Pacific Highway Upgrade:

Warrell Creek to Nambucca Heads

Traffic Management & Safety Plan

WC2NH-TF-MPL Rev 4

Rev	Description	Originator	Reviewed	Approved	Date
1	First Draft	S. Pezic	JM	GR	9/9/14
2	Revision 2: Following PV & RMS comments	S. Pezic	JM	GR	30/10/14
3	Following additional RMS comments	S. Pezic	JM	GR	11/11/14
4	Following DoP comments	S. Pezic	JM	GR	10/12/14

Details of Revision Amendments

Plan Control

The latest approved version of this Plan will be available for all Project personnel on the Electronic Document Management System - TeamBinder. The functional manager will maintain, review and update this Plan at least annually.

Amendments

Each new revision to the Plan will be distributed to all required personnel for review and approval.

The revision number is included at the end of the document number, which is noted in the footer of each page. The document will be allocated a new revision number each time a change is made to the document.

When a new revision to the document is available, a notification email will be distributed to all project personnel by the Document Control Team advising of the update.

The functional Manager is responsible for the implementation and review of the Plan. The Project Director will approve new revisions of the Plan via the review and approval process as detailed in the Document Control Procedure.

Functional Manager Authorisation	Distribution List	
Name: Stanko Pezic Date: 11/11/14 Position: Traffic Manager Signature: Comments:	Project Director	Y
	Design Manager	Y
	Quality Manager	Y
	Procurement Manager	Y
	Construction Manager	Y
	Safety Manager	Y
	Commercial Manager	Y
	Environmental Manager	Y
Project Director Authorisation	Finance Manager	Y
Name: Guillermo Ripado Date: 10/12/14 Signature: Comments:	Engineer Manager	Y
	Area Manager	Y
	Human Resources Manager	Y
	Site Superintendents	Y
	Roads and Maritime Services	Y
	IMS Manager	Y
	Project Verifier	Y
	Other:	

Contents

Terms and Abbreviations

AADJV	Arup and Aurecon Design Joint Venture
ACCIONA	ACCIONA Infrastructure Australia Pty Ltd
AFJV	ACCIONA and Ferrovial Joint Venture (Pacifico)
AS/NZS	Australian and New Zealand Standard
Cardno	Cardno Pty Ltd
D&C	Design and Construction
DJV	Design Joint Venture
EDMS	Electronic Document Management System (TeamBinder)
Ferrovial	Ferrovial Agroman (Australia) Pty Ltd
GHD	GHD Australia Pty Ltd
ID Planning	ID Planning Pty Ltd
IMS	Integrated Management System
ISO	International Standards Organisation
KPI	Key Performance Indicator
NSW	New South Wales
O&M	Operations and Maintenance
PCBU	Person Conducting a Business or Undertaking
PMT	Project Management Team
PV	Project Verifier
ROL	Road Occupancy Licence
RMS	Roads and Maritime Services
SWMS	Safe Work Method Statements
SWTC	Scope of Works and Technical Criteria

SZA	Speed Zone Authorisation
TCP	Traffic Control Plan
TCWS	Traffic Control at Work Sites manual
TMP	Traffic Management Plan
TM&SP	Traffic Management & Safety Plan
VMP	Vehicle Movement Plan
WC2NH	Warrell Creek to Nambucca Heads (the Project)

Definitions

Client	An organisation inviting and receiving tenders and letting contracts. For the purposes of this project - Roads and Maritime Services
Contractor	An organisation that contracts with a client to carry out construction and related services. For the purposes of this Project - ACCIONA Ferrovial Joint Venture.
Davis Langdon	Davis Langdon Australia Pty Ltd
Deed	D&C Project Deed, IC-DC-C91-1, Pacific Highway Warrell Creek to Nambucca Heads
Design Joint Venture	Joint Venture consisting of Arup and Aurecon
Government Agency	NSW government department, authority, corporation or entity established by an Act of the NSW Parliament
Persons Conducting a Business or Undertaking	Is an employer, corporation, partnership, unincorporated association that has the primary duty of care for workplace health and safety - (AFJV and Contractors are a PCBU)
Principal Contractor	A person conducting a business or undertaking that commissions a construction project. For the purposes of this project - AFJV
Project	The design and construction of the upgrade to the Pacific Highway between Warrell Creek and Nambucca Heads
Project Verifier	For the purpose of the Project, this is Davis Langdon Australia Pty Ltd
Proof Engineer	For the purpose of the Project, Cardno Pty Ltd
Subcontractor	Organisation that contracts with a principal contractor as the client to carry out construction and related services
Supplier	Organisation that contracts with a client to provide a product and / or service.
TeamBinder	The project Electronic Document Management System software
Worker	Is anyone who carries out work for a PCBU and includes: an employee, contractor or sub-contractor or an employee of, labour hire personnel, apprentice or trainee, work experience student

1. Introduction

The Pacific Highway Warrell Creek to Nambucca Heads Upgrade project (the Project) is being designed and constructed in a joint venture consisting of ACCIONA Infrastructures Pty Ltd (ACCIONA) and Ferrovial Agroman (Australia) Pty Ltd (Ferrovial), in liaison with various other pre-qualified construction contractors, with overall project management and site supervision of the project by Roads and Maritime Services (RMS).

The TM&SP describes how the WC2NH Upgrade project team intends to deliver the Traffic Management and Safety outcomes for the project, to ensure a safe and efficient road network is maintained for construction staff and all road users.

The Joint Venture will actively ensure that all project staff are aware of the safety risks associated with live traffic and safe work methods adjacent to live traffic.

1.1. Project Background

The Warrell Creek to Nambucca Heads (WC2NH) Upgrade project consists of the detailed design and construction of 19.6 km of new dual carriageway road on the Pacific Highway between the northern end of the existing Allgomera Deviation south of Warrell Creek and the southern end of the Nambucca Heads to Urunga Pacific Highway upgrade project west of Nambucca Heads. The project includes:

- 19.6 km of new divided dual carriageway;
- two grade separated interchanges at Warrell Creek and Bald Hill Road south of Macksville. Roads and Maritime is also investigating the provision of north facing ramps at North Macksville;
- longitudinal bridges across Upper Warrell Creek (including North Coast Railway Line), Williamson Creek, Warrell Creek, Nambucca River floodplain (2 of) and Nambucca River;
- overbridges on Rosewood Road, Albert Drive, Scotts Heads Quarry access road, Bald Hill Road, Old Coast Road South, Mattick Road and Old Coast Road North;
- an underpass at Cockburns Lane;
- local roads and drainage and fauna crossing structures; and
- associated infrastructure.

1.2. Purpose

The purpose of this Plan is to describe how the Joint Venture will implement traffic management measures in accordance with the requirements of the Deed. The Joint Venture will:

- at all times comply with the TM&SP and the requirements of the Project Deed, RMS D&C G10 and SWTC in respect to Traffic Management and Safety;
- make arrangements during construction to minimise disruption to local and through traffic and to maintain access to affected properties and land;
- connect, modify and make arrangements and undertake improvements necessary to link works to the surrounding traffic network and accesses to ensure the continuous functioning of the surrounding traffic network during and after completion of the project works;

- implement all necessary traffic management methods to effectively manage traffic affected by the construction of the project works and temporary works during construction; and
- open the works and local road works affected by the local road works traffic in accordance with the Deed.

As described in Section 5.18 of this plan, the Joint Venture will undertake ongoing development, amendment and updating of the TM&SP throughout the duration of the Work to account for:

- variations;
- changes in law;
- the commencement of new phases or stages of design and construction;
- changes in the design and construction process
- special events;
- any other event of circumstance impacting on the delivery of the works; and
- the need to prevent the recurrence of any compromise to the safety of road users and the public.

1.3. Scope

This plan applies to the area identified as the Pacific Highway Upgrade Warrell Creek to Nambucca Heads Site, Local Road Works Areas, Existing Pacific Highway, Temporary Works Areas and Site Compound areas, and any area where Joint Venture personnel are required to undertake works required under the Project Deed during the construction phase of the Project.

This plan considers during the construction phase, the operation of the existing Pacific Highway, the corridor in which construction will be undertaken and the Project Deed. This Plan applies to all employees, contractors, subcontractors and visitors to the Project.

The TM&SP addresses the Joint Venture's obligations, processes, procedures and management systems for the management of traffic affected by the construction of the Project Works and the Temporary Works and during performance of Landscaping Maintenance.

This plan also contains a draft risk assessment of the traffic related risks included as Appendix A to this plan, and will be finalised based on the feedback from the key stakeholders.

This Plan recognises the Joint Venture's obligations of Maintenance during Construction.

1.4. Objectives

The TM&SP has been developed to demonstrate how the Joint Venture will comply with the relevant traffic management and traffic safety requirements of the:

- Project Deed;
- RMS D&C G10;
- SWTC;
- Appendix 9 of the SWTC – Geometric Performance and Design Requirements;
- Appendix 21 of the SWTC – Project Plan Requirements;
- Appendix 25 of the SWTC – Maintenance Standards During Construction;
- Appendix 27 of the SWTC – Road Occupancy; and
- Appendix 43 of the SWTC – Initial Traffic Management and Safety Plan.

The Joint Venture shall ensure that processes described within the sections of this TM&SP satisfy the following contract requirements:

- work practices and equipment shall provide for the safe passage of all road users, including public transport, rail transport, pedestrians and bicyclists, at all times during the undertaking of project works;
- make arrangements during construction to minimise disruption by liaising and coordinating roadwork and maintenance operations with those being performed by others along the existing Highway between Kempsey and Coffs Harbour to minimise the frequency and cumulative length of traffic delays;
- approval by the relevant authority in the use and care of local roads;
- compliance with the environmental documents at RTA D&C G10, traffic management practices set out in the relevant Australian Standards, the RMS publication “Traffic Control at Worksites” and this TM&SP;
- defining the traffic and safety management responsibilities of all relevant construction and maintenance staff in regard to all aspects of construction and maintenance;
- Carry out safety audits of all temporary traffic management arrangements;
- carry out regular inspections of all traffic control, including traffic control devices, at a minimum frequency of twice per day, including both mornings and evenings of shifts, weekends and public holidays;
- obtain approval from the RMS representative and relevant Authorities prior to implementing any traffic adjustments or interruption;
- issuing TCP’s to the RMS representative for approval and their regular review and modification in conjunction with the RMS representative, traffic management personnel and emergency services personnel;

- comply with an instruction from the RMS representative to remove or cease an activity that causes unacceptable delay to traffic and compromises the safety of the public;
- planning of work activities to avoid delays and detours that inconvenience motorists and other road users or interfere with traffic during periods of heavy traffic flows;
- preparing traffic control plans that addresses the movement of traffic affected by construction activity, prior to undertaking that activity;
- proposed changes to traffic flows, vehicle and pedestrian/cycle movements and arrangements for traffic control on arterial roads shall be to the satisfaction of RMS and submitted at least 14days before the proposed change;
- notifying the community and road users of the proposed changes;
- temporary pavement compliance to Annexture G10/A in RMS D&C G10;
- development of TCP's in accordance with the following documents in order of precedence:
    - RMS D&C G10;
    - TCWS;
    - AS1742.3 2009 Manual of uniform traffic control devices – Traffic control for works on roads; and
    - This TM&SP.
- Emergency work procedures;
- Install maintain and utilise wheel wash facilities or other devices to ensure that no mud, dirt or other material is deposited onto any public road;
- suitably designed site entry and egress points to prevent endangering the public including Temporary Works intersection designs with construction accesses / local roads and the existing Highway that maintain the same LOS as existed prior to commencement of construction activities;
- Intersections used by the Contractor for vehicles to enter or leave the Construction Site and at existing intersections where the traffic volumes are increased as a result of the Contractor's Work, must satisfy the requirements as specified in SWTC Clause 7.15.1 (s); and
- provision of breakdown bays in both directions at a maximum spacing of one (1) km in areas where a single carriageway is used as a two way road with shoulders less than 3.0m wide as specified in SWTC Clause 7.15.1 (t).

1.5. Interface with other Management Plans

Consistent with the ACCIONA Ferrovial Joint Venture (AFJV) integrated approach to the WC2NH Upgrade project, the project management plans are submitted as a suite of documents with specific relevance, hierarchies and interdependencies. Collectively these plans provide the governance framework through which the Project will be planned, delivered, monitored and continuously improved.

The Project Management Plan (WC2NH-PM-MPL) is the principal, overarching document in the suite by which all other project plans are regulated. Figure 1 below presents the relationships between the Project plans that will be delivered to Road and Maritime Services.

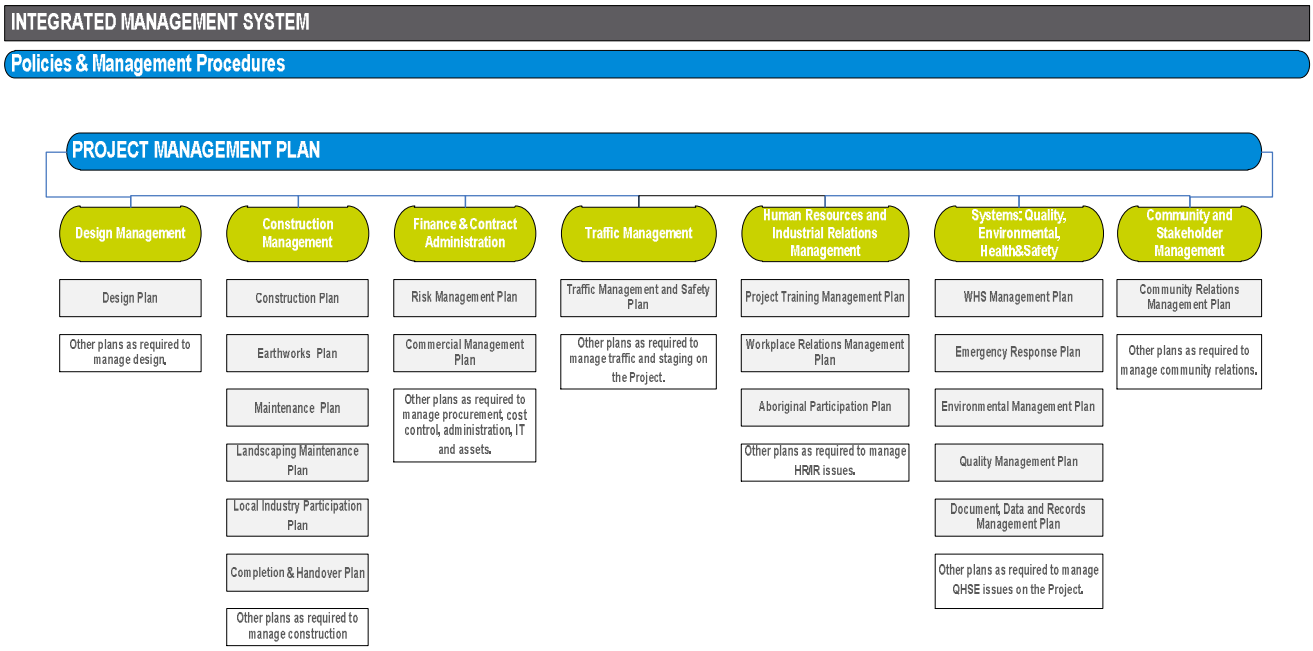


Figure 1: Project Management Plans.

2. Key Responsibilities and Accountabilities

2.1. Organisational Chart

An updated version of the organisational chart shall be maintained and available on the Project site, displayed in clear accessible locations and available upon request. Furthermore the organisational chart is available on the Electronic Document Management System (EDMS) – TeamBinder.

2.2. Key Staff

The organisational chart and details of key personnel will be maintained on site and displayed in relevant locations. The roles and responsibilities of the Project Management Team (PMT) and other workers are as described below in relation to this Plan.

All staff will be aware of their responsibilities through specific position descriptions, and shall follow the processes and procedures as outlined in this Plan.

The responsibilities and accountabilities for key Project staff include:

2.2.1. Project Director

- Accountable for the overall management of D&C works including traffic management.

2.2.2. Construction Manager

- Responsible for construction of the infrastructure and will:
    - Lead and oversee the development of construction methodologies and execution of all site based construction activities to meet targets of the Project budget, traffic management, safety, quality, environment and community;
    - Assist in the implementation, monitoring and review of the PMP and other discipline plans that affect site activity; and
    - Manage and lead site staff in the daily execution of work safely and professionally in order to manage risk and maximise productivity.

2.2.3. Traffic Manager

- For the purposes of this plan the Traffic Manager, is also the Traffic Control Site Manager required by Clause 1.5.6 of the RMS D&C G10
- Responsible for traffic management initiatives in line with the TM&SP and Zone/Discipline TMP's;
- Responsible for submitting the TMP in accordance with Clause 2.5 of the RMS D&C G10
- Responsible for submitting the ROL in accordance with Clause 5.14 of the Project Deed
- Responsible for submitting the TCP in accordance with Clause 2.8 of the RMS D&C G10
- Provides direction and support to enable effective planning of traffic management objectives;
- Undertakes regulatory liaison and consultation; and
- Exercises reasonable steps to avoid or minimise adverse traffic impacts and stop part of the Project Works and Temporary Works when any non-conformity with traffic management requirements are identified.

2.2.4. Area / Discipline Manager

- Have overall responsibility for the delivery of all construction works within their assigned Area or Discipline; and
- Will work with the Traffic Manager to ensure integrated delivery of all construction and traffic management works in accordance with the PMP and TM&SP.

The project will be divided into two Areas and structures Discipline:

- North Area, from the northern project limits to the north bank of Nambucca River;
- South Area, from the Nambucca River south bank to southern limit of works;
- Structures Discipline, project wide structures infrastructure; and
- Paving Manager, project wide paving works.

2.2.5. Community Manager

- Will represent the Project and provide direction for communications with the community and key stakeholders to advertise and notify of changed traffic conditions.

2.2.6. Engineer responsible for work activity

- Plans all work activities and identifies traffic management requirements to facilitate the works;
- Liaises with the Traffic Manager in the development, planning and implementation of the required traffic management arrangements;
- Prepares TCPs to facilitate the works and obtains approval from the Traffic Manager;
- Ensures receipt of the TCP Hold Point and ROL for his work activity;
- Ensures the work activity supervisor is familiar with the ROL conditions, prior to the commencement of works;
- Ensure the required TCP, plant, equipment and human resources for the implementation of the traffic control arrangements are done so prior to the commencement of works;
- Conducts regular inspections of traffic control and VMP set ups and where necessary arranges for rectification of deficiencies;
- Conducts and keeps records of daily and weekly (day and night) inspections of traffic control arrangements, assist audits and where necessary rectifies defects;
- Prepares VMPs to facilitate works and obtains approval from the Traffic Manager; and
- Implement and monitor usage of VMPs.

2.2.7. Superintendents

- Is responsible for co-ordinating field resources, ensuring all field personnel obtain appropriate training and implementing traffic management initiatives in line with the TM&SP;
- Provide direction and support to enable effective execution of temporary traffic management arrangements; and
- Ensure compliance with approved TCP's / VMP's.

2.2.8. Foreman

- Ensures compliance to the approved TCPs and VMPs;
- Issues the approved TCP, ROL and SZA to the traffic control subcontractor;
- Ensures the adequate allocation of plant, equipment and human resources for the installation, maintenance and removal of temporary traffic control devices;
- Conducts pre-start and pre-close inspections of all traffic control set ups and where necessary arranges for rectification of deficiencies;
- Assist with the implementation of mitigation measures to address unsafe practices, road conditions and unusual traffic congestion;
- Assist with the management of unplanned incidents, providing initial response to make the site safe
- Records unplanned incidents details; and
- Debriefs with the Engineer responsible for the work activity following completion of the works for that shift to discuss any improvements and efficiencies.

2.2.9. Traffic Control Personnel

- Is registered under the RMS Registration Scheme Category G: Traffic Control
- Is qualified in the traffic control training courses relevant to their roles, as follows:

Traffic Control Duties	RMS Traffic Control Training Course
Control traffic using Stop/Slow bat	Traffic Controllers (Blue Card)
Set up and work with Traffic Control Plans drawn up by others	Apply Traffic Control Plans (Yellow Card)
Select and make minor modifications to standard RMS Traffic Control Plans to suit work locations	Select/Modify Traffic Control Plans (Red Card)
Allows person to design new TCPs or produce major modifications to standard plans; and to inspect and report on TCPs	Design & Inspect Traffic Control Plans (Orange Card)

- Wears PPE compliant with AS/NZS 4602, clearly bearing the letters “RMS” and the words “Authorised Traffic Controller;”
- Only undertakes work with an approved TCP and after a pre-start talk;
- Installs traffic control devices in accordance with the TCP;
- Carries his card with him at all times when controlling traffic
- Conducts pre-start and pre-close inspections of all traffic control set ups;
- Alerts Supervisor if he is unable to install the TCP in accordance with the plan;
- Stops work if it is unsafe;
- Looks after himself and his colleagues; and
- Notify superior of unplanned incidents or improvements.

3. Structure of the Traffic Management & Safety Plan

3.1. Structure

This TM&SP is part of the PMP and also operates as the over-arching document to a set of Area / Discipline specific Traffic Management Plans. They deal with the safe and effective management of traffic during the design and construction Upgrade.

The following documents and associated operational procedures are integrated with and are referenced from the TM&SP:

- Traffic Management Risk Assessment Workshop
- Traffic Staging Drawings
    - Area / Discipline specific TMP's
        - TCP's & VMP's
        - Temporary Works drawings
        - process instructions
        - Traffic instructions

The Joint Venture will prepare and submit a TM&SP to the Project Verifier and the RMS Representative for approval. Further, the Joint Venture will promptly submit each further version of the TM&SP to the Project Verifier and RMS's Representative as it is further developed, amended or updated.

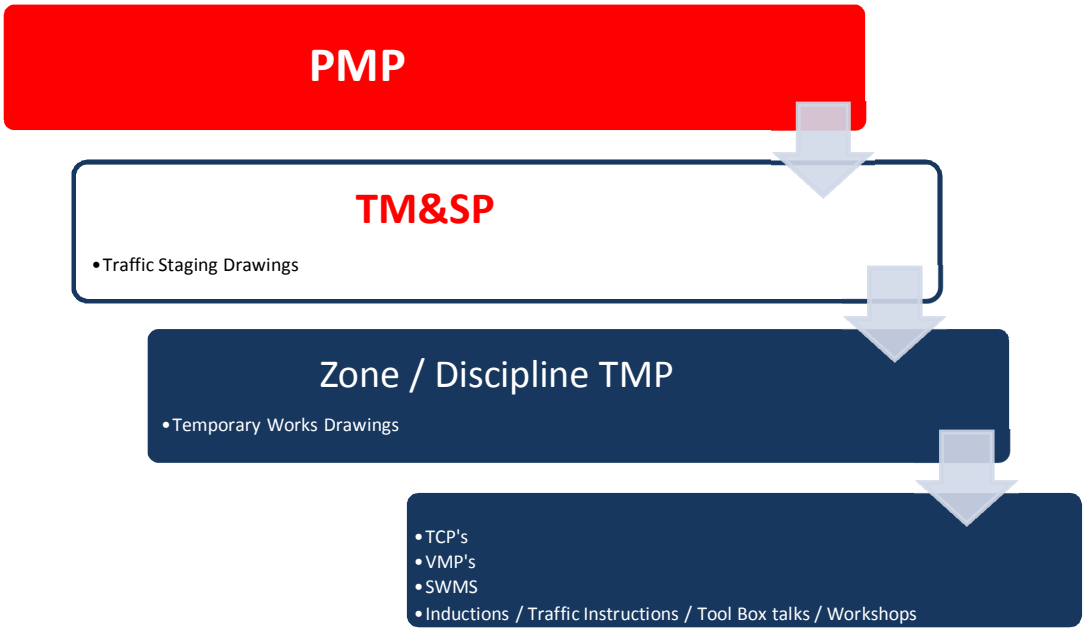


Figure 2: Traffic Management Documents

3.2. Traffic Staging

Traffic staging drawings illustrate the traffic staging to be implemented during the various stages of the Upgrade.

These drawings:

- outline the overarching staging drawings
- identify the areas of temporary works
- define the travel path
- define work areas
- indicate the available travel lanes

The Traffic Staging plans are based on the design drawings and are prepared in associated with the construction program and are in Appendix B of this plan; additionally a brief description of work activities and their impact to the roadway and road user are also identified. As more information comes to hand during the construction phase of the project or changes to the construction program are made, amendments and enhancements may be made to the traffic staging in consultation with the RMS Representative.

The traffic staging drawings shall comply with the requirements of RMS D&C G10. The TMP's and associated TCP's shall detail the various traffic control devices and sign posted road works speed zones during the construction of the upgrade.

The TMP's and associated TCP's shall more fully address the construction staging for intersections and shall identify intersection movements and capacities for each traffic stage.

Where the traffic staging relies on the utilisation of a single carriageway of the Main Carriageways as a two way road for Pacific Highway traffic as part of the traffic management staging. The Joint Venture shall ensure as part of this reliance that the developed TCP's respond to the requirements of Section 7.15.1 (t) (i) to (v).

3.2.1. Traffic Management Plans

The Joint Venture will submit Area / Discipline specific TMP's to the RMS Representative for approval, at least four weeks prior to the proposed commencement date for construction work.

The TMP's will detail the specific road safety and traffic management measures that will be applied during the staged delivery of the elements of a specific area of the project.

The TMP's are based on:

- the principles and strategies of the TM&SP;
- the Traffic Staging Plans;
- the obligations under the Deed, SWTC, environmental approvals; and
- the requirements of relevant road authorities and other stakeholders.

The Joint Venture will plan all activities associated with the Joint Venture's work to avoid delays and detours that will inconvenience motorists and other road users or interfere with traffic during periods of heavy traffic flows.

The TMP's will be consistent with the requirements of the other project plans and be revised and more appropriate procedures implemented if the original traffic management practices are not fully effective.

The TMP shall include:

- Traffic staging arrangements, including Traffic Staging Plans in accordance with D&C G10 Clause 2.6
- Copies of any ROLs and approvals from other relevant Authorities;
- TCP's that show the location of all temporary traffic control devices including VMS, temporary traffic signals, road markings and VMP's in accordance with the TCWS and D&C G10 Clause 2.8
- Access provisions
- Safe provision for cyclists and pedestrians
- design drawings for any temporary roadways and detours in accordance with D&C G10 Clause 2.7 showing pavement, drainage safety barrier details
- the names and contact details of personnel nominated for contact outside normal working hours to arrange for adjustments or maintenance of traffic control devices and will be supplied to RMS and the local Police
- Emergency work procedures
- suitably designed site entry and exits to prevent endangering the public including temporary works, intersection designs with local roads and the existing Highway that maintain the same LOS as existed prior to commencement of construction activities

- provision of breakdown bays in both directions at a maximum spacing of one (1) km in areas where single carriageway is used as a two way road with shoulders less than 3m wide as specified in SWTC Clause 7.15.1 (t)

The TMP shall demonstrate and satisfy:

- provision for the safe passage of all road users, including public transport, at all times during the contractors works
- approval by RMS and the relevant authority in the use and care of local roads
- compliance with the environmental documents and RMS D&C G10, traffic management practices set out in the relevant Australian Standards, the RMS publication, Traffic Control at Worksite Manual and this TM&SP
- Planning of work activities to avoid delays and detours that inconvenience motorists and other road users or interfere with traffic during periods of heavy vehicle traffic flows.
- proposed changes to traffic flows, vehicle and pedestrian/cycle movements and arrangements for traffic control on arterial roads shall be to the RMS's satisfaction and submitted at least 14 days before the proposed change
- notifying the community and road users of the proposed changes

The TMP and associated documents, including TCP's may be submitted in stages in accordance with the requirements of RMS D&C Q for the staged submission of the Project Quality Plan.

The Traffic Manager will be responsible for submitting the TMP to the RMS Representative for approval.

Approval of the TMP by RMS Representative will not relieve the Joint Venture of its responsibility to implement an effective traffic management scheme, particularly in cases where a risk has not been previously identified or adequately mitigated in the TMP.

The TMP is to be reviewed for its effectiveness at least once a month. The TMP is to be revised and more effective traffic management practices implemented where required.

3.2.2. Temporary roadways design and drawings

Temporary roads design and drawings are detailed design plans of changes to roadways that are required to facilitate construction staging.

These drawings are based on the traffic staging drawings and will include details of the required earthworks, drainage, horizontal and vertical alignments, carriageway cross-section, lane configurations, intersection treatments, property access modifications, environmental controls, lines and sign posting, TCP, safety barriers and road side furniture.

The Design Manager will prepare temporary works drawings as required, for road widening, sidetracks, median

crossovers, temporary pavement tie-ins, contra flow utilising opposing carriageways etc.

3.2.3. Traffic Control Plan

TCP's are diagrams that show the signs and devices arranged to warn traffic and to guide it around, past or through a work site. When planning and carrying out traffic control, the JOINT VENTURE will consult and comply with the TCWS. The Project specific TCP's shall show the following:

- type and location of regulatory and advisory signs
- Types and locations of temporary signs, including advance warning signs, Variable Message Signs (VMS) and speed zone signs;
- Pavement marking details, including types of delineation required, turning arrows, stop/holding lines and other road markings, types and positions of raised pavement markers and other delineation devices;
- Locations of permanent and temporary traffic signals;
- Locations and lengths of tapers and buffer zones;
- Locations of any required Traffic Controllers;
- Locations of entry and exit gates to the working areas, individually numbered and signposted;
- Pedestrians and cyclists paths;
- Details of side roads and access for adjoining properties and parking;
- Locations of any safety barriers, barrier systems and end terminals; and
- Locations of temporary lighting. advanced warning and VMS signs,

These plans will address the specific measures stipulated within the TMP's.

TCP's will be issued to the RMS Representative for Hold Point release at least 5 working days prior to its proposed use. TCP's will be regularly reviewed and modified in conjunction with the RMS Representative, traffic management personnel and emergency services personnel.

The Joint Venture is aware that the RMS Representative may order removal, or cessation of any activity, which causes delay to traffic or threatens the safety of the public, notwithstanding that approval has been given to the traffic change.

Details of proposed changes to traffic flow, vehicle and pedestrian / cycle movements and arrangements for control of traffic on arterial roads will be prepared by the Joint Venture to the satisfaction of the RMS Representative and will be submitted by the Joint Venture in writing at least 14 days before the proposed changes.

Advertising in accordance with this TM&SP, the Community Liaison Plan and Section 8.5 of the SWTC will be undertaken by the Joint Venture to advertise changes to traffic conditions to road users and the local community.

Where standard TCP's in the TCWS manual are considered appropriate, the Joint Venture will implement them and follow the procedures for management of traffic control as set out in the manual. The Joint Venture will keep records of the selection, approval and implementation of the TCP's and provide copies of standard TCP's and Location Risk Assessments to the RMS, along with the weekly ROL forecast program.

Where TCP's in the TCWS manual are not considered appropriate, site specific TCP's will be drafted, in accordance with the TCWS manual and sent to the RMS Representative for Hold Point release in accordance with RMS D&C G10 Clause 1.3. The Joint Venture will apply for approval in writing at least two weeks before it is scheduled to be implemented.

The TCP will be developed in accordance with the following documents in order of precedence:

- RMS D&C G10
- RMS TCWS Manual
- AS1742 - Traffic Control Devices for Works on Roads
- This TM&SP

The Joint Venture will supply, erect and cover Temporary Speed Zoning signs and keep them covered when the speed zone is not in use and remove the signs when the speed zone is no longer required as part of the provision for traffic.

Temporary fixed traffic signals will be installed in accordance with RMS's Traffic Signals Equipment Specification No SI/TCS/8 and associated drawings.

3.2.4. Traffic management Risk Assessment workshop

Risk Management in accordance with the requirements of AS/NZS 4360:2004 is an integral component of the Joint Venture's Management System.

The Joint Venture shall identify, assess and mitigate the risks anticipated during the course of the construction activities including the traffic management risks.

The traffic management related risk items assessed during the workshop shall include but not be limited to:

1. Training and knowledge requirements;
2. Planning for traffic switches;
3. Traffic Control Plans;
4. Safety barrier systems, including end terminals
5. Delineation, signage and guidance to motorists;
6. Working adjacent to live carriageway
7. Unexpected dilapidation impacts during construction
8. incidents and emergencies
9. night works
10. environmental elements
11. temporary roads and sidetracks
12. public and school holiday impacts
13. blasting near to or adjacent the a road (proposed from May - October 2015 - three blasts per week)
14. gawking /works a distraction to motorists

15. not completing the prescribed amount of works within the environmental construction period (environ time envelope)
16. overrunning a road occupation or requiring an additional time to complete works
17. traffic incidents as a result of construction activities

A Risk workshop is scheduled for Wednesday, 19 November 2014, to properly identify risks and opportunities, inclusive of an assessment of likelihood, severity and mitigation strategy. Participants invited include site management staff, the road designer, personnel responsible for preparing TCP's, the PV, emergency services personnel and local council representatives and RMS Representative.

The identified risks are to be recorded, and closed out when finalising the various Zone / Discipline TMP's.

A pre-construction workshop was held on between RMS representatives, and Joint Venture representatives made up of the Traffic Manager and Traffic Superintendent

Additional workshops shall be arranged as appropriate to train site personnel of TMP and TCP implementation and obligations and when traffic management issues need to be reinforced or reviewed.

A brief risk assessment is attached in Appendix A, this is an active document that will be updated based on the outcomes of the Risk workshop and regular 3 monthly reviews and or after a major change or specific incident.

The traffic manager shall be responsible for regularly monitoring the traffic management related items on the Risk and Opportunity schedule and shall:

- include any additional risks and opportunities identified during the course of the works
- re-assess all traffic management related R&O items for changes in the anticipated severity and/or likelihood
- review and update the proposed mitigation strategy
- confirm that the proposed mitigation strategy is being implemented and is suitable
- record the outcomes from the mitigation strategy in financial, environmental and construction expectations, as appropriate

3.2.5. Processes

Processes are instruction documents that detail how particular activities are to be carried out during the Upgrade. Specific Processes will be developed for traffic management activities as the need arises during the Upgrade, including but not limited to:

- lane closure / road occupancy and roadwork speed limit submissions;
- preparation of TCP's;
- temporary safety barriers installation;
- inspecting traffic controls;

- conducting road safety audits; and
- carrying out traffic surveillance duties.

Once approved, these Processes are forwarded to relevant Construction Team members in the Joint Venture.

3.2.6. Traffic Instructions

Traffic instructions are issued for specific road safety and traffic management matters that are applicable project wide. The types of issues may relate to unsafe practices, reinforcement of road rules, new or amended instructions, non-conformance to standards.

The instructions will identify the problem and corrective action that need to be applied and how to communicate it to the personnel, ensuring the upgrade is being delivered in a safe and consistent manner.

4. Construction activities and impacts

4.1. Site Access Points

TABLE 1 – PROPOSED SITE ACCESSES

GATE NO.	LOCATION	PERMITTED MOVEMENTS	TEMPORARY WORKS
1A	Pacific Highway southbound and Browns Crossing Road Intersection south-bound	ALL MOVEMENTS	ROAD WORK SPEED ZONE, GATE SIGNAGE AND REMOVE OVERTAKING LANE AND INSTALL DECELERATION AND ACCECERATION LANES TO PERMIT MOVEMENTS
1B	Pacific Highway southbound new access	LEFT IN LEFT OUT	ROAD WORK SPEED ZONE, GATE SIGNAGE AND CREATE NEW ACCESS POINT
1C	Pacific Highway northbound new access	LEFT IN LEFT OUT	ROAD WORK SPEED ZONE, GATE SIGNAGE AND REMOVE OVERTAKING LANE AND INSTALL DECELERATION AND ACCECERATION LANES TO PERMIT MOVEMENTS
2A & 2B	Rosewood Drive	ALL MOVEMENTS	ROAD WORK SPEED ZONE, GATE SIGNAGE AND CREATE NEW ACCESS POINT
3	New Pacific Highway and New Albert Drive Intersection	ALL MOVEMENTS	ROAD WORK SPEED ZONE, GATE SIGNAGE AND CREATE NEW PERMANENT ACCESS
4A	Pacific Highway and Albert Drive South intersection	LEFT IN RIGHT OUT	ROAD WORK SPEED ZONE, GATE SIGNAGE AND EXTEND DECELERATION AND ACCECERATION LANES
4B	Pacific Highway and Albert Drive North intersection	LEFT IN RIGHT IN	ROAD WORK SPEED ZONE, GATE SIGNAGE AND EXTEND DECELERATION AND ACCECERATION LANES

Project Office 5 South Batch Plant 6A & 6B	Albert Drive	ALL MOVEMENTS	REDUCE SPEED LIMIT, GATE SIGNAGE AND CREATE NEW ACCESS POINT
7	North of Albert Drive (CH46400)	LEFT IN LEFT OUT RIGHT OUT	ROAD WORK SPEED ZONE, GATE SIGNAGE AND INSTALL DECELERATION AND ACCECERATION LANES
8A	Existing Quarry Access	ALL MOVEMENTS	ROAD WORK SPEED ZONE, GATE SIGNAGE AND INSTALL DECELERATION AND ACCECERATION LANES TO PERMIT MOVEMENTS
8B	Scotts Head Road	ALL MOVEMENTS	Access from Pacific Highway / Scotts Head Road intersection
9	Scotts Head Road	ALL MOVEMENTS	ROAD WORK SPEED ZONE, GATE SIGNAGE
10	South of Bald Hill Road (Ch48400)	ALL MOVEMENTS	ROAD WORK SPEED ZONE, GATE SIGNAGE AND CREATE NEW CONSTRUCTION ACCESS
11	Pacific Highway / Bald Hill Road intersection	LEFT IN LEFT OUT RIGHT IN	ROAD WORK SPEED ZONE, GATE SIGNAGE AND EXTEND DECELERATION AND ACCECERATION LANES TO PERMIT MOVEMENTS
11A & 11B	Bald Hill Interchange	LEFT IN RIGHT OUT	ROAD WORK SPEED ZONE, GATE SIGNAGE

12	Nambucca Plains (Flying Fox bypass)	RIGHT IN LEFT OUT	ROAD WORK SPEED ZONE, GATE SIGNAGE AND INSTALL DECELERATION AND ACCECERATION LANES
13	River Street. Nambucca River South	LEFT IN LEFT OUT	ROAD WORK SPEED ZONE, GATE SIGNAGE
14	Nursery Road. Nambucca River North	ALL MOVEMENTS	ROAD WORK SPEED ZONE, GATE SIGNAGE
15	Pacific Highway / Old Coast Road south intersection	ALL MOVEMENTS	ROAD WORK SPEED ZONE, GATE SIGNAGE AND REMOVE OVERTAKING LANE AND INSTALL DECELERATION AND ACCECERATION LANES TO PERMIT MOVEMENTS
15A & 15B	Old Coast Road South	ALL MOVEMENTS	ROAD WORK SPEED ZONE, GATE SIGNAGE
16A – Northern Office & 16B	Mattick Road	ALL MOVEMENTS	ROAD WORK SPEED ZONE, GATE SIGNAGE
17	Old Coast Road Central - South	LEFT IN LEFT OUT	ROAD WORK SPEED ZONE, GATE SIGNAGE
18	Old Coast Road Central – North	LEFT IN LEFT OUT	ROAD WORK SPEED ZONE, GATE SIGNAGE
19	Old Coast Road North	LEFT IN LEFT OUT	ROAD WORK SPEED ZONE, GATE SIGNAGE
20	Pacific Highway / Link Road intersection	RIGHT IN LEFT OUT	ROAD WORK SPEED ZONE, GATE SIGNAGE
20A & 20B	Old Coast Road North	ALL MOVEMENTS	ROAD WORK SPEED ZONE, GATE SIGNAGE

These site accesses are subject to change based on further detailed assessment and development of the Mass Haul strategy and changing needs of the Project.

Construction access to compounds and work sites are shown in the overall site plans in Appendix B and are further detailed in the construction access staging documents.

The use of each intersection will be assessed for Level of Service, existing movements and where restrictions may be imposed. All vehicles will only enter, operate within or exit from a traffic flow in a manner which does not endanger or restrict other road users and following appropriate intersection treatments.

The extent of temporary works required such as dedicated turning lanes, deceleration and acceleration lanes will be provided as required to accommodate construction vehicular movements, or restrictions will be imposed on construction vehicular movements, these will be sign posted to reinforce restricted turning movements.

All Project Vehicles will be subject to a site VMP, detailing permitted construction vehicle movements, it will be periodically updated as construction gates are opened, closed or modified throughout the various stages of the project.

Where possible the Joint Venture will provide direct access to and from work sites using the RMS road network, where this is not practicable the Joint Venture will consult with the RMS Representative and relevant road authority on appropriate routes and access points.

The Traffic Manager shall notify all construction staff of approved turning movements at each gate prior to its operation, subsequently any changes to the permitted construction vehicle movements will be communicated to the construction teams prior to its operation.

4.2. Site offices

The location of the site offices and compounds have been identified by the Joint Venture based on:

- Construction and Environmental needs;
- physical constraints;
- access available to and from the site; and
- potential impact to the road network.

The Joint Venture proposes to establish seven (7) Site Offices at the following locations:

- Project Office, which will be the main compound housing the Project Office, Community Centre, RMS Site Office and Project Verifier's Office, located on the south-east side of Albert Road, in the area bounded by Albert Drive, Rosewood Road and the ultimate north-bound carriageway
- South Batch Plant, which will operate as a Concrete Batch Plant, Precast Girder yard and Asphalt Plant, located on the south side of Albert Drive in the area bounded by Albert Drive, Rosewood Road and the ultimate south-bound carriageway;
- Northern Office, which will be the northern satellite office, located on the south-east side of Mattick Road and the ultimate south-bound carriageway;
- North Batch Plant, which will operate as a Concrete Batch Plant, Precast Girder yard and Asphalt Plant, located immediately south of the Northern Office;
- State Forest Office #1, located Chainage 56600 east of the alignment, which will operate as a satellite office

for up to five State Forest personnel;

- State Forest Office #2 located at Chainage 58800 on the ultimate alignment, which will operate as a satellite office for up to five State Forest personnel;
- Old Coast Road North office, located south of the Old Coast Road overpass.

The Site Offices and batch plant sites are proposed and subject to approval and environmental consistency reviews and may change.

The estimated traffic generation based on the number of vehicles per person are tabled below. These figures have been generated based on experience from other similar road construction projects.

The typical site traffic flows will occur between 06:30 – 07:30 and 17:30 – 18:30 Monday to Friday and 07:00 to 14:00 Saturday's.

The estimated in movements will generally be outside of the morning peak which is generally between 08:30 – 09:30. The project vehicles exiting the evening peak are tabled below, the impact of this additional traffic is considered to fall within normal volume fluctuations.

TABLE 2: PROJECT OFFICE – ESTIMATED TRAFFIC

TYPE	STAFF NOS.	VEHICLES NOS.	TRIP MOVEMENTS		MAXIMUM TRIPS PER DAY	EVENING PEAK HOUR
			IN	OUT		
Office staff	15	15	15	15	30	10
Managers, Supervisors, Survey, Lab and Laydown staff/Deliveries	70	70	280	280	560	110
Workers	120	80	80	80	160	50
Office Delivery and Service vehicles and Visitors	-	5	5	5	10	-
Totals:	**205**	**170**	-	-	**760**	**170**

TABLE 3: NORTHERN OFFICE – ESTIMATED TRAFFIC

TYPE	STAFF NOS.	VEHICLES NOS.	TRIP MOVEMENTS		MAXIMUM TRIPS PER DAY	EVENING PEAK HOUR
			IN	OUT		
Office staff	3	3	3	3	6	1
Managers, Supervisors, Survey, Lab and Plant staff/Deliveries	15	15	60	60	90	30
Workers	50	40	40	40	80	20
Office Delivery and Service vehicles and Visitors	-	3	3	3	6	-
Totals:	**68**	**61**	-	-	**182**	**51**

4.3. Earthworks Mass Haul

The Earthworks Mass Haul illustrates the movement of cut and fill around the project. The alignment design has been developed to minimise the amount of cut and fill movements, minimise the amount of imported fill and to retain the movements of fill within the ultimate alignment wherever possible.

The following four tables provide details of estimated construction related traffic resulting from the earthworks mass haul. Table 5 shows the estimated earthworks traffic movements along each section of the Pacific Highway, Table 6 shows the estimated total number of truck and dog movements on the Highway, and estimated monthly truck and dog fleet. Table 7 shows the estimated construction movements at each intersection, from which we will identify the requirements for acceleration and deceleration lanes for each intersection. Table 8 identifies the haul roads impacting the local road network. The haul roads identified on the local road network occur where the alignment crosses the local road, haul crossings will operate under local short term traffic control. The haul crossings will be manned to ensure the safe interaction between construction vehicles and local road traffic. Traffic control shall be site specific at each site and will be based on local sight distance and traffic volumes.

