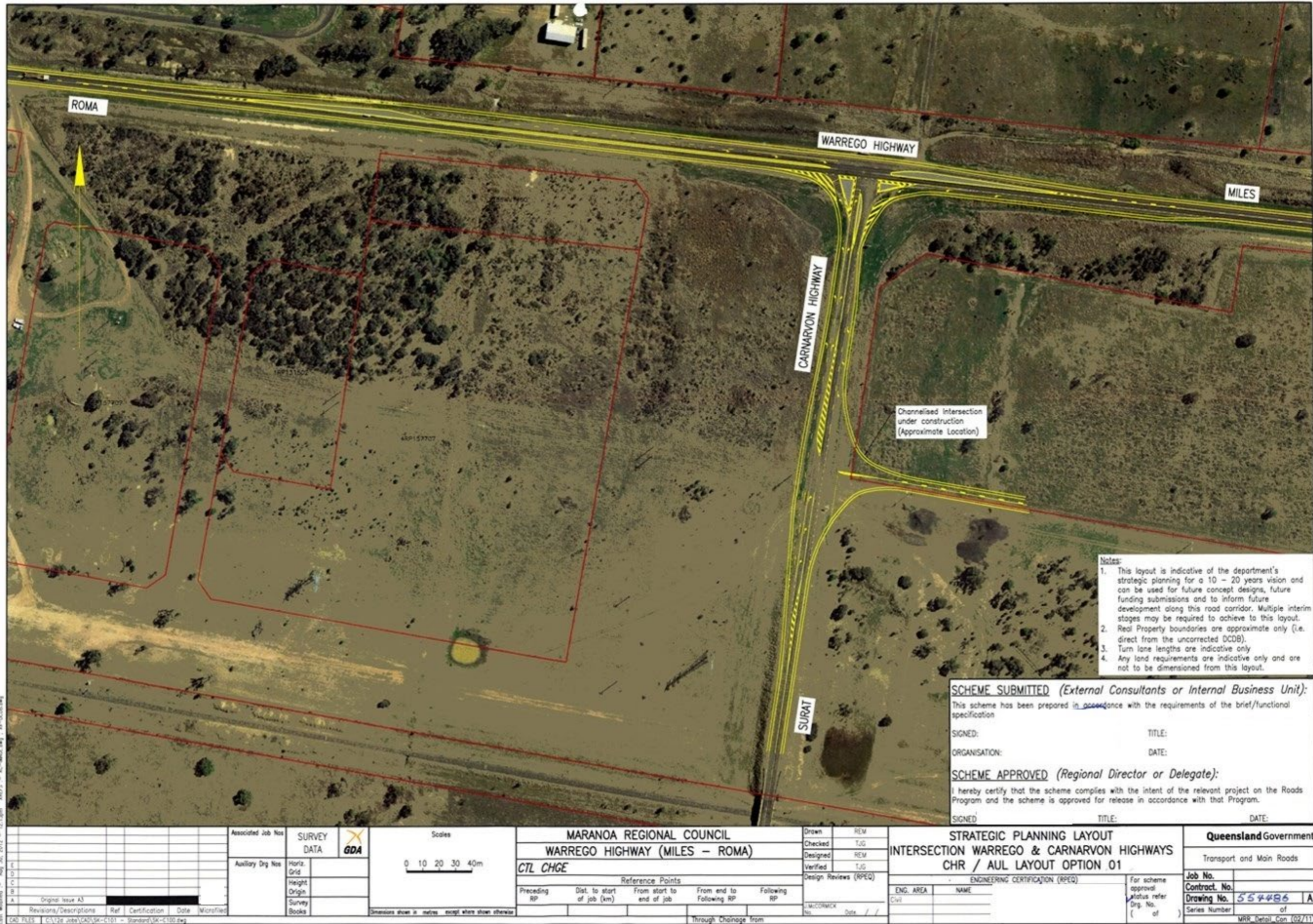


Figure 2.8(c) – Intersection layout – generic example 2

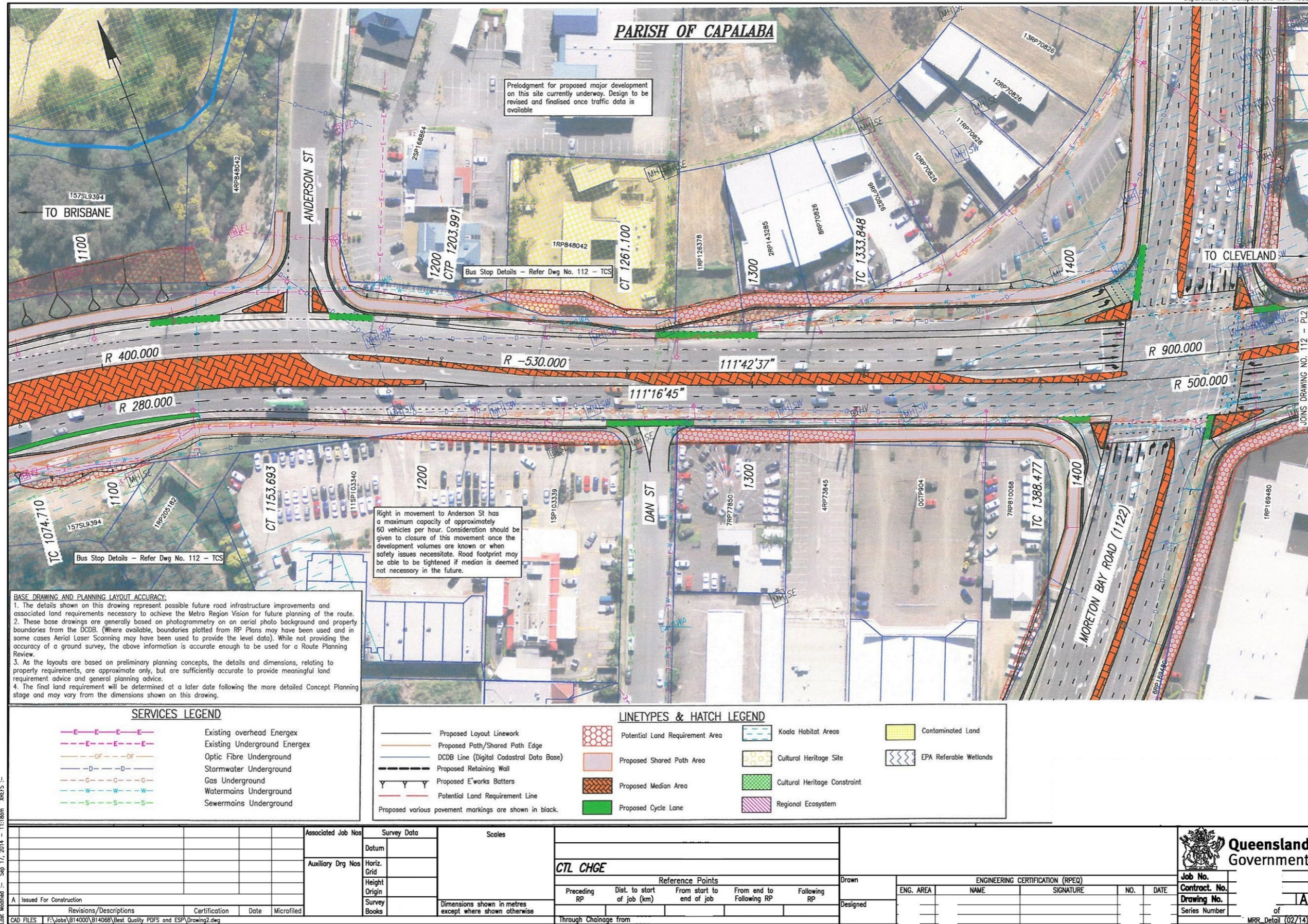
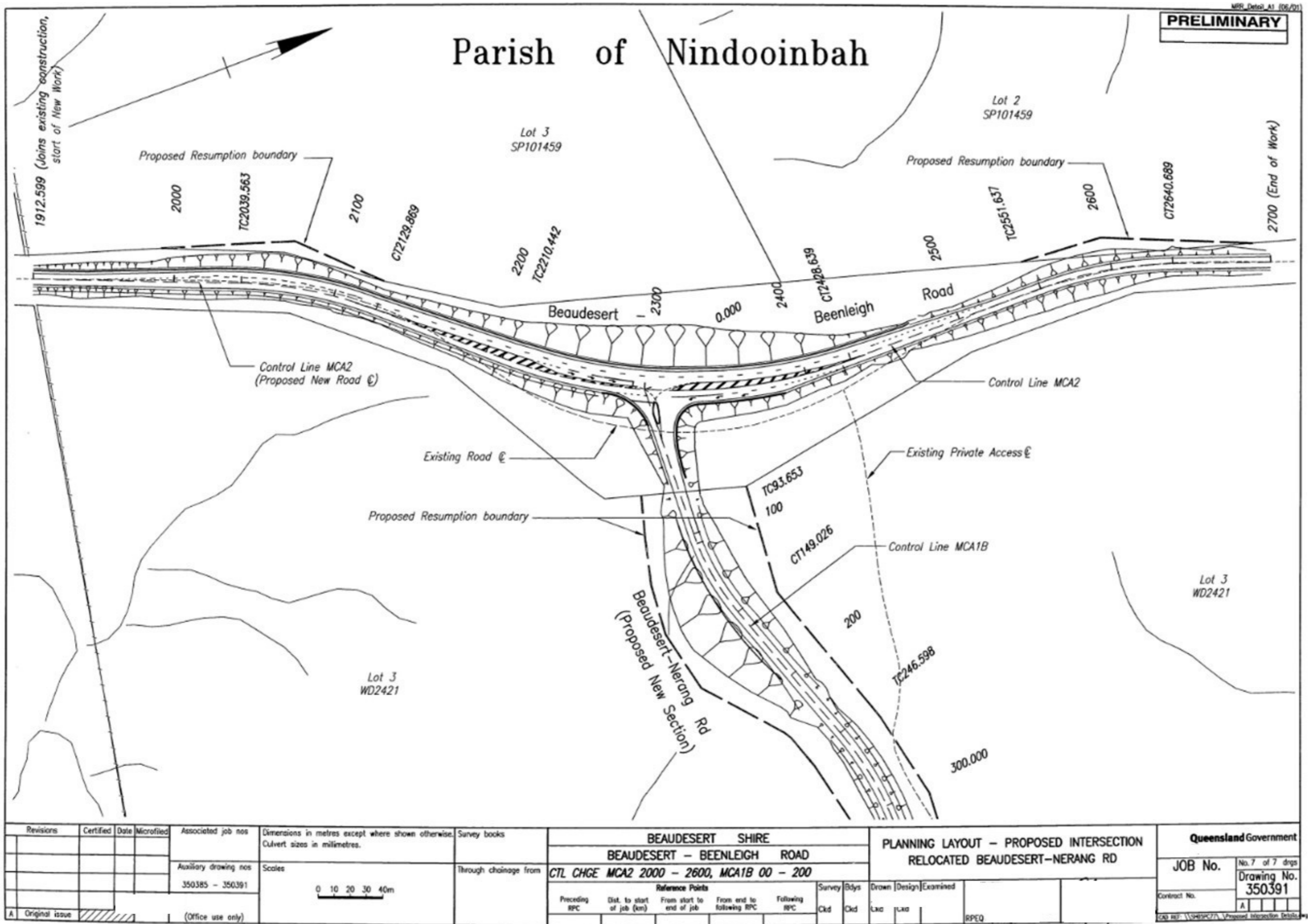


Figure 2.8(d) – Intersection layout – registered example 2



2.9 Public utility plant

This drawing shows the location of the public utility plant in relation to the proposed road layout. This information is generally plotted from [Before You Dig Australia \(BYDA\)](#) information and other service authority data.

Considerations

Scale

- Usually 1:1000 (Horizontal) at A1.

Background

- Aerial photogrammetry augmented with ground topographical survey.

Drawing

- Show proposed roadway alignment including K&C, medians, islands, footpaths, batters.
- Show all existing and proposed PUP.
- Show all existing and stormwater infrastructure.
- Show cadastral boundaries in red colour (if not available then use DCDB).
- Show proposed land requirement lines (generally offset 5-10 m from toe of batters).

Figure 2.9(a) – Public utility plant – generic example

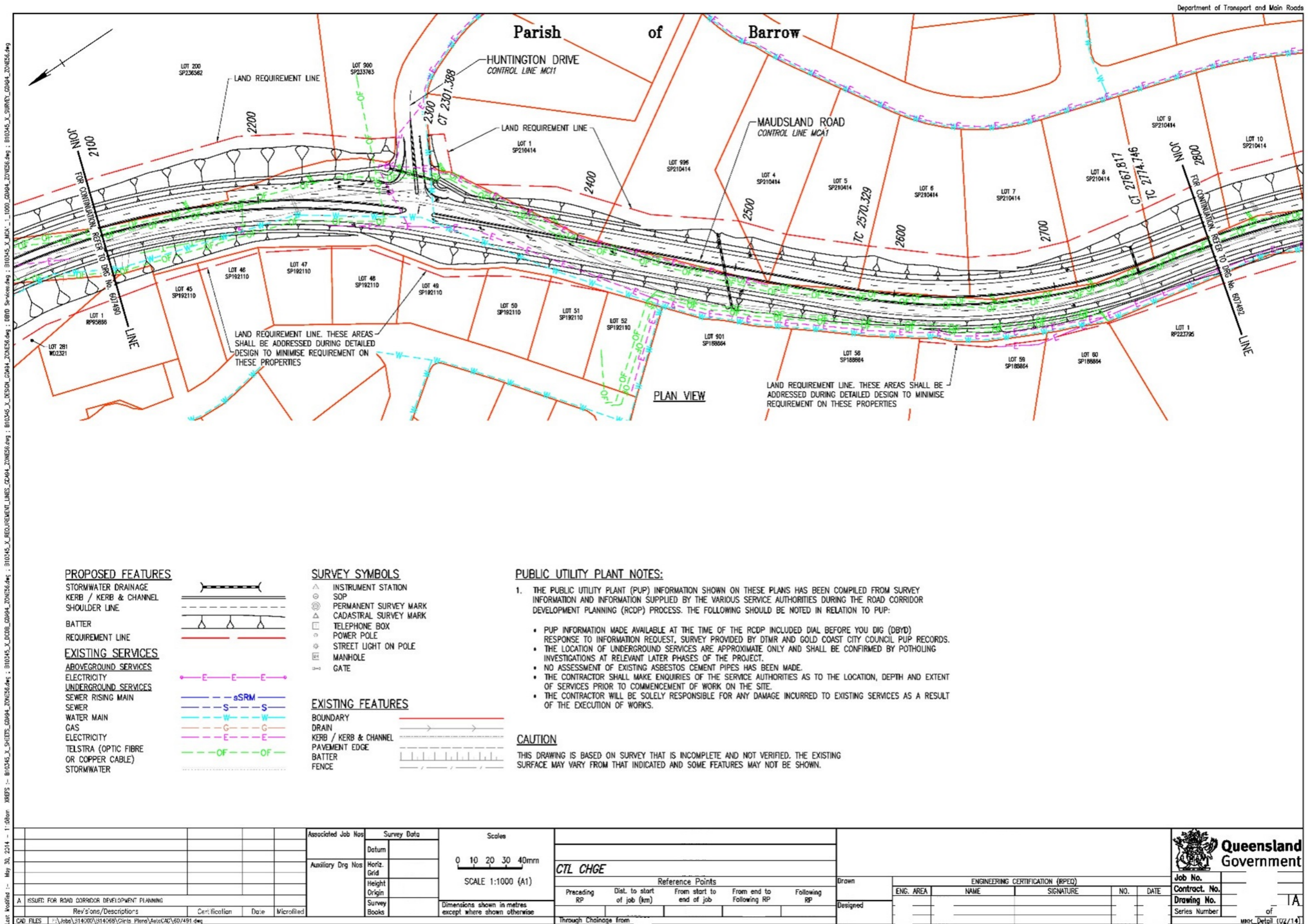
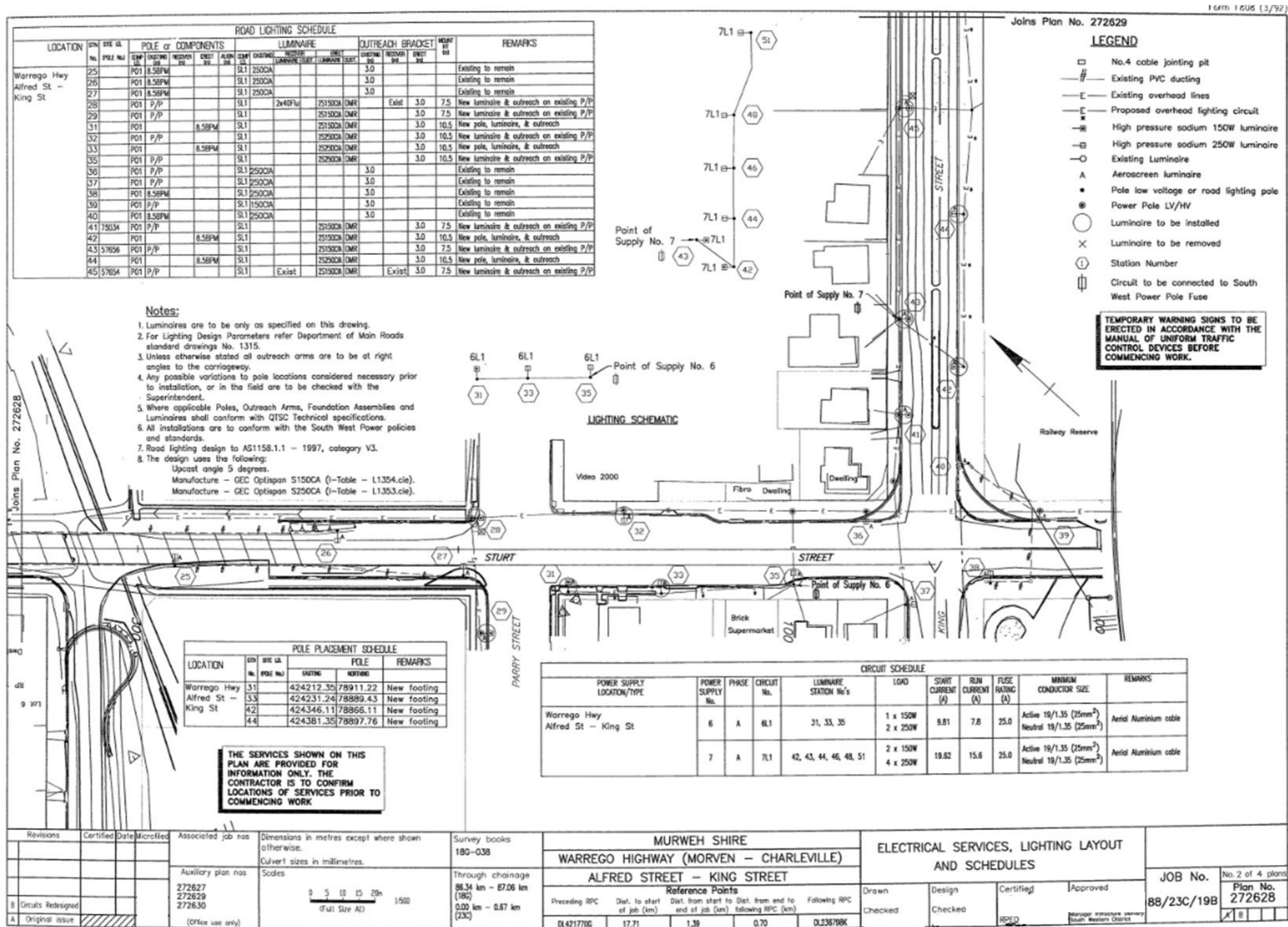


Figure 2.9(b) – Public utility plant – registered example



2.10 Annotated cross sections

The annotated cross sections are provided to indicate the extents of the construction works necessary to complete the project works. They provide the designer and the client with a better understanding of the issues involved in resolving land requirement issues, for example property access and so on.

Considerations

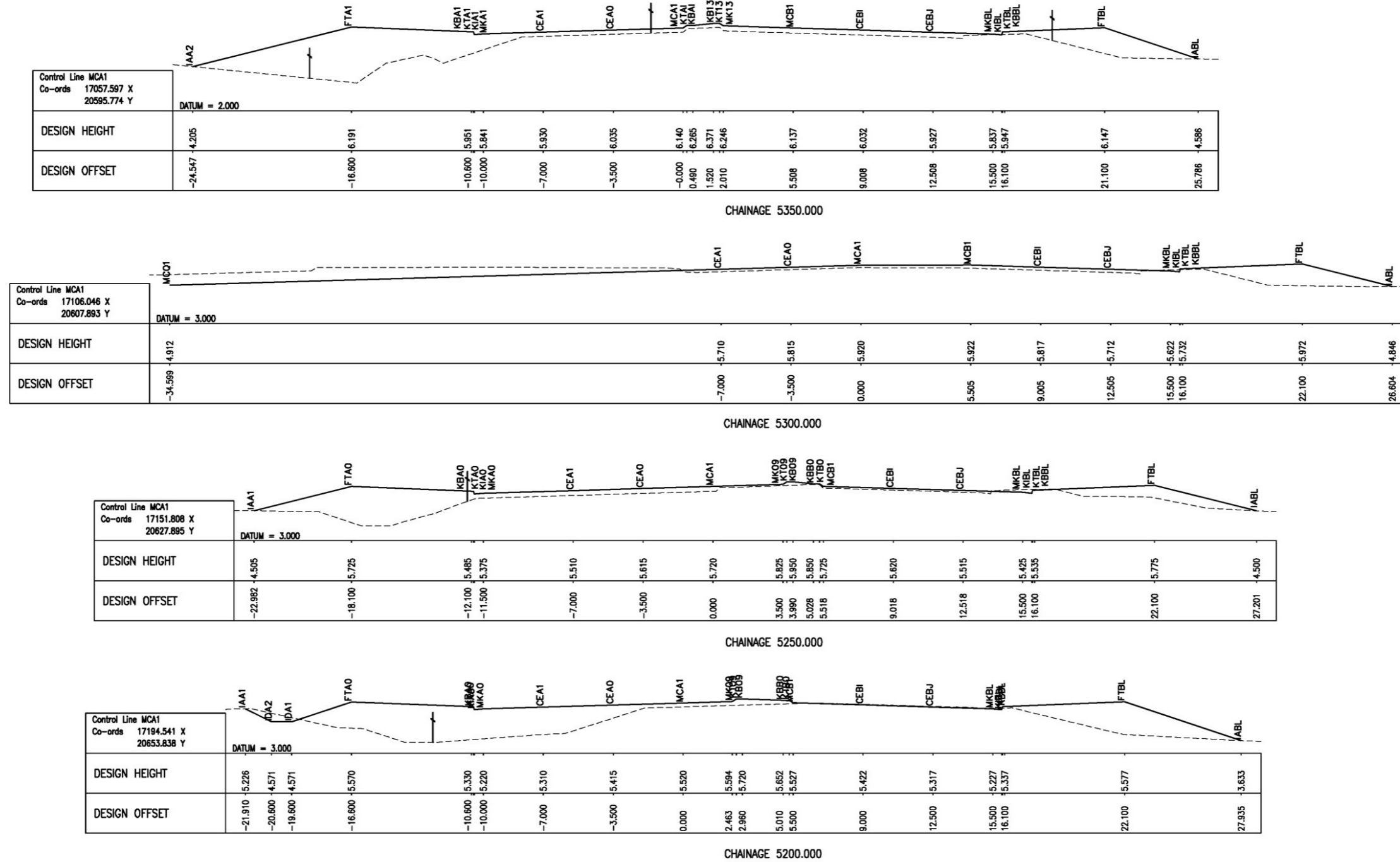
Scale

- Usually 1:200 at A1 (consider 1:250 at A1 depending on the size of the cross sections).
- Usually 50 m intervals between cross sections.
- Natural scale (not exaggerated).

Drawing

- Cross section template is available from the *Transport and Main Roads 12D Model Customisation* User Library.
- Show existing and proposed boundary lines.
- Show existing ground levels and proposed finished levels.

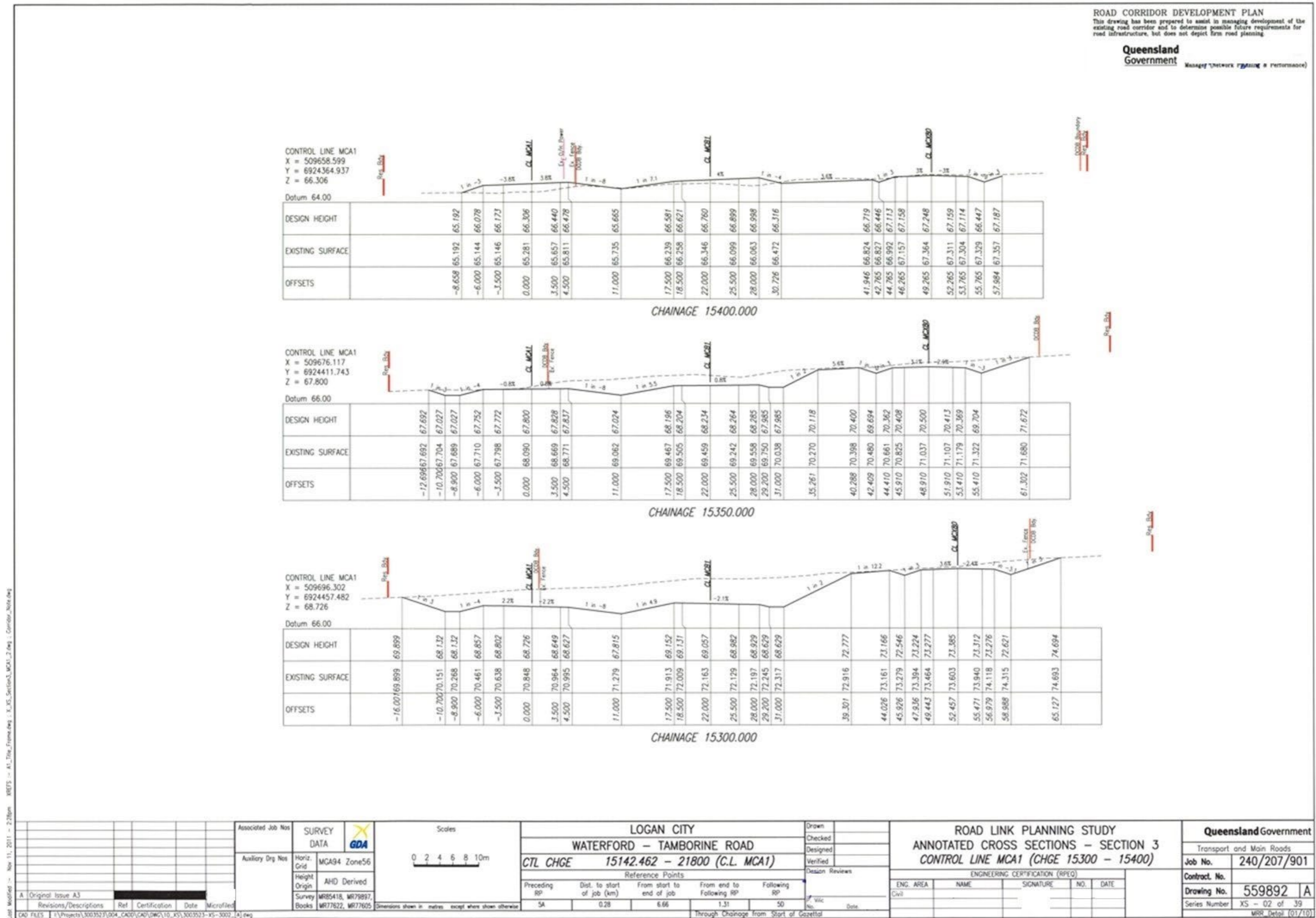
Figure 2.10(a) – Annotated cross sections – generic example



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 Last Modified: J.

Associated Job Nos		Survey Data		Scales		Drawn		ENGINEERING CERTIFICATION (RPEQ)				Job No. _____ Contract No. _____ Drawing No. _____ Series Number _____ of _____	
Auxiliary Drg Nos		Datum		CTL CHGE		Designed		ENG. AREA	NAME	SIGNATURE	NO.	DATE	MRR Detail (02/14)
Revisions/Descriptions		Horiz. Grid		Reference Points		Through Chainage from		Preceding RP Dist. to start of job (km) From start to end of job From end to Following RP Following RP					
Certification		Height Origin		Dimensions shown in metres except where shown otherwise									
Date		Survey Books											
Microfiled													

Figure 2.10(b) – Annotated cross sections – registered example



3 Options analysis, business case

3.1 Options analysis

3.1.1 Purpose of options analysis

The purpose of an options analysis includes:

- Reviewing the project proposal and developing a clear understanding of the problem and the outcomes required by the customer (outcome specification).
- Identifying all plausible problem solution options (technical and non-technical).
- Developing and assessing solution options using a value management approach that assesses impacts, benefits and cost to a level of detail that enables a comparative evaluation to clearly determine the preferred option.
- Ensuring project environmental sustainability through appropriate environmental assessment and management.
- Selecting the 'preferred solution' to satisfy the required operational performance outcome described in the project proposal, ensuring that it is within the defined outcome scope of the project.
- Defining the solution scope of the preferred option:
 - record of this stage of the project, and
 - recommend the preferred option.

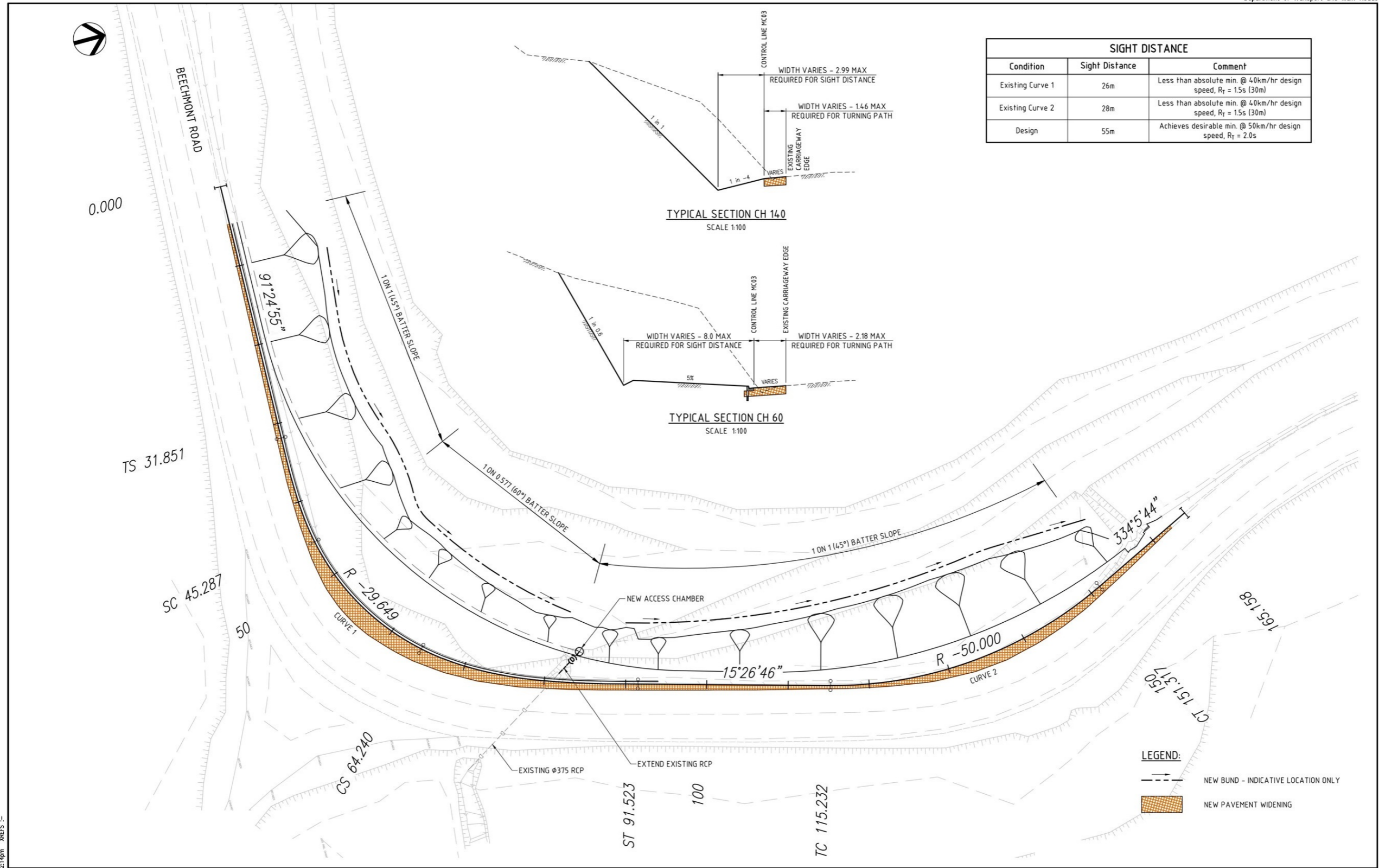
3.1.2 Options analysis drawings

Option analysis drawings can be as simple as a series of lines diagrams on an aerial photo background, depicting alternative alignments and as complex as a 3D alternative intersection layout drawing (for example, roundabout vs traffic signals).

