



CONSTRUCTION COMPLIANCE REPORT 4

Frederickton to Eungai
Pacific Highway Project

OCTOBER 2015

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Note: Following changes to streamline the Leighton Group business, and with agreement from the proponent of the Project Roads and Maritime Services, the Frederickton to Eungai project has been transferred from Thiess Pty Ltd to Leighton Contractors Pty Ltd.

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DOCUMENT CONTROLS

File name	F2E-00G-RPT-ENV-049-02
Report name	Construction Compliance Report 4, Frederickton to Eungai Pacific Highway Project. 4 March to 3 September 2015
Document version	02 – Final incorporating RMS review comments
Revision issue date	7 October 2015

Glossary

CEMP	Construction Environmental Management Plan
CIP	Community Involvement Plan
Compliance audit	Verification of how implementation is proceeding with respect to a construction environmental management plan (CEMP), the conditions of approval and all other relevant licences and approvals.
Condition	A condition in the NSW Minister for Planning's planning approval
Construction	Includes all work in respect of the project other than survey; acquisitions; fencing; investigative drilling or excavation; building/road dilapidation surveys; minor clearing (except where threatened species, populations or ecological communities would be affected), establishing site compounds (in locations meeting the criteria of ancillary facilities in the Conditions), or other activities determined by the Environmental Representative to have minimal environmental impact (e.g. minor access roads, minor adjustments to services/ utilities, etc.).
COUR	Commitment, Obligations, Undertaking or Requirement from the environmental assessment or approval documents.
Director-General	Director-General of the NSW Department of Planning and Environment (or delegate)
DPI - NOW	NSW Department of Primary Industries – NSW Office of Water
DP&I	The former NSW Department of Planning and Infrastructure (now DP&E)
DP&E	NSW Department of Planning and Environment
DWE	The former NSW Department of Water and Energy
Ecological Sustainable Development	Using, conserving and enhancing the community's resources so that the ecological processes on which life depends are maintained and the total quality of life now and in the future, can be increased (Council of Australian Governments, 1992).
Environmental Incident	An unexpected event that has, or has the potential to, cause harm to the environment and requires some action to minimise the impact or restore the environment.
Environmental Policy	Statement by an organisation of its intention and principles for environmental performance.
EPL	Environmental Protection Licence
Environmental Representative (ER)	A suitably qualified and experienced person independent of project design and construction personnel employed for the duration of construction. The principal point of advice in relation to all questions and complaints concerning environmental performance. Their specific functions are defined in Condition 6.1 of the Ministers Conditions of Approval.
Environmental Target	Defined by AS/NZS ISO 14001:2004 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.

EPA	Environmental Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
ERG	Environmental Review Group. Includes representatives from Roads and Maritime, the construction contractor, public authorities and other stakeholders. Meetings are generally held monthly. The ERG is chaired by the ER.
EWMS	Environmental Work Method Statement
Fisheries, NSW	NSW Fisheries (now Primary Industries – Fisheries and Aquaculture)
OEH	NSW Office of Environment and Heritage Throughout this report, OEH means any references to: <ul style="list-style-type: none"> • NSW Department of Environment, Climate Change and Water (DECCW) • NSW Department of Environment and Conservation (DEC) • NSW Department of Environment and Climate Change (DECC) • NSW National Parks and Wildlife Service (NPWS) • The Manager Conservation Programs and Planning Division (CPPD) Central Directorate. • Director-General of National Parks and Wildlife.
Non-conformance	Failure to conform to the requirements of project system documentation including a CEMP or supporting documentation
Pollution incident	“Pollution incident” as defined in Protection of the Environment Operations Act 1997 (NSW) means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.
RTA/ Roads and Maritime	Roads and Traffic Authority of NSW (now known as Roads and Maritime Services).

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I

Introduction

1.1 Background

On behalf of the Australian and NSW governments, Roads and Maritime Services of NSW (Roads and Maritime), formally known as the Roads and Traffic Authority of NSW, is upgrading the Pacific Highway. The Pacific Highway ('the highway') between Hexham in New South Wales (NSW) and the Queensland border has sections with inadequate traffic capacity, and has a poor record for road accidents and fatalities. The nature and condition of the highway varies considerably, from high quality dual carriageways to stretches of two-lane single carriageway. At a number of locations there are extensive delays during peak periods, especially during the summer holidays.

The Frederickton to Eungai project (the F2E Project) forms the northern section of the Kempsey to Eungai Pacific Highway Upgrade project. The upgrade of the Pacific Highway between Kempsey and Eungai involves the construction and operation of approximately 40.8 kilometres of four-lane divided carriageway highway from south of Kempsey to Eungai.

The F2E Project lies mainly within the Kempsey local government area, with a short length located within the neighbouring Nambucca local government area. The F2E Project will provide 26.5 kilometres of new dual carriageway. Construction commenced during September 2013. **Figure 1-1** shows the location of the Project.

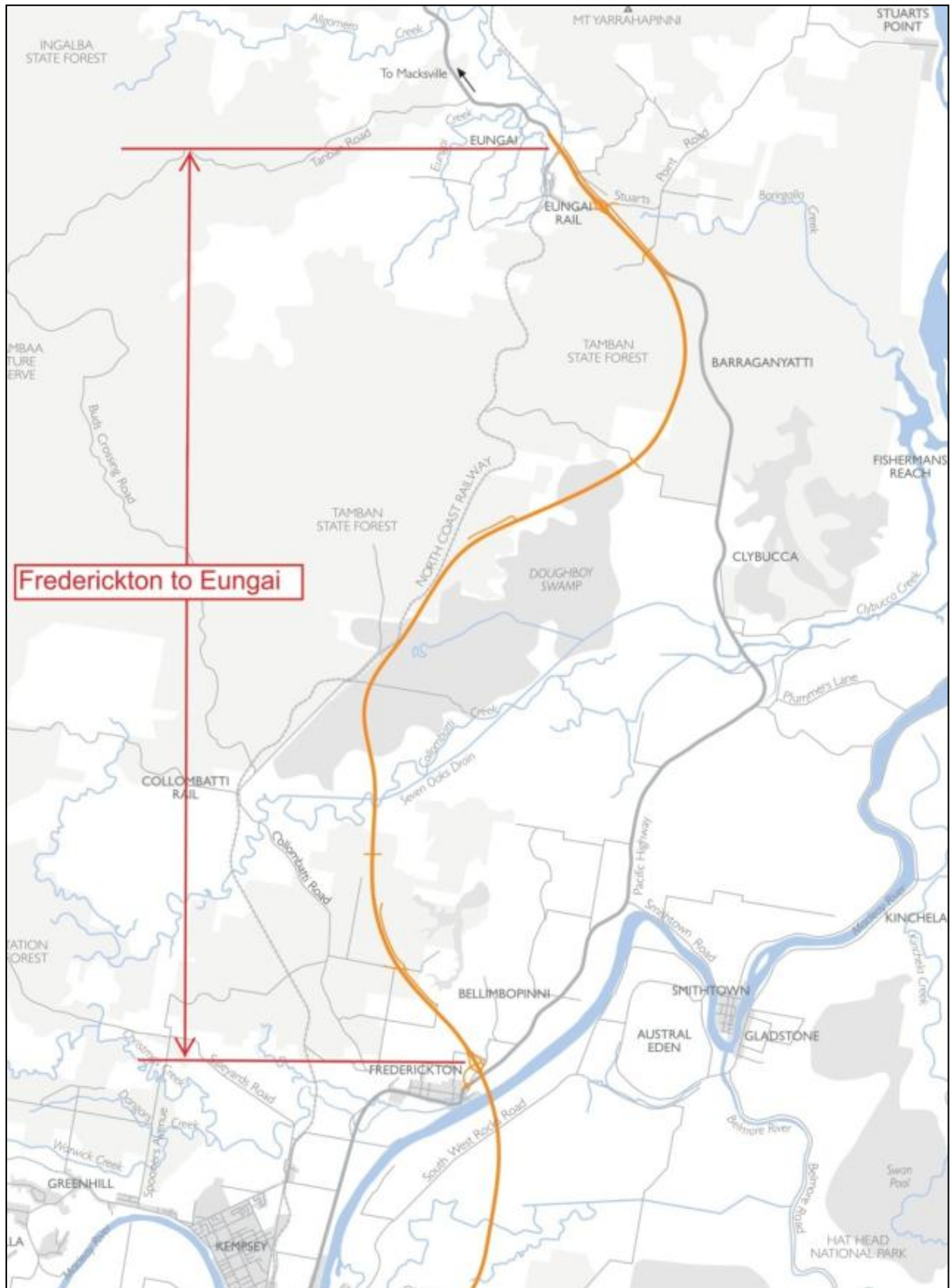


Figure 1-1 Frederickton to Eungai Project Area

1.2 Project approval

On the 5 December 2006 the Kempsey to Eungai Pacific Highway Upgrade project was declared by the Minister for Planning to be a project to which Part 3A of the *Environmental Planning and Assessment Act 1979* applies. An Environmental Assessment was prepared and placed on public exhibition from the 1 August 2007 to 31 August 2007. Following consideration of submissions made during the exhibition period, the submissions report, including changes to the proposal following consideration of submissions, was submitted to the then Minister for Planning seeking approval. Approval of the Project was granted on 10 July 2008.

The Frederickton to Eungai project (the Project) forms the northern section and second stage of the Kempsey to Eungai Pacific Highway Upgrade project. The upgrade of the Pacific Highway between Kempsey and Eungai involves the construction and operation of approximately 40.8 kilometres of four-lane divided carriageway highway from south of Kempsey to Eungai.

The Kempsey to Eungai - Upgrading the Pacific Highway: Environmental Assessment (2007), Section 7.3.2, proposed that the project would be constructed either in its entirety or in stages. The Environmental Assessment identified that the most probable initial stage to be constructed was the southern section, which would start south of Kempsey and join the existing highway north east of Frederickton, as this section has higher priority in terms of traffic safety, travel efficiency and amenity to residents. In May 2009 the Federal Government provided \$618 million under the Building Australia Fund to construct the southern section of the approved Kempsey to Eungai upgrade project, (the Kempsey Bypass), starting south of Kempsey and joining the existing Pacific Highway north-east of Frederickton. The length of this section of works is approximately 14.5 kilometres (or approximately 35%) of the total length of the Kempsey to Eungai upgrade project. This section of the Kempsey to Eungai project was opened to traffic during March 2013.

1.3 Commencement of construction

Construction of the F2E Project commenced on the 4 September 2013, following approval of the F2E Construction Environmental Management Plan (CEMP). The CEMP included the proposed construction commencement program and was approved by Department of Planning and Infrastructure on the 19 August 2013.

1.4 Purpose of this report

In accordance with Condition 4.1 of the Minister for Planning's approval, Roads and Maritime shall submit reports to the Director-General that consider construction environmental performance and compliance with the project approval. The Compliance Tracking Program specifies that the compliance reporting shall be undertaken at six monthly intervals throughout construction. This Construction Compliance Report covers the fourth six month construction period from the 4 March - 3 September 2015.

Table 1-1 outlines the information required by the Compliance Tracking Program as outlined Condition 4-1, and the relevant location in this report where the requirements have been addressed.

Table 1-1 Requirements for six monthly compliance report

Cond. 4-1	Requirement	Where presented in this report
a)	Provisions for periodic review of the compliance status of the project against the requirements of this approval (specified under condition 1.1c);	This report Appendix A
b)	Provisions for the notification of the Director General prior to the commencement of construction and prior to the commencement of operation of the project;	Section 1.2
c)	Provisions for periodic reporting of compliance status to the Director General during construction;	This Report
d)	A program for independent environmental auditing in accordance with ISO 19011:2003 - Guidelines for Quality and/ or Environmental Management Systems Auditing;	Section 6.3
e)	Mechanisms for recording incidents during construction and actions taken in response to those incidents;	Section 6.4
f)	Provisions for reporting environmental incidents to the Director General during construction; and	Section 6.4
g)	Mechanisms for rectifying any non-compliance identified during environmental auditing or review of compliance.	Section 6.3

Roads and Maritime shall make these reports publically available on the project website and provide copies to the NSW Department of Planning and the Environmental Protection Authority (EPA).

1.5 Construction activities and progress during reporting period

Table 1-2 outlines the key construction activities either commenced or completed within the reporting period.

Table 1-2 Summary of construction activities

Activity	Progress
Environmental Controls	<ul style="list-style-type: none"> Focus on directing water to long drainage pits to maximise site water to basins. Containment of paving curing compounds during paving activities (see Section 7 for further details). De-silting of sediment basins and swale drains. Decommissioning and backfilling of temporary sediment basins following completion of paving, verge and stabilising remaining areas beyond the pavement. Rectification works on cut and fill batters where required including repair of rill erosion, re-topsoiling and hydromulching. Maintenance and rectification works on scour protection and clean water drains. Removal of redundant sediment controls (sediment fences).
Clearing	<ul style="list-style-type: none"> Bulk vegetation clearing was completed in the previous reporting period. Minor clearing for fence lines and design refinements only during this reporting period.

Fencing	<ul style="list-style-type: none"> Property fencing 95% complete. Fauna fence (general floppy top and phascogale fencing) 95% complete. Remaining areas to be completed generally around incomplete culverts and bridges. Construction of frog exclusion fencing 50% complete.
Earthworks	<ul style="list-style-type: none"> Bulk earthworks 98% complete. Placement of select zone material ongoing. Milling of the old Pacific Highway following the mid-June traffic switch. Recycling millings as select zone material. Bitumen seals completed following placement of select material.
Long drainage	<ul style="list-style-type: none"> Long drainage 90% complete.
Cross drainage	<ul style="list-style-type: none"> Construction of remaining cross drainage lines in soft soil settlement fills completed following expiration of the settlement period. Several cross drains remain in the Stage II areas at the northern end of the project following traffic switches off the old Pacific Highway. All temporary work platforms and coffer dams associated with culverts have been removed. Inlet / outlet scour treatments at cross drainage complete.
Fauna underpasses / Glider crossings	<ul style="list-style-type: none"> Construction of all fauna underpasses complete. Fauna furniture complete within all underpasses. Linking fauna furniture to existing vegetation to be completed in conjunction with other finishing and landscaping works. Works on Glider crossings yet to commence.
Bridges	<ul style="list-style-type: none"> Bridge 1 at Mill Lane complete and open to traffic. Bridge 2 at Kemps Access complete and open to traffic. Bridge 3, 4 and 6 at Collombatti Creek and Seven Oaks Drain and the Collombatti floodplain have decks poured are ready for pavement. Abutment backfill and scour protection 95% complete. Temporary access track around bridge still in use until paving complete. Bridge 7 over Seven Hills Road has decks poured and is ready for pavement. Bridge 8 over has decks poured and is ready for pavement. Abutment backfill and scour protection 95% complete. Temporary access track around bridge still in use until paving complete. Bridge 12 over Johnsons Creek has decks poured and is ready for pavement. Abutment backfill and scour protection 95% complete. Temporary access track around bridge still in use until paving complete. Bridge 13 at Cooks Lane complete and open to traffic. Bridge 14 at Barraganyatti Hut Road has girders installed and decks poured. Bridge 16 at Stuarts Point has girders installed. Bridge 17 over the northern railway line complete and open to traffic. Bridge 18 over Borirgalla Creek has girders installed. Abutment backfill and scour protection 95% complete. Temporary access track around bridge still in use until paving complete.
Property Adjustments	<ul style="list-style-type: none"> Property adjustment works are ongoing including construction of access tracks, new property access points.
Paving	<ul style="list-style-type: none"> Paving is over 62% complete by volume. Mainline sub base paving completed over 74% Mainline base paving completed over 63% Shoulder and single lane paving completed over 46% Hand-pour placed Concrete Paving at 30% Complete.

Batch Plants	<ul style="list-style-type: none"> Both the Cooks Lane and Southern Frederickton batch plants were operational throughout the reporting period.
Finishing works	<ul style="list-style-type: none"> Verge placement progressing behind shoulder paving activities. Rectification works on cut and fill batters occurring Decommissioning and backfilling of temporary sediment basins. Construction of Green-thighed frog breeding ponds.
Landscaping	<ul style="list-style-type: none"> Preparation of median and other planting beds in accordance with the Urban Design and Landscape Management Plan. Planting of permanent sediment basins with aquatic macrophytes.



Bridge 2 Open to traffic

2

Consents, licenses and approval

2.1 Statutory approvals

Table 2-1 lists the statutory approvals in effect during the reporting period.

Table 2-1 Statutory approvals

Approvals	Authority	Holder	Date of issue	Expiration date
Part 3A Project Approval, as modified twice in 2010 and once 2012.	DP&E	Roads and Maritime	10/07/08	18/07/18
Environment Protection Licence 20318. Scheduled activities – Crushing and grinding, road construction and extractive industries.	EPA	TPL	Licence Version 5 – (4 August 2015)	Annual renewal until surrendered
Surface Water Extraction License – Macleay River (30PE002474)	DPI - NOW	TPL	29/11/13	29/11/2015
Groundwater Water Use Permit No 30BL207084 (Cooks Lane x 2, Raymonds Lane, Seashore Lane, Stuarts Point Road, Mango Farm, Seven Hills Road)	DPI - NOW	TPL	8/11/13	8/10/2018
Groundwater Water drilling Permit No 30BL207212 (Cut 13 (Basin 23800W), Cut 15 (basin 27550E), Borirgalla Basin 36750E, Stuart Point Interchange (Basin 37600W) and CML 316 (Basin 35750E)).	DPI - NOW	TPL	14/11/2014	13/11/2015
Groundwater Water Use Permit No. 30BL207265 (additional bore at Cooks Compound).	DPI - NOW	TPL	1/05/2015	30/04/2020
s37 capture and relocate native fish species and other aquatic organisms (Permit No P13/0054-1.0)	DPI - Fisheries	TPL (P. Monsted)	30/07/13	30/07/2018
Animal Research Authority - Ecological survey, salvage and monitoring program (TRIM132/1593)	OEH	TPL (P. Monsted)	6/05/13	6/05/2016

2.2 Key documents and outcomes required by statutory approvals

The statutory approvals require Roads and Maritime to prepare documents and facilitate outcomes. Key documents and outcomes are summarised below.

Table 2-2 NSW Minister for Planning Part 3A project approval

Reference	Requirement	Status	Comment
Condition 2.5	Complete further flood modelling during detailed design and submit a hydrological mitigation report.	Complete	The Hydrological Mitigation Report was approved by the Department of Planning and Environment on the 21 February 2014.
Condition 2.8	Construct reasonable and feasible fauna management measures to facilitate safe passage and encourage fauna movements across the project at key locations.	Ongoing	Design completed in consultation with EPA. Fauna underpasses included in cross drainage and bridge design packages. Glider crossings and fauna exclusion fencing included in road furniture design packages. Construction of fauna underpasses 100% complete. Internal fauna furniture 95% complete. Fauna exclusion fencing construction is 95% complete. Glider crossings construction has not commenced to date.
Condition 2.9	Investigate the option of translocation of the threatened species <i>Maundia triglochinoidea</i> .	Complete	A translocation investigation report for <i>Maundia triglochinoidea</i> was prepared by Lewis Ecological Surveys (dated March 2013). This report was prepared in consultation with EPA and found that translocation was not reasonable or feasible. This report was submitted to the Department of Planning and Environment on 13 May 2013.
Condition 2.10	Develop a Biodiversity Offset Strategy.	Complete	The Biodiversity Offset Strategy (April 2010) was conditionally approved by DP&E on the 14 May 2010.
Condition 2.11	Develop a Biodiversity Offset Package	Ongoing	Development of the Biodiversity Offset Package is ongoing. DP&E agreed to extend the submission date to the August 2016.
Condition 2.20	Prepare and obtain approval for a review of the operational noise mitigation measures.	Complete	The Operational Noise Management Plan was approved by the Department of Planning and Environment on the 2 May 2014.

Reference	Requirement	Status	Comment
Condition 2.29	Criteria for determining suitable locations for ancillary facilities	Ongoing	The CEMP Appendix A5 was updated during the reporting period to include all ancillary facilities used to June 2015. The temporary stockpile of construction materials on Cattle Refuge Mound MEWB was the only new ancillary facilities during this reporting period (refer to Table 2-3 for details).
Condition 5.2	Develop a Community Communication Strategy.	Complete	The Director-General approved the Strategy on 19 August 2013.
Condition 6.1	Obtain approval for the Environmental Representative (ER).	Complete	The Director General approved Mr Murray Curtis as the ER on the 16 December 2009 for the Kempsey to Eungai Project.
Condition 6.3	Prepare and obtain approval for a Landscape Management Plan.	Complete	The Urban Design and Landscape Management Plan was approved by the Department of Planning and Environment on the 2 June 2014.
Condition 6.5	Development and submission of a Construction Environmental Management Plan and associated sub plans.	Complete	The Director-General approved the F2E CEMP on the 19 August 2013.

2.3 Consistency Review

Under section 115ZI (2) of the EP&A Act, Roads and Maritime may request the Minister to modify the Minister's approval of a State significant infrastructure project. Roads and Maritime is not required however to obtain the Minister's approval for a modification if the project, as modified, will be consistent with the Minister's approval.

Three questions are used to assist Roads and Maritime in determining whether the proposed activity can be considered consistent with the Minister's approval:

- Are the proposed works being carried out as part of an approved project? E.g. Are works "generally in accordance with" project documents and plans, where relevant?
- Is the modification such a radical transformation of the project as a whole, as to be, in reality, an entirely new project?
- Are the proposed works a modification that is considered "consistent with" the project as approved? This will require the work in question to have environmental impacts contemplated by the approval (such as EA / EIS, CEMP, spoil management plan, heritage management plan or the like), including documents forming part of the approval, or as a minimum, very few additional impacts.

Depending on the nature of the proposed change will determine the level of environmental assessment and justification and whether the Environmental Representative will be required to review and approve the works in addition to Roads and Maritime.

Table 2-3 provides a summary of design changes and activities were approved under the consistency review framework.

Table 2-3 Consistency reviews approved during the reporting period

Title	Description	Date approved
Tatnall-Baker Property Adjustment Drainage Works	A design refinement to construct an open drain from three pavement drainage outlet headwalls to a dam outside of the project boundary.	12/03/2015
Cattle Refuge Mound MEWB (Doughboy Swamp)	A cattle refuge mound located on flood prone grazing land adjacent to the Project area that will provide a beneficial reuse for 63,450m ³ of surplus construction material.	12/03/2015
Open Drain Relocation Fill 32	A design refinement to relocate an open drain to allow a batter to be extended across a decommissioned temporary sediment basin to accommodate more surplus construction material.	11/04/2015
Integrated Earthwork Mound MEXC Design Refinement	A design refinement to extend an approved integrated earthwork mound in response to a request from the occupant of the residence directly adjacent to the mound. The request was made to reduce the exposure to traffic noise and light.	19/05/2015
Thurgoood Lane	The connection of Thurgoood Lane west to Macleay Valley Way.	10/07/2015
Temporary stockpile of construction materials on Cattle Refuge Mound MEWB	Use of the Cattle Refuge Mound MEWB to stockpile verge material during construction. This activity aligns with construction activities as defined in the 'Ancillary Facility' definition in Schedule 2 of the consolidated conditions of approval.	21/07/2015
Batter Extension at Basin 37600W (Stuarts Point Northbound off Ramp)	A design refinement to widen the batter across a decommissioned temporary sediment basin to accommodate more surplus construction material.	1/09/2015

2.4 Construction environmental management plan

Ministers Condition of Approval 6.4 and 6.5 require the development of a Construction Environmental Management Plan (CEMP) and associated sub plans. The CEMP and sub plans must be reviewed by relevant public authorities and approved by the Director-General of the NSW Department of Planning and Environment. The Director-General approved the F2E CEMP on the 19 August 2013. Records detailing relevant consultation with public authorities are provided in Appendix A2 of the F2E CEMP.

In accordance with Section 9 of the CEMP – Review and Improvement, the executive review of the CEMP was completed in September 2014. Following the review, all documents within the CEMP were revised and were issued to the ERG in February for review and comment. Following incorporation of all comments, the updated CEMP was approved by the Environmental Representative on the 15 June 2015.

2.5 Compliance management system

Roads and Maritime and Leighton Contractors have identified relevant Commitments, Obligations, Undertakings and Requirements (COURs) in the environmental assessment and approval documents for the project. The COURs are held in a database and assist Roads and Maritime and Leighton Contractors to manage compliance and contractual risks.

Reporting templates in accordance with the compliance tracking program have been created for COURs from the project approval and Environmental Protection Licence. The compliance status of these COURs is updated by Roads and Maritime and Leighton Contractors every three months and is linked to regular audits carried out for the project. Depending on each COUR's requirement, some were marked as closed (i.e. addressed) during the detailed design or pre-construction periods; others will remain open until the operation phase.

2.6 Compliance with approvals

Appendix 1 and 2 of this report present the conditions of the NSW Minister for Planning project approval and the Environmental Protection Licence (EPL) and show the status of compliance with these approvals.

3

Implementation and effectiveness of environmental controls

The environmental assessment, subsequent environmental assessments and approved construction management documentation outlined a comprehensive suite of environmental controls and management practices to minimise the project's impacts on the environment. Table 3-1 provides a summary of the key environmental controls implemented during this reporting period and their effectiveness.

Table 3-1 Key environmental controls and their ongoing effectiveness

Environmental issue	Environmental control	Effectiveness of environmental control
Landform, geology and soils	<ul style="list-style-type: none"> Avoidance and management of Acid Sulfate Soils. 	<ul style="list-style-type: none"> There was no excavation of Acid Sulfate Soils required during this reporting period. The removal of surcharge materials from soft soil settlement areas was completed during this reporting period.
	<ul style="list-style-type: none"> Preparation and implementation of Progressive Erosion and Sedimentation Control Plans (PESCP). Engagement of a project Soil Conservationist to review the planning and implementation of PESCPs Progressive stabilisation of disturbed areas 	<ul style="list-style-type: none"> PESCPs continue to be updated throughout construction, reviewed by the Soil Conservationist and issued with ground disturbance permits for all works. The Soil Conservationist continues to complete regular site inspections to provide technical advice to the project on matters relating to erosion and sediment control.
	<ul style="list-style-type: none"> Progressive reinstatement including topsoiling and hydromulching of cut and fill batters. 	<ul style="list-style-type: none"> Cut and fill batters have been reviewed during the reporting period to categorised those that have rehabilitated well, those that need to continue to be monitored and those which will require rectification works. Rectification works have been completed on the majority of batters that required rework. This has involved repair of rill erosion, re-hydroseeding and in some instances re-topsoiling.
Hydrology and flooding	<ul style="list-style-type: none"> Flood modelling to be implemented including modelling for temporary work activities. Flood contingency measures were implemented to reduce flooding impacts during construction. Construction of permanent cross drainage. 	<ul style="list-style-type: none"> Construction of cross drainage has been completed in the high settlement areas.
Flora and fauna	<ul style="list-style-type: none"> Early installation of fauna exclusion fencing. Installation of nest boxes prior to clearing. 	<ul style="list-style-type: none"> Threatened <i>Maundia triglochoides</i> and Hairy Joint Grass (<i>Arthraxon hispidus</i>) monitoring was undertaken during this reporting period. Winter nest box monitoring identified 22% evidence of occupancy in nest boxes.

Water quality	<ul style="list-style-type: none"> • Water treatment and management in sediment basins. Discharge in accordance with EPL. • Utilisation of long drainage to direct water from formation to sediment basins. 	<ul style="list-style-type: none"> • Maximising diversion of site water to sediment basins including directing water to long drainage pits that drain to basins. • Following failure to treat all basins with 5 days of rainfall (in accordance with the EPL), liquid gypsum has been adopted for flocculation in sediment basins. This has proved to be a more efficient means to treat the basins prior to dewatering.
Air quality	<ul style="list-style-type: none"> • Primary dust suppression of earthworks is use of water carts. • Progressive reinstatement including topsoiling and hydromulching of cut and fill batters. • Reduced speed limits for light vehicles during dry conditions in high dust areas. • Bitumen spray-seal of earthworks prior to paving. 	<ul style="list-style-type: none"> • Dust deposition monitoring has consistently achieved the target criteria indicating that the dust suppression measures implemented have been effective.
Visual amenity	<ul style="list-style-type: none"> • Implement urban design principles established in the Environmental Assessment • Disturbed areas to be progressively revegetated. • Preparation of planting beds and planting of native plant stock in accordance with the Urban Design and Landscape Plan progressed during this reporting period. • Rectification works has been completed on the majority of batters that required rework. This has involved repair of rill erosion, re-hydroseeding and in some instances re-topsoiling. 	<ul style="list-style-type: none"> • Planting beds have been mulched with mulch derived from the site during the clearing phase. • Native plant stock in the medians and sediment ponds are establishing well. • Frangible shrubs are established and growing well on approximately 50% of cut and fill batters.

Noise and vibration	<ul style="list-style-type: none"> • Assessment and consultation procedures for works outside of the standard working hours. • Noise and vibration monitoring completed in accordance with the Noise and Vibration Management Plan. 	<ul style="list-style-type: none"> • Out of hours construction activities have been carried out in accordance with the noise and vibration management plan, Environmental Protection Licence and any associated approvals. • Acoustic assessments including modelling of predicted impacts has been completed for proposed out of hours works. Community notification has also been completed for agreed and critical out of hour's works. • Monitoring of out of hours works complied with specified noise limits. • There have only been two complaints relating to out of hours works despite regular out of hours works associated with the paving activities occurring.
Heritage	<ul style="list-style-type: none"> • Implementation of the Heritage Management Plan • Training and awareness program. • Preconstruction identification, temporary or permanent fencing 	<ul style="list-style-type: none"> • Heritage management training has been incorporated into the Project Induction training delivered for all site personnel. • To minimise risk to unknown Aboriginal cultural material/heritage, additional archaeological assessments for any new work areas have been completed – refer to Section 2.3 for a list of activities and/or new work locations. This incorporated additional site archaeological surveys where necessary.
Traffic	<ul style="list-style-type: none"> • Traffic control plans, including safety zones, diversions, access control, maximum queue lengths during road occupancy. • Community notification (advertisements, letter drops, road signage, radio announcements). 	<ul style="list-style-type: none"> • Traffic control plans have been prepared and are in place. Community notification and weekly traffic alerts occurred throughout the reporting period.

4

Environmental monitoring

Monitoring of rainfall, flora and fauna, background air (dust) and surface water quality commenced in 2013 and has continued since the commencement of construction. This section details key monitoring results and provides an analysis of the findings for the reporting period.

4.1 Rainfall

Rainfall is measured via automatic weather station at the main compound, as well as the two automatic rain gauges for the northern and southern compounds. Data from the weather station and rain gauges is available in real time via a public site webpage ([projects weather station link](#)) with full details available via a secure online site.

Rainfall data is important in responding to rain events in terms of sediment basin management, surface water monitoring and to trigger wet weather environmental inspections. A rainfall event of 10 mm triggers wet weather surface water monitoring.

Total monthly rainfall for the period generally followed the average monthly rainfall trends. Rainfall was greater in March to May and then significantly less in June to August. This is consistent with the regional rainfall trends and monthly averages. Average rainfall is compared to the Bureau of Meteorology's Collombatti (Benbullen) weather station (number 59068) (refer to **Table 4-1** and **Figure 4-1**). Daily rainfall records for the reporting period are presented in **Appendix 4**.