Care will also be taken for construction vehicles along haul roads to minimise dust, to ensure that gravel or mud is not being tracked onto public roads, consideration will be given to the use of rumble grids, rock layers and hosing clean vehicles, based on local site conditions.

The potential haulage distances for various construction trucks and equipment on the project are detailed in the table below.

TABLE 4: TRANSPORT MODE AND DISTANCE TO BE HAULED

Scrapers: 0-1km	Dump trucks: >1km	Truck and Dog trailers: >2km and on road travel

Peak period traffic flow will be maintained by performing as far as possible works during off-peak periods and undertaking haulage movements within the alignment whenever possible.

Accesses used shall have safe intersection site distance and be able to service the largest vehicle proposed to use the intersection.

TABLE 5 – OVERALL ESTIMATED EARTHWORKS TRAFFIC MOVEMENTS ON THE PACIFIC HIGHWAY

TIMEFRAME	SECTION	CONSTRUCTION HEAVY VEHICLE MOVEMENTS
MAY 2015 – JAN 2016	UPPER WARRELL CREEK SOUTH. SOUTHERN LIMITS TO ALBERT DRIVE SOUTH CUT 1 TO CUT 6	TOTAL TRUCK & DOG MOVEMENTS PACIFIC HIGHWAY 12,500
MAY 2015 – JAN 2016	DONNELYVILLE. ALBERT DRIVE SOUTH TO BALD HILL ROAD CUT 7 TO CUT 12	TOTAL TRUCK & DOG MOVEMENTS PACIFIC HIGHWAY 32,500
APR 2015 – MAR 2016	NAMBUCCA. BALD HILL ROAD TO OLD COAST ROAD SOUTH CUT 13 TO CUT 23	TOTAL TRUCK & DOG MOVEMENTS PACIFIC HIGHWAY 93,000
AUG 2015 – FEB 2016	NAMBUCCA STATE FOREST CUT 24 – CUT 27	WITHIN ALIGNMENT
SEP 2015 – MAR 2016	NAMBUCCA STATE FOREST OLD COAST ROAD SOUTH TO LINK ROAD (NORTHERN LIMITS) CUT 28 – CUT 33	TOTAL TRUCK & DOG MOVEMENTS PACIFIC HIGHWAY 22,000

TABLE 6 – TOTAL TRUCK & DOG MOVMENTS PER MONTH - OVERALL ESTIMATED EARTHWORKS TRAFFIC MOVEMENTS ON THE PACIFIC HIGHWAY

CONSTRUCTION PHASE	TOTAL TRUCK & DOG MOVEMENTS	APPROXIMATE TRUCK & DOG FLEET
APRIL 2015	7,744	20 – 30
MAY 2015	12,692	25 – 40
JUNE 2015	12,692	25 – 40
JULY 2015	12,692	25 – 40
AUGUST 2015	12,692	25 – 40
SEPTEMBER 2015	15,770	30 - 50
OCTOBER 2015	15,770	30 – 50
NOVEMBER 2015	15,770	30 – 50
DECEMBER 2015	15,770	30 - 50
JANUARY 2016	15,770	30 – 50
FEBRUARY 2016	10,822	25 -35
MARCH 2016	10,822	25 - 35

TABLE 7 – CONSTRUCTION MOVEMENTS AT INTERSECTIONS

TIMEFRAME	PACIFIC HIGHWAY INTERSECTION WITH	CONSTRUCTION HEAVY VEHICLE MOVEMENTS			
		LEFT IN	LEFT OUT	RIGHT IN	RIGHT OUT
MAY 2015 – JAN 2016	BROWNS CROSSING ROAD (GATE 1)	500	5,000	5,000	500
	ALBERT DRIVE SOUTH	6,000	-	-	6,000
	NEW ALBERT DRIVE ACCESS (GATE 7)	9,500	3,500	3,500	9,500
	SCOTT'S HEAD ROAD	2,500	500	500	2,500
	SPLIT BETWEEN: QUARRY ACCESS AND NEW GATE 9	17,000	6,500	6,500	17,000
	SOUTH OF BALD HILL ROAD (GATE 10)	44,000	8,000	8,000	44,000
	NAMBUCCA PLAIN (GATE 12 – SUBJECT TO RMS APPROVAL)	-	6,500	6,500	-
	OLD COAST ROAD SOUTH	43,500	-	-	43,500
	OLD COAST ROAD NORTH (LINK ROAD)	-	11,000	11,000	-

TABLE 8 – LOCAL ROAD HAUL CROSSING

CONSTRUCTION PHASE	ROAD NAME	CONSTRUCTION VEHICLE MOVEMENTS
May 2015 – Jan 2016	Browns Crossing Road	1000
	Cockburns Lane	12500
	Rosewood Road	1000
	Albert Drive North	3000
	Quarry Access Road	3000
	Letitia Close	500
	Bald Hill Road	13000
	Mattick Road	1000
Apr 2015 – Mar 2016	Old Coast Road south	10000
	Mattick Road	8000
	Old Coast Road Nth	5500

Other traffic generated by construction activities not directly covered in the earthworks mass haul volumes detailed above include:

- The arrival of trucks from outside the project boundary to site prior to the start of the shift and leaving site at the end of the shift
- Over-Dimensional deliveries of Dump trucks and Scrapers and their subsequent return

These volumes will represent a small proportion of the background traffic volumes on the existing Pacific Highway. The impacts of this additional proportion of traffic are considered to fall within the normal daily volume fluctuations.

Onsite parking provision will be provided for construction personnel for both heavy and light vehicles, with no community parking removed. Parking facilities with change as dictated by the construction phases.

Where it is proposed to use Dump trucks or Scrapers to haul over a live carriageway the AFJV will ensure that it is done so under traffic control, the vehicles are conditionally registered and following a risk assessment.

4.4. Blasting adjacent to the Highway

Rock blasting operations will be carried out adjacent to the south bound lane on the Highway at Cuts 9, 10 and 11 located between the Quarry access and Warrell Creek.

The blasting shall be carried out in between the hours as specified in Section 5.1.

The blasting shall be undertaken under short term traffic control and following approval from the project Safety Manager and RMS Representative.

The blasting operation is to be undertaken under a Discipline specific Blasting TMP. RMS Representative has also indicated that a specific Blasting ROL will be provided for the operation.

4.5. Noise impacts

Noise as a result of construction vehicles may be monitored to quantify its impact to local receivers. The construction hours of operation will limit the impact of construction vehicles during sensitive weekday and weekend times.

To mitigate noise impacts other measures such as earth mounds may be considered.

Refer to the Noise and Vibration management plan for detailed information on noise impacts and mitigation measures.

4.6. Coordination with State Forest

The majority of the northern section of the works passes through the Nambucca State Forest.

The Joint Venture will comply with the access requirements of Forests NSW, by maintaining existing access points and roads or by providing alternatives in consultation with Forests NSW representatives and RMS Representative.

Procedures to be developed in the event of emergencies such as Bush fires to include a protocol to follow, control hierarchy and resources that could be made available.

4.7. Girder delivery strategy

The Joint Venture will comply with the RMS requirements of the over-size and over-mass vehicles. The delivery of girders is considered a high-risk movement and subsequently a specific TMP for the Upgrades girder deliveries will be developed as part of the permits application. The Joint Venture will consult with Over Dimensional Transport Companies, experienced in the movement of girders, RMS Representative and Local Police in the planning and development of the Girder Delivery TMP.

Refer to Appendix C for girder delivery plans at each bridge site.

4.8. Pavement construction

The proposed standard operating procedure for pavement placement works is to pave the sub-base for the whole alignment. Following the placement of the sub-base pavement, the base and the asphalt will be paved in continuous runs.

The estimated production rates to deliver the pavement for the project is based on a daily production of 750m3 for both the placement of the sub-base and base.

The table below shows the estimated traffic as a result of the production of concrete and asphalt. Note this traffic generation will be for both the north and south batch plant sites which may run simultaneously.

Deliveries to site will consist of aggregates, cement, sand and fly-ash, it is estimated that there will be approximately 50 truck deliveries a day to service both batch plants simultaneously when they are running at full capacity.

The proposed batch plant sites are proposed and subject to approval and environmental consistency reviews and may change.

TABLE 9: SOUTH AND NORTH BATCH PLANT – ESTIMATED TRAFFIC

Based on daily production of 750m3						
TYPE	**STAFF NOS.**	**VEHICLES NOS.**	**TRIP MOVEMENTS**		**MAXIMUM TRIPS PER DAY**	**EVENING PEAK HOUR**
			IN	**OUT**		
Office staff	2	2	2	2	4	1
Managers, Supervisors, Survey, Lab and Plant staff	10	10	30	30	60	12
Workers	20	16	16	16	32	6
Concrete Trucks	-	12	124	124	248	50
Delivery and Service vehicles	-	50	50	50	100	20
Totals:	**32**	**90**	-	-	**444**	**89**

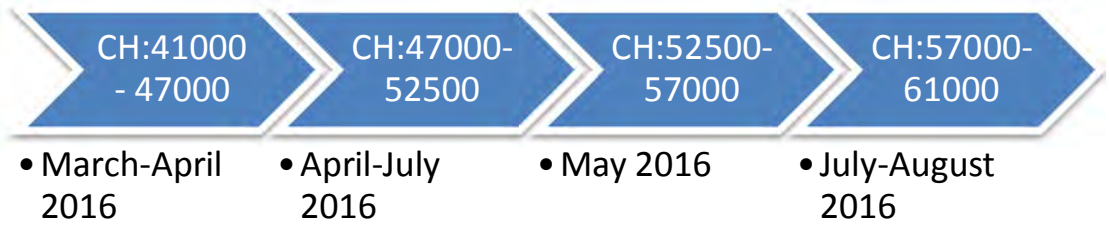


Figure 3 – Sub-base paving run sequence

Following completion of the sub-base paving run the asphalt and concrete base coase will follow.

The southern section base course is asphalt, the ashphalt will be batched at the South Batch Plant. The northern sections base coarse is concrete which will be batched at the North Batch Plant. These two operations will run simultaneously and independent of each other, as shown in Figure 4.

Figure 4 – Base course paving run

5. Program

5.1. Construction hours of operation

In accordance with Conditions 2.17 and 2.18 of the Minister's Conditions of Approval, all construction activities, shall be carried out between the hours of:

- 07:00 – 18:00 Monday to Friday
- 08:00 – 13:00 Saturday
- At no time on Sunday's or Public Holiday's.

However, work may be undertaken outside these hours where:

- The delivery of materials is required outside these hours by the Police or other authorities for safety reasons
- It is required in an emergency to avoid loss of lives, property and/or prevent environmental harm
- The work can be undertaken in such a way that would by inaudible to sensitive receivers

Or as otherwise approved with Out of Hours procedure approved by the Department of Planning as part of a Construction Environment Management Plan for this project.

Blasting hours of operation shall be carried out between the hours of:

- 09:00 to 17:00 Monday to Friday
- 09:00 to 13:00 Saturday
- At no time on Sundays or Public Holiday's.

However, this condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons to avoid loss of life, property loss and/or to prevent environmental harm.

5.2. Road occupancy

5.2.1. Road Occupancy periods for implementation

An ROL application will be submitted to the RMS Representative for approval, by the Traffic Manager.

The AFJV will comply with the road occupancy hours of operation which represent traffic lane occupancies or closures, or that stop traffic on the existing Highway or temporary works attached to the Highway.

5.2.2. School and Public Holiday periods

Road occupancies must not be implemented during the following periods associated with school and public holidays:

- from 6.00am on the Friday prior to the commencement of a State school holiday period until 6.00am on the first Monday of the State school holiday period;
- from 6.00am on the last Friday of a State school holiday period until 6.00am on the first day of the new State school term;
- from 6.00am on the day prior to a public holiday to 6.00pm on the day following the public holiday; and
- notwithstanding the point above:
    - from 6.00am on the Friday prior to a public holiday which occurs on a Monday, to 6.00am

on the Tuesday following the public holiday occurring on a Monday; and

- from 6.00am on the Thursday prior to a public holiday which occurs on Friday to 6.00am on the Monday following the public holiday occurring on a Friday.

Where State school holiday periods are the gazetted school holiday periods for New South Wales and Queensland schools and public holidays are those gazetted in either New South Wales and Queensland.

5.2.3. Traffic Manager's responsibilities

The Traffic Manager must:

- be responsible for the implementation of ROLs and must continuously monitor the implementation and operation of all road occupancies to ensure that they are compliant with the ROLs, including, but not limited to:
    - monitoring and quantifying the durations of traffic delays;
    - monitoring, measuring and recording traffic queue lengths, including the maximum traffic queue lengths in each direction and the total occupancy or traffic stoppage times;
    - (i) maintaining and adjusting traffic control measures and devices to assist prevailing traffic flows, minimise lane and shoulder occupancies and any lost traffic flow capacity, and minimise traffic delay durations and queuing; and
    - (ii) monitoring of over-dimension heavy vehicle movements.

(b) report immediately to the NSW Transport Management Centre and RMS Representative the occurrence of all delays, including those caused by incidents, to the free flow of traffic of greater than ten minutes and or traffic queue lengths of greater than 500 metres;

(c) be contactable at all times (7 days per week and 24 hrs per day) during the construction phase of the Contractor's Work to receive and answer traffic/incident related inquiries from RMS Representative, RMS Traffic and Safety Manager for the Pacific Highway, the NSW Transport Management Centre and the Police; and

(d) produce records of all road occupancies and forward records of all traffic delays and durations, traffic queue lengths and other ROL related matters to RMS Representative by 9.00am on the Thursday following the week being recorded.

5.2.4. Road occupancy schedule

The Contractor must provide weekly forecast of the proposed road occupancies for the following week to RMS Representative. The forecast must be in the form provided by RMS Representative as part of approval of any ROL and contain full details on the locations and timing of all proposed road occupancies.

Road occupancies must be planned and implemented to allow for and accommodate the passage of over-dimension heavy vehicles through all the road occupancies. The Contractor must liaise with RMS Representative to establish communication protocols for the passage of over-dimension heavy vehicles through all road occupancies. Generally a minimum of 6.0 metres width between restrictions, including barriers, signs and traffic control devices, will be applied.

The forecast must be provided to RMS Representative by 9.00am on the Thursday of the week preceding the week being forecast. The Traffic Manager will be responsible for submitting the road occupancy schedule to the RMS Representative.

6. Key Issues

The following items have been identified as key traffic management and safety issue for the Project.

6.1. Works adjacent to live traffic

The Upgrade will impact the current traffic movements between Warrell Creek and Numbucca, particularly where works are need to be undertaken adjacent to live traffic. The Joint Venture recognise that the management of this impact by complying with the TM&SP is essential to ensure safety and amenity is maintained for all road users during the construction phase.

To aid construction, a temporary roadway or detour can be provided, where it is not provided or available, construction adjacent to traffic may be permitted, subject to RMS approval, where one 3.5m wide lane remains open on a two lane roadway, or at least one 3.5m lane remains open in each direction on a divided dual lane road.

All personnel working in close proximity to traffic must wear high visibility fluorescent safety clothing complying with AS/NZS4602 which is suitable for day, night and wet weather conditions.

Where traffic controllers need to work at night they will wear 'all white' personal protective equipment and be armed with an illuminated red wand to guide and direct traffic.

Plant and equipment working adjacent to the shall have the appropriate vehicle mounted warning devices in accordance with the TCWS, as required traffic control shall be implemented to guide traffic past plant and equipment.

Where traffic is permitted to use the whole or portion of the existing road all plant items and other obstructions are to be cleared from the road, providing a 6.0m lateral offset where practicable, with a minimum clearance of 1.2m.

Plant and equipment within 6.0m of the normal path of vehicles shall be illuminated with not less than two yellow steady lamps.

Process

The Joint Venture will undertake a Risk Assessment at each site requiring a TCP, in addition to the Location Risk Assessment and apply the hierarchy of safety controls when planning all traffic management proposals as shown in Table 10.

TABLE 10 – HIERARCHY OF TRAFFIC SAFETY CONTROLS

1st	**ELIMINATION / SUBSTITUTION**
Control Measures	• Road Closure • Detour • Side track past the work site
2nd	**ISOLATION / ENGINEERING**
Control Measures	• Safety barriers • Lane closure and Physical protection (Truck with Arrow Board / Vehicle-mounted Attenuator • Portable traffic signals • Boom gates stop/slow control • Lead and or tail vehicles
3rd	**ADMINISTRATION**
Control Measures	• Speed restrictions • Extra advance Warning signs / VMS • Delineation • Police presence on site

- Develop traffic staging plans to minimise disruption to public traffic and maintain access to affected properties;
- Plan construction vehicle movements and in particular the mass haul earthworks to minimise the use of the Highway and local roads;
- Ensure that temporary works designs meet the requirements of RMS D&C G10;
- Plan and stage all works to avoid and/or minimise road occupancies;
- Undertake thorough planning to achieve planned targets and results for all traffic stages;
- Address the needs of bicyclists, pedestrians and public transport when planning and implementing traffic management stages; and
- Create a description of the surrounding road network.

Prior to implementation of any TCP they are to be independently audited by a qualified Road Safety Auditor, as detailed in Section 2.10 of the RMS D&C G10 document.

Implementation

These measures will be implemented from the design phase and be maintained through the construction and operating phases.

The Joint Venture can apply these four measures in varying degrees to achieve our intended safety goals, when working adjacent to live traffic:

- Design;
- Isolate the work areas;
- Through work methods; and
- Planning of lane closures and road occupancies.

Where practicable the Traffic Manager will implement the following:

- Ensure road user delays are minimised during the concept design phase;
- Develop traffic staging and temporary works that avoid conflicts with the existing road network;
- Isolate work areas from live traffic by using alternate routes, installing side tracks, installing temporary concrete barriers;
- Plan all lane closures and road occupancies with the aim to minimise the work area;
- avoid peak traffic times and comply with the ROL;
- Ensure the construction teams are undertaking multiple construction tasks in a single lane closure/road occupancy;
- analyse traffic volume data to establish the capacity of the road assess potential impact on the traffic flows, identify the best time to undertake road occupancies to minimise the impact on road users; and
- provide road users with changed traffic conditions updates in advance of any changes.

6.2. Site security, site access and signage

The Joint Venture is required to address:

- the security of the worksite
- the managing of the construction site access and exit points
- site access gate signage
- site compound signage

Process

Site security, site access and signage is managed through the implementation of specific TCP's covering each site office and project compound.

The TCP is to detail the layout within the work sites and the various site compound/office areas including:

- entry and exit points, including secure facilities;
- vehicle movement plans for site offices and compounds;
- location of and access to parking areas and the associated signage;
- visitor parking areas, including disabled parking;
- Pedestrian movement plans, access paths to and from site offices, storage and crib facilities; and
- storage areas.

6.3. Project identification, including signs to acknowledge government funding and management

This part details the Joint Ventures obligations to address the placement of project identification,

Management and information signs.

Process

The Joint Venture shall install:

- four project entry signs on the approaches to the Site;
- two project exit signs on exits from the Site;
- four project management signs on the approaches to the Site;
- four project information signs on the Construction Site or on the existing surrounding road network; and
- four delay information signs on the approaches to the Construction Site.

All signs shall be located as directed by the RMS Representative. RMS will supply signs similar to

Those described in Appendix 26 of the SWTC. All temporary signs shall be maintained in good

Condition for the full period of display and must be removed no later than the Date of Construction

Completion or when directed by RMS Representative.

6.4. Variable message signs & Radar activated Speed Signs

This part details the Joint Ventures obligations to address the provision of VMS and speed monitoring VMS signs.

Process

The Joint Venture shall provide a minimum of six trailer mounted variable message signs (which comply with

RMS D&C No. P3074A) on the Construction Site from the start of construction activity on the

Construction Site until the Date of Construction Completion. The signs will be used to aid traffic

Safety and delay management and to provide information to road users.

The Contractor must provide and operate a minimum of six speed monitoring variable message signs

During construction of Project Works and Temporary Works.

6.5. Traffic and Road User Delay management

A key issue for the Joint Venture is the minimising of delays and inconvenience experienced by road users during the construction phase of a project. The Joint Venture will develop delay minimisation strategies, specific measures that can be applied to benefit road users.

Process

The Joint Venture will ensure that works will be arranged to minimise:

- disruption of existing traffic movements for all road users
- road occupancies during periods of peak traffic times, during NSW and Qld School Holiday periods and
- The Joint Venture recognises that maintaining the existing LOS of the road network and minimising road user delays during construction is of paramount importance.

The strategies and measures that will be adopted are:

- undertaking a AM and PM drive through as part of the maintenance plan to ensure no debris, detritus, broken down vehicles are not impeding traffic which could lead to delays
- Undertaking project related over dimensional movements to be undertaken at Pre-dawn or pre dusk outside of peak times, and under escort
- Eliminate the need to work adjacent to live traffic through construction techniques and traffic phasing

Full compliance with the ROL, minimising stoppages and co-ordinating with other works to reduce impacts on motorists and not delay the free flow of traffic in any direction:

- at any single road occupancy for longer than five (5.0) minutes, including the time taken to clear all stopped, slowed and queued traffic; and
- cumulatively due to all road occupancies, including temporary speed zoning complying with clause 2.3 of RMS D&C G10, between Upper Warrell Creek Road and Point I as identified in Figure 9.1 of Appendix 9 of the Scope of Works and Technical Criteria for longer than eight (8.0) minutes including the time taken to clear all stopped, slowed and queued traffic.

Traffic queues caused by road occupancies, measured along a single lane in any direction, must not exceed 250 metres in length for any period of traffic delay. If traffic queues reach 250 metres in length, the Contractor must remove the cause of the traffic delay until the flow of traffic returns to free flow conditions.

Co-ordinating works at multiple sites to ensure that road users do not encounter several delays in quick succession

Implement measures

Measures to minimise road user delays for the Upgrade starts during the concept design phase and continues through the opening and operation phase.

The Joint Venture acknowledges there are various measures that can be applied to minimise road user delays, divided into four categories:

- Design;
- Implementing the hierarchy of controls;
- Work methods; and
- Planning road occupancies during times of low traffic volumes.

The Traffic Manager will apply the following measures to minimise traffic and road user delay:

- Ensure that road user delay is given consideration during the traffic staging development;
- Ensure that road user delay is given consideration during the construction vehicle movement planning development;
- Implement the hierarchy of safety controls as per Table 2;
- At the design phase develop traffic staging and temporary works that:
    - Eliminates interaction with live traffic; and
    - maximises separation between the work areas and live traffic, where necessary temporary concrete barriers will be used to provide additional protection.
- isolate work areas from traffic flows;
- develop / investigate alternate work methods to minimise traffic impacts;
- plan all road occupancies to minimise the work area, thus maximising the road capacity, avoid peak traffic times and comply with the ROL periods;
- analyse road volume data to assess the likely traffic impact of road occupancies;
- time the implementation of road occupancies to during the quietest traffic times to minimise the impact to road users;
- ensure multiple work sites are co-ordinated to reduce road user delay; and
- provide changed traffic conditions information to road users in advance of changes.

6.6. Watercourse and Road Overpass naming

This part details the Joint Venture's obligations to address the naming and placement of Watercourse and

Overpass naming.

Process

RMS are to provide the Joint Venture with the name details for the various watercourses and road overpasses on the construction site.

The Joint Venture will then install the signs with the names on them in accordance with the approved design.

6.7. Numerical identification of Structures

This part details the Joint Venture's obligations for the installation of the numerical identification plates on

Structures.

Process

RMS will provide the Joint Venture with the metal numerical identification plate for each structure, which will then be installed the in accordance with the approved design.

6.8. Information signage, distance information and advance warning signs

The Joint Venture needs to address the location of the existing:

- information signs;
- distance information signs; and
- advance warning signs.

Process

Zone specific TMP's and their TCP's will be developed taking into account the existing signage for roads within the construction site and those on the approaches to the construction site. In addition location risk assessments will be undertaken as required for each TCP to ensure that there are no contradictory signs.

Throughout the construction process, as signs need to be relocated it will be in consultation with the RMS Representative, as required consultation will also be undertaken with Nambucca Shire Council where signs on their road network are impacted.

6.9. Speed Limit signage

The Joint Venture is required to manage the speed of traffic approaching and passing through the work site. Road work speed limits will be posted through the work area.

A Speed Zone Authorisation (SZA) will be applied and received prior to the implementation of any changes to the existing speed limit.

Process

C size speed limit signs will be installed in accordance with an approved TCP. The TCP will be developed in consultation with the RMS Representative and, where required, Nambucca Shire Council; and will be developed in accordance with the requirements set out in the Zone TMP.

These plans will allow for the installation of road work speed signage and the removal of existing speed signage.

Determining the need for a roadwork speed limit is based on a number of factors including:

- work site clearance to traffic;
- High speed traffic through / adjacent to a work site;
- Inadequate advance sight distance to a work site;
- Presence of workers;
- Presence of safety barriers; and
- Changed traffic conditions such as:
  - loose material on the road / dirty road;
  - road geometry limitations; and
  - crossover or temporary contra-flow diversions.

The Joint Venture will follow the procedures outlined in Section 8.2 of the TCWS Manual and AS1742.3 to provide a consistent roadwork speed zone and ensure that speed zone signs are removed or covered when no longer required and pre-existing speed zones are reinstated when safe to do so after passing the work site.

The Joint Venture will apply for a SZA as described in the TMC Road Occupancy Manual, through the RMS Regional

office. Upon receipt of the approved SZA the JOINT VENTURE will provide a copy to the local NSW Police and if necessary to Nambucca Shire Council.

The Joint Venture will manage the speed records in accordance with Section 8.2.6 of the TCWS Manual.

As required a SZA extension will be applied for as required by the project Traffic Manager.

The Traffic Manager along with the Zone/Discipline Managers are responsible for ensuring that SZA are up to date and valid. The Traffic Manager shall ensure that all records are maintained of all road work speed zones in accordance with Section 8.2.7 of the TCWS Manual.

6.10. Lighting

During the construction of the existing street lighting may be removed to accommodate traffic switches.

Process

Temporary lighting may need to be provided and will be installed prior to the decommissioning of existing lights, if required by a road safety auditor.

6.11. Temporary works and Traffic Switch arrangements and procedures

Temporary Works and Traffic Switches will be required to be carried out during the staged delivery of the Upgrade of the Highway and Local Roads. These works will have varying impacts on the through traffic and road users.

Process

TMPs and accompanying TCPs will be developed for temporary works / traffic switches, in doing so the Joint Venture will ensure:

- compliance with the RMS D&C G10 and the SWTC for temporary works;
- traffic control devices used for the switches comply with TCWS and AS1742;
- all RMS and Local Road Authority approvals are obtained;
- public is suitably informed via community consultation of changed traffic conditions;
- traffic switches are suitably planned and resourced for:

Labour	Traffic control devices
Plant	Safety barriers
Traffic controllers	

- a toolbox of the traffic switch is completed for all staff, labour and subcontractors involved to ensure a clear understanding of individual and team responsibilities for the switch;
- emergency services are briefed about the traffic switch and subsequent changes to traffic conditions;
- an independent day/night RSA is undertaken immediately prior to the proposed opening of a temporary roadway or a traffic switch, where all signs, pavement markings, safety barriers and other traffic control devices are installed prior to the opening of the road to traffic, in accordance with Section 5.2 of the SWTC and Section 3.4 of the RMS D&C G10;
- sufficient resources are available immediately after a traffic switch to carry out minor adjustments, and RMS is informed of any circumstances that require modifications to the approved temporary traffic arrangements;

- regular on-going monitoring is undertaken of the new traffic switch; and
- regular ongoing maintenance is undertaken.

Following the completion of the majority of the works in preparation for the switch the Traffic Manager will arrange for a joint inspection between the Traffic Manager, Traffic Superintendent and the RMS Representative. If either party identifies a need for adjustments to any signs or traffic control devices or the provision of additional signs or traffic control devices, the Joint Venture will arrange for the amendment of the applicable TCPs as needed, to show the final traffic control arrangement in place.

Pacifico shall arrange for independent day/night Road Safety Audits in accordance with RMS Guidelines for Road Safety Audit Practices. At the Developed Concept Design and Substantial Detailed Design stages in the development of the Design Documentation and immediately prior to and after the opening of any part of the Project Works or Temporary Works to traffic.

The RMS Representative will be invited to attend and observe the RSA. Issues identified in the RSA are to be addressed by Pacifico.

Copies of the RSA and any subsequent correspondence with the Road Safety Auditor will be submitted to the RMS Representative.

Unless otherwise approved by RMS Representative, following a traffic switch onto a temporary roadway or detour, Pacifico shall have its usual workforce on the Construction Site for a minimum of two successive days thereafter.

Similarly, unless otherwise approved by RMS Representative, Pacifico is not to disturb sections of the existing roadway being replaced for at least two days after opening a temporary roadway or detour to traffic, to allow for traffic to be redirected to the original roadway, if the temporary roadway fails.

6.12. Provision for special events

A special event is a local or regional event which generates increased traffic volumes, reduces traffic speed or lowers the capacity of the road network. Types of special events include:

- traffic switches;
- major construction milestones;
- road opening;
- major sporting events; and
- major local markets, fairs

TABLE 11 – CLASSES OF SPECIAL EVENTS

SPECIAL EVENT	
Major	Event that has major traffic and transport systems, and there is significant disruption to non-event community. For example an event that affects the Pacific Highway, or affects the capacity of the main Highway through a country town
Minor	Event that impact local traffic and transport systems and there is low scale disruption to the non-event community. For example an event that blocks off the main street of Macksville but does not impact the Pacific Highway
Local	Event with minimal impact on local roads and negligible impact on the non-event community. For example a local farmers market or school fair
Police Controlled	Event that is conducted entirely under Police Control, but is not a protest or demonstration. For example a small march

Process

The RMS has the responsibility for assessing and co-ordinating the special event, in consultation with event organisers, Police and Local Councils.

Where special events are expected to generate additional vehicle or pedestrian traffic in any areas directly or indirectly affected by the construction of the Upgrade, the Traffic Manager shall coordinate and cooperate with the RMS Representative and other Authorities to facilitate traffic and pedestrian flows on the existing road network or through the Construction Site.

The Joint Venture shall participate in meetings with the RMS, event organisers and relevant project teams.

The Joint Venture shall commence on-going discussions with the RMS Representative regarding dates, commencing at least 3 months prior to the anticipated occurrence of the event, for major milestones / traffic switches and the opening of the Works or any stage of the Works and Local Road Works to traffic.

The Joint Venture shall give RMS Representative at least 8 weeks written notice of the date for commencement of Construction and at least 8 weeks written notice of the date of opening of the Works or any stage of the Works and Local Road Works to traffic, to enable RMS Representative to organise any associated official media / community events.

The Joint Venture shall plan for and provide resources for any events notified by RMS Representative associated with the opening of the Works to traffic. RMS Representative will organise any events associated with opening the Works to traffic.

The Joint Venture shall not announce the proposed opening of the Works and / or any stage of the Works or Local Road Works to traffic without the approval of RMS Representative. The announcement of proposed opening of the Works or any stage of the Works or Local Road Works will be carried out by RMS in conjunction with the Federal and / or NSW State governments.

Other opportunities for media events, including the achievement of other project milestones and the opening of Local Roads to traffic must be discussed with RMS Representative at least four weeks prior to the expected event.

RMS will manage all official media events and will be responsible for coordinating community, media and political participation in such events, in consultation with the Joint Venture. The Joint Venture will co-operate with RMS in the running of the media events and must provide information on the logistics associated with any event.

In consultation with RMS the Traffic Manager shall produce a TMP and TCP's for the special events, in accordance with, NSW Government 'The Guide to Traffic and Transport for Special Events.'

6.13. Maintenance during Construction

The Joint Venture shall maintain from commencement of construction until the date of completion:

- the Project Works
- the Temporary Works
- the Existing Highway:
    - between Point A and Point G; and
    - between Point H and Point I; and

as detailed in Figure 9.1 of Appendix 9 of this Scope of Works and Technical Criteria; and

- All other areas and infrastructure affected by the Joint Ventures Work.

The Joint Venture shall ensure that all infrastructure, assets, facilities, amenities and areas identified are at all times fit for their intended purpose, including being clean and, tidy and in a condition that satisfies the required functionality, performance and safety requirements for the operation of such items of infrastructure, assets, facilities, amenities and areas. In accordance with Appendix 25 of the SWTC.

Process

Undertake a pre-condition survey

Prior to the commencement of Construction of the Project Works and / or Temporary works, the Joint Venture shall undertake a pre-condition survey to record the condition of the existing road and bridge infrastructure, as described in Section 7.12 (c) of the SWTC.

The survey shall be carried out jointly with the RMS Representative and Nambucca Shire Council in accordance with the inspection requirements detailed in Section 7.12 of the SWTC.

Maintenance and repair

The maintenance and repair of the infrastructure, assets and the area defined above shall:

- include the identification, planning, programming, design, scheduling, delivery, recording and reporting on all required maintenance and repair activities
- maintain functional performance to the condition and standards that existed at the time of the pre-condition survey
- be carried out in accordance with Appendix 25 of the SWTC

The Joint Venture shall ensure:

- appropriately trained and skilled personnel carry out all maintenance and repair activities
- repair and maintenance is undertaken 24/7 as necessary, except for Force Majeure Events

Force Majeure events requiring repairs/maintenance will be carried out by others unless the RMS Representative directs the Joint Venture to carry out the repairs/maintenance by the Force Majeure event.

Inspections

The Traffic Manager shall arrange for periodic inspections to be carried out by the relevant Supervisors of the infrastructure, assets and areas as defined in the SWTC and in accordance with Appendix 25 of the SWTC.

The outcomes of the inspections shall be reported back to the responsible Engineer. All repairs and maintenance shall be in accordance with the intervention levels and timings as defined in Appendix 25 of the SWTC.

The Joint Venture is to invite the RMS Representative and Nambucca Shire Council Representative for a final inspection four weeks prior to the anticipated date of construction completion to verify functional performance of the infrastructure, assets and areas has been maintained during the period since the pre-construction survey was undertaken.

Checklists and forms

The Traffic Manager shall prepare checklists and report forms that respond to the inspection requirements for each activity defined in Appendix 25 of the SWTC.

The inspection records shall provide information required by Clause 7.12 (l) of the SWTC.

Record keeping

The Traffic Manager shall be responsible for the keeping of records as defined in Clause 7.12 (l) of the SWTC and shall provide the Monthly Summary reports to RMS.

Photographs and video camera recordings will be undertaken and used to ensure that the condition and standards that existed at the time of the pre-condition survey are maintained.

6.14. Frequency of Inspections

The Joint Venture is obligated to undertake formal and documented daily (short term TCP set ups) and weekly (long term TCP set ups) inspections during the construction phase of the Upgrade, in accordance with Section 6 of the TCWS Manual.

All safety hazards identified will have corrective measures implemented.

Process

Inspections of temporary short term and long term TCP set ups will be conducted during the construction phase of the Upgrade. The Traffic Manager will ensure the following four main types of inspections are undertaken:

- pre-start and pre-close inspections of short term traffic control
- weekly inspections of long term traffic control
- night time inspections of long term traffic control
- pre-opening inspections of traffic switches

These inspections will be carried out in accordance with Appendix A of AS1742.3 and the TCWS Manual.

The Traffic Manager will also monitor traffic management and traffic controls to assess compliance with the conditions of the ROL including, as detailed in Table 12.

TABLE 12 – INSPECTION TYPE AND FREQUENCY

Inspection type	Frequency
provisions for all road users such as pedestrians, cyclists, disabled persons and buses (daily)	Daily
timing and duration of road occupancies	Weekly
Qualifications of traffic control personnel	Weekly
Construction vehicle movements on site	Weekly
Night inspections of long term traffic control	Monthly and after each traffic switch

The Traffic Manager will apply comprehensive checklists to assist the inspection process, these will be developed on AS1742.3 for managing traffic at work sites.

6.15. Implementation and permanent removal of all temporary traffic control devices including redundant pavement markings

This sets out the way the JOINT VENTURE will install temporary traffic control devices and pavement marking and how they will be subsequently removed once they have become redundant.

Process

6.15.1. Safety barriers

Where identified on a TCP for the work, safety barriers are to be provided to protect work areas and pedestrian areas from the traffic. The safety barriers must be from the list of safety barrier products accepted by RMS, in accordance with clause 2.7.5.

Water filled plastic barriers may be used at those locations that preclude the use of rigid barriers, such as at corners or intersections and any other locations approved by RMS Representative, provided that their use complies with the TCWS and the Acceptance conditions for the safety barrier product.

Provide the manufacturer's recommended buffer zones on the approach side of water filled barriers.

Erect the safety barriers in accordance with RMS D&C R132 and the Acceptance conditions for that safety barrier product.

Establish an exclusion zone behind barriers as required and do not permit construction work or pedestrian movement within the deflection or impact zone of safety barriers.

Do not use safety barriers or safety barrier systems for delineation in place of linemarking.

6.15.2. Pavement markings and signs

The Joint Venture will install all pavement markings, retro reflective raised pavement markers and signposting proposed for use in the long-term temporary works in accordance with the requirements of RMS D&C R141, RMS D&C R142 and RMS D&C R143 respectively, to the same standard as for permanent work.

Waterborne paint will be used, unless otherwise specified by the RMS Representative, for pavement markings for temporary works.

The method of removal of redundant pavement markings from wearing surfaces, other than final wearing surfaces, must comply with the requirements of the Section 3.2.5 of the TCWS Manual, such as by spray sealing or water-blasting off the redundant line marking. Removal of redundant line marking within traffic lanes by covering with paint is not acceptable.

Supply and erect Temporary Speed Zoning signs at the locations indicated in your approved TCP. Keep the signs covered when the speed zone is not in use. Remove the signs when the Temporary Speed Zoning is no longer in force.

6.16. Opening to Traffic upon Completion

Prior to opening the road to traffic all the Joint Venture shall complete all relevant signposting, pavement marking, safety barriers and traffic signals required under the deed.

All temporary traffic control devices are to be removed when no longer required.

RMS are to be given 10 working days written notice of the date of opening any part of the works to traffic. The procedure for opening the road to traffic will be determined by the Traffic Manager in consultation with RMS Representative and the Police.

6.17. Emergency and incident response plan

The Joint Venture will provide support and assistance to emergency services agencies and road authorities to manage emergencies and unplanned incidents on roadways within the construction zone, with the primary goal to establish a safe site, hand the site over to Police / Emergency Services and return the road to normal operating conditions.

Process

Despite any other provision of this deed, where the New South Wales Police Force is controlling an incident, the Traffic Manager shall:

- liaise with and obtain the approval of the New South Wales Police Force in relation to any proposed closure to a lane or shoulder;
- must not restrict, close, interfere with or obstruct the free flow of traffic on any lane or shoulder of the Existing Highway, the Works or a Local Road contrary to the instructions of the New South Wales Police Force; and
- If permitted to restrict, close, interfere with or obstruct the free flow of traffic on any lane or shoulder of the Existing Highway, the Works or a Local Road, must act in accordance with any instructions of the New South Wales Police Force including to suspend any of the Contractor's Work and to re-open the lane or shoulder.

The types of emergencies and unplanned incidents that may occur include, but are not limited to:

- Vehicle crashes
- Bush fires
- Environmental spills
- Terrorists / Bomb threats
- Construction incidents
- Structural catastrophic failures
- Inclement weather
- Flooding
- Anti-social behaviour

All incidents will be entered into a safety database, managed by the Safety Manager.

The relevant acts identify agencies primarily responsible for controlling particular incidents:

TABLE 13 – AGENCY RESPONSIBILITIES

EVENT	AGENCY	CONTACT
Law enforcement / Emergencies	NSW Police Force	Inspector Matt Webb P: 0447 442 226 E: webb2mat@police.nsw.gov.au
	NSW Ambulance	Mr Evan Clark P: 0427 418 696 E: eclark@ambulance.nsw.gov.au
Fire	NSW Fire & Rescue	Mr Tony Lenthall P: 0427 148 168 E: anthony.lenthall@fire.nsw.gov.au
	NSW Rural Fire Service	Mr Lachlann Ison P: 0427 984 758 E: Lachlann.Ison@rfs.nsw.gov.au
	State Forest	Ms. Jude Parr (per Richard Rienstra) P: 6586 9733
Hazardous Materials	NSW Fire & Rescue	Mr Tony Lenthall
	SES	Mr Peter Shales P: 0428 652 969 E: nam.ops@ses.nsw.gov.au
Flood	SES	Mr Peter Shales
Storm	SES	Mr Peter Shales

The members of the Nambucca Local Emergency Management Committee, in addition to those identified in the Table 13 are:

Nambucca Shire Council

Paul Gallagher, LEMO & Assistant General Manager Engineering Services

P: 0409 121 721

E: council@nambucca.nsw.gov.au

Nambucca District Volunteer Rescue Association

Mr Chris Waller

P: 0423 765 162

E: chris.nambucca.physio@gmail.com

Managing emergencies

The Site Safety Representative will develop an Incident and Emergency Management Plan, which will incorporate standard operating procedures for dealing with Incident and Emergencies. These plans will:

- Define the roles and responsibilities of individuals in the Joint Venture in response to incidents and emergencies;
- Establish the Joint Venture's emergency response procedure;
- Identify and define roles and responsibilities of key personnel during emergencies and incidents;
- Identify and define roles and responsibilities of emergency services personnel during emergencies and incidents;
- Outline the communication protocols and systems;
- Outline incident administration procedures to include training and record keeping;
- Establish formal arrangements for the review and maintenance of the plan;
- Communicate the incident and emergency procedures to the wider construction team;
- Undertake regular tool-box talks with the project team to reinforce procedures; and
- Issue relevant agencies and Joint Venture staff with controlled copies of the Incident and Emergency Management Plan.

In the event of a traffic incident the Traffic Manager will:

- Inform the Project Director and Safety Representative of the incident;
- Follow the procedures set down in the Incident and Emergency Management Plan;
- Record the facts (Traffic Incident form) and take photographs, of the incident, including at the approach, including all of the signs and traffic devices. The report is to be forwarded to the RMS Representative within two days of the incident; and
- Provide a recommendation on any changes that may be required to the TM&SP or TMP post incident.

6.18. Measurement, Evaluation and Review of the TM&SP

The Joint Venture shall review the effectiveness of the implementation of the TM&SP and modify it accordingly.

Process

In accordance with the requirements of the Quality Plan, the Quality Manager shall undertake periodic audits of the procedures and checklists covering the processes set down in the TM&SP.

The Traffic Manager shall review the outcome of the audit and any non-conformances addressed within a specified timeframe.

Any changes made to the TM&SP shall be re-submitted to the PV and RMS Representative for review.

The Traffic Manager shall accordingly further develop the processes and procedures to ensure the changes made are reflected in them.

6.19. Revisions to the TM&SP

The Joint Venture shall undertake ongoing development, updating and amendment of the TM&SP at regular intervals during the Construction phase of the project and during the Landscape Maintenance, in response to:

- Changes in design and construction processes;
- To prevent the reoccurrence of any safety compromises;
- Contract variations;
- Changes in law;
- Any breach, or potential breach of fitness for purpose warranty of the TM&SP; and
- The outcomes of quality audits and corrective actions recommended for the TM&SP.

The Traffic Manager shall confer with the Environmental Representative, Quality Manager and Construction Manager and agree the need for a revision of the TM&SP.

Each amended, updated or further developed version of the TM&SP shall be re-submitted to the PV and RMS Representative for review and acceptance.