The drawings should be of sufficient detail to clearly identify to the customer the:

- scope of the project
- project alternatives, for example alignments, intersection layouts, structures
- project issues and conflicts, for example river crossings, PUP conflicts
- project risks
- land acquisition requirements
- community issues, and
- project benefits.

Figure 3.1(a) – Options analysis drawings – generic example 1



Last Modified: Sep 17, 2014 - 12:14pm XREFS :-

Associated Job Nos		Survey Data		Scales		CTL CHGE		ENGINEERING CERTIFICATION (RPEQ)		Queensland Government	
Datum		Horiz. Grid		Dimensions shown in metres except where shown otherwise		Reference Points		NAME		Job No.	
Auxiliary Drg Nos		Height Origin				Preceding RP		SIGNATURE		Contract No.	
Survey Books		Survey Books				Dist. to start of job (km)		NO.		Drawing No. A	
Revisions/Descriptions		Certification				From start to end of job		DATE		Series Number of	
Microfilmed						From end to Following RP				MRR_Detail (02/14)	
CAD FILES		F:\Jobs\B14000\B14068\Best Quality PDFS and ESP\Drawing3 beechmont1.dwg				Through Chainage from					

Figure 3.1(b) – Options analysis drawings – generic example 2

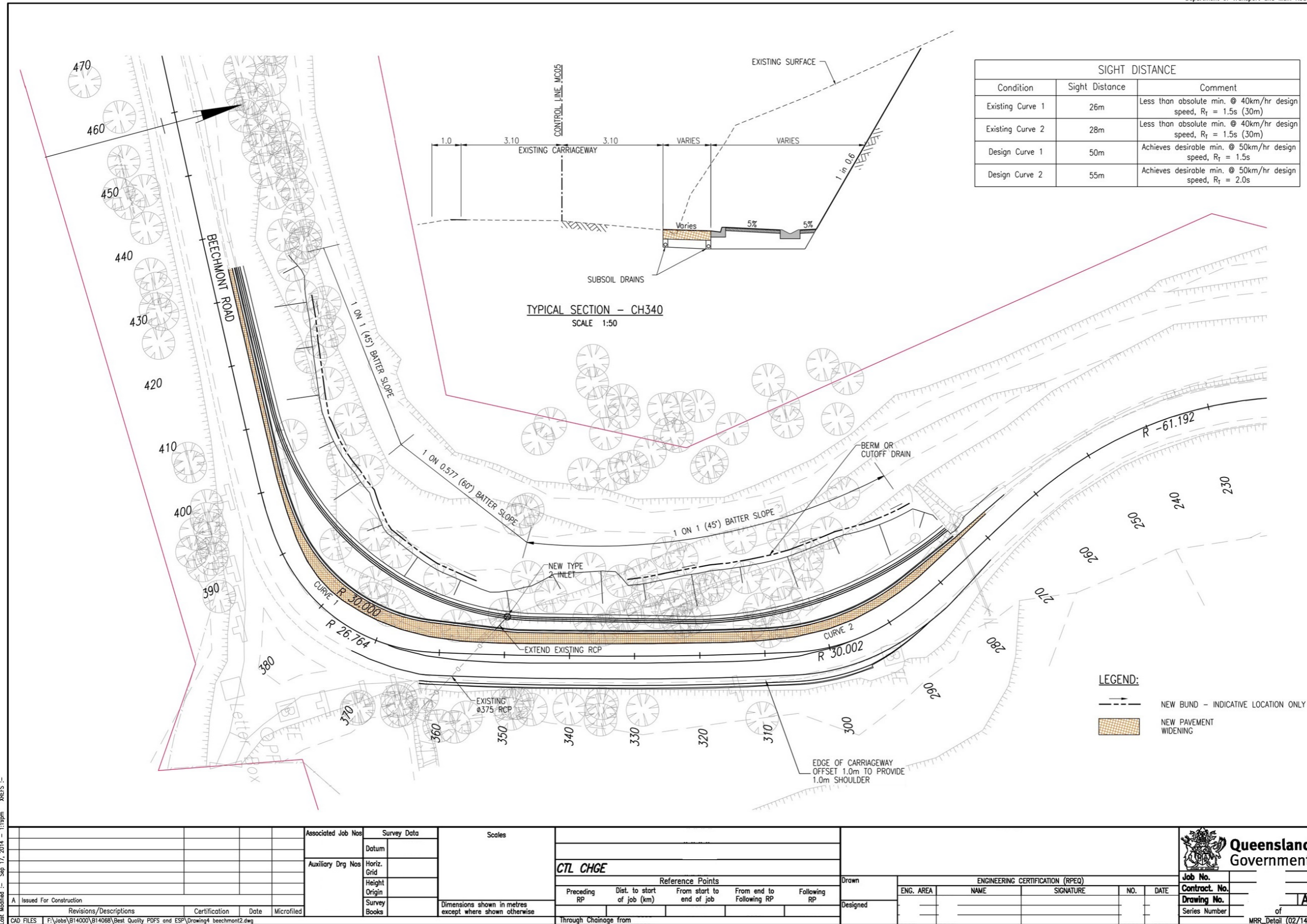


Figure 3.1(c) – Options analysis drawings – generic example 3

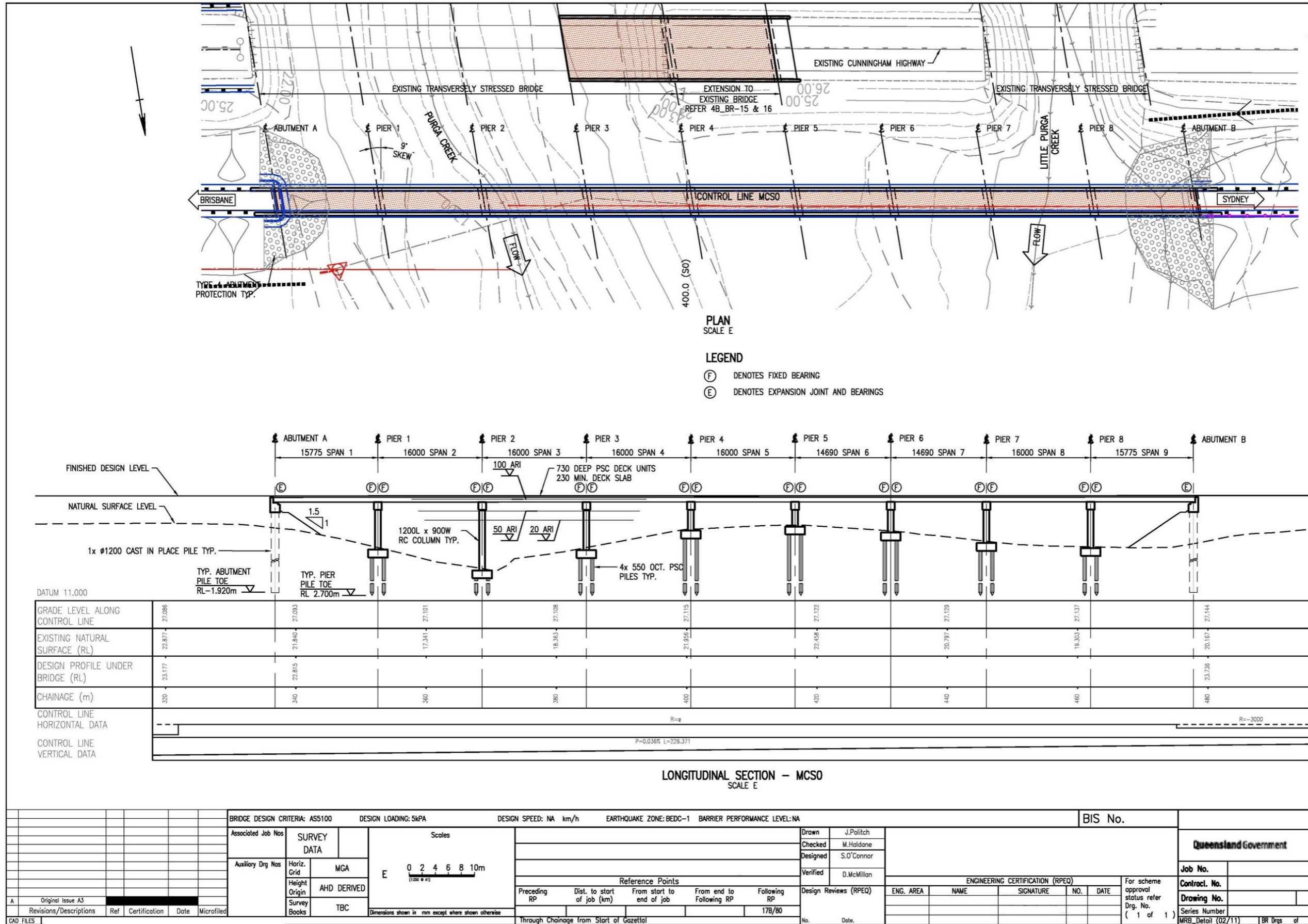
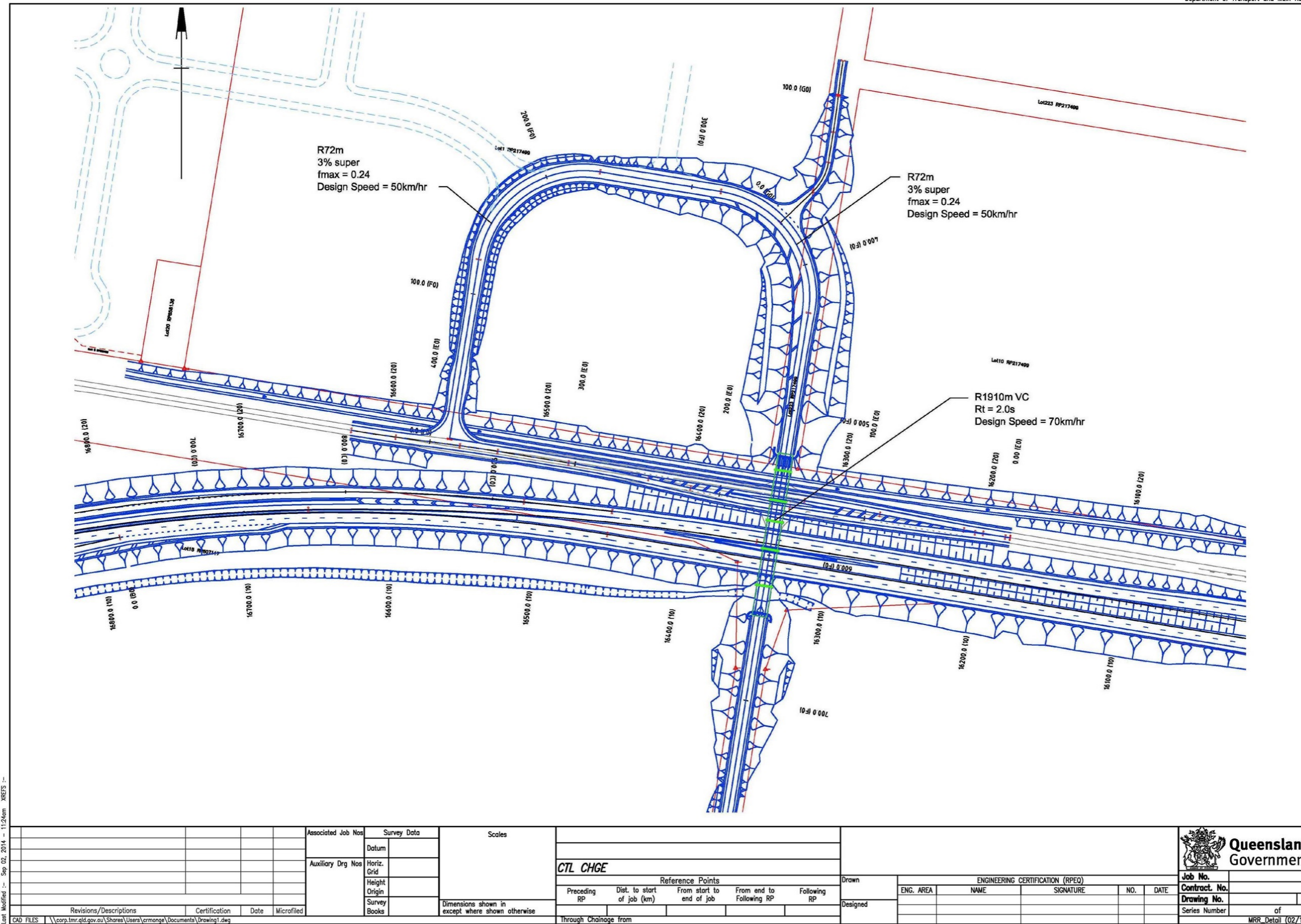


Figure 3.1(d) – Options analysis drawings – generic example 4



3.2 Business case

3.2.1 Purpose of a business case

The purpose of the business case is to:

- Review
 - the proposal to develop a clear understanding of the customer's requirement (outcome specification)
 - the solution options analysis report to understand the reasons for selecting the preferred option (solution), and
 - the scope of the preferred option.
- Develop the preferred option as a reference design that documents a single problem solution ensuring that it is within the scope of the project, including conducting road safety audit (feasibility).
- The business case will include appropriate investigations, consultations and development to establish the project cost (to within $\pm 20\%$ of final project cost).
- Ensure development of the preferred option achieves:
 - environmental sustainability through appropriate environmental assessment and management (refer to the [Environmental Processes Manual](#) for guidance)
 - economic solution through good design practices, and
 - constructability practically and efficiency.
- Prepare the business case report to seek approval for:
 - delivering the preferred solution option
 - delivering the construction budget, and
 - including the project on the QTRIP as a construction project.
- Proceed to the next phase that is, the development phase.
- Develop the justification for including the project in the RIP.
- Put together a handover package to facilitate the transition to the next phase.
- Develop a draft project plan for directing and controlling project activities after the business case has been accepted.
- Develop a plan for the orderly termination of the project if the business case is not accepted.

3.2.2 Business case drawings

Transport and Main Roads development business case drawings should usually be produced on the standard Road Design Detail A1 size title sheet. Refer to the *Drafting and Design Presentation Standards Manual*, Volume 1, Chapter 2: Appendix D – *TMR Drawing Sheets*, using the current Transport and Main Roads customisation package. All text and line work shall be legible when produced in A3 format and shall meet the requirements of the DDPSM Volume 1.

Drawings that accompany a business case study should essentially be designed and presented to achieve the necessary detail and accuracy of the project cost estimate and provide confidence of the feasibility of the project.

3.2.3 Typical drawing list

A typical drawing list comprises of the below drawing types. Please refer to relevant Sections provided for more information.

- Locality plan and drawing list (Section 2.4).
- Typical cross sections and details (Section 2.5).
- Plan and longitudinal section (Section 2.6).
- Requirement lines (Section 2.7).
- Intersection layout (Section 2.8).
- Public utility plant (Section 2.9).
- Annotated cross sections (Section 2.10).

3.2.4 Locality plan and drawing list

This drawing is the 'cover sheet' for the drawing set and provides a locality plan and drawing list. For large drawings sets, the locality plan and drawing list will need to be placed on separate drawings to ensure that there is adequate space available for the locality plan.

Considerations

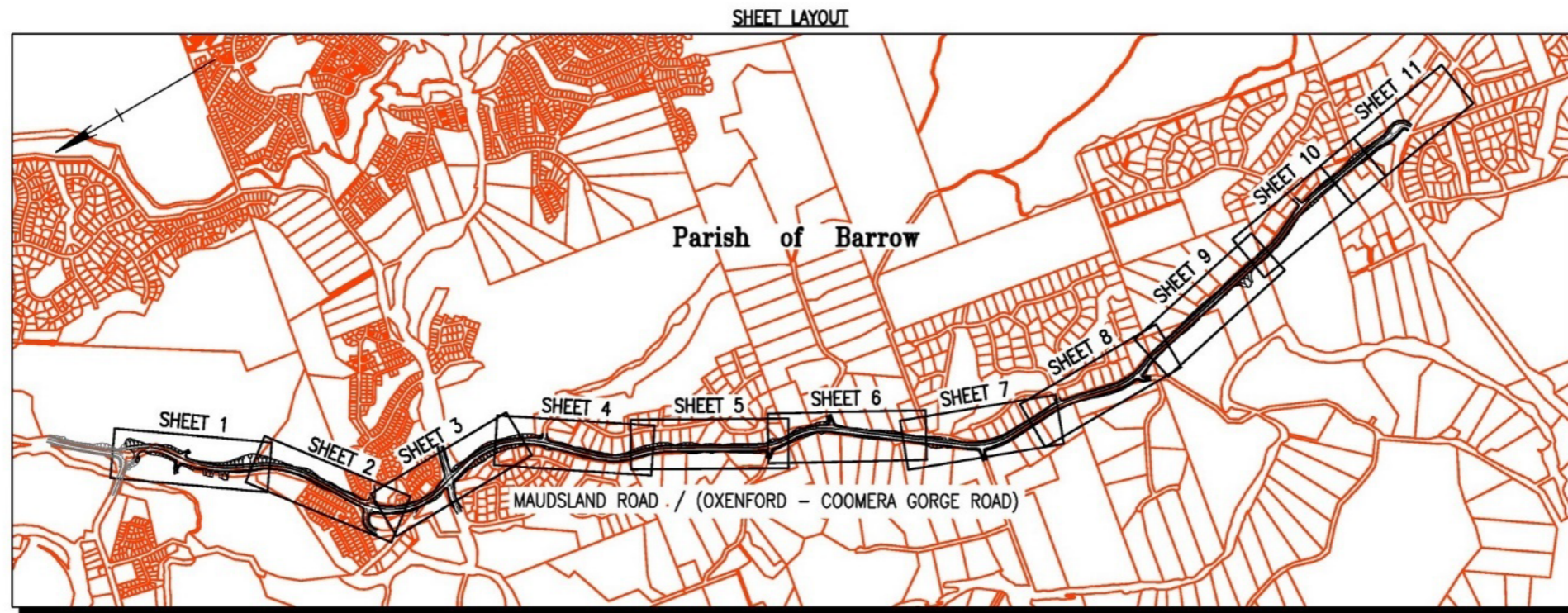
Locality plan

- Scale – select scale to show project site relative to landmarks.
- Use background map that adequately shows extent of project and its relationship to local area, for example cadastral boundaries (if not available then use DCDB), photo mosaic, etc.
- Orientate the locality plan to match the project plans (where possible).
- Add names of streets, creeks, local landmarks, and so on.
- Include north point.

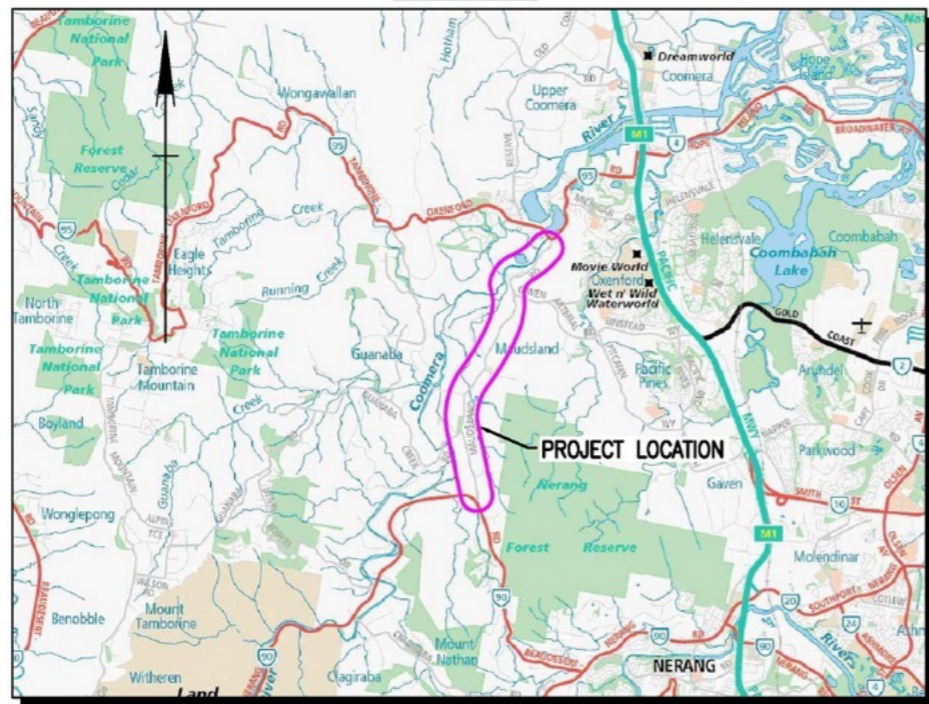
Drawing list

- Add drawing list attribute to standard sheet.
- Include all drawings in the scheme.
- Continue on additional sheet(s) if necessary.

Figure 3.2 – Locality plan and drawing list – generic example



LOCALITY PLAN



DRAWING INDEX

PLAN No.	DRAWING No.	REVISION	DESCRIPTION
1	607448	A	LOCALITY PLAN AND DRAWING INDEX
2	607449	A	TYPICAL CROSS SECTIONS AND DETAILS
3	607450	A	PLAN AND LONGITUDINAL SECTION CH.0.0 - CH.700.0 (MCA1)
4	607451	A	PLAN AND LONGITUDINAL SECTION CH.700.0 - CH.1400.0 (MCA1)
5	607452	A	PLAN AND LONGITUDINAL SECTION CH.1400.0 - CH.2100.0 (MCA1)
6	607453	A	PLAN AND LONGITUDINAL SECTION CH.2100.0 - CH.2800.0 (MCA1)
7	607454	A	PLAN AND LONGITUDINAL SECTION CH.2800.0 - CH.3500.0 (MCA1)
8	607455	A	PLAN AND LONGITUDINAL SECTION CH.3500.0 - CH.4200.0 (MCA1)
9	607456	A	PLAN AND LONGITUDINAL SECTION CH.4200.0 - CH.4900.0 (MCA1)
10	607457	A	PLAN AND LONGITUDINAL SECTION CH.4900.0 - CH.5600.0 (MCA1)
11	607458	A	PLAN AND LONGITUDINAL SECTION CH.5600.0 - CH.6300.0 (MCA1)
12	607459	A	PLAN AND LONGITUDINAL SECTION CH.6300.0 - CH.7000.0 (MCA1)
13	607460	A	PLAN AND LONGITUDINAL SECTION CH.7000.0 - CH.7336.7 (MCA1)
14	607461	A	REQUIREMENT LINES (SHEET 1 OF 11)
15	607462	A	REQUIREMENT LINES (SHEET 2 OF 11)
16	607463	A	REQUIREMENT LINES (SHEET 3 OF 11)
17	607464	A	REQUIREMENT LINES (SHEET 4 OF 11)
18	607465	A	REQUIREMENT LINES (SHEET 5 OF 11)
19	607466	A	REQUIREMENT LINES (SHEET 6 OF 11)
20	607467	A	REQUIREMENT LINES (SHEET 7 OF 11)
21	607468	A	REQUIREMENT LINES (SHEET 8 OF 11)
22	607469	A	REQUIREMENT LINES (SHEET 9 OF 11)
23	607470	A	REQUIREMENT LINES (SHEET 10 OF 11)
24	607471	A	REQUIREMENT LINES (SHEET 11 OF 11)
25	607472	A	INTERSECTION LAYOUT (SHEET 1 OF 11)
26	607473	A	INTERSECTION LAYOUT (SHEET 2 OF 11)
27	607474	A	INTERSECTION LAYOUT (SHEET 3 OF 11)
28	607475	A	INTERSECTION LAYOUT (SHEET 4 OF 11)
29	607476	A	INTERSECTION LAYOUT (SHEET 5 OF 11)
30	607477	A	INTERSECTION LAYOUT (SHEET 6 OF 11)
31	607478	A	INTERSECTION LAYOUT (SHEET 7 OF 11)
32	607479	A	INTERSECTION LAYOUT (SHEET 8 OF 11)
33	607480	A	INTERSECTION LAYOUT (SHEET 9 OF 11)
34	607481	A	INTERSECTION LAYOUT (SHEET 10 OF 11)
35	607482	A	INTERSECTION LAYOUT (SHEET 11 OF 11)
36	607483	A	CONTROL LINE SETOUT TABLES (SHEET 1 OF 5)
37	607484	A	CONTROL LINE SETOUT TABLES (SHEET 2 OF 5)
38	607485	A	CONTROL LINE SETOUT TABLES (SHEET 3 OF 5)

DRAWING INDEX cont.

PLAN No.	DRAWING No.	REVISION	DESCRIPTION
39	607486	A	CONTROL LINE SETOUT TABLES (SHEET 4 OF 5)
40	607487	A	CONTROL LINE SETOUT TABLES (SHEET 5 OF 5)
41	607488	A	PUBLIC UTILITY PLAN (SHEET 1 OF 11)
42	607489	A	PUBLIC UTILITY PLAN (SHEET 2 OF 11)
43	607490	A	PUBLIC UTILITY PLAN (SHEET 3 OF 11)
44	607491	A	PUBLIC UTILITY PLAN (SHEET 4 OF 11)
45	607492	A	PUBLIC UTILITY PLAN (SHEET 5 OF 11)
46	607493	A	PUBLIC UTILITY PLAN (SHEET 6 OF 11)
47	607494	A	PUBLIC UTILITY PLAN (SHEET 7 OF 11)
48	607495	A	PUBLIC UTILITY PLAN (SHEET 8 OF 11)
49	607496	A	PUBLIC UTILITY PLAN (SHEET 9 OF 11)
50	607497	A	PUBLIC UTILITY PLAN (SHEET 10 OF 11)
51	607498	A	PUBLIC UTILITY PLAN (SHEET 11 OF 11)
52	607499	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 1 OF 22)
53	607500	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 2 OF 22)
54	607501	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 3 OF 22)
55	607502	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 4 OF 22)
56	607503	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 5 OF 22)
57	607504	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 6 OF 22)
58	607505	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 7 OF 22)
59	607506	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 8 OF 22)
60	607507	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 9 OF 22)
61	607508	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 10 OF 22)
62	607509	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 11 OF 22)
63	607510	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 12 OF 22)
64	607511	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 13 OF 22)
65	607512	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 14 OF 22)
66	607513	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 15 OF 22)
67	607514	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 16 OF 22)
68	607515	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 17 OF 22)
69	607516	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 18 OF 22)
70	607517	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 19 OF 22)
71	607518	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 20 OF 22)
72	607519	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 21 OF 22)
73	607520	A	ANNOTATED CROSS SECTIONS (MCA1) (SHEET 22 OF 22)

May 30, 2014 - 10:52am XREFS - B10345_X_SHEETS_D084_ZONES56.dwg ; B10345_X_D084_ZONES56.dwg ; B10345_X_MCA1_1_1000_D084_ZONES56.dwg ; B10345_X_DESIGN_D084_ZONES56.dwg
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Auxiliary Drg Nos	Datum				ENG. AREA	NAME	SIGNATURE	NO.		DATE
CTL CHGE				Designed					Contract No.	
Reference Points									Drawing No.	
Preceding RP				Dist. to start of job (km)				From start to end of job		
				From end to Following RP				Following RP		
Revisions/Descriptions				Certification				Date		Series Number
Microfiled				Dimensions shown in metres except where shown otherwise				Through Change from		MRR Detail (02/14)



3.3 Type / typical cross sections

This drawing details the nominal type / typical cross section profiles for the project and identifies the project extents in cross section form. The type / typical cross section drawings may contain additional details which are relevant to the cross section profile.

Considerations

- Scale – select scale to adequately show detail and fit page.
- Show fully dimensioned type / typical cross sections.
- Label traffic lanes, cycle lanes, parking, shoulders, footpaths and so on.
- Show edge drainage treatments – K&C, table drains, swales.
- Show median treatments.
- Show roadside barrier treatments.
- Show verge rounding.
- Show fencing location – boundary fence, noise barriers.
- Identify existing and proposed boundaries.
- Show cut / fill slopes.
- Identify subsoil pavement drainage.
- Show relative location of control lines.
- Use various type / typical sections as necessary to cover alternative treatments throughout project.
- Identify the extent over which each type / typical cross section applies.

Figure 3.3(a) – Type cross sections – generic example

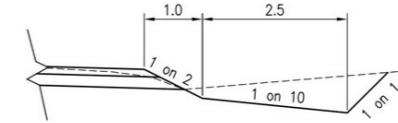
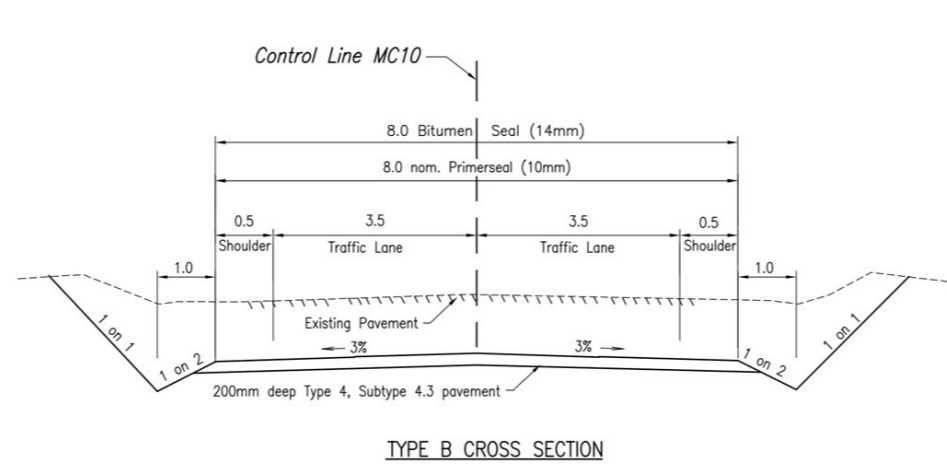
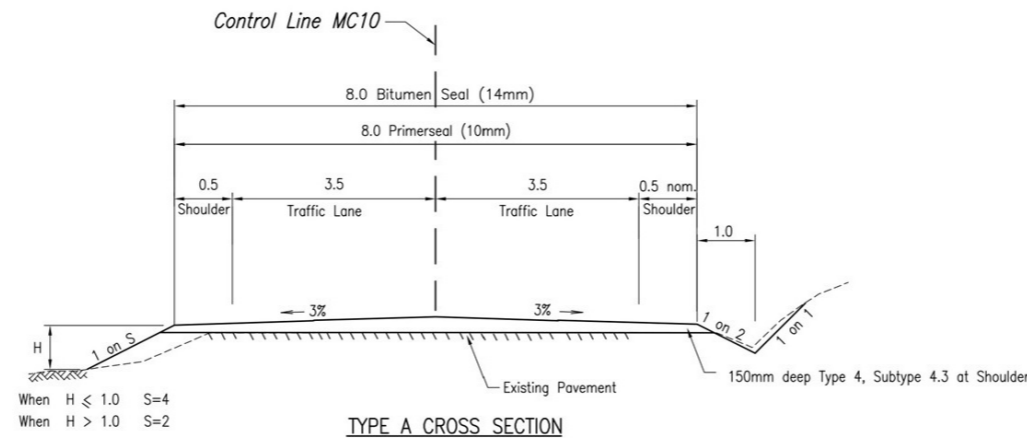
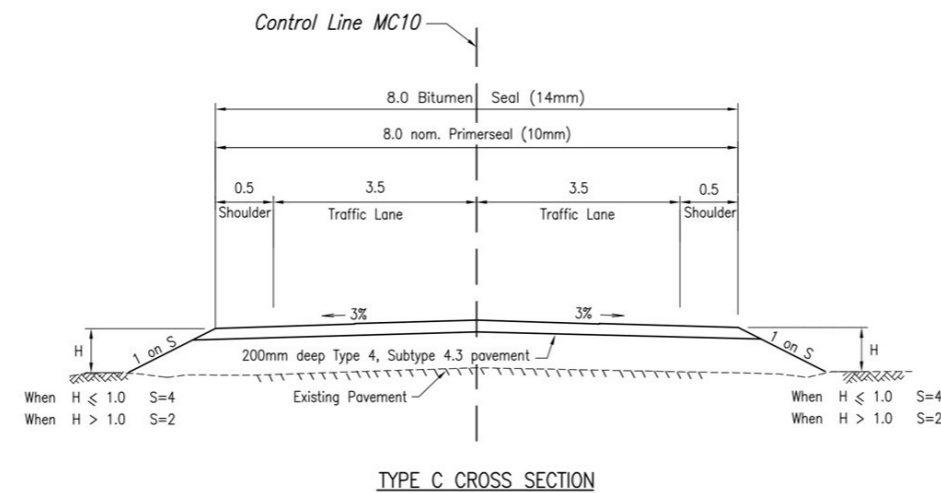


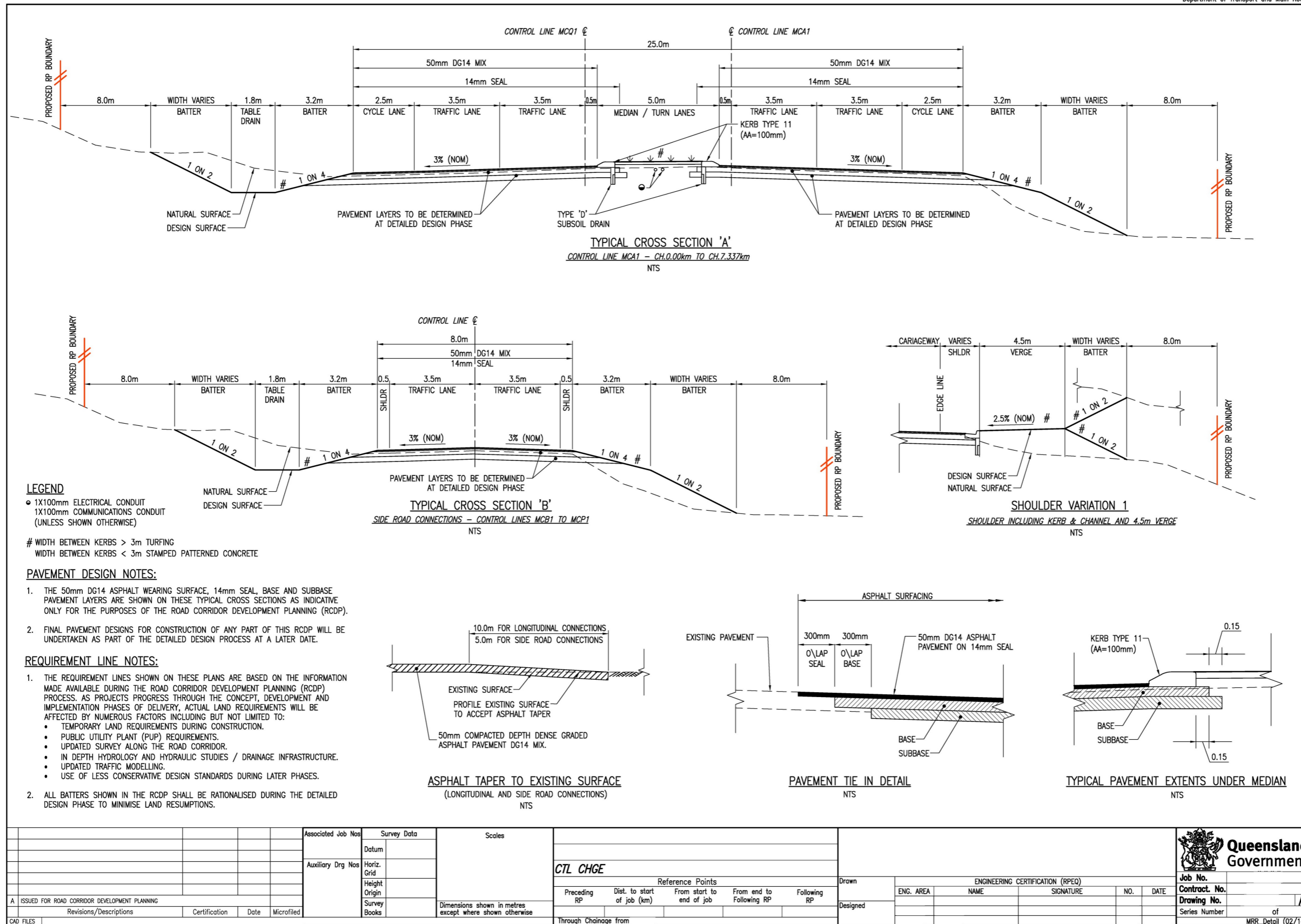
TABLE DRAIN TREATMENT FOR GRADES LESS THAN 2%
(Location to be determined by Superintendent, if ordered)



				Associated Job Nos	Survey Data	Scales						
				Auxiliary Drg Nos	Datum							
					Horiz. Grid							Job No.
					Height Origin							Contract. No.
					Survey Books	Dimensions shown in except where shown otherwise						Drawing No.
												Series Number
												NO. of OF
												MRR Detail (02/14)

Figure 3.3(b) – Typical cross sections – generic example

Department of Transport and Main Roads



3.4 Working Plan and longitudinal section

Working Plan and longitudinal section drawings detail the road geometry and vertical profile for the project. Construction details may be included in the drawing.