Table 4-1 Monthly Rainfall Summary (mm)

Month	Northern Eungai compound	Cooks Lane Collombatti (central) compound	Southern Frederickton Compound	Average Rainfall from BoMs Collombatti weather station
March	136.4	187.8	172.0	156.7
April	167.8	159.0	125.0	80.7
May	219.0	189.4	127.6	69.6
June	24.8	26.4	13.8	116.0
July	20.2	11.2	13.6	18.7
August	25.2	17.0	16.8	65.8
TOTAL	593.4	590.8	468.8	507.5

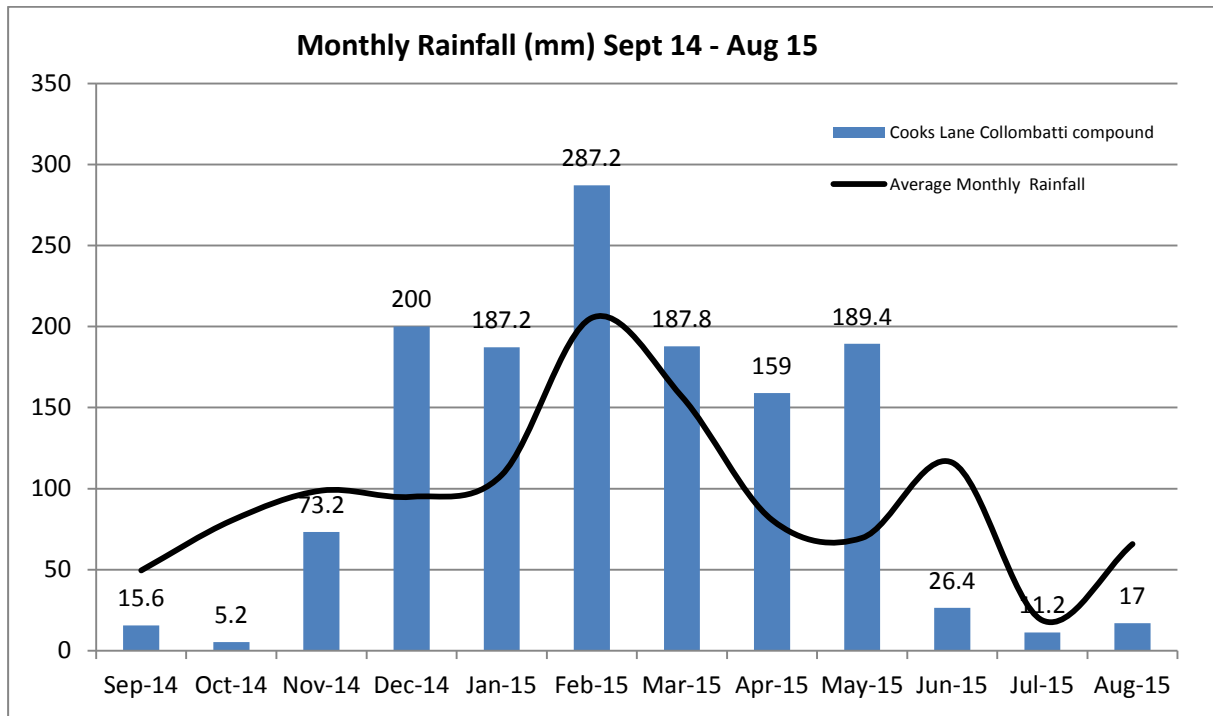


Figure 4-1 Monthly Rainfall at Cooks Lane (central) compound

4.2 Air quality

Leighton Contractors undertake dust monitoring in accordance with the Deposited Matter - Gravimetric method. This method has been widely used in Australia for over 40 years. The method involves collection of particles that settle from the ambient air in a vessel which are retained with any rainwater which are measured in $\text{g/m}^2/\text{month}$.

Ambient dust deposition rates have been monitored since April 2013 at six (6) general locations along the alignment. Two deposition gauges were installed at each location to provide a test (impact) sample and a control (background) sample. Test gauges are located close to the alignment near sensitive receivers to measure the construction impacts. Control sites are located greater distance from the site to measure seasonal changes in the background air quality.

Ash and combustible matter content are determined by incinerating the insoluble solids. The combustible matter generally corresponds to organics (e.g. pollen, insects). The ash content includes the mineral particles which include the dust component that is attributable to construction impacts.

The goals adopted for the project for acceptable dust levels are:

- **+ 2 $\text{g/m}^2/\text{month}$ - max. increase above background** (total insoluble and ash content) which was calculated to be $2.6 \text{ g/m}^2/\text{month}$ for ash and $3.2 \text{ g/m}^2/\text{month}$ for total insoluble based on average of all control sites over the September 2014 – August 2015 twelve month period; and
- **4 $\text{g/m}^2/\text{month}$ - max. total deposited dust level** (total insoluble and ash content).

Dust deposition levels were maintained below the 2.6 g/m²/month target (for ash) at all test sites with the exception of DDG1A and DDG2A in March 2015 (refer to **Figure 2**). This exceedance was minor and the average monthly ash content target of 4 g/m²/month was not exceeded. Refer to Appendix 4 for full air quality monitoring results including both ash and insoluble solids.

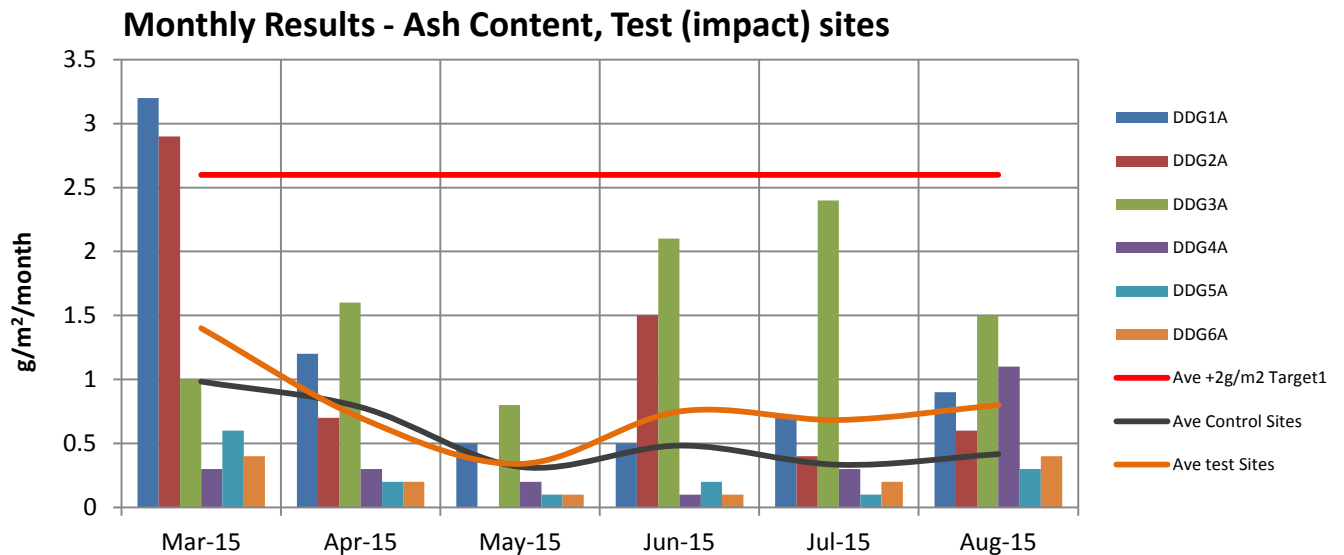


Figure 4-2 Monthly Ash Content

Across the project, dust mitigation was actively pursued. Mitigation measures include:

- Frequent use of water carts.
- Compacting high traffic areas and haul routes within the site.
- Reuse of asphalt millings from the redundant Pacific Highway on temporary haul roads
- Bitumen spray-seal of earthworks prior to paving.
- Reduced speed limits and restricted use of some machinery in high wind conditions.
- Stabilising stockpiles and exposed areas with sterile cover crop and native seed species when inactive for long periods (greater than two weeks).
- Early progress on final landscape/stabilisation works (hydro-mulching).
- Watering of rehabilitated and landscape areas to assist in establishing cover crop (see photo).



Watering of rehabilitated cut batters to assist in the establishment of cover crop

4.3 Water quality

Surface water

Surface water quality (pH, turbidity and electrical conductivity) is monitored at seven (7) sites upstream and downstream of the project alignment using a water quality monitoring probe (Yeo-Kal 615 and Yeo-Kal 611). During each monitoring event, the upstream is used as an indicator of the background water quality. The water quality of creeks and rivers has no defined parameters in the EPL. However, changes in water quality greater than 10% between upstream and downstream are investigated and reported on.

The target sampling effort for surface water monitoring is one wet and one dry sampling event each month. A 'wet sampling event' represents a sample taken when there has been an active surface flow of water through the creek system, generally as a result of rainfall greater than 10mm in a 24hr period. A 'dry sampling event' represents a sample taken when there is no active flow through the creek system. Prevailing weather conditions however do not always provide conditions suitable to collect wet samples.

During the March to May period, all waterways on site were flowing or had free standing water. Rainfall events in late March / early April, and again in late April, resulted in significant flows in waterways and flooding of the sub-catchments of the Macleay River floodplain in the south of the project. During these flooding event, the coffer dams in the Unnamed waterway north of Frederickton and Wizenbucca creek overtopped and surface water flowed through the partially constructed culverts and the temporary haul road around Bridge 3 in Collombatti Creek also overtopped. The surface water monitoring during these events confirmed however, that there were not any significant impacts to water quality downstream as a result of the Project (refer to **Figure 4-3**).

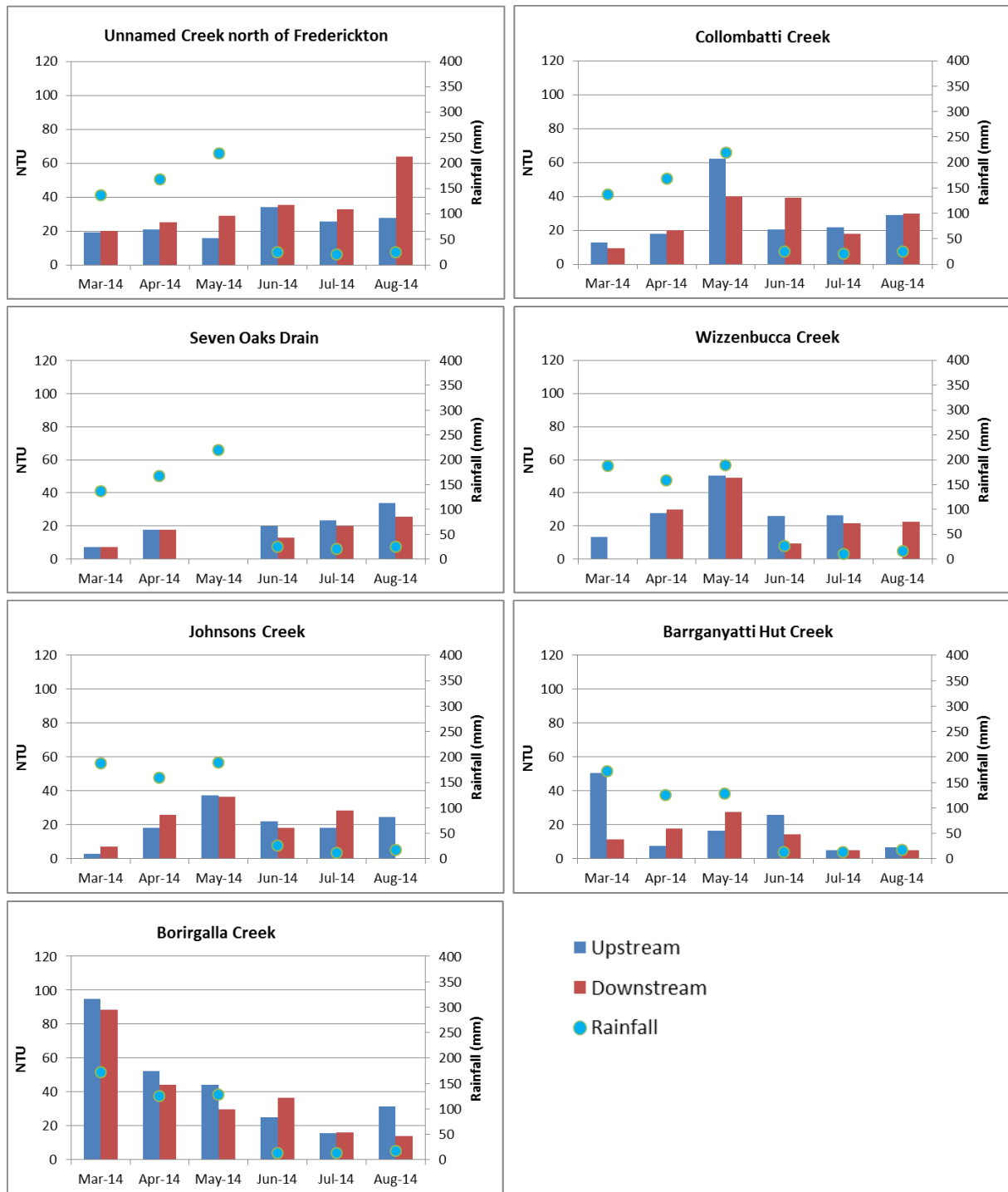


Figure 4-3 Monthly surface water quality (NTU) results

During June to August, there were no significant rainfall events and the water level in all waterways receded. Detailed result of the surface water monitoring is provided in **Appendix 4**.

Downstream surface water quality (NTU - turbidity) exceeded the upstream water quality in the unnamed creek North of Frederickton during the August sampling event. Works at this location during the reporting period involved the construction of a culvert structure. These works required the unnamed creek to be blocked with sheet piles and the construction of temporary rock work platforms. These controls were removed in late July and the disturbed areas were rehabilitated which is likely to have contributed to the elevated turbidity (see Photo below). The flow in the creek at this time was very low.



Cross drainage culverts at the unnamed drainage line north of Frederickton

Sediment basins releases

Sediment basins for the project have been designed in accordance with the *Managing urban stormwater: Soils and Construction* (The Blue Book) (Landcom 2004). Basins in sensitive areas have been designed to the 85th percentile rainfall event (46mm) and basins in non-sensitive areas area have been designed to the 80th percentile rainfall event (36.5mm).

Sediment basins are identified as the licensed discharge points referred to in the EPL. The EPL specifies the following pollutant concentration limits from sediment basins:

- oil and grease - nil
- pH - 6.5 – 8.5, and
- total suspended solids - 50mg/L.

Exceeding the pollutant concentration limits is only permitted when the discharge occurs solely as a result of rainfall measured at the premises. The rainfall must exceed the 5 day rainfall depth value over a consecutive 5 day period for discharge to be considered to occur solely as a result of rainfall.

There were five rainfall events that have resulted in basin overtopping and subsequent basin discharge events (refer to Table 4-2). Details of these overtopping and discharge events are presented in **Appendix 4**.

Table 4-2 Rainfall Events Resulting in Basin Overtopping

Date	Rainfall (mm)			Number of Basins Overtopping	Number of Discharge Events
	Southern Compound	Main Compound	Northern Compound		
13 - 18 March	34.8	47.6	68	40	85
21 - 28 March	84.2	80.0	53.6	61	85
30 March – 8 April	94.4	94.4	114.2	62	85
29 April – 13 May	135.0	210.0	218.8	85	85
16 - 28 May	45.6	50.6	62.8	23	85

4.4 Flora and fauna

Vegetation clearing

The mainline Stage I and II vegetation clearing was completed during the previous reporting period. Clearing during the current reporting period was limited to minor property boundary clearing for fencing and other minor clearing for design refinements. Details of the vegetation clearing will be provided in the Vegetation Clearing Report which is in preparation.

Ecological Monitoring program

In accordance with the Ministers Condition of Approval 3.1 the approved ecological monitoring program: Frederickton to Eungai, was implemented during this compliance period as follows.

Maundia Triglochinooides monitoring

Maundia monitoring was undertaken in April and May during this reporting period. Due to landowners denying access, monitoring was unable to be undertaken at some monitoring sites. Written approval for future monitoring has since been obtained for most of these sites. Results from these monitoring events will be provided as part of annual ecological monitoring reports.

Hairy Joint Grass (*Arthraxon hispidus*) monitoring

Hairy Joint Grass monitoring was undertaken in April and May during this reporting period. Due to landowners denying access, monitoring was unable to be undertaken at the three control sites. Written agreement to undertake future monitoring on these landowners properties has since been obtained and is not expected to restrict any future monitoring. Monitoring was undertaken at the three impact sites, of these three sites two contained Hairy Joint Grass (*Arthraxon hispidus*).

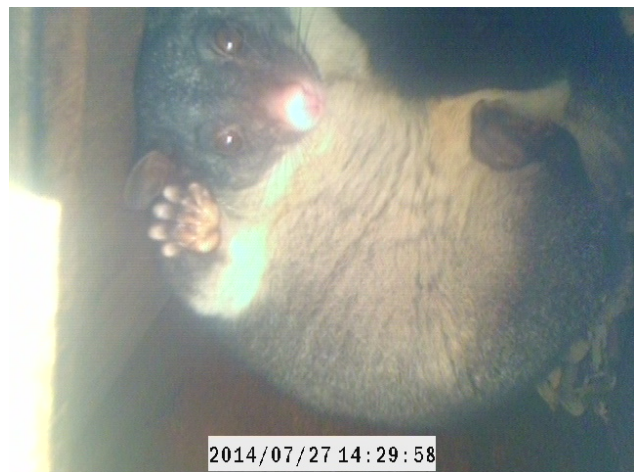
Other Monitoring

No Glossy Black Cockatoo or Brush-tailed phascogale monitoring was undertaken during this reporting period. The next monitoring event for these species is scheduled for autumn 2016. The Green-thighed frog ponds were not constructed during the summer monitoring period, so no monitoring was undertaken. The first monitoring event will be undertaken in summer 2015-2016. No works were undertaken within 50 meters of known Green-thighed frog breeding sites to trigger habitat protection monitoring.

Nest Boxes monitoring

Winter monitoring of the nest boxes installed along the alignment was completed during this reporting period. 220 nest boxes were installed prior to vegetation clearing in 13 zones along the project. 50 boxes had some evidence of occupancy (22%) from native species as follows:

- Mammal nest(predominantly sugar gliders) (25)
- Antechinus (1)
- Brush-tailed possum (8)
- Mountain Brush-tailed possum (1)
- Sugar Glider (9)
- Bird Nest (eggs) (1)
- Lace Monitor (3)
- Northern mallard nesting (1).



Examples of fauna utilising nest boxes.

Clockwise from top right: Northern Mallard, Mountain Brush-tailed Possum, Lace Monitor, Diamond Python.

Green thighed frog breeding ponds

During this reporting period, the construction of the breeding ponds was commenced. The Statement of Commitment F2 requires frog breeding ponds suitable for the Green-thighed Frog to be designed and constructed in consultation with a suitably qualified and experienced ecologist knowledgeable in the breeding requirements of this species.

This requirement for the F2E Project has been addressed in the RMS Scope of Works and Technical Criteria Appendix 4 and Appendix 14 and the Frederickton to Eungai Ecological Monitoring Program (Lewis Ecological Services, 2012¹). Three locations were nominated for construction of Green-thighed Frog breeding ponds:

- Chainage 22500 – 22700, east of carriageway.
- Chainage 26000 – 26200, each side of carriageway.
- Chainage 33900 – 34100, each side of carriageway.

In consultation with Ben Lewis (Roads and Maritime Ecologist) and Brian Tolhurst from the EPA, it was agreed that where possible, the breeding ponds could be constructed in the backfill of temporary sediment basins, reducing any additional impacts on the surrounding vegetation. All frog ponds constructed to date have been inspected by Brian Tolhurst from the EPA.

Four ponds were constructed at chainage 22500 – 22700 in *in situ* soil (there is not a temporary basins available at this location). Only four ponds as opposed to the five nominated in the Ecological Monitoring Program were constructed due to a lack of suitable cleared area. This reduction has been supported by Brian Tolhurst from the EPA.



Green-thighed Frog Pond at chainage 22500 – 22700

¹ Lewis Ecological Services (2012). Frederickton to Eungai Ecological Monitoring Program. Report prepared for Roads and Maritime.

At Chainage 26000 – 26200, five breeding ponds have been constructed on the eastern side of the carriageway in the backfill of a temporary sediment basin. An additional five breeding ponds will be constructed on the western side once another basins is backfilled.

At Chainage 33900 – 34100, five breeding ponds have been constructed on the eastern side of the carriageway in the backfill of a temporary sediment basin and three in the backfill of a temporary basin on the western side of the carriageway. An additional two breeding ponds will be constructed on the western side once another basins is backfilled.

Incidental observations of microbats in culverts

Microbats have been recorded in two of the culvert structures that have been constructed for the project. The microbats were observed roosting in the joint cracks between culvert cells.

At CML 107, one individual was observed on the 30 July. This individual was not identified on the day and has not been observed since. At CML 207, 15 individuals were recorded in two joint cracks on the 14 August. These individuals were identified as Little Bentwing Bat (*Minopterus australis*), a species of conservation concern listed as Vulnerable under the NSW *Threatened Species Conservation Act 1995*.



Little Bentwing Bat (*Minopterus australis*) in culvert structures

4.5 Noise and vibration

Noise and vibration monitoring was carried out in accordance with the requirements set out in the Noise and Vibration Management Plan (NVMP). Noise sensitive receivers in close proximity to the construction activities include residents immediately adjacent to the project corridor, as well as residents along Quarry Road and Cooks Lane. **Appendix 4** presents detailed noise data for the reporting period.

A range of construction activities have been conducted during the reporting period including those with a potential to impact upon sensitive receivers. These include bulk earthworks, on-site haulage, culvert construction, bridge construction, paving and concrete saw-cutting.

During the reporting period, seventy four (74) noise monitoring events were completed consisting of:

- Periodic monthly monitoring of standard works (63); and
- Out of hours assessments (6).

On three occasions, the recorded noise level was higher than the predicted noise level for the activity:

- Sensitive receiver 30D on the 31/03/15. 1dB(A) exceedance associated with bulk earthworks.
- Sensitive receiver 29F on the 2/4/15. 2.3 dB(A) exceedance associated with saw cutting night works. The predominant and main source of noise however was the Pacific Highway and local traffic.
- Sensitive receiver 26A on the 16/6/15). 0.6 dB(A) exceedance associated with paving activities.

Works outside of normal working hours

Permits were raised for works outside of the standard works hours in accordance with the EPL and CEMP. These events are summarized in Table 4.1.

Table 4-3 Works outside of normal working hours

EPL Classification and Description of works	Start date	Finish date	Location
L4.2(c)Exempt works - works <5dba			
24hr ground water bore pump testing.	18/03/15	30/04/15	Cut 13 and Cut 23
Saturday afternoon works across the site	7/03/14	29/08/15	Site wide excluding audible works within chainage 33200–35200 (within 1000m of sensitive receiver 26C).
24hr water pumping CML 101	2/02/15	31/07/15	Unnamed waterway north of Frederickton.
24hr water pumping at CML 203	16/06/15	14/08/15	Wizzenbucca Creek
24hr water pumping at CML 303	18/06/15	31/07/15	Cooks Rest Area
Use of a grader for minor earthworks on Fill 19 on the 14 April	14/04/15	15/04/15	Fill south of Cooks Lane (Doughboy Swamp floodplain).
24hr water pumping at Bridge 18	25/06/15	4/07/15	Borirgalla Creek
Borirgalla Creek culvert demolition works	1/04/15	31/05/15	Borirgalla Creek
L4.3 Works agreed outside standard working hours			
Saturday afternoon works across the site	7/03/14	29/08/15	Site wide excluding audible works within chainage 33200–35200 (within 1000m of sensitive receiver 26C).
L4.4 Other out of hours works (critical works)			
Mainline paving operations. Batch plant operations.	1/02/15	30/09/15	Southern and Main Compound Batch Plants.

Mainline paving operations. Paving and saw cutting.	1/03/15	31/05/15	Chainage 14500 to 18300 north and south bound. (Paving Runs 2 and 4).
	1/02/15	31/05/15	Chainage 38450 to 39800 southbound. (Paving Run 5 A and B).
	1/02/15	31/05/15	Chainage 25200 to 27500 north and south bound. (Paving Runs 6 A and B).
	4/11/14	30/09/15	Chainage 18300 - 19600 north and south bound. (Paving Runs 7 and 7A.1).
	4/11/14	30/09/15	Chainage 29000 - 35000 north and south bound. (Paving Runs 8 and 10).
	18/05/15	31/10/15	Chainage 19600 - 22880 north and south bound. (Paving Runs 9, 15 & 18).
	25/05/15	31/12/15	Chainage 13400 - 14600 north and south bound. (Paving Runs 11 & 17).
	25/05/15	31/12/15	Chainage 39200 - 39700 north bound. (Paving Runs 12).
Stage 3 Traffic Switch Northern End of Project	1/06/15	31/07/15	Northern end of the F2E Project Area. Cut 30 to Eungai Rail.

Vibration

Vibration monitoring is completed when vibratory causing construction activities are undertaken in close proximity to buildings at those distances specified in **Table 4-4**.

Table 4-4 Vibration Monitoring Details

Activity	Distance
Pile Driving	250 metres or the distance at which the calculated 95 th percentile Peak Velocity of ground vibration from the proposed pile driving is 2 mm/s, whichever is the greater
Excavation by hammering or ripping	100 metres
Vibrating Compaction > 7 tonne plant	50 metres
Vibrating Compaction < 7 tonne plant	25 metres
Demolition of Structures	50 metres

Two vibration monitoring events were completed in the reporting month. Both events related to vibration roller (>7 tonne) occurring within 50m of residence at along the Station Street upgrade. In both cases, the recorded vibration level was below the 5mm/s criteria. Details are provided in **Appendix 4**.

5

Community engagement

Leighton Contractors prepared a Community Involvement Plan for the Frederickton to Eungai Pacific Highway Upgrade Project (F2E). The objective of this plan is to provide stakeholders with:

- Information on the project objectives, scope, timeframe and opportunities for input on the design and construction of the F2E Works;
- Information on any of the construction investigations and activities that may affect them;
- Consideration of the issues raised in discussions with stakeholders and indirectly or directly affected landowners; and
- Information on the progress of Leighton Contractors work, significant milestones, design changes, changed traffic conditions and other matters that could either affect or concern the community.

The plan has been prepared in accordance with the requirements of the Design and Construct Project Deed and the Scope of Works and Technical Criteria. It also fulfils the requirements of the Community Communication Strategy as specified in condition 5.2 of the Minister's Conditions of Approval. The plan was approved by Department of Planning on 19 August 2013.

The plan has since been revised in accordance with Leighton's commitment to undertake annual reviews and was reissued on 26 August 2015 to the environmental representative, client and project verifier with minor changes only.

5.1 Complaint number and types

Fifteen (15) formal complaints were logged during the reporting period (February 2015 – September 2015). Complaints fell into the following categories.

- Access
- Traffic impacts
- Out-of-hours work
- Trucks
- Operational noise
- Fencing
- Property damage
- Bus stops
- Property impacts

Refer to **Table 5.1** and **Figure 5.1** for a more detailed breakdown.

Table 5-1 Breakdown of complaints by issue

Issues	Complaints ²	Stakeholders Distinct ³
Access	4	3
Traffic impacts	3	3
Out-of-hours work	2	1
Trucks	2	1
Operational noise	1	1
Fencing	1	2
Property damage	1	1
Bus stops	1	1
Property impacts	1	1
Total Event search	15	12

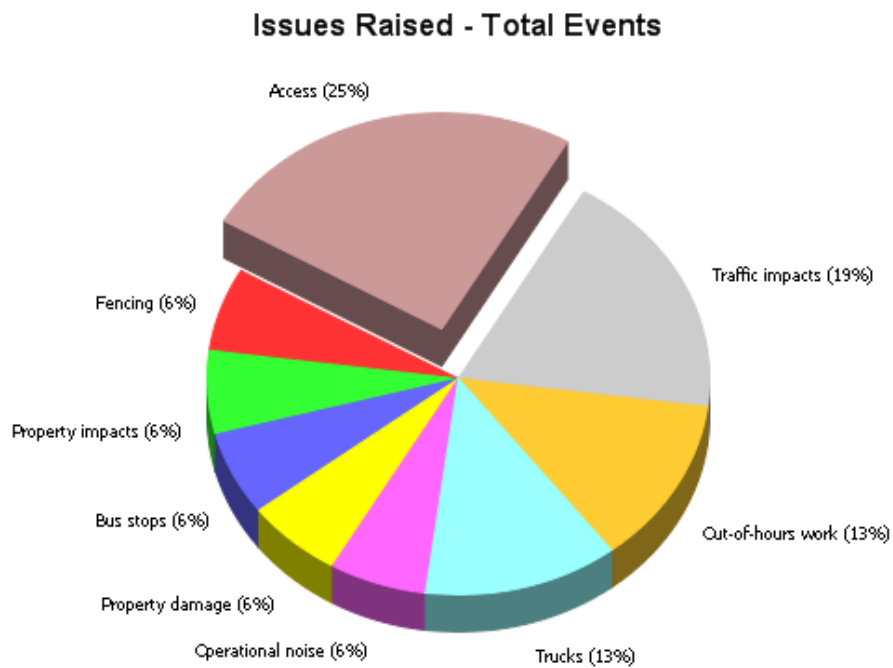


Figure 5-1 Breakdown of complaints by issue

The main issues raised within the complaints have been detailed further below.

² Note that there were 9 items of concern (“issues”) raised across the 15 complaints however some complaints referred to more than one issue (for instance, dust and noise).

³ ‘Stakeholder Distinct’ provides the total number of stakeholders that raised the issue. So, overall, 12 individuals filed 15 complaints.

Access

Four (4) complaints referred to access to private property during construction work.

Of these, two related to the construction of a new driveway for a resident as part of the project's property adjustment works. The first complaint followed localised flooding as a result of heavy rain in the area. The driveway became inundated and as a result the design was revised to include additional drainage under the driveway.

The second complaint resulted from a delay in completing this work due to ongoing poor weather and resource constraints. The work has been programmed (in consultation with the owner) to take place this month (September 2015) to take advantage of forecast dry weather.

Another complaint related to a misunderstanding following a traffic switch on the Pacific Highway. The resident observed barrier boards in place and believed she could not enter the area (which allows access to her driveway). The complaint was rectified by widening the gap in the barrier boards to make the entrance / exit point more obvious to local traffic.

The final complaint related to access for cattle moving from one side of the alignment to the other to graze. The resident was offered alternative pasture on neighbouring Roads and Maritime-owned land which alleviated his concerns.

Traffic impacts

For this reporting period, there were three (3) complaints relating to traffic impacts. All of the complaints related to the temporary intersection between the realigned Station Street and Pacific Highway at Eungai Rail.

Two complaints (both received on the same day) related to lighting. The residents complained that the intersection was difficult to see at night. The traffic manager addressed the issue immediately by rearranging the lighting at this junction which closed out the complaints.