APPENDICES

APPENDIX A

No	Details	Assessment		Treatment Plan	Residual	
1	**Traffic Incidents** Traffic incident occurs **Cause: Significant interaction between construction and non-construction vehicles. High traffic volumes.** Effect: traffic incident	CONSEQUENCE PROBABILITY RISK	SUBSTANCIAL (5) LIKELY (4) EXTREME (24)	1. Prepare TM&SP, TMP and TCP 2. Reduce speed limits 3. Plan works during low traffic volume periods 4. Ensure warning signage is in place (end of queue)	CONSEQUENCE PROBABILITY RISK	SUBSTANCIAL (5) POSSIBLE (3) VERY HIGH (22)
2	**Poor traffic management** Risks to public and construction staff as a result of poor traffic management **Cause: inexperienced staff** Effect: traffic accident	CONSEQUENCE PROBABILITY RISK	SUBSTANCIAL (5) POSSIBLE (3) VERY HIGH (22)	1. Training of all engineers and foreman dealing with traffic 2. Supervision to ensure correct plan implementation	CONSEQUENCE PROBABILITY RISK	SUBSTANCIAL (5) UNLIKELY (1) HIGH (16)
3	**Night work** High traffic volumes (freight) affect construction/traffic works **Cause: works unable to be conducted during day** Effect: traffic accident	CONSEQUENCE PROBABILITY RISK	SUBSTANCIAL (5) POSSIBLE (3) VERY HIGH (22)	1. Ensure traffic management installed is adequate and fit for purpose	CONSEQUENCE PROBABILITY RISK	SUBSTANCIAL (5) UNLIKELY (2) VERY HIGH (21)
4	**Temporary line marking** Redundant line marking reflecting through and confusing motorists **Cause: inadequate removal** Effect: traffic accident	CONSEQUENCE PROBABILITY RISK	SUBSTANCIAL (5) POSSIBLE (3) VERY HIGH (22)	1. Use water blasting to remove old linemarking 2. Use spray seal 600mm wide to cover old linemarking	CONSEQUENCE PROBABILITY RISK	SUBSTANCIAL (5) UNLIKELY (2) VERY HIGH (21)

No	Details	Assessment		Treatment Plan	Residual	
5	**Traffic Delay** Excessive delay to traffic – commuter, recreational, commercial and freight. **Cause: inefficient work practices and / or poorly planned works.** Effect: excessive delays to traffic	CONSEQUENCE PROBABILITY RISK	MODERATE (3) LIKELY (4) VERY HIGH (17)	1. Minimise lane closures & stoppages 2. Plan works for low volume periods. 3. Coordinate multiple work sites, including with neighbouring projects, council and RMS works.	CONSEQUENCE PROBABILITY RISK	MODERATE (3) POSSIBLE (3) HIGH (13)

APPENDIX B

1 Traffic Staging

1.1 Southern interchange

1.1.1 Stage 1 – install gate accesses and reduced Speed limit

1.1.1.1 Works required

Undertake temporary widening works as required, for Gate accesses.

Undertake temporary works – install ramp from the southbound carriageway to accommodate future girder deliveries.

Implement long term TCP and install construction gate accesses.

Install concrete safety barriers and undertake centre median works as required for Stage 2 and Stage 2A.

Construct Browns Crossing Creek link for Stage 2

1.1.1.2 Operating conditions

This section of the Pacific Highway will be reduced to 80km/h road work speed limit.

A single lane in both directions will be extended to south of Browns Crossing Road, in both directions.

1.1.2 Stage 2 – switch Pacific Hwy onto ultimate Service Road A

1.1.2.1 Works required

Switch traffic onto the ultimate Service Road A

Undertake remainder of works offline away from traffic.

1.1.2.2 Operating conditions

60km/h road work speed limit.

Pacific Highway running on Service Road A as a two lane – two way road.

1.1.3 Stage 2A – install girders over Service Road A

1.1.3.1 Works required

Under short term traffic control (night works) switch traffic onto the existing Pacific Hwy.

Erect girders, production of two girders per night.

Additional closure and detours are required for the concrete deck pour.

Parapet installation.

1.1.3.2 Operating conditions

Install short term traffic control at night and detour Pacific Hwy traffic from Service Road A onto the existing Pacific Highway, to allow for the erection of the bridge girders.

Two nights of closures and detour is required, the road is to be re-opened in the morning in accordance with the ROL requirements, times are to be confirmed.

An additional night time closure and detour is required for the concrete deck pours. The parapet installation is to be undertaken under lane closures.

1.1.4 Stage 3 – open onto ultimate alignment

1.1.4.1 Works required

Upon completion of all works, undertake line marking removal and install temporary raised reflective pavement markers. Switch traffic onto the ultimate alignment.

Undertake final wearing course surfacing works and install final linemarking and uncover signage.

1.1.4.2 Operating conditions

Operate under ultimate conditions.

1.2 Cockburns Lane local access underpass

1.2.1.1 Works required

Undertake earthworks in preparation for the underpass.

Install the precast culvert units / install form work and reinforcement in preparation for the insitu concrete pour of the structure.

1.2.1.2 Operating conditions

There are no long term impacts to Cockburns Lane are foreseen. Short term traffic control may need to be implemented to accommodate the safe movement of heavy vehicles in and out of Cockburns Lane directly off the Pacific Highway. Additionally there may be a need to implement traffic management along Cockburns Lane due to sight distance and manoeuvrability constraints, of heavy vehicles, to be confirmed on site.

1.3 Rosewood Drive

1.3.1 Stage 1 – temporary widening works

1.3.1.1 Works required

Implement long term road work speed limit and traffic control devices.

Undertake widening along the southern side of Rosewood Road to accommodate the switch in Stage 2.

Install haul crossing where required.

1.3.1.2 Operating conditions

40/km/h road work speed limit.

Construction works to be delivered under short term traffic control, such as stoppages and lane closures.

1.3.2 Stage 2 – switch traffic onto newly constructed pavement.

1.3.2.1 Works required

Re-align the traffic onto the newly constructed pavement, to accommodate the bridge works.

1.3.2.2 Operating conditions

It is proposed that a one way shuttle flow operation is installed, with traffic controlled by trailer mounted traffic signals. A single lane operation may be installed along the whole length of the work site depending on site constraints, such as hazardous drop offs or deep excavations during construction.

1.3.3 Stage 3 – switch traffic onto the ultimate alignment

1.3.3.1 Works required

Following completion of the bridge works, undertake the east and west end tie in works under short term traffic control and switch traffic onto the ultimate alignment.

1.3.3.2 Operating conditions

Traffic operating under ultimate alignment.

1.4 Albert Drive

1.4.1 Stage 1

1.4.1.1 Works required

Realign the Pacific Highway at the location of the new Albert Road intersection to the east, install a construction access/egress point and concrete safety barriers.

Implement long term traffic control signs and devices, to warn motorists of changes to access arrangements on Albert Drive, and install a road closure and construction access point on the southern limit and northern limit of works.

Install haul crossing over Albert Drive.

Install Main Compound site access / egress off Albert Drive.

1.4.1.2 Operational conditions

Pacific Hwy will operate as per the existing capacity and a road work speed limit.

Concrete barriers will be installed on adjacent to the northbound carriageway to protect the work site.

Operate haul crossing over Albert Drive under short term traffic control.

Maintain Main Compound site access / egress.

1.4.2 Stage 2

1.4.2.1 Works required

Remove concrete barriers adjacent to the north bound carriageway, realign the Pacific Highway at the location of the new Albert Drive intersection towards the west.

Install concrete barriers adjacent to the southbound carriageway and commence works behind barriers.

1.4.2.2 Operational conditions

Pacific Hwy will operate as per the existing capacity and a road work speed limit.

Concrete barriers will be installed on adjacent to the southbound carriageway to protect the work site.

Continue to operate haul crossing over Albert Drive under short term traffic control.

1.4.3 Stage 3

1.4.3.1 Works required

Remove concrete barriers adjacent to the southbound carriageway and undertake tie-in works.

Complete linemarking removal and install final linemarking on the Pacific Highway and Albert Drive.

Maintain the existing Albert Drive North intersection as a construction access and sign accordingly.

1.4.3.2 Operational conditions

Open the new Albert Drive intersection to the public; open Albert Drive local road to traffic.

Close the Albert Drive North intersection to the public – maintain only as a construction access.

Maintain Main Site compound and Casting yard/Batching plants access / egress points until required.

1.5 Quarry access (Scotts Head Road)

1.5.1 Stage 1

1.5.1.1 Works required

Install a road work speed limit on the Pacific Highway and install concrete safety barriers adjacent to the southbound carriageway. Remove guardrail and commence temporary side track for girder erection in Stage 2.

Construct temporary property access off Scotts Head Road and realign access away from the large embankment.

Commence ultimate works to Quarry Access Road.

1.5.1.2 Operational conditions

60km/h road work speed limit on the Pacific Highway.

Temporary property access is in place.

Construction vehicles will need to cross over where the temporary property access crosses the ultimate works, this will be under traffic control.

1.5.2 Stage 2

1.5.2.1 Works required

Erect two bridge girders over the existing Pacific Highway, undertake other bridge works, including concrete deck pour and parapet installation under a short term diversion of the Pacific Highway.

1.5.2.2 Operational conditions

A two lane – two way temporary side-track is to be activated under short term traffic control to allow for the erection of two bridge girders, the side track is also be activated for the concrete deck pour and parapet installation.

1.5.3 Stage 3

1.5.3.1 Operating conditions

Open the ultimate Quarry Access Road.

1.6 Bald Hill Road interchange

1.6.1 Stage 1

1.6.1.1 Works required

Install temporary pavement to accommodate the Stage 2 switch.

Undertake ultimate works to Bald Hill interchange, including the ultimate bridge, roundabouts and bridge abutments.

1.6.1.2 Operating conditions

There are no changes to operating conditions on the Pacific Highway in the vicinity of the works.

Bald Hill Road is to operate under a 40km/h road work speed limit.

Tie in works on the existing Bald Hill Road will be undertaken under short term traffic control.

A haul road will operate across Bald Hill Road under short term traffic control, to accommodate the earthworks mass haul.

1.6.2 Stage 2

1.6.2.1 Works required

Switch Bald Hill Road traffic onto temporary pavement and over the ultimate bridge.

Undertake remaining works to the roundabouts and entry and exit ramps offline.

1.6.2.2 Operating conditions

Bald Hill Road is to operate under a 40km/h road work speed limit.

Tie in works on the existing Bald Hill Road will be undertaken under short term traffic control.

1.6.3 Stage 3

1.6.3.1 Works required

Following the opening of the ultimate Pacific Highway.

Install a road work speed limit along the existing Pacific Highway.

Undertake road works under short term traffic control including works adjacent to the carriageway and resurfacing and line marking.

1.6.3.2 Operating conditions

The ultimate Pacific Highway will be open at this stage therefore the traffic volumes on the existing Pacific Highway will be significantly reduced.

The works will be undertaken by short term traffic control with aftercare traffic control devices and a reduced speed limit in place for after hours.

1.6.4 Stage 4

All works complete – operating on ultimate alignment.

1.7 Nambucca River

1.7.1 Stage 1

1.7.1.1 Works required

Install concrete safety barriers adjacent to the west bound travel lane on the Pacific Highway as required to construct temporary side track, and implement long term traffic control.

Install site access/egress point at River St where bridge goes over the local road. Commence construction works of River St sidetrack.

Install site access/egress point at Nursery Road where bridge goes over the local road. Install long term traffic control signage required for closure of Nursery Road

1.7.1.2 Operating conditions

60km/h road work speed zone for both directions of the Pacific Highway between Nursery Road and Old Coast Road intersections.

Nursery Road is to be closed directly under where the bridge passes, for construction works, long term traffic control is to be implemented and maintained when the closure is in operation. Nursery Road is to be re-opened when there are no works being undertaken.

1.7.2 Stage 2

1.7.2.1 Works required

Undertake works to bridge.

1.7.2.2 Operating conditions

The Pacific Highway sidetrack is to be activated to allow for the erection of bridge girders directly over the existing Pacific Highway. It is proposed that the sidetrack is activated under short term traffic control and at a speed of 40km/h. following completion of the bridge works the Pacific Highway is to be opened.

Implement the River Street side track as required to accommodate the launching of the bridge.

Nursery Road is to be closed directly under where the bridge passes, for construction works, long term traffic control is to be implemented and maintained when the closure is in operation. Nursery Road is to be re-opened when there are no works being undertaken.

1.8 Old Coast Road – south

1.8.1 Stage 1

1.8.1.1 Works required

Install construction site accesses and road work signage.

Commence temporary side track works.

1.8.1.2 Operating conditions

The long term impact to the local road network is in the form of installation of construction gate access / egress points.

Short term traffic control will be required at the permanent and temporary work tie in along Old Coast Road and for the permanent works at Letitia Close.

1.8.2 Stage 2

1.8.2.1 Works required

Switch traffic onto temporary side track in Old Coast Road

Continue permanent works Old Coast Rd and Letitia Close.

1.8.2.2 Operating conditions

Maintain road work conditions and short term traffic control to undertake construction works.

1.8.3 Stage3

1.8.3.1 Operating conditions

Open to ultimate alignment.

1.9 Mattick Road

1.9.1 Stage 1

1.9.1.1 Works required

Install gate access and road work warning signage.

Commence construction of Local Access Road 'E' and new Old Coast Road Central.

Commence construction of Mattick Road bridge overpass.

1.9.1.2 Operating conditions

Implement a 40km/h road work speed limit and complete tie in works where new road meets the existing under shot term traffic control and after care traffic management.

1.9.2 Stage 2

Timing:

1.9.2.1 Operating conditions

Open all local roads to ultimate alignment.

1.10 Old Coast Road – north

1.10.1 Stage 1

1.10.1.1 Works required

The construction of a new Old Coast Road – north link road over the ultimate Pacific Highway which dissects the existing Old Coast Road.

Works involve the construction of a two span bridge, which has four girders, and the associated earth works necessary to construct the works.

Temporary works involve the construction of a side track to switch the traffic onto to allow for the completion of the road leading up to the bridge in two switches.

1.10.1.2 Operating conditions

Implement a 40km/h road work speed limit and undertake tie in works where both temporary and permanent works tie into existing works under short term traffic control.

1.10.2 Stage 2

1.10.2.1 Works required:

Switch Old Coast Road traffic onto the newly constructed temporary pavement.

Continue permanent works to Old Coast Road and complete ultimate tie in works.

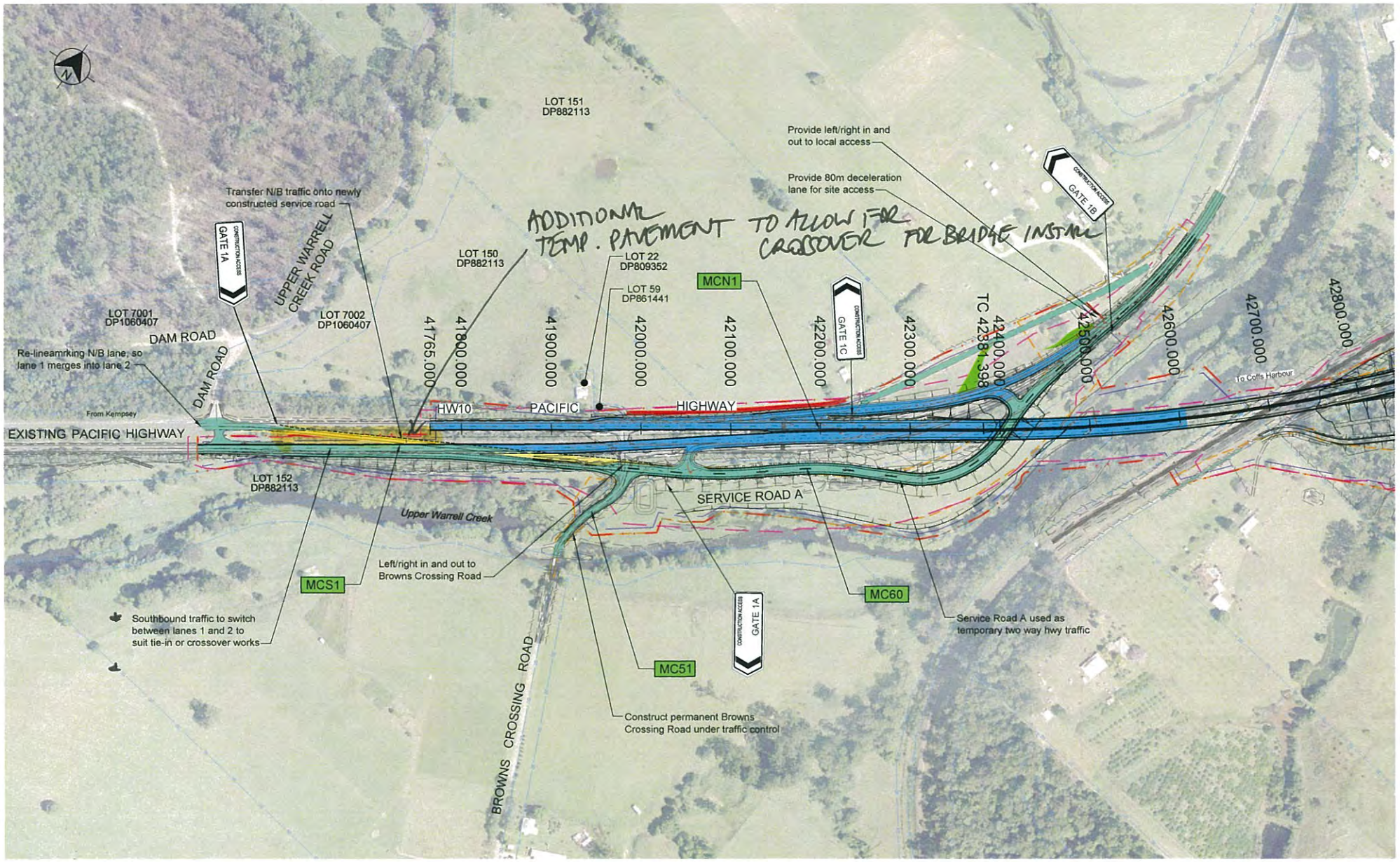
Complete structural works to Old Coast Road.

1.10.2.2 Operating conditions

Maintain 40km/h road work speed limit.

Stop Old Coast Road traffic, using short term traffic control, when erecting bridge girders over Old Coast Road.

Undertake tie-in works under short term traffic control.



NOTE
1. For Legend, refer Sheet No. CS-0015.

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ROADS AND MARITIME SERVICES
NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
SOUTHERN INTERCHANGE - STAGE 2 OF 3

DRAWING	STAGE	PART	ISSUE
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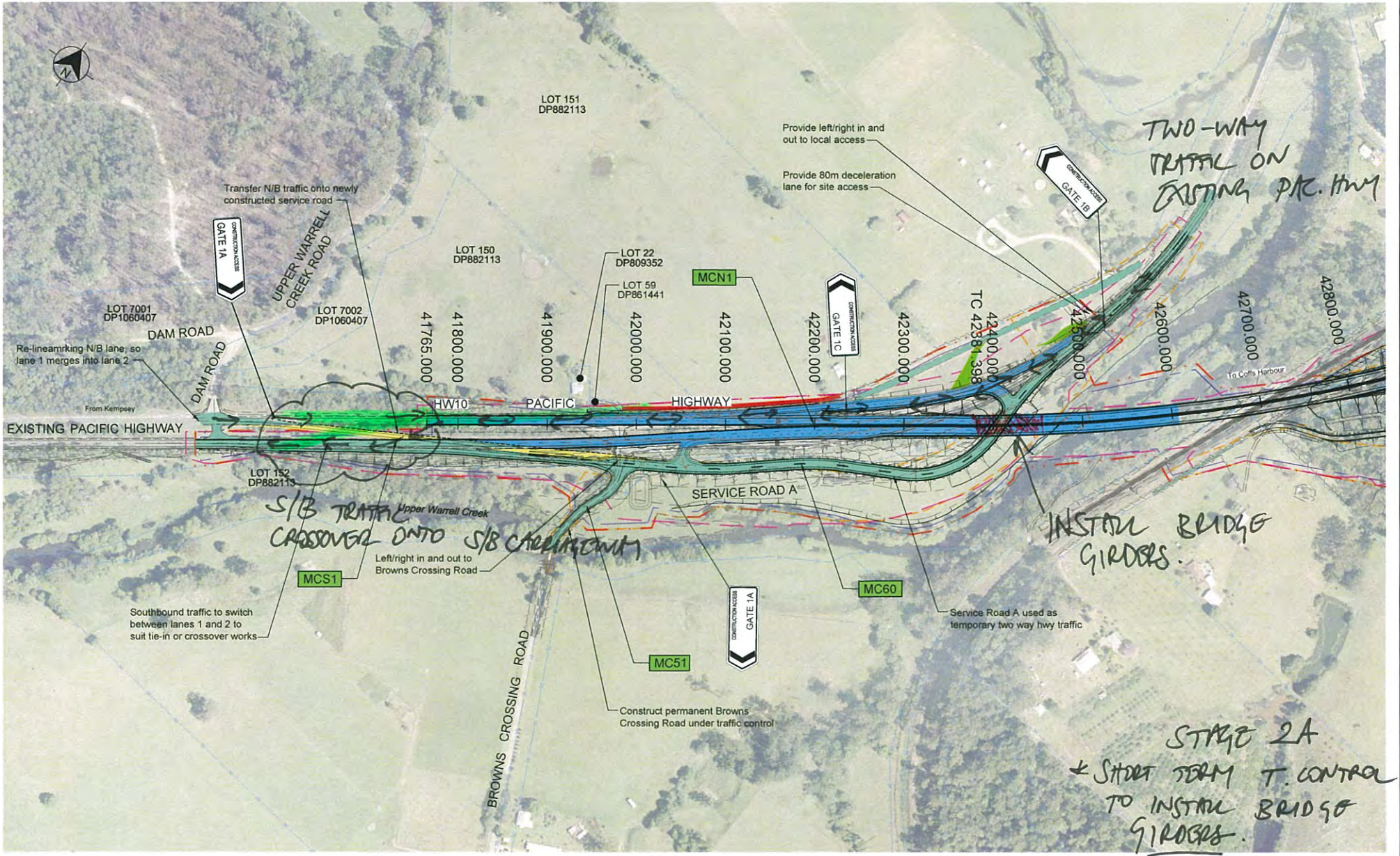

NOTE
1. For Legend, refer Sheet No. CS-0015.

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NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
SOUTHERN INTERCHANGE - STAGE 2 OF 3

DRAWING	STAGE	PART	ISSUE
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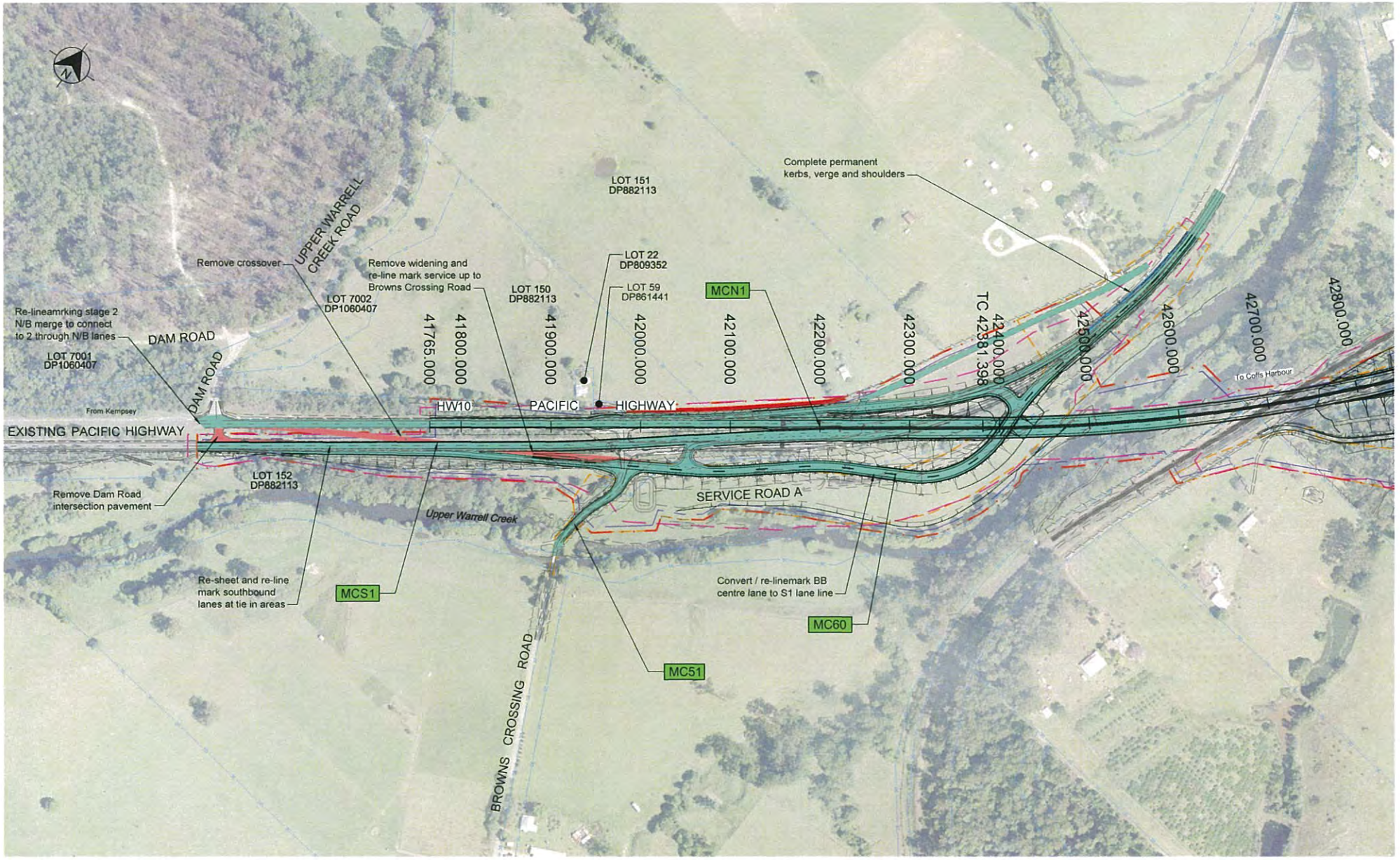

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HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
SOUTHERN INTERCHANGE - STAGE 3 OF 3

DRAWING	STAGE	PART	ISSUE
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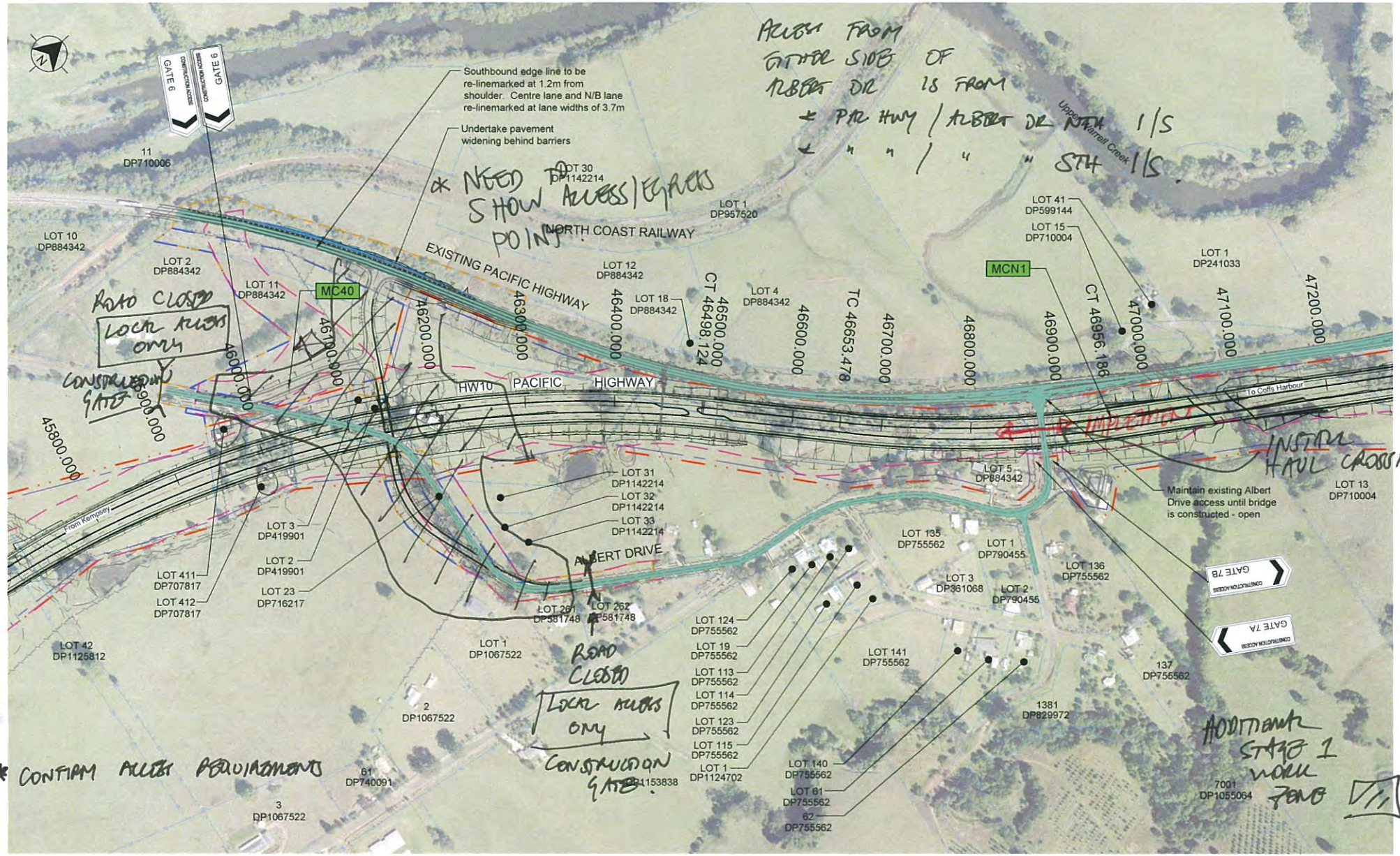

NOTE
1. For Legend, refer Sheet No. CS-0015.

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NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING (OPTION 1)
ALBERT DRIVE - STAGE 1 OF 4

DRAWING	STAGE	PART	ISSUE
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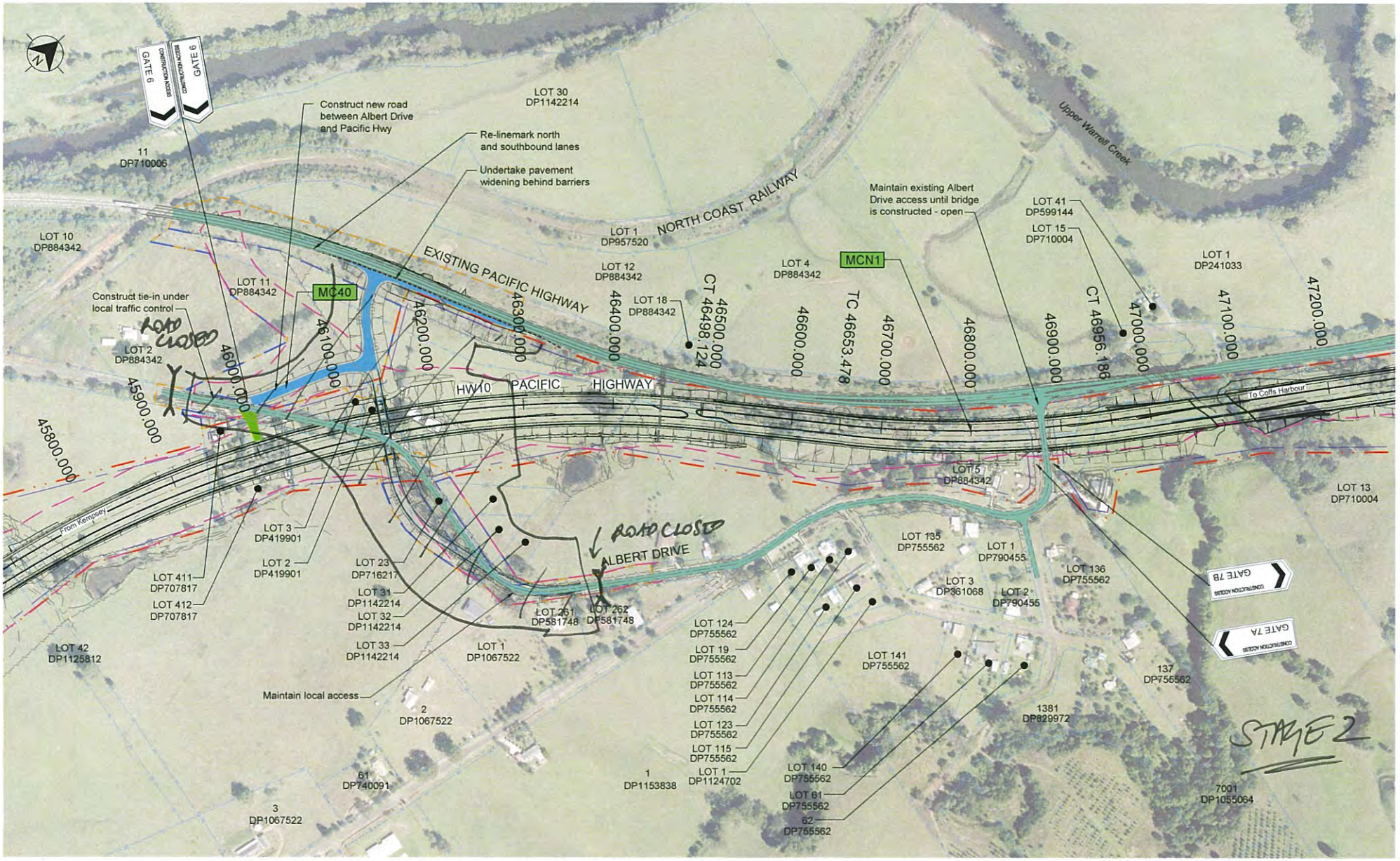

NOTE
1. For Legend, refer Sheet No. CS-0015.

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NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING (OPTION 1)
ALBERT DRIVE - STAGE 2 OF 4

DRAWING	STAGE	PART	ISSUE
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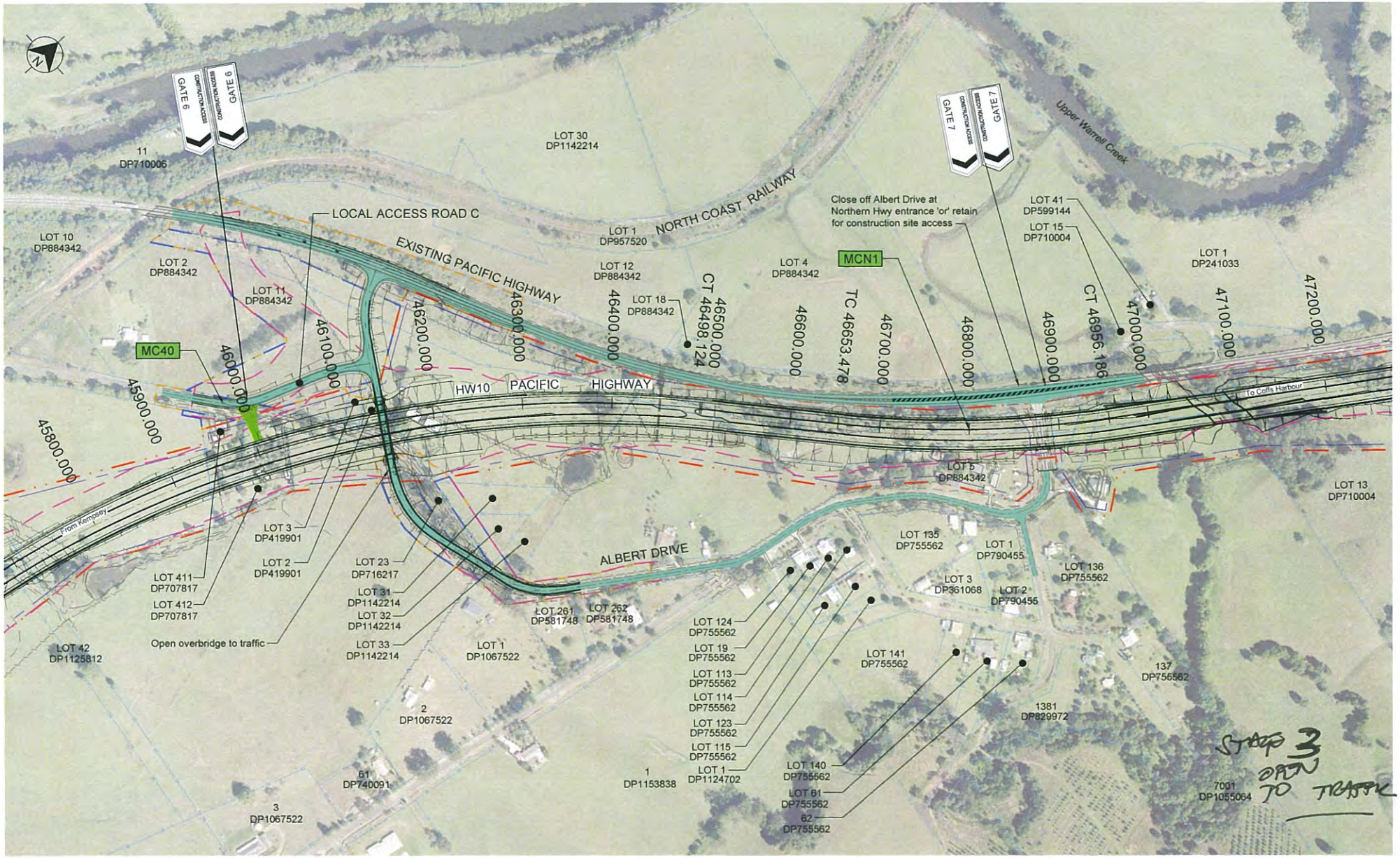

NOTE
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NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING (OPTION 1)
ALBERT DRIVE - STAGE 4 OF 4

DRAWING	STAGE	PART	ISSUE
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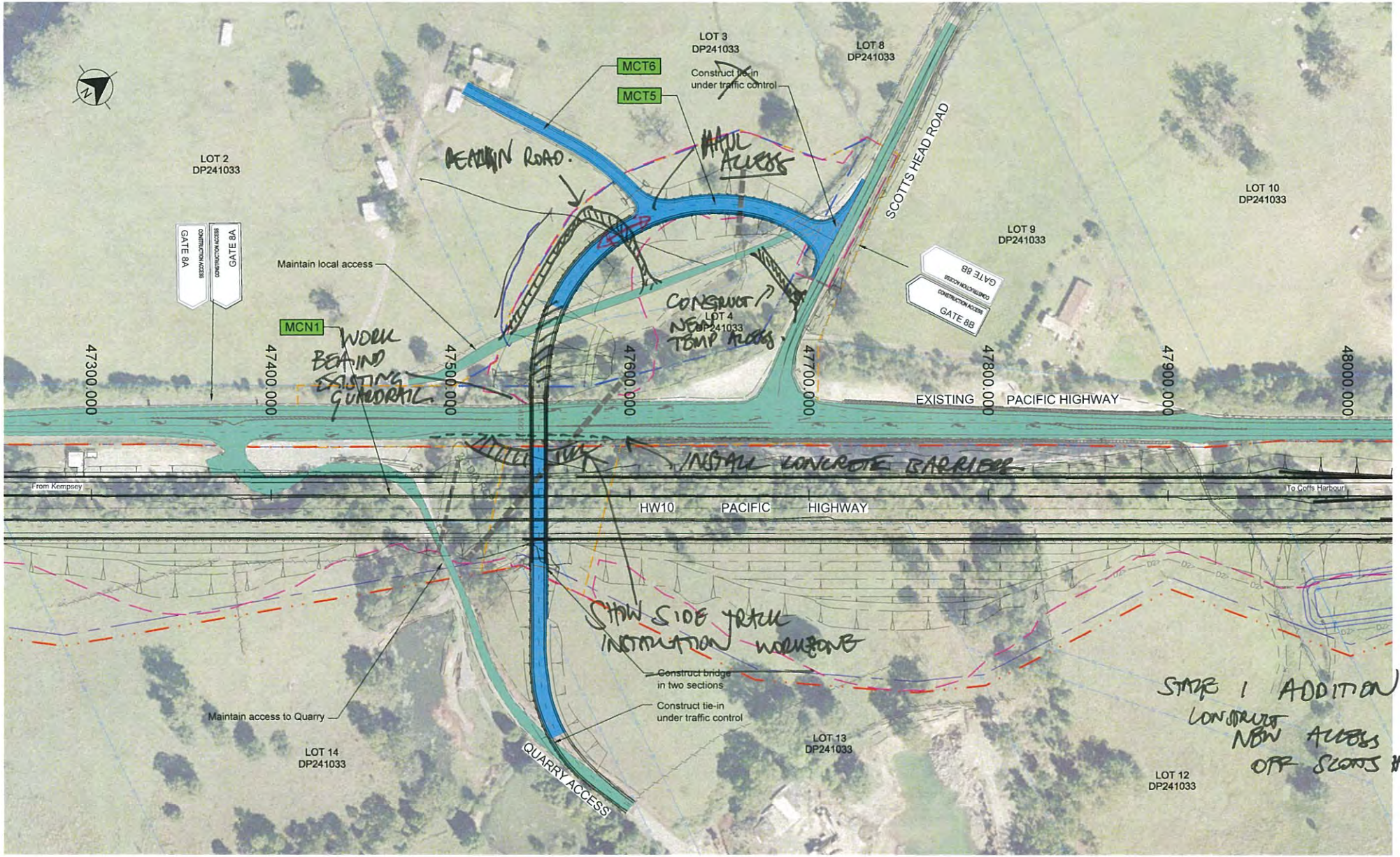

NOTE
1. For Legend, refer Sheet No. CS-0015.

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ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
QUARRY ACCESS - STAGE 1 OF 3

DRAWING	STAGE	PART	ISSUE
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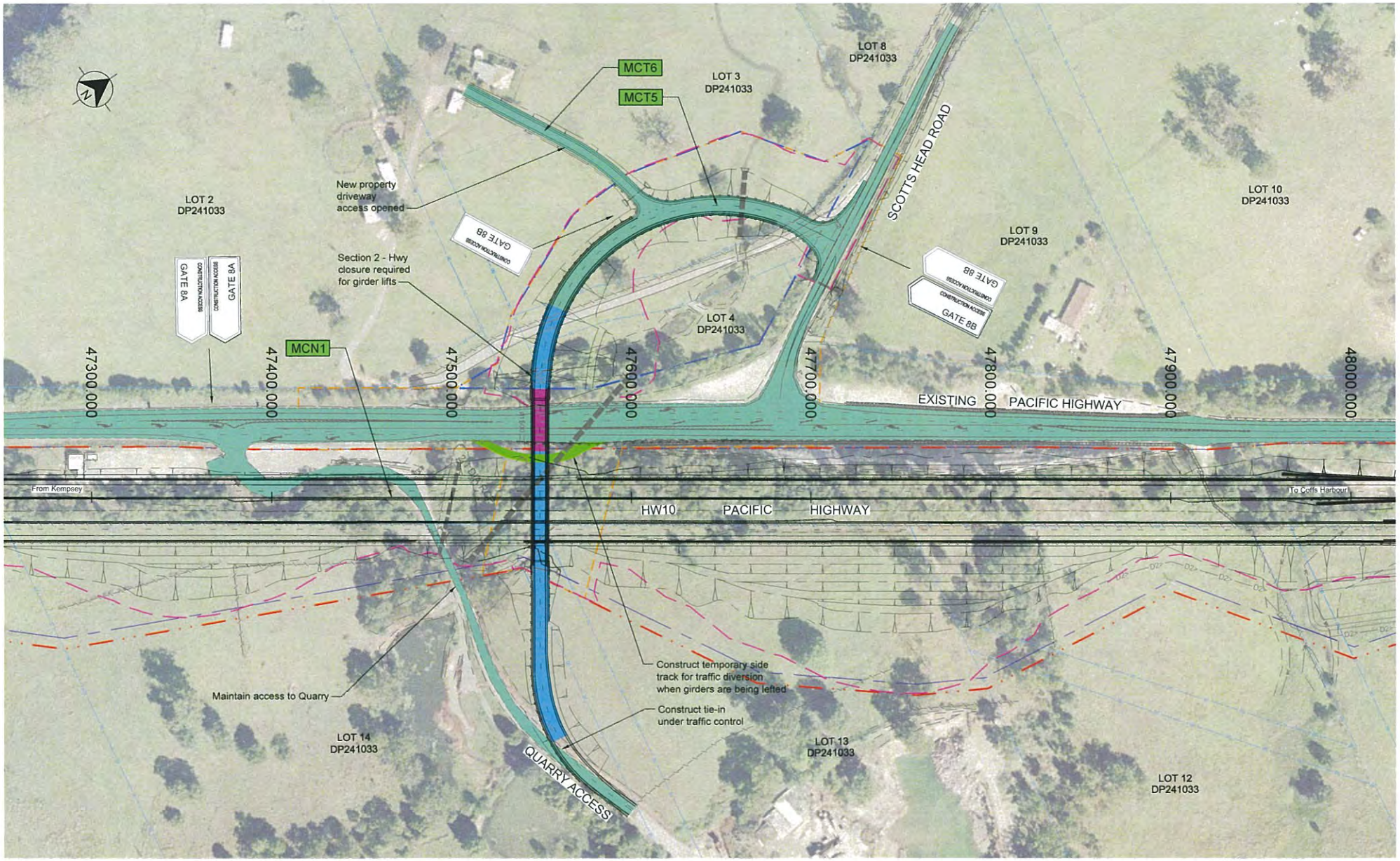

NOTE
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NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
QUARRY ACCESS - STAGE 2 OF 3

DRAWING	STAGE	PART	ISSUE
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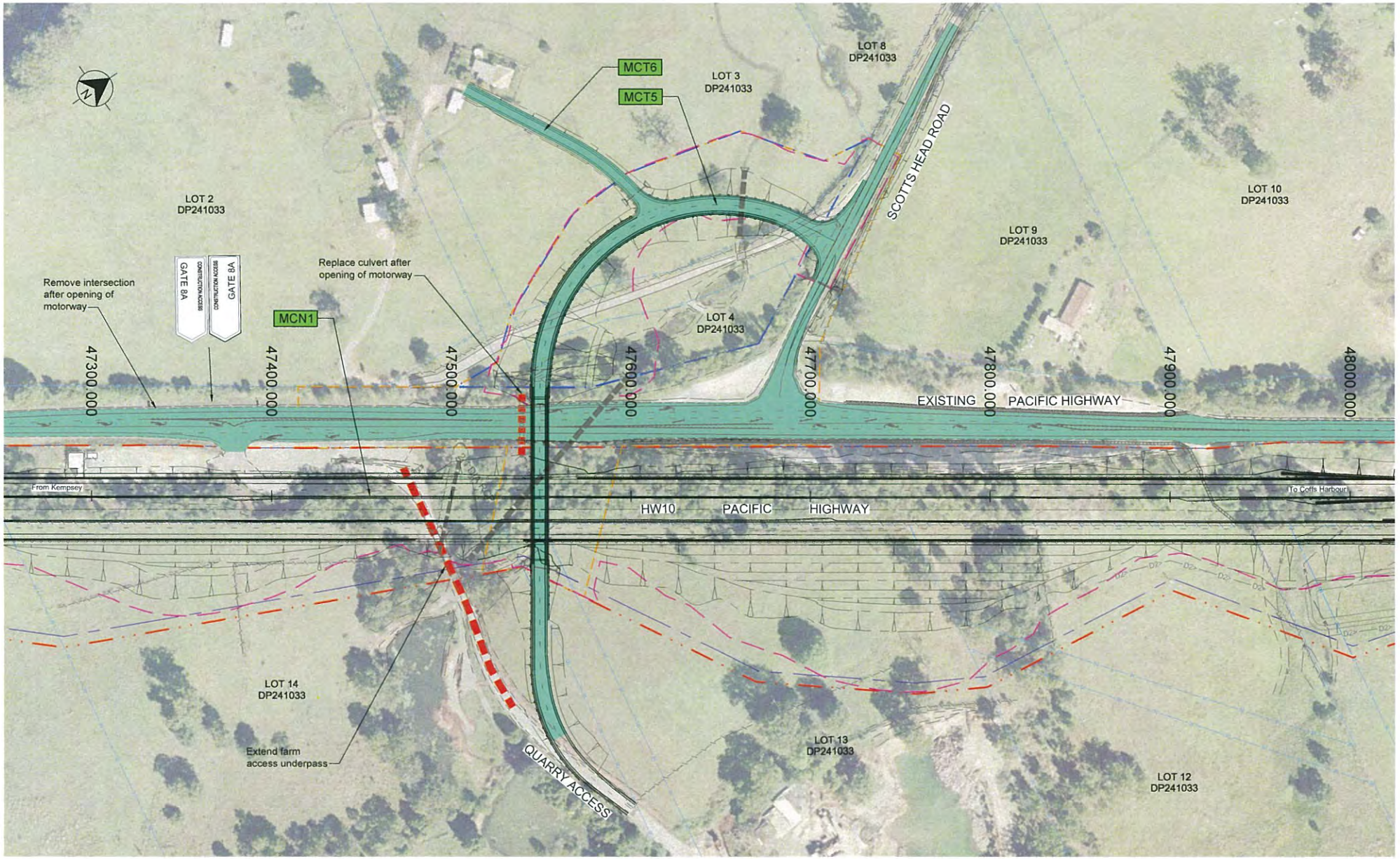

NOTE
1. For Legend, refer Sheet No. CS-0015.