Considerations

Scale

- Usually 1:1000 (horizontal) and 1:200 (vertical) at A1.

Background

- Aerial photogrammetry augmented with ground topographical survey (if available).

Drawing

- Show proposed roadway alignment including K&C, medians, islands, footpaths, batters.
- Show cadastral boundaries in red colour (if not available then use DCDB).
- Provide horizontal alignment and vertical profile details (use K values for vertical geometry).
- Show design speed details on the longitudinal table.
- Show land requirement boundaries.
- Show all existing and proposed PUP (If separate PUP drawings are not required).
- Show cross drainage culverts and structures.
- Show drainage features (If separate Drainage drawings are not required).

Figure 3.4(a) – Working plan and longitudinal section – business case generic example – sheet 1 of 2

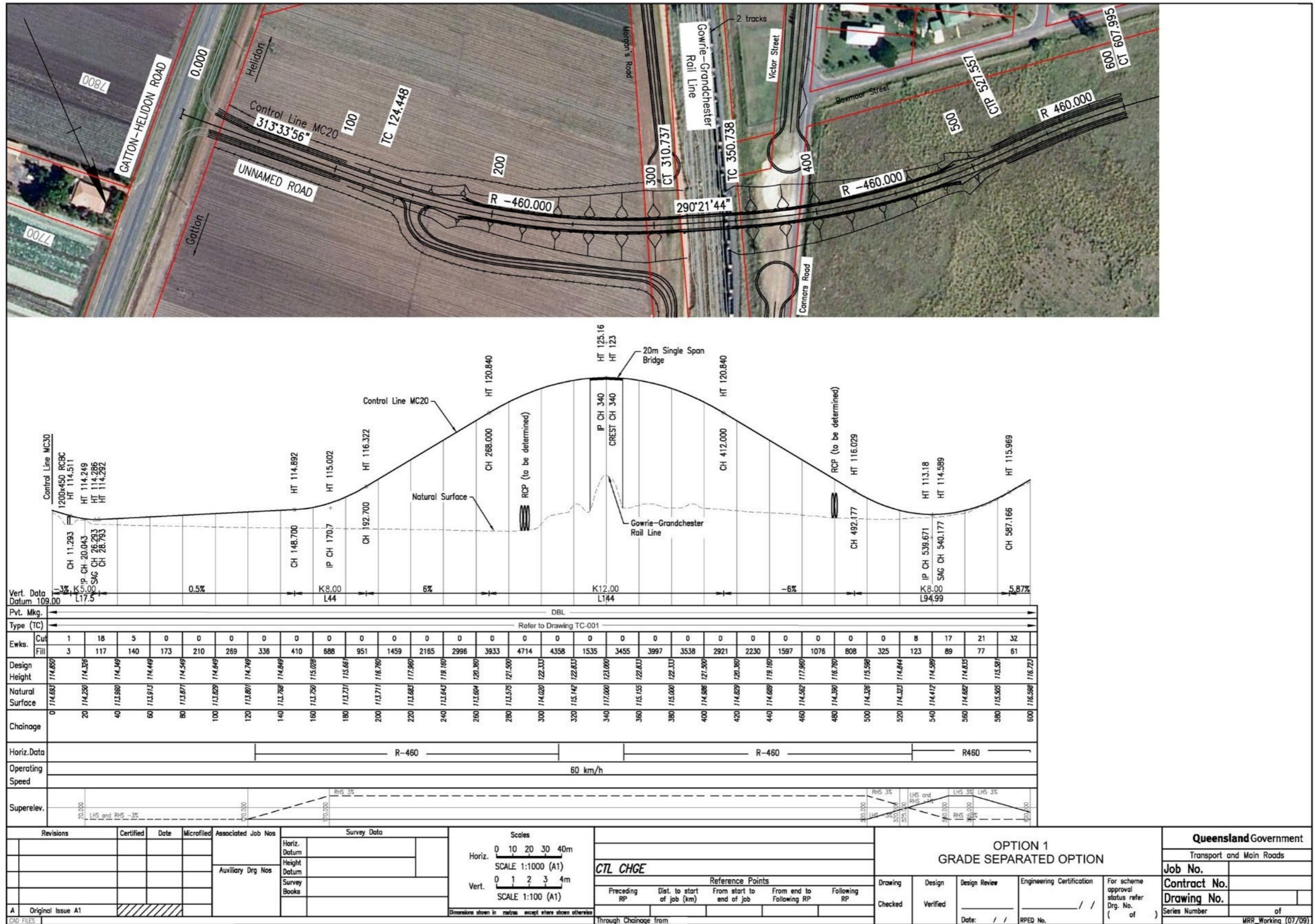


Figure 3.4(b) – Working plan and longitudinal section – business case generic example – sheet 2 of 2

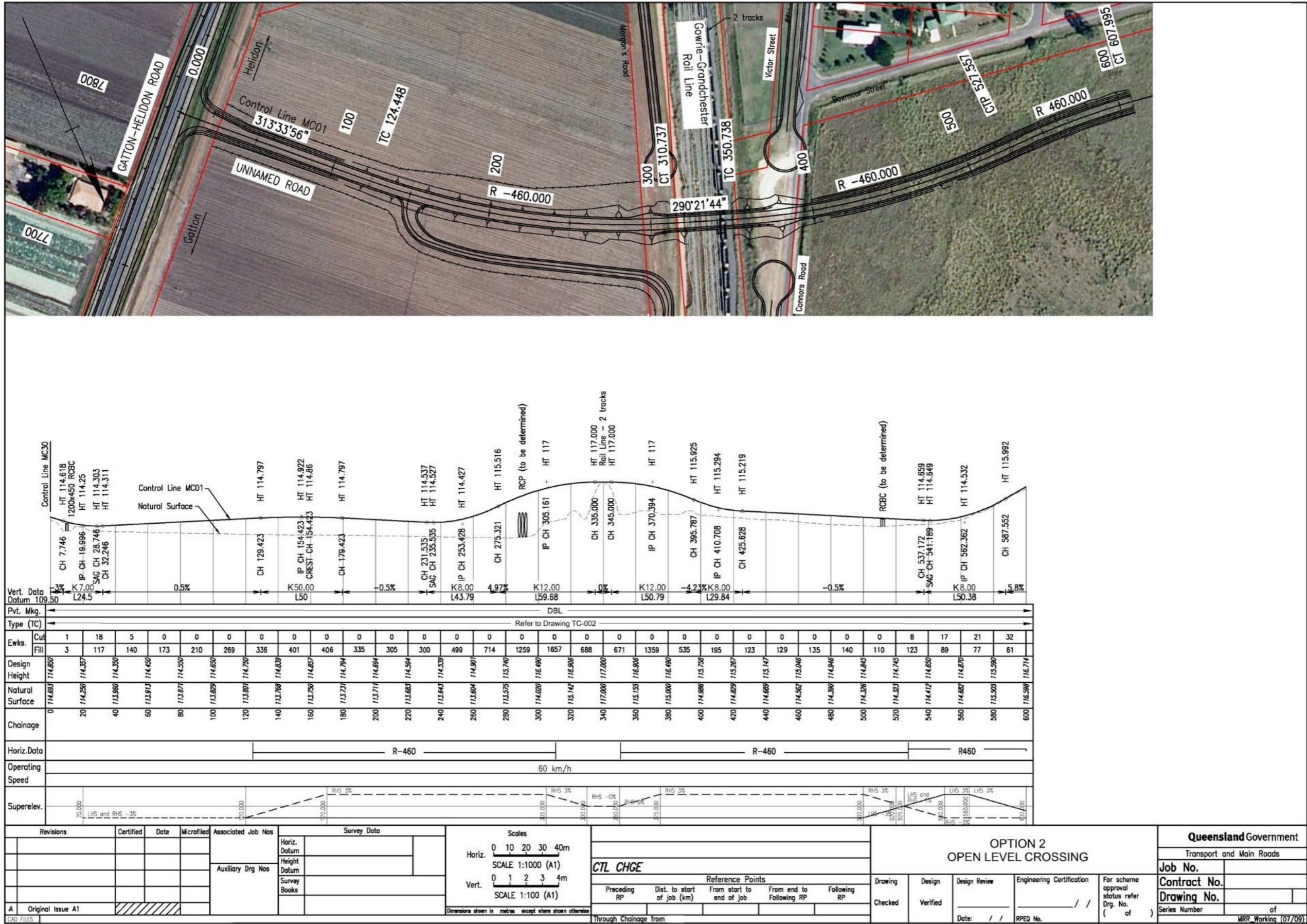


Figure 3.4(c) – Plan layout – generic example

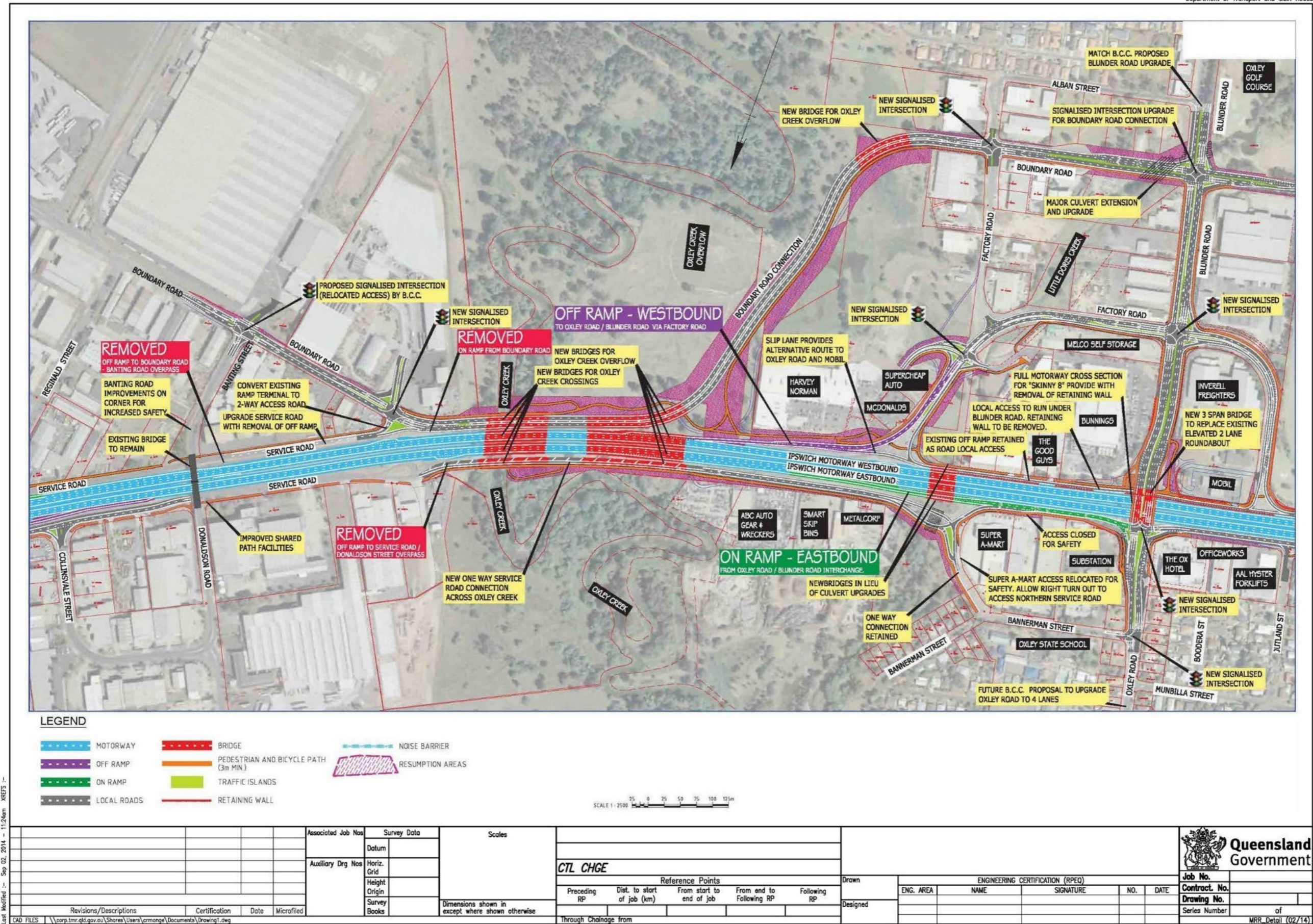
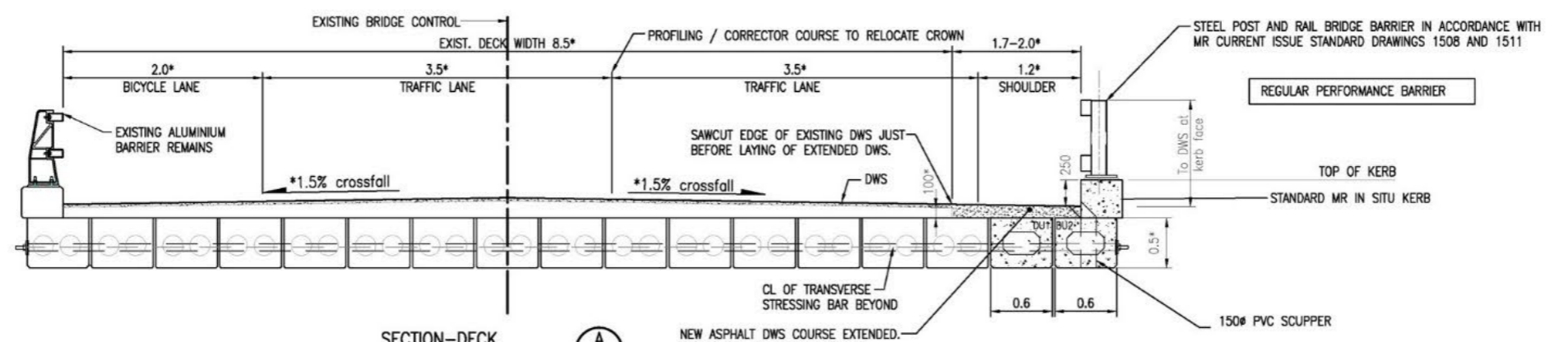
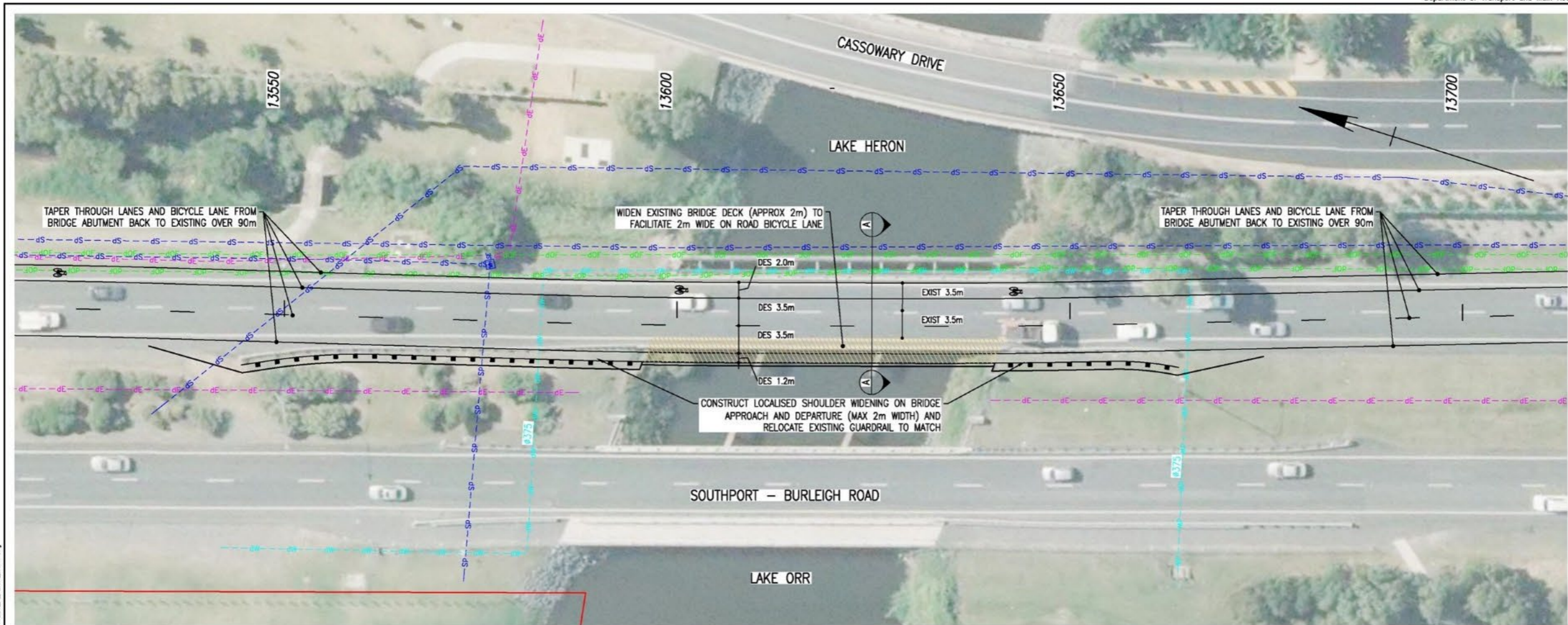


Figure 3.4(d) – Plan and detail – generic example

Department of Transport and Main Roads



NOTES:
FOR COMPLETE EXTENTS OF BRIDGE WORKS REFER TO DRG GA-004.

SECTION-DECK
NTS
* DIMENSIONS TO BE CONFIRMED BY MR SURVEY OF EXISTING BRIDGE

Last Modified: J. Jun 02, 2014 - 11:28am
 CAD FILES | F:\jobs\B14000\B14000\Clients\Plan\AutoCAD\B11226-BD-003.dwg
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Datum		Horiz. Grid		0 2 4 6 8 10m		Preceding RP		NAME		Job No.	
Auxiliary Drg Nos		Height Origin		SCALE 1:250 (A1)		Dist. to start of job (km)		SIGNATURE		Contract No.	
		Survey Books		Dimensions shown in metres except where shown otherwise		From start to end of job		NO.		Drawing No.	
A Issued For Construction		Certification		Through Chainage from		From end to Following RP		DATE		Series Number	
Revisions/Descriptions		Date								of	
										MRR Detail (02/14)	

3.5 Intersection layout

This drawing details the intersection layout including the proposed intersection controls, for example traffic signals, roundabout and so on.

The provisions for cyclists and pedestrians are indicated on the drawings.

Considerations

Scale

- Usually 1:500 (horizontal) at A1.

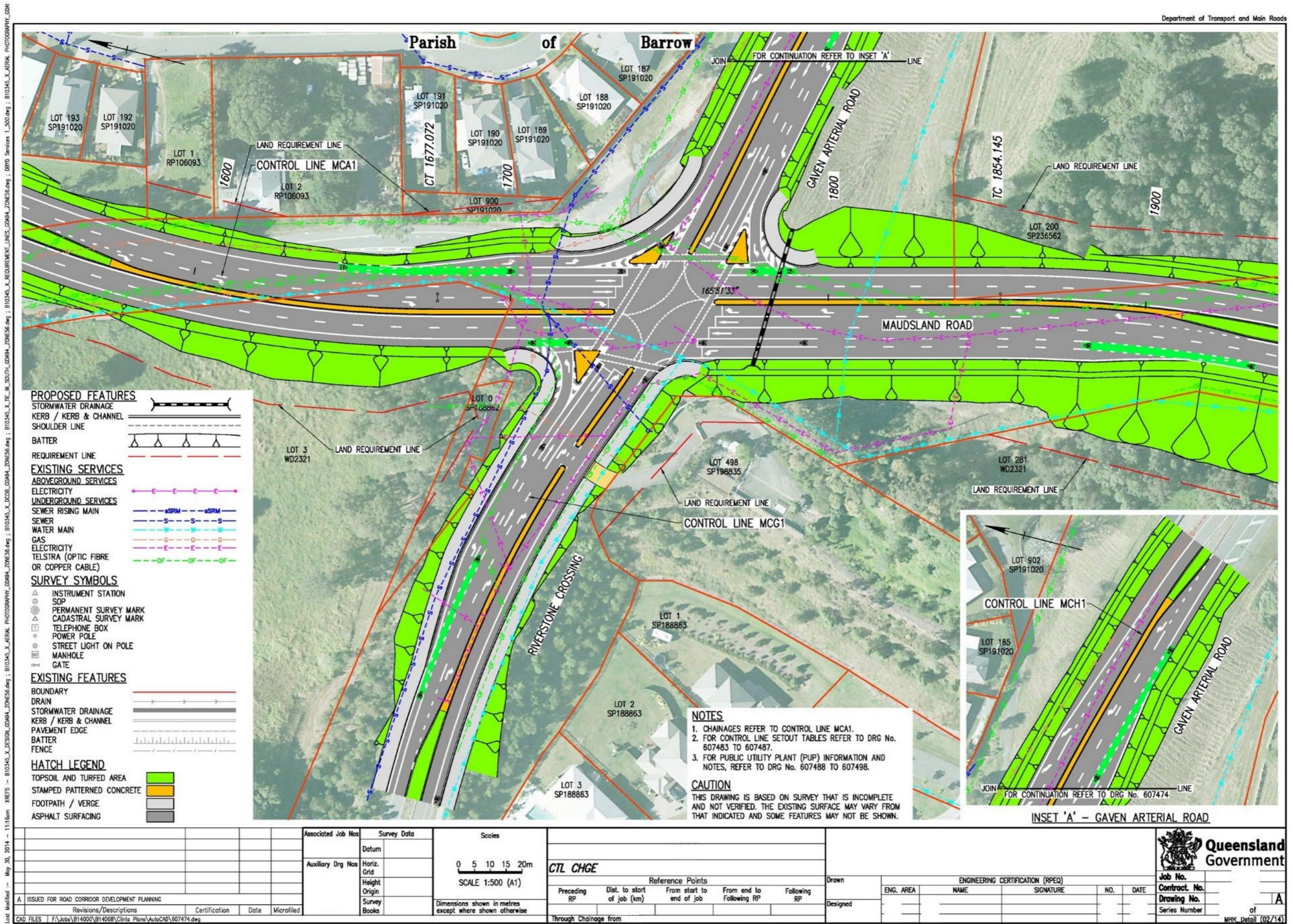
Background

- Aerial photogrammetry augmented with ground topographical survey.

Drawing

- Show proposed intersection layout including K&C, pavement markings, medians, islands, footpaths, batters.
- Show pedestrian and cyclist facilities.
- Show cadastral boundaries in red colour (if not available then use DCDB).

Figure 3.5 – Intersection layout – generic example



3.6 Public utility plant

These drawings show the location of the public utility plant in relation to the proposed road layout. This information is generally plotted from Before You Dig Australia (BYDA) information and other service authority data.

Where survey is available the location of the PUP should match the surveyed location.

These concept phase drawings should identify potential service conflicts which will require further investigation at the design development phase. PUP conflict plans are required to highlight important considerations for the design and also to facilitate discussions with utility service providers.

Depending on the complexity of each project, PUP conflict drawings may be complemented with tables containing specific conflict details, these tables are to be included within the set of drawings – refer to Figure 3.6(c).

Considerations

Scale

- Usually 1:1000 (horizontal) at A1.

Background

- Aerial photogrammetry augmented with ground topographical survey may be used.

Drawing

- Show proposed roadway alignment including K&C, medians, islands, footpaths, batters.
- Show all existing and proposed PUP with possible services conflicts.
- Show all existing and proposed stormwater infrastructure.
- Show cadastral boundaries in red colour (if not available then use DCDB).
- If PUP conflicts are complex, then include a table with conflict details.

Figure 3.6(a) – Public utility plant – generic example – sheet 1 of 3








GENERAL NOTES

1. ALL MEASUREMENTS ARE IN METRES UNLESS STATED OTHERWISE
2. DRAWINGS ARE IDENTIFIED AS 'PRELIMINARY' AND 'NOT FOR CONSTRUCTION', THEY ARE TO BE USED FOR REFERENCE PURPOSES ONLY AND ARE TO BE READ IN CONJUNCTION WITH THE REFERENCE DESIGN REPORT
3. TYPICAL CROSS SECTIONS PROVIDE A BROAD INDICATION OF ROAD PROFILES AND WORK OPERATIONS ONLY.
4. LINEMARKING SHOWN IS INDICATIVE ONLY. TO BE DESIGNED IN ACCORDANCE WITH TMR MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES DURING DETAIL DESIGN PHASE.
5. FOR DRAINAGE DETAILS REFER TO DRG No GAO01 TO GAO29. FINAL DRAINAGE DETAILS, INCLUDING EXTENTS AND DEPTHS TO BE DETERMINED DURING DETAIL DESIGN PHASE
6. FINAL EXTENTS AND SELECTION OF VEHICLE SAFETY BARRIERS TO BE CONFIRMED DURING THE DETAIL DESIGN PHASE
7. MAXIMUM BENCH HEIGHT 7.00m
8. UNLESS NOTED OTHERWISE CURVE WIDENING HAS NOT BEEN SHOWN ON TYPICAL CROSS SECTION


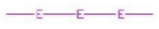
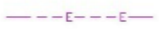
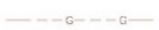
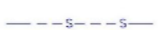



EXISTING SERVICES NOTES

1. THE LOCATION OF UTILITY SERVICES AS SHOWN HAVE BEEN DETERMINED BY INFORMATION SUPPLIED BY THE SERVICES AUTHORITIES. THE SERVICES SHOWN ON THESE PLANS ARE PROVIDED FOR INFORMATION ONLY AND NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SUPPLIED.
2. THE STATUS OF EXISTING SERVICES SHOULD BE CONFIRMED BY THE RELEVANT SERVICE AUTHORITY.
3. FOR INSTALLATION OF SERVICES IN STATE CONTROLLED ROADS REFER MAIN ROADS DOCUMENT "INSTALLATION OF UTILITY SERVICES WITHIN THE BOUNDARIES OF STATE CONTROLLED ROADS"
4. REFER TO THE SCHEDULE OF UTILITY SERVICE CONFLICTS DRG No. PU030 FOR FURTHER DETAILS

PROPOSED WORKS LEGEND

-  - CONCRETE BARRIER
-  - RAISED ISLAND OR MEDIAN
-  - GRASSED CENTRAL MEDIAN
-  - RETAINING WALL
-  - CULVERT AND HEADWALL
-  - GUARDRAIL
-  - CORRIDOR BOUNDARY

EXISTING LEGEND

-  - TELECOMMUNICATIONS
-  - ELECTRICITY - OVERHEAD
-  - ELECTRICITY - UNDERGROUND
-  - GAS
-  - SEWER MAIN
-  - WATER MAIN
-  - PROPERTY BOUNDARY
-  - EASEMENT BOUNDARY

EXISTING SERVICES CONFLICTS LEGEND

DRAWING NUMBER
THIS NUMBER RELATES TO THE DRAWING THE EXISTING SERVICE IS SHOWN ON

SERVICE IDENTIFICATION NUMBER

SERIES LETTER
THIS LETTER IDENTIFIES MULTIPLE CONFLICTS WITH THE SAME SERVICE

01-2B

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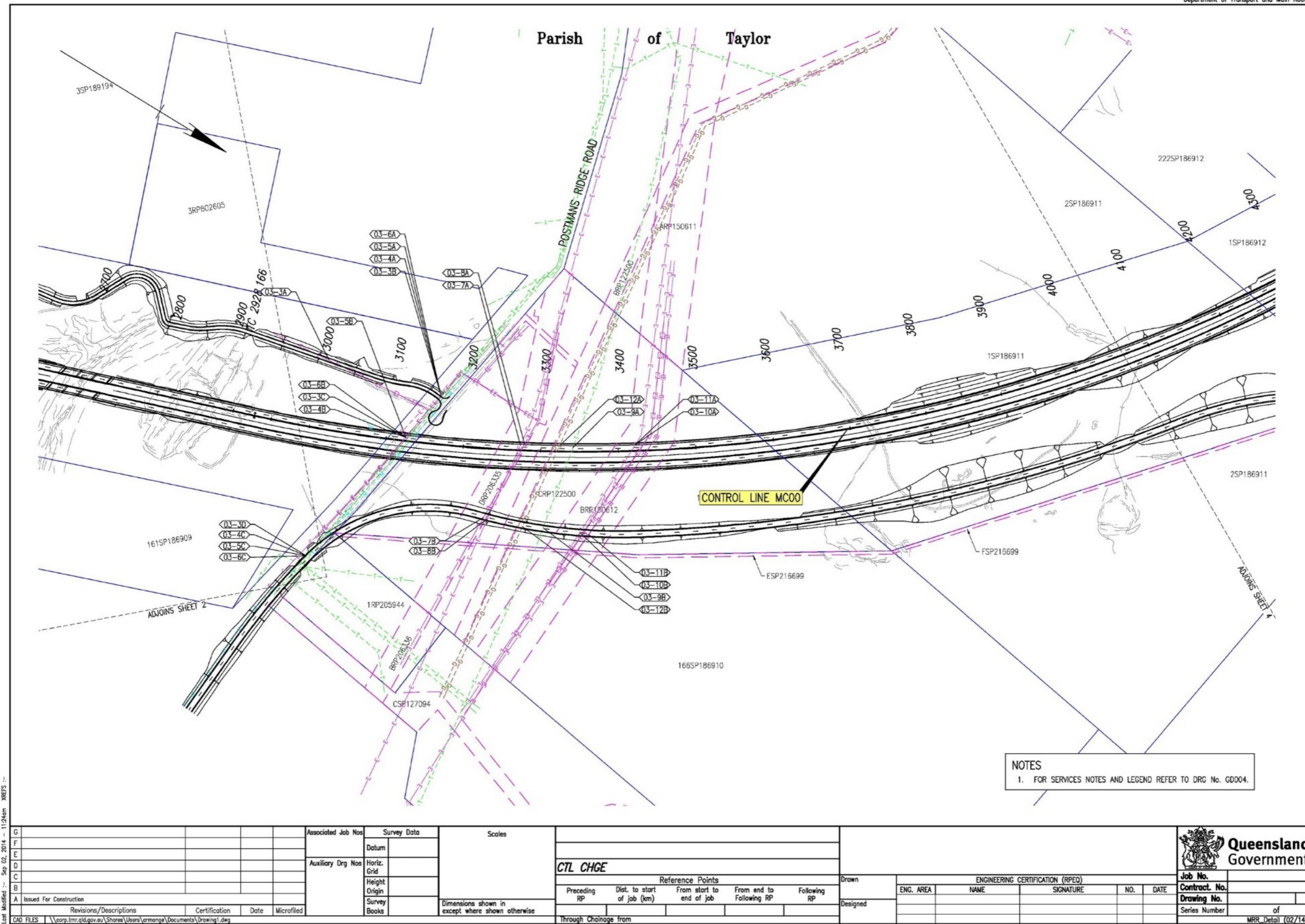
Associated Job Nos		Survey Data		Scales						 Queensland Government	
Auxiliary Drg Nos		Datum									
		Horiz. Grid								Job No.	
		Height Origin								Contract No.	
A Issued For Construction		Survey Books		Dimensions shown in except where shown otherwise		Through Chainage from				Drawing No.	
Revisions/Descriptions		Certification		Data		Microfiled				Series Number of	
										MRR Detail (02/14)	