The third complaint related to the line-marking in the vicinity of the new intersection. The resident complained that the creation of the slip lanes mean there was now a "kink" in the lanes and many drivers were not staying within the lanes. The traffic manager explained that this "kink" was necessary to allow room for the temporary turning lanes at this intersection. The lighting at this intersection was subsequently adjusted to mitigate the concerns raised in all three complaints.

Out of hours work

Two (2) complaints over the period related out of hours work.

One complaint was received during scheduled saw-cutting at night. The complaint occurred on the last evening of the activity in that area. The resident has been offered relocation for any future saw-cutting impacts.

The second complaint related to out-of-hours delivery of fly ash to the Cooks Lane batch plan. The project team has implemented mitigation measures to prevent reoccurrence of a complaint, as outlined in the Noise and Vibration Management Plan. These include:

- Requesting that suppliers avoid short sharp sounds from impacts during night work to minimise sleep disturbance to neighbouring residents;
- Undertaking construction noise and vibration monitoring during deliveries to determine the effectiveness of mitigation strategies;
- Utilising all available onsite storage of materials prior to ordering material delivery.

Trucks

Two (2) complaints relating to truck movements were received during the reporting period.

Both related to trucks causing delays and blocking one lane of Station Street while waiting to drop off material in the vicinity. The delivery of material was then staggered to prevent more than one truck arriving on site at one time (and therefore avoiding queuing).

Operational noise

One (1) complaint related to operational noise treatments. The resident complained that the operational noise team had failed to keep a scheduled appointment. The matter was referred to Roads and Maritime representatives who met with the resident and are in continuing discussions regarding the treatments.

Fencing

One (1) complaint during the reporting period related to fencing. The resident complained that there were tree branches which had been left along her fence line following local road works. Construction staff addressed the complaint by removing the debris.

Property damage

One (1) complaint related to the demolition of an Roads and Maritime-owned property which the resident believed he had an agreement to purchase. The verbal agreement could not be fulfilled due to safety concerns relating to the removal of the house.

Bus stops

One (1) complaint was received in relation to bus stops (and in conjunction with the issue of property access). This complaint followed a misunderstanding following a traffic switch on the Pacific Highway. The resident observed barrier boards in place and believed she could not enter the area (which allows access to her driveway and the bus stop). The complaint was rectified by widening the gap in the barrier boards to make the entrance / exit point more obvious to local traffic.

Property impacts

One (1) complaint was received about property impacts in which the resident alleged that material from the road had been deposited on his pasture, making it inedible to his cattle.

This complaint was in conjunction with a complaint regarding access to the western side of his property and was resolved through the offer of alternative pasture on neighbouring Roads and Maritime-owned land.

5.2 Complaint management

The community engagement team maintains a register of all complaints received from key stakeholders and the public. Complaints are received directly during meetings, by email, letter or via the 1800 number.

The details contained within the community correspondence register include:

- Date and time of complaint.
- Format (email, phone, person, letter).
- Name, association and contact details.
- Nature of complaint.
- Responding officer and date and details of response.

The team responds to complaints and where practical puts into place mitigation measures to address the issue and reduce the likelihood of future complaints.

The community engagement team has advised local residents of upcoming construction activities by sending letterbox drops, issuing project updates, holding community information sessions and forums as well as through direct consultation.

Table 5.2 and Figure 5.2 show the breakdown of consultation activities undertaken in the six months between 4th March and 3rd September 2015.

Table 5-2 Breakdown of consultation activities

Communication Types	Events	Number of recipients / stakeholders
Letter out	152	158
Email out	96	696
Phone call out	82	52
Phone call in	31	22
Email in	26	17
Internal Email /Phone call / Meeting	22	14
SMS	16	7
Complaint	15	12
Briefing off site	15	13
Public Information Session	1	14
Signed Agreement	8	7
Briefing on site	8	8
Letter in	6	6
Registration - Feedback form	3	3
Total	494	698

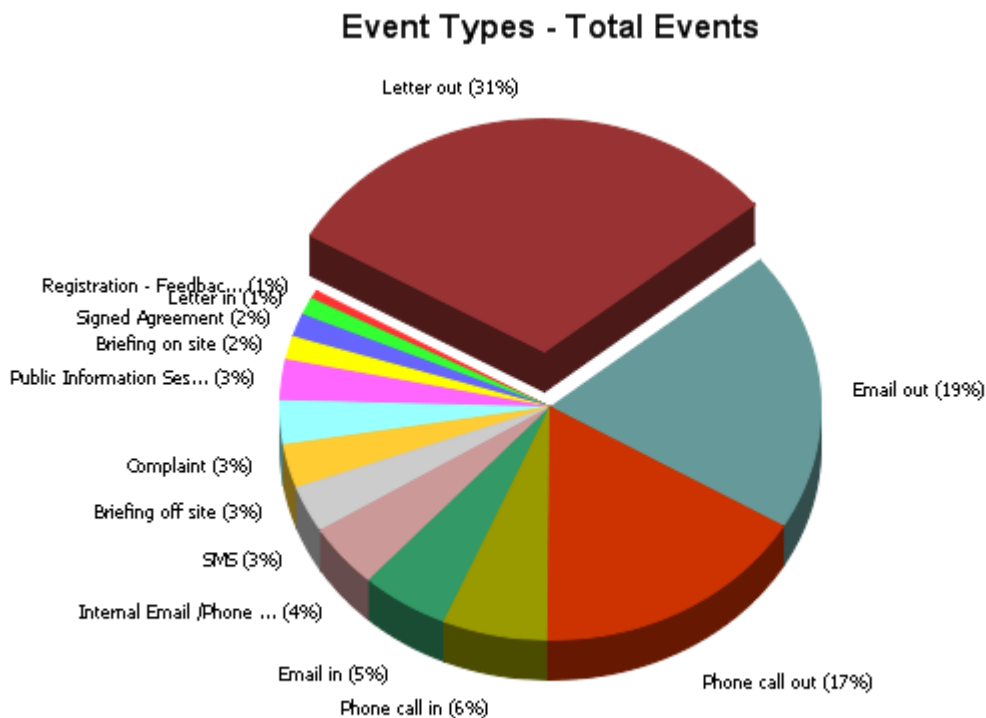


Figure 5-2 Breakdown of consultation activities

5.3 Community engagement initiatives

A number of community activities have been held with interested groups. These includes one (1) community information session, 23 briefings with concerned residents or groups of residents, 248 emails / letters and 113 phone calls.

Altogether, there were 494 communication events across an audience of 698 registered stakeholders.

Other initiatives included:

- Refinement of the of the out of hours work feedback and notification procedure, in consultation with the client and external agencies including the EPA, following feedback from the community that the consultation was excessive at this stage of the project.
- Development of new toolbox / induction material relating to social media use in line with Thiess and Roads and Maritime policy and procedures.
- Finalisation of outstanding design for local road connection at Thurgood Lane following 18 months of consultation with affected residents, council and Roads and Maritime.
- Co-operative resolution of complaints between contractor and Roads and Maritime personnel.
- Annual revision of Community Involvement Plan to reflect changes in stakeholders / issues as we near construction completion.
- No CARs or items of observation during recent Roads and Maritime systems audit.

6

Other compliance matters

6.1 Training and awareness

Training and awareness for management, field staff and contractors has been integral to the successful management of the Project. Training has covered environmental, safety and quality awareness.

All staff and sub-contractors attend project induction training prior to commencing work onsite. The induction provides an overview of:

- Relevant details of the CEMP including purpose and objectives.
- Key environmental issues on topics such as flora and fauna and Aboriginal heritage.
- Conditions of environmental licences, permits and approvals.
- Specific environmental management requirements and responsibilities.
- Mitigation measures for the control of environmental issues (for example threatened species and endangered ecological communities).
- Incident response and reporting requirements.

Six month induction refresher for all project personnel was completed on the 18-21 August.

Additional training is presented throughout the period including:

- Toolbox talks to cover environmental awareness topics and reported environmental near hits.
- Upcoming environmental risk awareness during planning for works meetings such as Hazard Pre-starts.

6.2 Inspections

Internal inspections are undertaken by the environmental and construction teams. These routine inspections, typically weekly or following rainfall, pick up minor environmental management improvements such as maintenance of clearing boundary delineation, sediment control maintenance and installation of controls in accordance with progressive erosion and sedimentation control plans and maintenance works following rainfall.

The Soil Conservationist has continued to complete inspections across the entire site fortnightly, to review erosion and sediment controls plans and provide technical advice to minimise erosion and sediment control.

The Environmental Representative (ER) and Roads and Maritime representatives also undertake environmental inspections on a fortnightly basis. These joint inspections incorporate the monthly ERG inspections with EPA. These inspections typically cover active works sites where risk to the environment is highest.

6.3 Audits

Roads and Maritime audit

A Roads and Maritime audit was held on the 14 & 15 August 2015 including a systems audit and field inspection component. This audit's focus included a review of previous audit findings and implementation of Roads and Maritime environmental and landscaping specifications.

All outstanding actions from previous Roads and Maritime audits were closed during this audit and no new Corrective Action Requests (CARs) were raised.

The audit report with summary of other Observations of Concern (OoC) or Opportunities for Improvement (OFI) is pending at the time of preparation of this report.

Independent Compliance Audit

The next annual independent compliance audit in accordance with Section 2.4 of the Appendix A11 - Compliance Tracking Program is programmed for November 2015.

Environmental Representative Audit

An Environmental Representative audit of compliance with the conditions of approval was completed on the 30 April 2015.

Internal Audits

The following internal audits were completed during this reporting period:

- Site spill kits audit (March 2015).
- Leighton Contractors Independent Performance Reviews (March 2015).
- Leighton Contractors corporate environmental compliance audit (May 2015).
- Paving Workpack and Environmental Work Method Statement audit (June 2015).
- Batch Plan Environmental Work Method Statement audit (July 2015).

6.4 Incidents

Roads and Maritime, and its contractors, take the view that any environmental related unplanned events, whether they impact the environment or not, are reported and recorded as incidents. This type of approach allows for the analysis of trends and encourages a culture within the workforce for continual improvement. This approach is well accepted within the Workplace Health and Safety industry as a tool to recognise unsafe practices and put in place appropriate controls before significant incidents occur.

There were twenty-three (23) environmental incidents reported during the 6 month reporting period. These incidents related to:

- hydrocarbon spills (11)
- non-compliant with EPL associated with basin discharge or management (3)
- chemical runoff from paving activities (6)
- on-site fish kill associated with culvert demolition works (1)
- non-compliance with approved work procedure (unapproved works commencing outside standard construction hours) (2).

Details of these incidents are included in **Appendix 3**.

Non-compliances with basin discharge or management

Three incidents were reporting during this compliance period relating to non-compliances with the Project EPL. These non-compliances all related to basin discharge or management. These three incidents related to failure to dewater basins and restore the design basin capacity within five days of the cessation of rainfall in accordance with condition O5.9 of the projects EPL. On each occasion, the non-compliance occurred as a result of failure to achieve the discharge criteria for total suspended solids specified condition L2.5 of the projects EPL.

As a preventative action to these non-compliances, and non-compliances with the same EPL condition in the previous reporting period, the basin flocculation techniques were reviewed to maximise the likelihood of achieving the specified discharge criteria within the five day timeframe. As a result of the review, the Project switched using dry mineral gypsum to flocculate basins to using liquid gypsum. This form of gypsum has a higher concentration of active constituents and is supplied in a soluble liquid form. The advantage of this form is it is both faster to apply and more effective.

In addition, a review of the nominated treatment doses was completed to ensure the required dose is applied to each basin. Basins that are found to be non- or slow-responsive to the flocculation are nominated as priority basins for treatment for the following rainfall events. These measures were found to be effective in reducing the number of basins

All non-compliances with the EPL are reported to the EPA and reported in the monthly EPL report which is published on the Thiess website.

Chemical runoff from paving activities

Six incidents related to chemical runoff of paving curing chemicals, cutter oil from bitumen seals or water contaminated with cementitious particles associated with the paving activities.

The spike in these incidents during the reporting period was addressed through an audit of the paving work-packs and the Managing Runoff from Paving and Curing Process Environmental Work Method Statement and the implementation of the controls on site.

Four of the events related to the wax or resin based curing compounds being washed off the concrete before they had set. The curing compound is a sealant applied to surface the concrete pavement to slowing the evaporation and thereby minimise cracking during curing. Typically the curing compound should dry in a few hours after application. However, due to cooler weather conditions and high humidity, the curing compound was remaining in liquid form overnight, thereby increasing the likelihood of it being mobilised by showers.

Following these incidents, the curing compound product supplier was notified and an alternate, fast curing, mixes of the curing compounds were provided for use during the cooler winter and spring period.

7

Environmental initiatives, best practices and highlights

The environmental management system that is implemented on the F2E project is based on the AS/NZS ISO 14001:2004 which is based on a methodology known as Plan-Do-Check-Act (PDCA). The monitoring, inspections, audits and consultation outlined in this compliance report all contributed to the planning and checking which drives continual improvement.

Environmental initiatives and best practice that are identified are encouraged and tabled for discussion in many forums: daily pre-start talks, toolbox talks, weekly construction team meetings, environmental team meetings, management team meetings, regulatory inspections and internal and external audits.

The following examples were implemented and demonstrate best practice environmental initiatives to advance positive environmental outcomes. In addition, a number of highlights were experienced during the reporting period and these also have been presented.

Recycling of heavily bound and asphalt milling from old Pacific Highway

The F2E project has approximately 4km of brownfield duplication works where the former Pacific Highway is overlaid by the new alignment. In this area, sections of the old highway are removed to ensure a uniform foundation is provided across the carriageway above the old pavement.

The Old Pacific highway was typically constructed of 300mm of heavily bound material (HBB, cement stabilised gravel) and varying thicknesses of asphalt or seal. In total, 19,000m³ of HBB and 4500 m³ of asphalt were removed from the old highway and recycled into construction of the new highway, thereby avoiding disposal to landfill.

Recovery of HBB can either be via ripping using a dozer, hammered using an excavator or milled out or crushed to produce consistent gravel that meets the requirements of an imported grave. Under the Roads and Maritime specification (R44), HBB that is ripped or hammered can generally only be re-used as general fill. Milled or processed (crushed) HBB however may comply with the Roads and Maritime specification for select zone material (SMZ) and upper-zone material (UZM). As such, 17,500m³ of milled HBB was used as SMZ and 1,500m³ of HBB was crushed and used as Upper-Zone Material (UZM).

In addition 3,000m³ of asphalt was recycled as verge material. Roads and Maritime also provided a dispensation to the specification for SMZ and dense graded base (DGB) to allow 1,500m³ of reclaimed asphalt to be used for construction of sealed driveways.

Recycling of waste products to produce verge material

Geotechnical testing identified that the F2E project would yield a significant surplus of upper zone quality material. Through a program of laboratory testing, various blends of the upper zone material with fine sand and/or crushed rock were found to change the plasticity (PI) or CBR (California bearing ratio) to meet the Roads and Maritime specification (R44) requirements for verge material or SMZ which would allow the surplus material to be used for construction of the road.

This initiative has allowed the use or reuse of up to 110,000t of materials which would have otherwise been spoiled or gone to landfill consisting of:

- 70,000t of surplus upper zone rock.
- 30,000t of imported platform and access track rock.
- 7,000t of waste concrete from the paving operation.



Ancillary facility for crushing surplus upper zone rock with rock and waste concrete

Construction of Green-thighed frog ponds in decommissioned basins

Green-thighed frog is a species of conservation concern that was recorded at three locations along the Frederickton to Eungai Project during the Environmental Assessment. The species is known to predominantly utilise ephemeral ponds, such as natural depressions adjacent to streams, following heavy rainfall events for breeding sites (Lemckert *et al*, 2006⁴). As these microhabitat features are limited in the landscape, the formation of new breeding ponds was proposed in the Environmental Assessment to compensate for the loss of breeding ponds resulting from the Project.

In consultation with Ben Lewis (RMS Ecologist) and Brian Tolhurst from the EPA, it was agreed that where possible, the Green-thighed breeding ponds could be constructed in the backfill of temporary sediment basins (refer to Section 4.4). This is considered a best practice initiative for ecological enhancement as it avoids disturbing otherwise undisturbed areas beyond the limit of clearing to create the breeding ponds.

The formation of the breeding ponds in the backfill of temporary sediment basins will also enhance the habitat diversity of these restored areas for other species of plant and animals by mimicking the natural topographic variation in the landscape.



Green-thighed Frog Pond during construction in former sediment basin at Chainage 26000 – 26200

⁴ Lemckert, F., Mahony, M., Brassil, T. and Slatyer, C. (2006). The biology of the threatened Green-thighed frog *Litoria brevipalmata* (Anura: Hylidae) in the central and mid-north coastal areas of New South Wales. *Australian Zoologist* Vol 33(3): 337-344.

Appendices

Appendix 1

Compliance with the Minister for Planning project approval

**Appendix 1 – Project Obligations (COURs) Register
MCoA and SoC – Construction
4 March – 3 September 2015**

Ref.	Source Ref.	Timing	Commitment, Obligation, Undertaking, Requirement (COUR)	Construction Status	How COUR will be complied with	Responsibility	Addressed where / how	Evidence Reference	Sept 2014 - March 2015 Compliance Report
MCoA	1.1	All Stages	The Proponent shall carry out the project generally in accordance with the: a) Major Projects Application 06_0224; b) Kempsey to Eungai - Upgrading the Pacific Highway: Environmental Assessment (Volumes 1 and 2), prepared by Parsons Brinckerhoff Australia Pty Limited and dated July 2007; c) Kempsey to Eungai - Upgrading the Pacific Highway: Submissions Report, prepared by Parsons Brinckerhoff Australia Pty Ltd and dated March 2008, including the Statement of Commitments contained therein; d) Modification Application 06_0224 MOD 1 and request for modification dated 5 February 2010; e) Modification Application 06_0224 MOD 2, request for modification dated 1 October 2010 and additional information provided to the Department on 1 November 2010, 3 November 2010 and 17 November 2010; f) Modification Application 06_0224 MOD 3 and request for modification dated 7 November 2011 ; and g) the conditions of this approval.	Open	All sources referred to here are included in COUR register where relevant.	Enviro Manager	Project requirements included in CEMP approved by DP&E 19/8/13. Additionally COUR Register to be included in Keystone. - document management system. Tracked via 6 monthly compliance reports.	CEMP Approval. COUR register - See Keystone	Condition satisfied in previous reporting period. No further update this reporting period
MCoA	1.2	All Stages	The Proponent shall carry out the project generally in accordance with the: a) the conditions of this approval and any document listed from condition 1.1a) to 1.1f) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency; and b) any document listed from condition 1.1a) to 1.1f) inclusive, and any other document listed from condition 1.1a) to 1.1f) inclusive, the most recent document shall prevail to the extent of the inconsistency.	Open	Any applicable requirements included in this COUR Register and any associated approvals and/or legal register in CEMP	Enviro Manager	Project requirements included in CEMP approved by DP&E 19/8/13. Additionally COUR Register to be included in Keystone. - document management system. Tracked via 6 monthly compliance reports.	CEMP Approval. COUR register - See Keystone	Condition satisfied in previous reporting period. No further update this reporting period
MCoA	1.3	All Stages	The Proponent shall comply with any reasonable requirement of the Director General arising from the Department's assessment of: a) any reports, plans or correspondence that are submitted in accordance with this approval; and b) the implementation of any actions or measures contained in these reports, plans or correspondence.	Open	Condition noted and correspondence shall be responded to as/when necessary. Compliance demonstrated wrt CEMP updates required by DP&E approval. That is CEMP updated as necessary.	Enviro Manager	COUR Register - Document Management System; Incident investigation regarding placement of a topsoil mound in an area identified as being archaeologically sensitive is ongoing and further information shall be provided to DP&E as requested.	CEMP dated July 2013 - updates included. System in place to ensure compliance - e.g. regular consultation with RMS, ERG	No update this reporting period.

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								meetings, etc. G:\NSW\F2E\01 Environment\6 Communication and Consultation\6.4 Meetings and Minutes	
MCoA	1.4	Pre-construction	The Proponent may build and operate the project in stages with commensurate staging of compliance with the conditions of this approval. Where the project is to be staged, the Proponent shall submit details of the staging prior to construction to the Director General, including details of how compliance with the conditions of this approval will be ensured across and between the stages of the project.	Closed	RMS provided Staging Report (Doc ID 101)	RMS	N/a for Thiess as RMS responsible;	11 1031 Kempsey FINAL Staging Report	Condition satisfied in previous reporting period. No further update this period
MCoA	1.5	All stages	This approval shall lapse ten years after the date on which it is granted, unless the works the subject of any related project approval are physically commenced on or before that date.	Closed	RMS provided Staging Report (Doc ID 101)	RMS	N/a for Thiess as RMS responsible; RMS submitted an amended staging report (rev 3) to D-G on 07/11/2011. DP&E accepted the amended Staging Report on 05/12/2011. Works commenced on 4 September 2013. Condition satisfied.		Condition satisfied and closed.
MCoA	2.1	Design	The Proponent shall subsidise any new or necessary update(s) to the relevant Kempsey Shire Council, Nambucca Shire Council and State Emergency Service plans and documents to reflect changes in flooding levels, flows and characteristics as a result of the project. [Note: scope includes Collombatti Creek floodplain according to SWTC App 4 cl4.5]	Closed	Development of the Hydrological Mitigation Report (F2E-00G-RPT-FS000-0003[A4]) to determine if any changes to the relevant Kempsey Shire Council, Nambucca Shire Council and State Emergency Service plans and documents are required. Any required changes would be subsidised.	Design Manager	The Kempsey Bypass Hydrological Mitigation Report June 2010 provides the reasonable and feasible mitigation measures RMS implemented in consultation with landowners for Stage 1 of the Kempsey to Eungai Project. The Hydrological Mitigation Report (F2E-00G-RPT-FS000-0003[A4]) for Stage 2 of the project (F2E) showed no impact to farm infrastructure or residence and minimal impact to livestock movements. This report addressed the Ministers Conditions of Approval before commencement of construction and included sections on the hydrological predictions, the movement of livestock during the construction and operation phases of the project and the	Refer to Keystone for Flood Report	Condition satisfied and closed.

**Appendix 1 – Project Obligations (COURs) Register
MCoA and SoC – Construction
4 March – 3 September 2015**

Ref.	Source Ref.	Timing	Commitment, Obligation, Undertaking, Requirement (COUR)	Construction Status	How COUR will be complied with	Responsibility	Addressed where / how	Evidence Reference	Sept 2014 - March 2015 Compliance Report
							<p>replacement evacuation route.</p> <p>No update(s) to the relevant Kempsey Shire Council, Nambucca Shire Council or State Emergency Service Plans were required to reflect changes in flooding levels, flows and characteristics as a result of the project.</p> <p>Kempsey Shire Council, Nambucca Shire Council and the State Emergency Services were provided with the hydrological mitigation report, detailed design drawings of the stock evacuation route and the flood modelling undertaken by WMA Water and Thiess.</p> <p>Refer to F2E Hydrological Mitigation Report FS000 (F2E-00G-RPT-FS000-0003[A4]) for further details.</p>		
MCoA	2.2	Design	The Proponent shall undertake further flood modelling during detailed design to ensure that the project is designed and constructed with the aim of not exceeding the afflux and flood flow velocity performance criteria specified for the Macleay River Floodplain in Section 10 of the Kempsey to Eungai – Upgrading the Pacific Highway: Environmental Assessment and Section 2.2.8 of the Kempsey to Eungai – Upgrading the Pacific Highway: Submissions Report, referred to in condition 1.1 of this approval. [Note: scope includes Collombatti Creek floodplain according to SWTC App 4 cl4.5]	Closed	Refer WMA Water Collombatti Creek Flood Study for Collombatti Creek floodplain in FS000 Appendix K, and HAJV design package FS000 for other floodplains	Design Manager	Flood modelling has been undertaken during detailed design and shows that the aim of not exceeding the afflux and the flood flow velocity performance criteria has been met. Demonstrated in Section 2 of the Flood Study Report (F2E-00G-RPT-FS000-0001 [01]). Refer WMA Water Collombatti Creek Flood Study for Collombatti Creek floodplain in FS000 Appendix K, and HAJV design package FS000 for other floodplains.	Refer to Keystone for Flood Report	Condition satisfied and closed.

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MCoA and SoC – Construction
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MCoA	2.3	Design	Should modelling required by condition 2.2 identify changes to drainage patterns along the existing Pacific Highway that are directly attributable to the project, the Proponent shall alter or install drainage structures on the existing Pacific Highway to preserve or maintain current hydrological flow paths and flood regimes upstream of the existing highway. [Note: scope includes Collombatti Creek floodplain according to SWTC App 4 cl4.5]	Closed	Modelling of the proposed F2E detailed design shows no change in any drainage patterns along the existing Pacific Highway. Based on the modelling results, the existing Pacific Highway will not require additional drainage structures. The F2E detailed design does not affect drainage patterns along the existing Pacific Highway. Demonstrated in F2E Hydrological Mitigation Report FS000 (F2E-00G-RPT-FS000-0003[A4]).	Design Manager	F2E Hydrological Mitigation Report FS000 (F2E-00G-RPT-FS000-0003[A4])	Refer to Keystone for Flood Report	Condition satisfied and closed.
MCoA	2.4	Design	The Proponent shall employ a suitably qualified and experienced independent hydrological engineer approved by the Director General prior to commencement of construction to assist affected property owners in negotiating reasonable and feasible mitigation measures. [Note: scope includes Collombatti Creek floodplain according to SWTC App 4 cl4.5]	Closed	RMS responsibility	Design Manager	Mr Terry McKeown was engaged as the independent hydrological engineer. Refer to letter from DP&E (formerly DP&I) approving the appointment of Mr Terry McKeown as the independent Hydrological Engineer (dated 22.01.2010).	Letter from DP&E (formerly DP&I) approving the Mr Terry McKeown as the Independent Hydrological Engineer (22.01.2010).	Condition satisfied and closed.

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MCoA	2.5	Design	<p>Prior to commencement of construction, the Proponent shall submit a hydrological mitigation report to the Department detailing all reasonable and feasible flood mitigation measures for all properties where flood impacts are predicted to increase as a result of the project. The report shall:</p> <p>a) identify all properties likely to have an increased flooding impact and detail the predicted increased flooding impact;</p> <p>b) identify the at residence and/or general property protection measures to be employed to mitigate the predicted increased flooding impact;</p> <p>c) identify measures to be employed for directly impacted commercial/agricultural properties to assist in the protection of critical farm infrastructure and evacuation of stock during flood events;</p> <p>d) identify measures to be implemented to minimise scour and dissipate energy at locations where flood velocities are predicted to increase as a result of the project and cause localised soil erosion and/or pasture damage;</p> <p>e) detail construction methods and landscaping treatments for the Frederickton levee;</p> <p>f) be developed in consultation with the relevant branches of Kempsey Shire Council, DECCW, State Emergency Service and directly-affected property owners; and</p> <p>g) identify operational and maintenance responsibilities for items a) to e) inclusive.</p> <p>The Proponent shall not commence construction of the project on or within areas likely to alter flood conditions on the Macleay River floodplain until such time as works identified in the hydrological mitigation report have been completed unless otherwise agreed by the Director General. [Note: scope includes Collombatti Creek floodplain according to SWTC App 4 cl4.5]</p>	Closed	Hydrological mitigation report prepared and issued to DP&E.	Design Manager, RMS	The Hydrological Mitigation Report (F2E-00G-RPT-FS000-0003[A4]) was prepared and issued to DP&E (formerly DP&I) by RMS on the 25 October 2013. Email from Michael Young (DP&E (formerly DP&I)) accepting the Hydrological Mitigation Report generally satisfies the requirements of condition 2.5 (dated 21 February 2014, attached). Note: extension letter from DP&E dated 3 September 2013 (attached).	1. Hydrological Mitigation report 2. Approval of hydrological mitigation report (email) 3. Letter of extension	Condition satisfied and closed.

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Ref.	Source Ref.	Timing	Commitment, Obligation, Undertaking, Requirement (COUR)	Construction Status	How COUR will be complied with	Responsibility	Addressed where / how	Evidence Reference	Sept 2014 - March 2015 Compliance Report
MCoA	2.6	Design	The Proponent shall prepare a schedule of flood mitigation measures for each directly affected property in consultation with the property owner. The schedule shall be provided to the relevant property owner(s) no later than two months prior to the implementation of the mitigation works, unless otherwise agreed by the Director General. A copy of each schedule of flood mitigation measures shall be provided to Council and the Department prior to the implementation / construction of the mitigation measures on the property. [Note: scope includes Collombatti Creek floodplain according to SWTC App 4 cl4.5]	Closed	Included in the approved Hydrological Mitigation Report. No specific mitigation measures are proposed for any properties on the F2E project. Six residence were however consulted with in relation to flood impacts, in addition to the SES. Refer to attached	Design Manager Community Liaison	Included in the approved Hydrological Mitigation Report. Refer RMS Disposition 0060-DR regarding extension of time. Refer RMS Disposition 0061-DR regarding timing of consultation	1. Letters of correspondence to affected property owners and SES.	Condition satisfied and closed.
MCoA	2.7	Design	In the event that the Proponent and the relevant property owner cannot agree on reasonable and feasible flood mitigation measures to be applied to a property within one month of the first consultation on the measures (as required under condition 2.6), either party may refer the matter to the Director General for resolution. [Note: scope includes Collombatti Creek floodplain according to SWTC App 4 cl4.5]	Closed	No specific mitigation measures are proposed for any properties on the F2E project. Six residence were however consulted with in relation to flood impacts, in addition to the SES. There has been no disagreement to date.	Design Manager Community Liaison	There were no instances from Stage 2 (F2E) where the Proponent and the relevant property owner cannot agree on the reasonable and feasible flood mitigation measures to be applied to a property and no matters were referred to the Director General for resolution.	Refer to Keystone	Condition satisfied and closed.
MCoA	2.8	Design	The Proponent shall, in consultation with the DECCW and I&I NSW (Fisheries), design, construct and maintain reasonable and feasible fauna management measures to: a) facilitate safe fauna movements across the project; and b) encourage fauna movements across the project at the key crossing locations referred to in 2.8 a).	Open	Compliance requirements provided in SWTC Appendix 4, Appendix 5 and Appendix 14. Detailed in Flora and Fauna Management Plan Appendix B - Design Requirements. Fauna underpasses included in Cross Drainage packages (DC001, DC002, and DC003) and Bridge Packages (BR0##). Glider crossings and fauna exclusion fencing included in Road furniture packages (RF000, 002 & 003).	Design Manager	Flora and Fauna Management Plan Appendix B - Design Requirements. Design Packages DC001, DC002, DC003, RF002, RF003 and BR0##. Consultation records with relevant agencies included in relevant design reports.	Refer to Keystone E-table COUR ID 13	Construction of fauna exclusion fencing ongoing. All fauna underpasses have been constructed, however fauna furniture has not been completed.