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NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
QUARRY ACCESS - STAGE 3 OF 3

DRAWING	STAGE	PART	ISSUE
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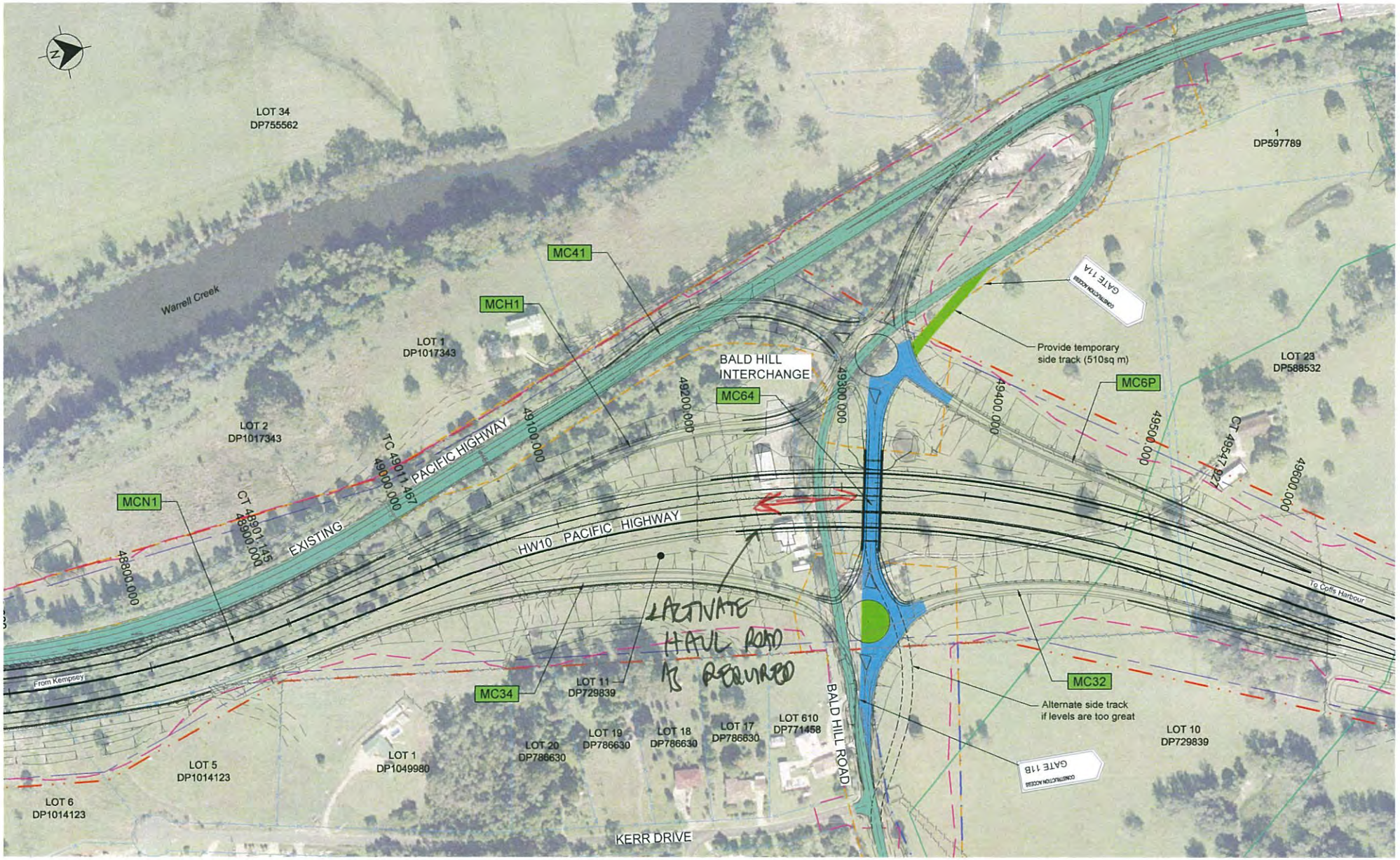

NOTE
1. For Legend, refer Sheet No. CS-0015.

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ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
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ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
BALD HILL INTERCHANGE - STAGE 1 OF 4

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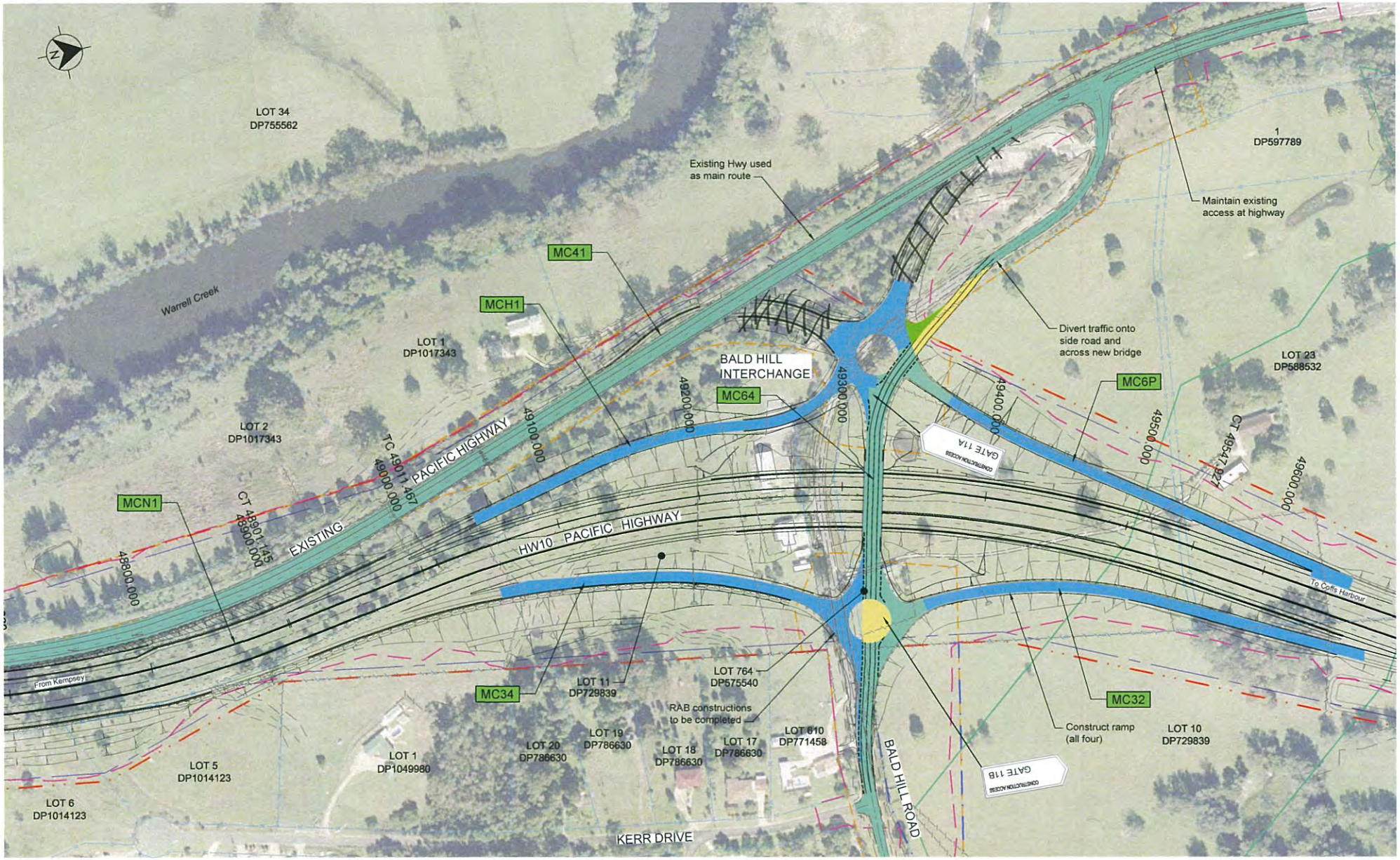

NOTE
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ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
BALD HILL INTERCHANGE - STAGE 2 OF 4

DRAWING	STAGE	PART	ISSUE
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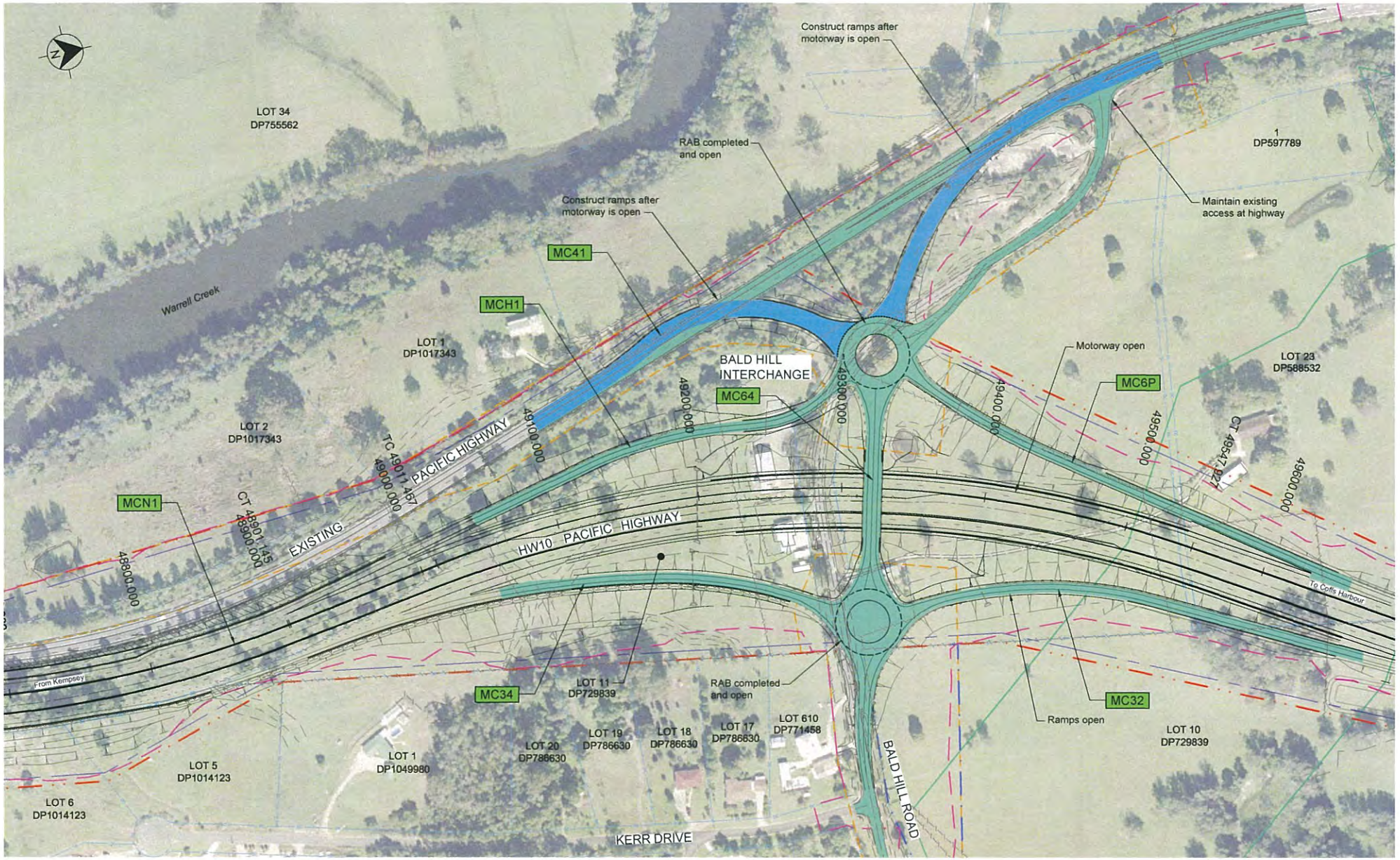

NOTE
1. For Legend, refer Sheet No. CS-0015.

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NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
BALD HILL INTERCHANGE - STAGE 3 OF 4

DRAWING	STAGE	PART	ISSUE
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DESIGN MODEL VERSION:

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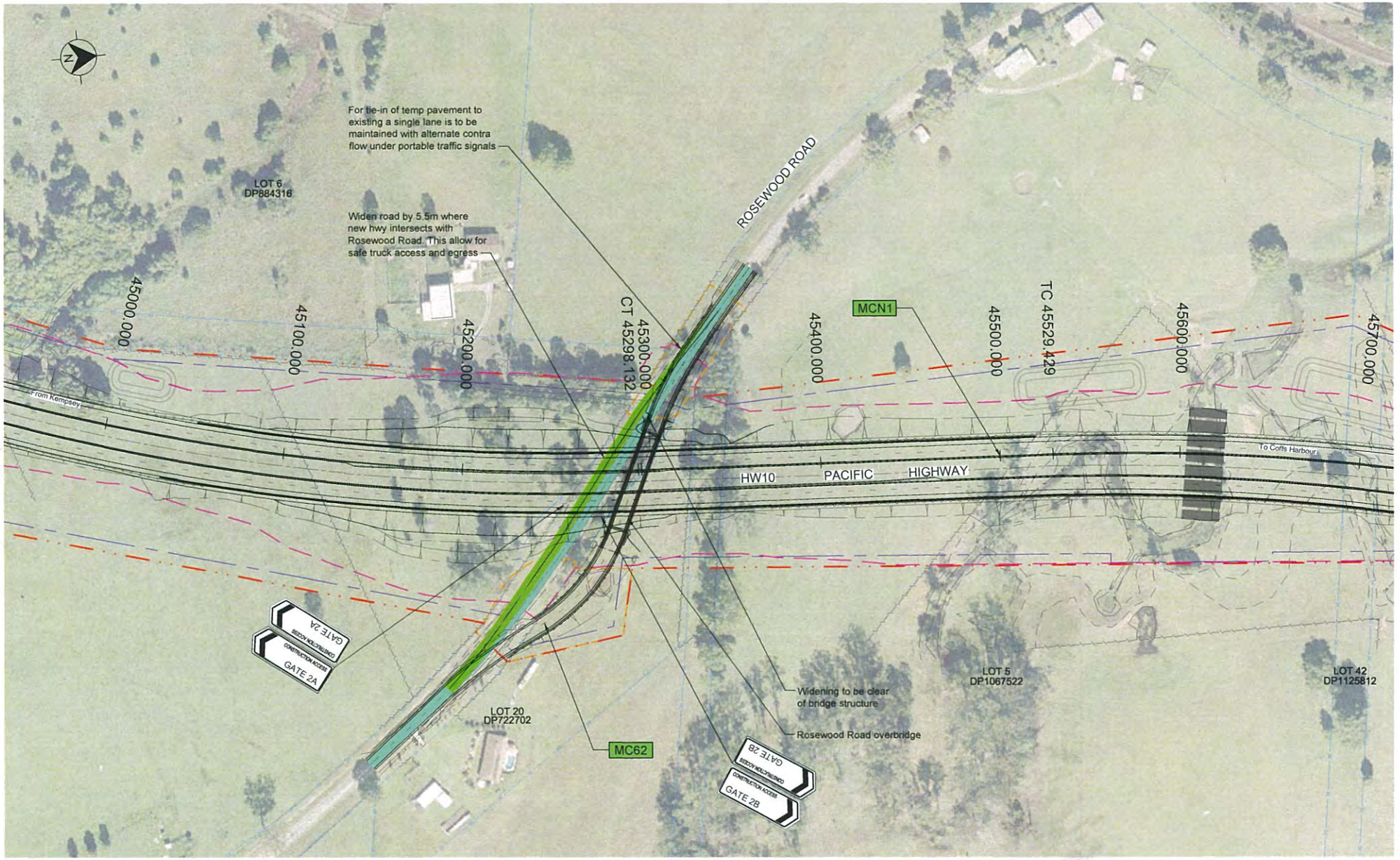
PLOT DRIVER: POSTSCRIPT LEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
25mm ON ORIGINAL



NOTE
1. For Legend, refer Sheet No. CS-0015.

NOT FOR CONSTRUCTION

PRODUCED: 27 November 2013 AT 4:39:19 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\CS\WC2NH-TD-CS-DRG-0121.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
DESIGN MODEL: VERSION
0 5 10 15 20 25mm ON ORIGINAL
A3 ORIGINAL

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

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SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

AFJV
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DESIGNED
REVIEWED

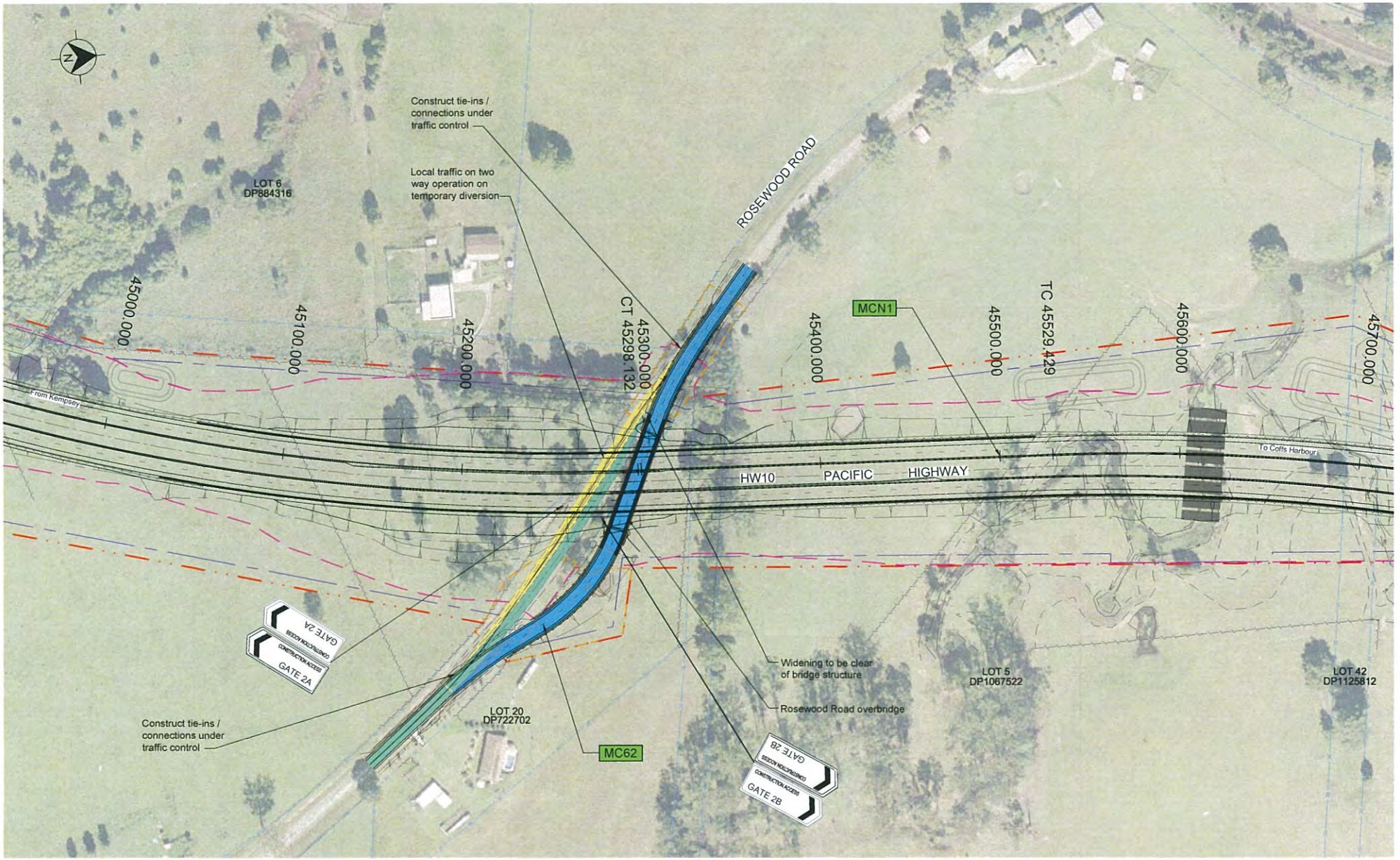
ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
ROSEWOOD ROAD - STAGE 1 OF 3

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0121	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No.: CS-0121



NOTE
1. For Legend, refer Sheet No. CS-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

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SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

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DESIGNED
REVIEWED

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
ROSEWOOD ROAD - STAGE 2 OF 3

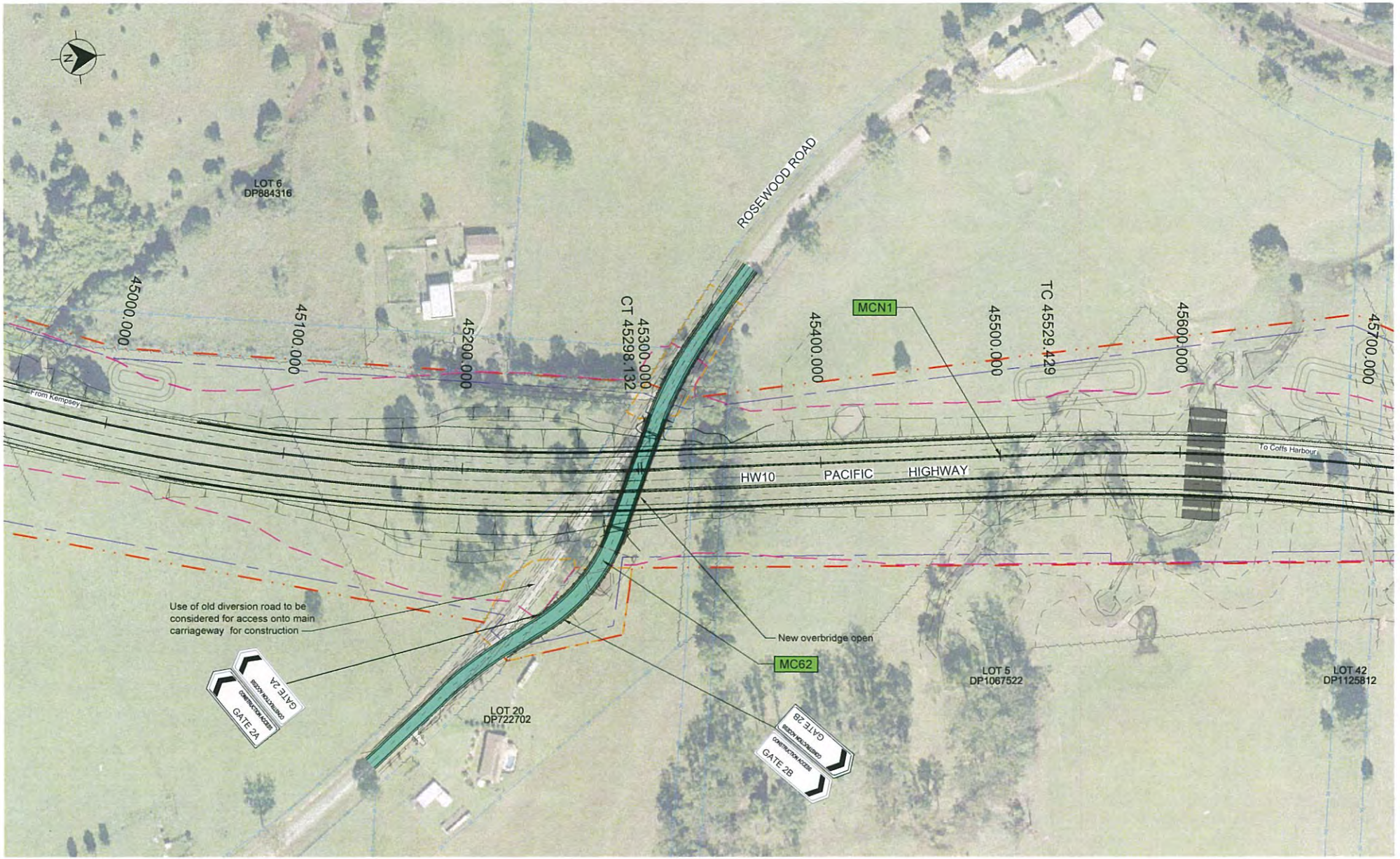
DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0122	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No.: CS-0122

A3 ORIGINAL
10 15 110 115 120 125mm ON ORIGINAL
DESIGN MODEL VERSION

PRODUCED: 27 November 2013 AT 4:39:32 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\CS\WC2NH-TD-CS-DRG-0122.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB



NOTE
1. For Legend, refer Sheet No. CS-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

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SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

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REVIEWED

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
ROSEWOOD ROAD - STAGE 3 OF 3

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0123	TENDER DESIGN	8	A

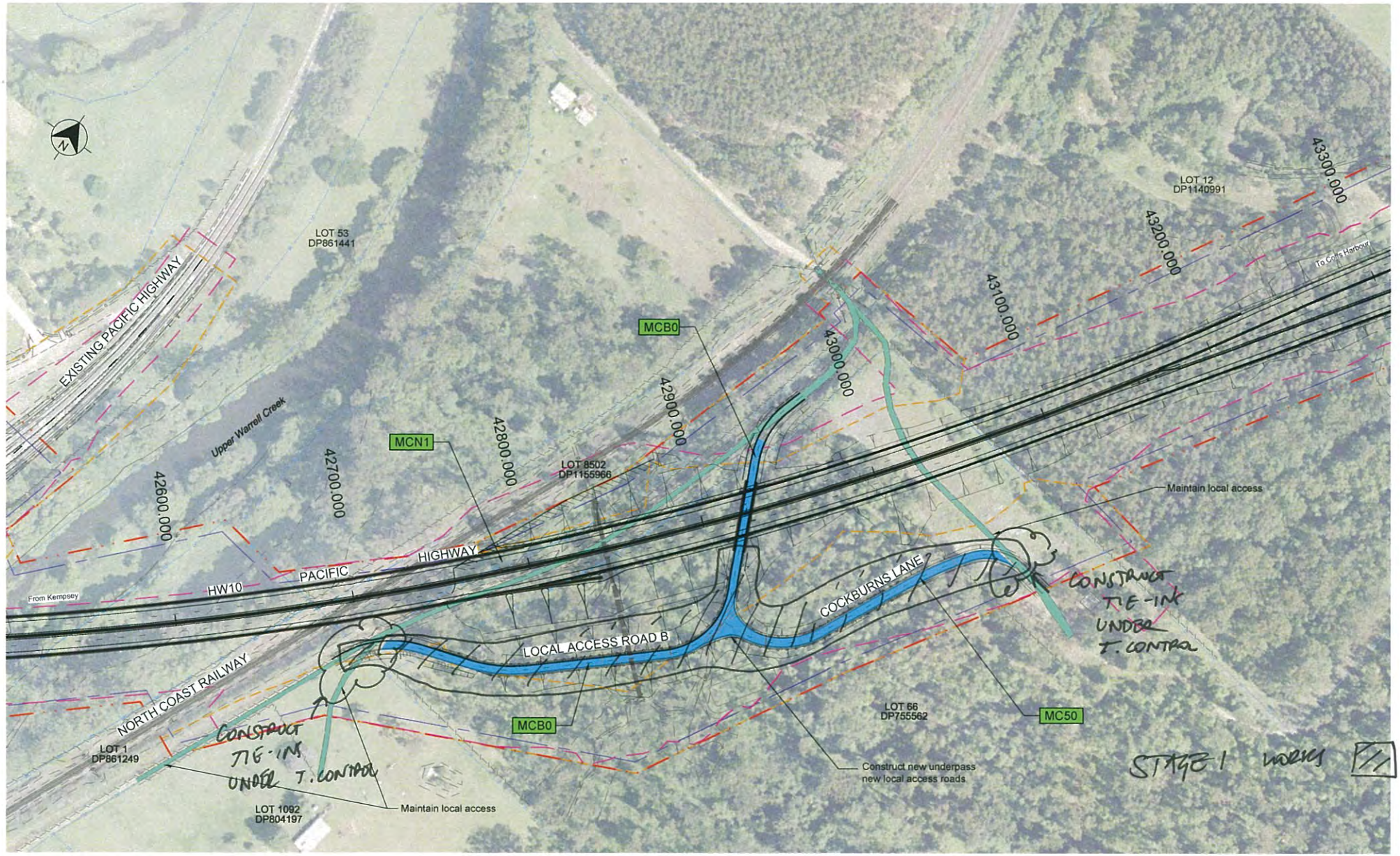
REGISTRATION NUMBER
-

SHEET No.
CS-0123

A3 ORIGINAL

DESIGN MODEL VERSION

PRODUCED: 27 November 2013 AT 4:39:45 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\CS\WC2NH-TD-CS-DRG-0123.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
10 15 110 115 120 125mm ON ORIGINAL



NOTE
1. For Legend, refer Sheet No. CS-0015.

NOT FOR CONSTRUCTION

PRODUCED: 27 November 2013 AT 4:38:51 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\CS\WC2NH-TD-CS-DRG-0111.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
DESIGN MODEL VERSION:
0 5 10 15 20 25mm ON ORIGINAL
A3 ORIGINAL

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

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SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

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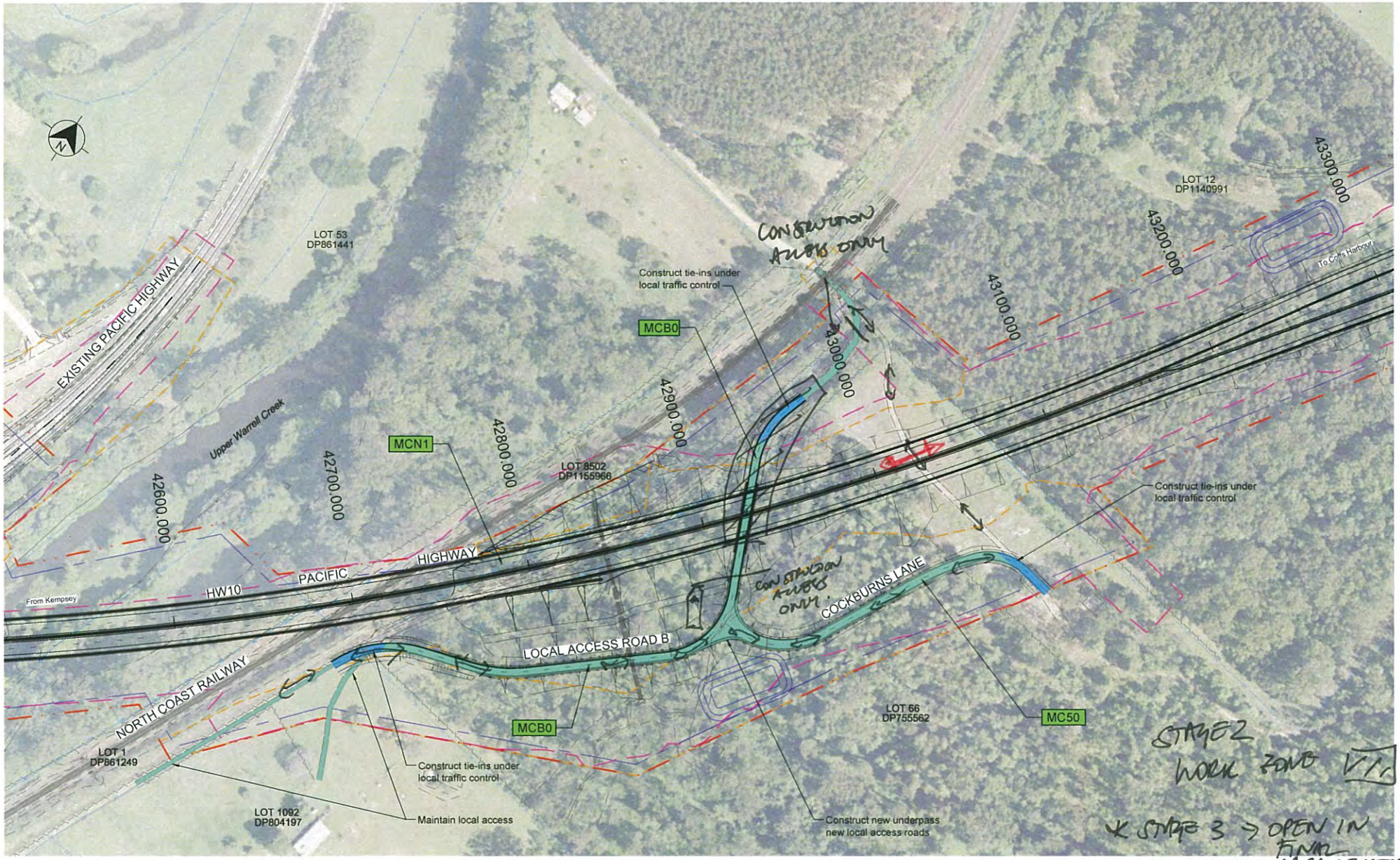
REVIEWED

ROADS AND MARITIME SERVICES
NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
COCKBURNS LANE - STAGE 1 OF 2

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0111	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0111



NOTE
1. For Legend, refer Sheet No. CS-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

A3 ORIGINAL

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SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

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REVIEWED

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
COCKBURNS LANE - STAGE 2 OF 2

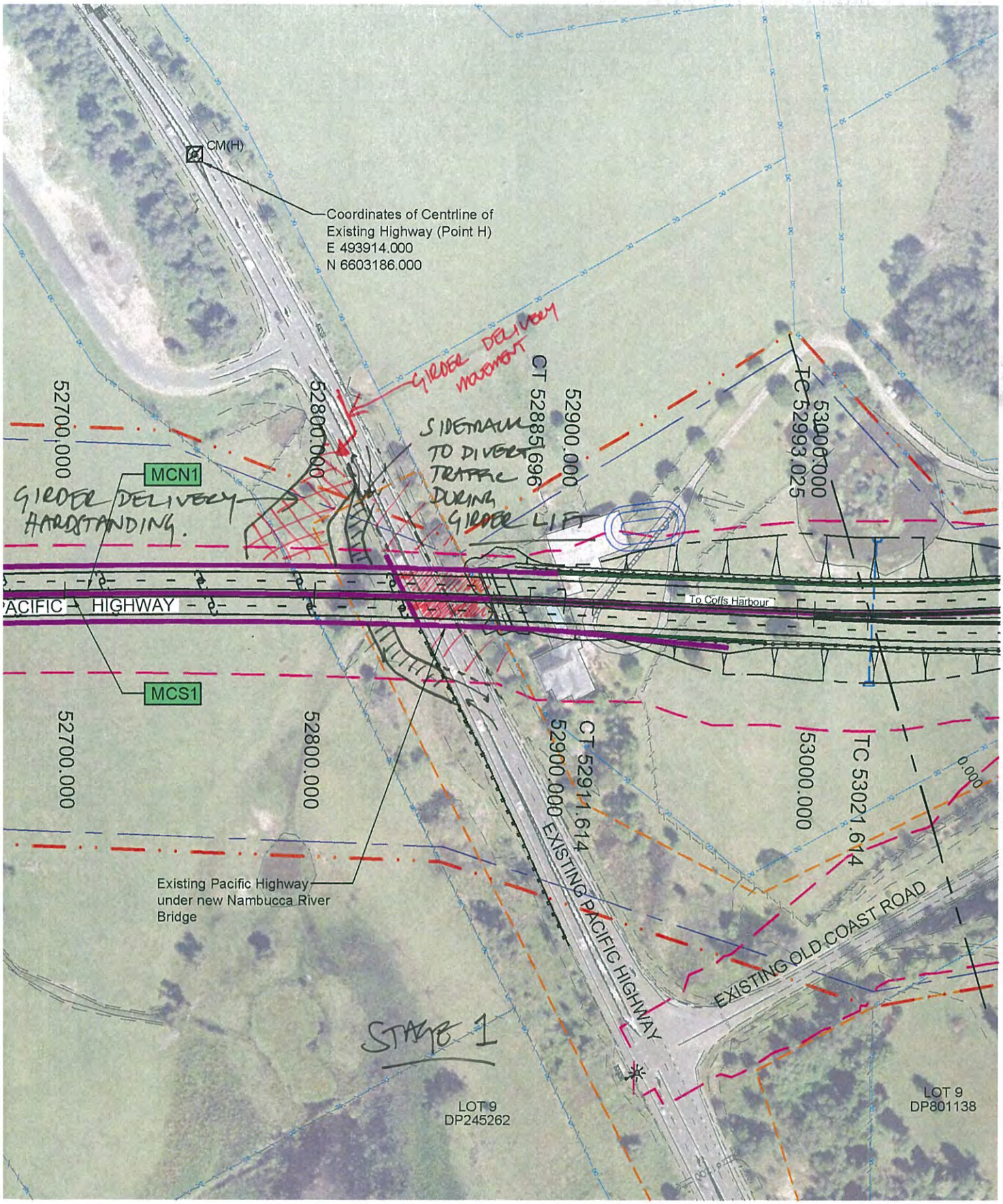
DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0112	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0112

PRODUCED: 27 November 2013 AT 4:39:05 PM USER: Bob.Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\CS\WC2NH-TD-CS-DRG-0112.dwg
PLOT DRIVER: POSTSCRIPTLEVEL2I7.PC3
PEN TABLE: MR_COLOUR.STB
DESIGN MODEL VERSION:
0 5 10 15 20 25mm ON ORIGINAL

GIRDER DELIVERY NAMBUCCA RIVER ⇒ @ PAC HWY

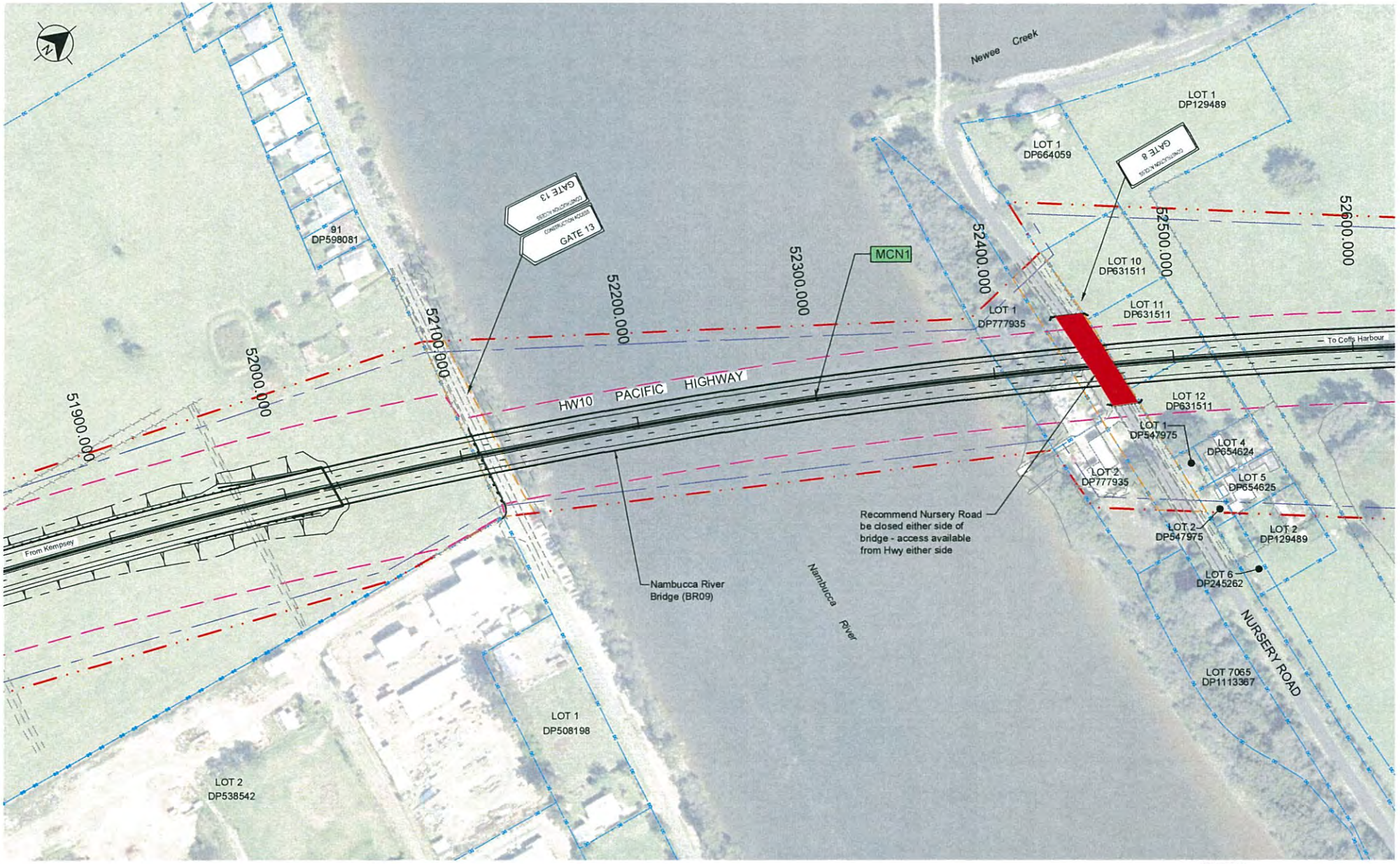


NOTE

1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

ROADS AND MARITIME SERVICES	DRAWING	STAGE	PART	ISSUE
NAMBUCCA SHIRE COUNCIL HW10 PACIFIC HIGHWAY UPGRADE WARRELL CREEK TO NAMBUCCA HEADS DETAIL PLAN SHEET 16 OF 28	WC2NH-TD-RD-DRG-0116	TENDER DESIGN	1	A
	REGISTRATION NUMBER -		SHEET No. RD-0116	



NOTE
1. For Legend, refer sheet no CS-0015.