Figure 3.6(b) – Public utility plant – generic example – sheet 2 of 3



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G				
F				
E				
D				
C				
B				
A	Issued For Construction			
	Revisions/Descriptions	Certification	Date	Microfilmed

Associated Job Nos	Survey Data	Scales
	Datum	
Auxiliary Drg Nos	Horiz. Grid	
	Height Origin	
	Survey Books	Dimensions shown in except where shown otherwise

CTL CHGE				
Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
Through Chainage from				

Drawn	ENGINEERING CERTIFICATION (RPEQ)			
	ENG. AREA	NAME	SIGNATURE	NO. DATE
Designed				

Job No.	
Contract No.	
Drawing No.	
Series Number	of
MRR_Detail (02/14)	

Figure 3.6(c) – Public utility plant – generic example – sheet 3 of 3

SCHEDULE OF POTENTIAL SERVICE CONFLICTS					
CONFLICT NO.	SERVICE TYPE	DRG No.	SERVICE DESCRIPTION	ASSET OWNER	CH
01 - 1	E	PU001	OH	UNKNOWN	450
01 - 2	T	PU001	UG	TELSTRA	1100
03 - 3A	E	PU003	OH	UNKNOWN	3080
03 - 3B	E	PU003	OH	UNKNOWN	3140
03 - 3C	E	PU003	OH	UNKNOWN	3160
03 - 3D	E	PU003	OH	UNKNOWN	3050
03 - 4A	W	PU003	UG WATER MAIN 200mm DICL	LVRC	3000
03 - 4B	W	PU003	UG WATER MAIN 200mm DICL	LVRC	3100
03 - 4C	W	PU003	UG WATER MAIN 200mm DICL	LVRC	3150
03 - 5A	T	PU003	UG FIBRE OPTIC	POWERTEL	3150
03 - 5B	T	PU003	UG FIBRE OPTIC	POWERTEL	3100
03 - 5C	T	PU003	UG FIBRE OPTIC	POWERTEL	3050
03 - 6A	T	PU003	UG FIBRE OPTIC	TELSTRA	3150
03 - 6B	T	PU003	UG FIBRE OPTIC	TELSTRA	3100
03 - 6C	T	PU003	UG FIBRE OPTIC	TELSTRA	3050
03 - 7A	E	PU003	OH	UNKNOWN	3300
03 - 7B	E	PU003	OH	UNKNOWN	3250
03 - 8A	E	PU003	OH (33kV)	ENERGEX	3300
03 - 8B	E	PU003	OH (33kV)	ENERGEX	3250
03 - 9A	T	PU003	UG FIBRE OPTIC	OPTUS	3350
03 - 9B	T	PU003	UG FIBRE OPTIC	OPTUS	3350
03 - 10A	E	PU003	OH (110kV)	ENERGEX	3450
03 - 10B	E	PU003	OH (110kV)	ENERGEX	3400
03 - 11A	E	PU003	OH	UNKNOWN	3450
03 - 11B	E	PU003	OH	UNKNOWN	3400
03 - 12A	G	PU003	UG GAS MAIN	ALINTA/AGL	3300
03 - 12B	G	PU003	UG GAS MAIN	ALINTA/AGL	3300
04 - 12C	G	PU003	UG GAS MAIN	ALINTA/AGL	4200
04 - 13A	E	PU004	OH	UNKNOWN	4380
04 - 13B	E	PU004	OH	UNKNOWN	4450
04 - 14A	E	PU004	OH	ERGON	4380
04 - 14B	E	PU004	OH	ERGON	4450
04 - 14C	E	PU004	OH	ERGON	4100
04 - 15A	T	PU004	UG FIBRE OPTIC	TELSTRA	4500
04 - 15B	T	PU004	UG FIBRE OPTIC	TELSTRA	4500
04 - 16A	T	PU004	UG FIBRE OPTIC	TELSTRA	4580
04 - 16B	T	PU004	UG FIBRE OPTIC	TELSTRA	4600
06 - 17	E	PU006	OH (275kV TRANSMISSION LINE)	POWERLINK	7250
06 - 18A	T	PU006	UG FIBRE OPTIC	TELSTRA	8450
06 - 19	E	PU006	OH	UNKNOWN	8500
07 - 18B	T	PU007	UG FIBRE OPTIC	TELSTRA	8800
08 - 20	E	PU008	OH	UNKNOWN	10780
12 - 21	G	PU012	UG GAS MAIN	ALINTA/AGL	16800
12 - 22	E	PU012	UG ELECTRICAL RAIL SIGNALS	UNKNOWN	16900
12 - 23	E	PU012	OH	UNKNOWN	16950
13 - 24	T	PU013	UG FIBRE OPTIC	TELSTRA	17150
13 - 25	T	PU013	UG FIBRE OPTIC	TELSTRA	17200
13 - 26	W	PU013	UG WATER MAIN	UNKNOWN	17240
13 - 27	T	PU013	UG FIBRE OPTIC	TELSTRA	17250
13 - 28	T	PU013	UG FIBRE OPTIC	TELSTRA	17250
13 - 29	W	PU013	UG WATER MAIN	UNKNOWN	17250

SCHEDULE OF POTENTIAL SERVICE CONFLICTS					
CONFLICT NO.	SERVICE TYPE	DRG No.	SERVICE DESCRIPTION	ASSET OWNER	CH
13 - 30	E	PU013	OH	UNKNOWN	17250
13 - 31	G	PU013	UG GAS MAIN (CLASS 300)	APT	17950
13 - 32A	G	PU013	UG GAS MAIN (CLASS 300)	APT	18100
13 - 32B	G	PU013	UG GAS MAIN (CLASS 300)	APT	18200
13 - 34A	S	PU013	UG SEWER MAIN	TRC	18200
13 - 34B	S	PU013	UG SEWER MAIN	TRC	18250
13 - 35A	E	PU013	OH	UNKNOWN	18200
13 - 35B	E	PU013	OH	UNKNOWN	18250
13 - 35C	E	PU013	OH	UNKNOWN	18400
13 - 36A	T	PU013	UG FIBRE OPTIC	TELSTRA	18200
13 - 36B	T	PU013	UG FIBRE OPTIC	TELSTRA	18250
13 - 37A	G	PU013	UG GAS (CLASS 150) LOCAL HIGH PRESSURE STEEL	APT	18200
13 - 37B	G	PU013	UG GAS (CLASS 150) LOCAL HIGH PRESSURE STEEL	APT	18250
13 - 38A	E	PU013	OH	UNKNOWN	18440
13 - 38B	E	PU013	OH	UNKNOWN	18450
14 - 36C	T	PU013	UG FIBRE OPTIC	TELSTRA	18850
14 - 36D	T	PU014	UG FIBRE OPTIC	TELSTRA	19500
14 - 37C	G	PU013	UG GAS (CLASS 150) LOCAL HIGH PRESSURE STEEL	APT	18900
14 - 37D	G	PU013	UG GAS (CLASS 150) LOCAL HIGH PRESSURE STEEL	APT	19500
14 - 38C	E	PU014	OH (11kV)	ERGON	18450
14 - 38D	E	PU014	OH (11kV)	ERGON	19500
14 - 39A	W	PU014	UG WATER MAIN	TRC	18900
14 - 39B	W	PU014	UG WATER MAIN	TRC	19500
14 - 40	W	PU014	UG WATER MAIN	TRC	18800
15 - 44A	E	PU015	UNKNOWN	UNKNOWN	20550
15 - 44B	E	PU015	UNKNOWN	UNKNOWN	20550
15 - 45	S	PU015	UG 150 (EXISTING) SEWER MAIN	TRC	19900
15 - 43	S	PU015	UG 750 (PROPOSED) SEWER MAIN	TRC	19900
15 - 46A	W	PU015	100 WATER MAIN	TRC	20600
15 - 46B	W	PU015	100 WATER MAIN	TRC	20600
15 - 47A	T	PU015	UG FIBRE OPTIC	TELSTRA	20500
15 - 47B	T	PU015	UG FIBRE OPTIC	TELSTRA	20500
16 - 41	T	PU016	UNKNOWN	UNKNOWN	22050
16 - 48A	E	PU016	OH (33kV)	ERGON	22050
16 - 48B	E	PU016	OH (33kV)	ERGON	22050
16 - 48C	E	PU016	OH (33kV)	ERGON	22000
17 - 49A	E	PU017	OH (11kV)	ERGON	23600
17 - 49B	E	PU017	OH (11kV)	ERGON	23400
17 - 50A	W	PU017	UG WATER MAIN	TRC	23600
17 - 50B	W	PU017	UG WATER MAIN	TRC	23600
17 - 51A	G	PU017	UG GAS MAIN	ALINTA/AGL	23600
17 - 51B	G	PU017	UG GAS MAIN	ALINTA/AGL	23600
17 - 52A	T	PU017	UG FIBRE OPTIC	TELSTRA	23600
17 - 52B	T	PU017	UG FIBRE OPTIC	TELSTRA	23600
18 - 42	T	PU018	UNKNOWN	UNKNOWN	24600
18 - 50C	W	PU018	UG WATER MAIN	TRC	24600
18 - 51C	G	PU018	UG GAS MAIN	ALINTA/AGL	24600

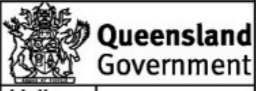
SCHEDULE OF POTENTIAL SERVICE CONFLICTS					
CONFLICT NO.	SERVICE TYPE	DRG No.	SERVICE DESCRIPTION	ASSET OWNER	CH
18 - 53A	T	PU018	UG FIBRE OPTIC	TELSTRA	24600
18 - 53B	T	PU018	UG FIBRE OPTIC	TELSTRA	24600
18 - 54	E	PU018	OH (11kV)	ERGON	24600
20 - 55A	E	PU020	OH (11kV)	ERGON	27750
20 - 55B	E	PU020	OH (11kV)	ERGON	27750
20 - 56A	T	PU020	UG	TELSTRA	27750
20 - 56B	T	PU020	UG	TELSTRA	27750
20 - 57	T	PU020	UG	TELSTRA	28350
21 - 58	E	PU021	OH (33kV)	ERGON	28750
21 - 59	T	PU021	UG	TELSTRA	28780
21 - 60	W	PU021	UG WATER MAIN (FOR POWER PLANT)	MILLMERRAN POWER	28750
22 - 61A	E	PU022	OH (33kV)	ERGON	29900
22 - 61B	E	PU022	OH (33kV)	ERGON	29900
22 - 62A	T	PU022	UG	TELSTRA	29920
22 - 62B	T	PU022	UG	TELSTRA	29920
23 - 63A	E	PU023	OH (33kV)	ERGON	31450
23 - 63B	E	PU023	OH (33kV)	ERGON	31450
23 - 63C	E	PU023	OH (33kV)	ERGON	31450
23 - 64A	T	PU023	UG	TELSTRA	31450
23 - 64B	T	PU023	UG	TELSTRA	31450
23 - 65	W	PU023	UG WATER MAIN	UNKNOWN	31600
27 - 66	E	PU027	OH (110kV)	POWERLINK	38150
28 - 67A	T	PU028	UG	TELSTRA	38700
28 - 67B	T	PU028	UG	TELSTRA	38700
28 - 68A	E	PU028	OH	UNKNOWN	38750
28 - 68B	E	PU028	OH	UNKNOWN	38750
29 - 69	E	PU029	OH (11kV)	ERGON	40650
29 - 70	T	PU029	UG	TELSTRA	40700
29 - 71A	W	PU029	UG WATER MAIN (FOR POWER PLANT)	MILLMERRAN POWER	40800
29 - 71B	W	PU029	UG WATER MAIN (FOR POWER PLANT)	MILLMERRAN POWER	40820
29 - 71C	W	PU029	UG WATER MAIN (FOR POWER PLANT)	MILLMERRAN POWER	40800

ABBREVIATIONS

- OH - OVERHEAD
- UG - UNDER GROUND
- T - TELECOMMUNICATIONS
- E - ELECTRICAL
- G - GAS
- S - SEWER
- W - WATER
- U - UNKNOWN
- TSRC - TOOWOOMBA SECOND RANGE CROSSING
- APT - AUSTRALIAN PIPELINE TRUST
- AGL - AUSTRALIAN GAS LIGHT COMPANY
- TRC - TOOWOOMBA REGIONAL COUNCIL
- LVRC - LOCKYER VALLEY REGIONAL COUNCIL
- DBYD - DIAL BEFORE YOU DIG

NOTES

1. FOR SERVICES NOTES AND LEGEND REFER TO DRG No. GD004

G	Associated Job Nos	Survey Data	Scales	CTL CHGE	Drawn	ENGINEERING CERTIFICATION (RPEQ)	Job No.								
	Auxiliary Drg Nos	Datum						Contract No.							
F	Survey Books	Dimensions shown in except where shown otherwise	Through Chainage from	Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP	Designed	ENG. AREA	NAME	SIGNATURE	NO.	DATE	Drawing No.
E															
D	CAD FILES \\corp.tmr.qld.gov.au\Shares\yrmonge\Documents\Drawings\dwg														 <p>Queensland Government</p>
C	MRR_Detail (02/14)														

3.7 Annotated cross sections

The annotated cross sections are provided to indicate the extent of the construction works necessary to complete the project works. The annotated cross sections provide the designer and the client with a better understanding of the magnitude of the works involved in providing for the preferred option.

Considerations

Scale

- Usually 1:200 at A1 (consider 1:250 at A1 depending on the size of the cross sections).
- Usually 50 m intervals between cross sections.
- Natural scale (not exaggerated).

Drawing

- Cross section template is available from the *Transport and Main Roads 12D Model Customisation* User Library.
- Show existing and proposed boundary line.
- Show existing ground levels and proposed finished levels.

Figure 3.7 – Annotated cross sections – generic example

SCHEDULE OF POTENTIAL SERVICE CONFLICTS					
CONFLICT NO.	SERVICE TYPE	DRG No.	SERVICE DESCRIPTION	ASSET OWNER	CH
01 - 1	E	PU001	OH	UNKNOWN	450
01 - 2	T	PU001	UG	TELSTRA	1100
03 - 3A	E	PU003	OH	UNKNOWN	3080
03 - 3B	E	PU003	OH	UNKNOWN	3140
03 - 3C	E	PU003	OH	UNKNOWN	3160
03 - 3D	E	PU003	OH	UNKNOWN	3050
03 - 4A	W	PU003	UG WATER MAIN 200mm DICL	LVRC	3000
03 - 4B	W	PU003	UG WATER MAIN 200mm DICL	LVRC	3100
03 - 4C	W	PU003	UG WATER MAIN 200mm DICL	LVRC	3150
03 - 5A	T	PU003	UG FIBRE OPTIC	POWERTEL	3150
03 - 5B	T	PU003	UG FIBRE OPTIC	POWERTEL	3100
03 - 5C	T	PU003	UG FIBRE OPTIC	POWERTEL	3050
03 - 6A	T	PU003	UG FIBRE OPTIC	TELSTRA	3150
03 - 6B	T	PU003	UG FIBRE OPTIC	TELSTRA	3100
03 - 6C	T	PU003	UG FIBRE OPTIC	TELSTRA	3050
03 - 7A	E	PU003	OH	UNKNOWN	3300
03 - 7B	E	PU003	OH	UNKNOWN	3250
03 - 8A	E	PU003	OH (33kV)	ENERGEX	3300
03 - 8B	E	PU003	OH (33kV)	ENERGEX	3250
03 - 9A	T	PU003	UG FIBRE OPTIC	OPTUS	3350
03 - 9B	T	PU003	UG FIBRE OPTIC	OPTUS	3350
03 - 10A	E	PU003	OH (110kV)	ENERGEX	3450
03 - 10B	E	PU003	OH (110kV)	ENERGEX	3400
03 - 11A	E	PU003	OH	UNKNOWN	3450
03 - 11B	E	PU003	OH	UNKNOWN	3400
03 - 12A	G	PU003	UG GAS MAIN	ALINTA/AGL	3300
03 - 12B	G	PU003	UG GAS MAIN	ALINTA/AGL	3300
04 - 12C	G	PU003	UG GAS MAIN	ALINTA/AGL	4200
04 - 13A	E	PU004	OH	UNKNOWN	4380
04 - 13B	E	PU004	OH	UNKNOWN	4450
04 - 14A	E	PU004	OH	ERAGON	4380
04 - 14B	E	PU004	OH	ERAGON	4450
04 - 14C	E	PU004	OH	ERAGON	4100
04 - 15A	T	PU004	UG FIBRE OPTIC	TELSTRA	4500
04 - 15B	T	PU004	UG FIBRE OPTIC	TELSTRA	4500
04 - 16A	T	PU004	UG FIBRE OPTIC	TELSTRA	4580
04 - 16B	T	PU004	UG FIBRE OPTIC	TELSTRA	4600
06 - 17	E	PU006	OH (275kV TRANSMISSION LINE)	POWERLINK	7250
06 - 18A	T	PU006	UG FIBRE OPTIC	TELSTRA	8450
06 - 19	E	PU006	OH	UNKNOWN	8500
07 - 18B	T	PU007	UG FIBRE OPTIC	TELSTRA	8800
08 - 20	E	PU008	OH	UNKNOWN	10780
12 - 21	G	PU012	UG GAS MAIN	ALINTA/AGL	16800
12 - 22	E	PU012	UG ELECTRICAL RAIL SIGNALS	UNKNOWN	16900
12 - 23	E	PU012	OH	UNKNOWN	16950
13 - 24	T	PU013	UG FIBRE OPTIC	TELSTRA	17150
13 - 25	T	PU013	UG FIBRE OPTIC	TELSTRA	17200
13 - 26	W	PU013	UG WATER MAIN	UNKNOWN	17240
13 - 27	T	PU013	UG FIBRE OPTIC	TELSTRA	17250
13 - 28	T	PU013	UG FIBRE OPTIC	TELSTRA	17250
13 - 29	W	PU013	UG WATER MAIN	UNKNOWN	17250

SCHEDULE OF POTENTIAL SERVICE CONFLICTS					
CONFLICT NO.	SERVICE TYPE	DRG No.	SERVICE DESCRIPTION	ASSET OWNER	CH
13 - 30	E	PU013	OH	UNKNOWN	17250
13 - 31	G	PU013	UG GAS MAIN (CLASS 300)	APT	17950
13 - 32A	G	PU013	UG GAS MAIN (CLASS 300)	APT	18100
13 - 32B	G	PU013	UG GAS MAIN (CLASS 300)	APT	18200
13 - 34A	S	PU013	UG SEWER MAIN	TRC	18200
13 - 34B	S	PU013	UG SEWER MAIN	TRC	18250
13 - 35A	E	PU013	OH	UNKNOWN	18200
13 - 35B	E	PU013	OH	UNKNOWN	18250
13 - 35C	E	PU013	OH	UNKNOWN	18400
13 - 36A	T	PU013	UG FIBRE OPTIC	TELSTRA	18200
13 - 36B	T	PU013	UG FIBRE OPTIC	TELSTRA	18250
13 - 37A	G	PU013	UG GAS (CLASS 150) LOCAL HIGH PRESSURE STEEL	APT	18200
13 - 37B	G	PU013	UG GAS (CLASS 150) LOCAL HIGH PRESSURE STEEL	APT	18250
13 - 38A	E	PU013	OH	UNKNOWN	18440
13 - 38B	E	PU013	OH	UNKNOWN	18450
14 - 36C	T	PU013	UG FIBRE OPTIC	TELSTRA	18850
14 - 36D	T	PU014	UG FIBRE OPTIC	TELSTRA	19500
14 - 37C	G	PU013	UG GAS (CLASS 150) LOCAL HIGH PRESSURE STEEL	APT	18900
14 - 37D	G	PU013	UG GAS (CLASS 150) LOCAL HIGH PRESSURE STEEL	APT	19500
14 - 38C	E	PU014	OH (11kV)	ERAGON	18450
14 - 38D	E	PU014	OH (11kV)	ERAGON	19500
14 - 39A	W	PU014	UG WATER MAIN	TRC	18900
14 - 39B	W	PU014	UG WATER MAIN	TRC	19500
14 - 40	W	PU014	UG WATER MAIN	TRC	18800
15 - 44A	E	PU015	UNKNOWN	UNKNOWN	20550
15 - 44B	E	PU015	UNKNOWN	UNKNOWN	20550
15 - 45	S	PU015	UG 150 (EXISTING) SEWER MAIN	TRC	19900
15 - 43	S	PU015	UG 750 (PROPOSED) SEWER MAIN	TRC	19900
15 - 46A	W	PU015	100 WATER MAIN	TRC	20600
15 - 46B	W	PU015	100 WATER MAIN	TRC	20600
15 - 47A	T	PU015	UG FIBRE OPTIC	TELSTRA	20500
15 - 47B	T	PU015	UG FIBRE OPTIC	TELSTRA	20500
16 - 41	T	PU016	UNKNOWN	UNKNOWN	22050
16 - 48A	E	PU016	OH (33kV)	ERAGON	22050
16 - 48B	E	PU016	OH (33kV)	ERAGON	22050
16 - 48C	E	PU016	OH (33kV)	ERAGON	22000
17 - 49A	E	PU017	OH (11kV)	ERAGON	23600
17 - 49B	E	PU017	OH (11kV)	ERAGON	23400
17 - 50A	W	PU017	UG WATER MAIN	TRC	23600
17 - 50B	W	PU017	UG WATER MAIN	TRC	23600
17 - 51A	G	PU017	UG GAS MAIN	ALINTA/AGL	23600
17 - 51B	G	PU017	UG GAS MAIN	ALINTA/AGL	23600
17 - 52A	T	PU017	UG FIBRE OPTIC	TELSTRA	23600
17 - 52B	T	PU017	UG FIBRE OPTIC	TELSTRA	23600
18 - 42	T	PU018	UNKNOWN	UNKNOWN	24600
18 - 50C	W	PU018	UG WATER MAIN	TRC	24600
18 - 51C	G	PU018	UG GAS MAIN	ALINTA/AGL	24600

SCHEDULE OF POTENTIAL SERVICE CONFLICTS					
CONFLICT NO.	SERVICE TYPE	DRG No.	SERVICE DESCRIPTION	ASSET OWNER	CH
18 - 53A	T	PU018	UG FIBRE OPTIC	TELSTRA	24600
18 - 53B	T	PU018	UG FIBRE OPTIC	TELSTRA	24600
18 - 54	E	PU018	OH (11kV)	ERAGON	24600
20 - 55A	E	PU020	OH (11kV)	ERAGON	27750
20 - 55B	E	PU020	OH (11kV)	ERAGON	27750
20 - 56A	T	PU020	UG	TELSTRA	27750
20 - 56B	T	PU020	UG	TELSTRA	27750
20 - 57	T	PU020	UG	TELSTRA	28350
21 - 58	E	PU021	OH (33kV)	ERAGON	28750
21 - 59	T	PU021	UG	TELSTRA	28780
21 - 60	W	PU021	UG WATER MAIN (FOR POWER PLANT)	MILLMERRAN POWER	28750
22 - 61A	E	PU022	OH (33kV)	ERAGON	29900
22 - 61B	E	PU022	OH (33kV)	ERAGON	29900
22 - 62A	T	PU022	UG	TELSTRA	29920
22 - 62B	T	PU022	UG	TELSTRA	29920
23 - 63A	E	PU023	OH (33kV)	ERAGON	31450
23 - 63B	E	PU023	OH (33kV)	ERAGON	31450
23 - 63C	E	PU023	OH (33kV)	ERAGON	31450
23 - 64A	T	PU023	UG	TELSTRA	31450
23 - 64B	T	PU023	UG	TELSTRA	31450
23 - 65	W	PU023	UG WATER MAIN	UNKNOWN	31600
27 - 66	E	PU027	OH (110kV)	POWERLINK	38150
28 - 67A	T	PU028	UG	TELSTRA	38700
28 - 67B	T	PU028	UG	TELSTRA	38700
28 - 68A	E	PU028	OH	UNKNOWN	38750
28 - 68B	E	PU028	OH	UNKNOWN	38750
29 - 69	E	PU029	OH (11kV)	ERAGON	40650
29 - 70	T	PU029	UG	TELSTRA	40700
29 - 71A	W	PU029	UG WATER MAIN (FOR POWER PLANT)	MILLMERRAN POWER	40800
29 - 71B	W	PU029	UG WATER MAIN (FOR POWER PLANT)	MILLMERRAN POWER	40820
29 - 71C	W	PU029	UG WATER MAIN (FOR POWER PLANT)	MILLMERRAN POWER	40800

ABBREVIATIONS

- OH - OVERHEAD
- UG - UNDER GROUND
- T - TELECOMMUNICATIONS
- E - ELECTRICAL
- G - GAS
- S - SEWER
- W - WATER
- U - UNKNOWN
- TSRC - TOOWOOMBA SECOND RANGE CROSSING
- APT - AUSTRALIAN PIPELINE TRUST
- AGL - AUSTRALIAN GAS LIGHT COMPANY
- TRC - TOOWOOMBA REGIONAL COUNCIL
- LVRC - LOCKYER VALLEY REGIONAL COUNCIL
- DBYD - DIAL BEFORE YOU DIG

NOTES

1. FOR SERVICES NOTES AND LEGEND REFER TO DRG No. GD004



Job No.	
Contract No.	
Drawing No.	
Series Number	of

Last Modified: 11:24am 08/03/14

Associated Job Nos	Survey Data	Scales	Reference Points Preceding RP Dist. to start of job (km) From start to end of job From end to Following RP Following RP	Drawn	ENGINEERING CERTIFICATION (RPEQ)			
Auxiliary Drg Nos	Datum			Designed	ENG. AREA	NAME	SIGNATURE	NO.
Issued For Construction	Horiz. Grid		Through Chainage from					
Revisions/Descriptions	Height Origin							
Certification	Survey Books	Dimensions shown in except where shown otherwise						
Date								
Microfilmed								

4 Community consultation, newsletters, public displays

Community consultation, newsletter and public display drawings for stakeholder and community consultation have a wide and diverse group of people who need to be informed of the project issues and impacts.

These include:

- District personnel
- Other government departments
- Local government
- Business operators
- Residents / community
- Affected groups, clubs and so on
- Design consultant's staff, and
- Federal government:
 - funding for National Building Program (formerly AusLink) projects.

4.1 Use of drawings

Concept phase drawings are mainly utilised for the following purposes:

- To consult with stakeholders and the community
 - letter drops and/or internet.
- For public displays
 - displays in shopping malls, library, local government and so on.
- To identify the total impacts of the project
 - proximity to existing residential, commercial and recreation facilities
 - roads / streets to be relocated or access changed
 - land requirements
 - changed traffic control, and
 - improvements to road network, and
- To support options analysis and business case reports.

4.2 Styles of presentation

Community consultation, newsletter and public display drawings should be tailored to suit the intended recipient and should be easy to understand by non-technical personnel. Try to keep it simple and stylised, and not too much detail to confuse the audience (technical stuff for technical staff / engineers, and basic stuff for general public).

It is important to ensure content is suitable for public release and that it is accurate, current, and that all spelling, grammar and photos have suitable consent or copyright to be used externally.

They should include:

- limit the use of any boundary markings, unless they are requested for a particular project
- always use the current department's logo and government branding
- adequate naming of landmarks, streets, businesses and recreational areas
- simple but prominent appropriate notes
- a north point, and
- locality plan or direction and distance to next town (where applicable).

Consider:

- level of intensity of background
- choosing / experimenting with overlay colours to provide contrast, and
- using perspective views if beneficial.

4.3 Drawing background details

Note: Colour and photo backgrounds assist in readability for the target audience.

- Photographic image of existing layout
 - use high resolution quality images
 - easy to visualise.
- Conventional ground survey
 - provides complete accurate data.
- Photogrammetric aerial survey
 - provides coverage of larger band of study.
- Cadastral boundaries
 - minimum detail – least desirable.
- Combination of above.

4.4 Examples of community consultation, newsletter, factsheets and public display drawings

A few examples of community consultation, newsletters and public display drawings are shown below.