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MCoA	2.9	Design	The Proponent shall, in consultation with DECCW: a) investigate the potential for the translocation of Maundia triglochinosides plants impacted by the project. b) if investigation under 2.9 a) reveals translocation of Maundia triglochinosides is reasonable and feasible, the Proponent shall prepare and implement a Maundia triglochinosides translocation plan for plants impacted by the project. c) consider including appropriate compensatory habitat for the Maundia triglochinosides in the Biodiversity Offsets Package referred to in Condition 2.11 should the information obtained during the investigation referred to in Condition 2.9 a) find that translocation is not reasonable and feasible.	Closed	The Translocation Assessment for Maundia triglochinosides as part of the Pacific Highway upgrade, Kempsey to Eungai (Parsons Brinkerhoff, 2006) was included in Appendix A to the Environmental Assessment Technical Report 2 - Supplementary Ecological Assessment. Following further assessment, the Pacific Highway Upgrade Frederickton to Eungai: Translocation investigation for Maundia triglochinosides (Lewis, B.D , 2013) was provided to the EPA in March 2013. This report recommended that translocation was not reasonable or feasible. The EPA agreed with the recommendations and conclusions contained of this report. No further action was required.	Enviro Manager	Translocation investigation for Maundia triglochinosides (Lewis, B.D , 2013)	Refer to Keysone E-table COUR ID 14	Condition satisfied and closed.

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MCoA	2.10	Pre-construction	The Proponent shall develop and submit for the approval of the Director General, a Biodiversity Offset Strategy. The Strategy shall provide a framework for developing the Biodiversity Offsets Package required by Condition 2.11 and shall be developed in consultation with the DECCW. The Strategy shall:a) include a minimum requirement to provide 382 hectares of native vegetation to offset direct and indirect impacts of the proposalb) identify the extent and types of habitat/vegetation communities that would be lost or degraded as a result of the project;c) describe the quality of the habitat/vegetation communities identified in point a);d) identify the objectives and outcomes to be met by the final Biodiversity Offset Package;e) consider the biodiversity management measures or activities identified in the documents set out in condition 1.1 or elsewhere in these Conditions of Approval, including:i. fauna crossing structures and associated fauna fencing to be installed as part of the project.ii. revegetation measures.iii. translocation plans.iv. any other fauna mitigation measures such as nest boxes and frog breeding ponds.v. any ongoing biodiversity or threatened species monitoring requirements.f) provide details of available compensatory habitat in the region to offset the loss of Freshwater Wetlands, Swamp Sclerophyll Forest, Swamp Oak Floodplain Forest, River Flat Eucalypt Forest and Mahogany Dry Sclerophyll Forest and habitat for threatened fauna species as a result of the project. This may include other non land based management measures or actions to deliver a beneficial outcome for the region;g) provide a decision-making framework to be used in selecting the priority ranking of compensatory habitat options available in the region; andh) consider the linkage between compensatory measures and floodplain natural resource management.Unless otherwise agreed, the Biodiversity Offset	Closed	The Kempsey to Eungai Upgrade - Proposed Biodiversity Offset and Mitigation Strategy was submitted to the Department of Planning in April 2010 (Version Final). This report was provided as RMS Information document 103.The Department of Planning provided a conditional approval of the strategy in May 2010.	RMS	Biodiversity Offset Strategy	Refer to Keystone	Condition satisfied and closed.

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			Strategy shall be submitted to the Director General for approval no later than 6 weeks prior to the commencement of any construction that would result in the disturbance of Endangered Ecological Communities or threatened fauna species' habitat. Nothing in this condition prevents minor clearing of Endangered Ecological Communities and threatened species habitat prior to approval of the Strategy, where the clearing does not compromise biodiversity outcomes and has been approved by the Director General, in consultation with DECCW. Nothing in this condition or this approval precludes the Proponent from implementing a suitable offsets package which addresses impacts from multiple Pacific Highway Upgrade Projects (including the Kempsey-Eungai Upgrade) within the North Coast Bio-region (Manning-Macleay sub region). Any such agreement made with the Department of Environment and Climate Change must be made in consultation with the Department and approved by the Director General.						
MCoA	2.11	Pre-construction	Within 12 months of the approval of the Biodiversity Offset Strategy, or as otherwise agreed by the Director General, the Proponent shall submit the Biodiversity Offset Package for the approval of the Director General. The Package shall be developed in consultation with the DECCW and: a) shall detail the final suite of biodiversity offset measures selected in accordance with the Strategy; and b) include a program (timeline) to achieve the implementation of the final suite of measures. Where possible, this should include purchase of land, development of agreements with identified land management authorities (e.g. DECCW, local council etc.) for long term management and funding of offsets and mitigation measures, and installation of identified mitigation measures.	Closed	Biodiversity Offset Package for the approval of the Director General	RMS	Biodiversity Offset Strategy conditionally approved by DP&E on 14/5/10. 28/06/2013 - RMS requested DP&I for extension of time for the submission of the Biodiversity Offsets Package. 11/07/13 - DP&I agreed to extend the submission date to the 30 September 2014. 13/08/13 - RMS requested DSEWP&C for extension of time for the submission of the Biodiversity Offsets Package. 16/07/15 - DP&E note that the Biodiversity Offsets Package is overdue in response to the Six Month Compliance Report September 2014 - March 2015. 28/8/15 - DP&I agreed to extend the submission to the Aug 2016.	Refer to Keystone	DP&E note that the Biodiversity Offsets Package is overdue in response to the Six Month Compliance Report September 2014 - March 2015 on the 16/07/15. Following correspondence, DP&I agreed to extend the submission date to the August 2016 on the 28/8/15.

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MCoA	2.12	Construction	<p>Standard construction hours for the duration of construction are:</p> <p>a) 7:00 am to 6:00 pm, Mondays to Fridays, inclusive; and</p> <p>b) 8:00 am to 1:00 pm on Saturdays; and</p> <p>c) at no time on Sundays or public holidays.</p> <p>The following exceptions (without further approval) to standard construction hours apply:</p> <p>i. any works that do not cause construction noise to be audible at any sensitive receiver;</p> <p>or</p> <p>ii. for delivery of materials required outside these hours by the Police or other relevant authorities for safety reasons; or</p> <p>iii. where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm.</p>	Open	<p>The Construction Noise and Vibration Management Plan was approved on the 19/8/13 by the Department of Planning and Infrastructure. This plan provides an out of hours works procedure to assess works proposed outside of the standard construction hours. In accordance with the out of hours works procedure, an internal Out of Hours Works Permit is raised for all works in accordance with MCoA 2.12 i) and ii).</p> <p>The DP&E requires no further approval for except activities outlined in the MCoA 2.12.</p> <p>The EPA must be notified of works that involve delivery of oversized plant or structures / materials or works that are no more than 5dB(A) over the rating background level via a quarterly forecast prior to undertaking exempt out of hours. Details of any acoustic investigation relating to works that are no more than 5dB(A) over the rating background level must also be provided in the EPL Monthly Report. The EPA does not require notification prior to emergency works.</p> <p>All Project personnel are made aware of the Standard Construction Hours in the project environmental induction.</p>	Construction Manager Enviro Manager	<p>F2E Noise and Vibration Management Sub Plan in CEMP.</p> <p>EPA quarterly forecasts of works in accordance with EPL condition L4.2 (equivalent condition). Saved under Correspondence in Incite.</p> <p>Out of Hours Works Permits raised in accordance with the out of hours works procedure. Works completed under this clause are reported in the Monthly Environmental Performance Report.</p> <p>Community notifications on RMS Website</p> <p>Refer to RMS Project Website http://www.rms.nsw.gov.au/projects/northern-nsw/port-macquarie-to-coffs-harbour/frederickton-to-eungai/project-documents.html</p>	<p>Refer to Keystone.</p> <p>**At end of project attach copy of Out of Hours Work Register to Incite Record.</p>	<p>Permits for works outside of the standard construction hours that are consistent with the exceptions in CoA 2.12:</p> <ul style="list-style-type: none"> - 24hr ground water bore pump testing (Cut 13 and 15) (F2E-TPL-CORR-02595) - OoHW Saturday Afternoons from March to August 2015 (F2E-TPL-CORR-02685) - OoHW CML 101 Water Extraction for drainage works (F2E-TPL-REC-00736). - Use of Grader on Fill 19 on the 14/04/15 (F2E-TPL-REC-00799). - F2E-TPL-CORR-03021, OOHW PERMIT FOR PUMPING WORKS AT BRIDGE 18 (BORIRGALLA CK) 25-27/06/15. - Out of Hours Works Permit for Crane Set Up at Bridge 18 for the night of 1/9/15 (F2E-TPL-REC-00998) - Out of Hours Works Permit for Installation of Girders at BR 18 3/09/15 (F2E-TPL-REC-01007).

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MCoA	2.14	Construction	<p>Certain construction activities (Out of Hours Works) may be allowed to occur outside the standard construction hours with the prior written approval of the Director-General. Requests for out of hours approval will be considered for construction activities which cannot be undertaken during standard construction hours for technical or other justifiable reasons and will be considered on a case by case or activity-specific basis. Any request for Out of Hours Works must be accompanied by:</p> <p>a) details of the nature and need for activities to be conducted during the varied construction hours; b) written evidence to the DECCW and the Director-General that activities undertaken during the varied construction hours are justified, appropriate consultation with potentially affected receivers and notification of Council has been undertaken, issues raised have been addressed, and all feasible and reasonable mitigation measures have been put in place; and c) evidence of consultation with the DECCW on the proposed variation in standard construction hours. Despite the above, Out of Hours Works may also occur where a process for considering the above on a case by case or activity specific basis by the Proponent, including factors a) to c) above, has been approved as part of a Construction Environment Management Plan or Construction Noise and Vibration Management Plan for this project.</p>	Open	<p>The Construction Noise and Vibration Management Plan was approved on the 19/8/13 by the Department of Planning and Infrastructure. This plan provides an out of hours works procedure to assess works proposed outside of the standard construction hours in accordance with MCoA 2.14.</p> <p>In accordance with this procedure, an assessment of any works proposed outside of the standard construction hours that are not deemed to be exempt activities (in accordance with MCoA 4.12) is completed to address the factors a) to c). These assessments are provided to the Environmental Representative, EPA and RMS for comment and where there is no-objection, potentially affected receivers are notified of the works and an internal Out of Hours Works Permit is raised.</p>	Construction Manager Enviro Manager	<p>F2E Noise and Vibration Management Sub Plan in CEMP.</p> <p>Out of Hours Works Permits raised in accordance with the out of hours works procedure. Works completed under this clause are reported in the Monthly Environmental Performance Report.</p> <p>Community notifications on RMS Website</p> <p>Refer to RMS Project Website http://www.rms.nsw.gov.au/projects/northern-nsw/port-macquarie-to-coffs-harbour/frederickton-to-eungai/project-documents.html</p>	<p>Refer to Keystone</p> <p>** At end of project attached copy of the Out of Hours Works Register to Incite Record.</p>	<p>Permits for works outside of the standard construction hours have been managed in accordance with the process outlined in the NVMP. For this reporting period these were:</p> <ul style="list-style-type: none"> - OoHW Saturday Afternoons from March to August 2015 (F2E-TPL-CORR-02685) - OoHW Paving Operations, CH14500 to 18300 (PR #2) (F2E-TPL-CORR-02598) - OoHW Paving Operations, CH29000 to 35000 (PR #7) (F2E-TPL-CORR-02763) - OoHW Paving Operations, CH 118300 to 19600 (PR #8 & 10) (F2E-TPL-CORR-02791) - OoHW Paving Operations, CH29000 to 30700 (PR #13) (F2E-TPL-CORR-02830) - OoHW Paving Operations, CH19600 TO 22880 (PR #9, 15, & 18) (F2E-TPL-CORR-02851) - OoHW Paving Operations, CH13400 TO 14600 (PR #11 & 17) (F2E-TPL-CORR-02880) - F2E-TPL-CORR-02879, OOHW ASSESSMENT AND PERMIT FOR STAGE 3 TRAFFIC SWITCH AT NORTHERN END OF PROJECT_JUNE 2015 - F2E-TPL-CORR-02885, OOHW PERMIT FOR PAVING RUN 12 (CH 39200 TO 39700) - F2E-TPL-CORR-02654, OOHW PERMIT FOR PAVING OPERATIONS_CH25200 TO CH27500_CH38450 TO CH39800_& BATCH PLANTS - F2E-TPL-CORR-02890, OOHW PERMIT FOR

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									PAVING RUN 5 (CH 38450 TO 39400) EXTENSION
MCoA	2.15	Construction	Blasting associated with the construction of the project is only permitted during the following hours:a) 9:00 am to 5:00 pm, Mondays to Fridays, inclusive;b) 9:00 am to 1:00 pm on Saturdays; andc) at no time on Sundays or public holidays.This condition does not apply in the event of a direction from police or other relevant authority for safety reasons.	Closed	Relevant information included in F2E Noise and Vibration Management Sub Plan in CEMP.No blasting was required for the F2E Stage of K2E.Noted different elsewhere for "noisy activities". 9-3 Mon to Fri and 9-12 Sat as per CN3.	Construction ManagerEnviro Manager	F2E Noise and Vibration Management Sub Plan in CEMP.	Refer to Keystone E-table COUR ID 19	Condition satisfied and closed.
MCoA	2.16	Construction	The Proponent shall consult with affected educational institutions and ensure that noise generating construction works in the vicinity of the institutions are not timetabled during examination periods, unless other arrangements acceptable to the affected institutions are made at no cost to the affected institutions.	Closed	Relevant information included in F2E Noise and Vibration Management Sub Plan in CEMP. Frederickton Primary School is the only educational institution in the vicinity of the F2E Project. This school is more than 700 metres from the project boundary however has been consulted with by the	Neil Gross Community Liaison Enviro Manager	F2E Noise and Vibration Management Sub Plan in CEMP.	Refer to Keystone E-table COUR ID 20	Condition satisfied and closed.

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					Community Manager. Vehicle Movement Plans (VMPs) were developed to avoid trucks passing the school. VMP included as evidence. The school is otherwise unlikely to be directly impacted by works due to distance from Project. documentation.				
MCoA	2.17	Construction	<p>The construction noise objective for the project is to manage noise from construction (as measured by a LA10 (15minute) descriptor) so that it does not exceed the background LA90 noise level by:</p> <p>a) more than 20 dB(A) for a construction period of equal to or less than four weeks;</p> <p>b) more than 10 dB(A) for a construction period of greater than four weeks, but not exceeding 26 weeks; and</p> <p>c) more than 5 dB(A) for a construction period greater than 26 weeks.</p> <p>Any activities that could exceed the construction noise objectives specified under this condition shall be identified and managed in accordance with the Construction Noise and Vibration Management Plan specified under condition 6.5c) of this approval. If the noise from construction is substantially tonal or impulsive in nature (as described in Chapter 4 of the NSW Industrial Noise Policy), 5dB(A) shall be added to the measured construction noise level when comparing the measured noise with the construction noise objectives. The Proponent shall implement all reasonable and feasible noise mitigation measures with the aim of achieving the construction noise objective.</p>	Closed	The construction period for the F2E Project will be greater than 26 weeks and construction activities area predicted to be more than 5dB(A). As such, a Construction Noise and Vibration Management Plan was developed under condition 6.5c) to manage or mitigate noise and vibration impacts. The Construction Noise and Vibration Management Plan was approved on the 19/8/13 by the Department of Planning and Infrastructure.	Construction Manager Enviro Manager	Noise and Vibration Sub Plan in CEMP.	Refer to keystone E-table COURs ID 21	Condition satisfied and closed.

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Ref.	Source Ref.	Timing	Commitment, Obligation, Undertaking, Requirement (COUR)	Construction Status	How COUR will be complied with	Responsibility	Addressed where / how	Evidence Reference	Sept 2014 - March 2015 Compliance Report				
MCoA	2.18	Construction	<p>The Proponent shall ensure that air blast overpressure generated by blasting associated with the project does not exceed the criteria specified in Table 1 when measured at the most affected residence or other sensitive receiver.</p> <p>Table 1 - Airblast Overpressure Criteria Airblast Overpressure Allowable Exceedance (dB(Lin Peak))</p> <table border="0"> <tr> <td>115</td> <td>5% of total number of blasts over a 12 month period</td> </tr> <tr> <td>120</td> <td>0%</td> </tr> </table> <p>Subject to the Proponent demonstrating to the Director General that consultation with the community and landowners on the proposed blasting program has occurred, these criteria do not apply to Stage 2 Frederickton to Eungai where the Proponent has a written agreement with the relevant landowner to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.</p> <p>Note: 1. The agreement may be terminated by the landowner at any time should concerns about the increased blasting limits be unresolved. 2. The Airblast Overpressure level of 125 dBL shall not be exceeded. 3. The agreement does not apply where the property is a heritage property.</p>	115	5% of total number of blasts over a 12 month period	120	0%	Closed	<p>Relevant information included in F2E Noise and Vibration Management Sub Plan in CEMP. The Construction Noise and Vibration Management Plan was approved on the 19/8/13 by the Department of Planning and Infrastructure.</p> <p>No blasting was required for the F2E Stage of K2E.</p>	Construction Manager Enviro Manager	Noise and Vibration Sub Plan in CEMP.	Refer to Keystone E-table COURs ID 22	Condition satisfied and closed.
115	5% of total number of blasts over a 12 month period												
120	0%												

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Ref.	Source Ref.	Timing	Commitment, Obligation, Undertaking, Requirement (COUR)	Construction Status	How COUR will be complied with	Responsibility	Addressed where / how	Evidence Reference	Sept 2014 - March 2015 Compliance Report
MCoA	2.19	Construction	<p>The Proponent shall ensure that ground vibration generated by blasting associated with the project does not exceed the criteria specified in Table 2 when measured at the most affected residence or other sensitive receiver.</p> <p>Table 2 – Peak Particle Velocity Criteria Peak Particle Velocity Allowable Exceedance (mms-1) 5 5% of total number of blasts over a 12 month period 10 0%</p> <p>However, these criteria do not apply to the Stage 1 Kempsey Bypass where the Proponent has a written agreement with the relevant landowner to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement. Subject to the Proponent demonstrating to the Director General that consultation with the community and landowners on the proposed blasting program has occurred, these criteria do not apply to Stage 2 Frederickton to Eungai where the Proponent has a written agreement with the relevant landowner to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.</p> <p>Note: 1. The agreement may be terminated by the landowner at any time should concerns about the increased blasting limits be unresolved. 2. The Peak Particle Velocity vibration level of 25 mm/s shall not be exceeded. 3. The agreement does not apply where the property is a heritage property.</p>	Closed	<p>Relevant information included in F2E Noise and Vibration Management Sub Plan in CEMP. The Construction Noise and Vibration Management Plan was approved on the 19/8/13 by the Department of Planning and Infrastructure. No blasting was required for the F2E Stage of K2E.</p>	Construction Manager Enviro Manager	Noise and Vibration Sub Plan in CEMP.	Refer to Keystone E-table COURS ID 23	Condition satisfied and closed.

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Ref.	Source Ref.	Timing	Commitment, Obligation, Undertaking, Requirement (COUR)	Construction Status	How COUR will be complied with	Responsibility	Addressed where / how	Evidence Reference	Sept 2014 - March 2015 Compliance Report
MCoA	2.20	Operation	Unless otherwise agreed to by the Director General, the Proponent shall submit for the approval of the Director General a review of the operational noise mitigation measures for the project within six months of commencing construction. The Review shall take into account the detailed design of the project and shall be prepared in consultation with the DECCW. Consideration of operational noise mitigation measures shall include, but not necessarily be limited to, those operational noise mitigation measures specified in section 16.5 of the document referred to in condition 1.1b) of this approval. For the purpose of this condition, the Proponent is only required to consider reasonable and feasible noise mitigation measures to meet the noise criteria stipulated in Environmental Criteria for Road Traffic Noise (EPA, 1999) and the Environmental Noise Management Manual' (RTA, 2001).	Closed	The Operational Noise Management Report shall be provided to the Dept. of Planning & Environment within six months of the commencement of construction.	Design Manager	The Dept. of Planning & Environment approved the Operational Noise Management Report (Final Design – 100%) (Report No. F2E-00G-RPT-AC001-0001 Version D5) on the 2 May 2014. A copy of the Dept. of Planning & Environment letter of approval is attached (MP06-0224).	Refer to Keystone E-Table COUR ID 24	Condition satisfied and closed.
MCoA	2.21	Construction	Unless otherwise agreed with the DECCW, the Kempsey Local Aboriginal Land Council and the Dunghutti Elders group, the Proponent shall: a) salvage any identified artefacts from sites KE14, KE15, KE16 and KE42; and b) undertake subsurface testing for sites KE PAD 1 to 12 inclusive, and salvage any artefacts of significance identified at those sites. The subsurface investigations and salvage of artefacts shall be undertaken prior to the commencement of construction works that may impact on those sites and in consultation with the DECCW, the Kempsey Local Aboriginal Land Council and the Dunghutti Elders group. The approach to salvage shall be in accordance with a methodology developed in consultation with the DECCW, the Kempsey Local Aboriginal Land Council and the Dunghutti Elders group. The salvage and storage of Aboriginal objects may proceed in the absence of an approved Construction Environmental	Closed	The archaeological salvage methodology was developed in consultation and with participation of the Kempsey Local Aboriginal Land Council (KLALC) and Dunghutti Elders Council Aboriginal Corporation (DECAC), as outlined in 'State Highway No. 10 – Pacific Highway Frederickton to Eungai Upgrade Aboriginal Archaeological Assessment Methodology for Test Excavation' (refer to attached F2E Methodology v4 Final-PAD testing method). The archaeological subsurface testing for Kempsey to Eungai Stage II (F2E) was completed and reported in 'State Highway No.10 – Pacific Highway, Frederickton to	Enviro Manager Community Liaison	'State Highway No. 10 – Pacific Highway Frederickton to Eungai Upgrade Aboriginal Archaeological Assessment Methodology for Test Excavation' (refer to attached F2E Methodology v4 Final- PAD testing method). 'State Highway No.10 – Pacific Highway, Frederickton to Eungai Upgrade Aboriginal Archaeological Assessment: Archaeological Test Excavation of KE PAD 6 – 12 and Salvage Excavation of KE PAD 11, Final report June 2013' Supervision of initial ground disturbance and topsoil stripping was also completed on the following occasions with representatives of Dunghutti Elders Council and Kempsey Local Aboriginal Land Council: • 10 December 2013 - Supervision of initial ground	Refer to Keystone E-table COURs ID 25	Condition satisfied and closed.

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			Management Plan, subject to the activities being undertaken in accordance with a salvage strategy, prepared in consultation with the DECCW, the Kempsey Local Aboriginal Land Council and the Dunghutti Elders group, and approved by the Director General.		Eungai Upgrade Aboriginal Archaeological Assessment: Archaeological Test Excavation of KE PAD 6 – 12 and Salvage Excavation of KE PAD 11, Final report June 2013' (refer to attached document A6673170). This report was provided to the Department of Planning and Environment who confirmed that the work was conducted in accordance with the approved methodology and acknowledged that the requirements of condition 2.21 of the project approval have been satisfactorily addressed (refer to attached letter MP06-0224 DPE APPROVAL OF ARCH ASSESS REPORT FOR MCoA 2.21). Supervision of initial ground disturbance and topsoil stripping with representatives of Dunghutti Elders Council and Kempsey Local Aboriginal Land Council for KE 14, 15 and KE16 KE 1 to 5 are located in the Kempsey to Eungai Stage 1 Project Area (Kempsey Bypass).		disturbance and topsoil stripping along the mainline for at KE 14 and 15 (Memorandum re monitoring v2 and 131210_EMAIL FOLLOWING KE14 & KE16 MAINLINE SALVAGE). • 3 June 2014 – Supervision of initial ground disturbance and topsoil stripping at KE 14 and KE16 where the landowner access track will traverses the previously salvaged sites (refer to attached email (140603_EMAIL FOLLOWING KE14 & KE16 SALVAGE) • 28 July 2014 - Supervision of initial ground disturbance and topsoil stripping at KE 15 where the landowner access track will traverses the previously salvaged sites (refer to attached email (140811_EMAIL FOLLOWING KE15 SALVAGE).		
MCoA	2.23	Pre-construction	An archival record shall be prepared by an appropriately qualified heritage expert for sites KEH3, KEH6, KEH7 and Ferry Lane Memorial Avenue (KEH1) prior to commencement of construction works that may affect those items. A copy of the record shall be provided to Kempsey Shire Council.	Closed	Not applicable. Sites listed in Condition 2.23 are not within Stage 2 (F2E). Undertaken by NOHC in 2011.	RMS	Archival recording of KEH1 was submitted to Kempsey Shire Council in December 2010. KEH3, KEH6 and KEH7 were submitted in September 2011	Refer to Keystone E-table COURs ID 26	N/a

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MCoA	2.24	Design	The Proponent shall replace the boat ramp, access road, parking and amenities removed as part of the Frederickton Levee construction. The replacement facilities shall be located and constructed in consultation with Kempsey Shire Council and the NSW Maritime Authority	Closed	Not applicable. The Frederickton Levee is not within Stage 2.	RMS	N/a	Refer to Keystone E-table COURs ID 27	N/a
MCoA	2.25	Design	The Proponent shall consult directly affected property owners (as defined in Chapter 15 of the document referred to under condition 1.1b of this approval) in relation to the design and location of reasonable and feasible measures to permit movement of livestock and agricultural machinery between the parts of their properties that may be separated by the project. Those measures shall be installed and function so that farm operations are not disrupted by either construction or operation of the project.	Closed	Initial consultation undertaken by RMS. Location and requirements of the farm accesses provided in SWTC Appendix 9 and Appendix 14. The contractor undertook further consultation during design (records of the consultation are held within consultation manager). Design compliance demonstrated in DC001, DC002, and DC003, Severn Hills BR07 and Collombatti BR06. Two underpasses from the SWTC were removed (tracked via the design register & RFI system).	Community Liaison Construction Manager	CIP DC001, DC002, and DC003, Severn Hills BR07 and Collombatti BR06. Note Variations in place to remove 2 underpasses from the SWTC, tracked via the design register & RFI system.	Refer to Keystone E-table COURs ID 28	Condition satisfied and closed.
MCoA	2.26	Construction	The Proponent shall construct the project in a manner that minimises dust emissions associated with construction works, including wind-blown and traffic-generated dust.	Open	Relevant information included in F2E Air Quality Management Sub Plan in CEMP that was approved on the 19/8/13 by the Department of Planning and Infrastructure. Air quality was monitored throughout construction depositional dust monitors. The results of monitoring are reported in each monthly Environmental Performance Report. All Project personnel are made aware of the air quality requirements in the project environmental induction.	Construction Manager Enviro Manager	F2E Air Quality Management Sub Plan in CEMP. Monthly Environmental Performance Reports, as well as within the 6 monthly compliance reports.	Refer to Keystone E-table COURs ID 29	Controls and monitoring of the AQMP being implemented during construction. No unresolved complaints relating to dust during the reporting period.

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MCoA	2.27	Construction	The Proponent shall take all reasonable and feasible measures to minimise soil erosion and the discharge of sediments and pollutants from the project during construction and operation in accordance with Managing Urban Stormwater: Soils and Construction (Department of Housing and Landcom, 2004);	Open	The construction and permanent sediment basins and drainage along the Project were designed in accordance with the Managing Urban Stormwater: Soils and Construction (Department of Housing and Landcom, 2004). Refer to Design Packages and reports DL000, 001, 002 and 003. Other measures to comply with the Managing Urban Stormwater: Soils and Construction were included in the F2E Soil and Water Management Sub Plan in CEMP that was approved on the 19/8/13 by the Department of Planning and Infrastructure. The Project Soil Conservationist completed frequent site inspections throughout construction to assist with meeting the requirements of the Soil and Water Management Sub Plan and the Managing Urban Stormwater: Soils and Construction including review of the Progressive Erosion and Sediment Control Plans (PESCPs).	Design Manager Construction Manager Enviro Manager	Soil and Water Management Plan in CEMP, Drainage and Basin Design Drawings Refer to Design Packages and reports DL000, 001, 002 and 003. Controls and monitoring of the SWMP being implemented during construction. Soil Conservationist Inspection Reports. PESCPs are prepared for Ground Disturbance Permits. Soil Conservationist reviewed and signed off on all PESCPs.	Refer to Keystone E-table COURs ID 30	Controls and monitoring of the SWMP being implemented during construction. PESCPs are prepared for all GDPs. Inspections with the soil conservationist occurring to assist with planning effective erosion and sediment controls.
MCoA	2.28	Construction	Where available and of appropriate chemical and biological quality for its proposed purpose, the Proponent shall use stormwater, recycled water or other water sources in preference to potable water for construction, including concrete mixing and dust control.	Open	Water sourcing strategy to be determined: relevant approvals to be sought prior to water extraction activities	Construction Manager	Soil and Water Management Plan in CEMP. Implemented and tracked via water movement permit system, monthly report and 6 monthly compliance reports. Surface water and groundwater is being used for construction water. Licenses have been obtained from the Office of Water for surface water and groundwater extraction.	SWMP NSW Office of Water Licenses for Groundwater Extraction and Surface Water Extraction.	Surface water from sediment basin on site and groundwater is being used for construction water. Licenses have been obtained from the Office of Water for groundwater extraction. Potable water is being used for activities including compaction around bridge abutments and concrete production at batch plants where the available

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									groundwater is unsuitable chemical qualities (electrical conductivity)
MCoA	2.29	Construction	The Proponent shall ensure that ancillary facilities are located so as to satisfy the following criteria, unless otherwise approved by the Director General: a) be located within or directly adjacent to the project; b) have ready access to the road network; c) be located to minimise the need for heavy vehicles to travel through residential areas; d) be sited on relatively level land;e) be separated from nearest residences by at least 200 metres (or at least 250 metres for a temporary batch plant); f) not be within 100 metres of, or drain directly to, a wetland listed under State Environmental Planning Policy No. 14 – Coastal Wetlands; g) be located above the 20 year ARI flood level in other areas unless a contingency plan to manage flooding is prepared and implemented; h) not require vegetation clearing beyond that already required for the project; i) not impact on heritage sites beyond those already impacted by the project; andj) not affect the land use of adjacent properties. The location of the Ancillary Facilities shall be identified in the Construction Environmental Plan required under condition 6.4 and include consideration against the above criteria. Where the above criteria cannot be met for any proposed Ancillary Facility, the Proponent shall demonstrate to the Director General that there will be	Open	Proposed ancillary facilities are assessed against the Ministers Conditions of Approval 2.29. Ancillary facilities that are not located within the detailed design limit of clearing are assessed against the criteria in the consistency assessment / environmental review (saved under records in Incite). For temporary sites within the limit of clearing, an internal checklist is completed. All ancillary facilities are included in the Construction Environmental Management Plan Appendix A5 – Ancillary Facility Assessment.	Construction Manager Environment Manager	Construction Environmental Management Plan Appendix A5 - Ancillary Site Compliance Checklist. Consistency Assessments completed for ancillary sites. Consistency assessments / environmental reviews: refer to Keystone > Project Documents > Records > Approvals.	Refer to Keystone E-table COUR ID 32	The CEMP update including revised Appendix 5 of all approved ancillary facilities was approved.