NOT FOR CONSTRUCTION

PRODUCED: 27 November 2013 AT 4:43:44 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NHTENDER DESIGN\CS\WC2NH-TD-CS-DRG-0191.dwg
PLOT DRIVER: POSTSCRIPTLEVEL2.17.PC3
PEN TABLE: MR_COLOUR.STB
DESIGN MODEL VERSION:
10 | 5 | 10 | 15 | 20 | 25mm ON ORIGINAL
A3 ORIGINAL

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

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SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon

DESIGNED: A.STRAKER
REVIEWED: N.MURALHA

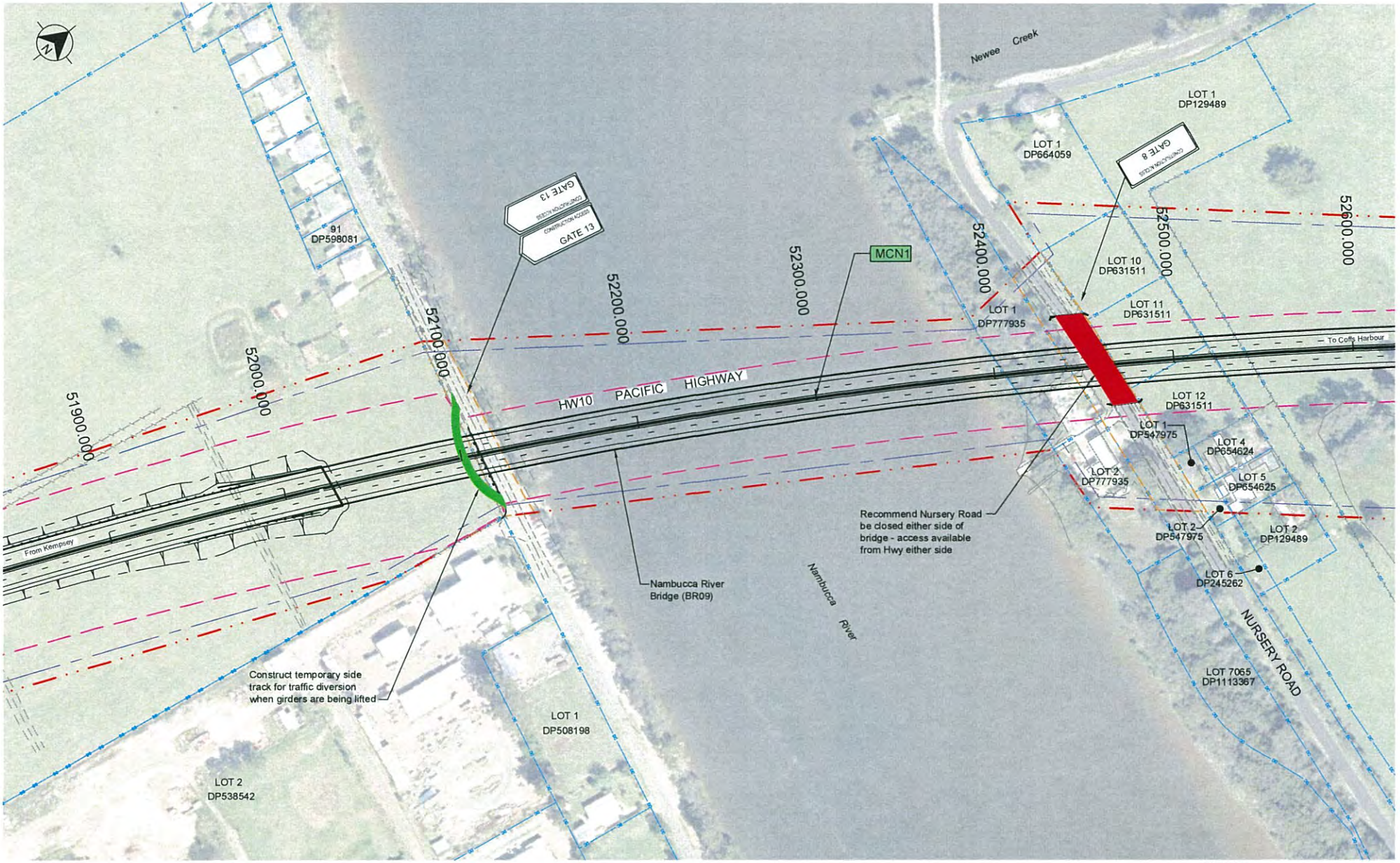
ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
NAMBUCCA RIVER - STAGE 1 OF 2

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0191	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0191



NOTE

1. For Legend, refer sheet no CS-0015.

NOT FOR CONSTRUCTION

PRODUCED: 27 November 2013 AT 4:44:01 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\CS\WC2NH-TD-CS-DRG-0192.dwg
PLOT DRIVER: POSTSCRIPTLEVEL2.17.PC3
PEN TABLE: MR_COLOUR.STB
DESIGN MODEL VERSION:
0 5 10 15 20 25mm ON ORIGINAL
A3 ORIGINAL

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

This sheet may be prepared using colour and may be incomplete if copied

SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon

DESIGNED: A STRAKER
REVIEWED: N MURALHA

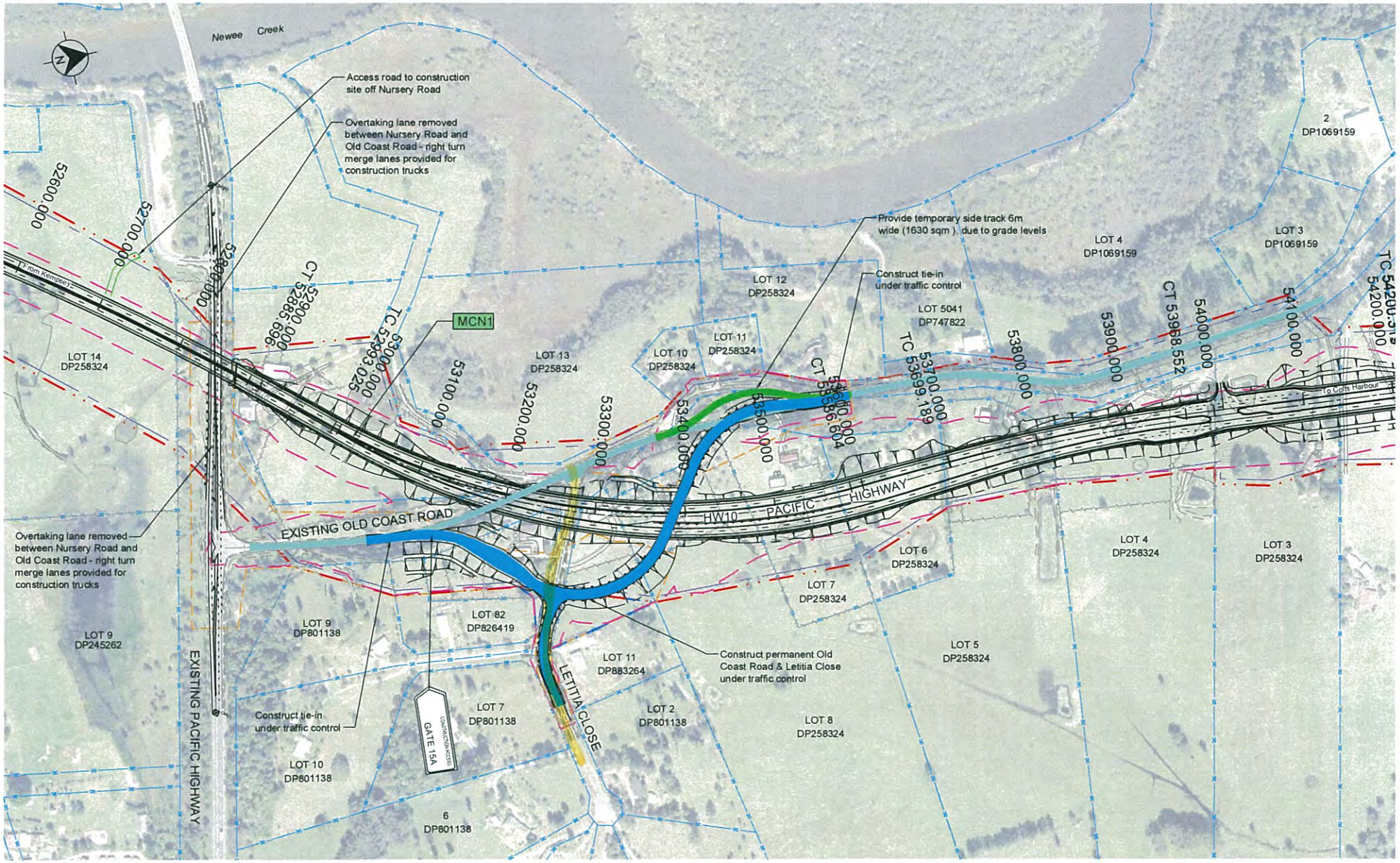
ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
NAMBUCCA RIVER - STAGE 2 OF 2

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0192	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0192



NOTE
1. For Legend, refer sheet no CS-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

This sheet may be prepared using colour and may be incomplete if copied

SCALES
0 50 100 150 200
SCALE 1:4000m

CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

AFJV
ARUP aurecon

DESIGNED A STRAKER
REVIEWED N MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
LETITIA CLOSE - STAGE 1 OF 3

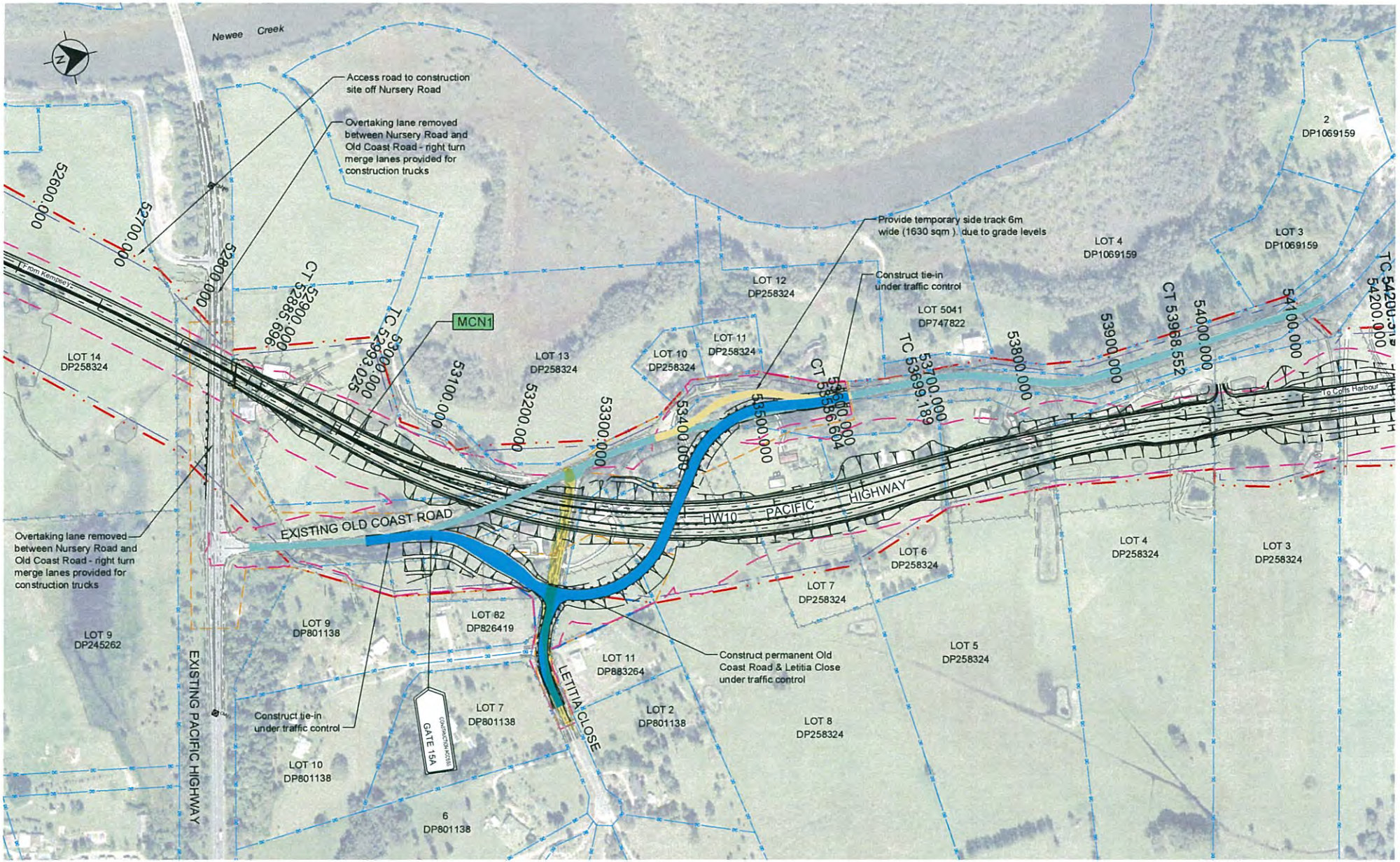
DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0196	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0196

A3 ORIGINAL
DESIGN MODEL VERSION
0 5 10 15 20 25mm ON ORIGINAL

PRODUCED: 27 November 2013 AT 4:44:17 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\CS\WC2NH-TD-CS-DRG-0196.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB



NOTE
1. For Legend, refer sheet no CS-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

SCALES
0 50 100 150 200
SCALE 1:4000m

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CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

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ARUP aurecon

DESIGNED A STRAKER
REVIEWED N MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
LETITIA CLOSE - STAGE 2 OF 3

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0197	TENDER DESIGN	8	A

REGISTRATION NUMBER
-

SHEET No
CS-0197

PRODUCED 27 November 2013 AT 4:44:34 PM USER Bob Liu
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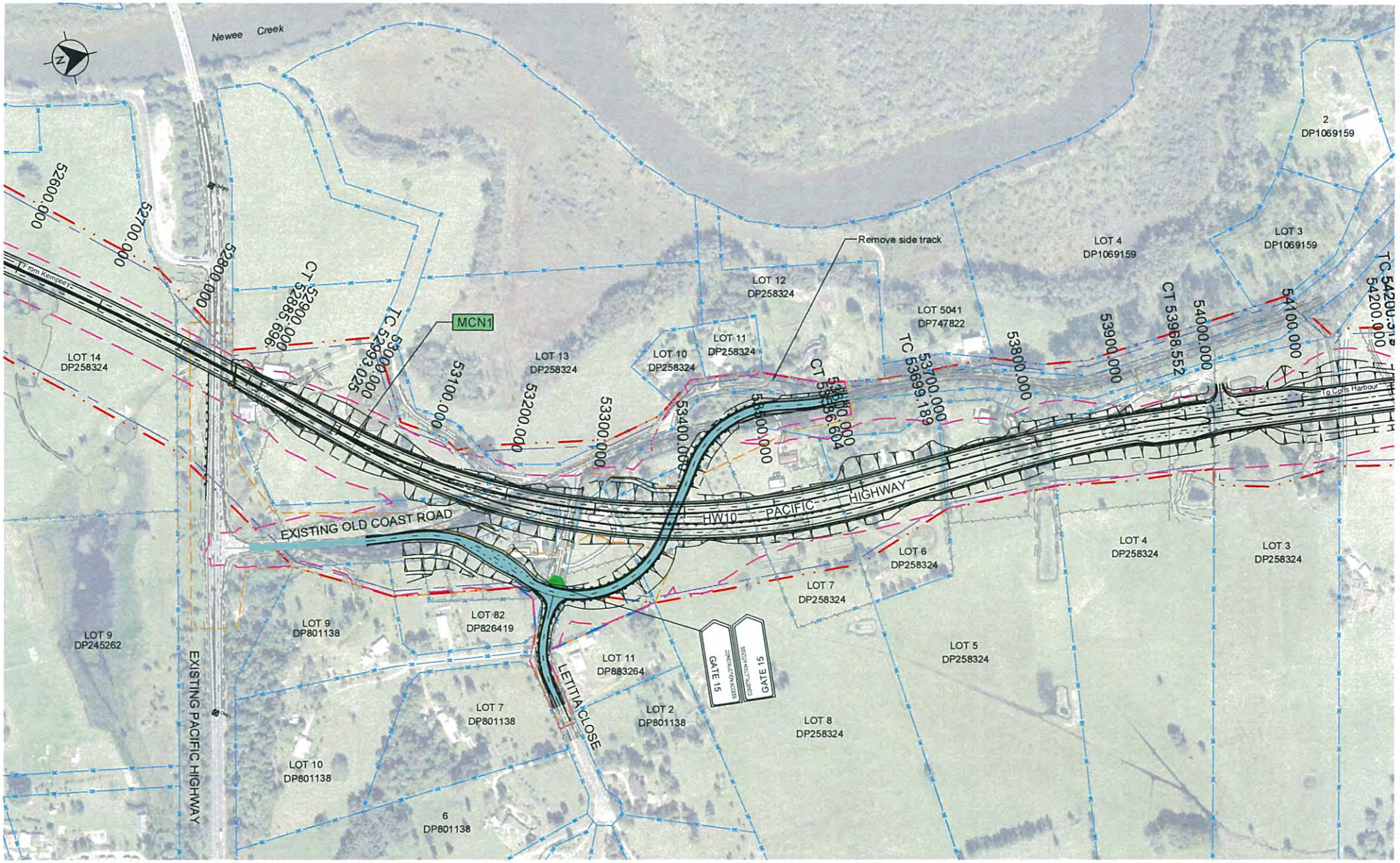
PEN TABLE MR_COLOUR.STB
DESIGN MODEL VERSION
0 5 10 15 20 25mm ON ORIGINAL
A3 ORIGINAL



NOTE
1. For Legend, refer sheet no CS-0015.

NOT FOR CONSTRUCTION

PRODUCED: 27 November 2013 AT 4:44:51 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\CS\WC2NH-TD-CS-DRG-0198.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
DESIGN MODEL VERSION:
0 5 10 15 20 25mm ON ORIGINAL
A3 ORIGINAL

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

This sheet may be prepared using colour and may be incomplete if copied

SCALES
0 50 100 150 200
SCALE 1:4000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon

DESIGNED: A STRAKER
REVIEWED: N MURALHA

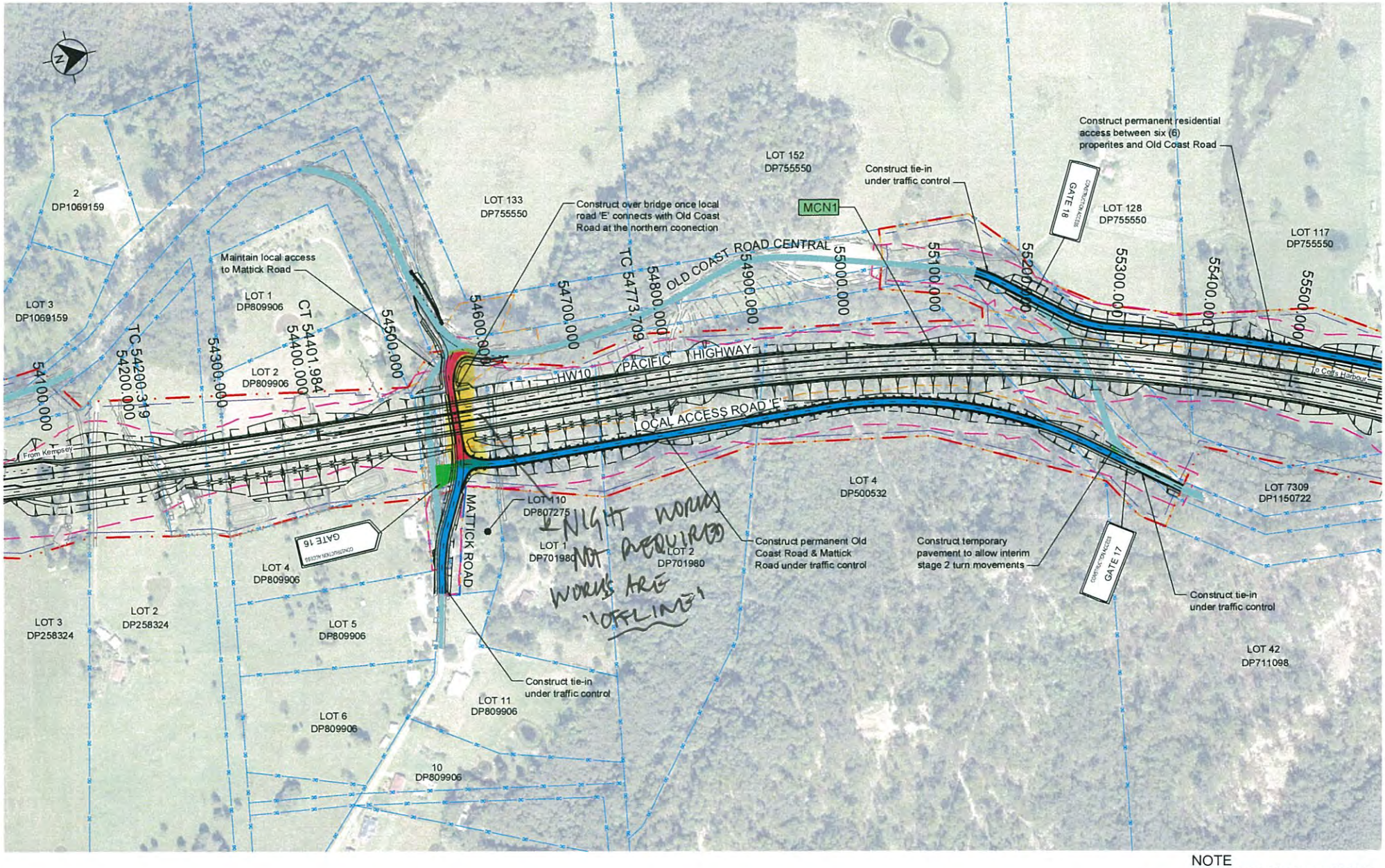
ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
LETITIA CLOSE - STAGE 3 OF 3

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0198	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0198



NOTE
1. For Legend, refer sheet no CS-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

This sheet may be prepared using colour and may be incomplete if copied

SCALES
0 50 100 150 200
SCALE 1:4000m

CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

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DESIGNED A STRAKER
REVIEWED N MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
MATTICK ROAD AND LOCAL ACCESS ROAD E - STAGE 1 OF 3

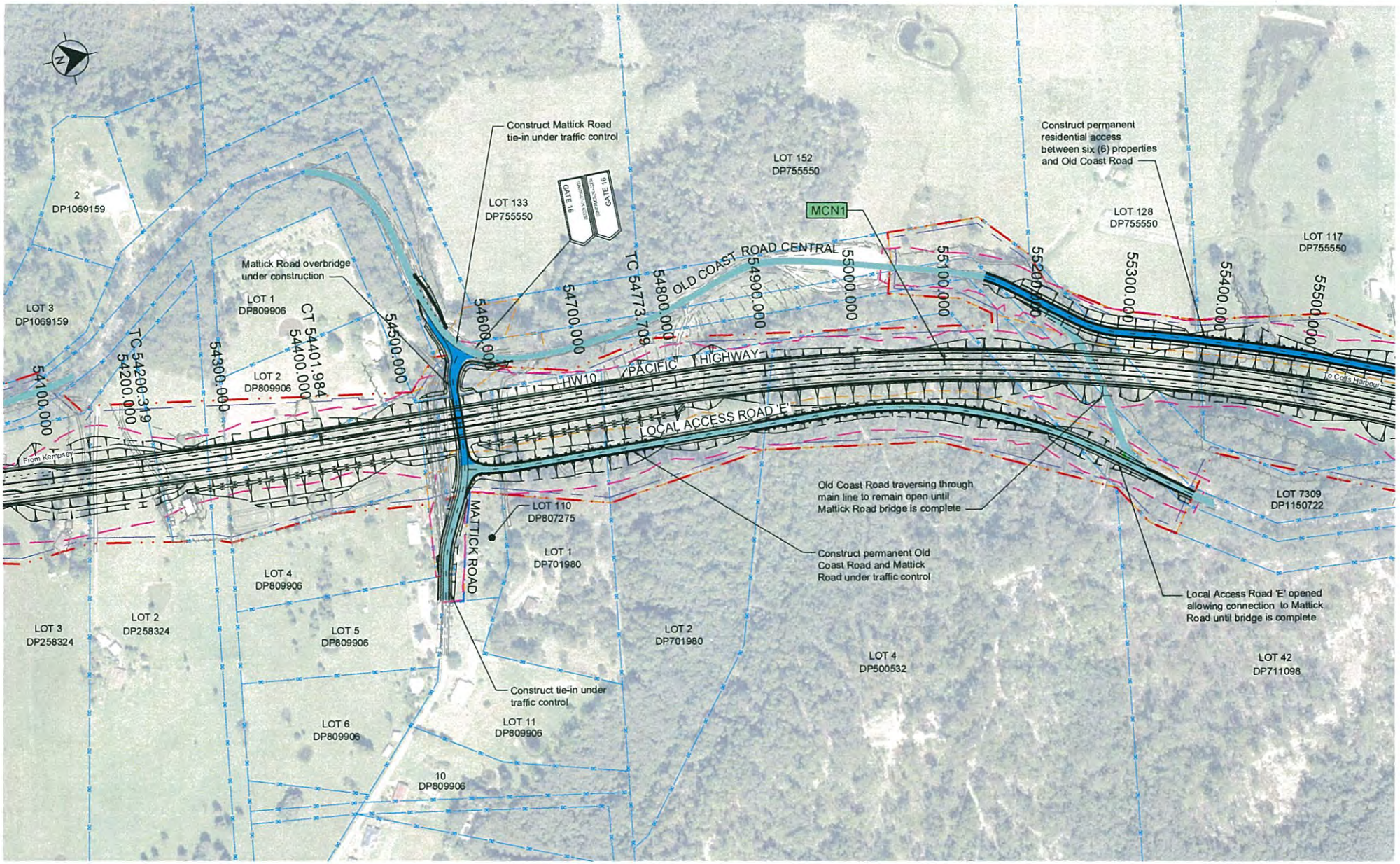
DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0201	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0201

A3 ORIGINAL
DESIGN MODEL VERSION
0 5 10 15 20 25mm ON ORIGINAL

PRODUCED: 27 November 2013 AT 4:45:07 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\CS\WC2NH-TD-CS-DRG-0201.dwg
PLOT DRIVER: POSTSCRIPTLEVEL2\17.PC3
PEN TABLE: MR_COLOUR.STB



NOTE
1. For Legend, refer sheet no CS-0015.

NOT FOR CONSTRUCTION

PRODUCED: 27 November 2013 AT 4:45:24 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\CS\WC2NH-TD-CS-DRG-0202.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
DESIGN MODEL VERSION:
0 5 10 15 20 25mm ON ORIGINAL
A3 ORIGINAL

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

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SCALES
0 50 100 150 200
SCALE 1:4000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon

DESIGNED: A STRAKER
REVIEWED: N MURALHA

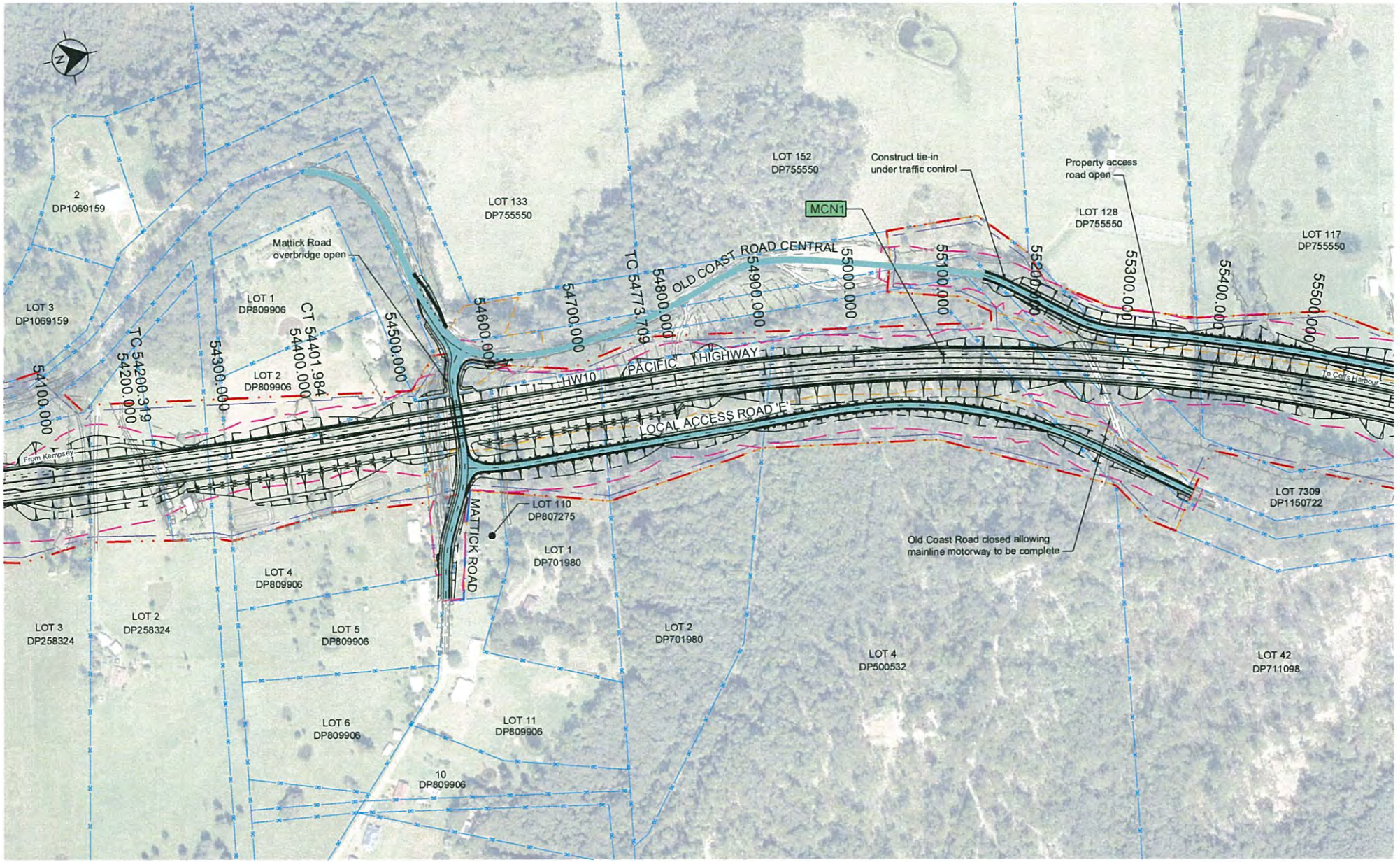
ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
MATTICK ROAD AND LOCAL ACCESS ROAD E - STAGE 2 OF 3

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0202	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0202



NOTE
1. For Legend, refer sheet no CS-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

This sheet may be prepared using colour and may be incomplete if copied

SCALES
0 50 100 150 200
SCALE 1:4000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon

DESIGNED: A STRAKER
REVIEWED: N MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
MATTICK ROAD AND LOCAL ACCESS ROAD E - STAGE 3 OF 3

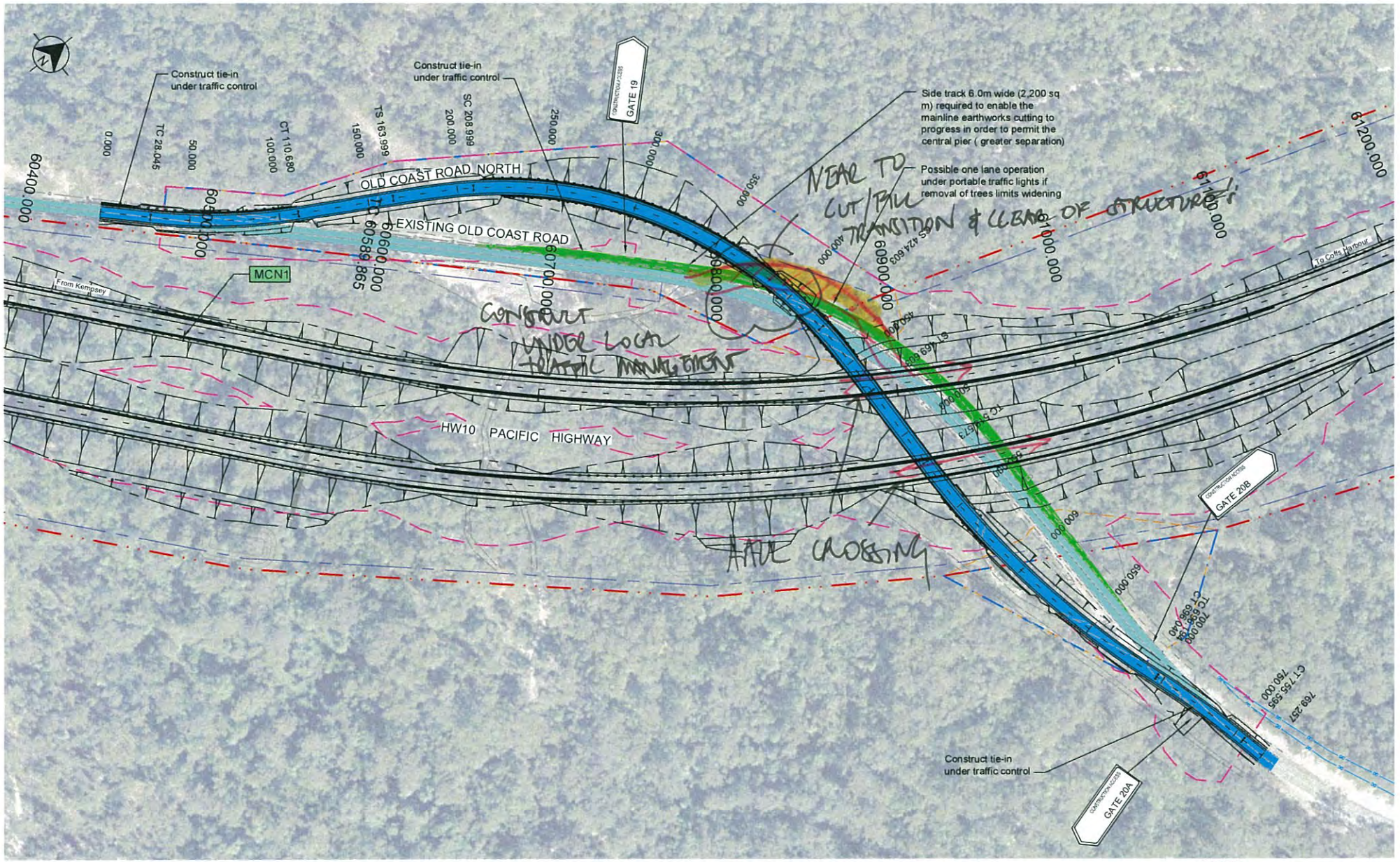
DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0203	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0203

A3 ORIGINAL
0 5 10 15 20 25mm ON ORIGINAL
DESIGN MODEL VERSION

PRODUCED: 27 November 2013 AT 4:45:41 PM USER: Bob.Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\CS\WC2NH-TD-CS-DRG-0203.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB



NOTE
1. For Legend, refer sheet no CS-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

This sheet may be prepared using colour and may be incomplete if copied

SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

AFJV
ARUP aurecon
DESIGNED A STRAKER
REVIEWED N MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
OLD COAST ROAD NORTH - STAGE 1 OF 3

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0211	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0211

A3 ORIGINAL

PRODUCED: 27 November 2013 AT 4:45:57 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\CS\WC2NH-TD-CS-DRG-0211.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
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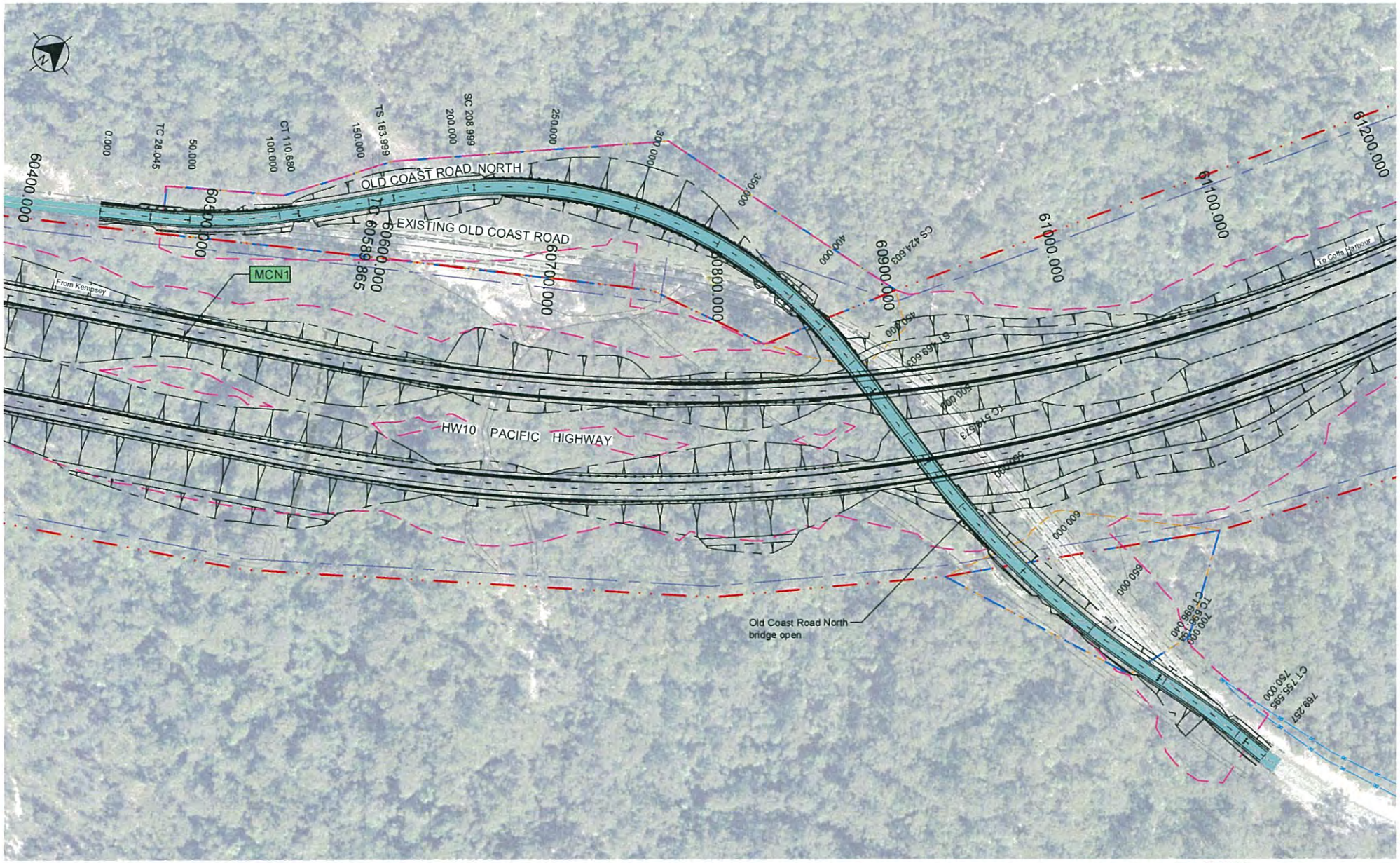

NOTE
1. For Legend, refer sheet no CS-0015.