Figure 4.4(a) – Community consultation / public display – generic example 1

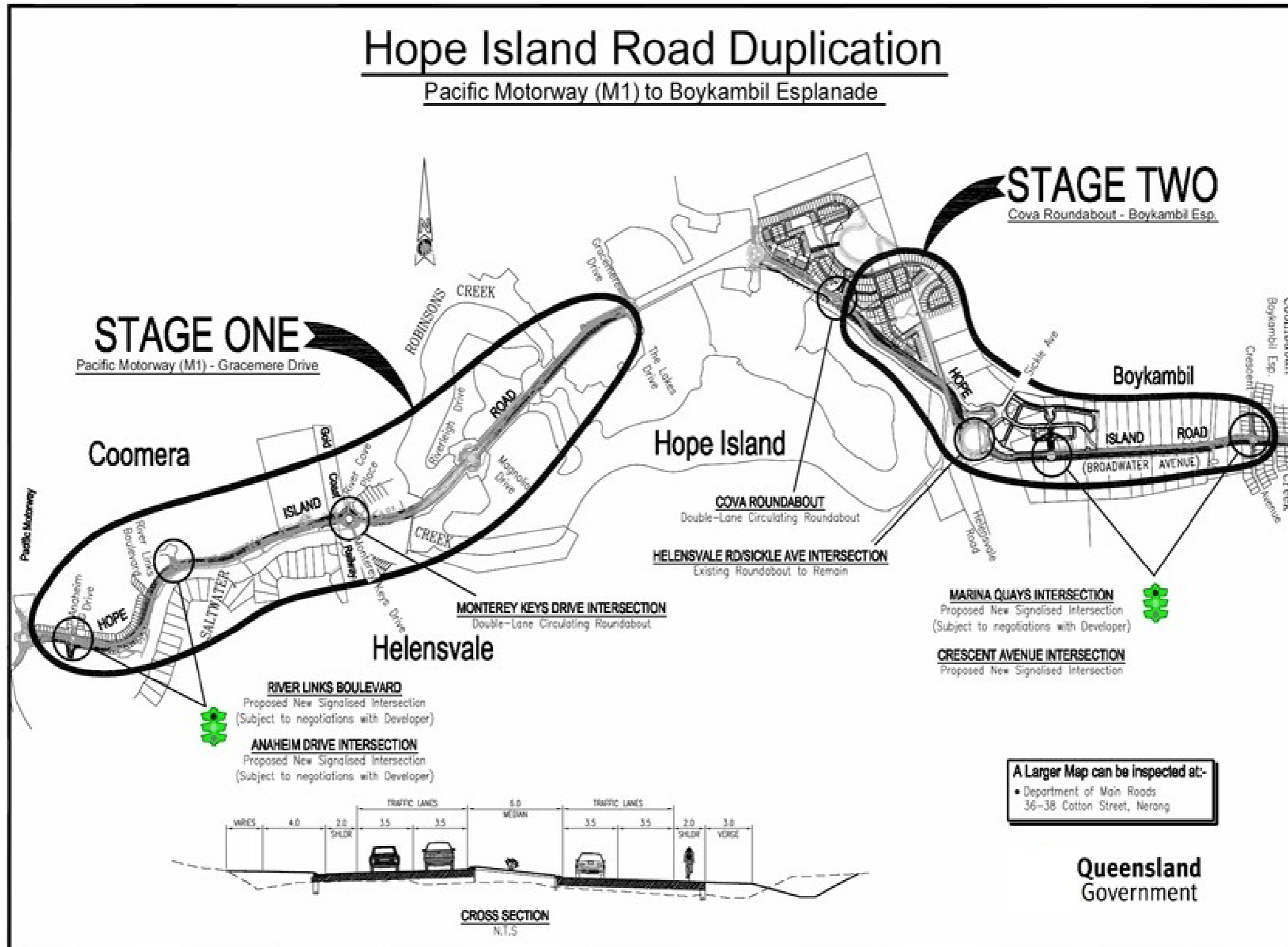
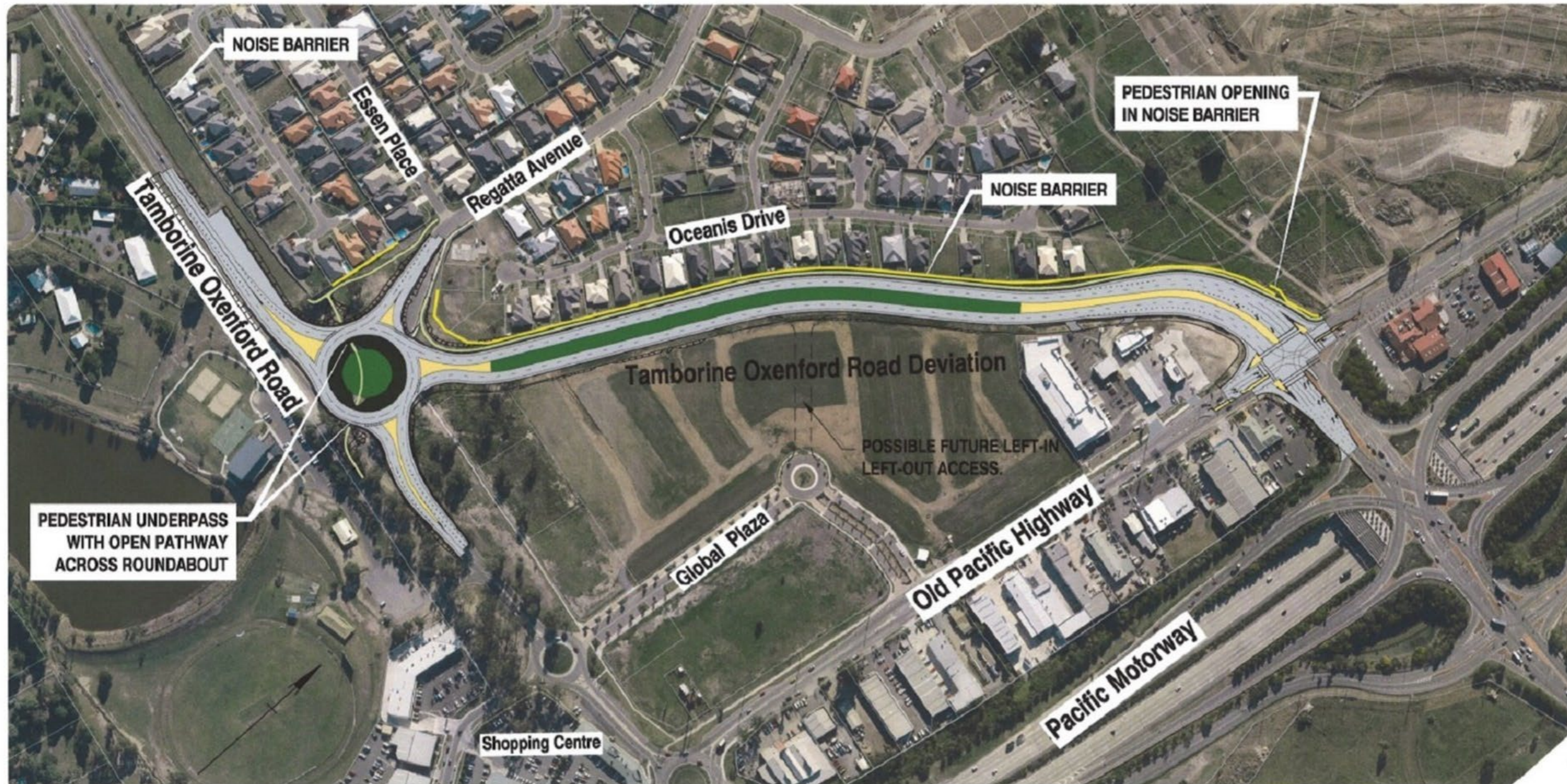


Figure 4.4(b) – Community consultation / public display – generic example 2

TAMBORINE - OXFENFORD ROAD: DEVIATION PROJECT



Queensland
Government

Figure 4.4(c) – Community consultation / public display – generic example 3

Warrigal Road bus solution



Maps are concept design only



Figure 4.4(d) – Community consultation / public display – generic example 4

Rothwell Intersection Upgrade Project

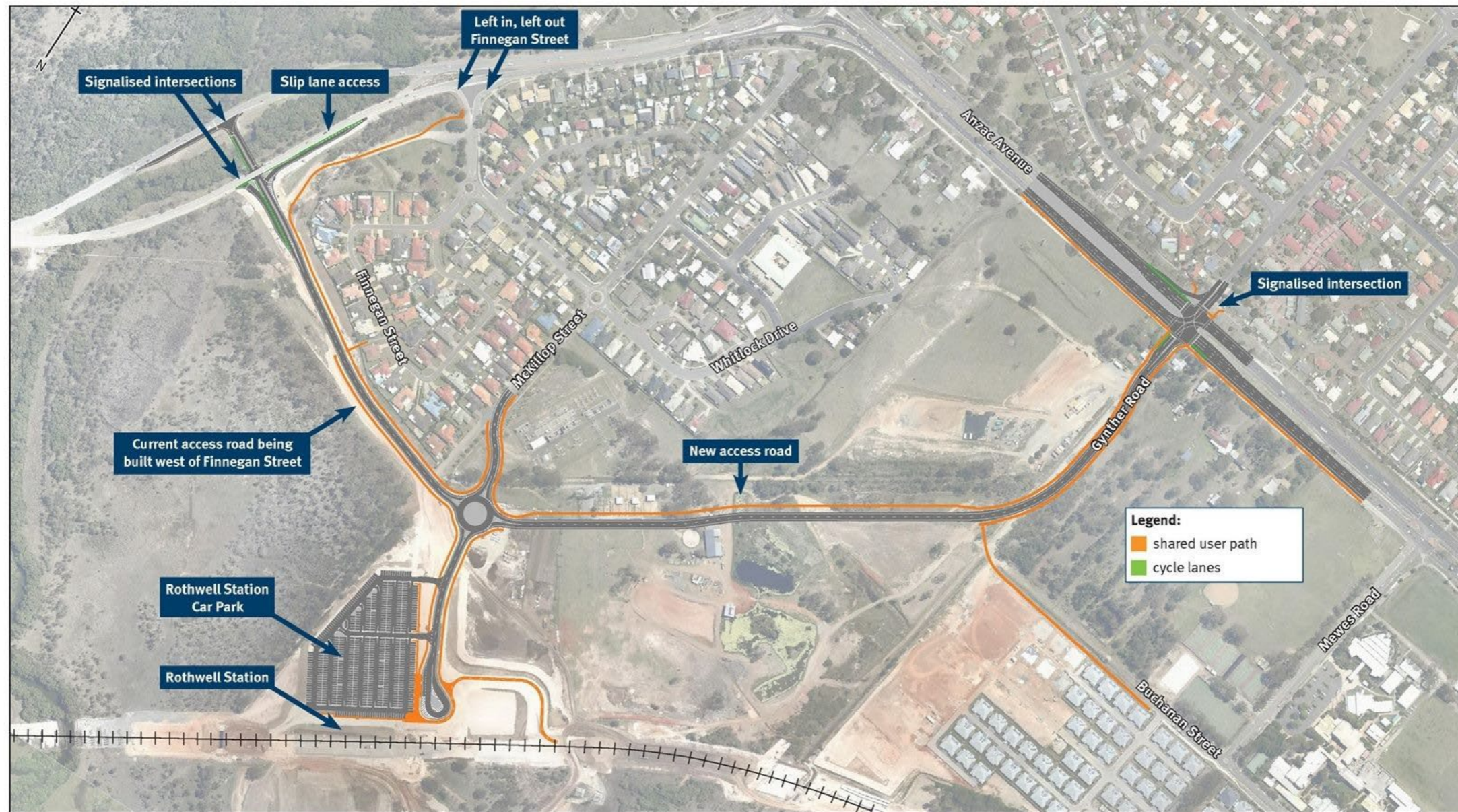


Concept layout – November 2014



Figure 4.4(e) – Community consultation / public display – generic example 5

Moreton Bay Rail Project – Rothwell Station precinct access



51600

Figure 4.4(f) – Community consultation / public display – generic example 6

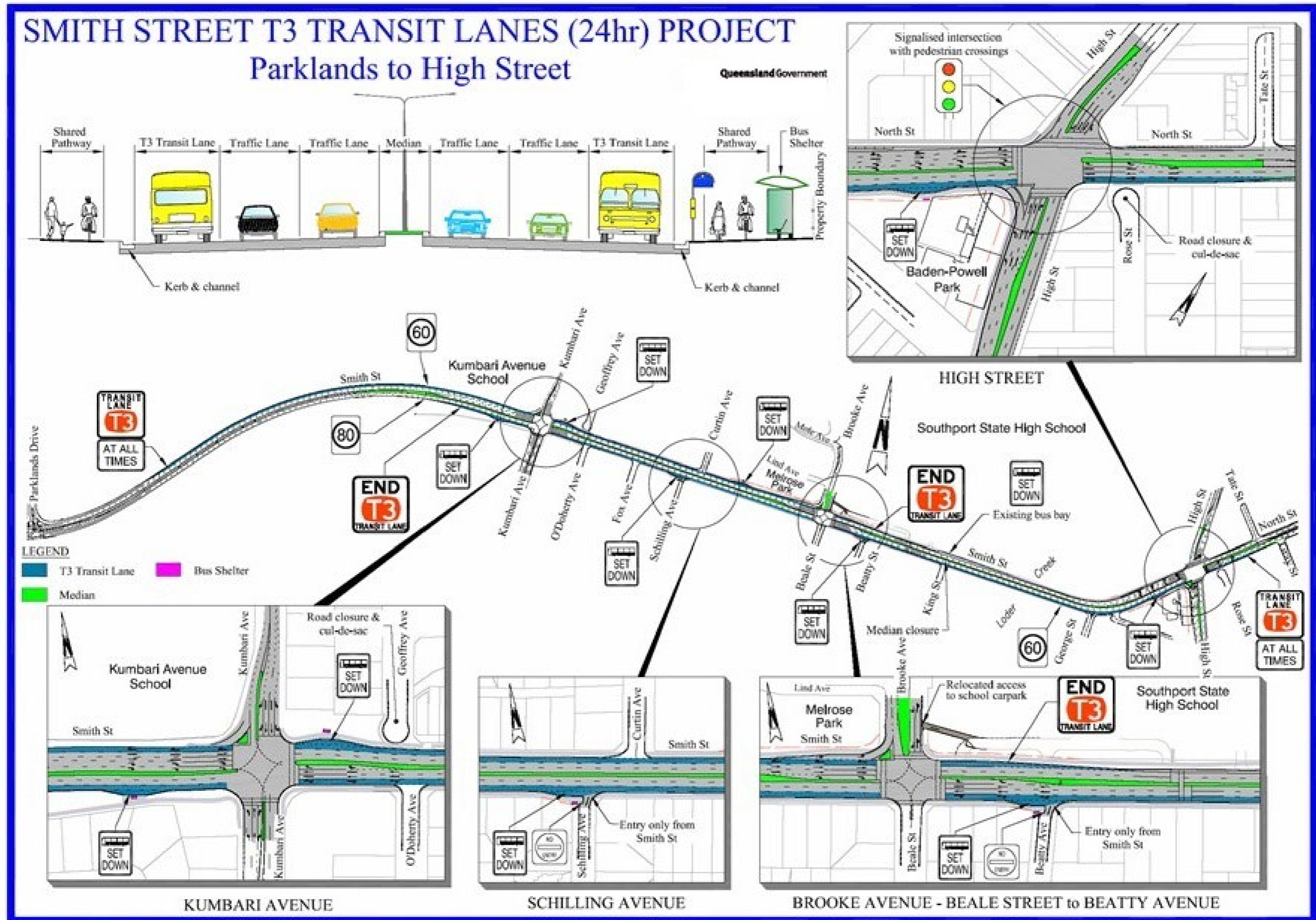




Figure 4.4(g) – Community consultation / newsletter / factsheet – generic example 1 – front page




Cunningham Highway/Amberley Intersection Planning Study

Newsletter 02 • August 2011



Draft plan released



The Department of Transport and Main Roads is encouraging the community to get involved and have their say on the draft plan to realign the Cunningham Highway. The draft plan details proposed changes between the Yamanto Interchange and Ebenezer Creek and the upgrade of the Cunningham Highway/Ipswich-Rosewood Road intersection.

The upgrade project aims to reduce congestion and improve safety along this section of the highway. It will also service additional traffic expected to be generated from the proposed Aerospace Defence Support Centre, ongoing expansion of the RAAF Airbase at Amberley and the proposed Ebenezer Regional Industrial Area.

The Cunningham Highway forms part of the Australian Government's National Land Transport Network. This upgrade will provide greater efficiency in the movement of interstate and interregional freight to the Port of Brisbane and the Australia Trade Coast precinct.

Detailed investigations including engineering and traffic analysis as well as flora and fauna surveys have helped develop a draft plan that suits the identified needs and minimises impact to the surrounding environment.

The draft plan is now available for comment and will be on display from Monday 22 August to Friday 16 September 2011. Your feedback and the results of ongoing technical and environmental studies will help finalise the preferred plan.

Get involved

Transport and Main Roads would like your feedback to develop a preferred plan that best caters for future traffic growth and addresses the needs of the community as well as existing and future road users.

To provide your feedback or to contact the project team:

- visit the project team at one of the staffed displays (see the back page for a list of public display dates and locations)
- e-mail your feedback to cunninghamamberley@tmr.qld.gov.au
- freecall 1800 991 879
- Post: The Department of Transport and Main Roads Cunningham Highway/Amberley Intersection Planning Study PO Box 70 Spring Hill Qld 4004

See inside for more information on:

- draft plan
- public display dates and locations
- next steps

Connecting to the old highway

The draft plan for the proposed upgrade of the Cunningham Highway between Yamanto and Ebenezer has been developed to allow staged upgrades into the future. As an initial step, two options have been developed to connect the new deviation to the old highway which will become a service road. These staging options are dependent on further detailed analysis and investigation and future available funding for construction.

When funding for design and construction of the Cunningham Highway/Amberley Intersection upgrade is made available, the department will present the final upgrade option to the community during the detailed design phase.

Public displays

From Monday 22 August to Friday 16 September 2011, staffed displays will be available at the following times and locations:

Yamanto Shopping Village, 502-510 Warwick Road, Yamanto
 Thursday 8 September 2011 from 4pm to 6pm
 Saturday 10 September 2011 from 10am to 12pm

Fixed displays will also be available for viewing at libraries and at the offices of local elected representatives' offices. Fixed display sites are:

Ipswich Library, 40 South Street, Ipswich
Department of Transport and Main Roads Ipswich Office, Ground floor, Shop R3, 30 Limestone Street, Ipswich
Ipswich City Council Customer Service Centre, 143 Brisbane Street, Ipswich
Office of Wayne Wendt, Member for Ipswich West, shop 1 Brassall Shopping Centre, 68 Hunter Street, Brassall
Office of the Honourable Rachel Nolan, Member for Ipswich, 125 Brisbane Road, Booval
Office of Ian Rickuss, Member for Lockyer, shop 1, 47 North Street, Gatton

Newsletters will also be available for collection from all fixed display locations.

Interim works

As an interim measure to improve safety prior to the delivery of this project, The department is investigating installing traffic signals at the intersection of Ipswich-Rosewood Road. The department is also assisting the Department of Employment, Economic Development and Innovation with the design of a new intersection for access to the proposed Aerospace and Defence Support Centre at Amberley. Details and the timing of installing new traffic signals will be released in late 2011.

Next steps

The department will continue detailed investigations and complete a business case for the upgrade to this section of the Cunningham Highway, taking into account feedback from the community. Once the business case is complete, submissions will be prepared to the Australian Government to seek funding for the upgrade.

The preferred plan is expected to be available for comment in early 2012.

Project phases

2010	2011	2012	Post 2013
STAGE 1 Carry out the Preliminary Evaluation process. Gather information and allow opportunity for the community to provide feedback. completed	STAGE 2 Release of the draft plan to the community for feedback. Completion of business case. underway	STAGE 3 Release of the preferred plan to the community for feedback. Finalise business case and funding submissions to the Australian Government.	STAGE 4 Construction (pending funding).

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Figure 4.4(h) – Community consultation / newsletter / factsheet – generic example 1 – back page

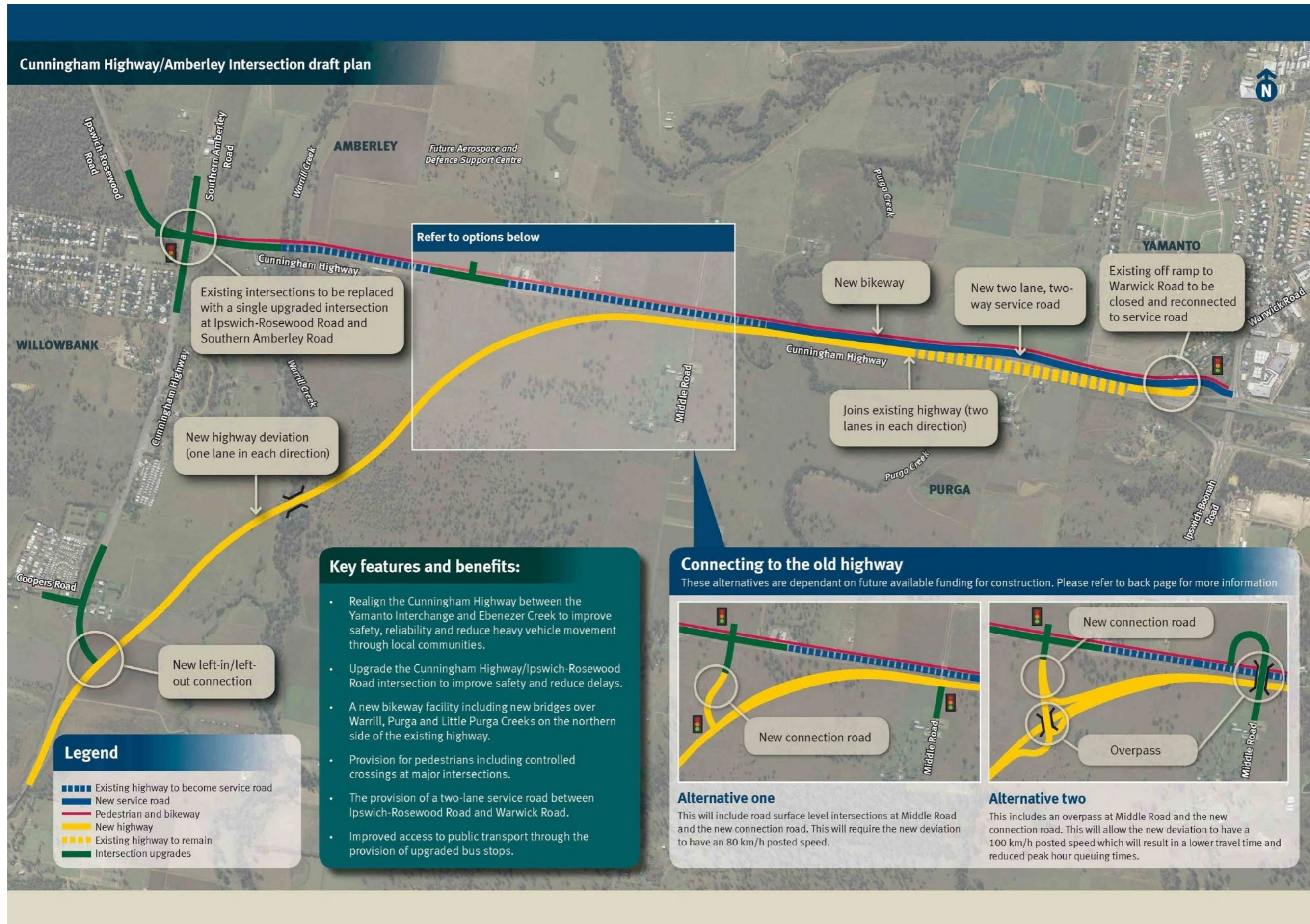


Figure 4.4(i) – Community consultation / newsletter / factsheet – generic example 2

Department of Transport and Main Roads

Kin Kora Intersection Upgrade

February 2015



Project Overview

The \$25 million Kin Kora Intersection Upgrade has been funded by the Australian and Queensland Governments to remove the current roundabout and construct a new traffic signal controlled intersection at Gladstone's busiest intersection.

The Kin Kora roundabout carries approximately 45,000 vehicles daily and is located at the intersection of the Dawson Highway and Philip Street in Gladstone.

The objective of the Kin Kora Intersection Upgrade is to improve safety at the intersection and reduce delays for traffic travelling into the Gladstone CBD at peak times, in the morning and afternoon.

The roundabout currently experiences significant congestion during peak traffic times, with long queues regularly experienced on all approaches. In 2007, the Department of Transport and Main Roads installed traffic signals on the roundabout approaches to promote improved traffic flow for road users. The roundabout is approaching full capacity as a result of continued growth in the region, especially in morning and afternoon peak travel periods.

Construction Timeframe

Pre-construction works, including the relocation of underground services (water and sewer) were completed in December 2014.

Construction of the Kin Kora Intersection Upgrade is anticipated to commence in the coming months, weather permitting.

Motorists using the Dawson Highway and Philip Street will encounter reduced speed limits and traffic control throughout the construction period. Construction activities will be undertaken during day and night time periods. Lane closures and changes to property accesses will be restricted to minimise the impacts on local businesses and road users.

The signalised intersection is expected to take up to 12 months to construct, opening to traffic in mid-2016.



Australian Government
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Queensland Government

Front Page

Project Deliverables

The Kin Kora Intersection Upgrade will include:

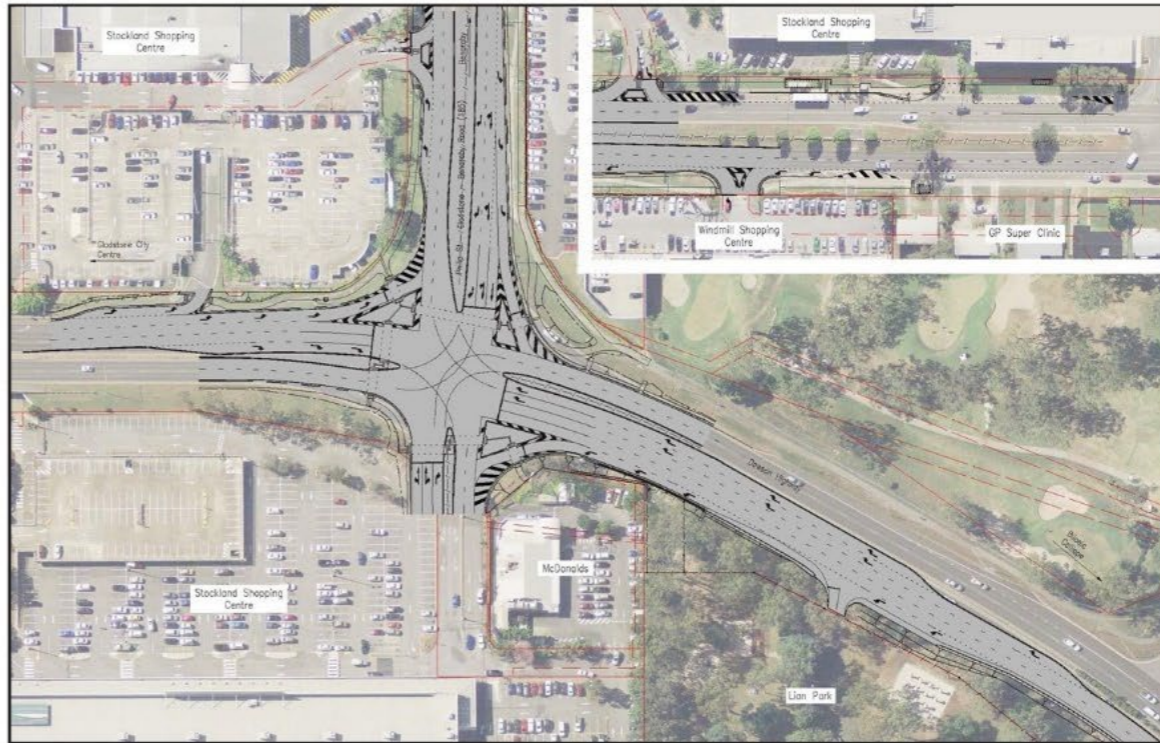
- Two lanes inbound and outbound on the Dawson Highway.
- Turning lanes to provide access to Philip Street and the adjacent shopping precinct.
- Traffic signals to control all movements at the intersection, including pedestrian crossings.
- Enhancement of bus facilities on Philip Street.
- Resurfacing of the Dawson Highway and Philip Street within the extent of the project works.

ANZAC Centenary Project

As part of the Kin Kora Intersection Upgrade, the department will assist the ANZAC Centenary Project through the relocation of flagpoles, currently located in the centre of the Kin Kora roundabout (Tobruk Place) to Memorial Park at the Dawson Highway/Glenlyon Road intersection.

In 1993, the South Gladstone Rotary Club erected the existing flagpoles on the roundabout to enable appropriate flags to be flown when marking special occasions.

In consultation with Gladstone Regional Council and the Gladstone Sub-Branch of the RSL, the Rotary Club is now proposing to establish three flagpoles at Memorial Park providing a new central location within the community for flags to be flown to celebrate and recognise various events throughout the year.



Further Information

For further information on the Kin Kora Intersection Upgrade, visit the Department of Transport and Main Roads website: www.tmr.qld.gov.au.

To contact the Kin Kora Intersection Upgrade project team:

Phone: (07) 4931 1500 Email: ao.regions.rockhampton@tmr.qld.gov.au Fax: (07) 4927 5020

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Figure 4.4(j) – Community consultation / newsletter / factsheet – generic example 3

Department of Transport and Main Roads

North Brisbane Bikeway Stage 2 and 3

The North Brisbane Bikeway is a critical cycle corridor in greater Brisbane due to the current lack of existing facilities and its potential to contribute to moving people through the congested northern suburbs of Brisbane.

It will provide a high quality commuter cycle facility that is more direct, has better connectivity, and is a safer off-road option for cyclists to travel between the CBD through to Kedron, and ultimately Chermside. It will encourage more people to cycle, more often.



The Department of Transport and Main Roads is currently undertaking design of the North Brisbane Bikeway Stage 2, 3B and 3C.

Benefits to the community

- Cycling is not just a transport issue, it has significant benefits for health, the environment and tourism, as well as having positive local impacts in connecting communities.
- A high-quality dedicated bikeway will encourage more cycling and walking, across all ages and abilities. This in turn will mean fewer cars will be on the road.
- Separated cycle facilities will reduce the need for interaction between motorists and cyclists on roads, and between cyclists and pedestrians on footpaths. This improves the safety, comfort, amenity and travel time for everyone.

Priority cycle and pedestrian crossings

- A feature of the North Brisbane Bikeway Stages 2 and 3 planning is the inclusion of priority pedestrian and cycle crossings at a number of intersections. These crossings operate similarly to pedestrian 'zebra' crossings, providing people walking and cycling with priority over vehicles when crossing the street.
- The crossings will consist of a raised platform and coloured road surface to identify give way areas and the cycle crossing. Ample space has been provided to allow vehicles to stop safely, clear of the crossing.
- The priority crossings are proposed for side roads with low volumes of vehicles turning and low turning speeds.

Visit the TMR website to see an animation of the priority crossings in action.

Other sections of the North Brisbane Bikeway

- Construction of the Northern Busway has commenced, with Stage 1A – Section 1, between Gilchrist Avenue at Victoria Park, Herston and Gate 6 at the RNA showgrounds in Bowen Hills underway.
- Stage 1A – Section 2 between the RNA Showgrounds and O'Connell Terrace in Bowen Hills is currently going through detailed design.
- The Department is currently working with Brisbane City Council to finalise the design of Stage 1B, which will run between Federation Street, Bowen Hills and Somerset Street, Windsor.

Get involved

Transport and Main Roads would like your feedback on the proposed North Brisbane Bikeway.

How to provide your feedback:

- Email your feedback to metropolitanregion@tmr.qld.gov.au
- Visit www.tmr.qld.gov.au and search for North Brisbane Bikeway
- Phone **3066 9125**
- Post: North Brisbane Bikeway, PO Box 70, Spring Hill Qld 4004

Feedback is required by xx month 2015.

Where to from here?

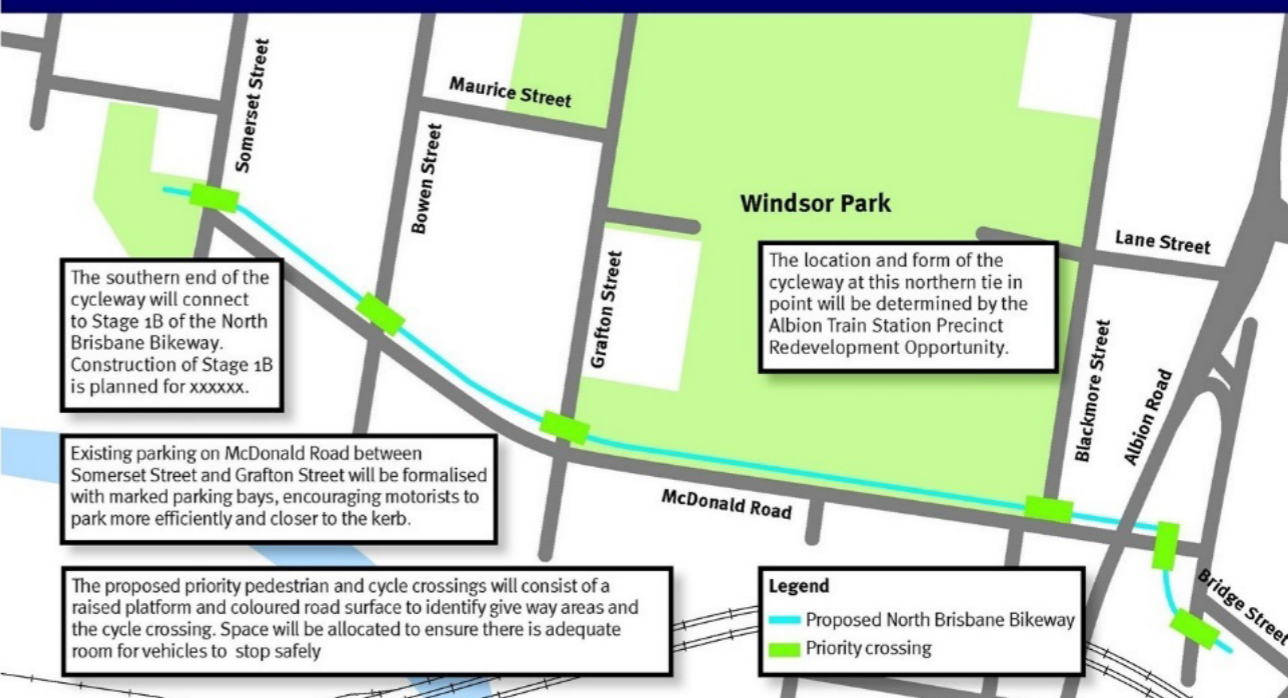
The project team will continue to refine the design over coming months, with construction on track to commence in 2016.

Kind regards, The North Brisbane Bikeway Project Team



Front Page

North Brisbane Bikeway, Stage 2



The southern end of the cycleway will connect to Stage 1B of the North Brisbane Bikeway. Construction of Stage 1B is planned for xxxxxx.

The location and form of the cycleway at this northern tie in point will be determined by the Albion Train Station Precinct Redevelopment Opportunity.

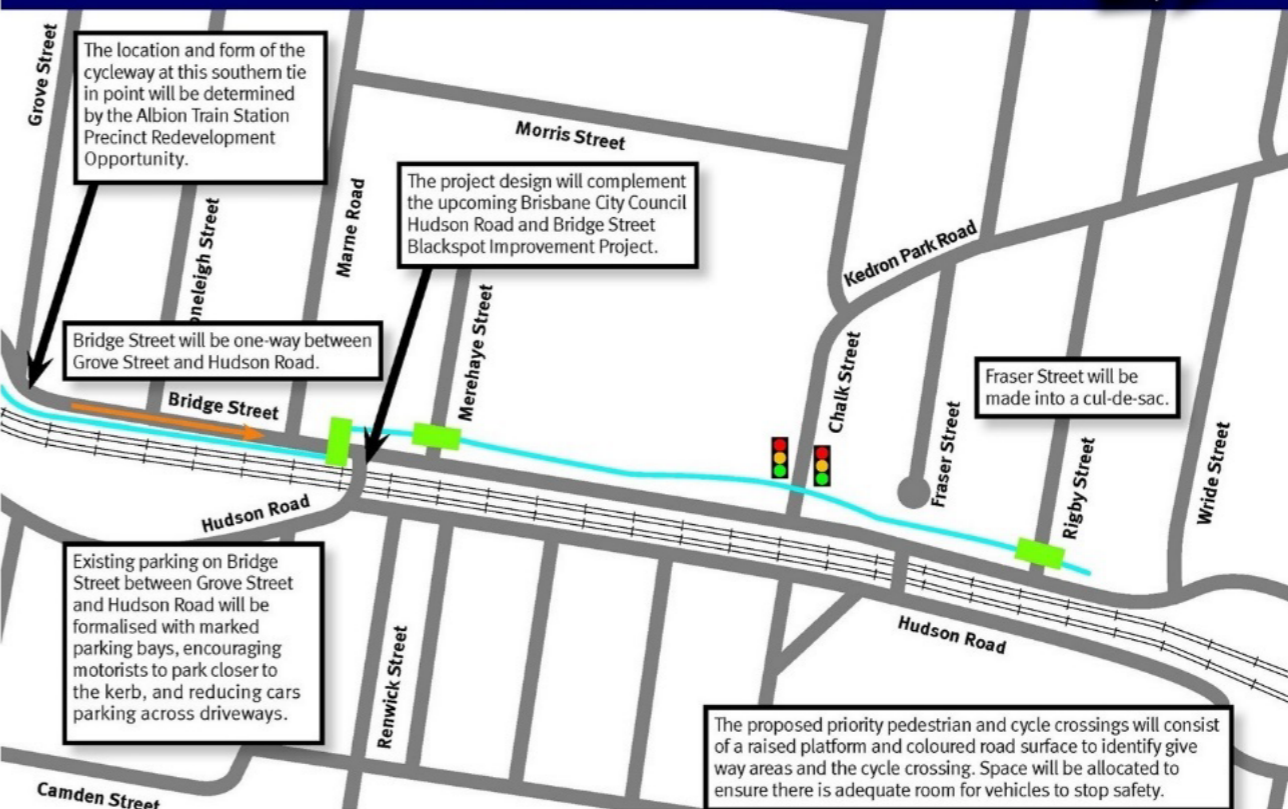
Existing parking on McDonald Road between Somerset Street and Grafton Street will be formalised with marked parking bays, encouraging motorists to park more efficiently and closer to the kerb.