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			no adverse impact from that facility's construction or operation.						
MCoA	3.1	All Stages	<p>Prior to the commencement of construction, the Proponent shall develop and implement a Monitoring Program to target the effectiveness of the mitigation measures identified in Condition 2.10(d) for the listed threatened species directly impacted by the project. The program shall include (but not necessarily be limited to) the monitoring of Maundia triglochinos, Green-thighed Frog, Glossy Black Cockatoo and the Brush-tailed Phascogale. The Program shall be developed in consultation with the DECCW and suitably qualified ecologist(s) and shall include but not necessarily be limited to:</p> <p>a) the monitoring of threatened species in and adjacent to the project footprint. The methodology shall be decided in consultation with DECCW;</p> <p>b) an adaptive monitoring program to assess the effectiveness of the mitigation measures identified in Condition 2.10 (d) and allow their modification if necessary. The monitoring program shall include targets against which effectiveness will be measured;</p> <p>c) monitoring shall be undertaken during construction (for construction-related impacts) and from opening of the project to traffic (for operation/ongoing impacts) until such time as the effectiveness of mitigation measures can be demonstrated to have been achieved over a minimum of three successive monitoring periods, or as otherwise agreed by the Director General in consultation with DECCW;</p> <p>d) provision for the assessment of the data to identify changes to habitat usage and if this can be attributed to the project;</p> <p>e) details of the contingency measures that would be implemented in the event of changes to habitat usage patterns directly attributable to the construction or operation of the project; and</p> <p>f) provision for annual reporting of monitoring results to the Director General</p>	Open	RMS has provided ecological Monitoring Program (Doc ID 120). The current version of the Ecological Monitoring Program; Frederickton to Eungai is Version 5 (June 2013).	RMS	The Ecological monitoring program: Frederickton to Eungai (Version 5, June 2013) was approved by DP&E on 25.7.13	Objective file numbers: - SF2012/005795 SF2012/005800	Maundia and Hairy Joint Grass monitoring was undertaken in Summer-autumn twice during this reporting period. Monitoring was also undertaken once during summer in the previous reporting period, Nest box monitoring was undertaken during Winter

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			and the DECCW, or as otherwise agreed by those agencies. The Program shall be submitted to the Director General prior to the commencement of construction and shall be updated to incorporate the monitoring methodology for threatened species, once agreed to, in accordance with condition of this approval.						
MCoA	3.2	Operation	No later than one year after commencement of operation of the project, or as otherwise agreed by the Director General, the Proponent shall undertake operational noise monitoring to confirm the predicted noise performance of the project against actual performance and prepare an Operational Noise Report. The Report shall include, but not necessarily be limited to: a) noise monitoring to assess compliance with the operational noise outcomes predicted in the documents specified under condition 1.1 of this approval; b) a review of the operational noise levels and in terms of criteria and noise goals established in the Environmental Criteria for Road Traffic Noise (EPA 1999) and the Environmental Noise Management Manual' (RTA, 2001); c) methodology, location and frequency of noise monitoring, to be undertaken in accordance with the Environmental Noise Management Manual' (RTA, 2001); d) identification of monitoring sites at which background noise and project noise levels can be ascertained, with specific reference to locations indicative of impacts on sensitive receivers; e) details of any complaints and enquiries received in relation to operational noise generated by the project between the date of commencement of operation of the project and the date the report was prepared; f) any required recalibrations of the noise model taking into consideration factors such as noise monitoring undertaken and actual traffic numbers and proportions;	Closed	Scope is outside of tender This COUR has been closed as it is an Operational requirement.	RMS	RMS responsibility	N/a	Operational phase requirement.

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			and g) an assessment of the performance and effectiveness of applied noise mitigation measures together with a review and if necessary, reassessment of all reasonable and feasible mitigation measures; and h) any additional noise mitigation measures required and timetables for implementation.						
MCoA	3.3	Operation	Within 60 days, or as otherwise agreed by the Director General, of completing the operational noise monitoring referred to under condition 3.2 of this approval, the Proponent shall provide the Director General and the DECCW with a copy of the Operational Noise Report. If the Report identifies any non-compliance with the noise objectives specified in the Environmental Criteria for Road Traffic Noise (EPA 1999), the Proponent shall detail what additional measures would be implemented to ensure compliance, clearly indicating these measures, when these measures would be implemented, and how the effectiveness of these measures would be measured and reported to the Director General.	Closed	Scope is outside of tender This COUR has been closed as it is an Operational requirement.	RMS	RMS responsibility	N/a	Operational phase requirement

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MCoA	4.1	All Stages	The Proponent shall develop and implement a Compliance Tracking Program to track compliance with the requirements of this approval. The Program shall be submitted to the Director General for approval prior to the commencement of construction. The Program shall include, but not necessarily limited to: a) provisions for periodic review of the compliance status of the project against the requirements of this approval (specified under condition 1.1c); b) provisions for the notification of the Director General prior to the commencement of construction and prior to the commencement of operation of the project; c) provisions for periodic reporting of compliance status to the Director General during construction; d) a program for independent environmental auditing in accordance with ISO 19011:2003 - Guidelines for Quality and/ or Environmental Management Systems Auditing; e) mechanisms for recording incidents during construction and actions taken in response to those incidents; f) provisions for reporting environmental incidents to the Director General during construction; and g) mechanisms for rectifying any non-compliance identified during environmental auditing or review of compliance.	Open	The compliance tracking program was included in the Construction Environmental Management Plan Appendix A11.	Enviro Manager	Construction Environmental Management Plan Appendix A11. Quarterly reviews to be completed in accordance with Compliance Tracking Program. Refer to G36 6.3 Quarterly Compliance Reports are provided to RMS (saved under Records > Environmental > Report in incite). Six Monthly Construction Compliance Reports are also prepared for the Department of Planning and Environment and saved on the RMS website. Refer to section 2.2 for notification strategy.	Appendix A11 - Compliance tracking program, Pre-construction report (include link)	G36 6.3 June 2015 Quarterly Compliance Report (F2E-TPL-REC-00863). G36 6.3 August 2015 Quarterly Compliance Report. March - September 2015 Construction Compliance Report #4
MCoA	5.1	Construction	Subject to confidentiality, the Proponent shall make all documents required under this approval available for public inspection on request.	Open	All approved documents provided to RMS for website upload as applicable. Documents also available at Site Compound.	Community Liaison Enviro Manager	Documents available via the RMS Frederickton to Eungai website: http://www.rms.nsw.gov.au/projects/northern-nsw/frederickton-to-eungai/project-documents.html	CEMP/ CIP	Documents published on RMS website - http://www.rms.nsw.gov.au/projects/northern-nsw/frederickton-to-eungai/project-documents.html

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MCoA	5.2	Construction	<p>The Proponent shall prepare and implement a Community Communication Strategy for the project. This Strategy shall be designed to provide mechanisms to facilitate communication between the Proponent, the Contractor, the Environmental Representative, Council and local community (broader and local stakeholders) on the detailed design, progress and the related environmental management of the project. The Strategy shall include, but not necessarily limited to:</p> <p>a) identification of stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners;</p> <p>b) procedures and mechanisms for the regular distribution of information to stakeholders on the progress of the project, detailed design and matters associated with environmental management;</p> <p>c) procedures and mechanisms through which stakeholders can discuss or provide feedback to the Proponent and/or Environmental Representative in relation to the environmental management, detailed design and delivery of the project;</p> <p>d) the formation of community-based forums (focus groups) that focus on key design, environmental management and construction issues for the project. The Strategy shall provide detail on the structure, scope, objectives and frequency of the community based forums;</p> <p>e) procedures and mechanisms through which the Proponent can respond to any enquires or feedback from stakeholders in relation to the environmental management, detailed design and delivery of the project; and</p> <p>f) procedures and mechanisms that would be implemented to resolve any issues/disputes that may arise between parties on the matters relating to environmental management and the delivery of the project. This may include</p>	Open	Community communication strategy to incorporated into CIP	Community Liaison Enviro Manager	The CIP was approved by DP&E on the 19/8/13 (letter ref 11119471). Ongoing implementation of the CIP	F2E-00G-PL-CIP-001-03	Ongoing implementation of the Community Involvement Plan.

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			<p>the use of an appropriately qualified and experienced independent mediator.</p> <p>Key issues that should be addressed in the Community Communication Strategy should include (but not necessarily be limited to):</p> <ul style="list-style-type: none"> i) traffic management (including property access); ii) community infrastructure; iii) property acquisition; iv) business impacts; v) landscaping/ urban design matters; vi) heritage; vii) flood management; viii) construction activities; and ix) noise and vibration mitigation and management. <p>The Proponent shall maintain and implement the Strategy throughout construction. The Strategy shall be approved by the Director General prior to the commencement of construction, unless otherwise agreed by the Director General.</p>						
MCoA	5.4	All Stages	<p>Prior to the commencement of construction of the project, the Proponent shall ensure that the following are available for community enquiries and complaints for the duration of construction:</p> <ul style="list-style-type: none"> a) a telephone number on which complaints and enquiries about the project may be registered. b) a postal address to which written complaints and enquires may be sent. c) an email address to which electronic complaints and enquiries may be transmitted. <p>The telephone number, the postal address and the email address shall be published in a newspaper circulating in the local area prior to the commencement of construction and prior to the commencement of operation. This information shall also be provided on the Proponent's website.</p>	Closed	Community communication strategy to incorporated into CIP	Community Liaison	Details provided on RMS website at http://www.rms.nsw.gov.au/projects/northern-nsw/port-macquarie-to-coffs-harbour/frederickton-to-eungai/index.htm	F2E-00G-PL-CIP-001-03	<p>Community communication strategy to be incorporated into CIP.</p> <p>Details provided on RMS website at http://www.rms.nsw.gov.au/projects/northern-nsw/port-macquarie-to-coffs-harbour/frederickton-to-eungai/index.htm</p> <ul style="list-style-type: none"> - Phone: 1800 668 240 - Email: community-enquiries@F2E.incite.com.au - Mail: Frederickton to Eungai Pacific Highway Upgrade, PO Box 53 Frederickton NSW 2440

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MCoA	5.5	Construction	Prior to the commencement of construction of the project, the Proponent shall prepare and implement a Construction Complaints Management System consistent with AS 4269: Complaints Handling and maintain the System for the duration of construction. Information on all complaints received, including the means by which they were addressed and whether resolution was reached with or without mediation, shall be included in the construction compliance reports referred to under condition 4.1c) and made available to the Director General on request.	closed	Addressed through Section 7.3 of the Community Involvement Plan	Community Liaison	Section 7.3 of the Community Involvement Plan. Records of all complaints and associated correspondence recorded in Consultation Manager database.	Refer to Incite Project Documents > Management Plans > F2E-TPL-MP-F2E-CIP-001	Section 7.3 of the Community Involvement Plan. Records of all complaints and associated correspondence recorded in Consultation Manager database.
MCoA	5.6	Construction	Prior to the commencement of construction, the Proponent shall dedicated pages within its project website, for the provision of electronic information associated with the project. The Proponent shall, publish and maintain up-to-date information on these dedicated pages including, but not necessarily limited to:a) a copy of the documents referred to under condition 1.1 of this approval, and any documentation supporting modifications to this approval that may be granted from time to time;b) a copy of this approval and each relevant environmental approval, licence or permit required and obtained in relation to the project;c) subject to confidentiality requirements, a copy of each strategy, plan and program required under this approval; andd) the outcomes of compliance tracking in accordance with condition 4.1 of this approval.	Closed	RMS to establish project website.	Community Liaison	RMS to establish and maintain project website. http://www.rms.nsw.gov.au/projects/northern-nsw/frederickton-to-eungai/index.html	RMS website. http://www.rms.nsw.gov.au/projects/northern-nsw/frederickton-to-eungai/index.html	RMS maintain project website. http://www.rms.nsw.gov.au/projects/northern-nsw/frederickton-to-eungai/index.html

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MCoA	6.1	Construction	<p>Prior to the commencement of construction of the project or each stage of the project, or as otherwise agreed by the Director General, the Proponent shall nominate for the approval of the Director General, a suitably qualified and experienced Environmental Representative(s) independent of the project design and construction personnel. The Proponent shall employ the Environmental Representative(s) for the duration of construction, or as otherwise agreed by the Director General. The Environmental Representative(s) shall:</p> <p>a) be the principal point of advice in relation to all questions and complaints concerning the environmental performance of the project;</p> <p>b) monitor the implementation of all environmental management plans and monitoring programs required by the conditions of this approval;</p> <p>c) monitor the outcome of all environmental management plans and advise the Proponent upon the achievement of all project environmental outcomes;</p> <p>d) ensure that environmental auditing is undertaken in accordance with all relevant project Environmental Management Systems;</p> <p>e) have responsibility for considering and advising the Proponent on matters specified in the conditions of this approval, and all other licences and approvals related to the environmental performance and impacts of the project; and</p> <p>f) given the authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur</p>	Closed	<p>Appointment of Murray Curtis as ER was approved by DP&E on 16.12.09</p> <p>Appointment & responsibilities included in CEMP.</p>	RMS	<p>Appointment of Murray Curtis as ER was approved by DP&E on 16.12.09</p> <p>Appointment & responsibilities included in CEMP.</p>	Objective file number: SF2012/005795	Condition satisfied. Murray Curtis remains appointed as EMR.

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MCoA	6.3	Design	<p>Prior to the commencement of construction of the project, or as otherwise agreed by the Director General, the Proponent shall prepare an Urban Design and Landscape Plan in consultation with relevant Council(s), relevant Government agencies and the community. The Plan shall include, but not necessarily be limited to:</p> <p>a) sections and perspective sketches; b) location and identification of existing and proposed vegetation including use of indigenous and endemic species where possible; c) location of mounds, bunds, structures (noise walls, bridges) or other proposed treatments, finishes of exposed surfaces (including paved areas); d) progressive landscaping strategies incorporating other environmental controls such as erosion and sedimentation controls, drainage, noise mitigation; and e) monitoring and maintenance procedures.</p>	Closed	Submission of the UD&LMP to DP&E	Design Manager	<p>UD&LP to be submitted to D&PI as per RMS RFI response. Original extension granted til 28 February 2014. DP&E extension letter ref: 4483_001_urban_design_extension</p> <p>Following consultation and revision, the Department approved the UD&LMP on the 2 June 2014 (letter reference 09/03204).</p>	Refer to Keystone E-table COUR ID 43	Condition satisfied and closed.

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MCoA	6.4	Pre-construction	<p>Prior to the commencement of construction of the project or each stage of the project, the Proponent shall prepare and implement a Construction Environmental Management Plan to outline environmental management practices and procedures to be followed during construction of the project. The Plan shall be prepared in consultation with relevant Government agencies and local councils, and in accordance with Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004) and shall include, but not necessarily be limited to:</p> <p>a) a description of all activities to be undertaken during construction of the project including an indication of stages of construction, where relevant;</p> <p>b) statutory and other obligations that the Proponent is required to fulfil during construction including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;</p> <p>c) details of how the environmental performance of the construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts;</p> <p>d) a description of the roles and responsibilities for all relevant employees involved in the construction of the project;</p> <p>e) the additional plans listed under condition 6.5 of this approval; and</p> <p>f) complaints handling procedures during construction as set out in condition 5.5 of this approval.</p> <p>The Plan shall be submitted for the approval of the Director General no later than one month prior to the commencement of any construction works associated with the project, or within such period otherwise agreed by the Director General. Construction works shall not commence until written approval has been received from the Director General.</p>	Closed	CEMP to include all sections as specified in requirement.	Enviro Manager	CEMP developed and approved 19/8/13 (Letter reference 11/19471). The CEMP was re-issued in June 2015 with minor changes approved by the Environmental Representative on the 15 June 2015.	Refer to Keystone E-table COUR ID 44	CEMP to include all sections as specified in requirement. CEMP approved 19/8/13. The CEMP was updated in June 2015 following an annual review. The update was approved by the Environmental Representative as minor changes.

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MCoA	6.5	Pre-construction	As part of the Construction Environmental Management Plan for the project required under condition 6.3 of this approval, the Proponent shall prepare and implement the following sub plans:a) a Construction Flora and Fauna Management Plan to detail how construction impacts on ecology will be minimised and managed. The Plan shall be developed in consultation with the DECCW and include, but not necessarily be limited to:i) details of work practices (such as fencing and construction worker education) to minimise the potential for damage to vegetation and native fauna during construction;ii) weed management measures focusing on early identification of invasive weeds and determining effectiveness of management controls;iii) procedures to install and monitor mitigation measures, such as nest boxes, relocated hollows and fauna fencing for effectiveness and maintenance; andiv) an auditing program for construction work practices to ensure that there is no impact on threatened species or their habitats additional to that already permitted.b) a Construction Heritage Management Plan to detail how construction impacts on Aboriginal and non-Aboriginal heritage will be minimised and managed. The Plan shall be developed in consultation with the Department's Heritage Branch, the DECCW, Kempsey Aboriginal Land Council and the Dunghutti Elders group and shall include, but not necessarily be limited to:i) results and recommendations arising from investigations into Potential Archaeological Deposits;ii) a strategy for the salvage and curation of salvaged Aboriginal objects;iii) an education program for construction and project supervision personnel on their obligations for Aboriginal cultural materials;iv) procedures to be implemented if previously unidentified Aboriginal objects and / or Non-Indigenous heritage items are discovered during construction; andv) a program for	Closed	CEMP developed and approved 19/8/13.	Enviro Manager	CEMP developed and approved 19/8/13. Flora and Fauna Management Sub Plan in CEMPHeritage Management Sub Plan in CEMPNoise and Vibration Management Sub Plan in CEMPCondition satisfied.	Refer to Keystone E-table COUR ID 45	The CEMP and sub-plans were revised recertified by the Department of Planning's Environmental Representative on the 15 June 2015

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			<p>construction work practices to ensure that there is no impact on heritage items additional to that already permitted;c) a Construction Noise and Vibration Management Plan to detail how construction noise and vibration impacts would be minimised and managed. The Plan shall be developed in consultation with the DECCW and include, but not necessarily be limited to:i) details of construction activities and a schedule for construction works;ii) identification of construction activities that have the potential to generate noise and/or vibration impacts on surrounding sensitive receivers, particularly residential areas;iii) a detailed description of what actions and measures would be implemented to ensure that these works would comply with the relevant noise and vibration criteria/ guidelines;iv) procedures for notifying residents of construction activities that are likely to affect their noise and vibration amenity, as well as procedures for dealing with and responding to noise complaints; andv) a description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating how often this monitoring would be conducted, how the results of this monitoring would be recorded; and, if any non-compliance is detected.</p>						
MCoA	6.6	Commissioning	<p>Prior to the commencement of operation, the Proponent shall incorporate the project into its existing environmental management systems and shall ensure that key operational environmental impacts are monitored and managed, including but not limited to:</p> <ul style="list-style-type: none"> a) ecological factors, including effectiveness of fauna crossings; b) noise impacts; c) soil erosion and the discharge of sediment and other pollutants to lands and/or waters; and d) landscaping and urban design. 	Open	RMS Responsibility, though Thiess may operate under RMS OEMP for Landscape Maintenance Works	RMS	N/a at this time.		To be undertaken prior to operation

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SoC	EM1	Pre-construction	A Construction Environmental Management Plan will be prepared and implemented	Closed	CEMP prepared and approved on the 19/8/13	Enviro Manager	CEMP - Condition satisfied.	Refer to Keystone E-table COUR ID 56	Refer to MCoA 6.4
SoC	C1	Construction	Newsletters and media releases will be used regularly to provide project updates. The newsletters and media releases will provide contact details and phone numbers of relevant project staff.	Open	Include in CIP	Community Liaison	CIP - Condition satisfied.	http://www.rms.nsw.gov.au/projects/northern-nsw/port-macquarie-to-coffs-harbour/frederickton-to-eungai/project-documents.html	Condition satisfied and ongoing. Details available on the RMS website http://www.rms.nsw.gov.au/projects/northern-nsw/frederickton-to-eungai/index.html
SoC	C2	Construction	A project internet site which contains periodic updates of work progress, consultation activities and proposed work schedules will be established prior to the commencement of pre-construction work. The internet site will be regularly updated during the construction phase. The internet site will also provide a description of relevant approval authorities and their areas of responsibility and contact details and phone numbers of relevant project staff.	Open	Include in CIP	Community Liaison	CIP - Condition satisfied and monitoring/ updating is ongoing.	http://www.rms.nsw.gov.au/projects/northern-nsw/port-macquarie-to-coffs-harbour/frederickton-to-eungai/project-documents.html	Condition satisfied and ongoing. Details available on the RMS website http://www.rms.nsw.gov.au/projects/northern-nsw/frederickton-to-eungai/index.html
SoC	C3	All Stages	A 24 hour, toll free complaints and community information telephone number will be established for the Proposal and will be advertised, prior to the commencement of pre-construction activities.	Open	Include in CIP. The following number has been set up : 1800 668 240	Community Liaison	CIP - Condition satisfied and monitoring/ updating is ongoing.	The following number has been set up : 1800 668 240	Condition satisfied and ongoing. The following number has been set up : 1800 668 240
SoC	C4	All Stages	A system to receive, record, track and respond to complaints within a specified timeframe will be established.	Open	Include in CIP/ Tracked via <i>Consultation Manager</i> (database)	Community Liaison	CIP - Condition satisfied and monitoring/ updating is ongoing.	http://www.rms.nsw.gov.au/projects/northern-nsw/port-macquarie-to-coffs-harbour/frederickton-to-eungai/project-documents.html	Condition satisfied and ongoing. Consultation Manager (database) in use.
SoC	C5	Construction	Property owners will be consulted about the implementation of mitigation measures that affect their property and any issues raised will be addressed where reasonable and feasible.	Open	Flood consultation records available at: \\tcf.s.thiess.aus\Groups\NSW\F2E\02 Community\02_06 Communications & Notifications\02_06_06_C	Community Liaison Enviro Manager	CIP - Condition satisfied and monitoring/ updating is ongoing.	http://www.rms.nsw.gov.au/projects/northern-nsw/port-macquarie-to-coffs-harbour/frederickton-to-eungai/project-documents.html	Condition satisfied and ongoing.

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					onsultation\Flood impacts			kton-to-eungai/project-documents.html	
SoC	T1	Pre-construction	Pre-construction road condition reports will be prepared for all roads likely to be used by construction traffic.	Closed	Road Condition Reports to be developed.	Traffic/ Design/ Community Managers	Road dilapidation information. Condition satisfied.	Refer to Keystone E-table COUR ID 62 G:\NSW\F2E\04 Manage Project\04_06 Execute the Works\Road Delap\F2E DILAP	Condition satisfied and closed.
SoC	T2	Commissioning	Post-construction road condition reports will be prepared for the roads assessed in Statement of Commitment T1. Copies of the reports will be provided to the relevant roads authority. Any damage resulting from construction, (not normal wear and tear), will be repaired at the proponent's cost, unless an alternative arrangement is agreed with the relevant roads authority.	Open	Include reference to Council correspondence	Traffic Manager/ Design Manager	Applicable to post construction period.		Not applicable to this period (post-construction requirement).
SoC	T3	Construction	Construction vehicle movement arrangements will be developed to minimise impacts on all road users (including pedestrians, vehicles, cyclists and disabled persons) and to maintain pre-construction road / intersection capacities, with specific regard to any other road works in the area, local traffic movement requirements and peak traffic volumes, including long weekends and holiday periods.	Closed	A Construction Traffic Management Sub Plan will be prepared as part of the CEMP. Traffic control plans (TCPs) will be prepared for all public road interactions.	Traffic Manager	Traffic Management & Safety Plan (F2E-TPL-MP-TMP-001-05) which forms Appendix B1 of the CEMP. Traffic control plans (TCPs) will be prepared for all public road interactions.	Refer to Keystone E-table COUR ID 64	Condition satisfied through the Traffic Management & Safety Plan and development of Traffic Management Plans
SoC	T4	Design	Where any legal property access is temporarily or permanently affected by the project, alternative property access to an equivalent standard will be provided where feasible and reasonable or other alternative arrangements agreed in consultation with the property owner.	Open	Consultation undertaken by RMS. Location and requirements of the property accesses provided in SWTC Appendix 9.	RMS	Consultation undertaken by RMS. Location and requirements of the property accesses provided in SWTC Appendix 9. Design compliance demonstrated in DC001, DC002, and DC003 and PA design lots.	Property Agreements PA### Design Lots	Property adjustment works ongoing.

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SoC	T5	Construction	In consultation with the Department of Primary Industries (Forests), access to and within State Forest lands adjacent to the Proposal will be retained for forestry operations, fire management activities and recreation purposes.	Closed	Access to and within State Forest lands adjacent to Stage 2 works will be retained for forestry operations, fire management activities and recreation purposes.	RMS	Consultation undertaken by RMS. Location and requirements of the property accesses provided in SWTC Appendix 9. Design compliance demonstrated in DC001, DC002, and DC003. Condition satisfied.		Condition satisfied by RMS and closed.
SoC	CN1	Pre-construction	Pre-construction noise monitoring and traffic counting will be undertaken at locations used to identify the background noise levels for the Environmental Assessment and/or at representative noise sensitive locations.	Closed	Pre-construction noise monitoring will be completed for development of the Noise and Vibration Management Plan and the Operational Noise Management Plan.	Enviro Manager	Pre-construction noise monitoring was completed for the Operational Noise Management Plan (F2E-00G-RPT-AC001-0001[D5]). The Dept. of Planning & Environment approved the Operational Noise Management Report (Final Design – 100%) (Report No. F2E-00G-RPT-AC001-0001 Version D5) on the 2 May 2014. The pre-construction noise monitoring grouped sensitive receivers along the F2E Project Area into noise catchment areas and established the background noise rating levels for each catchment. This information was used in the development of the Construction Noise and Vibration Management Plan (F2E-TPL-MP-F2E-NVP-001).	Refer to Keystone E-table COUR ID 67	Condition satisfied and closed.
SoC	CN2	Construction	Construction activities will be restricted to construction hours for the Proposal. The hours will be 7am to 6pm Monday to Friday; 8am to 1pm Saturdays and no work on Sunday or public holidays except in accordance with commitment CN4 below.	Open	Requirement included in NVMP	Construction Manager Enviro Manager	Noise and Vibration Management Sub Plan in CEMP. This monitored through weekly inspections, Monthly Environmental Performance Reports, the Out of Hours notifications & associated procedures, as well as within the 6 monthly compliance reports. Works outside of the specified working hours managed through the Out of Hours Works Permit as outlined in the NVMP.	NVMP	Refer to MCoA 2.12 and 2.14 above

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SoC	CN3	Construction	Rock breaking, rock hammering, sheet piling, pile driving and any similarly noisy project activity will be scheduled only between the hours of 9am to 3pm, Monday to Friday; and 9am to 12 noon, Saturday except in accordance with commitment CN4 below	Open	Requirements included NVMP. NVMP approved by DP&E on 19/8/13.	Construction Manager Enviro Manager	Noise and Vibration Management Sub Plan in CEMP. This monitored through weekly inspections, Monthly Environmental Performance Reports, the Out of Hours notifications & associated procedures, as well as within the 6 monthly compliance reports.	NVMP	There were no noisy project activities undertaken during this reporting period.
SoC	CN4	Construction	Works outside standard construction hours will be limited to: (i) Any works that do not cause construction noise to be audible at any sensitive receivers; or (ii) The delivery of materials required outside these hours by the Police or other authorities for safety reasons; or (iii) Emergency work to avoid the loss of lives, property and/or to prevent environmental harm; or (iv) Any other work as agreed after appropriate consultation with affected residences, the Department of Environment and Climate Change, and local council.	Closed	Requirements included NVMP. NVMP approved by DP&E on 19/8/13. Closed by compliance with MCoA 2.12 and 2.14.	Construction Manager Enviro Manager	Noise and Vibration Management Sub Plan in CEMP. This monitored through weekly inspections, Monthly Environmental Performance Reports, the Out of Hours notifications & associated procedures, as well as within the 6 monthly compliance reports. Works outside of the specified working hours managed through the Out of Hours Works Permit as outlined in the NVMP.	NVMP	Closed by compliance with MCoA 2.12 and 2.14
SoC	CN5	Construction	All plant and equipment will be well maintained and fitted with adequately maintained silencers which meet the plant and equipment design specifications.	Open	Included in NVMP controls - Table 8.1. Also plant maintenance records saved at G:\NSW\F2E\07 Health and Safety\07_15 Plant & Equipment\7.15.15 Plant Register Documentation\Plant Documentation.	Plant Manager	Noise and Vibration Management Sub Plan in CEMP. This monitored through weekly inspections, Monthly Environmental Performance Reports, as well as within the 6 monthly compliance reports.	NVMP	Condition satisfied in previous reporting period through the NVMP.

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SoC	CN6	Construction	Prior consultation and written notification will be undertaken with nearby residents that may be affected by noise or vibration generating activities.	Open	Included in CIP & CEMP.	Community Liaison Enviro Manager	Noise and Vibration Management Sub Plan in CEMP, CIP. Ongoing implementation of the CIP and NVMP.	Regular community updates/ community information sessions and direct consultation e.g. piling operations.	Condition satisfied and ongoing when works outside of standard construction hours or high noise impact works are proposed. All consultation is recorded in Consultation Manager (database). Community notifications also made available on the RMS F2E website (http://www.rms.nsw.gov.au/projects/northern-nsw/port-macquarie-to-coffs-harbour/frederickton-to-eungai/project-documents.html).
SoC	CN7	Construction	Public address systems (including amplified telephone ringers) used at any construction site will not be used outside normal construction hours except in accordance with commitment CN4 above. Public address systems will be designed to limit noise spillage off-site.	Closed	Included in NVMP controls.	Construction Manager	No public address systems (including amplified telephone ringers) were used at any of the F2E construction sites.	Refer to Keystone E-table COUR ID 73	Condition satisfied and closed.
SoC	CN8	Construction	Blasting trials will be undertaken if blasting is to be used or if production blasting fails to comply with the relevant performance criteria, with results from the trials used to modify / determine site-specific blast designs to satisfy relevant performance criteria.	Closed	Blasting to be identified and adequate time for trials to be scheduled in prior to blasting. Site specific blast designs will be formulated following trials.	Construction Manager	Noise and Vibration Management Sub Plan in CEMP - see Table 8.1 (NV22). This monitored through weekly inspections, Monthly Environmental Performance Reports, as well as within the 6 monthly compliance reports. Not applicable to date.	Refer to Keystone E-table COUR ID 74	Not applicable to this period. No blasting required on the project to date.
SoC	CN9	Construction	All reasonable attempts will be made to contact sensitive receivers located within 500 metres of a blast location. The contact will be made at least 48 hours before a blast and advice given to the receiver will include a schedule of blast time(s) and a telephone number and contact name.	Closed	No blasting anticipated - to be reviewed should blasting be nominated as a construction methodology.	Community Liaison Enviro Manager	Noise and Vibration Management Sub Plan (see Table 8.1 (NV20)) in CEMP. This monitored through weekly inspections, Monthly Environmental Performance Reports, as well as within the 6 monthly compliance reports. Not applicable to date.	Refer to Keystone E-table COUR 75	Not applicable to this period. No blasting required on the project to date.