NOT FOR CONSTRUCTION

PRODUCED: 27 November 2013 AT 4:46:30 PM USER: Bob Liu
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PLOT DRIVER: POSTSCRIPTLEVEL2.17 PC3
PEN TABLE: MR_COLOUR.STB
DESIGN MODEL VERSION
0 5 10 15 20 25mm ON ORIGINAL
A3 ORIGINAL

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

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SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

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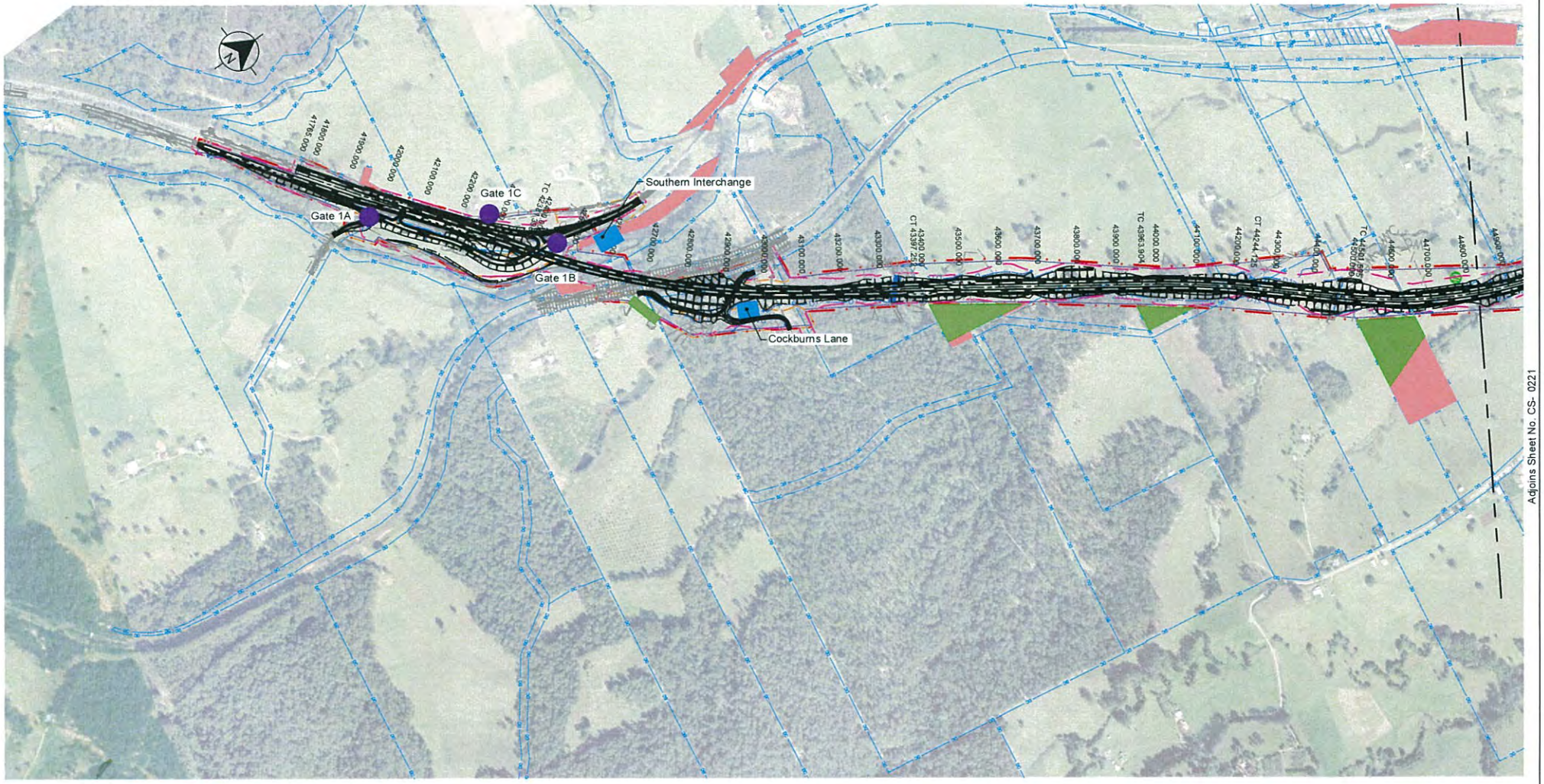
DESIGNED A STRAKER
REVIEWED N MURALHA

ROADS AND MARITIME SERVICES
NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
CONSTRUCTION STAGING
OLD COAST ROAD NORTH - ~~STAGE 3 OF 3~~ sheet 2 of 2

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0213	TENDER DESIGN	8	A

REGISTRATION NUMBER -

SHEET No CS-0213



NOTE
1. For Legend and General Notes refer to Sheet No. CS-0015

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ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
1	04/12/13	TENDER DESIGN - AFJV

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SCALES
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SCALE 1:10000m

CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

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DESIGNED A STRAKER
REVIEWED N MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
OVERALL SITE PLANS
SHEET 1 OF 6

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0220	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0220

A3 ORIGINAL

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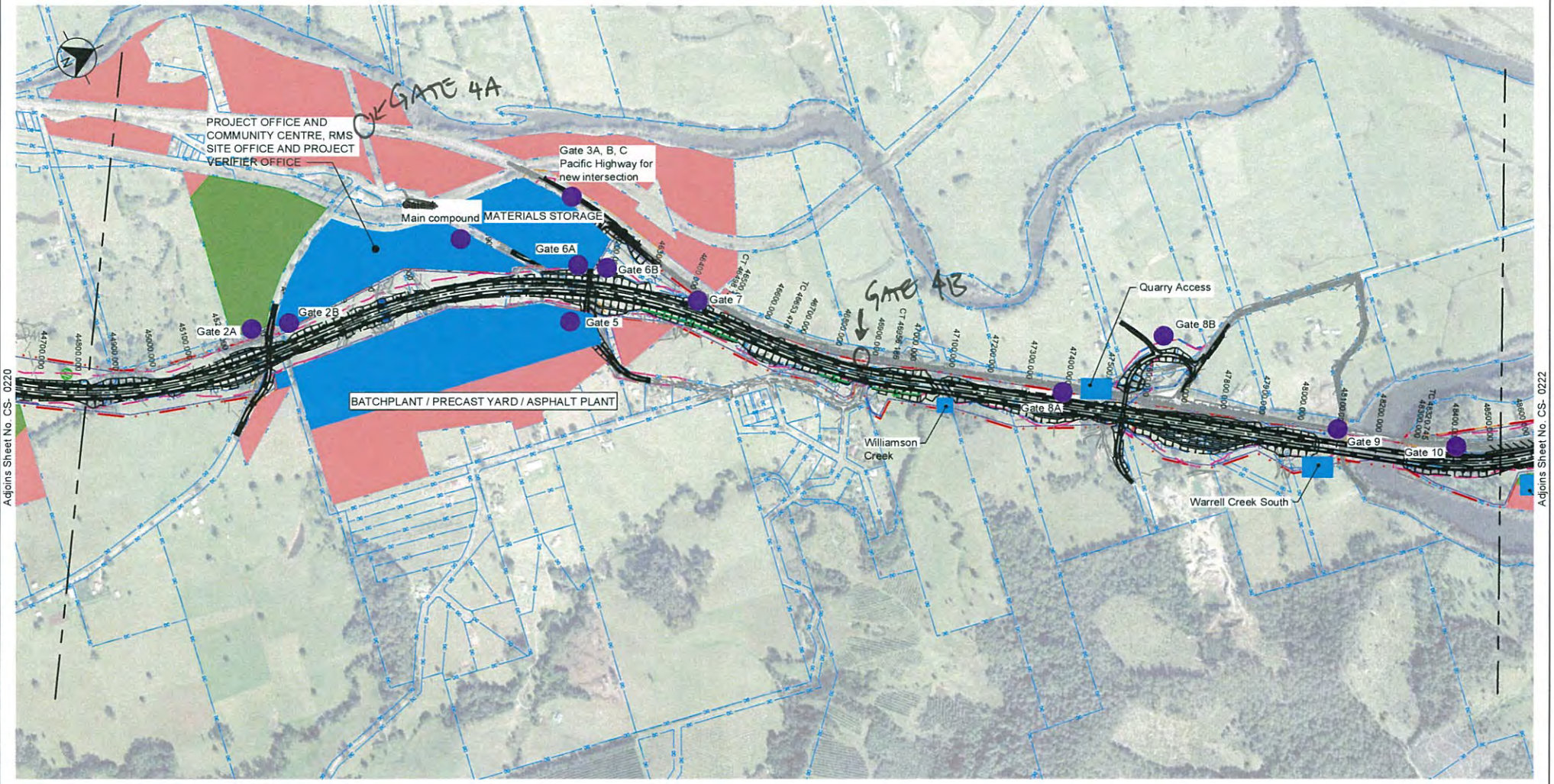
PEN TABLE: MR_COLOUR.STB
DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da



NOTE
1. For Legend and General Notes refer to Sheet No. CS-0015

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ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

A3 ORIGINAL

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SCALES
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SCALE 1:10000m

CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

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ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
OVERALL SITE PLANS
SHEET 2 OF 6

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0221	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0221

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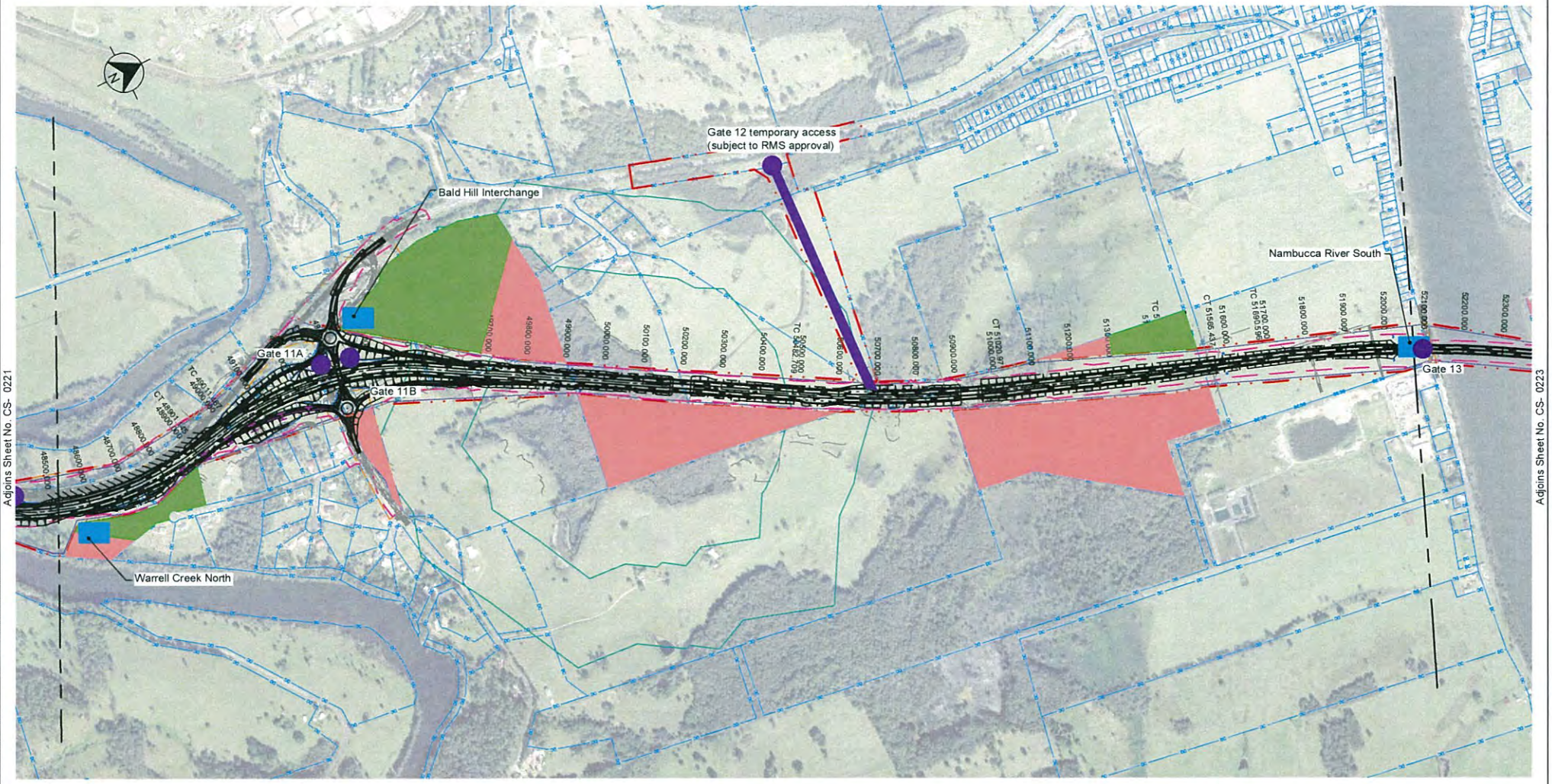
DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da



NOTE
1. For Legend and General Notes refer to Sheet No. CS-0015

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ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

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SCALES
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SCALE 1:10000m

CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

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ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
OVERALL SITE PLANS
SHEET 3 OF 6

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0222	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0222

A3 ORIGINAL
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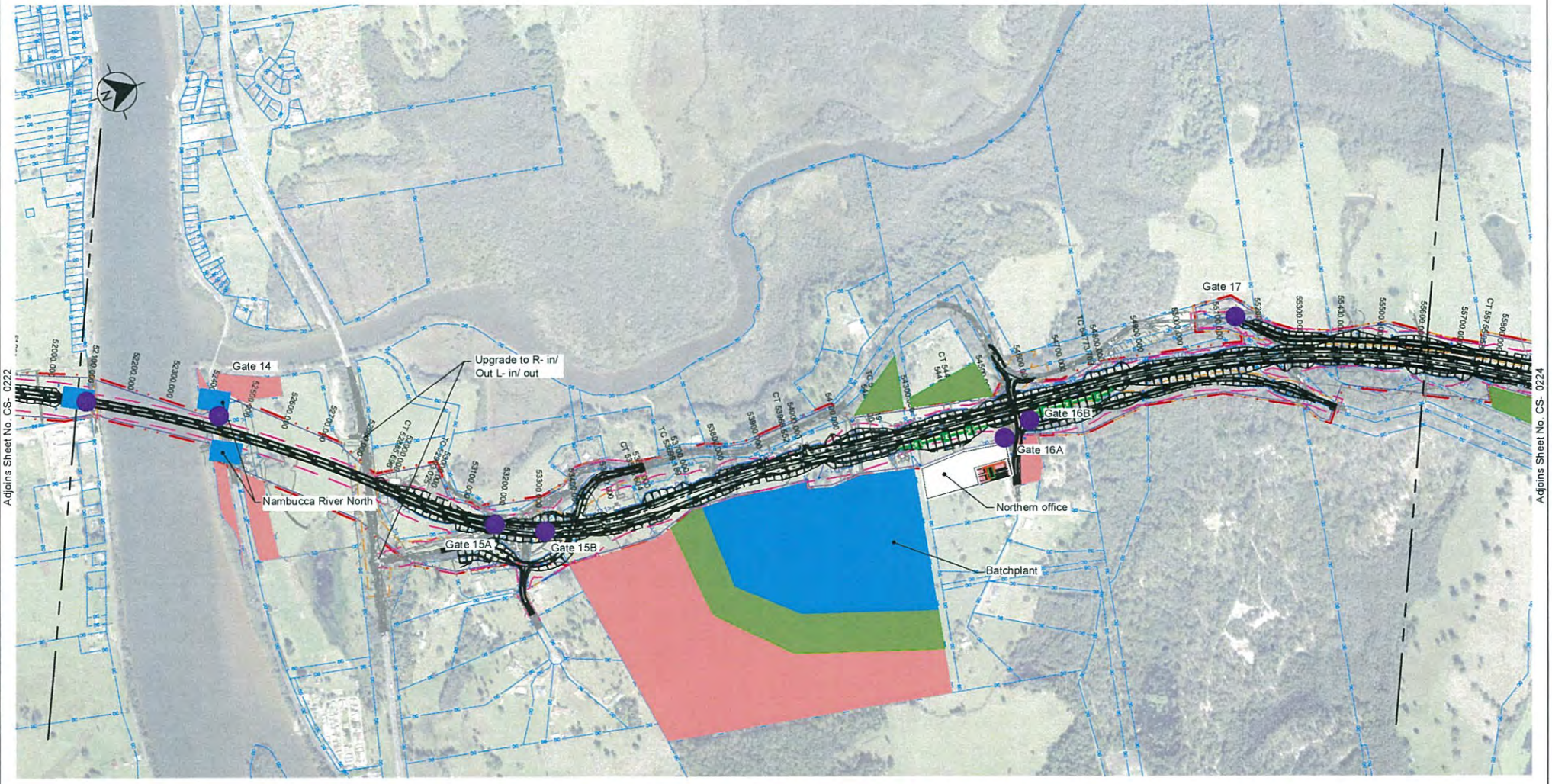
PEN TABLE: MR_COLOUR.STB



NOTE
1. For Legend and General Notes refer to Sheet No. CS-0015

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ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

A3 ORIGINAL

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SCALES
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CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

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ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
OVERALL SITE PLANS
SHEET 4 OF 6

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0223	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0223

PRODUCED: 2 December 2013 AT 6:04:48 PM USER: Russell Bunn
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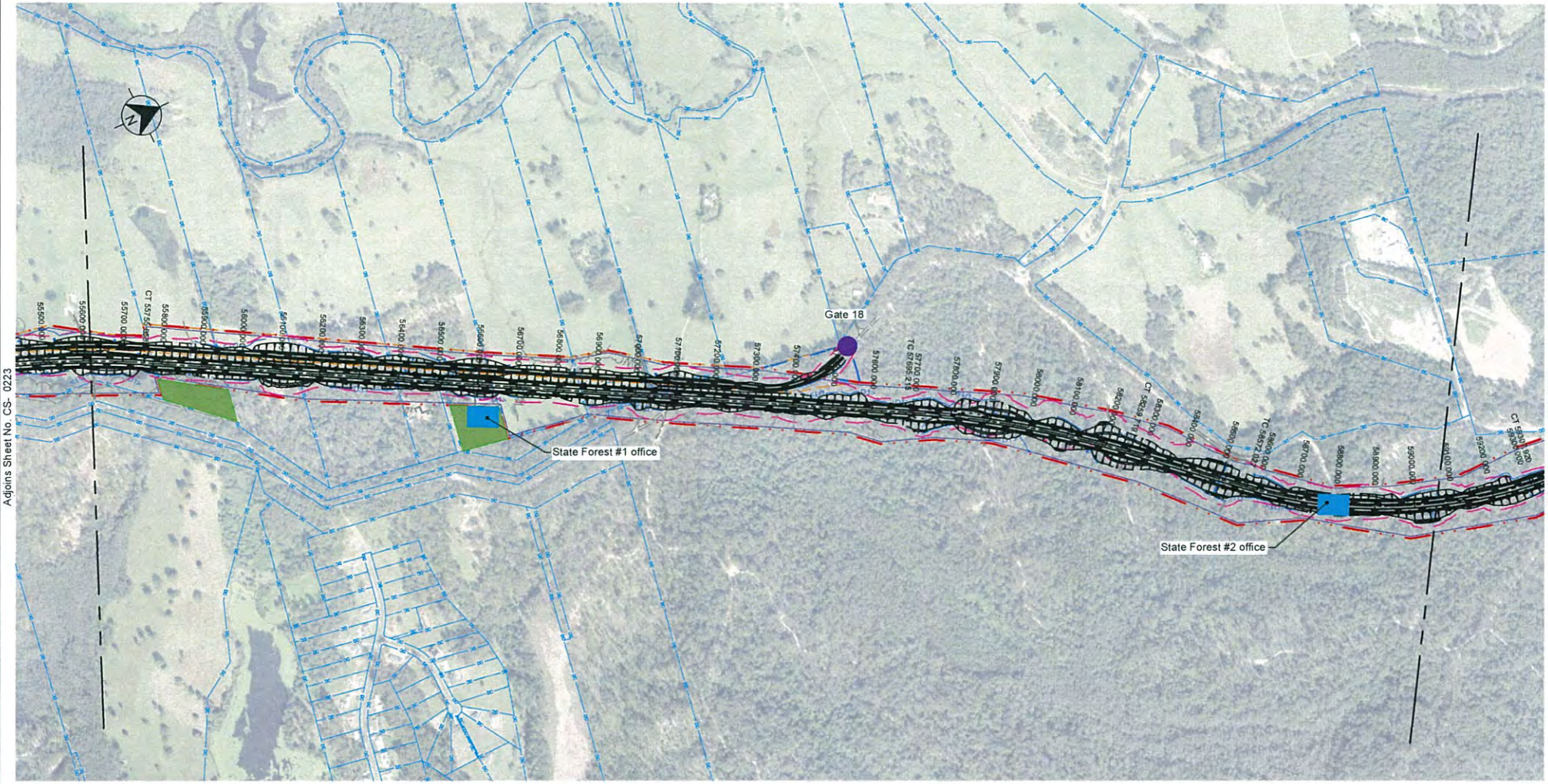

NOTE
1. For Legend and General Notes refer to Sheet No. CS-0015

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ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

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SCALES
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CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

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ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
OVERALL SITE PLANS
SHEET 5 OF 6

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0224	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No: CS-0224

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DESIGN MODEL VERSION AADJV-TD-RA-MOD-005.12da

PRODUCED: 2 December 2013 AT 8:05:05 PM USER: Russell Bunn
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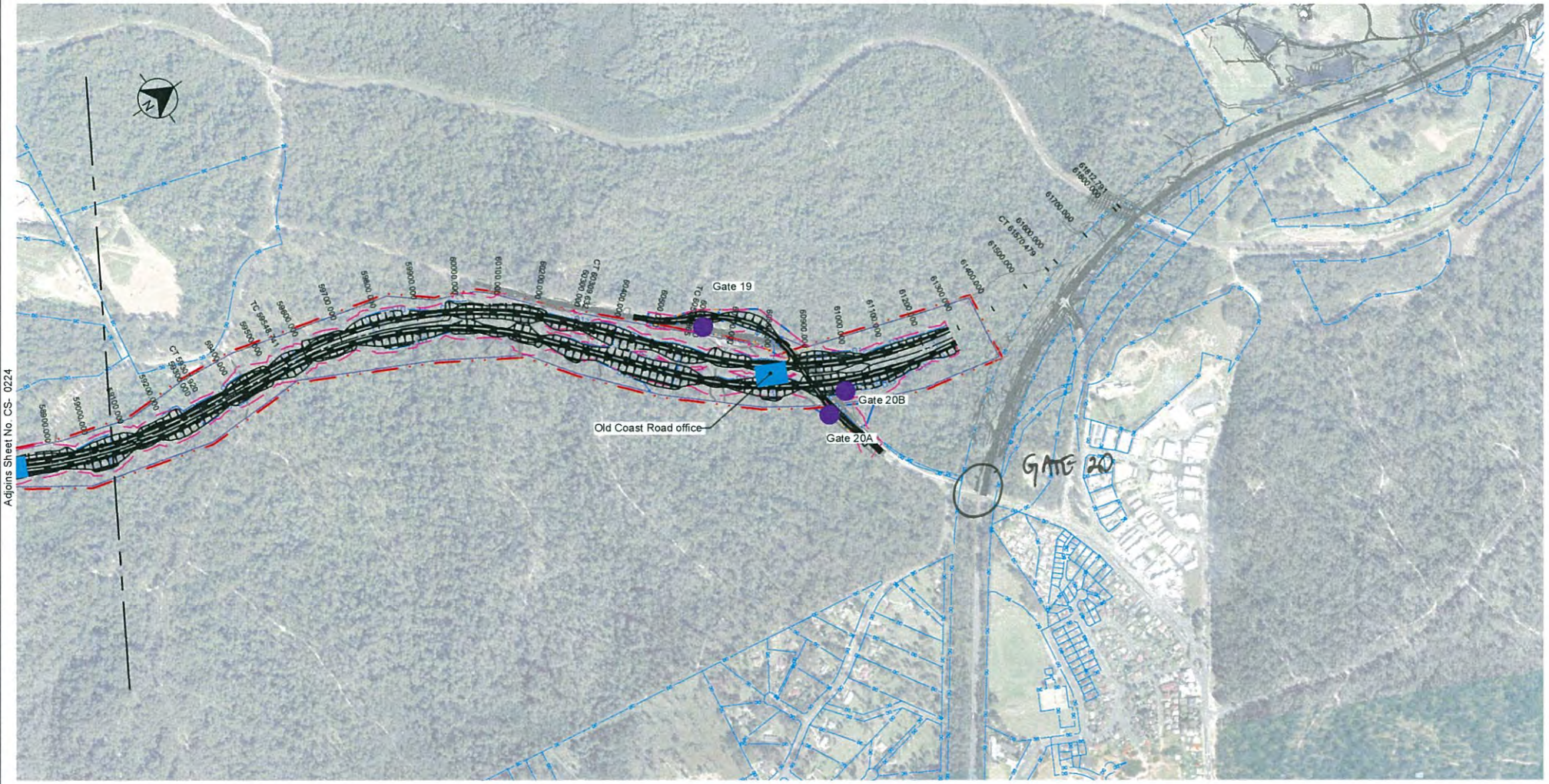

NOTE
1. For Legend and General Notes refer to Sheet No. CS-0015

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

A3 ORIGINAL

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SCALES
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SCALE 1:10000m

CO-ORDINATE SYSTEM MGA Zone 56 HEIGHT DATUM A.H.D.

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ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
OVERALL SITE PLANS
SHEET 6 OF 6

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-CS-DRG-0225	TENDER DESIGN	8	A

REGISTRATION NUMBER: -

SHEET No.: CS-0225

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PEN TABLE: MR_COLOUR.STB
DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005 12da

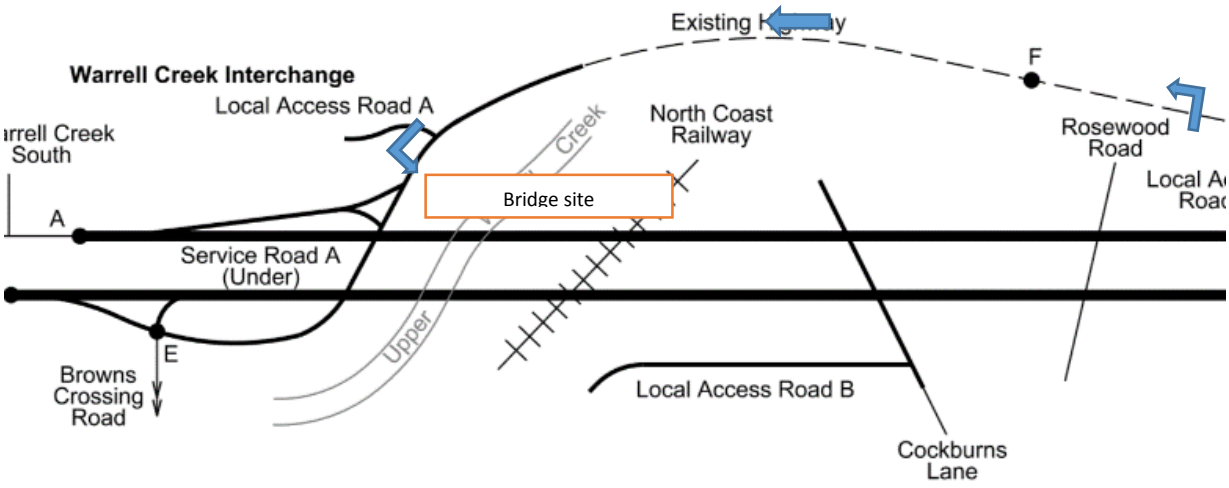
APPENDIX C

Upper Warrell Creek bridge 36 Girders delivered via Pacific Hwy.

Frequency of 2 girders a day (possibly 3 girders) (18 days of delivery)

Delivery only during daylight hours, under Police escort.

Delivery Route



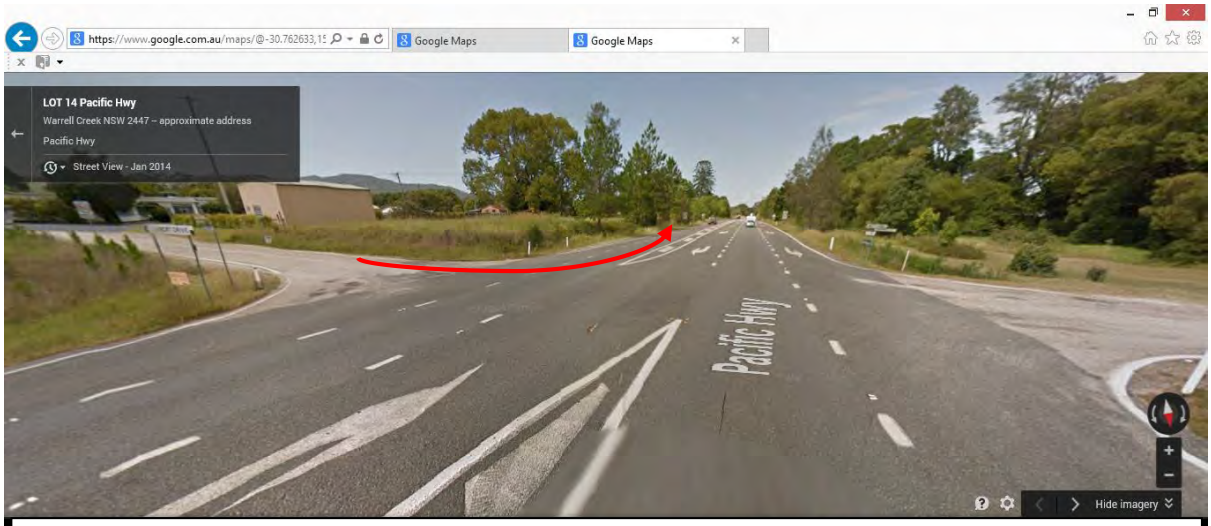
Turn left onto Albert Dr from Casting yard.

Travel south-west along Albert Drive, multiple residential driveway, low clearance rail bridge (clearance height OK) and plank bridge (load limit TBC)

Turn left onto Pacific Hwy from Albert Drive South

Travel south along the Pacific Highway

Turn left into site via a purpose built ramp off the existing Pacific Highway / Service Road A



Looking south on the Pacific Highway at the Albert Drive South intersection.

Red arrow shows the direction of the movement.

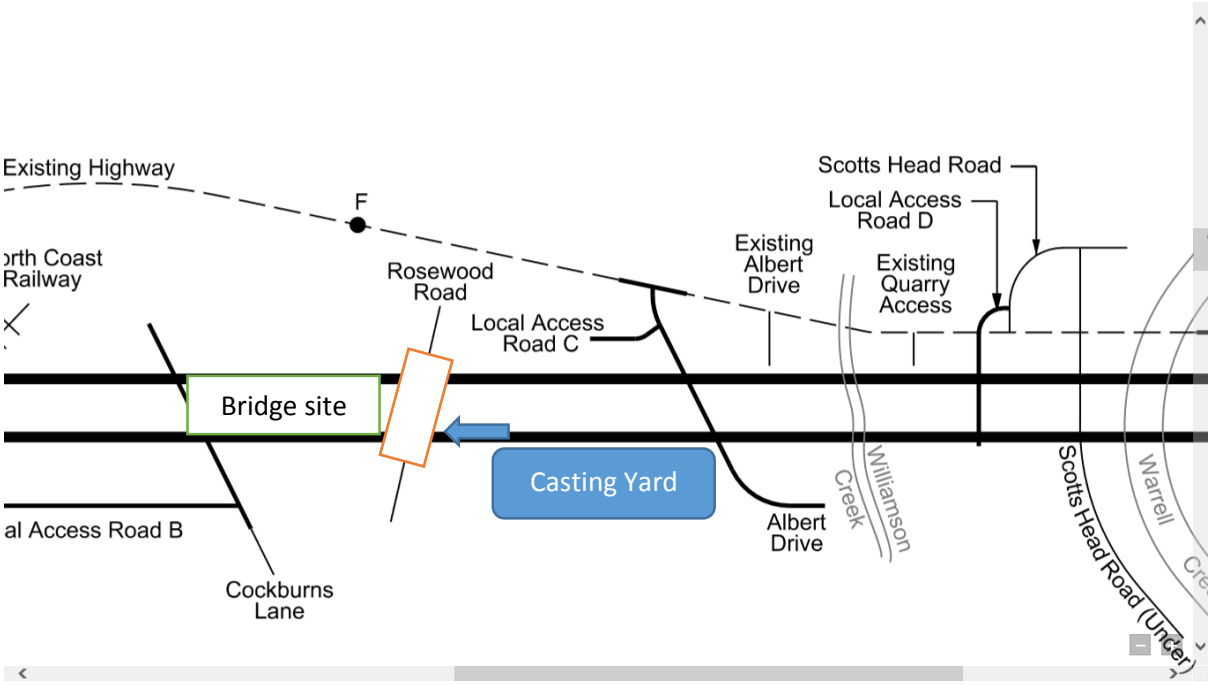
Rosewood Drive 4 girders delivered via the alignment

Frequency of 2 girders per shift (total of 4 girders)

Delivery requires a site Vehicle Movement Plan (VMP)

Locality Plan showing bridge site

Delivery Route

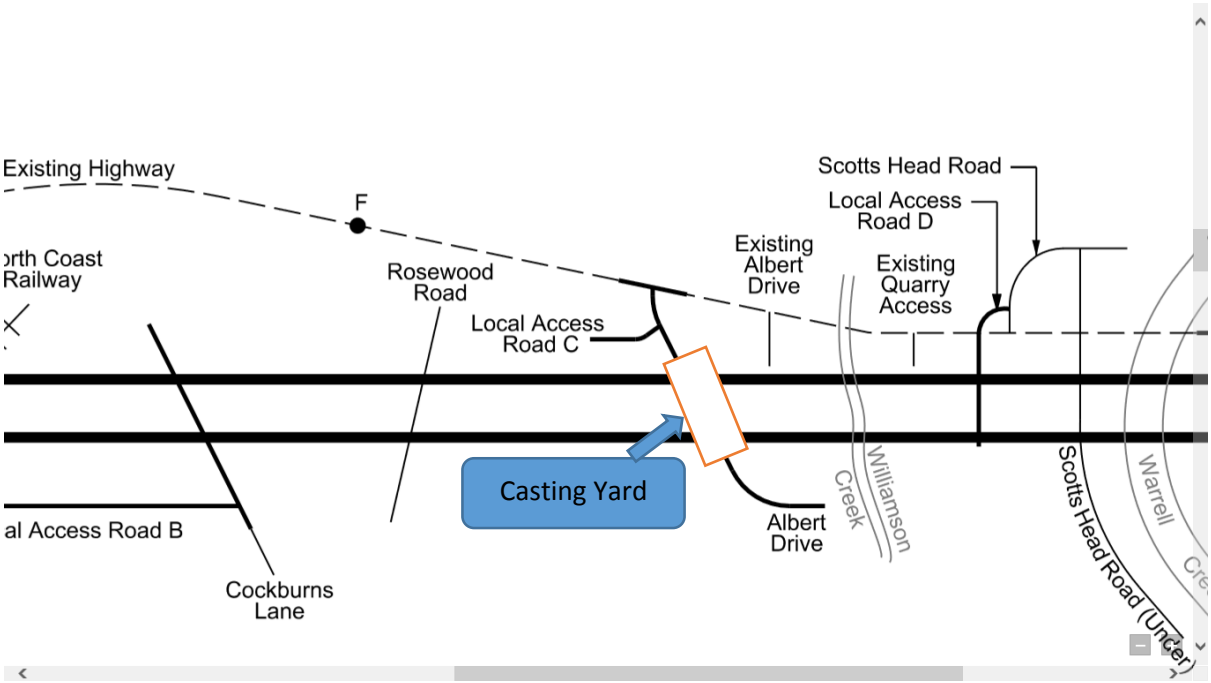


Albert Drive 4 girders delivered via the alignment

Frequency of 2 girders per shift (total of 4 girders)

Delivery requires a site Vehicle Movement Plan (VMP)

Delivery Route

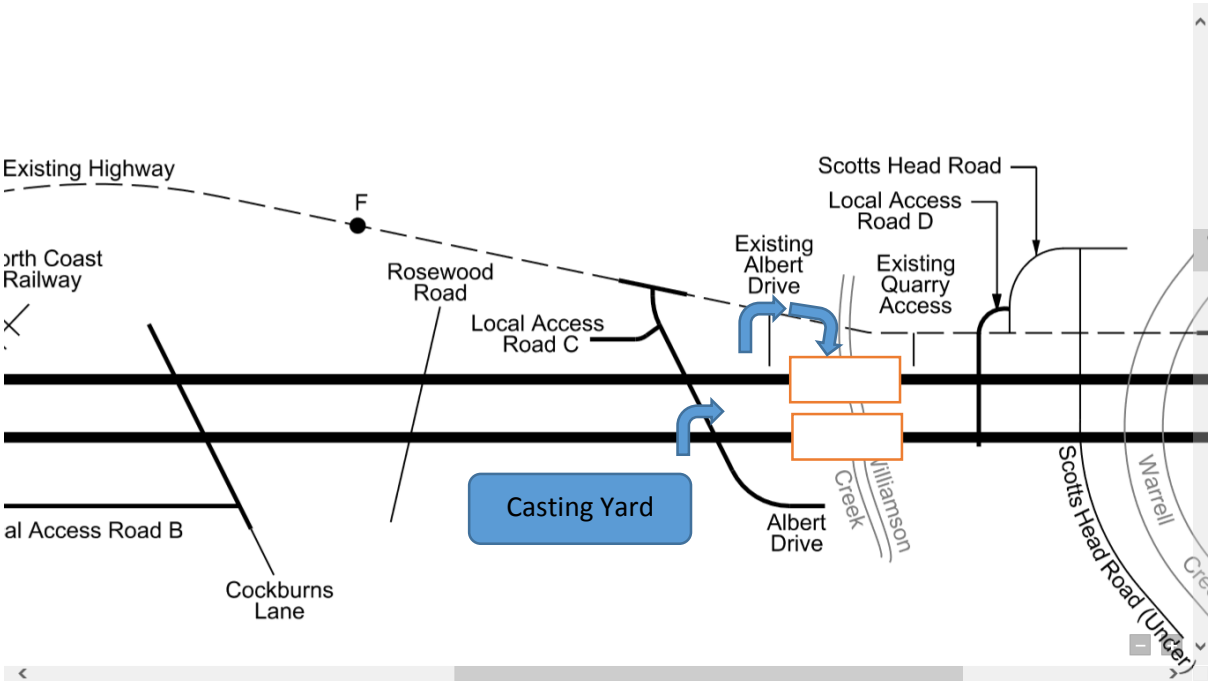


Williamson Creek - 4 girders delivered via the Pacific Highway

Frequency of 2 girders per shift (total of 4 girders)

Delivery only during daylight hours, under Police escort.

Delivery Route



Delivery route Option 1

Turn right onto Albert Dr from Casting yard.

Travel along Albert Drive, to Pacific Highway

Turn right onto site at Williamson Creek bridge site

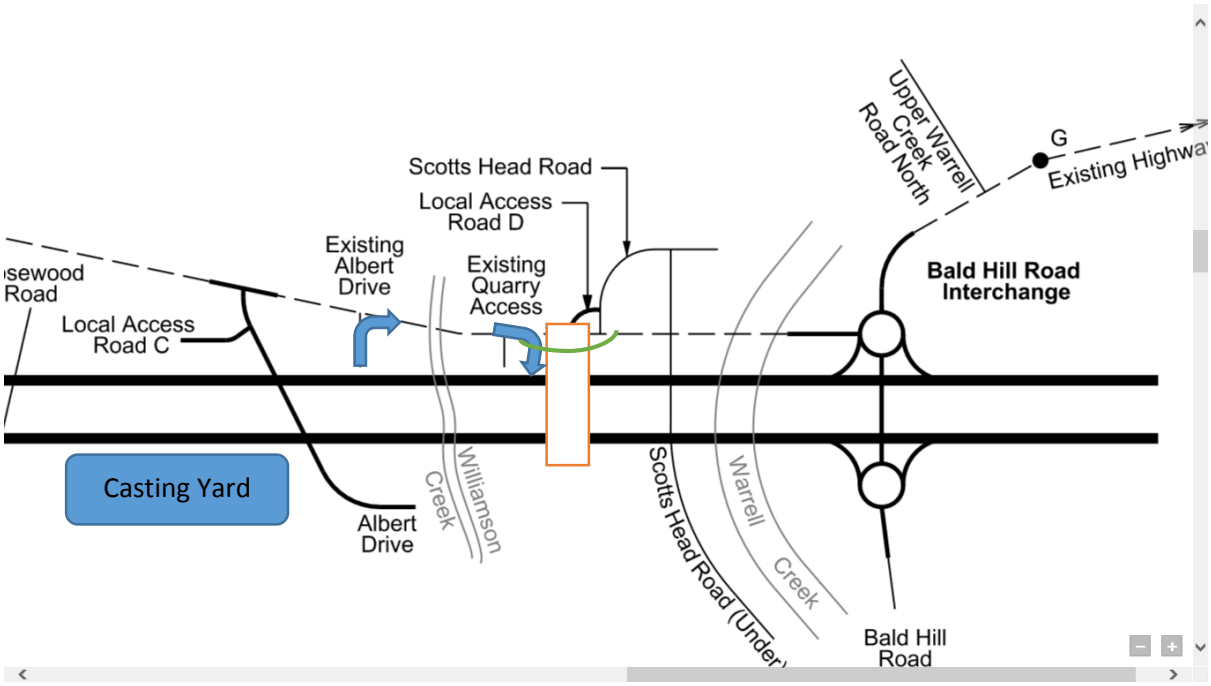
Quarry Access Road bridge 6 Girders delivered via Pacific Hwy.

Frequency of 2 girders a day (possibly 3 girders) (3 days of delivery)

Delivery only during daylight hours, under Police escort.

Note: Two girder span over the existing Pacific Highway to be lifted with traffic diverted around a side track. The side track is also to be activated for plank installation, pouring of the concrete deck and parapet installation.

Delivery Route



Turn right onto Albert Dr from Casting yard.

Travel along Albert Drive, to Pacific Highway

Turn right onto Pacific Hwy from Albert Drive North

Looking south on the Pacific Highway at the Albert Drive North intersection.

Red arrow shows the direction of the movement.

Travel south along the Pacific Highway

Turn right into site at the existing Quarry Access Road intersection off Pacific Highway

Looking south on the Pacific Highway at the existing Quarry Access Road intersection.

Red arrow shows the direction of the movement.

Warrell Creek bridge 24 Girders delivered via Pacific Hwy.

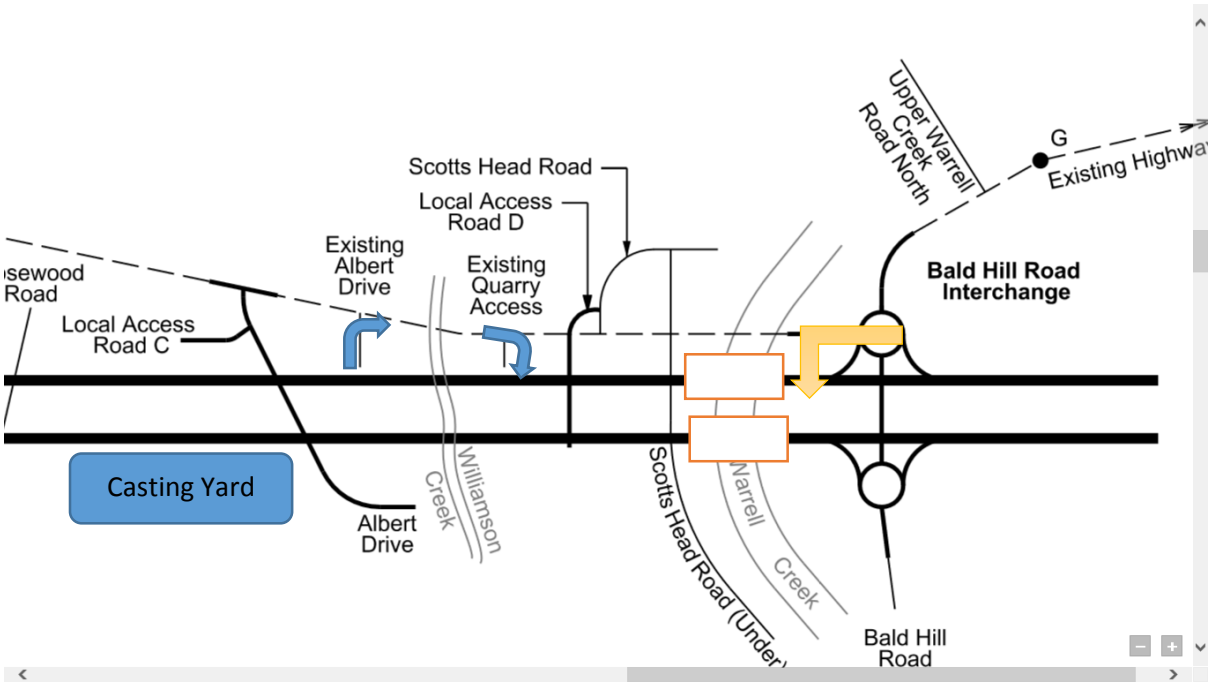
Frequency of 2 girders a day (12 days of delivery)

Delivery only during daylight hours, under Police escort.

12 girders are to be delivered from the south casting yard

12 girders are to be delivered from the north casting yard

Delivery Route



From south casting yard

Turn right onto Albert Dr from Casting yard.

Travel along Albert Drive, to Pacific Highway

Turn right onto Pacific Hwy from Albert Drive North

Travel along north along the Pacific Highway

Turn left into site at the existing Quarry Access Road intersection

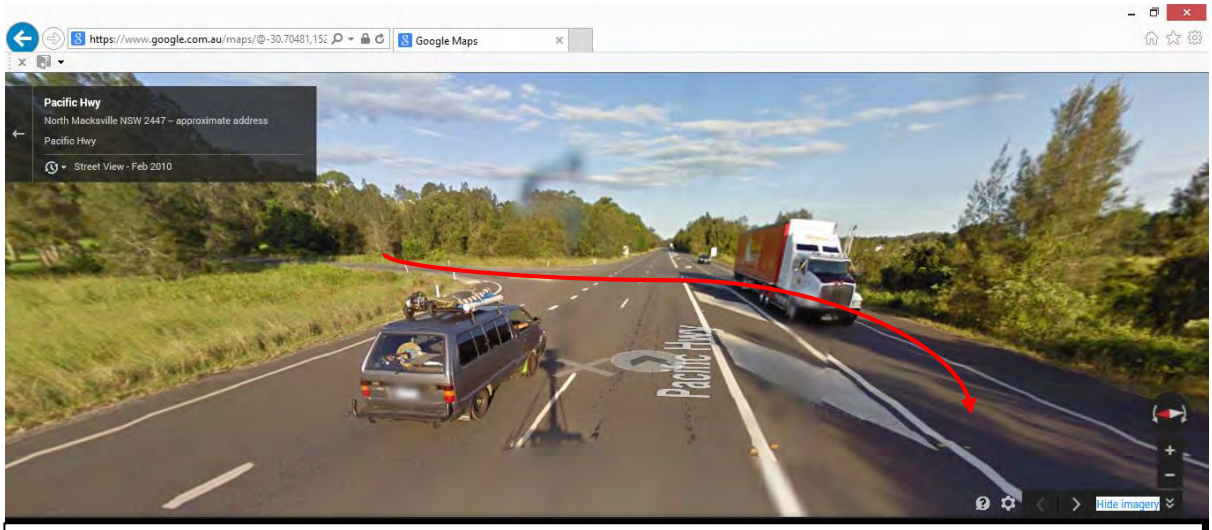
Travel along alignment to site and

From north casting yard

Turn left onto Old Coast Road from Mattick Road

Travel along Old Coast Road to Pacific Highway

Turn right onto Pacific Hwy from Old Coast Road



Looking east on the Pacific Highway at the intersection with Old Coast Road.

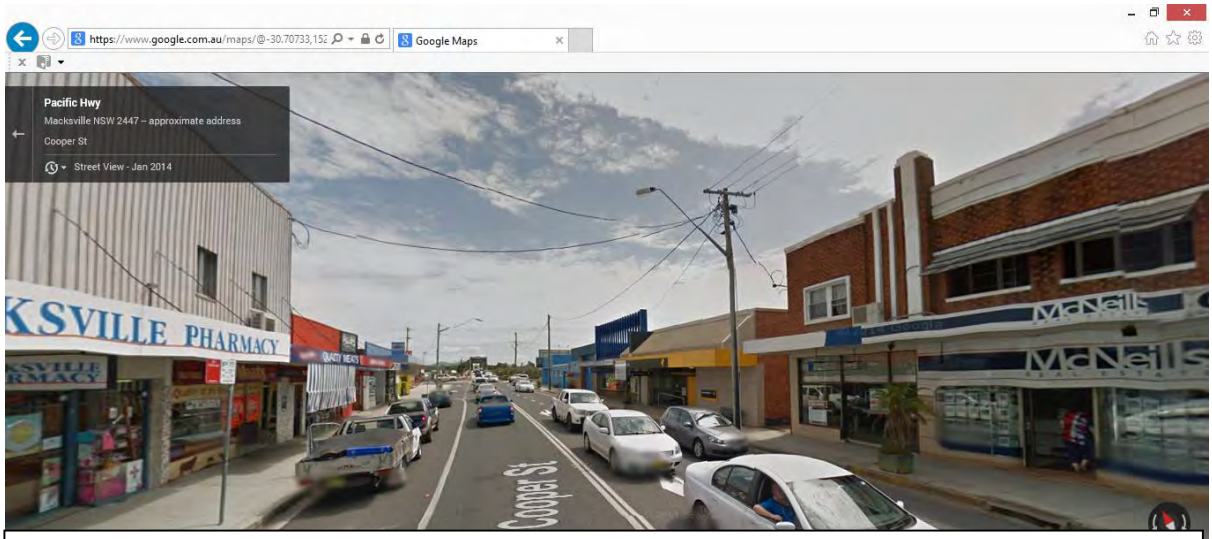
Red arrow shows the direction of the movement.