The proposed priority pedestrian and cycle crossings will consist of a raised platform and coloured road surface to identify give way areas and the cycle crossing. Space will be allocated to ensure there is adequate room for vehicles to stop safely

Legend

- Proposed North Brisbane Bikeway
- Priority crossing

North Brisbane Bikeway, Stages 3B and 3C



The location and form of the cycleway at this southern tie in point will be determined by the Albion Train Station Precinct Redevelopment Opportunity.

The project design will complement the upcoming Brisbane City Council Hudson Road and Bridge Street Blackspot Improvement Project.

Bridge Street will be one-way between Grove Street and Hudson Road.

Fraser Street will be made into a cul-de-sac.

Existing parking on Bridge Street between Grove Street and Hudson Road will be formalised with marked parking bays, encouraging motorists to park closer to the kerb, and reducing cars parking across driveways.

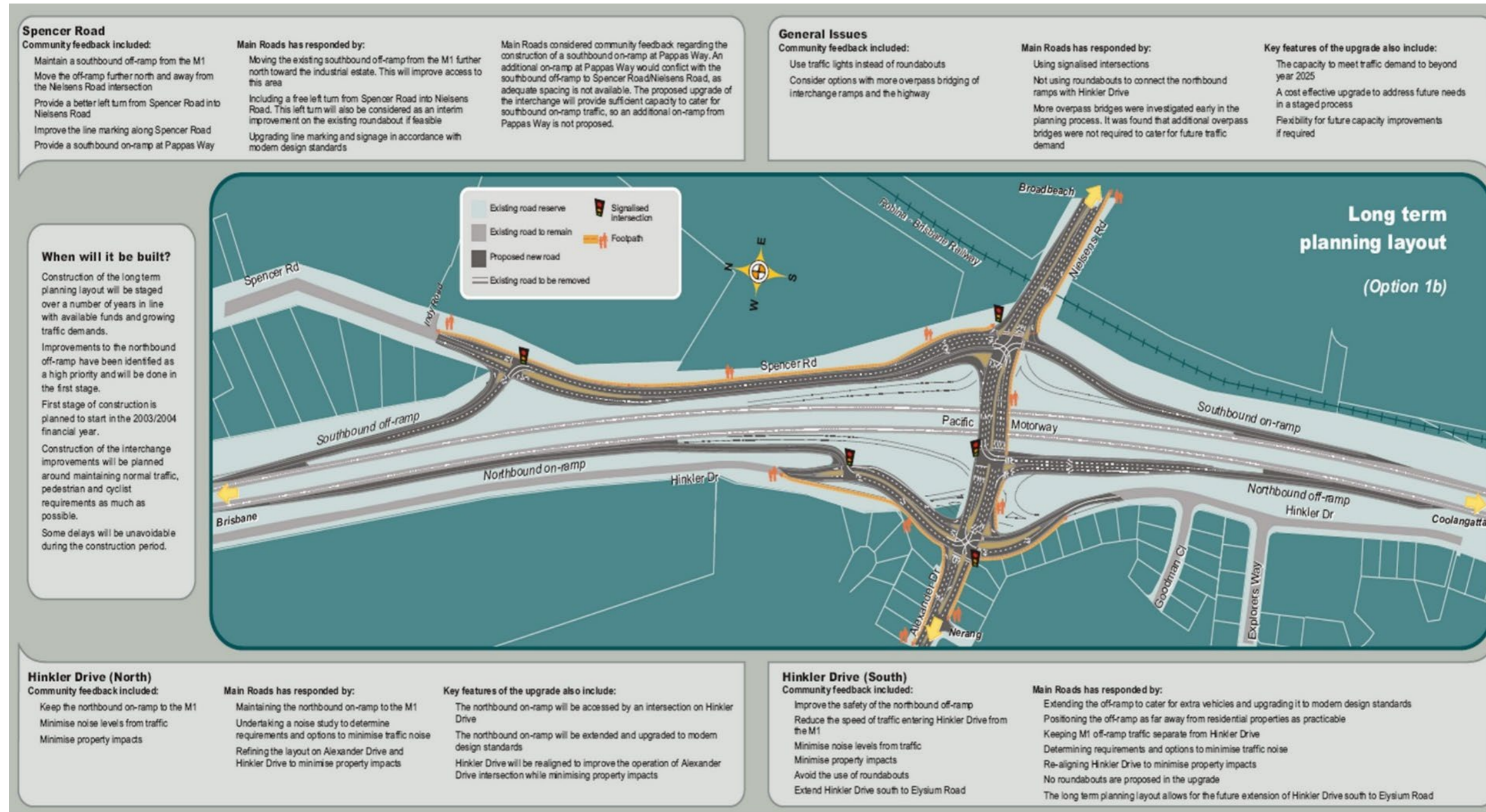
The proposed priority pedestrian and cycle crossings will consist of a raised platform and coloured road surface to identify give way areas and the cycle crossing. Space will be allocated to ensure there is adequate room for vehicles to stop safely.

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Figure 4.4(k) – Community consultation / newsletter / public display – generic example 1



Hinkler Drive (South)

Community feedback included:

- Improve the safety of the northbound off-ramp
- Reduce the speed of traffic entering Hinkler Drive from the M1
- Minimise noise levels from traffic
- Minimise property impacts
- Avoid the use of roundabouts
- Extend Hinkler Drive south to Elysium Road

Main Roads has responded by:

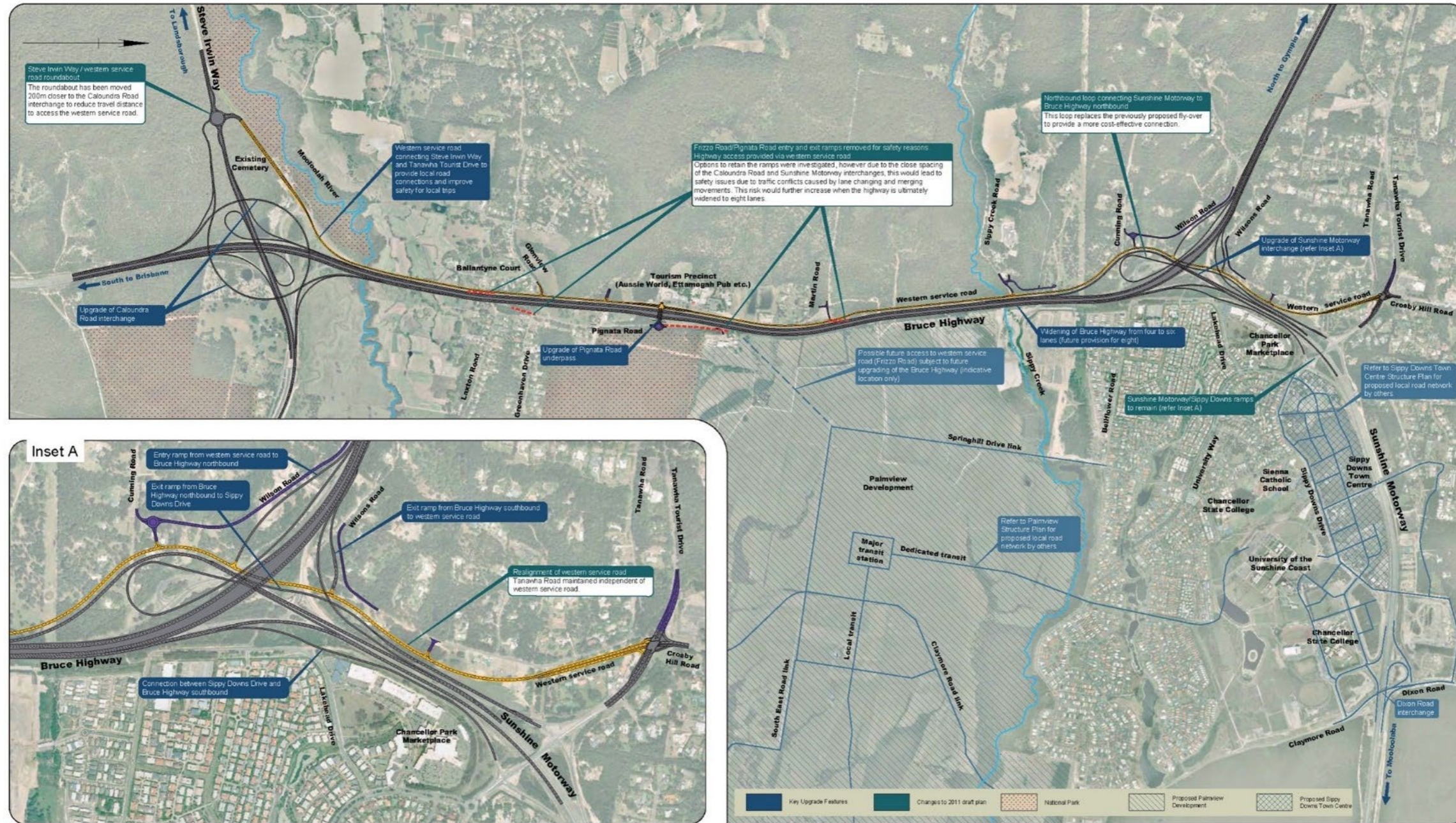
- Extending the off-ramp to cater for extra vehicles and upgrading it to modern design standards
- Positioning the off-ramp as far away from residential properties as practicable
- Keeping M1 off-ramp traffic separate from Hinkler Drive
- Determining requirements and options to minimise traffic noise
- Re-aligning Hinkler Drive to minimise property impacts
- No roundabouts are proposed in the upgrade
- The long term planning layout allows for the future extension of Hinkler Drive south to Elysium Road

Figure 4.4(l) – Community consultation / newsletter / public display – generic example 2

Transport and Main Roads

Bruce Highway Upgrade Planning Study (Caloundra Road to Sunshine Motorway)

Preferred planning layout: April 2013



5 Report style drawings and sketches

There are numerous other drawings and sketches which accompany specialist reports and can be as diverse as glossy planning reports and complete job documentation for construction. These reports are often appended to option analysis, business case or design development reports.

Often the product is a direct output from a specialist technical software package.

Specialist reports may include:

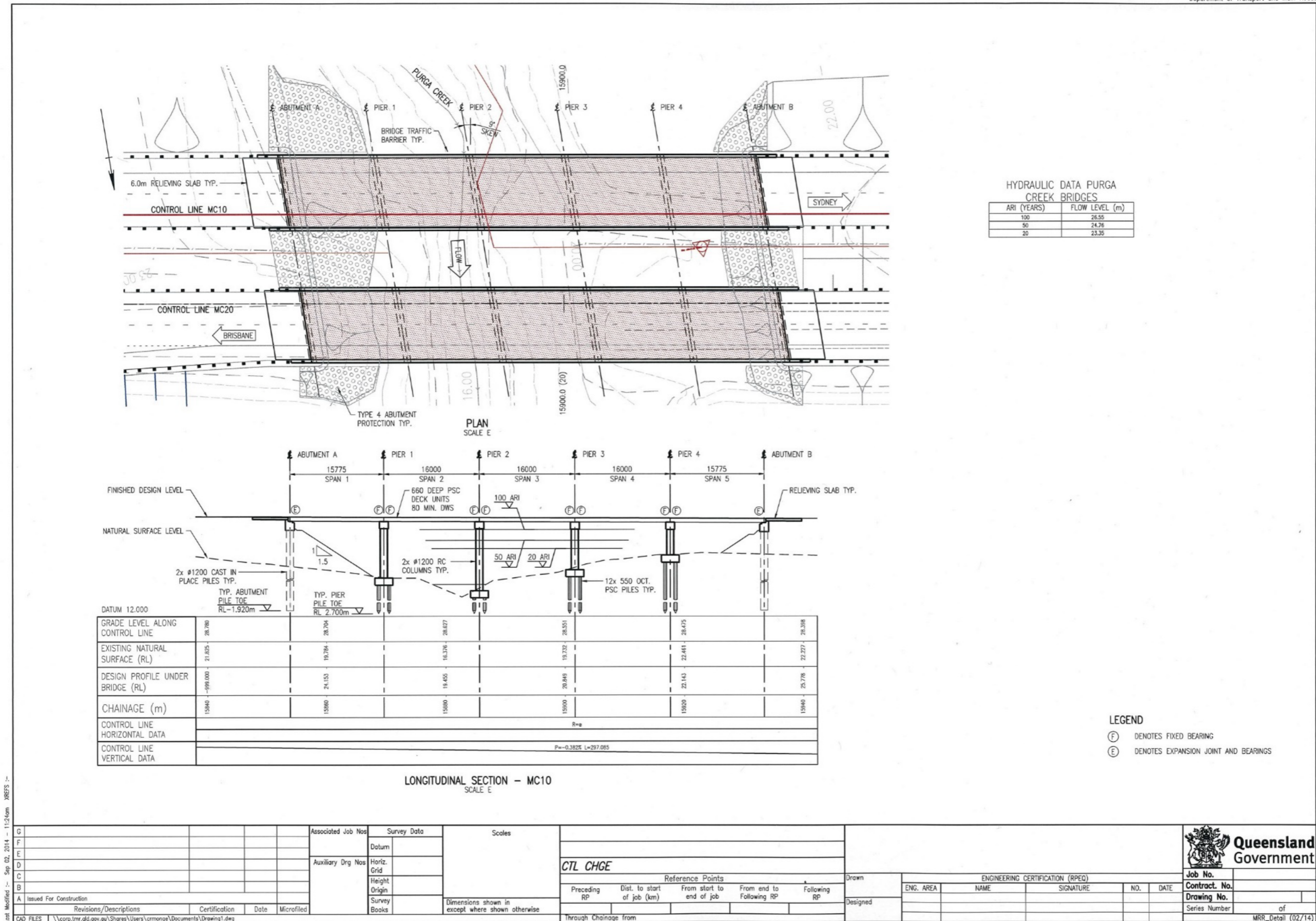
- bridge design options
- environmental and cultural heritage studies
- geotechnical investigations
- hydraulic analysis
- land tenure
- noise studies, and/or
- traffic analysis.

Following are examples of these types of drawings.

5.1 Bridge design options

Figure 5.1(a) – Bridge design options – generic example 1

Department of Transport and Main Roads



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Figure 5.1(b) – Bridge design options – generic example 2

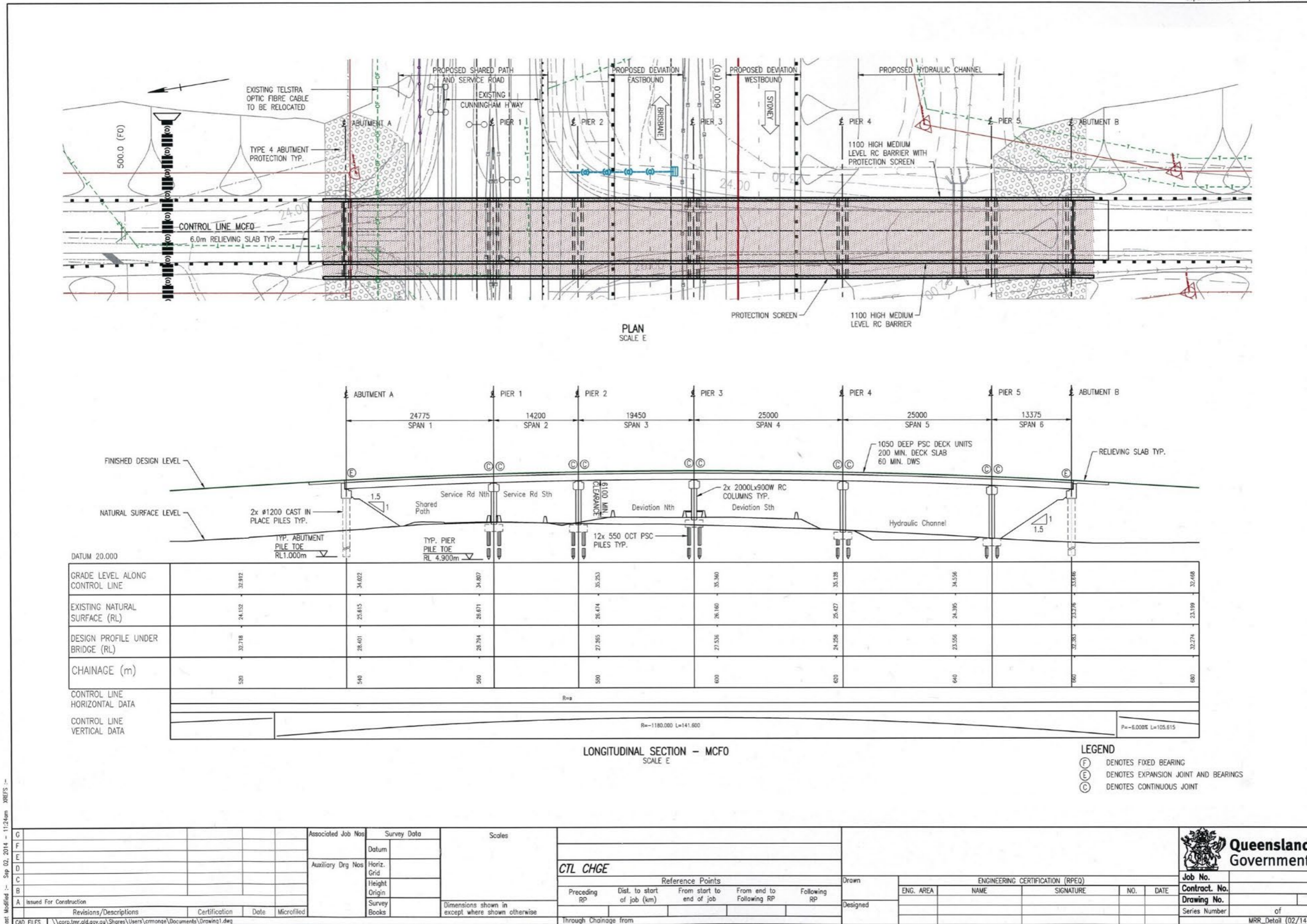
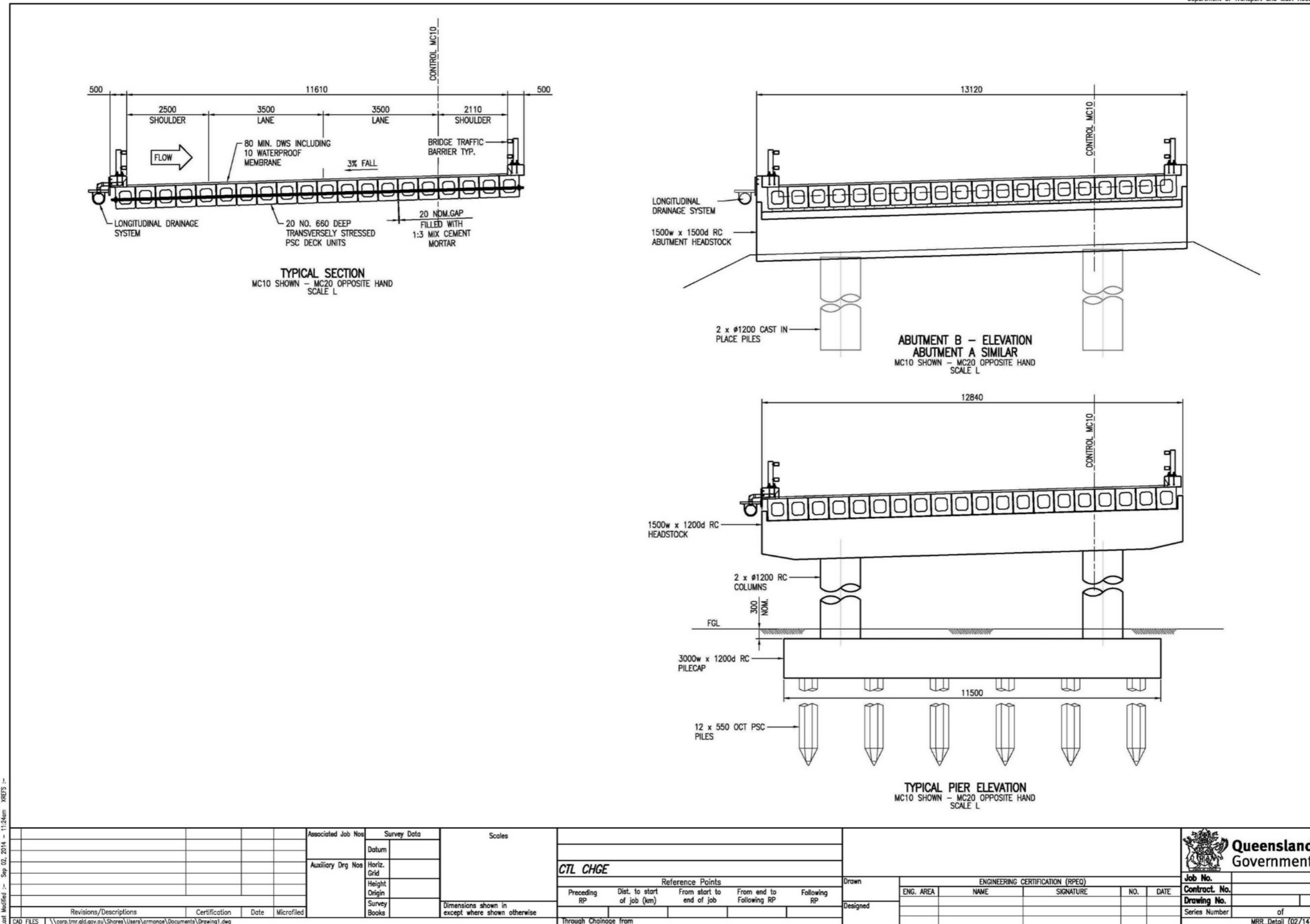


Figure 5.1(c) – Bridge design options – generic example 3



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Associated Job Nos		Survey Data		Scales							
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Figure 5.1(d) – Bridge design options – generic example 4

Department of Transport and Main Roads

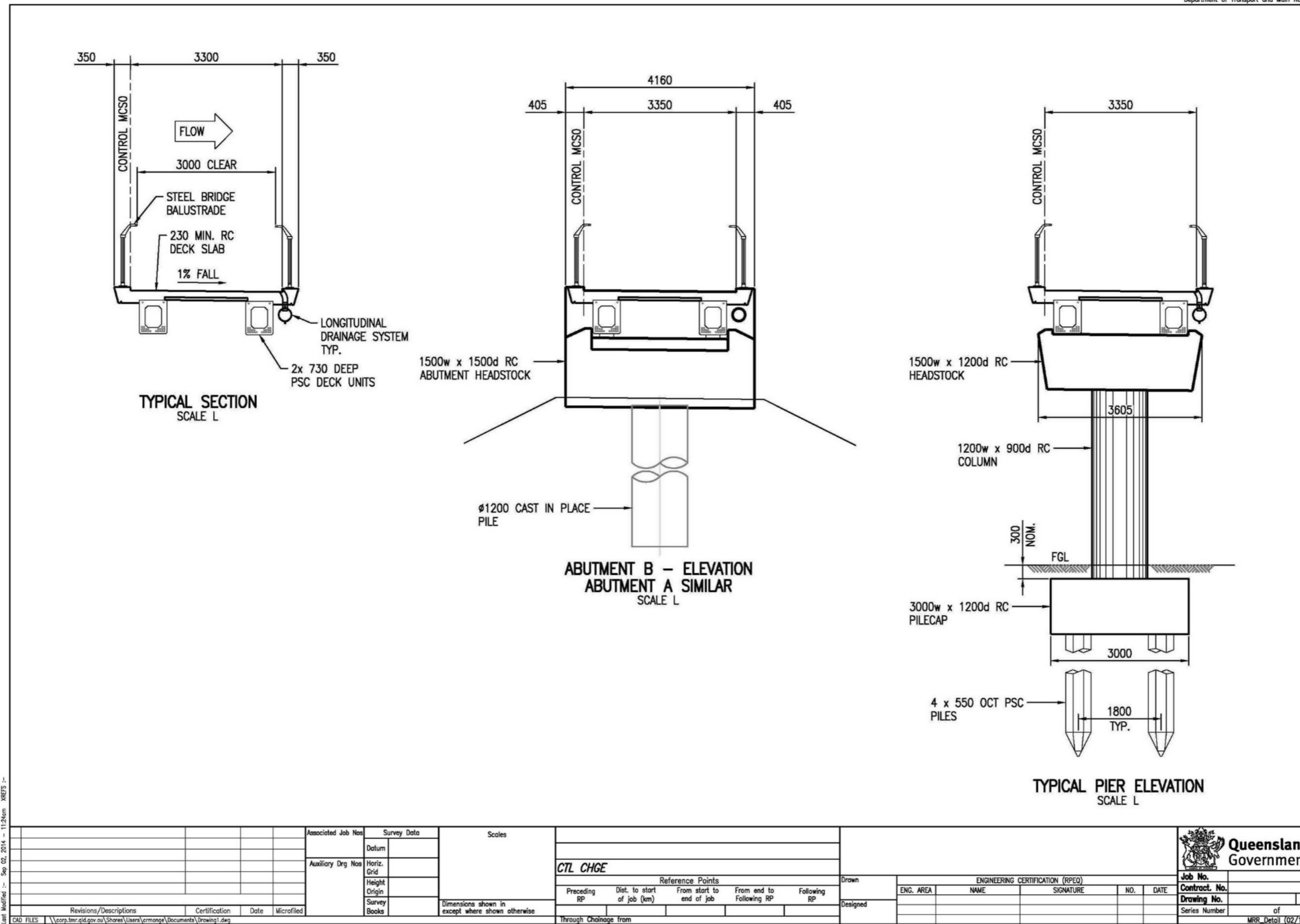
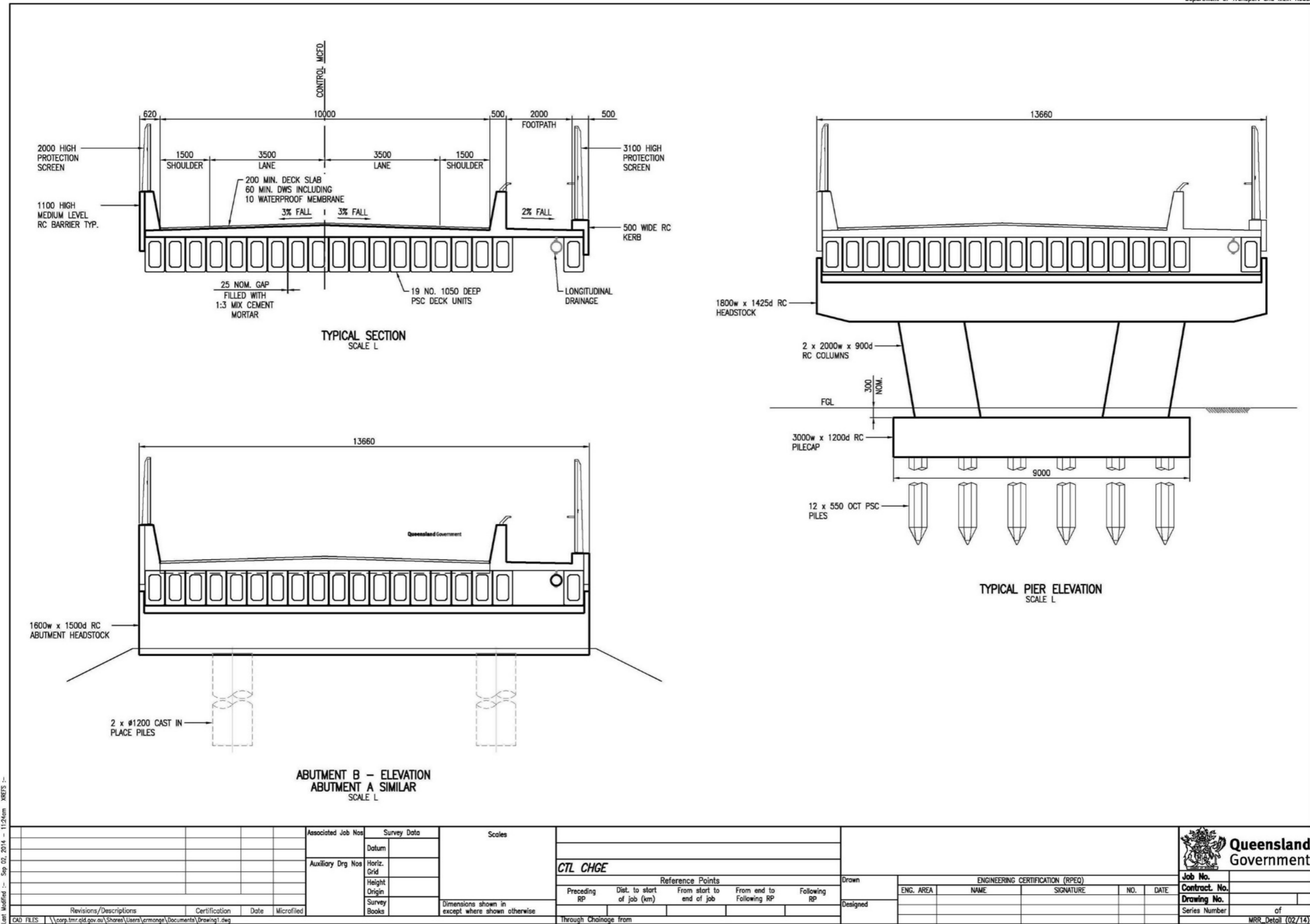