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SoC	CN10	Construction	Construction noise and vibration monitoring will be undertaken at sensitive locations during construction to determine the effectiveness of mitigation strategies.	Open	Scheduled and 'as necessary' noise monitoring included in the NVMP/ Monthly Reported.	Enviro Manager	Noise and Vibration Management Sub Plan in CEMP. This monitored through weekly inspections, Monthly Environmental Performance Reports, as well as within the 6 monthly compliance reports.	NVMP	Noise monitoring undertaken and reported monthly in the Environmental Performance Report. - March 2015 (F2E-TPL-REC-00794)- April 2015 (F2E-TPL-REC-00814)- May 2015 (F2E-TPL-REC-00853)- June (F2E-TPL-REC-00888)- July (F2E-TPL-REC-00917)- August (F2E-TPL-REC-01017)
SoC	ON1	Design	A reasonable and feasible approach will be adopted to limit operational noise impacts in accordance with the NSW Government's Environmental Criteria for Road Traffic Noise. The approach to operational noise impacts will be finalised during detailed design and in consultation with relevant property owners.	Closed	Considered and applied in the development of the Operation Noise Management Report	Design Manager	The Operational Noise Management Plan (F2E-00G-RPT-AC001-0001[D5]) assessed potential noise impacts in accordance with the NSW Government's Environmental Criteria for Road Traffic Noise (ECRTN) and the RTA Environmental Noise Management Manual (ENMM). The assessment concluded that no at-road noise mitigation measures are required. The required noise mitigation measures are architectural treatments at a number of residence and signs at the rest areas to limit the use of compression brakes. The Dept. of Planning & Environment approved the Operational Noise Management Report (Final Design – 100%) (Report No. F2E-00G-RPT-AC001-0001 Version D5) on the 2 May 2014. A copy of the Dept. of Planning & Environment letter of approval is attached (MP06-0224).	Refer to Keystone E-Table COUR ID 77	Condition satisfied and closed.
SoC	ON2	Design	Operational noise mitigation measures (e.g.. low- noise pavement, road design, noise mounds or noise barriers) will be further reviewed and optimised during detailed design and installed at the locations identified and set out in section 3.7.1 and 3.7.2 of Technical Report 3 – Noise and Vibration Assessment.	Closed	ONMP - see MCoA 2.20.	Design Manager	The Operational Noise Management Plan (F2E-00G-RPT-AC001-0001[D5]) assessed potential noise impacts in accordance with the NSW Government's Environmental Criteria for Road Traffic Noise (ECRTN) and the RTA Environmental Noise Management Manual (ENMM).	Refer to Keystone E-table COUR ID 78	Condition satisfied and closed.

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							<p>The assessment concluded that no at-road noise mitigation measures are required (e.g.. low- noise pavement, road design, noise mounds or noise barriers). The Dept. of Planning & Environment approved the Operational Noise Management Report (Final Design – 100%) (Report No. F2E-00G-RPT-AC001-0001 Version D5) on the 2 May 2014.</p> <p>The locations identified and set out in section 3.7.1 and 3.7.2 of Technical Report 3 – Noise and Vibration Assessment are all located in the Kempsey to Eungai Upgrade Stage I (Kempsey Bypass) and do not apply to Stage II (F2E).</p>		
SoC	ON3	Design	Architectural treatments will be provided to properties identified in section 3.7.3 of Technical Report 3 – Noise and Vibration Assessment following detailed design and consultation with the property owner.	Open	Architectural treatments to be provided	RMS	53 properties have been identified as requiring architectural treatments. RMS are currently preparing contracts for the work. It is anticipated that works would be scheduled to commence early 2015 and take approximately 6 months to complete.	Records of RMS consultation with identified receivers	Contracts have been let for all architectural treatment works with work due to commence in October 2015.
SoC	ON4	Operation	Monitoring of operational noise will be undertaken between six months and one year after opening along the proposed highway upgrade. Should the monitoring indicate traffic noise levels exceeding the relevant noise level criteria in NSW Government's Environmental Criteria for Road Traffic Noise; the RTA will investigate and implement further "reasonable and feasible" mitigation measures. The selection of these measures will be undertaken in consultation with affected property owners.	Open	Considered and applied in the development of the Operation Noise Management Report	Design Manager	Operation phase commitment.	ONMP	Not applicable to this period (operational phased commitment).

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SoC	F1	Design	Waterway crossings will be designed to facilitate fish passage where appropriate and in consultation with the relevant government agencies.	Closed	Compliance requirements provided in SWTC Appendix 5. Design compliance demonstrated in Cross Drainage packages DC001, DC002, and DC003. Consultation with Fisheries has also occurred for temporary platforms and access tracks. Also refer to MCoA 2.8.	Enviro Manager	Compliance requirements provided in SWTC Appendix 5. Design compliance demonstrated in Cross Drainage packages DC001, DC002, and DC003. Specifically refer to Section 20.3 of design reports for summary of consultation with EPA and Fisheries.	Refer to Keystone E-table COUR ID 81	Condition satisfied and closed.
SoC	F2	Construction	Frog breeding ponds suitable for the green-thighed frog will be designed and constructed in consultation with a suitably qualified and experienced ecologist knowledgeable in the breeding requirements of this species.	Open	Compliance requirements provided in SWTC Appendix 4 and Appendix 14 . Design compliance demonstrated in Longitudinal Drainage packages DL001, DL002, and DL003. Consultation with suitably qualified and experienced ecologist knowledgeable in the breeding requirements of this species (Ben Lewis) prior to and during construction. Consultation with OEH undertaken.	Enviro Manager	DL001, DL002, and DL003 Areas for construction of frog breeding ponds were included within the ecological monitoring program, which was approved by DP&E on 25.07.13	Refer to Keystone for design reports/ drawings.	Construction of frog ponds commenced during this reporting period. Sites are progressively being inspected with Brian Tolhurst of EPA during ERGs.
SoC	F3	Design	Riparian vegetation disturbed by the Proposal will be replaced with endemic species to maintain creek bank stability.	Open	Species for riparian vegetation specified in the UD&LMP and Landscape Design Packages (LA0002).	Enviro Manager	UD&LP to be submitted to D&PE as per RMS RFI response. Original extension granted til 28 February 2014. DP&E extension letter ref: 4483_001_urban_design_extension Following consultation and revision, the Department approved the UD&LMP on the 2 June 2014 (letter reference 09/03204).	FFMP/ UD&LMP	Design component complete (LA001 & LA 002). Landscaping planting have commenced this period including planting of permanent sediment basins with emergent macrophytes.

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Ref.	Source Ref.	Timing	Commitment, Obligation, Undertaking, Requirement (COUR)	Construction Status	How COUR will be complied with	Responsibility	Addressed where / how	Evidence Reference	Sept 2014 - March 2015 Compliance Report
SoC	F4	Construction	Threatened plants in proximity to the Proposal to be retained will be protected during construction through exclusion fencing, warning sign posting and education of construction workers through the site induction process.	Open	Locations included in information documents referred to in SWTC App 5 to be illustrated on Environmental Sensitive Area Plans. Requirements included in Flora and Fauna Sub Plan controls. Induction presentation + signage example.	Enviro Manager	CEMP Appendix A8 - Environmental Sensitive Area Plans. Project environmental induction material. Flora & Fauna Sub-Plan control measures in Table 5-1 (FF33 - 42). Monitoring in accordance with Flora & Fauna Sub-Plan Appendix G - Ecological Monitoring Program completed during routine inspections. Report by exception.		Implementation of controls to protect threatened plants in the proximity of the proposal ongoing.
SoC	F5	Pre-construction	The feasibility of relocating individuals of <i>Maundia triglochinoide</i> directly affected by the Proposal to suitable habitat on nearby land in secure tenure will be further investigated and resultant action determined on the basis of expert advice.	Closed	Comply with MCoA 2.9	RMS	Final <i>Maundia</i> translocation plan was provided to the DP&E on 13.5.13, which recommended that translocation was not reasonable or feasible. No further actions to implement.	Flora & Fauna Sub-Plan/ 2121213MaundiaReport-VersionB	Condition satisfied and closed
SoC	F6	Construction	A suitably qualified and experienced ecologist will undertake specific searches for native fauna immediately prior to clearing activities or demolition activities. Searches will include checks for nests and large hollow-bearing trees and target habitats of hollow-dwelling species, koalas, bats and frogs.	Open	Included via prior project pre-clearing system (FFMP).	Project Ecologist	Controls to address condition included in the FFMP. Implementation of these controls is ongoing. Clearing Report to be prepared at the completion of clearing.	FFMPClearing Report Form 1 completed daily by Ecologist. Vegetation Clearing Report	Minor vegetation clearing for fencelines only during this reporting period. Demolition works were completed in Borrigalla Creek this period involving the removal of the existing culvert prior to construction of Bridge 18. Bat surveys were completed prior to demolition. There was however an incident associated with the fish relocation during the demolition works that resulted in fish death of non-endangered native fish within the project area (There was no evidence of dead native fish outside of the isolated works area). (refer to F2E-TPL-REC-00818).
SoC	F7	Construction	Stands containing hollow-bearing trees will be cleared using a two stage clearing process with adjacent non hollow-bearing trees to be cleared first.	Open	Included via prior project pre-clearing system (FFMP).	Project Ecologist	Controls to address condition included in the FFMP. Implementation of these controls is ongoing. Clearing Report to be prepared at the completion of clearing.	FFMP Clearing Report Form 1 completed daily by Ecologist. Vegetation Clearing Report	Controls to address condition included in the FFMP. There were no hollow bearing trees cleared in association with fence line clearing completed during this reporting period.

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SoC	F8	Construction	Fauna species found in areas to be cleared, immediately prior to clearing activities, will be relocated by qualified ecologist into suitable habitat as close as possible to the area in which they were found.	Open	Included via prior project pre-clearing system (FFMP).	Project Ecologist	Controls to address condition included in the FFMP. Implementation of these controls is ongoing. Clearing Report to be prepared at the completion of clearing.		There was no fauna relocation required in association with the minor vegetation clearing for fencelines only during this reporting period.
SoC	F9	Construction	Strategies will be developed to deal with incidents involving individual animals during construction activities in consultation with local Department of Environment and Climate Change officers, WIRES and / or other relevant local wildlife carer groups.	Open	Included via prior project pre-clearing system (FFMP).	Project Ecologist	Controls to address condition included in the FFMP. Implementation of these controls is ongoing. Clearing Report to be prepared at the completion of clearing.		Controls to address condition included in the FFMP. Implementation of these controls is ongoing.
SoC	F10	Construction	Habitat features and resources for native fauna (such as hollow-bearing trees, hollow logs and bush rocks), identified by a qualified ecologist, will be distributed along the route of the Proposal. Such relocation will be undertaken in a manner to limit damage to existing vegetation and will not occur in high condition remnant vegetation.	Open	Included in FFMP of CEMP	Enviro Manager	Controls to address condition included in the FFMP. Implementation of these controls is ongoing. Clearing Report to be prepared at the completion of clearing.	FFMP Clearing Report Form 1 completed daily by Ecologist. Vegetation Clearing Report	Controls to address condition included in the FFMP. There was no vegetation clearing during this reporting period.
SoC	F11	Construction	Nest boxes will be utilised to help offset the removal of hollow-bearing trees in areas where habitat trees are in short supply (<4 suitable trees per hectare) and in consultation with adjacent property owners. If used, nest boxes will be fixed to suitable retained vegetation and in a way that does not damage the tree.	Closed	Included via prior project fauna design provisions and fauna management strategies (FFMP).	RMS	FFMP - Controls to address condition included in the FFMP. Nest box installation was completed in December 2013 (250 nest boxes have been installed to date). Record of installation to be included in the clearing Report to be prepared at the completion of clearing.	FFMP	Condition satisfied and closed.
SoC	F12	Design	Culverts and bridge structures identified during the detailed design as having a potential role in fauna crossing will be designed to facilitate fauna movements.	Closed	Included via prior project fauna design provisions and fauna management strategies (FFMP App B). Incorporated into cross drainage designs (DC001, 002 & 003)	-	Provided within design reports DC001, DC002, and DC003 – Condition satisfied with the exception of Borirgalla Creek. Consultation regarding the fauna underpass for the highway and service road are ongoing.	FFMP	Condition satisfied and closed.

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SoC	F13	Design	Expert advice will be sought to assist in identifying the need for, and location of, glider crossing points. If required, and in consultation with relevant government agencies, the location and design of crossing points will be incorporated into the Proposal.	Closed	SWTC App4 4.9	-	Compliance requirements provided in SWTC Appendix 4, Appendix 5 and Appendix 14. Road furniture packages RF000, FR001, RF002, RF003. Consultation with EPA (Ian Gaskell) with regard to glider crossings has occurred.		No update this period.
SoC	F14	Construction	Fauna exclusion fencing (e.g.. floppy-top fencing) will be erected along the Proposal at appropriate locations to direct fauna movement towards fauna crossing structures.	Closed	Included in SWTC 5.18, SWTC App 4 4.14 and App 5 5.4. Requirements detailed in the Flora and Fauna sub plan. Road Furniture (RF00#) design package.	Enviro Manager	Approved Road Furniture (RF00#) design package. RFI for the design of the Phascogale fence and combined Phascogale and Frog Fence (refer to Incite F2E-TPL-RFI-00287). Flora and Fauna sub plan Appendix B, Table 2 - Extent of fauna fencing.		Installation of fauna fencing ongoing.
SoC	F15	Design	Flora species used in landscaping will be selected such that wildlife is not attracted for feeding or other purposes.	Closed	Included in landscape management plan & UD&L designs.	Design Manager Enviro Manager	UD&LP to be submitted to D&PI as per RMS RFI response. Original extension granted til 28 February 2014. DP&E extension letter ref: 4483_001_urban_design_extension Following consultation and revision, the Department approved the UD&LMP on the 2 June 2014 (letter reference 09/03204).	UD &LMP	Condition satisfied and closed.
SoC	F16	Operation	Adjoining vegetation will be maintained to limit overhang of fauna fences or other barriers.	Closed	Scope is outside of tender This COUR has been closed as it is an Operational requirement.	RMS	RMS responsibility	N/a	Operational phase requirement
SoC	F17	Construction	Water quality control measures will be installed as early as possible in the construction program and will be designed / selected to meet identified receiving water objectives.	Closed	Sediment basins and other erosion and sediment control devices (including clean water diversion drains) shall be designed in accordance with the 'Managing Urban Stormwater: Soils and Construction. Landcom,(4th Edition, March 2004)' (the "Blue Book"). Progressive Erosion and Sediment Control Plans	Enviro Manager	Sediment basin and other erosion and sediment control devices (including clean water diversion drains) design included in the Approved Earthworks and early drainage (EA000, EA001, EA002 and EA003) design package and Longitudinal Drainage (DL000, DL001, DL002, DL003) design packages. In accordance with EPL O5.6, basins and other erosion and sediment control devices shall	Refer to Keystone E-table COUR 88	Design and construction complete. Temporary (construction) phase basins are progressively being decommissioned and backfilled in consultation with EPL, Soil Conservationist, RMS and the Environmental Representative (refer G38 4.3).

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					will be prepared and maintained in consultation with the Soil Conservationist to plan the application of other erosion and sediment control methods.		be installed prior to the commencement of clearing and grubbing works. Compliance with this condition was monitored through the routine ERG, RMS Joint and Soil Conservationist inspections (Inspections saved under Project Documents > Records > Environmental > Inspections).		
SoC	F18	Construction	The limits of clearing and other native vegetation disturbance will be clearly marked on relevant work plans and on site prior to clearing.	Closed	Limit of clearing to be calculated in accordance with SWTC App 4.23 and RMS D&C G40 Clearing and Grubbing Specification section 2.1 The limit of clearing to be illustrated on relevant work plans including the Detailed Design consistency review drawings (CR000 - Consistency review G40 Boundaries). On site marking of the limit of clearing prior to clearing to be included in the G40 2.4 Hold Point documentation. Monitored during construction through routine inspections.	Enviro Manager	G40 2.4 Hold Point documentation. Detailed Design Consistency Review drawings (CR000 - Consistency review G40 Boundaries).	Refer to Keystone E-table COUR ID 89	Controls to address condition included in the FFMP. LoC flagging installed in all areas prior to clearing. LoC flagging progressively replaced with permanent fauna or exclusion fencing or other temporary exclusion fencing.
SoC	F19	Operation	Weeds in areas disturbed by construction activities will be managed for a minimum of two years after construction completion.	Open	Landscape maintenance plan (check)	Enviro Manager	Not applicable to this period.	Included in Section 8 of the UD&LMP Seed Collection Records for Seed Collection contractors	Operational phase requirement

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SoC	F20	Design	Native and locally indigenous plants will be used in the landscaping and disturbed areas will be progressively revegetated.	Closed	Included in FFMP (Table 5.1) and UD&LMP.	Design Manager Enviro Manager	UD&LP to be submitted to D&PI as per RMS RFI response. Original extension granted til 28 February 2014. DP&E extension letter ref: 4483_001_urban_design_extension Following consultation and revision, the Department approved the UD&LMP on the 2 June 2014 (letter reference 09/03204).	FFMP.	Condition satisfied and closed.
SoC	F21	Construction	A compensatory habitat (or other suitable offset) package will be developed in consultation with the Department of Environment and Climate Change and other relevant government agencies.	Closed	Biodiversity Offset Package for the approval of the Director General	RMS	Biodiversity Offset Strategy conditionally approved by DP&E on 14/5/10. 28/06/2013 - RMS requested DP&I for extension of time for the submission of the Biodiversity Offsets Package. 11/07/13 - DP&I agreed to extend the submission date to the 30 September 2014. 13/08/13 - RMS requested DSEWP&C for extension of time for the submission of the Biodiversity Offsets Package. 16/07/15 - DP&E note that the Biodiversity Offsets Package is overdue in response to the Six Month Compliance Report September 2014 - March 2015. 28/8/15 - DP&I agreed to extend the submission date to the August 2016.	Refer to MCoA 2.11	Refer to MCoA 2.11
SoC	F22	All Stages	An adaptive monitoring program will be developed and implemented to allow the effectiveness of mitigation and offset measures to be assessed and allow for their modification if necessary. The program will be for a minimum of three years after construction completion.	Closed	RMS has provided ecological Monitoring Program (Doc ID 120) plus updates. Include further information from RMS correspondence/ TPL requirements & seek update from RMS re; timing of monitoring program. This COUR has been closed because it will be complied with through MCoA 3.1.	RMS	Flora and Fauna Management Plan in CEMP. 2141112Frederickton-Eungai Ecological Monitoring Program Version 5	Frederickton to Eungai Ecological monitoring program, Version 5	Refer to MCoA 3.1

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SoC	AH1	All Stages	Any Aboriginal heritage items directly affected by the Proposal will be managed in consultation with Aboriginal stakeholders and the Department of Environment and Climate Change	Open	GDP used to show heritage sites that require further actions, however the majority of sites/PADs have been investigated and salvaged.	Enviro Manager Community Liaison	Heritage Mgt Plan of CEMP / GDP system Salvage at KE14 and KE15 was completed on the 10.12.2013. The works included a site walk over of the area to be disturbed by construction activities, followed by removal of the topsoil into bunds and a second review by the Aboriginal Representatives (2 from KLALC and 2 from the Dunghutti Elders) and 2 Archaeologists. There were no artefacts found during these monitoring works and thus no further investigations were deemed warranted.	HMP	No update this period.
SoC	AH2	Design	Aboriginal heritage sites and potential archaeological deposits will be clearly identified on construction drawings.	Closed	Heritage to be included in all Induction training, as well as toolbox talks whenever working nears areas of known heritage. Link to GDP folder.	Training section of CEMP + Heritage Mgt Plan of CEMP + Induction	GDP, Training section of CEMP + Heritage Mgt Plan of CEMP + Induction; Sites continue to be identified on GDPs and fencing retained in field.	HMP	Sites continue to be identified on GDPs
SoC	AH3	Construction	All relevant construction personnel will receive training on their obligations for protection of Aboriginal cultural materials, including information on site locations, conservation management requirements and legal obligations in regard to Aboriginal cultural materials.	Open	Heritage to be included in all Induction training, as well as toolbox talks whenever working nears areas of known heritage	Enviro Manager	Training section of CEMP + Heritage Mgt Plan of CEMP + Induction; Induction program ongoing.	Induction Program	Condition satisfied through general project induction. Status ongoing.
SoC	AH4	Design	If any part of the project (such as an ancillary facility) is located in an area which has not been subject to detailed Aboriginal heritage field survey and assessment, additional survey and assessment will be undertaken before that part of the project proceeds.	Closed	Consistency Assessments including Heritage Assessment are undertaken for new activities and approved via RMS.	Enviro Manager	Process outlined in CEMP for consistency assessments/heritage assessments. Additional potential impacts to heritage addressed through Consistency Assessments for additional works.	Consistency Assessments	One new ancillary facility was established this reporting period, however it is located on a permanent cattle mound site that was subject to detailed Aboriginal heritage assessment (refer to MCoA 2.29)

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Ref.	Source Ref.	Timing	Commitment, Obligation, Undertaking, Requirement (COUR)	Construction Status	How COUR will be complied with	Responsibility	Addressed where / how	Evidence Reference	Sept 2014 - March 2015 Compliance Report
SoC	AH5	Construction	Subsurface investigations will be conducted of the identified potential archaeological deposits (PADs) at sites KE PAD 1 to 12 with support from the local Aboriginal stakeholders. Any subsequent salvage that may be warranted would occur at that time.	Closed	Subsurface investigation and salvage of KE14, KE15, KE16 and KE PAD 6 to 12 prior to the commencement of Stage 2 works which may impact on those sites.	Enviro Manager Community Liaison	Included in Heritage Management Plan -App D for PAD 6-12 + KE 14, 15, 16 report. Draft report issued 8/4/13. Copy of final report. Sites continue to be identified on GDPs and fencing retained in field	HMP	Condition satisfied and closed.
SoC	AH6	Construction	Aboriginal heritage items identified within the construction corridor and not directly impacted by the Proposal will be marked on construction plans, fenced and signposted where necessary in consultation with DECC and the Aboriginal stakeholders	Open	Implemented via GDP process.	Enviro Manager	Heritage Management Sub Plan in CEMP Sites continue to be identified on GDPsand fencing retained in field	HMP	No update this period.
SoC	AH7	Construction	Aboriginal stakeholders will observe initial ground disturbance works / topsoil stripping and salvage artefacts identified at sites KE14, KE15, KE16 and KE42 (regardless of the results of potential archaeological deposit investigations at each of these sites).	Closed	Apply to KE14, KE15 and KE16. - Monitoring completed 10/12/13. Refer to 140120_Memo re topsoil monitoring v2	Enviro Manager	Heritage Management Sub Plan in CEMP. Salvage at KE14 and KE15 was completed on the 10.12.2013. The works included a site walk over of the area to be disturbed by construction activities, followed by removal of the topsoil into bunds and a second review by the Aboriginal Representatives (2 from KLALC and 2 from the Dunghutti Elders) and 2 Archaeologists. There were no artefacts found during these monitoring works and thus no further investigations were deemed warranted.	HMP	Condition satisfied and closed.
SoC	AH8	Construction	If any presently unknown Aboriginal heritage items are uncovered during the works, all works in the vicinity of the find will cease until Aboriginal heritage specialist advice is obtained	Open	Included in Project Induction/ HMP.	Enviro Manager Construction Manager	Heritage Management Sub Plan in CEMP/ relevant procedures. No presently unknown Aboriginal heritage items are uncovered during the works to date.	HMP	Condition satisfied through general project induction. No unknown Aboriginal Heritage items uncovered this period.
SoC	AH9	All Stages	The RTA will comply with the NSW Government's Aboriginal Participation in Construction Guidelines.	Closed	Guidelines consulted and referenced in heritage mgt plan. Also included in F2E APP - Indigenous Participation Plan - 06052013 Submission1 & 2	Enviro Manager HR Advisor	Heritage Management Sub Plan in CEMP	HMP	Implementation through the Indigenous Participation Plan - 06052013.

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SoC	NAH1	Construction	An archival record will be prepared for the Ferry Lane Memorial Avenue (Frederickton Memorial Avenue), Frederickton ferry ramp (KEH6), impacted sections of the Frederickton Butter Factory (KEH7) and the early 20th Century house (KEH3) by an appropriately qualified and experienced heritage expert.	Closed	Not applicable. Sites listed in Commitment NAH1 are not within Stage 2. Note this has been completed by NOHC in 2011.	RMS	Archival recording of KEH6, KEH7 and KEH1 has been undertaken. Archival recording of KEH1 was submitted to Kempsey Shire Council in December 2010, with KEH3, KEH6, and KEH7 submitted in September 2011. An addendum to the Frederickton Butter Factory Archival Recording (NOHC 2011) was prepared in December 2011 following a heritage find, was provided to Kempsey Shire Council	HMP	Na. to F2E
SoC	NAH2	Construction	All relevant construction personnel working on site will receive training in their responsibilities under the Heritage Act, 1977. Site specific training will be given to personnel required to work in the vicinity of identified heritage items.	Open	Induction/ HMP	Enviro Manager	Heritage Management Plan/ Project Induction . This is monitored through weekly inspections, Monthly Environmental Performance Reports & associated procedures, as well as within the 6 monthly compliance reports. Training Section of CEMP	HMP	Condition satisfied through general project induction. Status ongoing.
SoC	NAH3	Construction	Should any additional heritage items be uncovered during works, all works in the vicinity of the find would cease until specialist heritage advice is obtained	Open	Heritage to be included in all Induction training, as well as toolbox talks whenever working nears areas of known heritage	Enviro Manager	Training section of CEMP + Heritage Mgt Plan of CEMP + Induction	Induction Program	Condition satisfied through general project induction. No additional heritage items be uncovered during this period.
SoC	NAH4	Construction	Non-Aboriginal heritage items identified within the construction corridor and not directly impacted by the Proposal will be marked on construction plans, fenced and sign posted where necessary.	Open	Implemented via GDP process.	Supervisor Enviro Manager	Heritage Management Plan in CEMP + GDP SEPs in CEMP	HMP	Refer to SoC AH6

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SoC	NAH5	Construction	Pedestrian access will be provided via the re-alignment of Ferry Lane between the two parts of the Ferry Lane Memorial Avenue (Frederickton Memorial Avenue) (KEH1a) separated by the Proposal.	Closed	outside of F2E project scope	RMS / KBA Design Manager	The need for pedestrian access was identified when it was proposed to construct a raised embankment for the highway that would bisect the avenue. The design has since been modified and this section of the Kempsey Bypass comprises an elevated bridge with access along Ferry Lane maintained below. As such, the need to join the two sections of the avenue is no longer pertinent. This was supported at the Ferry Lane stakeholder meeting held on 28.10.10.	N/a	Na. to F2E
SoC	NAH6	Construction	The condition and health of the remaining Frederickton Memorial Avenue trees will be investigated by a suitably qualified and experienced arborist. The outcomes of the investigation will be used to develop and implement a restoration plan for the significant remaining elements of the Frederickton Memorial Avenue in accordance with the mitigation measures outlined in Table 17.3 of the Environmental Assessment.	Closed	outside of F2E project scope	RMS / KBA Design Manager	Stakeholder meetings were held with KSC, RSL and adjoining property owners on 29.03.10, 28.10.10 and 29.12.12. Ferry Lane Management stakeholder meeting was held on 29 February 2012 in order to finalise the requirements of the Ferry Lane Management Plan. At the meeting a number of outstanding matters relating to Ferry Lane Management Plan were resolved. The participants concluded that no further Stakeholder Meetings, as such, would be required. Findersia Australis (Crows Ash) was chosen as the replacement tree.	N/a	Na. to F2E

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SoC	NAH7	Construction	A plan of management for the Frederickton Memorial Avenue will be developed to assist the local community with its long-term maintenance and management of the Avenue. The plan of management will be developed in consultation with Kempsey Shire Council, Kempsey Macleay RSL Sub Branch and other relevant stakeholders.	Closed	outside of F2E project scope	RMS / KBA Design Manager	Stakeholder meetings were held with KSC, RSL and adjoining property owners on 29.03.10, 28.10.10 and 29.12.12. Ferry Lane Management stakeholder meeting was held on 29 February 2012 in order to finalise the requirements of the Ferry Lane Management Plan. At the meeting a number of outstanding matters relating to Ferry Lane Management Plan were resolved. The participants concluded that no further Stakeholder Meetings, as such, would be required. Findersia Australis (Crows Ash) was chosen as the replacement tree.	N/a	Na. to F2E
SoC	HF1	Design	Flood modelling will be undertaken during the detailed design phase to further refine the bridging, drainage structure and flood mitigation requirements for the Macleay River and Collombatti Creek floodplains.	Closed	Refer WMA Water Collombatti Creek Flood Study for Collombatti Creek floodplain in FS000 Appendix K, and HAJV design package FS000 for other floodplains.	Design Manager	Completed. The DP&E (formerly DP&I) has reviewed the Hydrological Mitigation Report and considers that it addresses the department's comments sent by email on September 2013, and generally satisfies the requirements of condition 2.5.	Refer to Keystone for Flood Report Refer to email from Michael Young dated 21 Feb 2014.	Condition satisfied and closed
SoC	HF2	Design	Reasonable and feasible, property specific flood mitigation measures (e.g.: ring levees, scour protection, etc.) will be further developed and implemented for properties identified as flood affected by the Proposal (in Section 10.2.2 of the Environmental Assessment) in consultation with affected landholders.	Closed	Refer WMA Water Collombatti Creek Flood Study for Collombatti Creek floodplain in FS000 Appendix K, and HAJV design package FS000 for other floodplains - Refer to MCoA 2.5 for further information.	Design Manager	Completed. The DP&E (formerly DP&I) has reviewed the Hydrological Mitigation Report and considers that it addresses the department's comments sent by email on September 2013, and generally satisfies the requirements of condition 2.5.	Refer to Keystone for Flood Report	Condition satisfied and closed
SoC	HF3	Design	Where reasonable and feasible, houses identified as flood-affected by the Proposal (in Section 10.2.2 of the Environmental Assessment) will be raised so that the floor level is a minimum of 0.5m higher than the modelled 100 year ARI peak flood level. In consultation with affected landowners, alternative strategies to reduce damage during flooding would be developed and implemented for those premises that cannot be raised by the minimum	Closed	To be assessed through the Hydrological Mitigation Report.	RMS	The Hydrological Mitigation Report (F2E-00G-RPT-FS000-0003[A4]) was prepared and issued to DP&E (formerly DP&I) by RMS on the 25 October 2013. The report determined there were houses identified as flood-affected by the Proposal.	Refer to Keystone for Flood Report	Condition satisfied and closed

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			required.						
SoC	HF4	Design	Stock mounds, yards and truck loading facilities will be provided for affected landholders along South West Rocks Road to assist in the refuge and / or evacuation of stock during floods. The location of the facilities will be determined in consultation with the affected landowners.	Closed	Stock mounds proposed for F2E will be assessed through the RMS consistency assessments.	RMS	Consistency Assessment: Cattle Refuge Mounds in Flood Prone Lands (MEZ 2 & MEZ5) Frederickton to Eungai (F2E-00G-CA-ENV-013-00-03) (F2E-TPL-REC-00848). Consistency Assessment: Cattle Refuge Mounds in Flood Prone Lands (MEWB) Frederickton to Eungai (F2E-00G-CA-ENV-021-01) (F2E-TPL-REC-00846)	Refer to Keystone E-table COUR ID ##	Consistency Assessment for a third Cattle Refuge Mound (MEWB) south of the Cooks Rest Area was approved on the 16/03/2015. (Consistency Assessment: Cattle Refuge Mounds in Flood Prone Lands (MEWB) Frederickton to Eungai (F2E-00G-CA-ENV-021-01) (F2E-TPL-REC-00846))
SoC	HF5	Design	A levee and associated flood control devices will be constructed at Frederickton prior to the commencement of construction of the Proposal on the Macleay River floodplain.	Closed	Outside of F2E project scope	RMS	Outside of F2E project scope	N/a	Na. to F2E
SoC	SW1	Construction	Water quality will be monitored upstream and downstream of the project site to determine the effectiveness of mitigation strategies.	Open	Relevant information included in F2E Soil and Water Quality Sub Plan in CEMP that was approved on the 19/8/13 by the Department of Planning and Infrastructure. Surface water quality is monitored in seven receiving waterways. The results of monitoring are reported in each monthly Environmental Performance Report.	Enviro Manager	Soil and Water Management Plan. Monthly Environmental Performance Reports, as well as within the 6 monthly compliance reports.	SWMP	Water quality monitoring undertaken and reported monthly in the Environmental Performance Report. - March 2015 (F2E-TPL-REC-00794) - April 2015 (F2E-TPL-REC-00814) - May 2015 (F2E-TPL-REC-00853) - June (F2E-TPL-REC-00888) - July (F2E-TPL-REC-00917) - August (F2E-TPL-REC-01017)

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SoC	SW2	Construction	Construction activities that could cause soil erosion or have the potential to discharge sediment from the site during construction will be identified and control methods and techniques will be implemented during those activities.	Open	Relevant information included in F2E Soil and Water Quality Sub Plan in CEMP that was approved on the 19/8/13 by the Department of Planning and Infrastructure. Sediment basins and other erosion and sediment control devices (including clean water diversion drains) shall be designed in accordance with the 'Managing Urban Stormwater: Soils and Construction. Landcom,(4th Edition, March 2004)' (the "Blue Book") in accordance with EPL condition O5.7. Progressive Erosion and Sediment Control Plans will be prepared and maintained in consultation with the Soil Conservationist to plan the application of other erosion and sediment control methods.	Enviro Manager	F2E Soil and Water Quality Sub Plan. Sediment basin design included in the Approved Earthworks and early drainage (EA000, EA001, EA002 and EA003) design package and Longitudinal Drainage (DL000, DL001, DL002, DL003) design packages. . Progressive Erosion and Sediment Control Plans reviewed by Soil Conservationist. Monitored via regular inspections and reporting.	SWMP	Managed through the preparation, review and implementation of Progressive Erosion and Sediment Control Plans. Ongoing.
SoC	SW3	Construction	Where feasible and reasonable, the area of soil exposure during construction will be minimised	Open	Relevant information included in F2E Soil and Water Quality Sub Plan in CEMP that was approved on the 19/8/13 by the Department of Planning and Infrastructure. Progressively topsoil, stabilise, hydro mulch / plant disturbed areas in accordance with the Urban Design and Landscape Management Plan and landscape design lots (LA001 and LA002).	Enviro Manager Design Manager	F2E Soil and Water Quality Sub Plan in CEMP Routine inspections of disturbed areas with RMS and the soil conservationist to verify that progressive reinstatement of disturbed areas in accordance with the Urban Design and Landscape Management Plan and landscape design lots (LA001 and LA002) is occurring.	SWMP	Managed through the preparation, review and implementation of Progressive Erosion and Sediment Control Plans. Ongoing.