Travel along along the Pacific Highway, negotiate the bend towards Macksville town centre

Sweeping bend of the Pacific Highway on the northern approach into Macksville.

Red arrow shows the direction of the movement.

Continue through Macksville town centre



Looking north – Macksville town centre.

Turn left into Gate 10 (purpose built access)

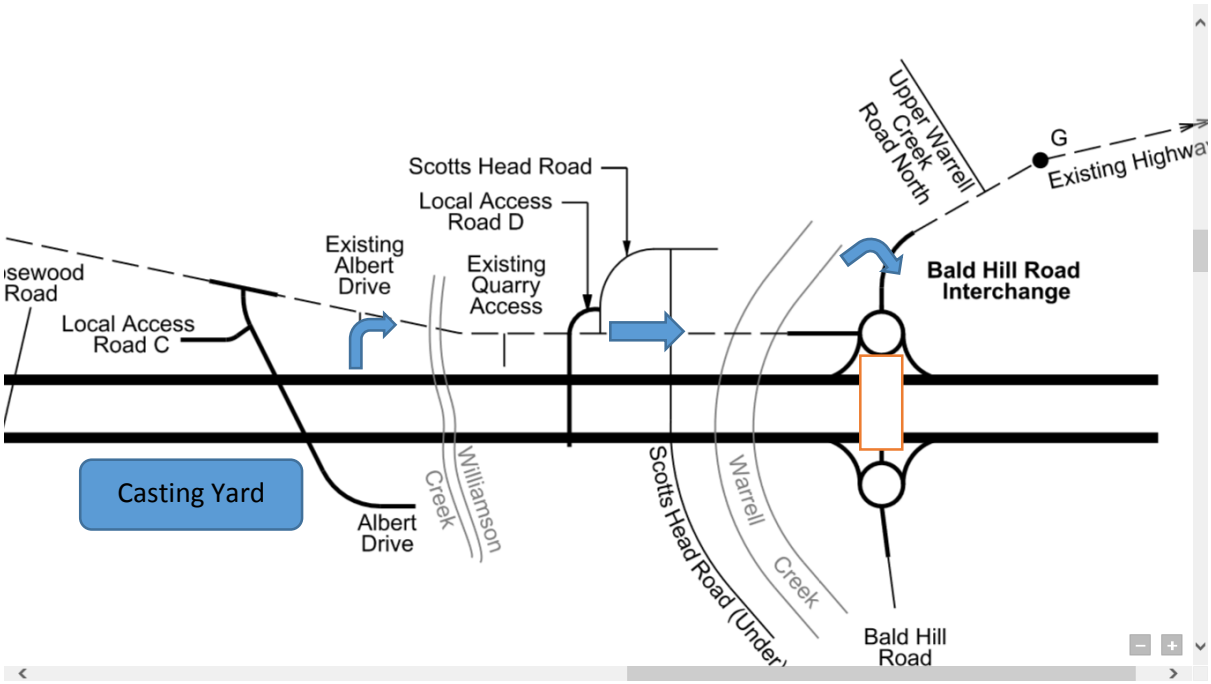
Travel through the alignment to the bridge site

Bald Hill Road bridge 4 Girders delivered via Pacific Hwy.

Frequency of 2 girders a day (2 days of deliveries)

Delivery only during daylight hours, under Police escort.

Delivery Route



From south casting yard

Turn right onto Albert Dr from Casting yard.

Travel along Albert Drive, to Pacific Highway

Turn right onto Pacific Hwy from Albert Drive North

Travel along north along the Pacific Highway

Turn left into existing Bald Hill Road intersection

Looking south on Pacific Highway, at intersection with Bald Hill Road.

Red arrow shows direction of travel.

Travel along Bald Hill Road and into site

Nambucca River bridge 84 Girders delivered via Pacific Hwy/River Street.

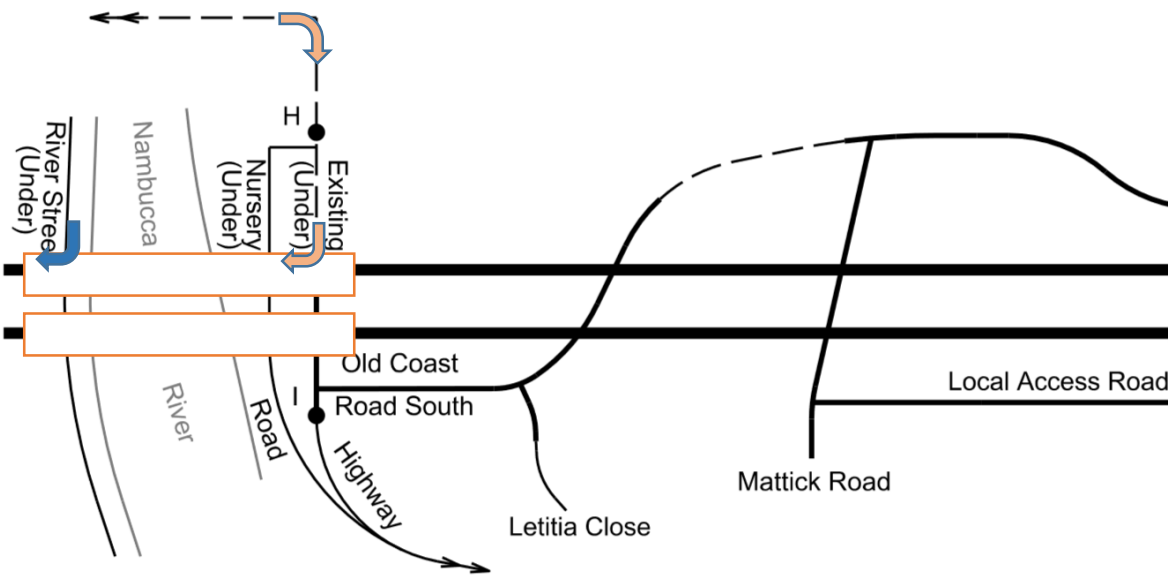
Frequency of 2 girders a day (42 days of deliveries)

Delivery only during daylight hours, under Police escort.

76 girders to be delivered via River Street

8 girders to be delivered at the site where the bridge crosses the existing Pacific Highway to be erected by crane.

Delivery route



From south casting yard to south side of Nambucca River

Turn right onto Albert Dr from Casting yard.

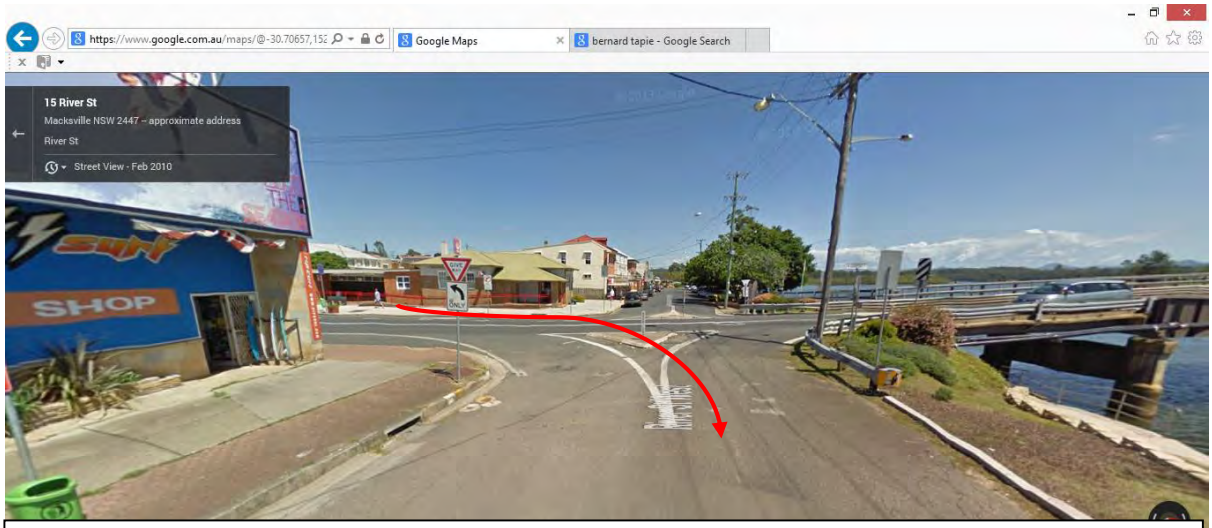
Travel along Albert Drive, to Pacific Highway

Turn right onto Pacific Hwy from Albert Drive North

Travel along north along the Pacific Highway

Travel through Macksville town centre

Turn right into River Street (existing NO RIGHT TURN)



Looking west at Pacific Highway intersection with River Street.

Prime mover/jinker will need to mount road islands, signs may need to be removed and returned.

Red arrow shows direction of travel.

Turn right into site off River Street

From south casting yard to north side of Nambucca River

Turn right onto Albert Dr from Casting yard.

Travel along Albert Drive, to Pacific Highway

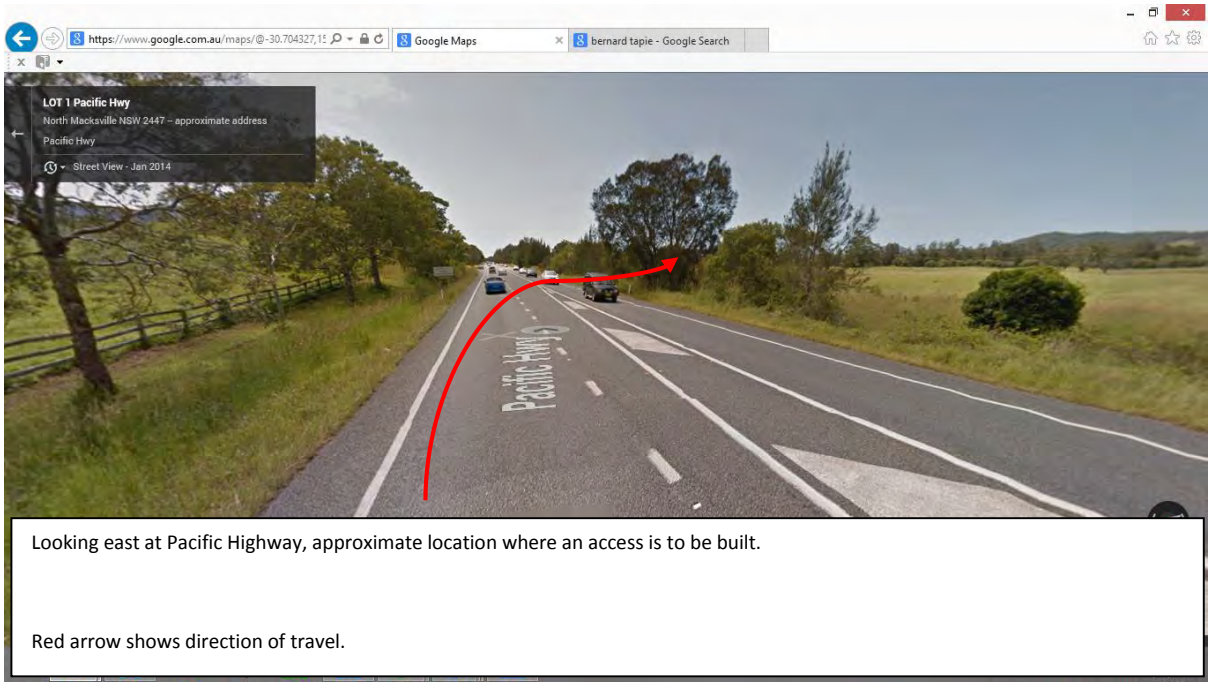
Turn right onto Pacific Hwy from Albert Drive North

Travel along north along the Pacific Highway

Travel through Macksville town centre

Continue over Macksville Bridge

Turn right into site via a purpose built access



Looking east at Pacific Highway, approximate location where an access is to be built.

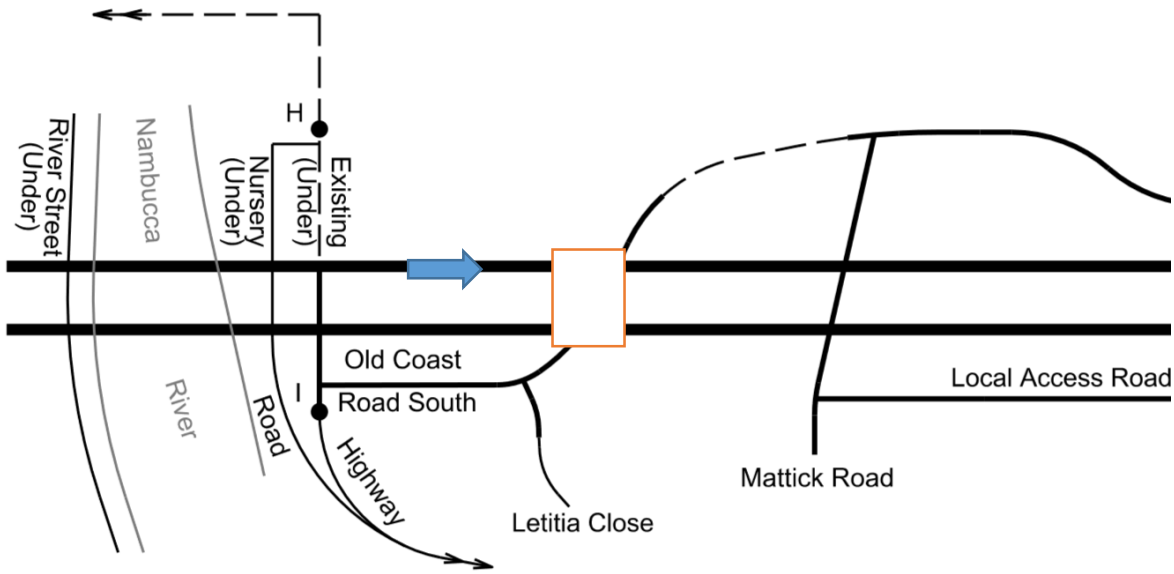
Red arrow shows direction of travel.

Old Coast Road south bridge 2 Girders delivered via the alignment

Frequency of 2 girder in one shift

Delivery requires a site Vehicle Movement Plan (VMP)

Delivery route



From south casting yard to Old Coast Road South bridge

Turn right onto Albert Dr from Casting yard.

Travel along Albert Drive, to Pacific Highway

Turn right onto Pacific Hwy from Albert Drive North

Travel along north along the Pacific Highway

Travel through Macksville town centre

Continue along Pacific Highway

Turn left into Old Coast Road South

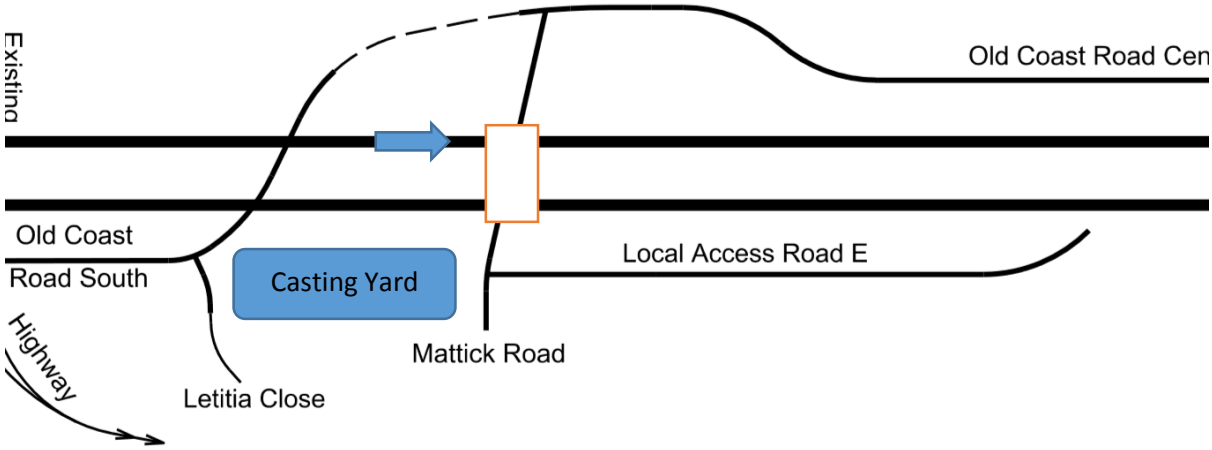
Turn right into site via a purpose built access

Mattick Road bridge 2 Girders delivered via the alignment

Frequency of 2 girder in one shift

Delivery requires a site Vehicle Movement Plan (VMP)

Delivery route

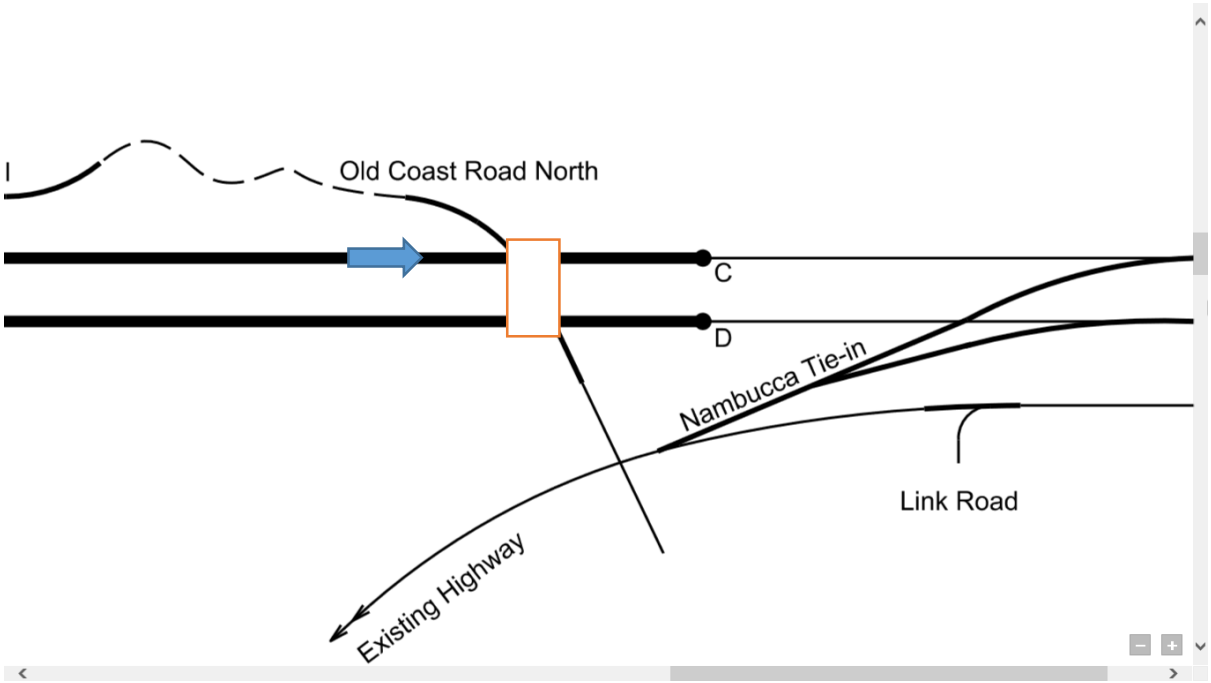


Old Coast Road north bridge 4 Girders delivered via the alignment

Frequency of 2 girders per shift

Delivery requires a site Vehicle Movement Plan (VMP)

Delivery Route



From Mattick Road casting yard site travel along the alignment direct to bridge site at Old Coast Road North

LOT 7001
DP1060407

UPPER WARRELL CREEK ROAD

DAM ROAD

LOT 7002
DP1060407

DAM ROAD

LOT 150
DP882113

LOT 151
DP882113

Property Access Track

41765.000

41800.000

41900.000

42000.000

42100.000

42200.000

CT 31.112
SAG 25.068

50.000

0.000

100.000

MCN1

Coordinates of Main Control
Line of Northbound
Carriageway (Point A)
E 488672.575
N 6593853.408

LOT 22
DP809352

LOT 59
DP861441

From Kempsey

EXISTING PACIFIC HIGHWAY

CM(A)

HW10

PACIFIC HIGHWAY

To Coffs Harbour

CM(B)

SERVICE ROAD A

Coordinates of Offside of
Southbound Carriageway (Point B)
E 488469.578
N 6593692.571

41506.544

41600.000

41700.000

41800.000

41900.000

LOT 152
DP882113

Upper Warrell Creek

MCS1

TC 41866.004

CT 41975.940

42000.000

700.000

CT 687.172

TC 42123.549

CT 595.271

500.000

42200.000

42233.000

TC 485.444

ROAD

CROSSING

BROWNS

CT 60.534
60.000

TC 31.130

TC 72.403

0.000

MC60

MC51

Coordinates of Centreline of Service
Road at Browns Crossing Road (Point E)
E 492286.772
N 6600740.867

GATE (1)

BROWNS CROSSING ROAD

Adjoins Sheet No. RD- 0102

NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

PRODUCED: 21 November 2013 AT 6:26:11 PM USER: Bob Liu
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A3 ORIGINAL

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
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CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon

DESIGNED A.STRAKER
REVIEWED N.MURALHA

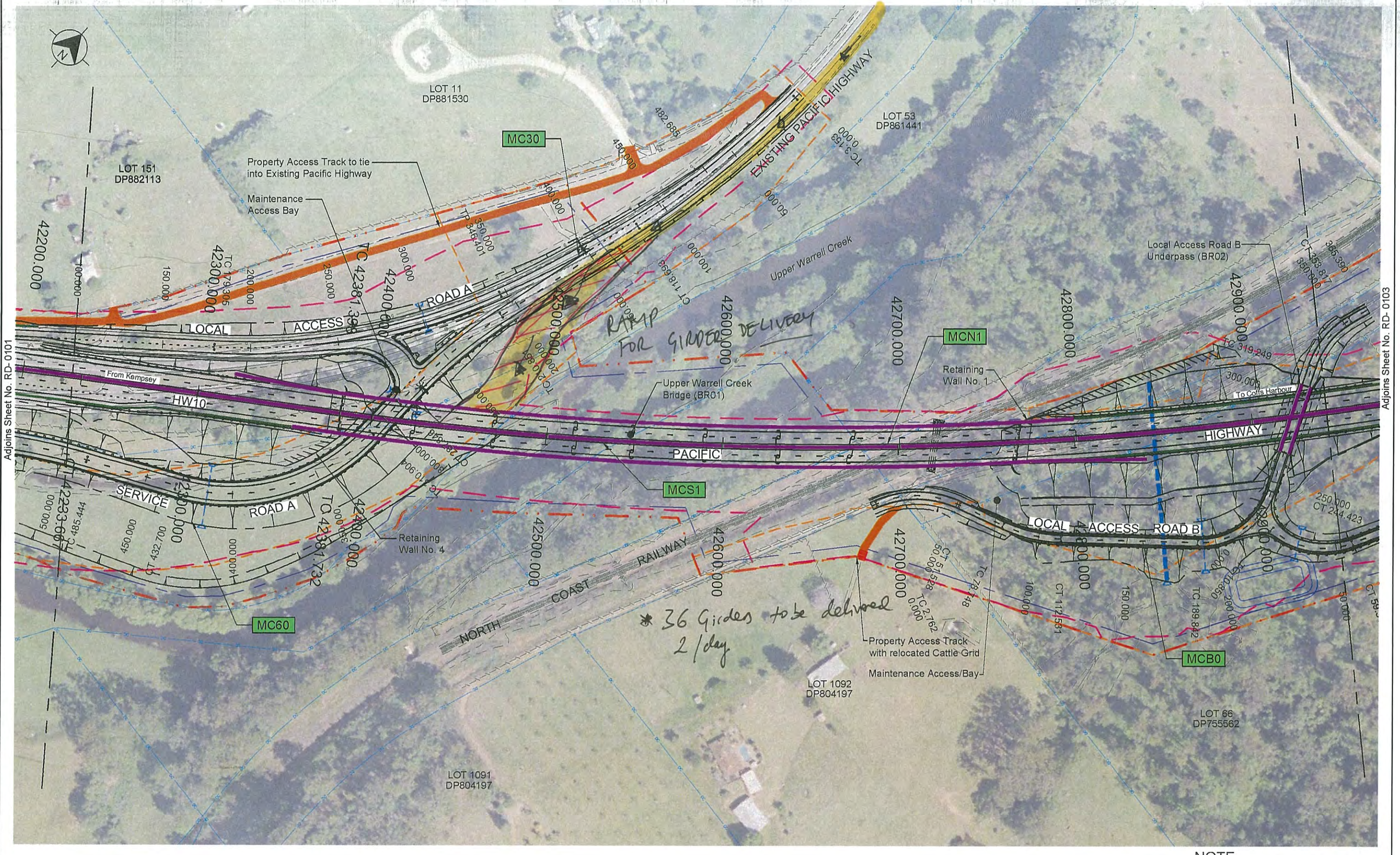
ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 1 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0101	TENDER DESIGN	1	A

REGISTRATION NUMBER: -

SHEET No.: RD-0101



Adjoins Sheet No. RD- 0101

Adjoins Sheet No. RD- 0103

NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
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A3 ORIGINAL

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SCALES
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SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon Design Joint Venture

DESIGNED: A.STRAKER
REVIEWED: N.MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 2 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0102	TENDER DESIGN	1	A

REGISTRATION NUMBER	SHEET No.
-	RD-0102

PRODUCED: 19 November 2013 AT 5:01:47 PM USER: Bob Liu
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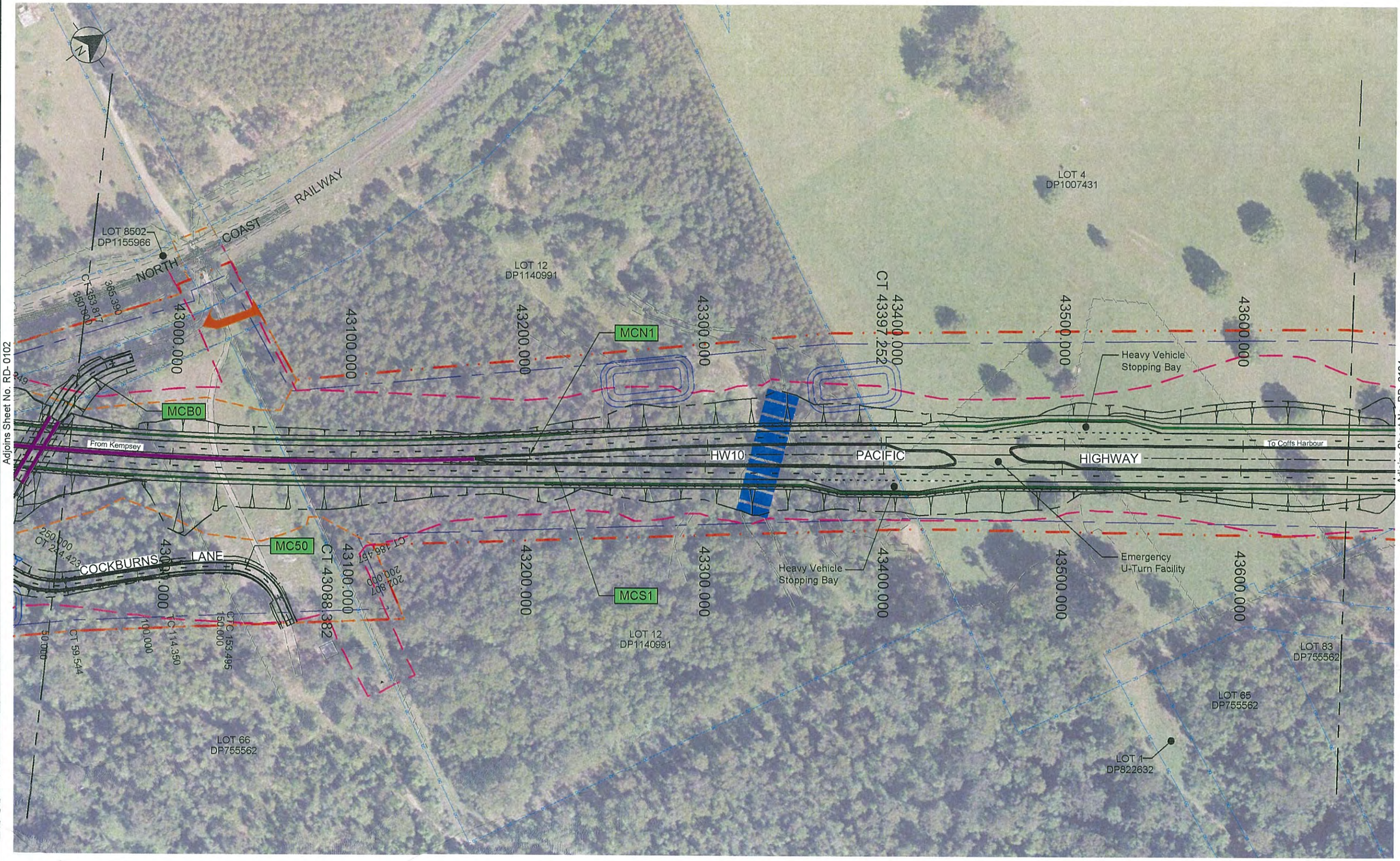
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da

0 5 10 15 20 25mm ON ORIGINAL



Adjoins Sheet No. RD- 0102

Adjoins Sheet No. RD- 0104

NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

PRODUCED: 19 November 2013 AT 5:02:03 PM
FILE PATH: C:\projectwise\Export\WC2NH\TENDER DESIGN\WC2NH-TD-RD-DRG-0103.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
A3 ORIGINAL 0 5 10 15 20 25mm ON ORIGINAL
USER: Bob Liu
DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

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SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

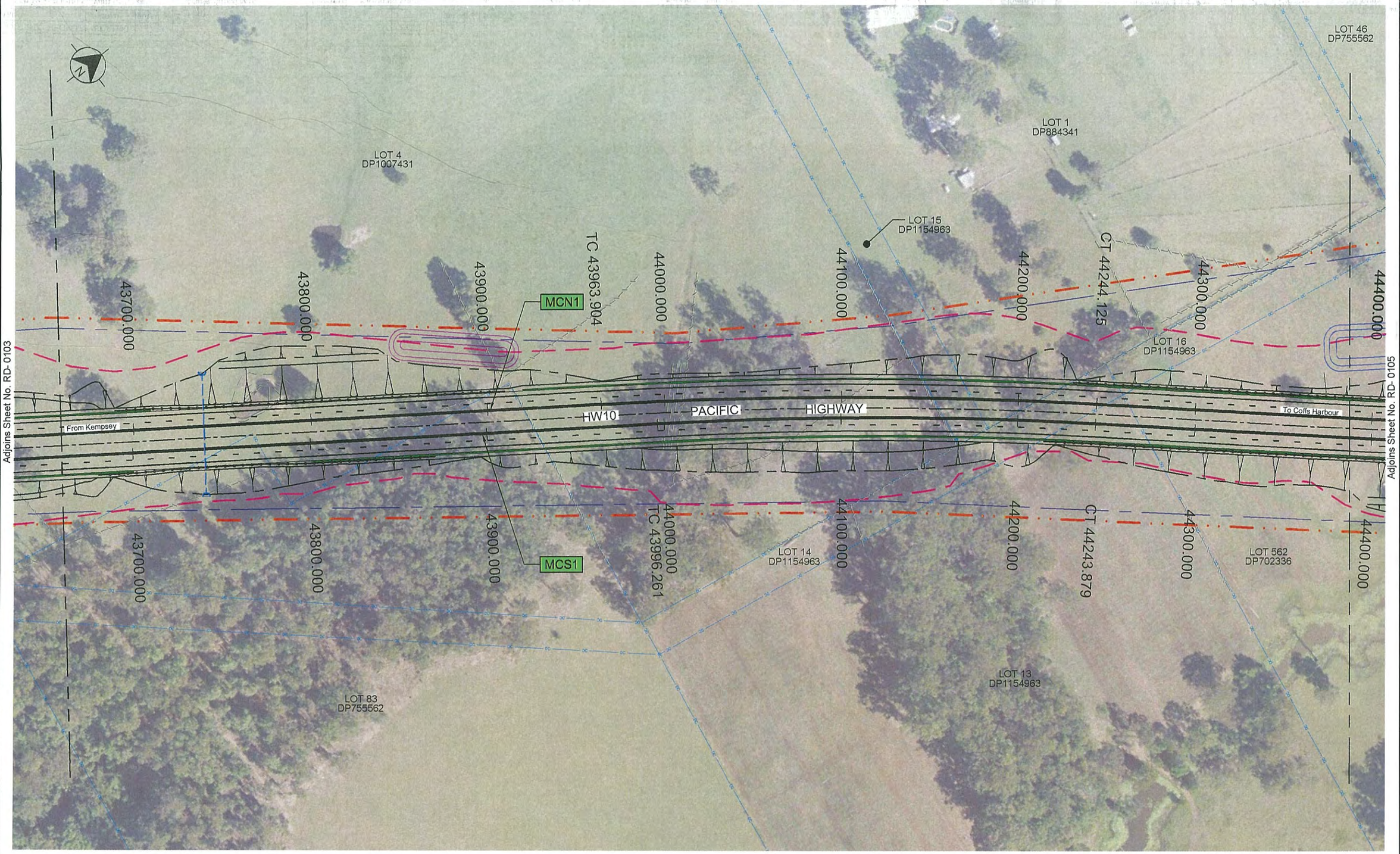
AFJV
ARUP aurecon

DESIGNED A.STRAKER
REVIEWED N.MURALHA

ROADS AND MARITIME SERVICES
NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 3 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0103	TENDER DESIGN	1	A

REGISTRATION NUMBER	SHEET No.
-	RD-0103



NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

A3 ORIGINAL

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SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon Design Joint Venture

DESIGNED, A.STRAKER
REVIEWED, N.MURALHA

ROADS AND MARITIME SERVICES

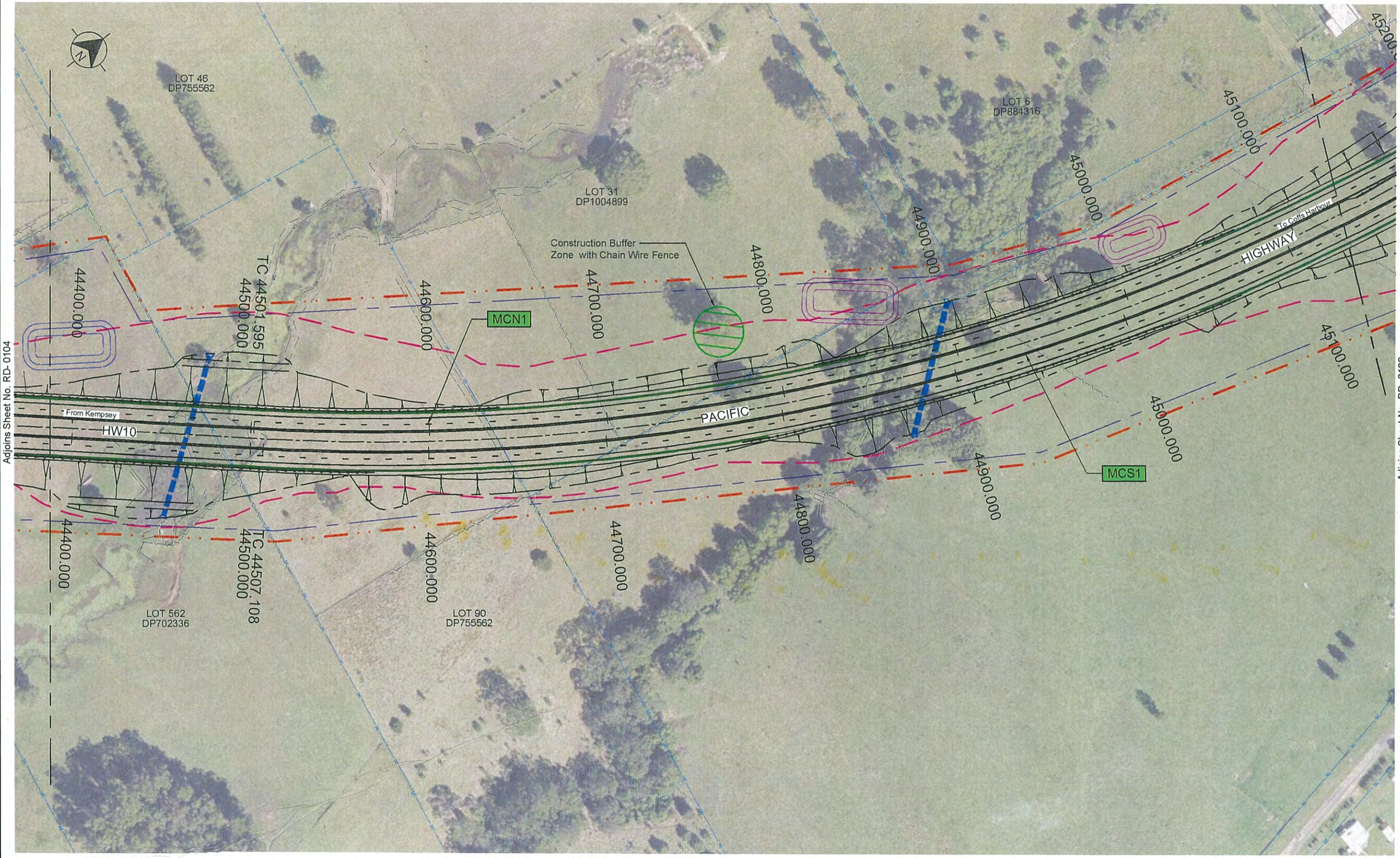
NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 4 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0104	TENDER DESIGN	1	A

REGISTRATION NUMBER: -

SHEET No.: RD-0104

PRODUCED: 19 November 2013 AT 5:02:19 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\WC2NH-TD-RD-DRG-0104.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da
0 5 10 15 20 25mm ON ORIGINAL



Adjoins Sheet No. RD- 0104

Adjoins Sheet No. RD- 0106

NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

This sheet may be prepared using colour and may be incomplete if copied

A3 ORIGINAL

SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon

DESIGNED A STRAKER
REVIEWED N MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 5 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0105	TENDER DESIGN	1	A

REGISTRATION NUMBER	SHEET No.
-	RD-0105

PRODUCED: 19 November 2013 AT 5:02:35 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\WC2NH-TD-RD-DRG-0105.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
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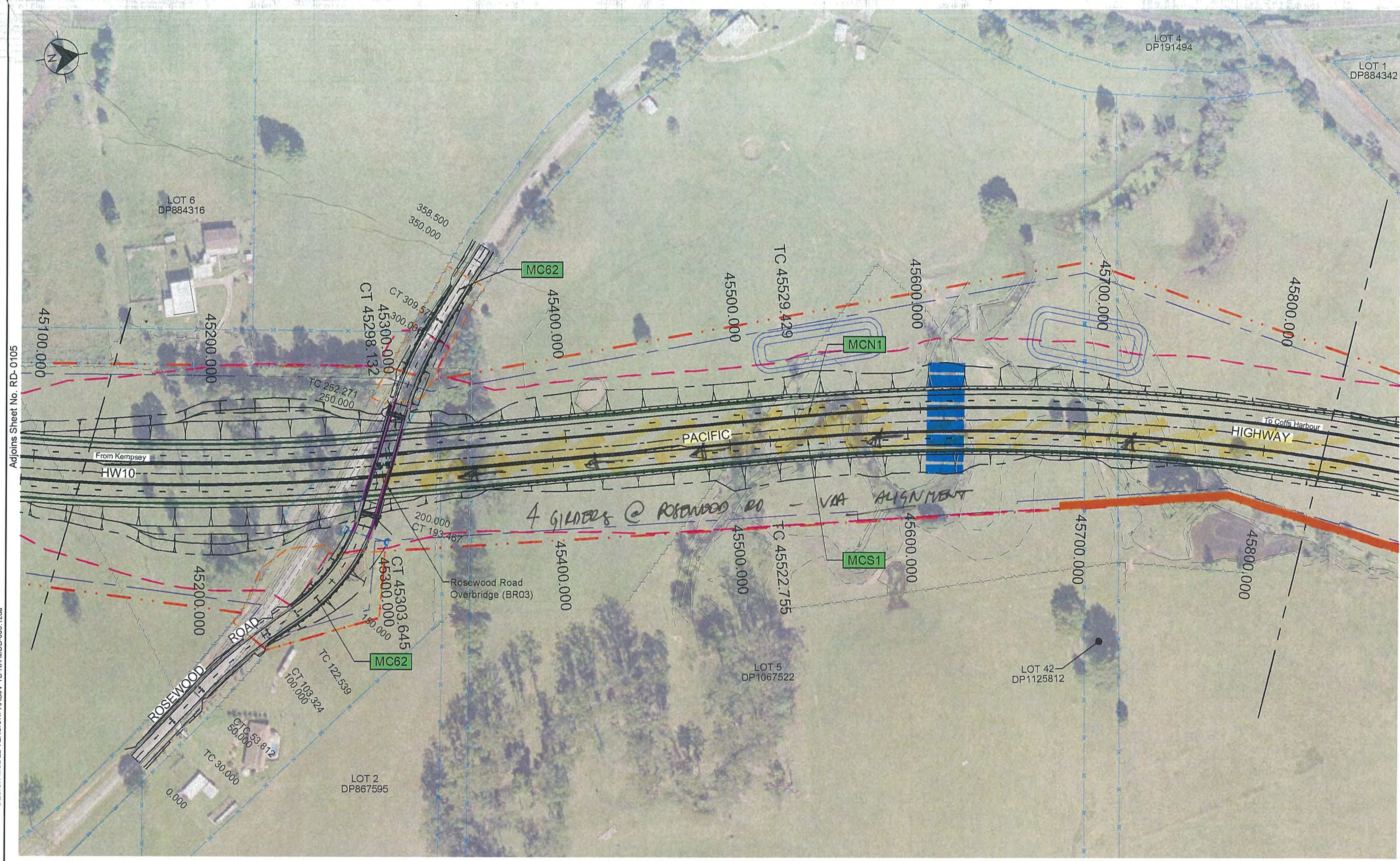
DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da



NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

PRODUCED: 19 November 2013 AT 5:02:50 PM USER: Bob Liu
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PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da

A3 ORIGINAL — 0 5 10 15 20 25mm ON ORIGINAL

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

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SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon
Design Joint Venture

DESIGNED. A.STRAKER
REVIEWED. N.MURALHA

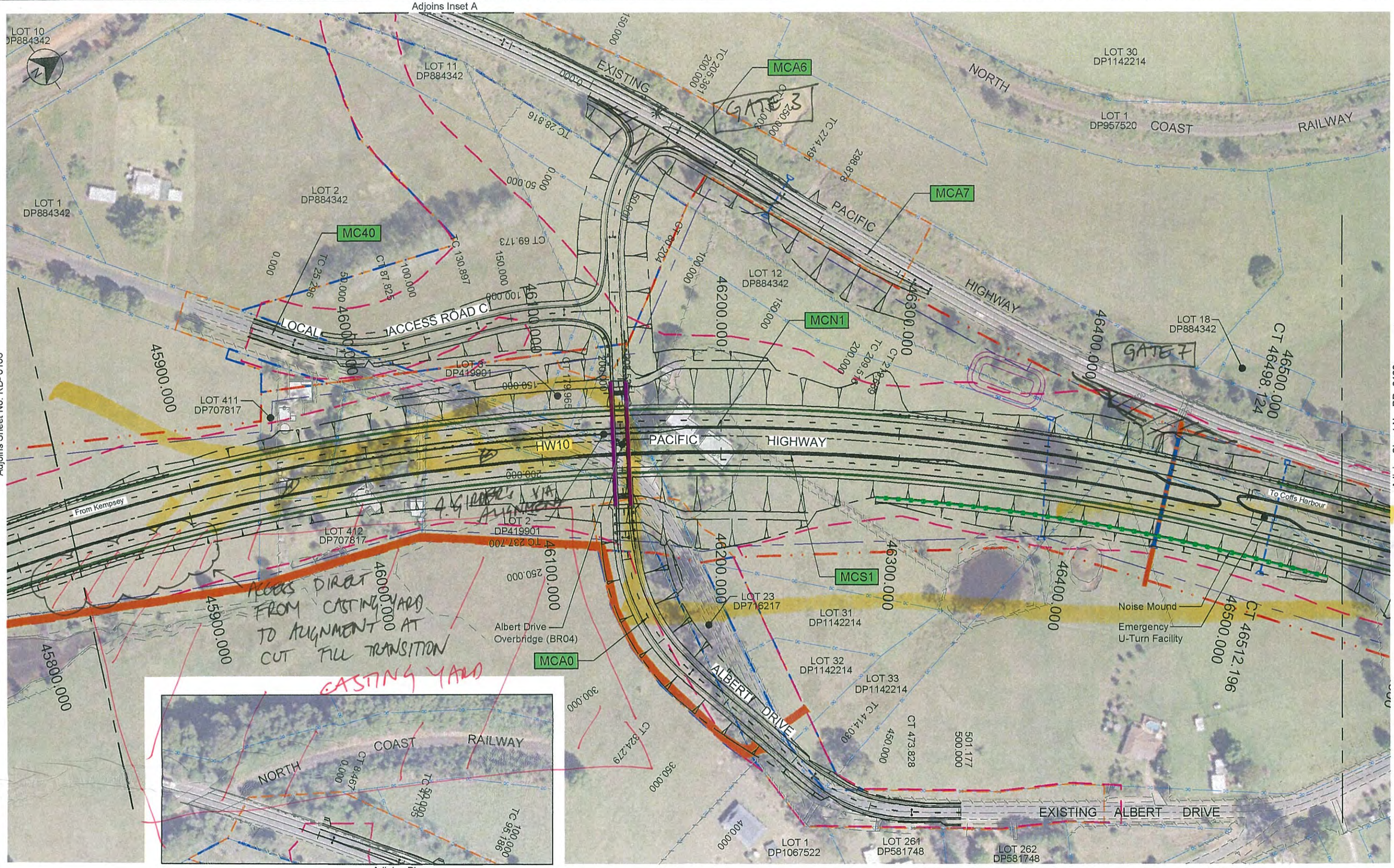
ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 6 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0106	TENDER DESIGN	1	A

REGISTRATION NUMBER	SHEET No.
-	RD-0106

Adjoins Inset A



Adjoins Plan

INSET A

PLAN

NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

Adjoins Sheet No. RD- 0106

Adjoins Sheet No. RD- 0108

DESIGN MODEL VERSION: AADJV-TD-RA-MOD-006.12da

PRODUCED: 19 November 2013 AT 5:03:13 PM USER: Bob Liu
FILE PATH: C:\projectwise\exports\WC2NH\TENDER DESIGN\WC2NHTD-RD-DRG-0107.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
0 5 10 15 20 25mm ON ORIGINAL
A3 ORIGINAL

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

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SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon

DESIGNED A.STRAKER
REVIEWED N.MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 7 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0107	TENDER DESIGN	1	A

REGISTRATION NUMBER: -

SHEET No.: RD-0107

Adjoins Sheet No. RD-0107

Adjoins Sheet No. RD-0109

Upper Warrell Creek

LOT 4 DP884342

LOT 1 DP241033

Williamson Creek

ALBERT DR NTH.