Figure 5.1(e) – Bridge design options – generic example 5



5.2 Environmental and cultural heritage studies

Figure 5.2(a) – Environmental and cultural heritage studies – generic example 1

Department of Transport and Main Roads

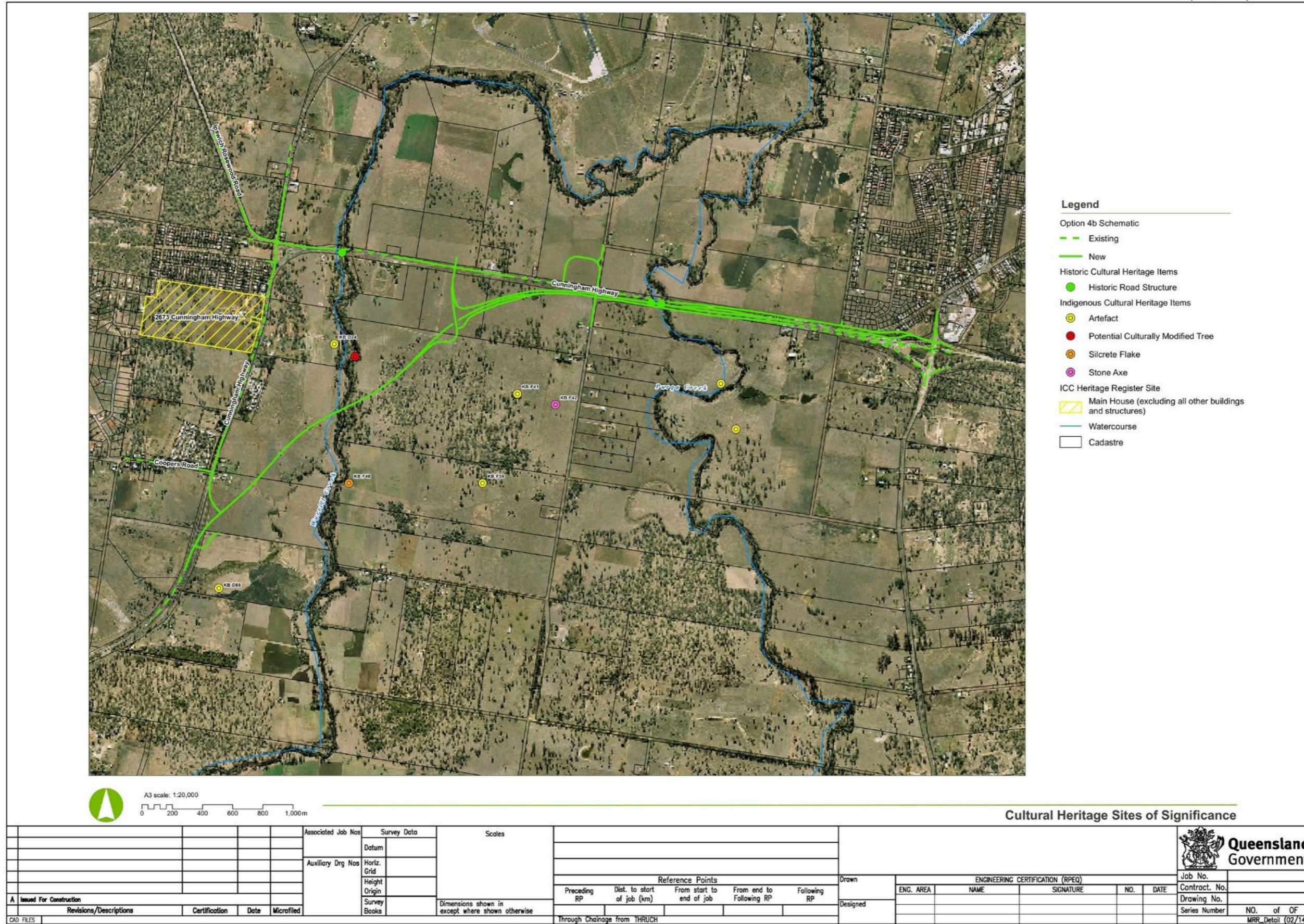
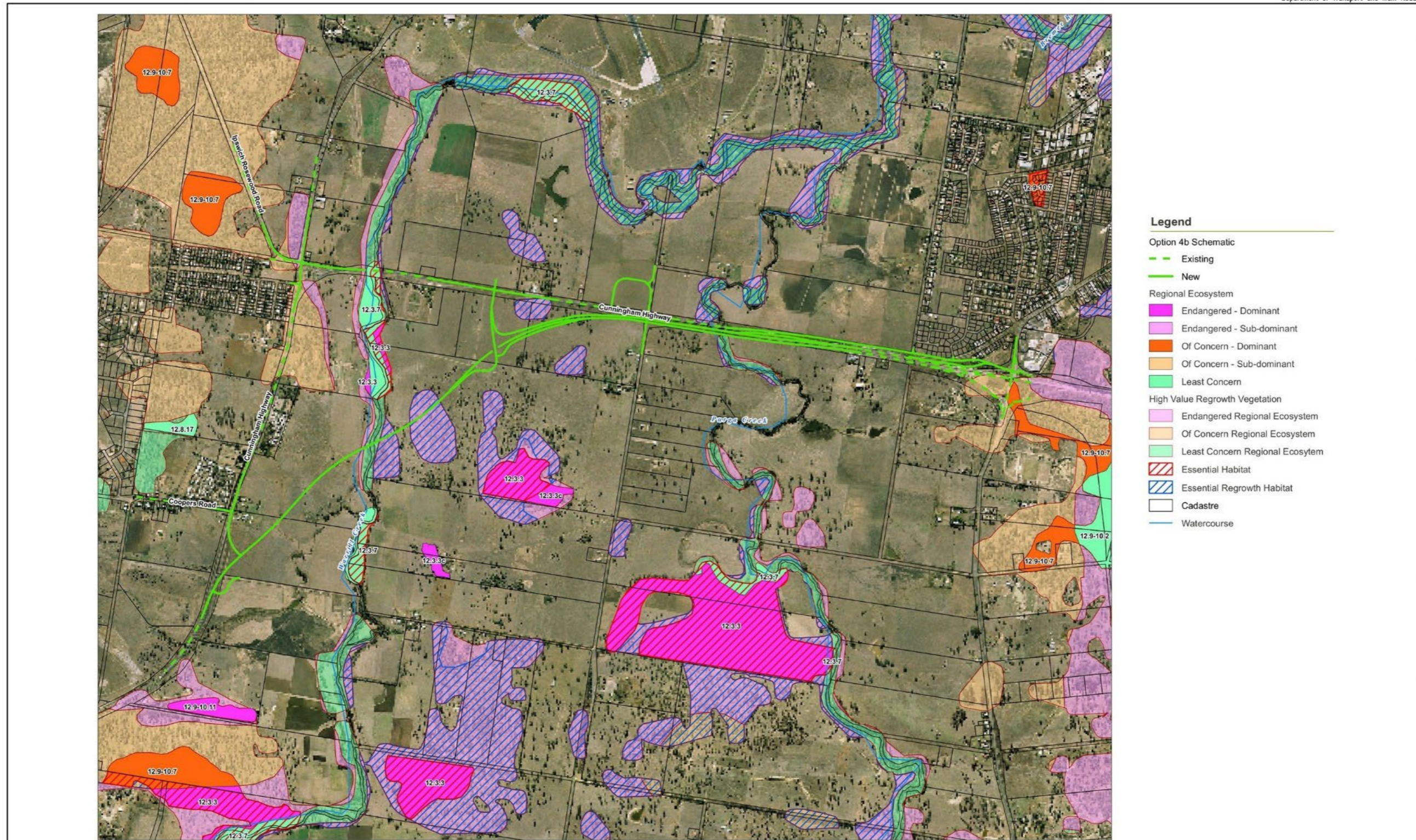
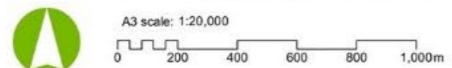


Figure 5.2(b) – Environmental and cultural heritage studies – generic example 2



- Legend**
- Option 4b Schematic
 - Existing
 - New
 - Regional Ecosystem
 - Endangered - Dominant
 - Endangered - Sub-dominant
 - Of Concern - Dominant
 - Of Concern - Sub-dominant
 - Least Concern
 - High Value Regrowth Vegetation
 - Endangered Regional Ecosystem
 - Of Concern Regional Ecosystem
 - Least Concern Regional Ecosystem
 - Essential Habitat
 - Essential Regrowth Habitat
 - Cadastre
 - Watercourse



Regional Ecosystems, High Value Regrowth Vegetation and Essential Habitats

Associated Job Nos					Survey Data					Scales					Reference Points					ENGINEERING CERTIFICATION (RPEQ)					Queensland Government	
Auxiliary Drg Nos					Datum					Preceding RP					Drawn					Job No.						
					Horiz. Grid					Dist. to start of job (km)					Designed					Contract No.						
					Height Origin					From start to end of job					ENG. AREA					Drawing No.						
					Survey Books					From end to Following RP					NAME					Series Number						
A Issued For Construction					Dimensions shown in except where shown otherwise										SIGNATURE					NO. of OF						
Revisions/Descriptions					CAD FILES										NO.					MRR Detail (02/14)						
Certification															DATE											
Date																										
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Figure 5.2(c) – Environmental and cultural heritage studies – generic example 3

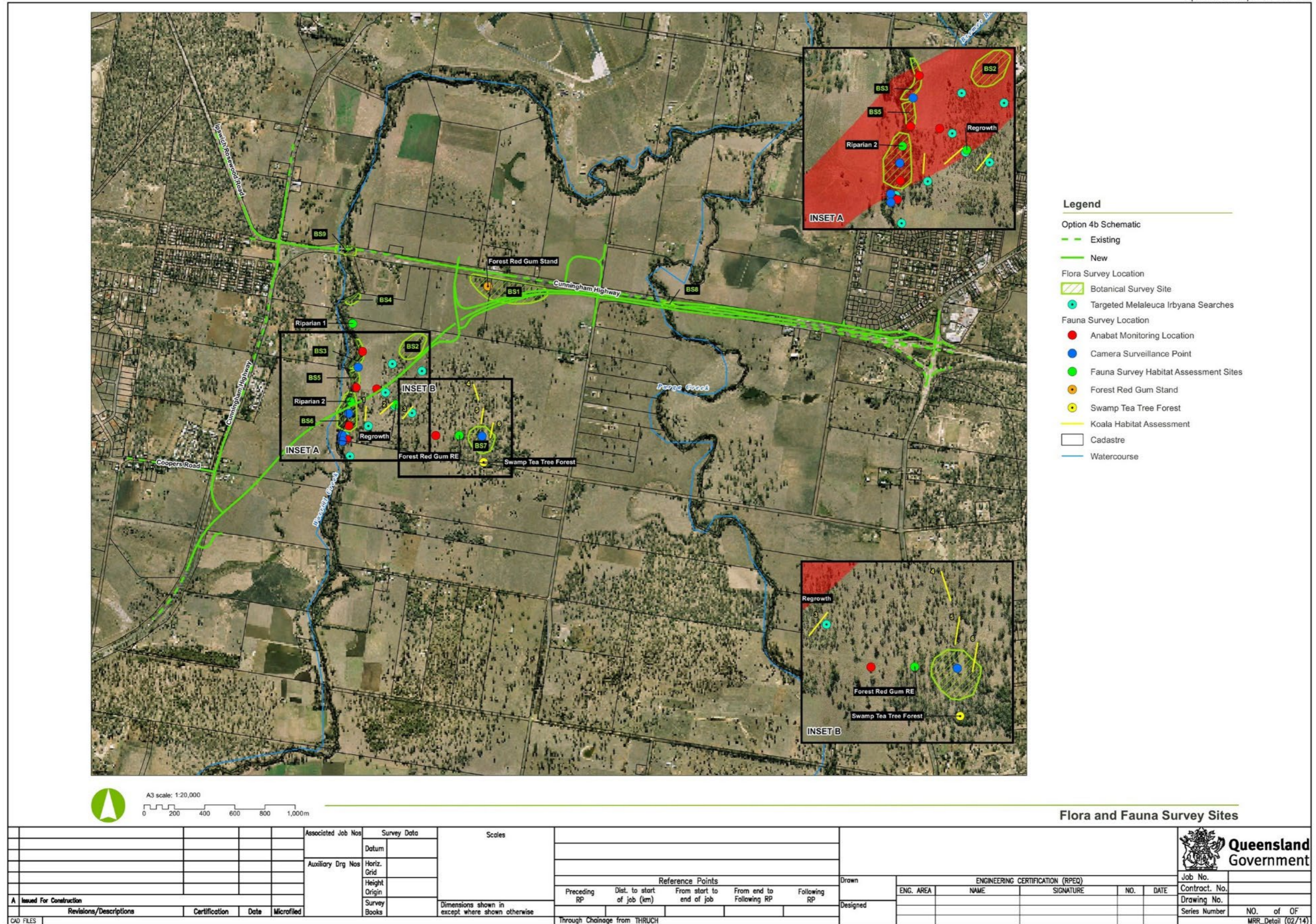
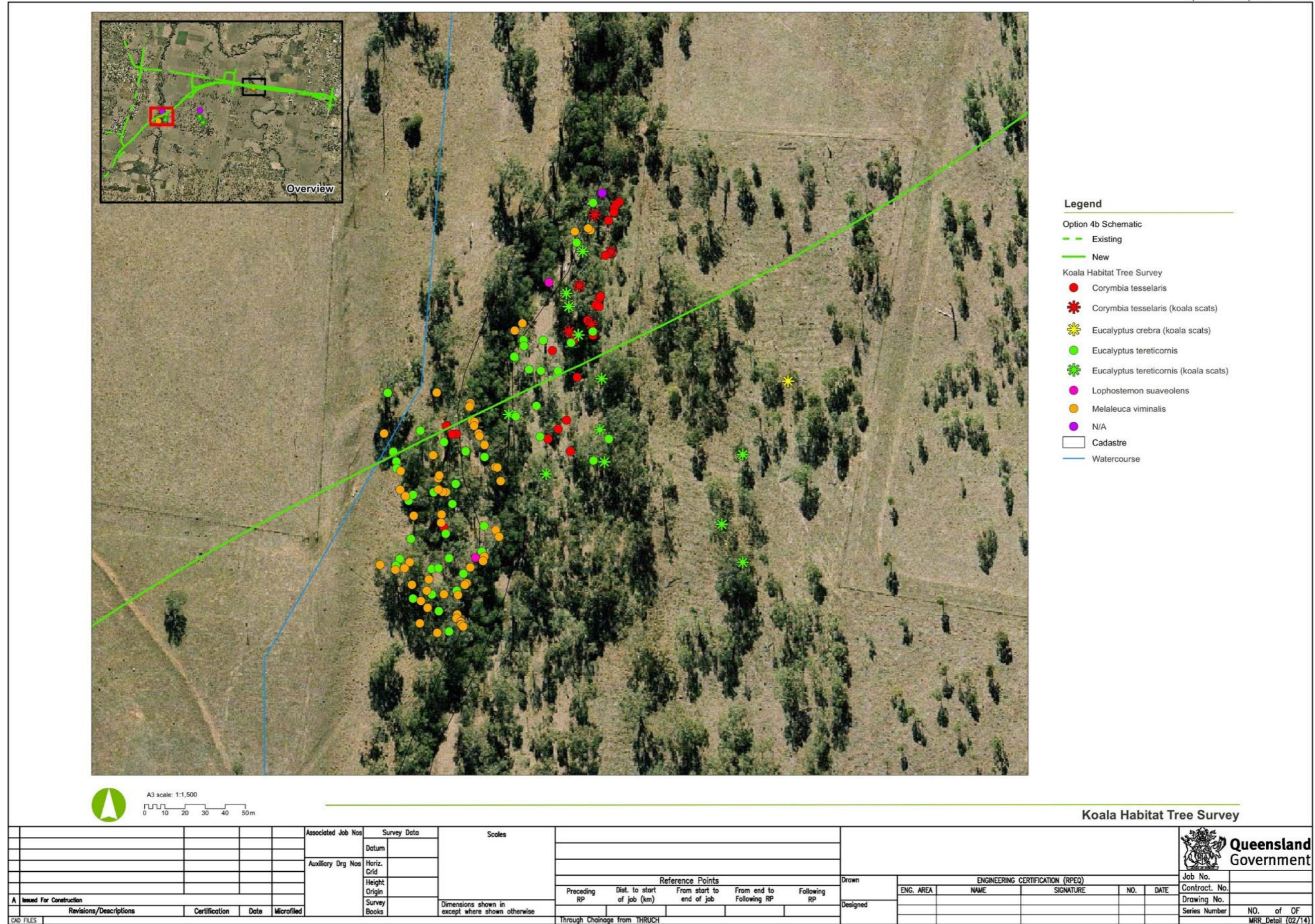


Figure 5.2(d) – Environmental and cultural heritage studies – generic example 4



5.3 Geotechnical investigations

Figure 5.3(a) – Geotechnical investigations – generic example 1

Department of Transport and Main Roads

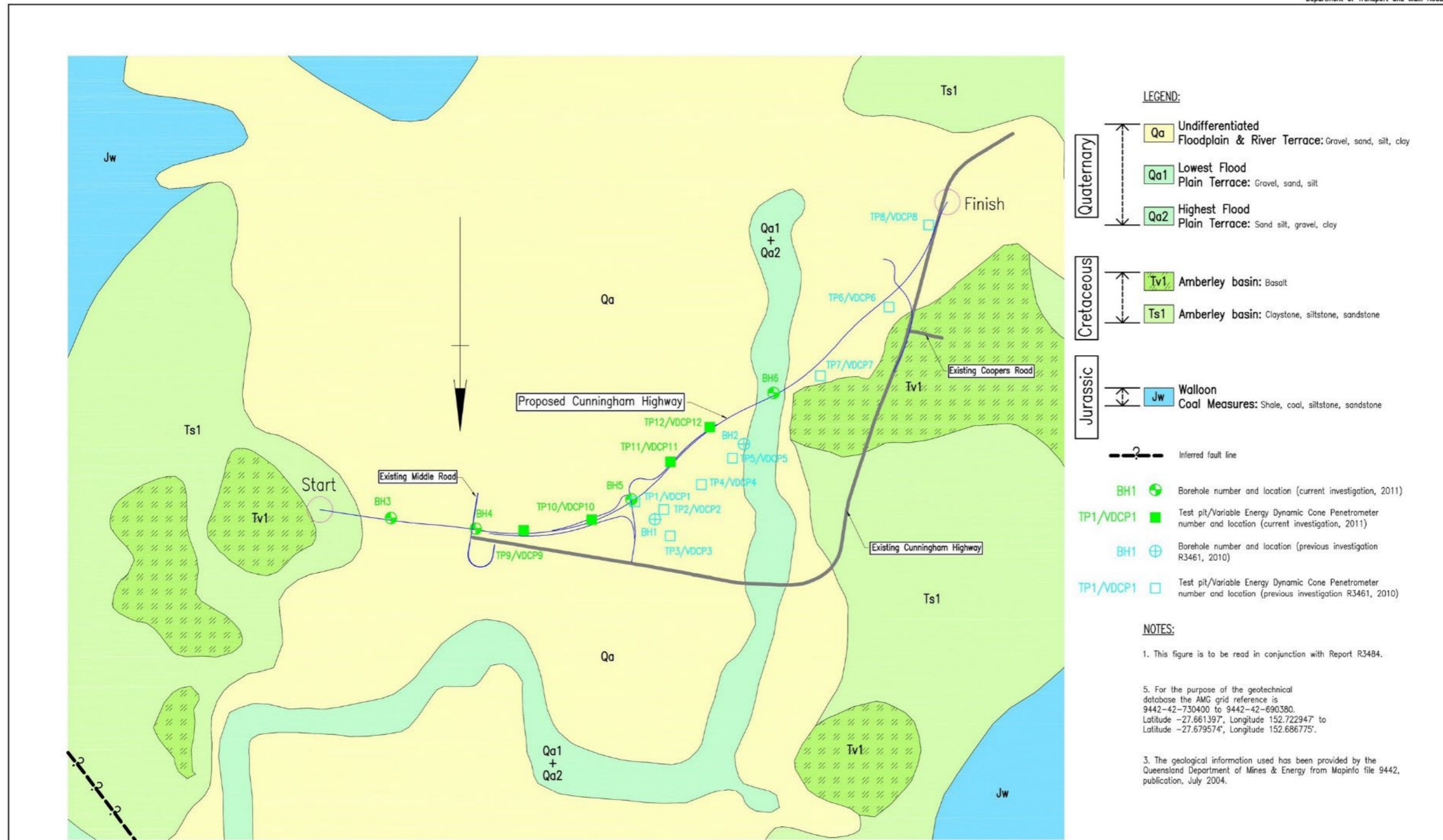
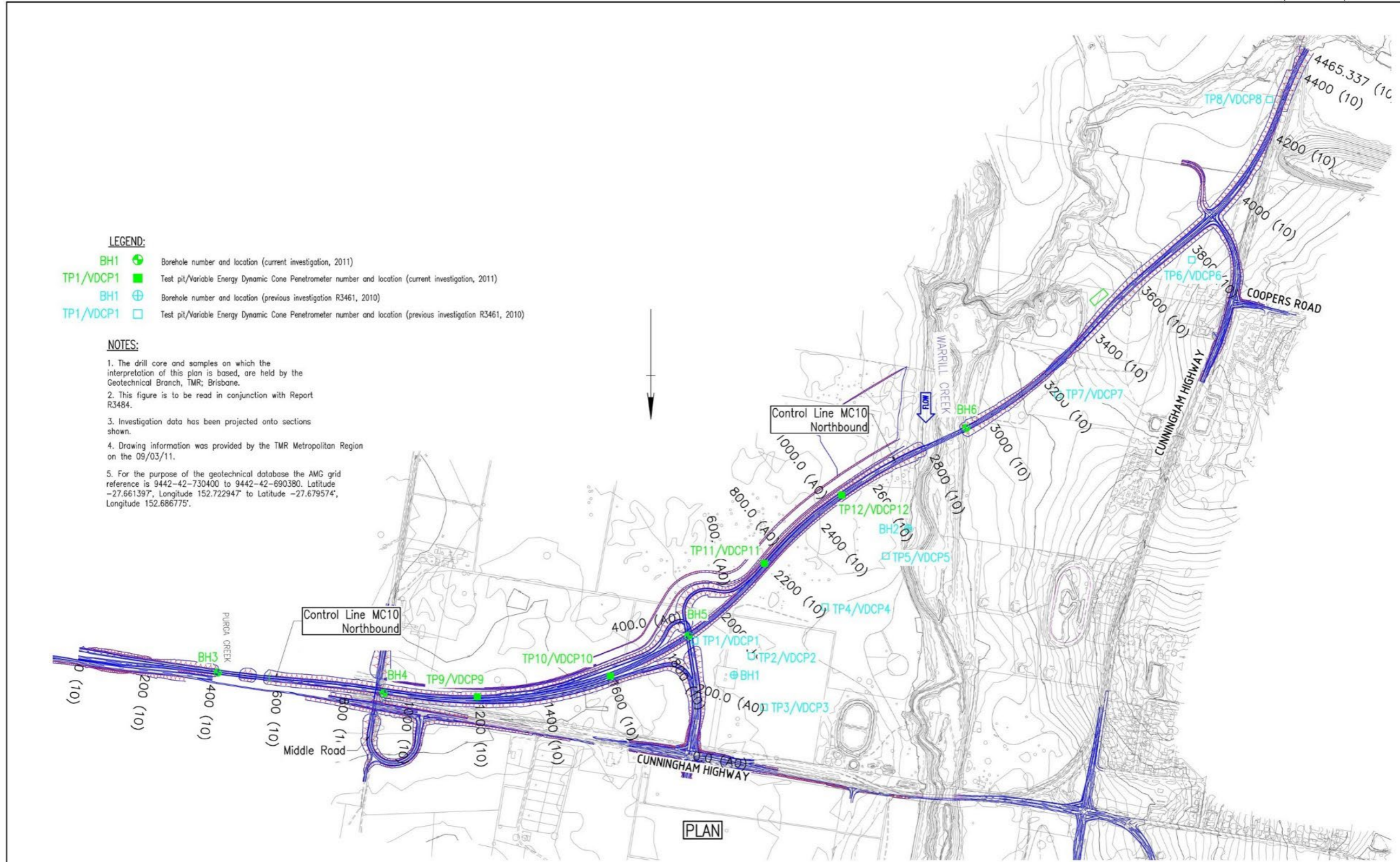


FIGURE 1—GEOLOGICAL UNITS ALONG THE ALIGNMENT

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Auxiliary Drg Nos		Datum						NAME		Contract No.	
		Horiz. Grid						SIGNATURE		Drawing No.	
		Height Origin						NO.		NO. of OF	
		Survey Books		Dimensions shown in except where shown otherwise		Reference Points		DATE		Series Number	
A Issued For Construction		Certification		Date		Preceding RP		MRR_Detail (02/14)			
Revisions/Descriptions				Microfilmed		Dist. to start of job (km)					
						From start to end of job					
						From end to Following RP					
						Following RP					
CAD FILES						Through Chaiange from THRUCH					

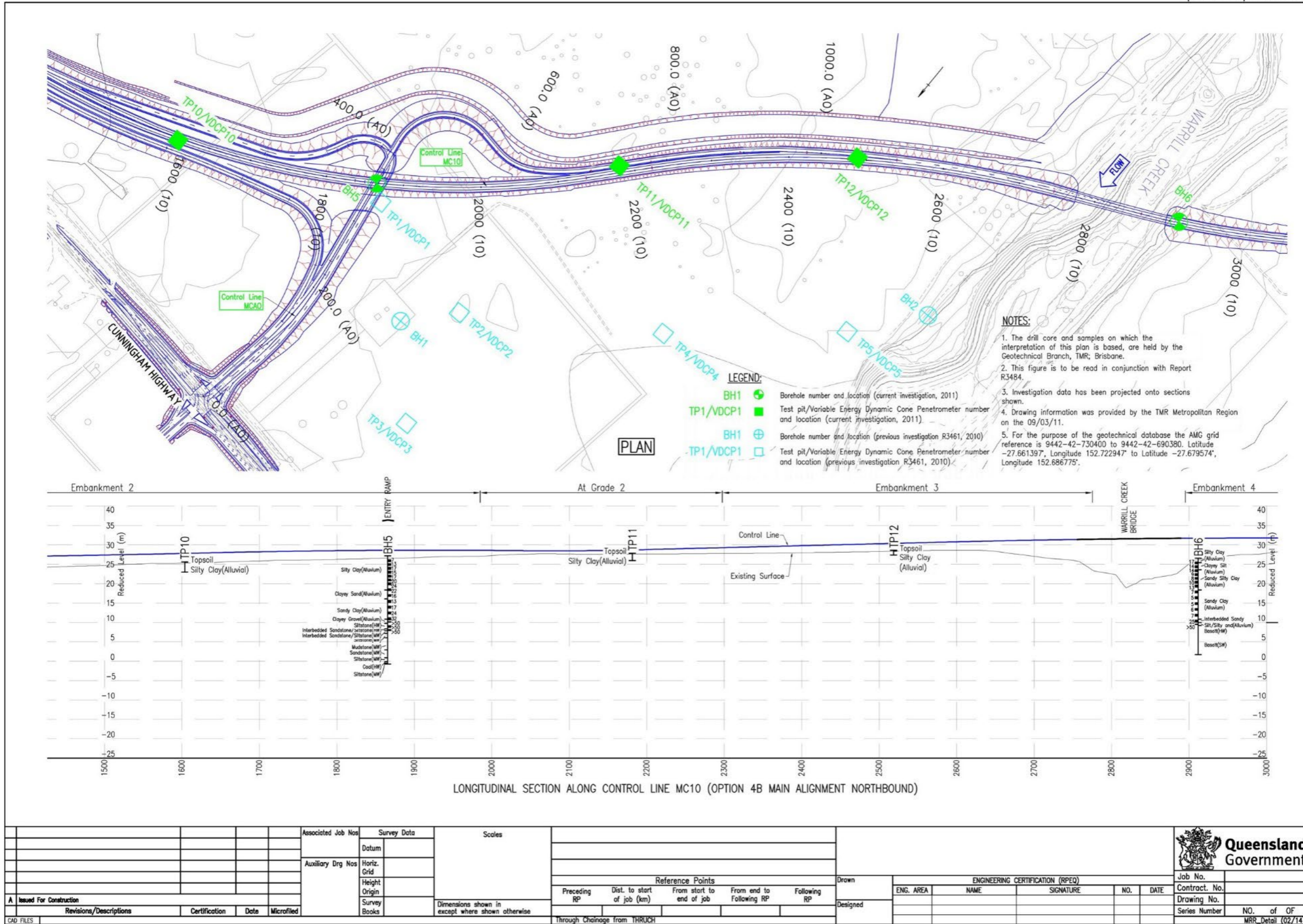
Figure 5.3(b) – Geotechnical investigations – generic example 2

Department of Transport and Main Roads



Associated Job Nos	Survey Data		Scales	Reference Points				ENGINEERING CERTIFICATION (RPEQ)				Job No.		
	Datum													
Auxiliary Drg Nos	Horiz. Grid		Dimensions shown in except where shown otherwise	Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP	ENG. AREA	NAME	SIGNATURE	NO.	DATE	Contract No.
	Height Origin													
A Issued For Construction													Series Number	NO. of OF
CAD FILES													MRR_Detail (02/14)	

Figure 5.3(c) – Geotechnical investigations – generic example 3



Associated Job Nos		Survey Data		Scales		Reference Points		ENGINEERING CERTIFICATION (RPEQ)		Queensland Government	
Datum		Horiz. Grid		From start to end of job		From end to Following RP		NAME		Job No.	
Auxiliary Drg Nos		Height Origin		Preceding RP		Following RP		SIGNATURE		Contract No.	
Survey Books		Dimensions shown in except where shown otherwise		Dist. to start of job (km)				NO.		Drawing No.	
Revisions/Descriptions		Certification		Date		Microfiled		DATE		Series Number	
CAD FILES						Through Chainage from THROUGH				NO. of OF	
										MRR_Detail (02/14)	

5.4 Hydraulic analysis

Figure 5.4(a) – Hydraulic analysis – generic example 1

Department of Transport and Main Roads

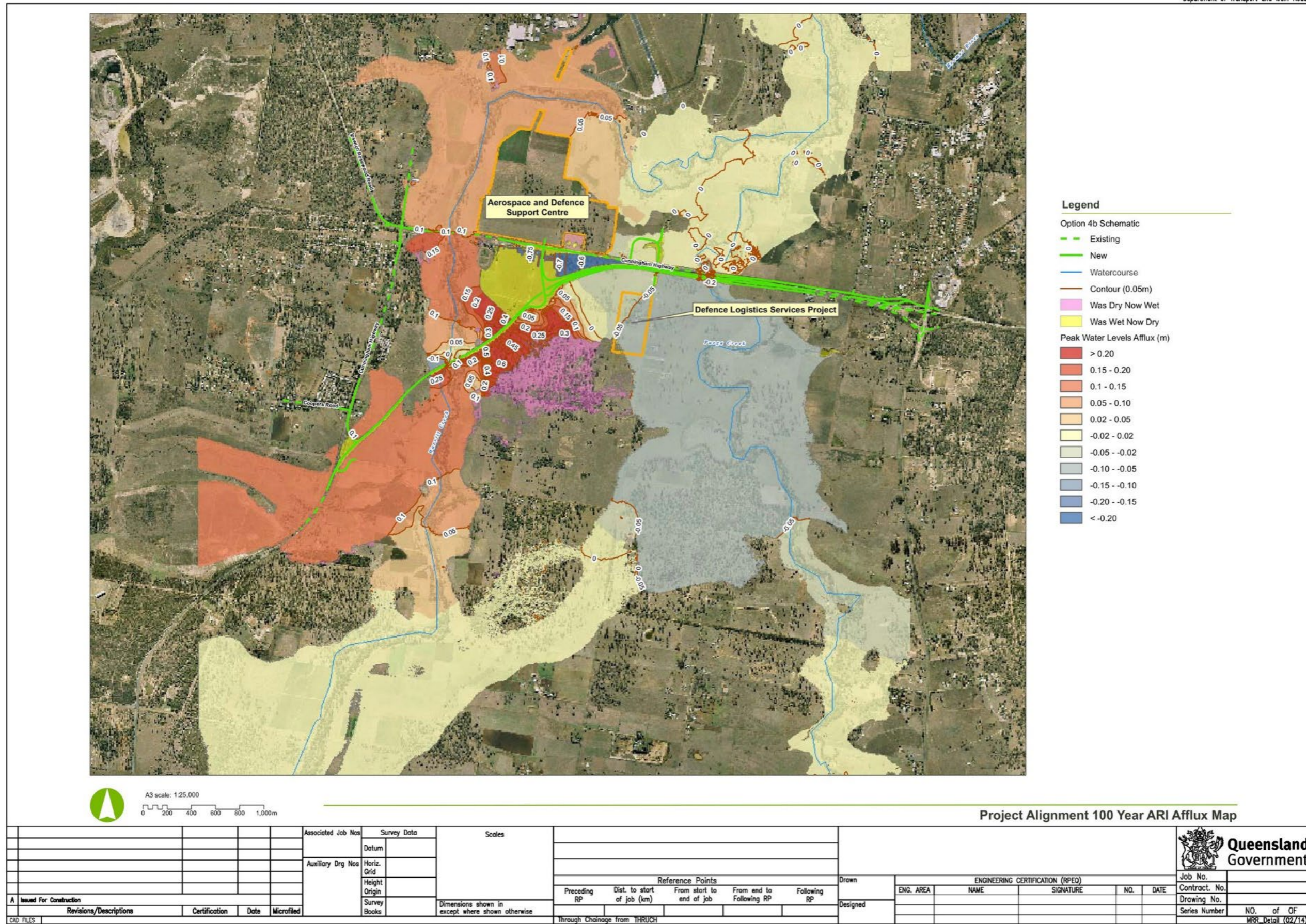
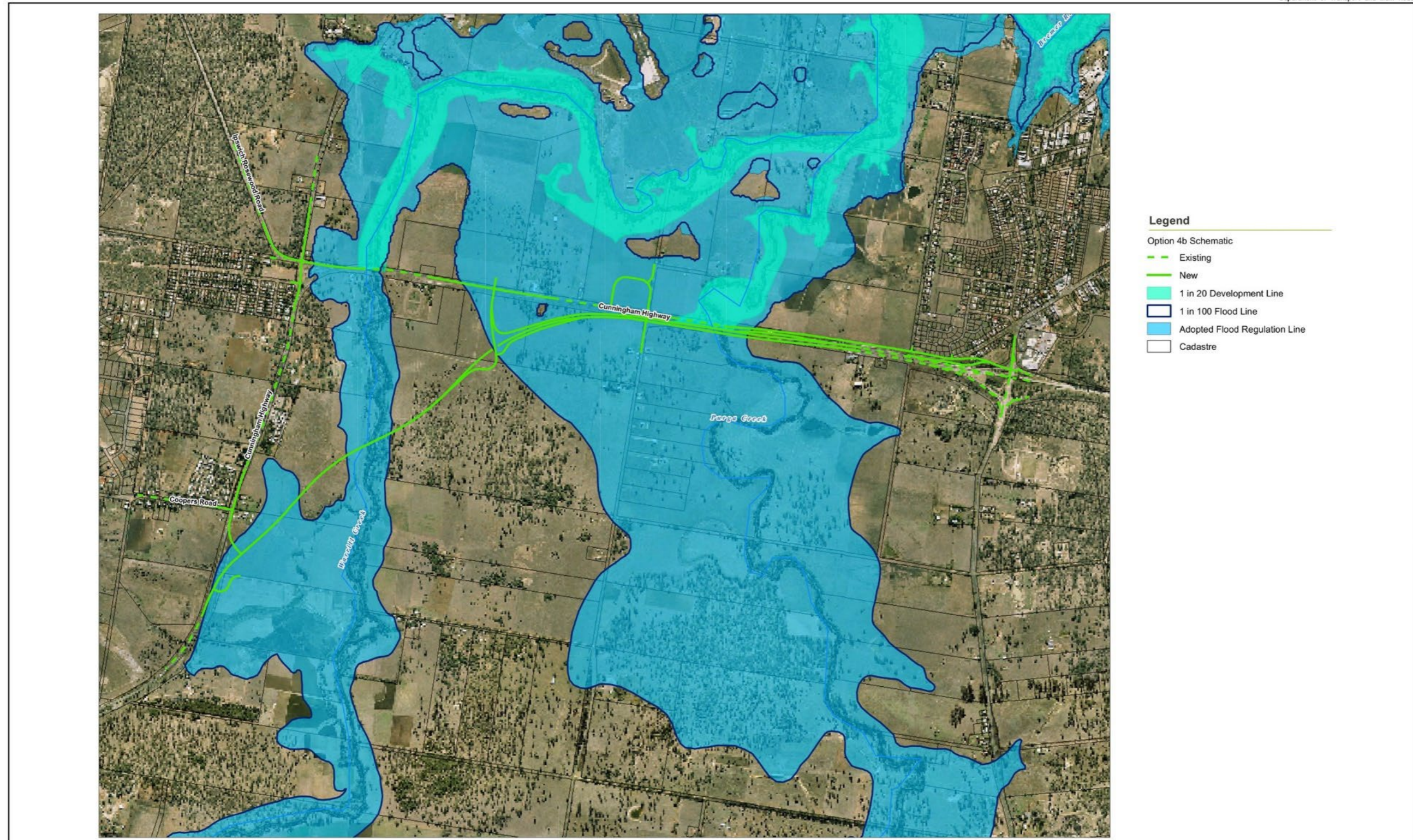
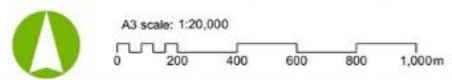