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SoC	SW4	Construction	There will be progressive revegetation of earthworks areas and stabilisation and restoration works	Open	Relevant information included in F2E Soil and Water Quality Sub Plan in CEMP that was approved on the 19/8/13 by the Department of Planning and Infrastructure. Progressively topsoil, stabilise, hydro mulch / plant disturbed areas in accordance with the Urban Design and Landscape Management Plan and landscape design lots (LA001 and LA002).	Enviro Manager Design Manager	F2E Soil and Water Quality Sub Plan in CEMP Routine inspections of disturbed areas with RMS and the soil conservationist to verify that progressive reinstatement of disturbed areas in accordance with the Urban Design and Landscape Management Plan and landscape design lots (LA001 and LA002) is occurring.	SWMP	Reinstatement works in accordance with LA001 & LA002 ongoing with progressive hydro mulching of batters. Preparation of planting areas ongoing including planting tube stock. Rectification works of cut and fill batters with poor stabilisation also occurring during this period.
SoC	SW5	Construction	Specific construction methods will be developed and implemented for in-stream works in consultation with relevant government agencies to limit water quality impacts.	Open	Included within the approved Soil and Water Management Plan. Monitored via regular inspections and reporting.	Enviro Manager	Included within the approved Soil and Water Management Plan. Monitored via regular inspections and reporting. Consultation with EPA and DPI Fisheries occurring with regard to these works through the ERGs.	SWMP	Consultation with EPA and DPI Fisheries occurring with regard to these works through the ERGs. Work this period included CML 101 in the unnamed creek north of Frederickton, CML 203 in Wizenbucca Creek and Bridge 18 over Borirgalla Creek.
SoC	SW6	Construction	Erosion and sediment control measures installed during construction will be regularly inspected including after each rainfall event that causes runoff to occur from the site and maintained to ensure the controls are working efficiently and effectively.	Open	Inspection and monitoring regime included within the approved Soil and Water Management Plan that was approved on the 19/8/13 by the Department of Planning and Infrastructure. Monitored via regular inspections and reporting.	Enviro Manager	F2E Soil and Water Quality Sub Plan in CEMP Routine environmental inspections including RMS / ERG inspections, post rainfall inspections and soil conservationist inspections.	SWMP	Condition satisfied through the approved Soil and Water Management Plan. Monitored via regular inspections with ERG and Soil Conservationist.
SoC	SW7	Design	Design requirements for construction and operation phase water quality control structures will be determined in consultation with relevant government agencies to limit water quality impacts on the basis of a site-specific investigation that considers the sensitivity of the receiving environment and the proximity of the discharge point to receiving waters.	Closed	Included within the approved Soil and Water Management Plan. Monitored via regular inspections and reporting.	Enviro Manager	Demonstrated compliance in Approved Earthworks and early drainage (EA000, EA001, EA002 and EA003) design package and Longitudinal Drainage (DL000, DL001, DL002, DL003) design packages. . Soil and Water Management Plan in CEMP. Monitored via weekly inspections, 6 mthly compliance reports.	SWMP	Design phase condition closed.

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SoC	SW8	Construction	Rumble grids or other similar devices will be installed at key entry and exit points (where there is the potential for soil tracking) to minimise the tracking of soil and particulates onto local paved road.	Open	Included within the approved Soil and Water Management Plan. Monitored via regular inspections and reporting.	Enviro Manager	Included within the approved Soil and Water Management Plan. Monitored via regular inspections and reporting.	SWMP	Control included in the SWMP. Implementation of these controls is ongoing.
SoC	SW9	Construction	Areas of creek banks and river banks, within the Proposal boundaries, at risk of erosion as a result of the Proposal will be identified and scour protection will be installed, as necessary, to limit the erosion. Fish passage and fauna movement issues will be considered and addressed when developing and installing the scour protection measures	Open		Enviro Manager	<ul style="list-style-type: none"> - BR 003 Bridges over Collombatti Creek - BR 004 Bridges over Seven Oaks Drain - BR 006 Bridges over Collombatti floodplain - BR 008 Bridges over Clybucca Creek - BR 012 Bridges over unnamed Creek - BR 018 Bridges over Borirgalla Creek - DC000, 001, 002, 003 Cross drainage Packages. 	SWMP	Waterway inlet and outlet scour protection treatments specified in the Cross Drainage design packages (DC-00#). Construction completed on all culverts to date. Sites regularly inspected during ERG site inspections.
SoC	SW10	Construction	Culverts and permanent stream protection measures will be installed as early as possible in the construction program to facilitate transverse drainage during the early stages of construction	Open	Design included in relevant bridge and culvert design packages. Culverts and permanent stream protection measures will be installed as early as possible in the construction program.	Enviro Manager	<p>Cross Drainage packages DC001, DC002, and DC003. Temp Works EWMS F2E-00G-WMS-ENV-012-01.</p> <p>Cross drainage construction works occurring in accordance with DC001, DC002, and DC003 and BR003, BR 004, BR 006, BR 008 ,BR 012, BR 018. Refer to program for timing of works.</p> <p>Progress monitored during regular inspections with the ERG and soil conservationist.</p>	SWMP	Works completed in remaining high settlement areas included CML 101, 203 and 303. Working platforms partially removed from BR003, BR006, BR008 and BR012. Scour protection completed in BR018.

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SoC	SW11	Construction	The potential for changes in the groundwater table will be investigated before any major earthworks (defined as a cut or fill area with depth or height exceeding five metres) are undertaken. Where a potential for change is identified, the significance of the change and any resultant impacts will be determined and where necessary, measures to manage the changes will be designed and implemented in consultation with relevant government agencies.	Closed	Included within the approved Soil and Water Management Plan. Monitored via regular inspections and reporting.	Enviro Manager	The Geotechnical Interpretation Report and Earthworks Design (Design Package GT002) satisfies the requirements for assessment of the predicted and acceptable effects to groundwater. Based on the findings of the Geotechnical Interpretation Report and Earthworks Design, Thiess conclude that there is no further requirement for groundwater bore monitoring to compare the actual effects to the predicted and acceptable effects resulting from the project works. This monitoring requirement will be achieved by visual observation of seepage into the cut faces and reported in the Environmental Impacts Report that will be prepared prior to the date of construction completion (as referenced in the Construction Environmental management Plan Appendix A15 – Monitoring Schedule).	SWMP	Condition satisfied and closed
SoC	SW12	Construction	Areas of potential acid sulfate soils (PASS) and actual acid sulfate soils (ASS) will be identified and the oxidisation of acid sulfate soil material will be limited, any exposed acid sulfate soil will be neutralised and surface water drainage and potential acid runoff will be controlled.	Closed	Relevant information included in F2E Soil and Water Quality Sub Plan in CEMP that was approved on the 19/8/13 by the Department of Planning and Infrastructure. Proposed acid sulfate soil treatment areas (ASSTAs) are identified as Point 2 discharge points in the EPL Attachment E-1.	Enviro Manager	F2E Soil and Water Quality Sub Plan Appendix D (Acid Sulfate Soil Management Strategy). EPL Attachment E-1 for Point 2 licensed discharge points (ASSTAs).	SWMP	No excavation works in areas of PASS / ASS during this reporting period.
SoC	SW13	Construction	Containment strategies will be identified and implemented to ensure that any acidic leachate associated with the oxidation of acid sulfate soil is contained for treatment or removal and is prevented from entering downstream watercourses.	Closed	Relevant information included in F2E Soil and Water Quality Sub Plan in CEMP that was approved on the 19/8/13 by the Department of Planning and Infrastructure. Proposed acid sulfate soil treatment areas (ASSTAs) are identified as Point 2 discharge points in the	Enviro Manager	F2E Soil and Water Quality Sub Plan Appendix D (Acid Sulfate Soil Management Strategy). EPL Attachment E-1 for Point 2 licensed discharge points (ASSTAs).	SWMP	Control measures are contained within the Acid Sulphate Soil Management Strategy. No ASS treatment required during this reporting period.

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					EPL Attachment E-1.				
SoC	AQ1	Construction	Potential dust sources and dust suppression measures will be identified in consultation with the Department of Environment and Climate Change.	Open	Relevant information included in F2E Air Quality Management Sub Plan in CEMP that was approved on the 19/8/13 by the Department of Planning and Infrastructure. Air quality was monitored throughout construction depositional dust monitors. The results of monitoring are reported in each monthly Environmental Performance Report. All Project personnel are made aware of the air quality requirements in the project environmental induction.	Construction Manager Enviro Manager	F2E Air Quality Management Sub Plan in CEMP. Monthly Environmental Performance Reports, as well as within the 6 monthly compliance reports. Refer to MCoA 2.26.	Refer to Keystone E-table COURs ID 29	Controls and monitoring of the AQMP being implemented during construction. No exceedance of target dust levels were reported in the monthly reports. No unresolved complaints relating to dust during the reporting period.
SoC	AQ2	Construction	A dust monitoring program will be undertaken to determine the effectiveness of dust suppression measures, with dust deposition gauges installed at sensitive locations to determine the effectiveness of dust suppression measures.	Open	Relevant information included in F2E Air Quality Management Sub Plan in CEMP that was approved on the 19/8/13 by the Department of Planning and Infrastructure. Air quality was monitored throughout construction depositional dust monitors. The results of monitoring are reported in each monthly Environmental Performance Report.	Enviro Manager	F2E Air Quality Management Sub Plan in CEMP. Monthly Environmental Performance Reports, as well as within the 6 monthly compliance reports. Refer to MCoA 2.26.	Refer to Keystone E-table COURs ID 29	Air quality monitoring undertaken and reported monthly in the Environmental Performance Report. - March 2015 (F2E-TPL-REC-00794) - April 2015 (F2E-TPL-REC-00814) - May 2015 (F2E-TPL-REC-00853) - June (F2E-TPL-REC-00888) - July (F2E-TPL-REC-00917) - August (F2E-TPL-REC-01017)

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SoC	G1	Construction	Energy efficient work practices will be adopted to limit energy use. Measures will include conducting awareness programs for all site personnel regarding energy conservation methods and conducting energy audits during the project to identify and address energy waste.	Open	Included within the approved Waste and Energy Mgt Plan. Monitored via regular inspections and reporting. Energy efficiency to be included in all site inductions.	Site Establishment Mgr/ Enviro Manager	Included within the approved Waste and Energy Mgt Plan. Monitored via regular inspections and reporting. Energy efficiency to be included in all site inductions. Induction program ongoing.	Project Induction	Included within the approved Waste and Energy Mgt Plan. Monitored via regular inspections and reporting. Energy efficiency to be included in all site inductions. Induction program ongoing.
SoC	G2	Construction	Plant and office-based equipment (including lights and computers) will be operated in an efficient manner and regularly maintained. If economically available, electrical energy derived from a renewable energy source accredited by the National Green Power Accreditation Steering Group (or equivalent) will be used for the supply of at least 50 per cent of the on-site electrical energy required during construction.	Open	Energy efficiency to be included in all site inductions.	Enviro Manager	Energy efficiency to be included in all site inductions. Induction program ongoing.		Condition satisfied through general project induction. Status ongoing.
SoC	CS1	Construction	Further soil contamination investigations will be carried out, within the boundaries of the Proposal, in the area of the Frederickton Interchange and within the South Kempsey commercial area.	Closed	Not applicable. The Frederickton Interchange and South Kempsey commercial area are not within Stage 2.	Enviro Manager	N/a	-	Na. to F2E
SoC	CS2	Construction	If site contamination is identified and the contamination is found to pose unacceptable risk to either the environment or human health receptors a remedial action plan will be developed in consultation with the relevant government authorities and remediation works will be undertaken.	Open	Assess contaminated land risks: determine controls as necessary. CL mitigation controls included in Soil and Water Management Plan, refer to Appendix F.	Enviro Manager Design Manager	CEMP, SWMP. No new areas of site contamination identified during to date.	Soil and Water Mgt Appendix F.	No update this period.
SoC	UD1	Design	The project will be designed in accordance with the urban design and landscape objectives and principles identified in the Environmental Assessment.	Closed	Development of a Urban Design and Landscape Management Plan to address the following documents: _ Chapter 19 of the Environmental Assessment. - UD&LMP/ _ Beyond the Pavement – RTA Urban and Regional Design Practice Notes (RTA 2004). - Pacific Highway Urban Design Framework (RTA 2005).	Enviro Manager Design Manager	The Urban Design and Landscape Management Plan. was approved by the Department of Planning & Environment on the 2 June 2014 (Let ref. 09/03204).	UD&LMP	Condition satisfied and closed.

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Ref.	Source Ref.	Timing	Commitment, Obligation, Undertaking, Requirement (COUR)	Construction Status	How COUR will be complied with	Responsibility	Addressed where / how	Evidence Reference	Sept 2014 - March 2015 Compliance Report
SoC	UD2	Design	The schedule of species to be used in landscaping will include native and locally indigenous plants selected in consultation with a qualified landscape officer.	Closed	Addressed in the Urban Design and Landscape Management Plan and in detail in Design Package LA002.	Enviro Manager Design Manager	Urban Design and Landscape Management Plan Section 7.3 Design Package LA002.	UD&LMP	Condition satisfied and closed.
SoC	UD3	Construction	Disturbed areas will be progressively revegetated with consideration to related controls such as erosion and sedimentation controls and drainage and future road user safety requirements.	Open	Progressively topsoil, stabilise, hydro mulch / plant disturbed areas in accordance with the Urban Design and Landscape Management Plan and landscape design lots (LA001 and LA002).	Enviro Manager Design Manager	Routine inspections of disturbed areas with RMS and the soil conservationist to verify that progressive reinstatement of disturbed areas in accordance with the Urban Design and Landscape Management Plan and landscape design lots (LA001 and LA002) is occurring.	UD&LMP	Reinstatement works in accordance with LA001 & LA002 ongoing with progressive hydro mulching of batters. Preparation of planting areas ongoing including planting tube stock.
SoC	UD4	Operation	Landscape and rehabilitation works will have a minimum maintenance period of three years.	Closed	Addressed in the Urban Design and Landscape Management Plan.	Enviro Manager Design Manager	Urban Design and Landscape Management Plan Section 8. RMS D&C Specification (Frederickton to Eungai version) R174 - Landscape Maintenance.	UD&LMP	Operational phase requirement
SoC	HR1	Construction	Bunded storage areas will be located at least 50 metres away from watercourses and will be established for oils and other hazardous liquids in accordance with Australian Standards. Any spillages will be contained and collected for appropriate disposal.	Open	Included in HRMP	Enviro Manager/ Construction Manager	Addressed in G36 6.12.1 and included in HRMP, monitored via regular inspections.	HRMP	Included in HRMP, monitored via regular inspections.
SoC	HR2	Construction	Activities with the potential for spillage such as refuelling, maintenance of equipment, mixing of cutting oil and bitumen will be conducted in bunded areas or in other areas where suitable containment measures and/or practices are in place to prevent discharge into watercourses.	Open	Included in HRMP	Enviro Manager/ Construction Manager	Condition satisfied in the HRMP. Implementation of controls ongoing.	HRMP	Included in HRMP, monitored via regular inspections.
SoC	HR3	Construction	Potentially hazardous and contaminating activities (such as washing construction plant and handling hazardous chemicals) will be conducted in suitably bunded areas away from watercourses or in other areas where suitable containment	Open	Included in HRMP	Enviro Manager/ Construction Manager	Included in HRMP, monitored via regular inspections.	HRMP	Included in HRMP, monitored via regular inspections.

**Appendix 1 – Project Obligations (COURs) Register
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Ref.	Source Ref.	Timing	Commitment, Obligation, Undertaking, Requirement (COUR)	Construction Status	How COUR will be complied with	Responsibility	Addressed where / how	Evidence Reference	Sept 2014 - March 2015 Compliance Report
			measures are in place.						
SoC	WR1	Construction	The waste minimisation hierarchy principles of avoid / reduce / re-use / recycle / dispose will be applied to all aspects of the Proposal.	Open	Included in Waste and Energy Management Plan (CEMP Appendix B7) Reporting via the Waste Avoidance and Resource Recovery Reporting (RMS G36/F)	Enviro Manager/ Construction Manager	Waste and Energy Management Plan (CEMP Appendix B7) Waste Avoidance and Resource Recovery Reporting (RMS G36/F)	WEMP	Included in HRMP, monitored via regular inspections.
SoC	WR2	Construction	Waste will be handled, stored and disposed of in accordance with relevant guidelines.	Open	Included in Waste and Energy Management Plan (CEMP Appendix B7) Reporting via the Waste Avoidance and Resource Recovery Reporting (RMS G36/F)	Enviro Manager/ Construction Manager	Waste and Energy Management Plan (CEMP Appendix B7) Waste Avoidance and Resource Recovery Reporting (RMS G36/F)	WEMP	There were no new Section 143 declarations for off-site waste disposal this reporting period.
SoC	WR4	Design	Secondary waste materials (e.g.: fly ash) will be used as construction materials where reasonable and feasible.	Closed	Fly Ash from Eraring Power Station at Lake Macquarie is being used in the concrete pavements batched on site.	Enviro Manager/ Construction Manager	Waste and Energy Management Plan (CEMP Appendix B7) Reporting via the Waste Avoidance and Resource Recovery Reporting (RMS G36/F)	WEMP	Fly-ash is included in concrete mix used this reporting period. This has been reported in the Waste Recovery and Resource Reports.
SoC	P1	Pre-construction	All property acquisitions will be negotiated in accordance with the RTA Land Acquisition Policy and compensation will be assessed under the provisions of the Land Acquisition (Just Terms Compensation) Act 1991.	Closed	RMS Responsibility - N/a to F2E project team	RMS	Condition satisfied.	-	Conditions satisfied and closed
SoC	P2	Pre-construction	Negotiations for agricultural property acquisition will include consultation on property adjustments where required to limit impact on farm management practices.	Closed	RMS Responsibility - N/a to F2E project team	RMS	Condition satisfied.	-	Conditions satisfied and closed
SoC	P3	Pre-construction	The Department of Primary Industries (Forests) will have access to areas of State Forest land identified for acquisition to remove any harvestable timber within the footprint of the Proposal.	Closed	Deed of Agreement for Site Access to Tamban State Forest No 526 for the Pacific Highway Upgrade to outline right for Forestry Corporation NSW to retain the right to timber for marketing purposes that is cleared and salvaged during the construction activities on the former Forestry land (specifically clause 5.5 of	Enviro Manager/ Construction Manager	Deed of Agreement for Site Access to Tamban State Forest No 526 for the Pacific Highway Upgrade. Record of inspections and timber taken (if any taken).	Keystone E-table COUR ID	Conditions satisfied and closed

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Ref.	Source Ref.	Timing	Commitment, Obligation, Undertaking, Requirement (COUR)	Construction Status	How COUR will be complied with	Responsibility	Addressed where / how	Evidence Reference	Sept 2014 - March 2015 Compliance Report
					the Deed). Requirements also addressed in the Flora and Fauna Sub Plan Clearing procedures - Completed during Clearing stage of the project.				
SoC	P4	Pre-construction	A risk assessment will be undertaken to determine which structures or properties may be affected by construction activities and therefore need to be inspected. The risk assessment will be undertaken by geotechnical and construction engineering experts with appropriate registration on the National Professional Engineers Register.	Closed	Undertake assessment to determine structures and properties for which dilapidation reports will be required.	Construction Manager	Assessment completed by Aurecon Hyder Joint Venture (with geotechnical support from Douglas Partners). Outcome of assessment are illustrated in Community Impact Zone sketches (F2E-00G-SKT-RG-001- Sheets 197 - 235).	Keystone E-table COUR ID	Conditions satisfied and closed
SoC	P5	Pre-construction	Property inspections will be conducted, subject to landowner agreement, on all structures within 200 metres of proposed blasting locations, within 50 metres of construction activities that generate vibration impacts and at any other locations identified in the risk assessment. The property inspections will be carried out by suitably qualified / experienced person(s).	Closed	Undertake assessment to determine structures and properties for which dilapidation reports will be required.	RMS	Property pre-construction property condition surveys were completed by Demlakian Strata & Remedial Pty Ltd T/A Demlakian Consulting Engineers. Pre-construction property condition survey reports are saved under Records > Report > Inspection Records > Property Dilapidation Reports (refer to attached incite record summary).	Keystone E-table COUR ID	Conditions satisfied and closed
SoC	P6	Pre-construction	The owners of all properties on which property inspections are to be conducted will be advised of the inspection, its scope and methodology and of the process for making a property damage claim at least two weeks prior to the inspection. The owners of all properties on which property inspections are to be conducted will be given a copy of the property inspection report at least three weeks prior to the commencement of any construction that could affect the property.	Closed	Owners of all properties on which property inspections are to be conducted will be advised of the inspection and a copy of the property inspection report provided.	Construction Manager	Records maintained in Consultation Manager.	G:\NSW\F2E\02 Community\02_08 Building Inspections\Reports	Conditions satisfied and closed
SoC	P7	Construction	Where liable, any property damage caused by the project's construction will be rectified at no cost to the property owner(s). Alternatively the RTA may negotiate compensation for the damage with the property owner.	Open	Addressed via project complaints and disputes resolution process. Additionally works that may affect adjacent property are carried out in consultation with affected residents.	Construction Manager Enviro Manager	Community communication strategy incorporated into CIP. Ongoing implementation of the CIP. The CIP was approved by DP&E on the 19.8.13 (letter ref		A resident in Zone 1 is claiming damage to the property has been caused by nearby construction works. The damage has been assessed and a report prepared by an independent structural engineer.

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Ref.	Source Ref.	Timing	Commitment, Obligation, Undertaking, Requirement (COUR)	Construction Status	How COUR will be complied with	Responsibility	Addressed where / how	Evidence Reference	Sept 2014 - March 2015 Compliance Report
							11119471).		The matter has since been forwarded to RMS' insurance company for consideration. Two other claims by residents in Zone 2 – who have alleged that grazing land has been impacted by impounded water / mud from the alignment – are also under consideration by insurance assessors.
SoC	P8	Construction	Where a licensed bore, dam or other property water supply is adversely affected by the project, water supply of equivalent quality and quantity will be reinstated. Alternatively the RTA may negotiate compensation for the loss with the landowner.	Open	Where a licensed bore, dam or other property water supply was located within the acquired land, an alternative water supply was negotiated as part of property adjustment works (examples include, new dam constructed for Cross property and cattle troughs for Saul property). Impacts resulting from the project extracting water for construction purposes will be assessed on a case by case basis. All water extraction will be licenses via the NSW Office of Water Approvals process.	RMS/ Enviro Manager	Property adjustment design packages (PA###). Property adjustment consistency assessments. G36, submission of permits & licences to RMS.		A bore that was suspected of being impacted by the works in 2014 is now producing water and no alternative supply is required. Resident has advised they will contact the project team in the future should they believe their bore is being impacted.
SoC	US1	Construction	Utilities and services potentially affected by construction will be identified and requirements for their diversion, protection and / or support identified. Alterations to services will be determined in negotiation with the service providers and will ensure that disruption to services resulting from the project are limited and advised to customers.	Closed	Utility relocations have been designed and shall be constructed in consultation (or by) the relevant Utility provider.	Services Manager	Design Package UT000 completed. Ongoing protection / relocation of serviced. Managed through Ground Disturbance Permit.	UT000	Ongoing protection / relocation of serviced. Managed through Ground Disturbance Permit.
SoC	AF1	Construction	Sites chosen for ancillary facilities will satisfy the criteria provided in the Environmental Assessment, unless otherwise approved through the construction environmental management plan (CEMP)	Closed	Addressed by MCoA 2.29. Proposed ancillary facilities are assessed against the Ministers Conditions of Approval 2.29. Ancillary facilities that are not located within the detailed design limit of clearing are assessed against the criteria in the	Construction Manager Enviro Manager	Addressed by MCoA 2.29. Construction Environmental Management Plan Appendix A5 - Ancillary Site Compliance Checklist. Consistency Assessments completed for ancillary sites. Consistency assessments / environmental reviews: refer to Keystone > Project Documents	Refer to Keystone E-table COUR ID 32	Refer to MCoA 2.29

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Ref.	Source Ref.	Timing	Commitment, Obligation, Undertaking, Requirement (COUR)	Construction Status	How COUR will be complied with	Responsibility	Addressed where / how	Evidence Reference	Sept 2014 - March 2015 Compliance Report
					consistency assessment / environmental review (saved under records in Incite). For temporary sites within the limit of clearing, an internal checklist is completed. All ancillary facilities are included in the Construction Environmental Management Plan Appendix A5 – Ancillary Facility Assessment.		> Records > Approvals.		

Appendix 2

Compliance with Environmental Protection Licence

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4 March – 3 September 2015**

Source Ref.	Type of Condition	Commitment, Obligation, Undertaking, Requirement (COUR)	How COUR will be complied with	Evidence Reference	Sept 2014 - March 2015 Compliance Report
A1.1	Administrative Conditions	This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation. Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition. -Crushing, grinding or separating >100000-500000T processed -Extractive Activities >500000-2000000T extracted, processed or stored -Road Construction >10-30km constructed, widened or re-rerouted	Works to be carried out in accordance with EPL conditions, and the maximum scale.	Earthworks Quantities Records	No change this period
A2.1	Administrative Conditions	The licence applies to the following premises: 229 Cooks Lane NSW Clybucca 2444 The premises stretches for approximately 27 kilometres from Frederickton linking in with the northern end of the Kempsey Bypass running through the Eungai Rail locality	Noted	Premises changes	No change this period
A2.2	Administrative Conditions	In relation to Condition A2.1, the premises is defined as the licence boundary detailed on the Project Drawings titled "Pacific Highway Upgrade Frederickton to Eungai Environmental Protection Licence (EPL) Premise Maps". A copy of the current drawing (Number F2E-00G-SKT-RG001-0791, Revision 1, dated 13 November 2013) sheets 1 to 18 contained in Attachment D are part of the Thiess Pty Ltd EPL application documents received on the 10 July 2013. The application, drawings and supporting documents are filed in Grafton EPA office file LIC13/239 and kept at 49 Victoria Street, Grafton NSW 2460.	* Premise Maps	Premise Maps as per EPL application submitted 16 January 2014 F2E-00G-SKT-RG001-0791/0808 (R01) - 13 November 2013	Variation 4 of the EPL was approved on the 4-Mar-2015 to vary the condition to identify additional works areas identified on sheet 12 of 19 to include Lot 4 DP 1175692 to accommodate the approved cattle refuge mound MEWB. Variation 5 of the EPL was approved on the 4-Aug-2015 to vary the condition to identify additional works areas on sheet 3, 5, 6, 8, 10 - 18 to accommodate various property adjustment works and remove temporary works areas that were not used. .