GATE7

LOT 41 DP599144

Williamson Creek Twin Bridges (BR05)

LOT 15 DP710004

LOT 16 DP710004

46600.000

TC 46953.478

46700.000

46800.000

46900.000

CT 46956.186

47000.000

47100.000

47200.000

47300.000

MCN1

EXISTING PACIFIC HIGHWAY

From Kempsey

HW10

To Coffs Harbour

PACIFIC HIGHWAY

LOT 13 DP884342

LOT 14 DP884342

LOT 5 DP884342

Noise Mound

Noise Wall

LOT 17 DP884342

Williamson Creek Bridges

MCS1

EXISTING ALBERT DRIVE

LOT 3 DP1141485

LOT 7 DP884342

CT 46965.884

Noise Mound

Property Access Track

Williamson Creek

LOT 13 DP710004

4 GIRDERS WILLIAMSON CREEK

Embankment to be constructed to Spill Through Type 1 Details contained in Specification R44. Allow 0.5m thick rock protection with Geotextile Underlay. Rock size D_{50} = 150mm

LOT 7 DP113939

LOT 114 DP755562

LOT 113 DP755562

LOT 19 DP755562

LOT 124 DP755562

LOT 135 DP755562

LOT 115 DP755562

LOT 123 DP755562

LOT 1 DP1124702

LOT 1 DP790455

LOT 3 DP361068

LOT 2 DP790455

LOT 136 DP755562

LOT 141 DP755562

LOT 140 DP755562

LOT 61 DP755562

NOTE

1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da

PRODUCED: 19 November 2013 AT 5:03:30 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NHTENDER DESIGN\WC2NH-TD-RD-DRG-0108.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
0 5 10 15 20 125mm ON ORIGINAL
A3 ORIGINAL

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

This sheet may be prepared using colour and may be incomplete if copied

SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon Design Joint Venture

DESIGNED. A.STRAKER
REVIEWED. N.MURALHA

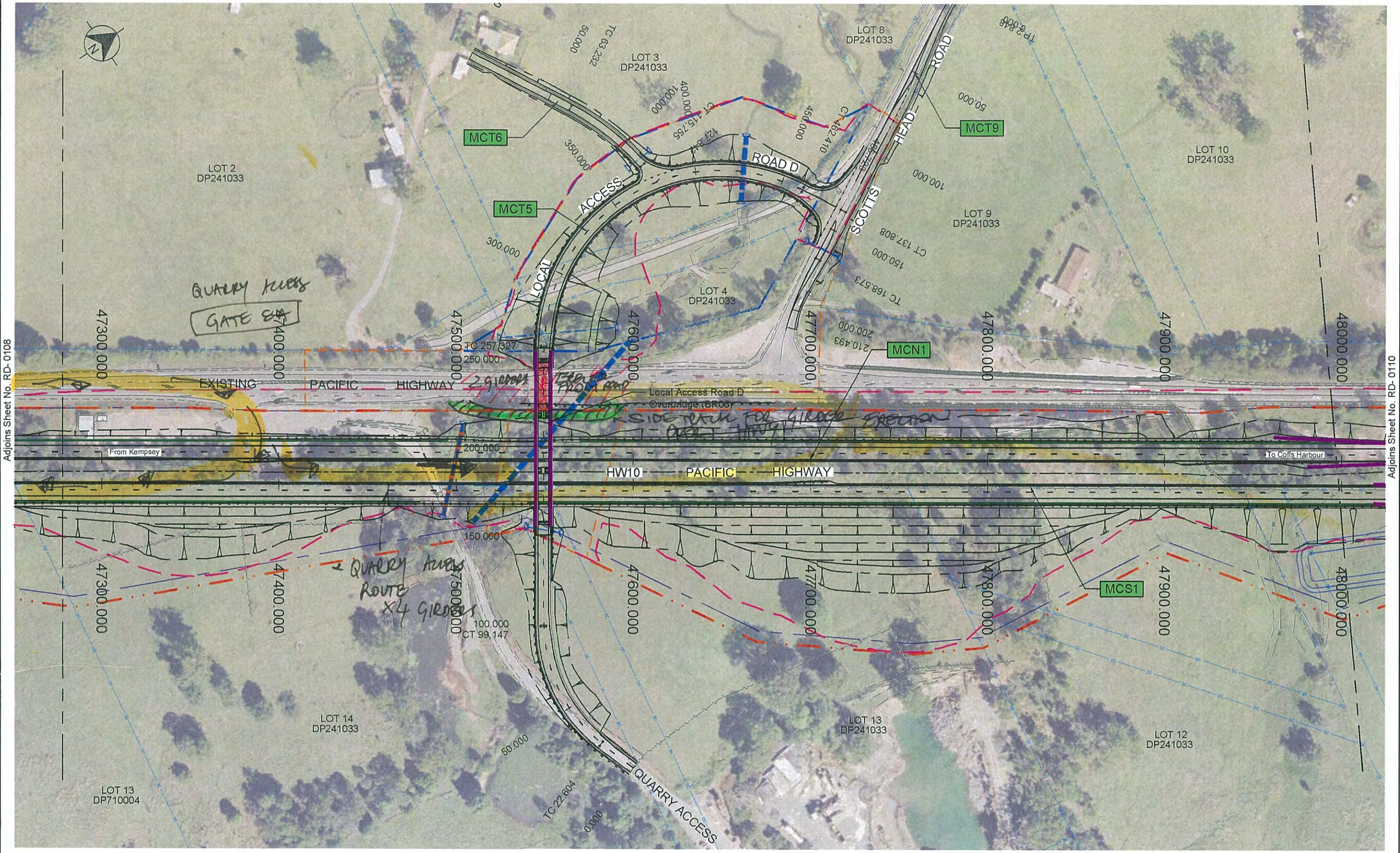
ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 8 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0108	TENDER DESIGN	1	A

REGISTRATION NUMBER: -

SHEET No.: RD-0108



Adjoins Sheet No. RD- 0108

Adjoins Sheet No. RD- 0110

NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

A3 ORIGINAL				SCALES 0 20 40 60 80 100 SCALE 1:2000m	AFJV ARUP aurecon	ROADS AND MARITIME SERVICES	DRAWING WC2NH-TD-RD-DRG-0109 / STAGE TENDER DESIGN / PART 1 / ISSUE A
	A	04/12/13	TENDER DESIGN - AFJV		DESIGNED A.STRAKER	NAMBUCCA SHIRE COUNCIL HW10 PACIFIC HIGHWAY UPGRADE WARRELL CREEK TO NAMBUCCA HEADS DETAIL PLAN SHEET 9 OF 28	REGISTRATION NUMBER - / SHEET No. RD-0109
	ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION		REVIEWED N.MURALHA		
	This sheet may be prepared using colour and may be incomplete if copied			CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.			

PRODUCED: 19 November 2013 AT 5:03:47 PM USER: Bob Liu
FILE PATH: C:\projectwise\Export\WC2NH\TENDER DESIGN\WC2NH-TD-RD-DRG-0109.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
0 5 10 15 20 25mm ON ORIGINAL
DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da

Adjoins Sheet No. RD-0109

Adjoins Sheet No. RD-0111

LOT 34
DP755562

LOT 10
DP241033

SCOTTS HEAD ROAD

Warrell Creek

Existing bridge retained for Service Road

MCN1

48000.000

48100.000

48200.000

48300.000

TC 48321.745

48400.000

48500.000

48600.000

48700.000

Existing Pacific Highway retained for Service Road

Retaining Wall No. 3

LOT 2
DP1017343

From Kempsey

EXISTING PACIFIC HIGHWAY

12 GIRDERS FROM SOUTH

GATE 10

To Coffs Harbour

12 GIRDERS FROM NORTH

HW10 PACIFIC HIGHWAY

MCS1

Retaining Wall No. 2

Warrell Creek Twin Bridges (BR07)

LOT 11
DP241033

SCOTTS HEAD ROAD

TC 48321.257

LOT 6
DP1014123

Embankment to be constructed to Spill Through Type 1 Details contained in Specification R44. Allow 0.5m thick rock protection with Geotextile Underlay. Rock size $D_{(66)}$ = 150mm

LOT 4
DP1014123

NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

This sheet may be prepared using colour and may be incomplete if copied

SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon Design Joint Venture

DESIGNED: A.STRAKER
REVIEWED: N.MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 10 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0110	TENDER DESIGN	1	A

REGISTRATION NUMBER: -

SHEET No.: RD-0110

A3 ORIGINAL
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DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da

PRODUCED: 22 November 2013 AT 5:43:27 PM USER: Bob.Liu
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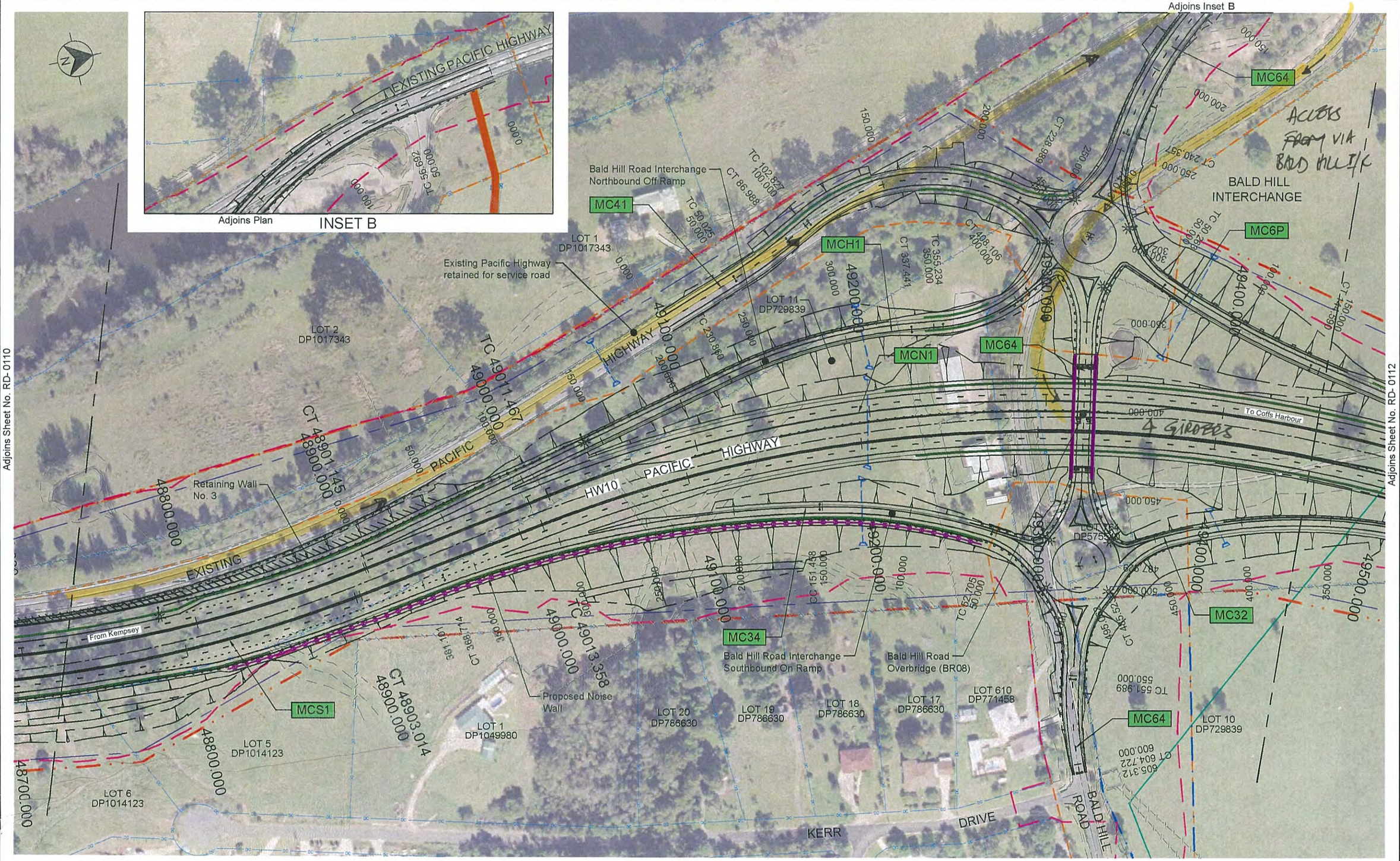

PLAN

NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

Adjoins Sheet No. RD- 0110

Adjoins Sheet No. RD- 0112

DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da

PRODUCED: 19 November 2013 AT 5:04:25 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\WC2NH-TD-RD-DRG-0111.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
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ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

A3 ORIGINAL

This sheet may be prepared using colour and may be incomplete if copied

SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon

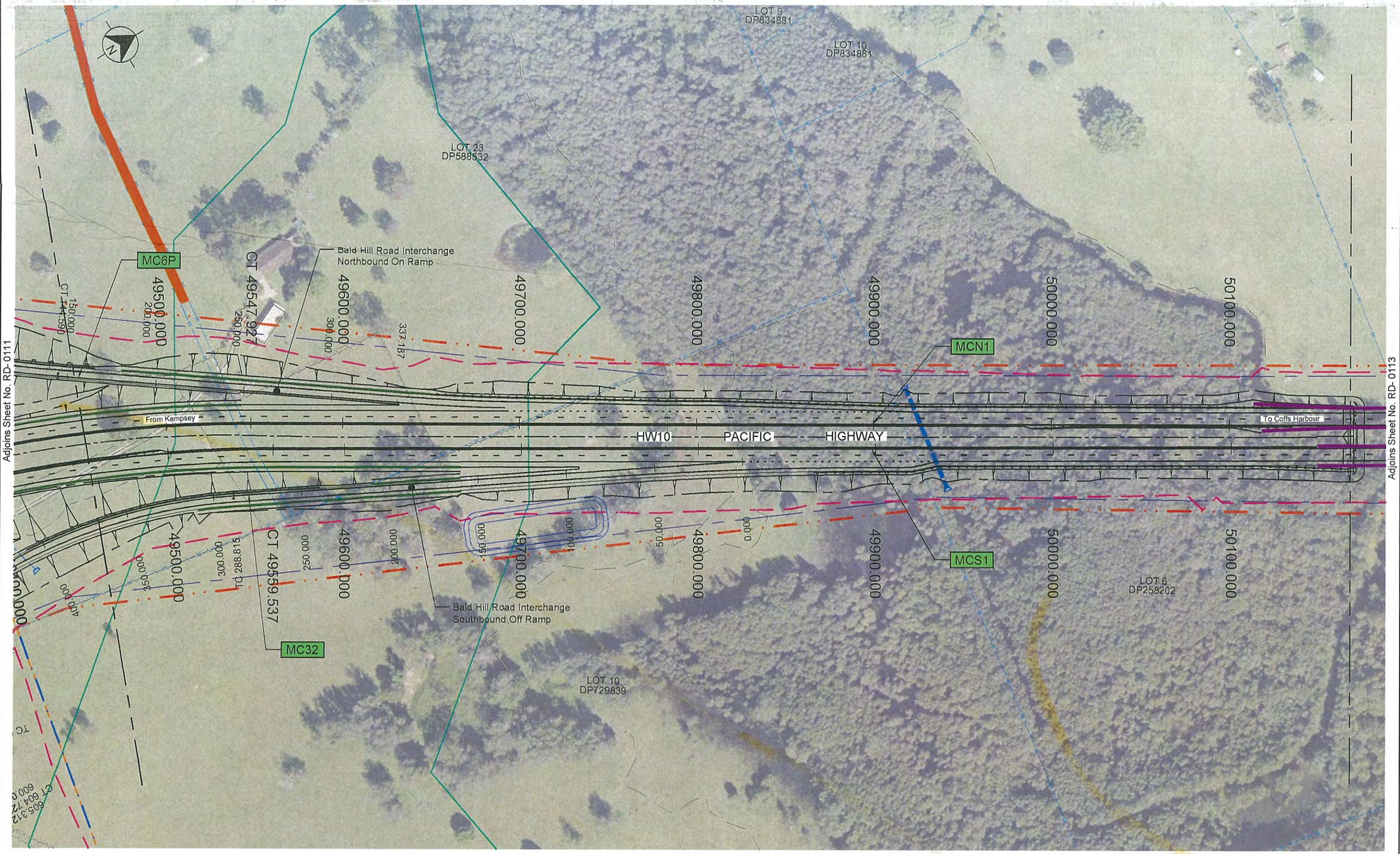
DESIGNED: A.STRAKER
REVIEWED: N.MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 11 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0111	TENDER DESIGN	1	A

REGISTRATION NUMBER	SHEET No.
-	RD-0111



NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

This sheet may be prepared using colour and may be incomplete if copied

SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon Design Joint Venture

DESIGNED A.STRAKER
REVIEWED N.MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 12 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0112	TENDER DESIGN	1	A

REGISTRATION NUMBER: -

SHEET No.: RD-0112

A3 ORIGINAL
0 5 10 15 20 25mm ON ORIGINAL

DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da

PRODUCED: 19 November 2013 AT 5:04:42 PM USER: Bob Liu
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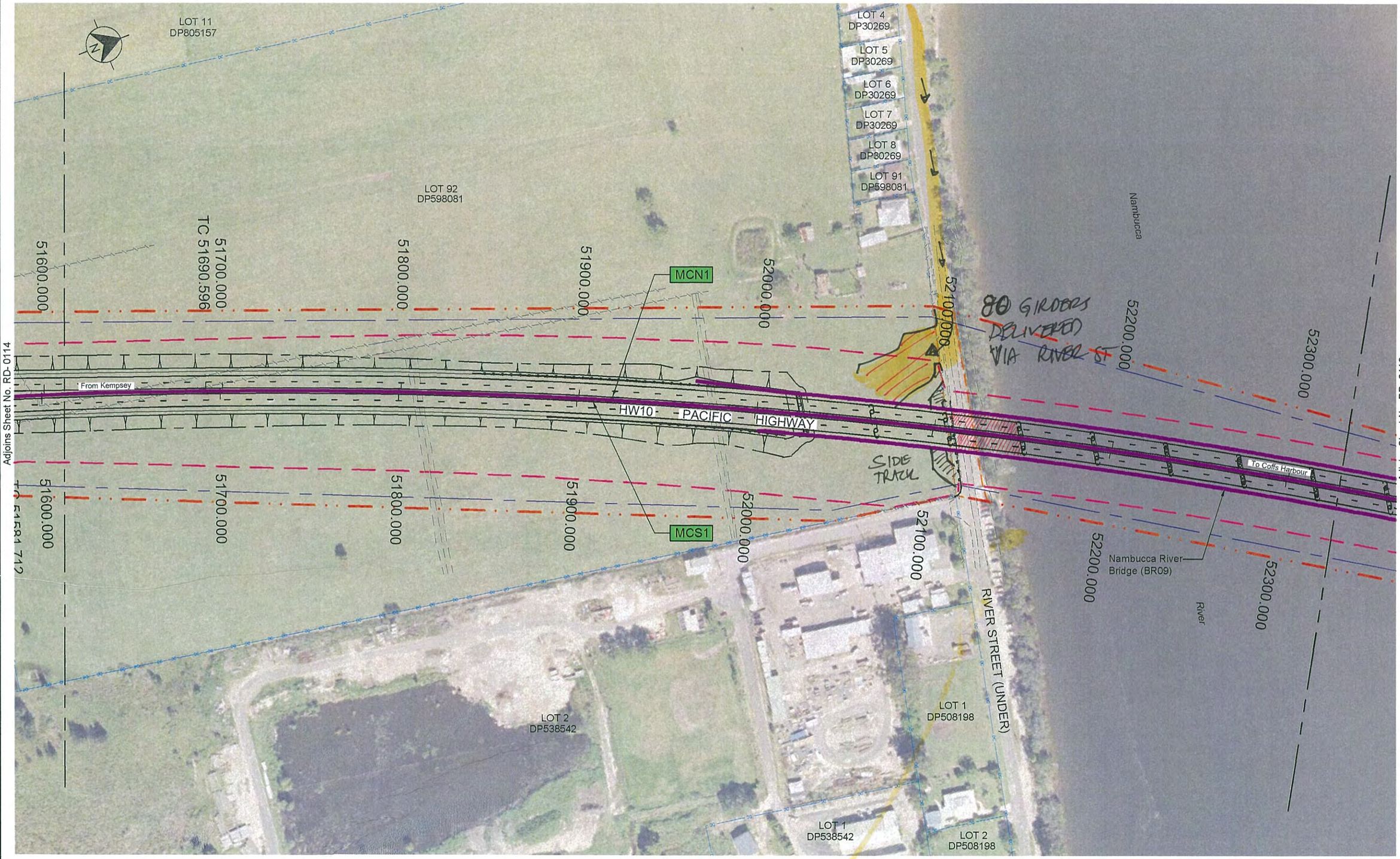

Adjoins Sheet No. RD- 0114

Adjoins Sheet No. RD- 0116

NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

PRODUCED: 21 November 2013 AT 6:27:25 PM USER: Bob Liu
FILE PATH: C:\projectwisesyd_projects\bob.liu\dms33786\WC2NH-TD-RD-DRG-0115.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
0 5 10 15 20 25mm ON ORIGINAL
DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da

A3 ORIGINAL

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

This sheet may be prepared using colour and may be incomplete if copied

SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon

DESIGNED A.STRAKER
REVIEWED N.MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 15 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0115	TENDER DESIGN	1	A

REGISTRATION NUMBER: -

SHEET No.: RD-0115

Adjoins Sheet No. RD-0115

Adjoins Sheet No. RD-0117

Creek
Newee
CM(H)
Coordinates of Centrline of
Existing Highway (Point H)
E 493914.000
N 6603186.000
LOT 1
DP129489
LOT 1
DP664059
Existing Nursery Road
under Nambucca River
Bridge
52400.000
52500.000
52600.000
52700.000
52800.000
52900.000
CT 52885.696
TC 52993.025
53000.000
SIDETRACK TO DIVERT TRAFFIC DURING GIRDER LIFT
4 GIRDERS CROSS BY CRANE
LOT 10
DP631511
LOT 11
DP631511
LOT 1
DP777935
MCN1
HW10 PACIFIC HIGHWAY
From Kempsey
To Coffs Harbour
LOT 12
DP631511
LOT 1
DP547975
LOT 4
DP654624
LOT 2
DP777935
LOT 5
DP654625
LOT 14
DP258324
MCS1
CT 52911.614
52900.000 EXISTING PACIFIC HIGHWAY
53000.000
TC 53021.614
0.000
52300.000
52400.000
52500.000
52600.000
52700.000
52800.000
LOT 2
DP547975
LOT 2
DP129489
Nambucca River
Bridge (BR09)
Existing Pacific Highway
under new Nambucca River
Bridge
LOT 6
DP245262
Nambucca
River
NURSERY ROAD
EXISTING OLD COAST ROAD
LOT 7065
DP1113367
LOT 7
DP245262
LOT 9
DP245262
LOT 9
DP801138

NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

This sheet may be prepared using colour and may be incomplete if copied

A3 ORIGINAL
0 5 10 15 20 25mm ON ORIGINAL

SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

AFJV
ARUP aurecon Design Joint Venture

DESIGNED. A.STRAKER
REVIEWED. N.MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 16 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0116	TENDER DESIGN	1	A

REGISTRATION NUMBER: -

SHEET No.: RD-0116

PRODUCED: 21 November 2013 AT 6:28:50 PM USER: Bob Liu
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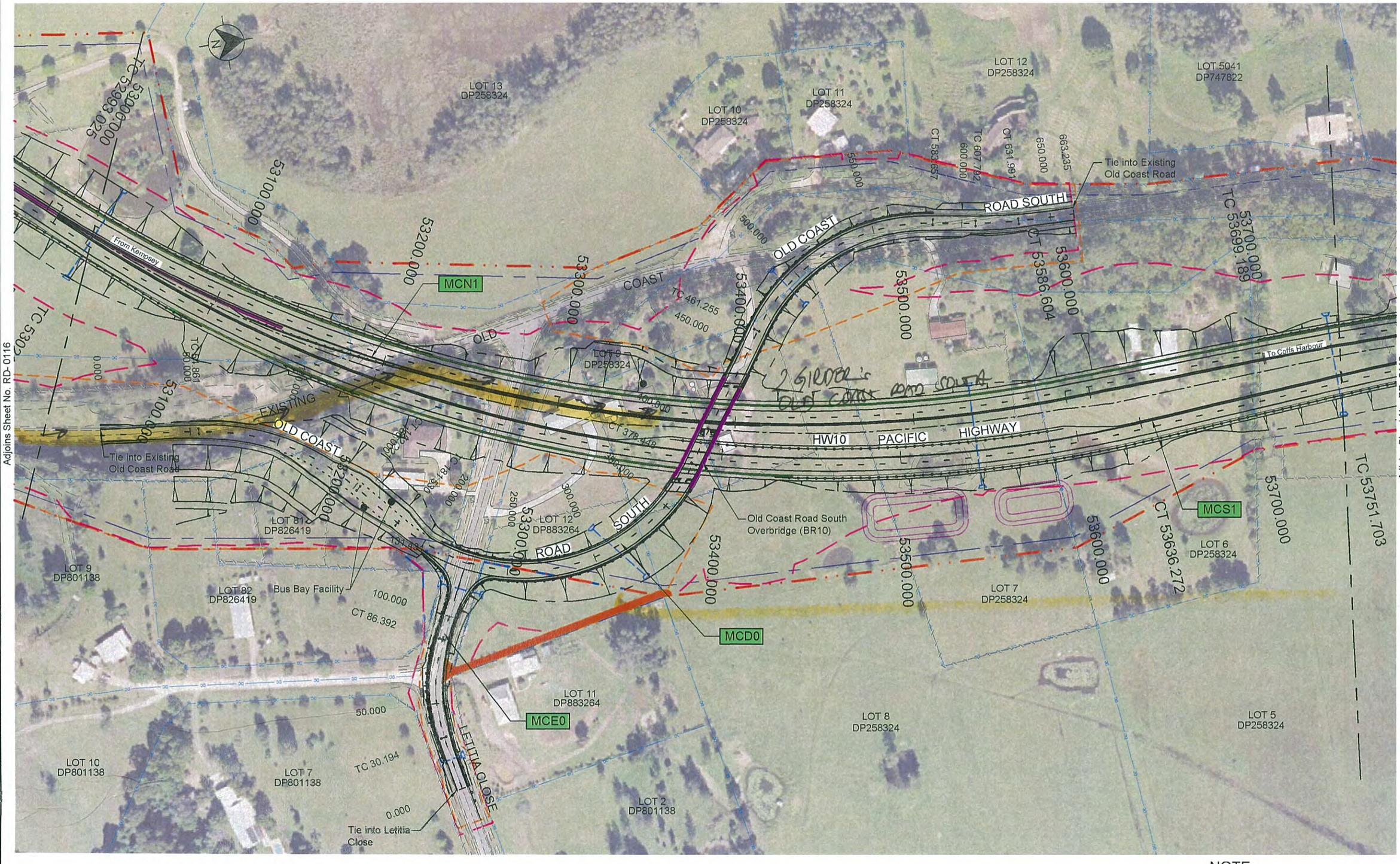
PEN TABLE: MR_COLOUR.STB
DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da



NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

SCALES: 0 20 40 60 80 100 — SCALE 1:2000m	AFJV / ARUP aurecon Design Joint Venture	ROADS AND MARITIME SERVICES	DRAWING: WC2NH-TD-RD-DRG-0117
A 04/12/13 TENDER DESIGN - AFJV	DESIGNED: A.STRAKER	NAMBUCCA SHIRE COUNCIL	STAGE: TENDER DESIGN
ISSUE / AMENDMENT DESCRIPTION	REVIEWED: N.MURALHA	HW10 PACIFIC HIGHWAY UPGRADE	PART: 1
This sheet may be prepared using colour and may be incomplete if copied	CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.	WARRELL CREEK TO NAMBUCCA HEADS	ISSUE: A
A3 ORIGINAL		DETAIL PLAN SHEET 17 OF 28	REGISTRATION NUMBER: -
			SHEET No.: RD-0117

PRODUCED: 19 November 2013 AT 5:06:02 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\WC2NH-TD-RD-DRG-0117.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
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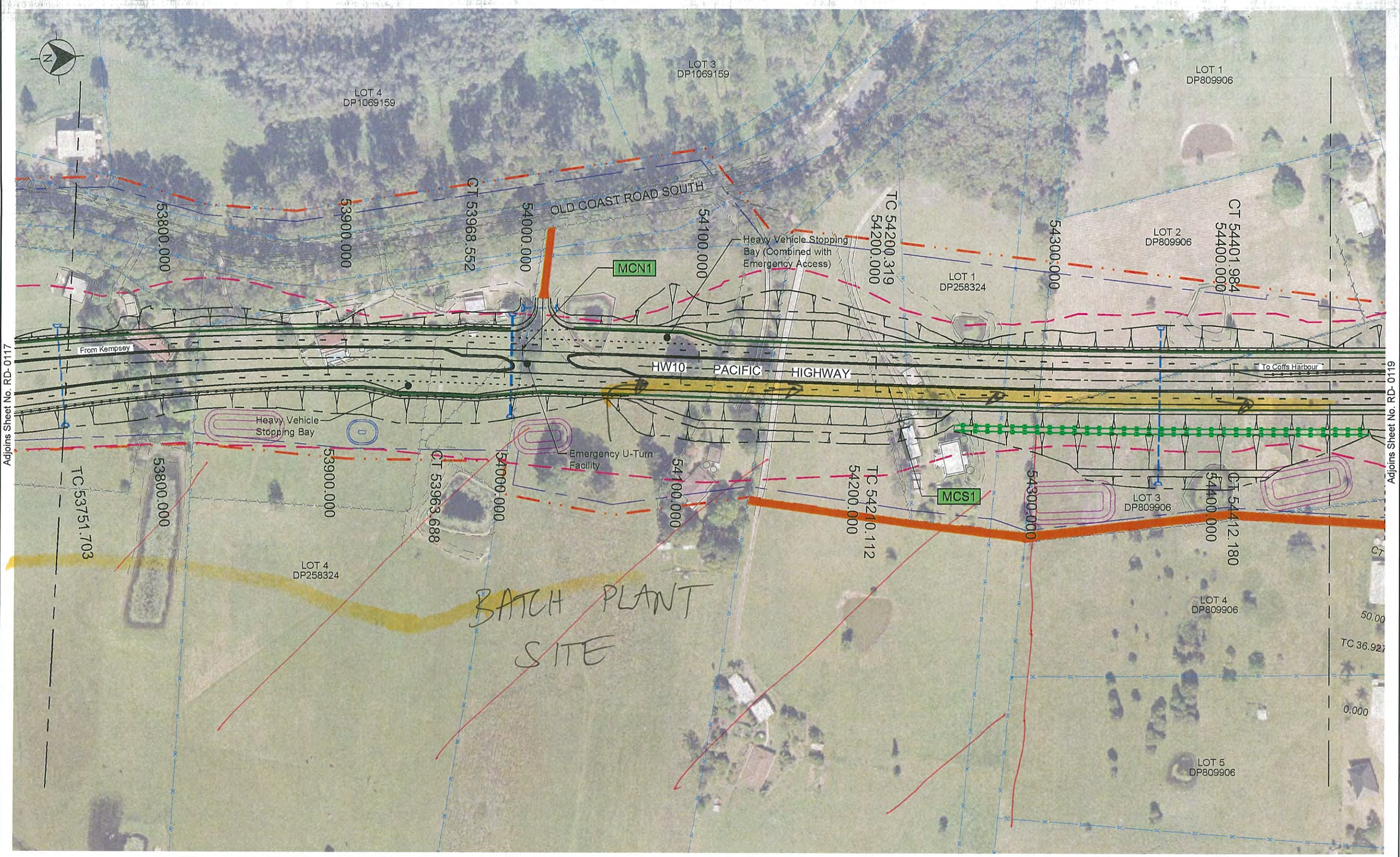
DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da



NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

A3 ORIGINAL

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SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

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DESIGNED. A.STRAKER
REVIEWED. N.MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 18 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0118	TENDER DESIGN	1	A

REGISTRATION NUMBER: -

SHEET No.: RD-0118

PRODUCED: 19 November 2013 AT 5:06:16 PM USER: Bob Liu
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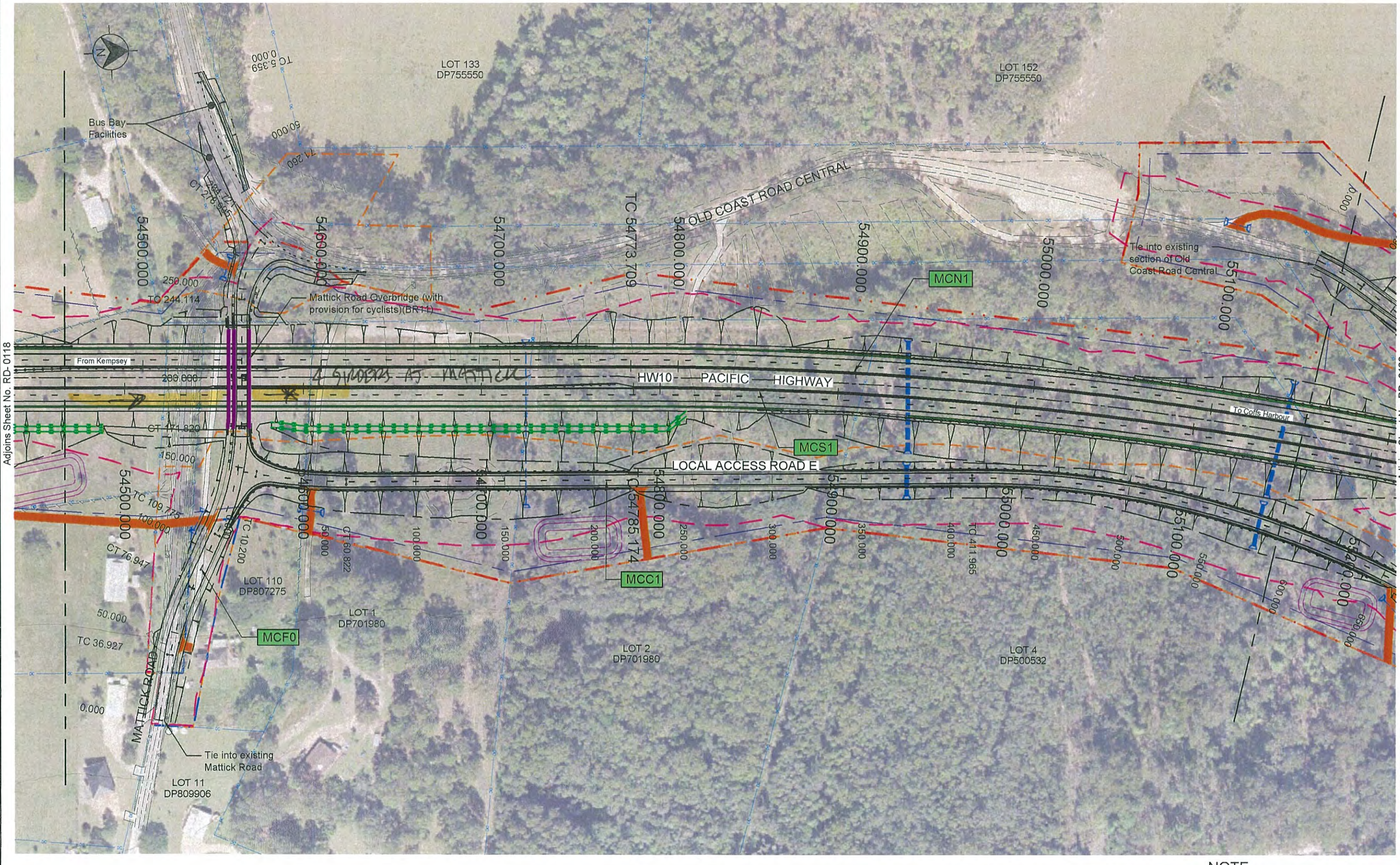

NOTE
1. For Legend, refer Sheet No. RD-0015.

NOT FOR CONSTRUCTION

Adjoins Sheet No. RD- 0118

Adjoins Sheet No. RD- 0120

PRODUCED: 19 November 2013 AT 5:06:33 PM USER: Bob Liu
FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\WC2NH-TD-RD-DRG-0119.dwg
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PEN TABLE: MR_COLOUR.STB
DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da

0	5	10	15	20	25mm ON ORIGINAL

A3 ORIGINAL

ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

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SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

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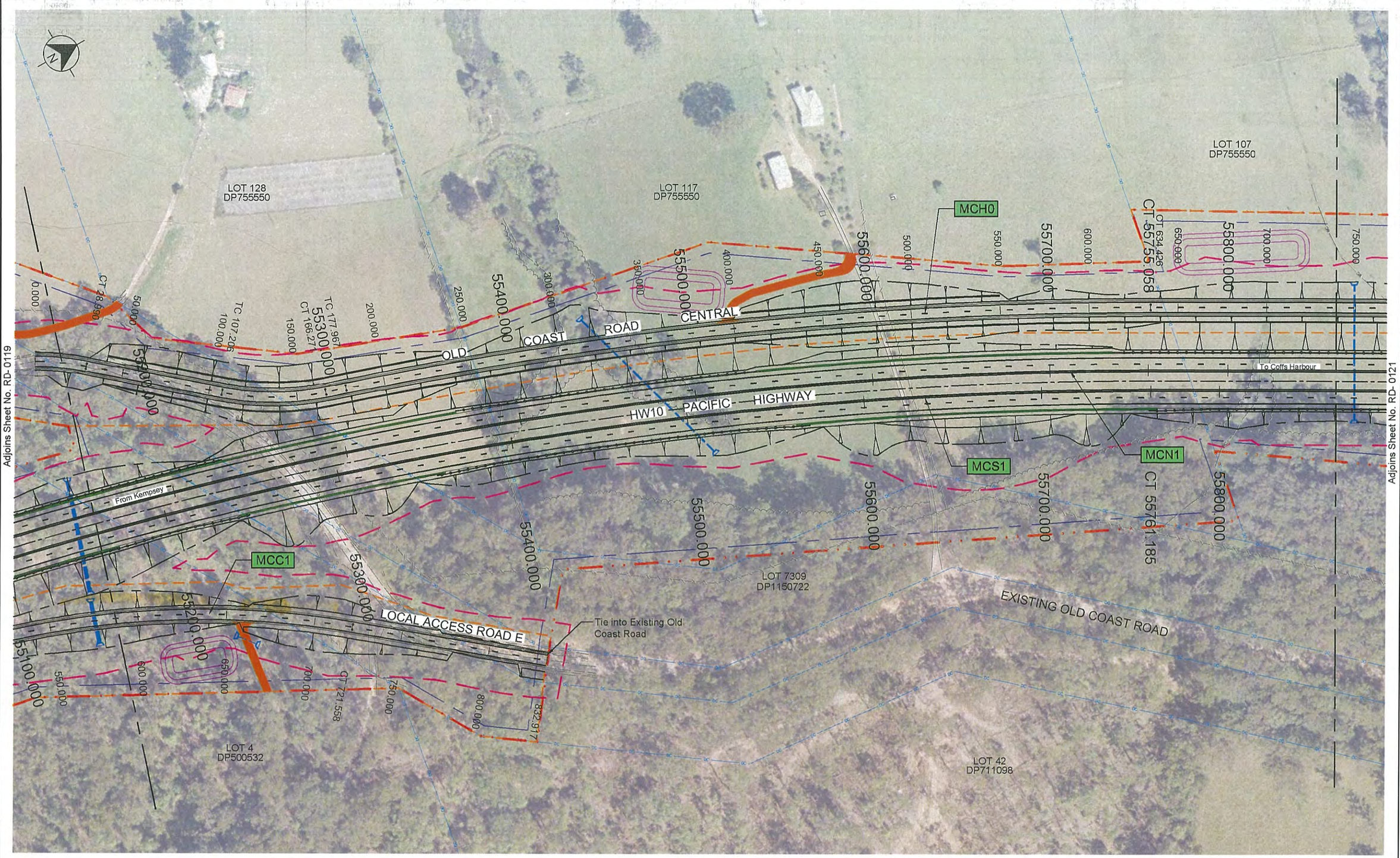
REVIEWED N.MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 19 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0119	TENDER DESIGN	1	A

REGISTRATION NUMBER	SHEET No.
-	RD-0119



Adjoins Sheet No. RD- 0119

Adjoins Sheet No. RD- 0121

NOTE
1. For Legend, refer Sheet No. RD-0015.

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ISSUE	DATE	ISSUE / AMENDMENT DESCRIPTION
A	04/12/13	TENDER DESIGN - AFJV

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A3 ORIGINAL

SCALES
0 20 40 60 80 100
SCALE 1:2000m

CO-ORDINATE SYSTEM: MGA Zone 56 HEIGHT DATUM: A.H.D.

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REVIEWED N.MURALHA

ROADS AND MARITIME SERVICES

NAMBUCCA SHIRE COUNCIL
HW10 PACIFIC HIGHWAY UPGRADE
WARRELL CREEK TO NAMBUCCA HEADS
DETAIL PLAN
SHEET 20 OF 28

DRAWING	STAGE	PART	ISSUE
WC2NH-TD-RD-DRG-0120	TENDER DESIGN	1	A

REGISTRATION NUMBER: -

SHEET No.: RD-0120

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FILE PATH: C:\projectwise\Exports\WC2NH\TENDER DESIGN\WC2NH-TD-RD-DRG-0120.dwg
PLOT DRIVER: POSTSCRIPTLEVEL217.PC3
PEN TABLE: MR_COLOUR.STB
0 5 10 15 20 25mm ON ORIGINAL
DESIGN MODEL VERSION: AADJV-TD-RA-MOD-005.12da