Figure 5.4(b) – Hydraulic analysis – generic example 2



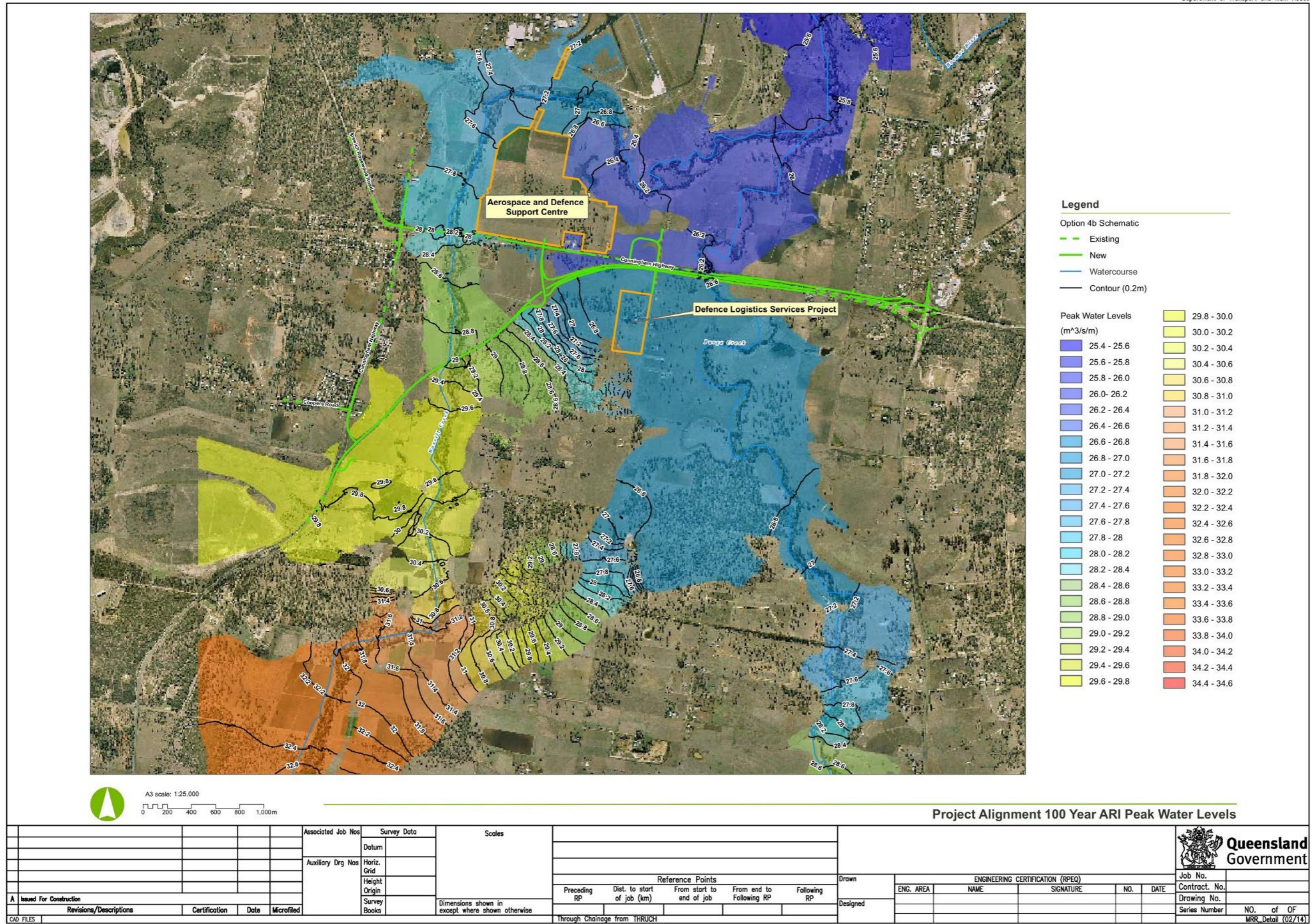
- Legend**
- Option 4b Schematic
 - Existing
 - New
 - 1 in 20 Development Line
 - 1 in 100 Flood Line
 - Adopted Flood Regulation Line
 - Cadastre



Temporary Local Planning Instrument 01/2011 – Flooding Regulation Mapping

				Associated Job Nos	Survey Data	Scales						Queensland Government Job No. Contract No. Drawing No. Series Number NO. of OF MRR_Detail (02/14)						
				Auxiliary Drg Nos	Datum													
					Horiz. Grid			Reference Points				ENGINEERING CERTIFICATION (RPEQ)						
					Height Origin			Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP	Drawn	ENG. AREA	NAME	SIGNATURE	NO.	DATE
A Issued For Construction					Survey Books	Dimensions shown in except where shown otherwise		Through Change from THRUCH				Designed						
Revisions/Descriptions																		
Certification																		
Date																		
Microfiled																		
CAD FILES																		

Figure 5.4(c) – Hydraulic analysis – generic example 3



5.5 Land tenure

Figure 5.5(a) – Land tenure – generic example 1

Department of Transport and Main Roads

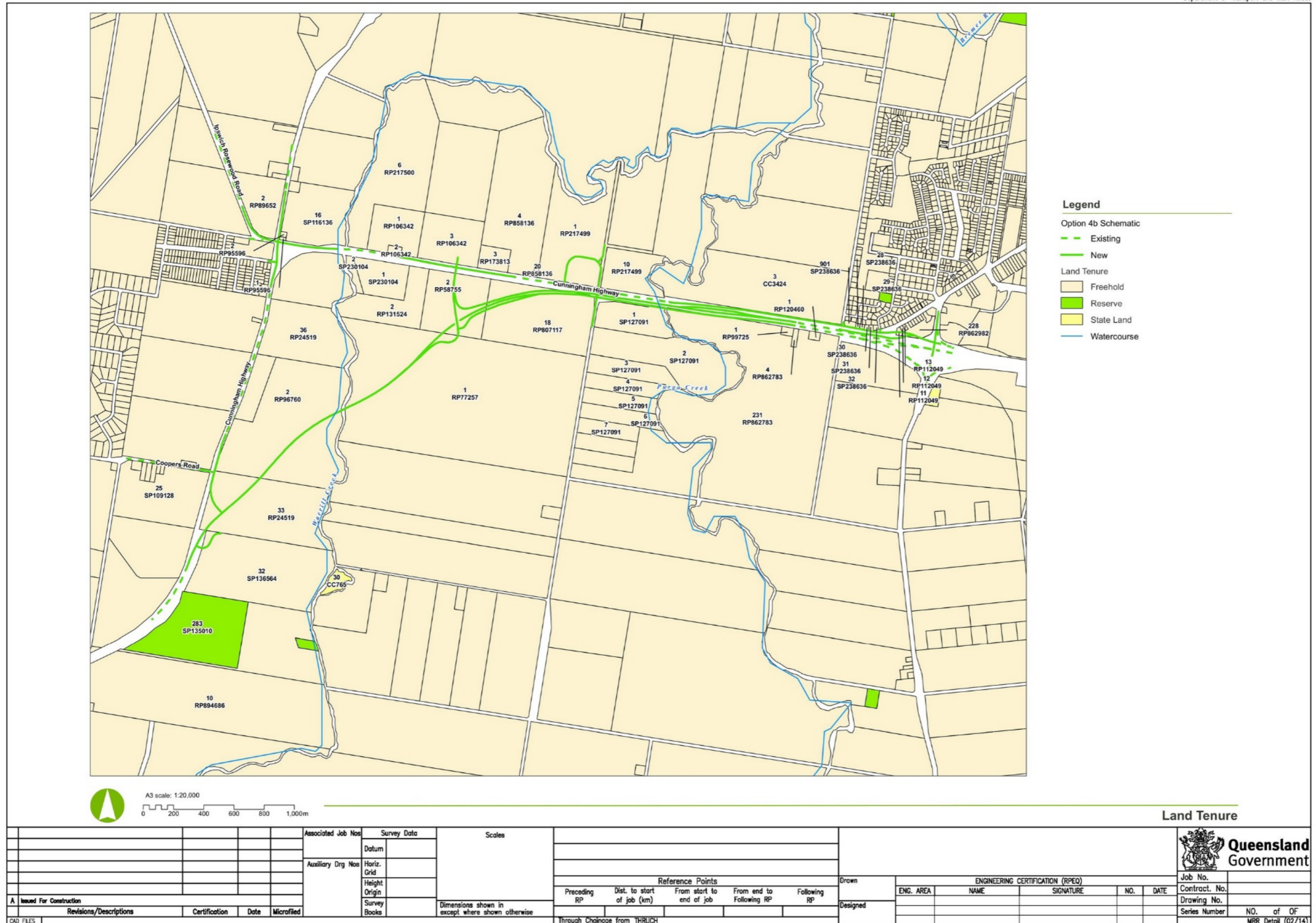
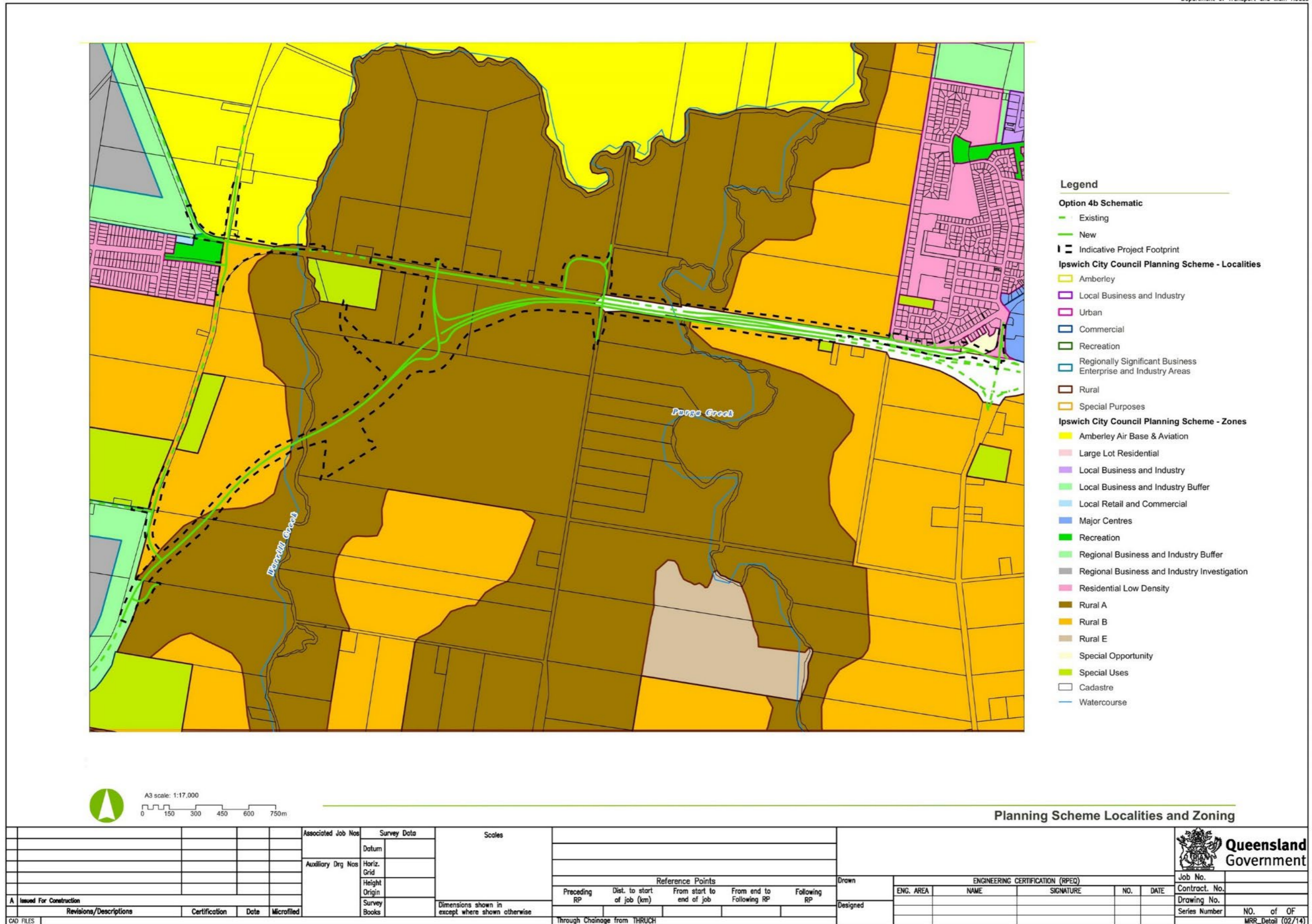


Figure 5.5(b) – Land tenure – generic example 2



5.6 Noise studies

Figure 5.6(a) – Noise studies – generic example 1

Department of Transport and Main Roads

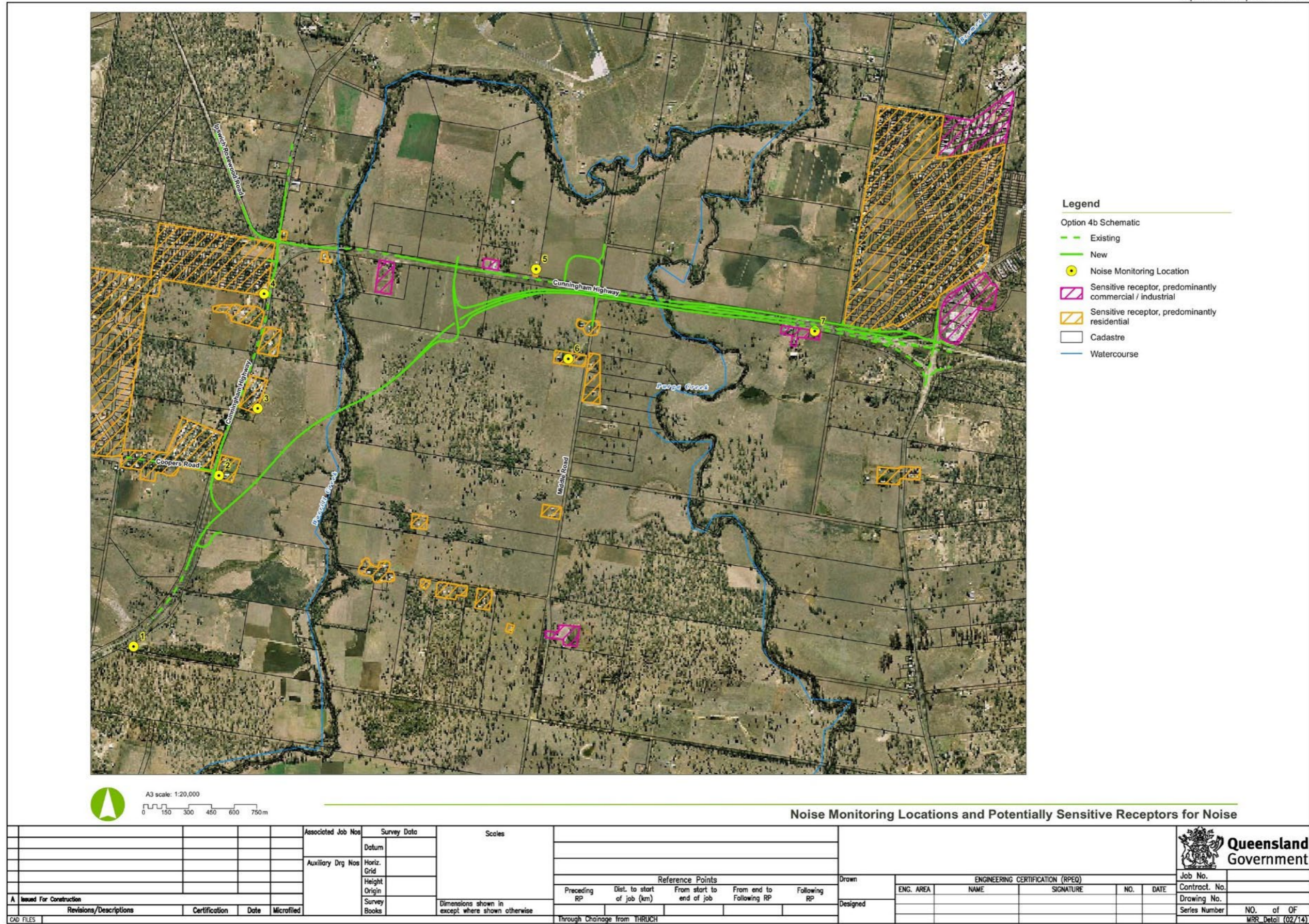


Figure 5.6(b) – Noise studies – generic example 2

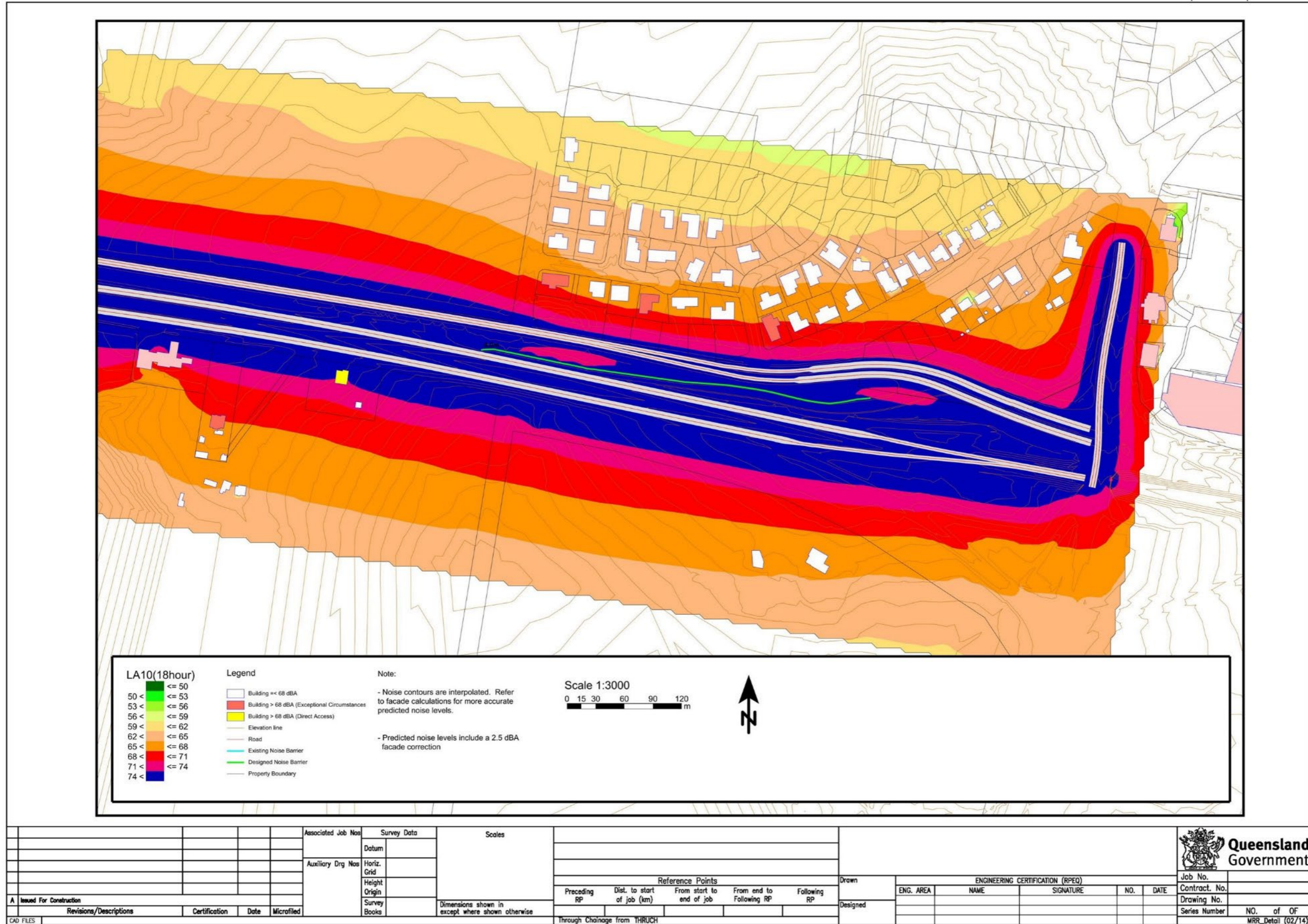




Figure 5.6(c) – Noise studies – generic example 3

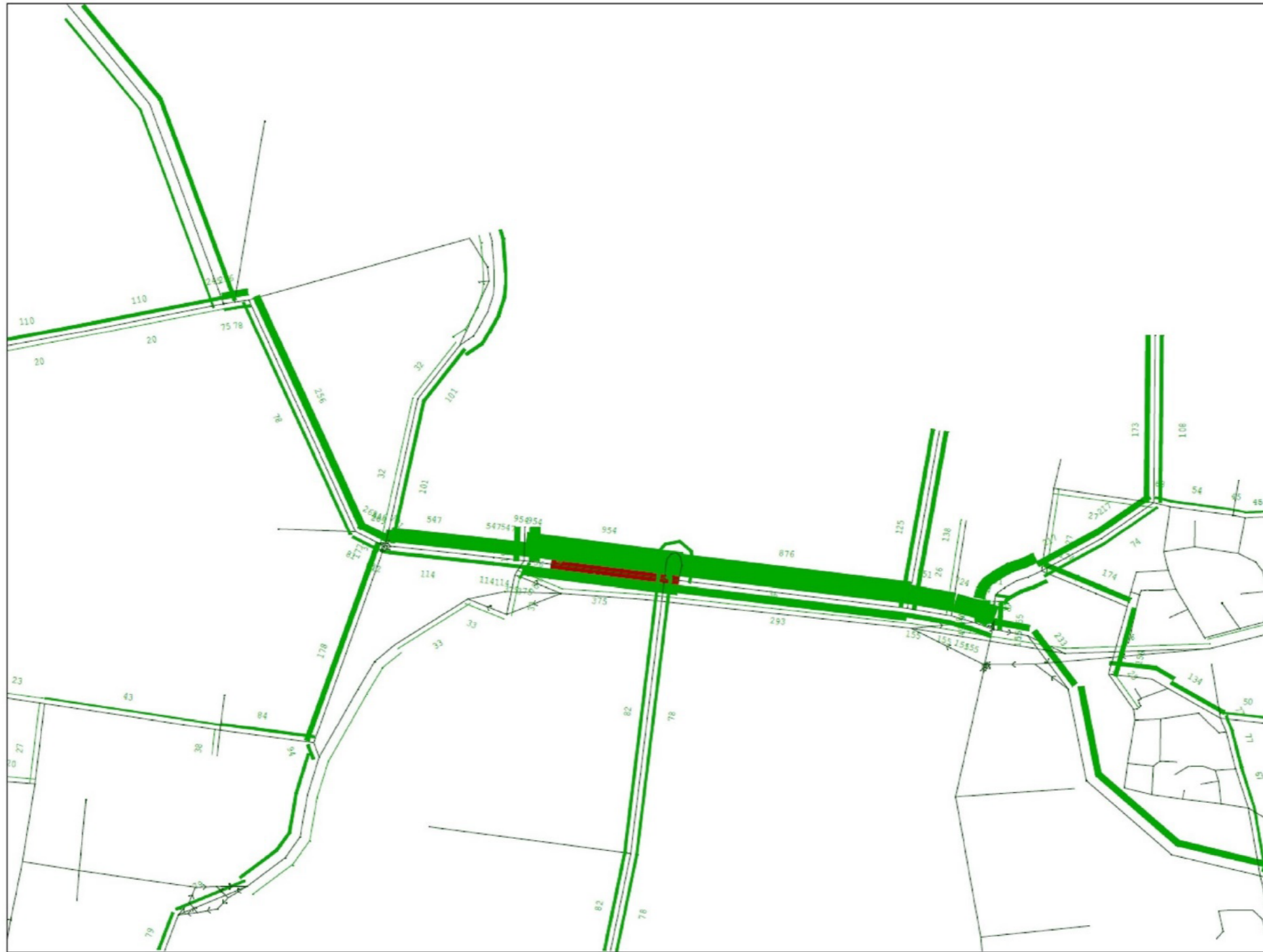
City		Location		Owner		Equipment Used		Calibration Details		Stated Speed Limit		Measurement Dur.				
Ipswich		Location 1		Dept. Env. Resource Management		ARL EL-316 S/N 16-306-045		Start: 94.0	20-03-2010	100 km/hr		48 hours, Day 1 of 2				
Operator		Address		Road Surface		Microphone Ht.		Finish: 93.7	24-03-2010	UTM		Sample Interval				
				DGA		1.5 m above floor				-27.681371 152.684673		60 minutes				
Date	End Time	Lmax	L1	L10	L90	L99	Lmin	Leq	Rain mm	Dry Bulb Temp.	Relative Humidity %	Air Pressure hPa	Wind Direction	Av Wind Speed m/s	Wind Speed max m/s	Valid
22-Mar-10	1:00	75.7	71.5	57.4	44.3	41.0	35.8	57.4	0	21	96	1018	0	0	0	Yes
22-Mar-10	2:00	76.5	72.4	56.6	37.8	35.1	31.6	57.7	0	20	95	1018	190	1	1.2	Yes
22-Mar-10	3:00	79.5	72.0	58.0	37.8	35.1	31.7	57.8	0	20	96	1017	50	1	1.2	Yes
22-Mar-10	4:00	78.5	72.0	60.6	40.7	36.8	31.6	58.8	0	20	95	1017	0	0	0	Yes
22-Mar-10	5:00	82.7	73.6	63.7	43.8	41.4	36.2	61.3	0	19	96	1017	0	0	0	Yes
22-Mar-10	6:00	80.0	73.5	67.5	46.7	40.8	37.8	63.5	0	19	97	1018	0	0	0	Yes
22-Mar-10	7:00	79.3	73.6	67.1	46.8	40.9	39.0	63.4	0	20	97	1018	0	0	0	Yes
22-Mar-10	8:00	89.9	76.8	68.7	49.1	39.3	36.2	66.1	0	22	91	1019	0	0	0	Yes
22-Mar-10	9:00	78.2	73.2	67.5	47.3	40.6	34.6	63.4	0	24	79	1019	330	1.1	1.2	Yes
22-Mar-10	10:00	86.5	73.5	67.9	47.0	36.9	31.2	63.7	0	26	73	1019	260	0.3	1.1	Yes
22-Mar-10	11:00	82.0	74.3	69.3	46.8	36.9	33.0	64.4	0	26	69	1018	330	1.2	2.1	Yes
22-Mar-10	12:00	89.9	73.9	69.1	46.5	37.1	33.8	64.5	0	27	64	1018	110	0.3	1.1	Yes
22-Mar-10	13:00	81.4	74.4	69.8	45.7	35.2	30.8	64.6	0	28	64	1017	350	1.1	1.8	Yes
22-Mar-10	14:00	78.7	74.4	69.7	49.9	40.9	34.2	64.9	0	27	62	1016	290	0.3	1.2	Yes
22-Mar-10	15:00	79.8	74.2	68.8	46.0	36.9	33.4	64.3	0	28	60	1016	10	0.3	1.1	Yes
22-Mar-10	16:00	88.5	74.2	68.9	49.7	39.5	33.9	64.5	0	28	60	1016	130	1	1.1	Yes
22-Mar-10	17:00	77.9	73.8	67.1	46.9	38.2	33.2	63.4	0	27	69	1017	60	2	2.4	Yes
22-Mar-10	18:00	76.9	74.0	66.3	46.7	39.8	33.6	63.0	0	26	75	1017	70	2	2.4	Yes
22-Mar-10	19:00	78.2	74.0	66.1	45.5	40.1	35.5	62.7	0	25	81	1018	70	2	1.8	Yes
22-Mar-10	20:00	80.3	73.9	66.2	46.4	44.2	41.7	62.8	0	24	85	1018	80	1	1.5	Yes
22-Mar-10	21:00	76.9	73.3	65.2	44.7	41.9	38.1	62.1	0	22	89	1019	0	0	0	Yes
22-Mar-10	22:00	76.5	73.5	62.9	41.0	38.0	34.3	60.6	0	22	91	1019	170	1	0.7	Yes
22-Mar-10	23:00	77.5	73.4	62.9	39.1	36.8	34.1	60.6	0	21	95	1019	0	0	0	Yes
23-Mar-10	0:00	77.7	72.5	59.2	37.9	34.3	31.2	58.7	0	20	96	1018	0	0	0	Yes


Site Photos	Site Diagram	Comments																															
		<table border="1"> <tr> <td>LA10(18hr)</td> <td>66.8 dB(A)</td> <td>LA10(12hr)</td> <td>68.4 dB(A)</td> </tr> <tr> <td>LAeq(24hr)</td> <td>62.9 dB(A)</td> <td>LA90(8hr)</td> <td>41.0 dB(A)</td> </tr> <tr> <td>LAeq(1hr) Night</td> <td>63.5 dB(A)</td> <td>LA90(18hr)</td> <td>45.7 dB(A)</td> </tr> <tr> <td>LAeq(1h) Day</td> <td>66.1 dB(A)</td> <td></td> <td></td> </tr> </table> <p>Description: Noise monitoring carried out 1m from façade of residence</p> <table border="1"> <thead> <tr> <th>End Time</th> <th>L10 (dBA)</th> <th>Observations: (Four 15-minute attended periods)</th> </tr> </thead> <tbody> <tr> <td>9:19</td> <td>69.3</td> <td>RTN from Hwy dominant; birds sometimes</td> </tr> <tr> <td>10:41</td> <td>71</td> <td>RTN from Hwy dominant; birds sometimes</td> </tr> <tr> <td>12:07</td> <td>68.8</td> <td>RTN from Hwy dominant; birds sometimes; insects</td> </tr> <tr> <td>15:39</td> <td>69.9</td> <td>RTN from Hwy dominant; aircraft</td> </tr> </tbody> </table>	LA10(18hr)	66.8 dB(A)	LA10(12hr)	68.4 dB(A)	LAeq(24hr)	62.9 dB(A)	LA90(8hr)	41.0 dB(A)	LAeq(1hr) Night	63.5 dB(A)	LA90(18hr)	45.7 dB(A)	LAeq(1h) Day	66.1 dB(A)			End Time	L10 (dBA)	Observations: (Four 15-minute attended periods)	9:19	69.3	RTN from Hwy dominant; birds sometimes	10:41	71	RTN from Hwy dominant; birds sometimes	12:07	68.8	RTN from Hwy dominant; birds sometimes; insects	15:39	69.9	RTN from Hwy dominant; aircraft
LA10(18hr)	66.8 dB(A)	LA10(12hr)	68.4 dB(A)																														
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12:07	68.8	RTN from Hwy dominant; birds sometimes; insects																															
15:39	69.9	RTN from Hwy dominant; aircraft																															

Associated Job Nos		Survey Data		Scales		Reference Points		Drawn		ENGINEERING CERTIFICATION (RPEQ)		Job No.	
		Datum				Preceding RP		ENG. AREA		NAME		Contract No.	
Auxiliary Drg Nos		Horiz. Grid				From start to end of job		DESIGNED		SIGNATURE		Drawing No.	
		Height Origin				From end to Following RP				NO.		NO. of OF	
A Issued For Construction		Survey Books		Dimensions shown in except where shown otherwise		Through Chainage from THROUGH				DATE		Series Number	
Revisions/Descriptions		Certification		Date		Microfiled						MRR_Detail (02/14)	

Figure 5.7(b) – Traffic analysis – generic example 2

2026 PM Peak Service Road



				Associated Job Nos	Survey Data	Scales										 Queensland Government	
					Datum												Job No.
				Auxiliary Drg Nos	Horiz. Grid												Contract No.
					Height Origin											Drawing No.	
					Survey Books	Dimensions shown in except where shown otherwise										Series Number	
A Issued For Construction																NO. of OF	
Revisions/Descriptions				Certification	Date	Microfiled											MRR_Detail (02/14)
CAD FILES								Reference Points					ENGINEERING CERTIFICATION (RPEO)				
								Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP					
								Through Chainage from THROUGH									
													Drawn Designed ENG. AREA NAME SIGNATURE NO. DATE				