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Source Ref.	Type of Condition	Commitment, Obligation, Undertaking, Requirement (COUR)	How COUR will be complied with	Evidence Reference	Sept 2014 - March 2015 Compliance Report
A3.1	Administrative Conditions	<p>Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.</p> <p>In this condition the reference to "the licence application" includes a reference to:</p> <p>a) the applications for any licenses (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Tribunal) Regulation 1998; and</p> <p>b) the licence information form provided by the licensee to the EPA in connection with the issuing of this licence.</p>	Noted	N/a	All works to date have been carried out in accordance with relevant approval documentation.
P1.1	Discharge to land and water and application to land	The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.	Noted	Soil and Water Management Plan, Sediment Basin Release data spread sheet.	Note only.
P1.2	Discharge to land and water and application to land	The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area. EPA ID#1- Discharge water quality- The outlet from sediment basins referred to in condition P1.3 of this licence. EPA ID#- Discharge water quality- The outlet for sediment basin/s from the acid sulphate soil treatment area/s referred to in condition P1.4 of this licence.	* Soil and Water Management Plan (SWMP)/ Monitored through Water Movement Permit System/ Inspections, Monthly Environmental Performance Report and 6 Monthly Compliance Report.	Soil and Water Management Plan, Sediment Basin Release data spread sheet. Monthly Reports	Reference note to link table to condition P1.3 and P1.4

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Source Ref.	Type of Condition	Commitment, Obligation, Undertaking, Requirement (COUR)	How COUR will be complied with	Evidence Reference	Sept 2014 - March 2015 Compliance Report
P1.3	Discharge to land and water and application to land	For the purpose of this licence the discharge points referred to in Condition P1.1 and P1.2 of this licence are those from sediment basins identified in the Thiess Pacific Highway Upgrade - Frederickton to Eungai, Attachment E -Licence Discharge Points as revised and retained on EPA file number LIC13/239.	<ul style="list-style-type: none"> * Soil and Water Management Plan (SWMP) * Dewatering Procedure * Sediment Basin Management Procedure 	Water Movement Permit System, Inspection Records, Monthly Environmental Performance Report.	<p>Attachment E was updated on the 4 March 2015 (refer Incite correspondence F2E-TPL-REC-00768).</p> <p>Attachment E was updated on the 15 June 2015 to decommission basins 18800W, 25950E, 38450E, 30100 and 30300; and swale drains 20277E, 20422E, 20621E, 23345E, 23431E (refer Incite correspondence F2E-TPL-REC-00768).</p> <p>Attachment E was updated on the 16 July 2015 to decommission basins 37600W (refer Incite correspondence F2E-TPL-CORR-03038).</p> <p>Attachment E was updated on the 31 July 2015 to decommission basins 17350E, 30750E, 31650E, 32400E, 32700E, 33000E, 33950E, 34350E, 34400E, 34000W, 34100E, 35200E, & 35250W (refer Incite correspondence F2E-TPL-CORR-03128).</p> <p>Attachment E was updated on the 21 Aug 2015 to decommission basins 34000W, 36750W, 30250W, 20521E, TB 28490, TB 28570, TB35350, TB36800, TB37985 and TB37990 (refer Incite correspondence F2E-TPL-REC-00935).</p> <p>Attachment E was updated on the 31 Aug 2015 to decommission basins 27550E, 31150E, 31250W, 32450W, 32800E, & 33070E (refer Incite correspondence F2E-TPL-CORR-03131).</p>
P1.4	Discharge to land and water and application to land	For the purpose of this Licence, the acid sulphate soil treatment area referred to in Discharge Point 2 of Condition P1.2 of this licence are those identified in Table E-2: Licenced discharge points contained in Appendix E of the EPL application documents, Frederickton to Eungai Project contained in the EPA administrative file for the premises.	<ul style="list-style-type: none"> * Soil and Water Management Plan (SWMP) * Acid Sulphate Soils Management Strategy 		<p>Refer to update for condition P1.3 above</p> <p>There were no changes to the acid sulfate soil treatment areas.</p>
P1.5	Discharge to land and water and application to land	The licensee, in commissioning a new sediment basin, may only vary the discharge point locations identified in Condition P1.1 and P1.2 if it provides the EPA with a copy of the revised documents identified at Condition P1.3 of this licence, at least 7 days prior to the commissioning on the premises, unless otherwise agreed to in writing by the EPA for each new activity.	* Soil and Water Management Plan (SWMP)	Attachment E of EPL.	The discharge point locations of all basins is listed in Attachment E. Refer to Condition P1.3 for record of updated to this attachment.

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P1.6	Discharge to land and water and application to land	The licensee, in decommissioning an existing sediment basin, may only vary the discharge point locations identified in Condition P1.1 and P1.2 if it provides the EPA with a copy of the revised documents identified at Condition P1.3 of this licence, at least 21 days prior to the decommissioning on the premises, unless otherwise agreed to in writing by the EPA for each decommissioning activity.	* Soil and Water Management Plan (SWMP) *EPL issued to all staff via Incite.	Attachment E of EPL. Correspondence of basin decommissioning report.	The discharge point locations of all basins is listed in Attachment E. Refer to Condition P1.3 for record of updated to this attachment. The following basins / discharge points were decommissioned during this reporting period. • Construction phase basins - 17350E, 18800W, 20521E, 25950E, 27550E, 30750E, 30100E, 30250W, 31150E, 31300E, 31250W, 31650E, 32400E, 32450W, 32700E, 32800E, 33000E, 33070E, 33950E, 34000W,34350E, 34400E, 34000W, 34100E, 35200E, 35250W, 36750W, 37600W and 38450E,• All D7 Longitudinal Swales - Zone 1 • D7/D9 Longitudinal Swales - Zone 2 • D7/D9 Longitudinal Swales - Zone 3 excluding 30250W. • Temporary basins / sumps - TB 28490, TB 28570, TB35350, TB36800, TB37985 and TB37990.
L1.1	Limit Conditions	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997. (NB. Section 120 related to the prohibition of pollution of waters).	* Construction Environmental Management Plan (CEMP) Project Induction, water movement permit system	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.8 Monitoring Results\02 Water Quality\BASINS	Refer to update for condition L2.1 & L2.5 below.
L2.1	Limit Conditions	For each monitoring/discharge point or utilisation area specified in the tables below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	* Construction Environmental Management Plan (CEMP) * Soil and Water Management Plan (SWMP) * Dewatering Procedure	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.8 Monitoring Results\02 Water Quality\BASINS	484 basin discharge events occurred during this reporting period. (Reference: Monthly Env. Performance Reports). Refer to condition L2.5 for overtopping events during which the pH and TSS exceeded the specified limits.
L2.2	Limit Conditions	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	* Construction Environmental Management Plan (CEMP) * Soil and Water Management Plan (SWMP) * Dewatering Procedure	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.8 Monitoring Results\02 Water Quality\BASINS	Refer to update for condition L2.1 above.
L2.3	Limit Conditions	To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table/s.	* Construction Environmental Management Plan (CEMP) * Soil and Water Management Plan (SWMP) * Dewatering Procedure	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.8 Monitoring Results\02 Water Quality\BASINS	Refer to update for condition L2.1 & L2.5.

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L2.4	Limit Conditions	Water and/or Land Concentration Limits:POINT 1Oil and grease should not be visiblepH- 6.5-8.5TSS- 50mg/LPOINT 2Dissolved Aluminium- 0.055mg/LConductivity- 200mS/cmDissolved Iron- 0.3mg/LTSS- 50mg/L	* Construction Environmental Management Plan (CEMP)* Soil and Water Management Plan (SWMP) * Dewatering Procedure	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.8 Monitoring Results\02 Water Quality\BASINS	L2.4 table details only
L2.5	Limit Conditions	Exceeding the limits specified for Point 1 in Condition L2.4 of this licence for pH and total suspended solids (TSS) for discharges from the sediment basins identified by Conditions P1.1 and P1.2 is only permitted when the discharge occurs solely as a result of rainfall measured at the premises. The rainfall must exceed the 5 day rainfall depth value for the corresponding discharge point in the table below over a consecutive 5 day period for discharge to be considered to occur solely as a result of rainfall. Table in License Licenced discharge points- Attachment E to EPL application documents- design 5 day rainfall event 46MM, classification of basin- 85th Licenced discharge points- Attachment E to EPL application documents- design 5 day rainfall event 36.5MM, classification of basin- 80th	* Construction Environmental Management Plan (CEMP) * Soil and Water Management Plan (SWMP) * Dewatering Procedure	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.8 Monitoring Results\02 Water Quality\BASINS G38 4.2.1 BASIN PERFORMANCE REPORT	L2.4 table details only
L2.6	Limit Conditions	The concentration limit for Iron (dissolved) and Aluminium (dissolved) is deemed not to have been breached if: (a) The sample complied with the pH limit at the time of discharge; and (b) The EPA is advised within 3 working days of completion of testing of Iron (dissolved) and Aluminium (dissolved) of any Iron (dissolved) and Aluminium (dissolved) results above the licence limit. Note: The purpose of this condition is to expedite the assessment and subsequent discharge of the treated water from the acid Sulfate soil treatment areas. The correlation between Iron (dissolved) and Aluminium (dissolved) and pH will be subject to ongoing review based on the test results.	* Construction Environmental Management Plan (CEMP) * Soil and Water Management Plan (SWMP) * Dewatering Procedure	Incite correspondence record of EPA notification testing of Iron (dissolved) and Aluminium (dissolved) of any Iron (dissolved) and Aluminium (dissolved) results above the licence limit within 3 days.	No releases from ASS treatment areas to date.
L2.7	Limit Conditions	If the licensee uses turbidity (NTU) in place of TSS to determine compliance with Condition L2.4, the licensee must develop a statistical correlation which identifies the relationship between NTU and TSS for water quality in the sediment basin/s in order to determine the NTU equivalent of 50 mg/L TSS before its use.	* Construction Environmental Management Plan (CEMP)* Soil and Water Management Plan (SWMP) * Dewatering Procedure	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.8 Monitoring Results\02 Water Quality\BASINS	The NTU:TSS Correlation was updated on the 15 March 2015 (F2E-TPL-CORR-02798). The NTU:TSS Correlation was updated on the 7 July 2015 (F2E-TPL-CORR-03040, RE F2E-TPL-CORR-03039).

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L2.8	Limit Conditions	The licensee must provide the EPA with a copy of the statistical correlation assessment methodology and results before using NTU in place of TSS.	correlation procedure	G:\NSW\F2E\01 Environment\3 Legal and Other Compliance\3.2 Approvals, Licences and Permits\3.2.2 Lic\EPL\TSS NTU Correlation	Refer to update for condition L2.7.
L2.9	Limit Conditions	The licensee must develop and implement a method to enable the ongoing verification of the relationship between NTU and TSS.	correlation procedure	G:\NSW\F2E\01 Environment\3 Legal and Other Compliance\3.2 Approvals, Licences and Permits\3.2.2 Lic\EPL\TSS NTU Correlation	Method for ongoing verification of the relationship between NTU and TSS is included in TSS:NTU Correlation Procedure (refer F2E-TPL-CORR-01479) Refer to update for condition L2.7 for updated on the correlation.
L2.10	Limit Conditions	The licensee must provide the EPA with any amendments the licensee makes to the statistical correlation as a result of the ongoing verification required by Condition L2.8 before using the revised statistical correlation.	correlation procedure	G:\NSW\F2E\01 Environment\3 Legal and Other Compliance\3.2 Approvals, Licences and Permits\3.2.2 Lic\EPL\TSS NTU Correlation	Refer to update for condition L2.7.
L3.1	Limit Conditions	The overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) at any time. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	* Construction Environmental Management Plan (CEMP) * Noise and Vibration Management Plan (NVMP)	N/a to date. No blasting to date.	N/a to date. No blasting to date.
L3.2	Limit Conditions	The overpressure level from blasting operations at the premises must not exceed 115dB (LinPeak) for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	* Construction Environmental Management Plan (CEMP) * Noise and Vibration Management Plan (NVMP)	N/a to date. No blasting to date.	N/a to date. No blasting to date.
L3.3	Limit Conditions	Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 10mm/sec at any time. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	* Construction Environmental Management Plan (CEMP) * Noise and Vibration Management Plan (NVMP)	N/a to date. No blasting to date.	N/a to date. No blasting to date.
L3.4	Limit Conditions	Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 5mm/sec for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	* Construction Environmental Management Plan (CEMP) * Noise and Vibration Management Plan (NVMP)	N/a to date. No blasting to date.	N/a to date. No blasting to date.

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L3.5	Limit Conditions	To determine compliance with condition(s) L3.1 and L3.3 a) Airblast overpressure and ground vibration levels must be measured and electronically recorded at the most affected residence or noise sensitive location that is not owned by the licensee or subject to a private agreement between the owner of the premises or noise sensitive location and the licensee for all blasts carried out in or on the premises; and b) Instrumentation used to measure the airblast overpressure and ground vibration levels must meet the requirements of Australian Standard AS 2187.2-2006.	* Construction Environmental Management Plan (CEMP)* Noise and Vibration Management Plan (NVMP)	N/a to date. No blasting to date.	N/a to date. No blasting to date.
L4.1	Limit Conditions	Standard construction hours Unless otherwise specified by any other condition of this licence, all construction activities are: a) restricted to between the hours of 7:00am and 6:00pm Monday to Friday; b) restricted to between the hours of 8:00am and 1:00pm Saturday; and c) not to be undertaken on Sundays or Public Holidays.	* Construction Environmental Management Plan (CEMP) * Noise and Vibration Management Plan (NVMP) * Out of Hours Work Procedure	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.9 Out of Hours Works	Refer to condition L4.2 - L4.4 for works outside of standard working hours.
L4.2	Limit Conditions	Exemptions to standard construction hours The three categories of works that may be undertaken outside the standard hours of operation permitted by Condition L4.1 are: a) the delivery of oversized plant or structures that police or other authorised authorities determine require special arrangements to transport along public roads; b) emergency work to avoid the loss of lives or property, or to prevent environmental harm; c) works that are not more than 5 dB(A) over the rating background level at the nearest noise sensitive receiver as assessed by acoustic investigation. The licensee must notify the EPA via a quarterly forecast prior to the undertaking of any works referred to in Condition L4.2 a) and c) as well as providing the EPA with a copy of the results of any acoustic investigation made in relation to Condition L4.2 c) to be reported as per condition R1.9.	* Construction Environmental Management Plan (CEMP) * Noise and Vibration Management Plan (NVMP) * Out of Hours Work Procedure	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.9 Out of Hours Works	Quarterly Forecast was issued to the EPA on the 17/03/2015 for the period of the 01/04/2015 – 30/06/2015 (F2E-TPL-CORR-02756). Quarterly Forecast was issued to the EPA on the 26/06/2015 for the period of the 01/07/2015 – 30/09/2015 (F2E-TPL-CORR-03025). Other works consistent with L4.2 c) completed in this period were: - 24hr ground water bore pump testing (Cut 13 and 15) (F2E-TPL-CORR-02595) - OoHW Saturday Afternoons from March to August 2015 (F2E-TPL-CORR-02685) - OoHW CML 101 Water Extraction for drainage works (F2E-TPL-REC-00736). - Use of Grader on Fill 19 on the 14/04/15 (F2E-TPL-REC-00799). - Out of Hours Works Permit for Crane Set Up at Bridge 18 for the night of 1/9/15 (F2E-TPL-REC-00998) - Out of Hours Works Permit for Installation of Girders at BR 18 3/09/15 (F2E-TPL-REC-01007).

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L4.3	Limit Conditions	Works agreed outside of standard construction hours The licensee may undertake works outside of standard construction hours if agreement between the licensee and representatives of potentially affected noise sensitive receivers has been reached. Any agreement(s) between the licensee and the potentially affected noise sensitive receivers must be recorded in writing and a copy of the agreement(s) kept on the premises by the licensee for the duration of this licence.	* Construction Environmental Management Plan (CEMP)* Noise and Vibration Management Plan (NVMP)* Out of Hours Work Procedure, tracked via Monthly Performance Report	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.9 Out of Hours Works	Agreed out of hours works completed this period were:- OoHW Saturday Afternoons from March to August 2015 (F2E-TPL-CORR-02685)
L4.4	Limit Conditions	Other out-of-hours works implemented in accordance with the projects Conditions of Approval Notwithstanding condition L4.3, the licensee may undertake critical out-of-hours works where it has been demonstrated to the EPA's satisfaction that: a) all reasonable and feasible measures have been undertaken to consult with any affected sensitive receptors on each occasion that out-of hours works are proposed under this condition; b) the Environmental Representative has assessed the works to be undertaken and signs-off on their support for the out-of-hours works; c) the EPA and other relevant agencies, such as Roads and Maritime Services and NSW Department of Planning have been consulted where necessary prior to proceeding with the proposed out-of-hours works; d) any works undertaken under this provision are documented and reported on in the Monthly EPL Compliance Report.	* Construction Environmental Management Plan (CEMP) * Noise and Vibration Management Plan (NVMP) * Out of Hours Work Procedure	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.9 Out of Hours Works	Other (critical) out of hours works this period were: - OoHW Saturday Afternoons from March to August 2015 (F2E-TPL-CORR-02685) - OoHW Paving Operations, CH14500 to 18300 (PR #2) (F2E-TPL-CORR-02598) - OoHW Paving Operations, CH29000 to 35000 (PR #7) (F2E-TPL-CORR-02763) - OoHW Paving Operations, CH 118300 to 19600 (PR #8 & 10) (F2E-TPL-CORR-02791) - OoHW Paving Operations, CH29000 to 30700 (PR #13) (F2E-TPL-CORR-02830) - OoHW Paving Operations, CH19600 TO 22880 (PR #9, 15, & 18) (F2E-TPL-CORR-02851) - OoHW Paving Operations, CH13400 TO 14600 (PR #11 & 17) (F2E-TPL-CORR-02880) - F2E-TPL-CORR-02879, OOHW ASSESSMENT AND PERMIT FOR STAGE 3 TRAFFIC SWITCH AT NORTHERN END OF PROJECT_JUNE 2015 - F2E-TPL-CORR-02885, OOHW PERMIT FOR PAVING RUN 12 (CH 39200 TO 39700) - F2E-TPL-CORR-02654, OOHW PERMIT FOR PAVING OPERATIONS_CH25200 TO CH27500_CH38450 TO CH39800_ & BATCH PLANTS - F2E-TPL-CORR-02890, OOHW PERMIT FOR PAVING RUN 5 (CH 38450 TO 39400) EXTENSION

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L4.5	Limit Conditions	The licensee must notify, by letterbox drop and by detailing works on the project website, potentially affected noise sensitive receivers of the timing and duration of work agreed to under Condition L4.3 at least 48 hours prior to that work commencing. A copy of the notification must be kept by the licensee and made available to the EPA on request. Note: where no project website currently exists, a website for this purpose must be created.	* Construction Environmental Management Plan (CEMP) * Noise and Vibration Management Plan (NVMP) * Out of Hours Work Procedure	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.9 Out of Hours Works	Refer to update for condition L4.3. Project website updated are http://www.rms.nsw.gov.au/roadprojects/projects/pac_hwy/port_macquarie_coffs_harbour/fredrickton/index.html
L4.6	Limit Conditions	Blasting operations at the premises may only take place between 9:00am and 5:00pm Monday to Friday and 9:00am and 1:00pm Saturday. (Where compelling safety reasons exist, the EPA may permit a blast to occur outside the above hours. A prior written request for approval of any such blast must be made to the EPA).	* Construction Environmental Management Plan (CEMP)* Noise and Vibration Management Plan (NVMP)* Out of Hours Work Procedure	N/a to date. No blasting to date.	N/a to date. No blasting to date.
L4.7	Limit Conditions	Any work generating high noise impact, excluding blasting operations covered in Condition L4.5, must only be undertaken: a) between the hours of 8:00am and 6:00pm Monday to Friday; b) between the hours of 8:00am and 1 :00pm Saturday; and c) in continuous blocks of no more than 3 hours, with at least a 1 hour respite between each block of work generating high noise impact, where the location of the work is likely to impact the same receivers; except as expressly permitted by another condition of this licence. For the purposes of this Condition 'continuous' includes any period during which there is less than a 1 hour respite between ceasing and recommencing any of the work the subject of this Condition.	* Construction Environmental Management Plan (CEMP) * Noise and Vibration Management Plan (NVMP) * Out of Hours Work Procedure		No work generating high noise impact this period.
O1.1	Operating Conditions	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Note		Noted.
O2.1	Operating Conditions	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	Note	G:\NSW\F2E\07 Health and Safety\07_15 Plant & Equipment\7.15.15 Plant Register Documentation\Plant Documentation	Pre-works inspections carried out to assess plant working conditions. Regular maintenance implemented.

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O3.1	Operating Conditions	All operations and activities occurring at the premises must be carried out in a manner that will minimise the generation and emission of dust. Note: Deposited dust levels are assessed against the criteria identified in the Approved methods publication for the modelling and assessment of air pollutants in NSW, published by the Department of Environment and Conservation August 2005.	* Construction Environmental Management Plan (CEMP) * Air Quality Management Plan (AQMP) * Air Quality Monitoring Procedure	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.8 Monitoring Results\01 Air Quality	Dust monitoring undertaken and reported monthly in the Environmental Performance Report. - March 2015 (F2E-TPL-REC-00794) - April 2015 (F2E-TPL-REC-00814) - May 2015 (F2E-TPL-REC-00853) - June (F2E-TPL-REC-00888) - July (F2E-TPL-REC-00917) - August (F2E-TPL-REC-01017)
O4.1	Operating Conditions	The licensee must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises. The licensee must keep the incident response plan on the premises at all times. The incident response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. The licensee must develop a Pollution Incident Response Management Plan in accordance with the requirements in Part 5.7 A of the Protection of the Environment Operations (POEO) Act 1997 and POEO regulations.	* Construction Environmental Management Plan (CEMP) * Pollution Incident Response Management Plan (PIRMP)	PIRMP is saved at G:\NSW\F2E\01 Environment\10 Emergency Planning and Response\F2E-00G-PL-PIR-ENV-00-01, and has been distributed & uploaded to Keystone.	The plan was updated on the 16/06/2015 to update contact list, update premise maps, update approved sediment basins (licensed discharge points) and other minor edits. The plan was uploaded to the Thiess website - http://www.thiess.com/files/documents/F2E-00G-PL-PIR-001-02%20-%20WEB%20VERSION.pdf In accordance with licence condition O4.1 the Pollution Incident Response Management Plan developed for the project was tested on 25/6/15 in accordance with Part 5.7A of the POEO Act (F2E-TPL-REC-00864)
O5.1	Operating Conditions	All works must be carried out in accordance with the "Interim Construction Noise Guideline", OECC July 2009 to minimise the emission of noise and vibration from the premises.	* Construction Environmental Management Plan (CEMP)* Noise and Vibration Management Plan (NVMP)* Interim Construction Noise Guideline	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.4 Environmental Reporting\01 Monthly Environmental Performance Report	Mitigation measures outlined in the NVMP are implemented for works that exceed the management levels specified in Table 2 of the Interim Construction Noise Guideline.
O5.2	Operating Conditions	The licensee must maximise the diversion of run-on waters from lands upslope and around the site whilst land disturbance activities are being undertaken.	* Construction Environmental Management Plan (CEMP) * Soil and Water Management Plan (SWMP) * Primary Erosion and Sedimentation Management Plans (PESCP's) completed and approved by the Environmental representative, area engineer, foreman and final sign off by the Soil Conservationist and approval by Roads and Maritime Services (RMS) and the Project Verifier (PV)	G:\NSW\F2E\01 Environment\2 Planning\2.14 ESCPs	Clean water diversion drain construction is complete in accordance with the Longitudinal Drainage Design Lots (DL00#). Minor changes, defects and maintenance is ongoing.

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O5.3	Operating Conditions	The licensee must maximise the diversion of stormwater runoff containing suspended solids to sediment basins installed on the premises.	* Construction Environmental Management Plan (CEMP) * Soil and Water Management Plan (SWMP) * Progressive Erosion and Sedimentation Management Plans (PESCP's), Inspection Records, Actions Register.	G:\NSW\F2E\01 Environment\2 Planning\2.14 ESCPs	Diversion of stormwater to basins is now being achieved via the permanent long drainage. Placement of spill over verge following paving will make diversion of some stormwater to basins no longer possible. Basins may be decommissioned once these works are completed if water cannot longer be directed to the basin.
O5.4	Operating Conditions	The drainage from all areas that will mobilise suspended solids when stormwater runs over these areas must be controlled and diverted through appropriate erosion and sediment control measures.	* Construction Environmental Management Plan (CEMP) * Soil and Water Management Plan (SWMP) * Progressive Erosion and Sedimentation Management Plans (PESCP's), Inspection Records, Actions Register.	G:\NSW\F2E\01 Environment\2 Planning\2.14 ESCPs	Where possible areas are direct to basins (refer conditions 5.3). Where water cannot be directed to basins, catchments are managed in accordance with Blue Book.
O5.5	Operating Conditions	The licensee must minimise the area of the site that is able to generate suspended material when water runs over it.	* Construction Environmental Management Plan (CEMP) * Soil and Water Management Plan (SWMP) * Progressive Erosion and Sedimentation Management Plans (PESCP's), Inspection Records, Actions Register.	G:\NSW\F2E\01 Environment\2 Planning\2.2 CEMP (incl. S-Plans)	Batters are being progressively reinstated with topsoil and hydro mulched to reduce the area of the site that is able to generate suspended material when water runs over it.
O5.6	Operating Conditions	Unless otherwise approved in writing by the EPA, where sediment basins are necessary, all sediment basins and associated drainage must be installed and commissioned prior to the commencement of any clearing and grubbing works within the catchment area of the sediment basin that may cause sediment to leave the site. Note: This condition does not apply to those works associated with the actual installation of sediment basins or associated drainage.	* Construction Environmental Management Plan (CEMP)* Soil and Water Management Plan (SWMP)* Progressive Erosion and Sedimentation Management Plans (PESCP's), Inspection Records, Actions Register.	G:\NSW\F2E\01 Environment\2 Planning\2.14 ESCPs	Clearing and basin construction complete prior to this reporting quarter.

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O5.7	Operating Conditions	The sediment basins and other erosion and sediment controls must be planned, designed (stability, location, type and size), constructed, operated and maintained, as a minimum, in accordance with the guideline "Managing Urban Stormwater -Soils and Construction, Volume 20, Main road construction" OECC 2008, to be read and used in conjunction with volume 1 "Managing urban stormwater: soils and construction" Landcom 2006.	* Construction Environmental Management Plan (CEMP) * Soil and Water Management Plan (SWMP) * Progressive Erosion and Sedimentation Management Plans (PESCP's), Inspection Records, Actions Register.	G:\NSW\F2E\01 Environment\2 Planning\2.14 ESCPs	PESCPs are prepared in accordance with the Blue Book and reviewed by the Soil Conservationist.
O5.8	Operating Conditions	All erosion and sediment control measures installed on the premises must be inspected and works undertaken to repair and/or maintain these controls: a) Weekly during normal construction hours outlined in Condition L4.1; b) daily during periods of rainfall; and c) within 24 hours of the cessation of a rainfall event causing runoff to occur on or from the premises. The licensee must record all such inspections including observations and works undertaken to repair and/or maintain erosion and sediment controls.	* Construction Environmental Management Plan (CEMP) * Soil and Water Management Plan (SWMP) * Primary Erosion and Sedimentation Management Plans (PESCP's) , inspections, daily diaries (e.g. foremen)	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.5 Inspections	Regular inspections are carried out, including weekly and daily during rainfall events. Improved record keeping is required to demonstrate the total extend of all inspections/ e.g. including all Foremen' inspection.
O5.9	Operating Conditions	The licensee must ensure the design storage capacity of the sediment basins installed on the premises is reinstated within 5 days of the cessation of a rainfall event that causes runoff to occur on or from the premises.	* Construction Environmental Management Plan (CEMP) * Soil and Water Management Plan (SWMP) * Primary Erosion and Sedimentation Management Plans (PESCP's) , reported via monthly report.	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.8 Monitoring Results\02 Water Quality\BASINS	Basin capacity is being restored within 5 days following rainfall as far as practical. The following non-conformances were reported against this condition it the monthly reports: - March 2015: Following rainfall between 18-24 Feb 2015, basin 23850E did not have the capacity restored within 5 days of the cessation of rainfall. - April 2015 Following rainfall between 3-6 April 2015, basin 31750W did not have the capacity restored within 5 days of the cessation of rainfall. - May 2015: Following rainfall that ceased on the 5 May 2015, fourteen (14) basins did not have the capacity restored within 5 days of the cessation of rainfall (15500E, 18600E, 23850E, 24950W, 26050W, 26650E, 30400W, 31150E, 31250W, 31650E, 31750W, 32700E, 33950 and 34100E). EPA and RMS were notified of the non-conformance.
O5.10	Operating Conditions	The licensee must ensure that sampling point(s) for water discharged from the sediment basin(s) are provided and maintained in an appropriate condition to permit: a) the clear identification of each sediment basin and discharge point; b) the collection of representative samples of the water discharged from the sediment basin(s); and c) access to the sampling point(s) at all times by an authorised officer of the EPA.	* Construction Environmental Management Plan (CEMP)* Soil and Water Management Plan (SWMP)* Primary Erosion and Sedimentation Management Plans (PESCP's)		Basin identification is being maintained. Access points available. Permanent spillways are being installed in operational basins during this reporting period.

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O5.11	Operating Conditions	The licensee must endeavour to maximise the reuse of captured stormwater on the premises.	* Construction Environmental Management Plan (CEMP) * Soil and Water Management Plan (SWMP) * Primary Erosion and Sedimentation Management Plans (PESCP's)		Reuse prioritised for dust suppression and earthworks.
O5.12	Operating Conditions	The licensee must ensure that any polymer based flocculants used to treat water before discharge from the premises has an EC50 greater than 100 milligrams per litre for water fleas and fish. For the purpose of this condition "EC50" means the concentration of material that is estimated to be lethal to fifty percent of the test organisms, after an exposure period of 48 hours for water fleas and 96 hours for fish. Note: In accordance with the EPA Approved Methods Publication any analysis should be undertaken by a laboratory accredited to perform those analyses by an independent accreditation body acceptable to the EPA, such as the National Association of Testing Authorities (NATA), or equivalent.	* Construction Environmental Management Plan (CEMP) * Soil and Water Management Plan (SWMP) * Progressive Erosion and Sedimentation Management Plans (PESCP's) * Water Quality Monitoring Procedure	G:\NSW\F2E\01 Environment\11 Document and Record Management\11.8 Monitoring Results\02 Water Quality\BASINS	Only Gypsum (including liquid gypsum) being used to date.
M1.1	Monitoring and Recording Conditions	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.	* Soil and Water Management Plan (SWMP) * Erosion and Sedimentation Management Plans (PESCP's) * Water Quality Monitoring Procedure * Water Results Register * Monthly Environmental Report * Consultation with EPA as necessary	G:\NSW\F2E\01 Environment\11 Document and Record Management	Reported in Monthly Environmental performance report. - March 2015 (F2E-TPL-REC-00794) - April 2015 (F2E-TPL-REC-00814) - May 2015 (F2E-TPL-REC-00853) - June (F2E-TPL-REC-00888) - July (F2E-TPL-REC-00917) - August (F2E-TPL-REC-01017)
M1.2	Monitoring and Recording Conditions	All records required to be kept by this licence must be: a) in a legible form, or in a form that can readily be reduced to a legible form; b) kept for at least 4 years after the monitoring or event to which they relate took place; and c) produced in a legible form to any authorised officer of the EPA who asks to see them.	* Water Results Register * Monthly Environmental Report	Keystyone (Monthly Reports) and G:\NSW\F2E\01 Environment\11 Document and Record Management	
M1.3	Monitoring and Recording Conditions	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample.	* Water Results Register * Monthly Environmental Report * Water Quality Monitoring Procedure	Keystyone (Monthly Reports) and G:\NSW\F2E\01 Environment\11 Document and Record Management	Refer to condition M1.1

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M2.1	Monitoring and Recording Conditions	For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:	* Water Quality Monitoring Procedure	Keystyone (Monthly Reports) and G:\NSW\F2E\01 Environment\11 Document and Record Management	Refer to condition M1.1
M2.2	Monitoring and Recording Conditions	Water and/ or Land Monitoring Requirements 1 Note- Special frequency 1 means <24 hours prior to a controlled/scheduled discharge and daily for any continued controlled/scheduled discharge.	* Soil and Water Management Plan (SWMP) * Water Quality Monitoring Procedure	Keystyone (Monthly Reports) and G:\NSW\F2E\01 Environment\11 Document and Record Management	Refer to condition M1.1
M3.1	Monitoring and Recording Conditions	Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.	* Soil and Water Management Plan (SWMP) * Water Quality Monitoring Procedure	Keystyone (Monthly Reports) and G:\NSW\F2E\01 Environment\11 Document and Record Management	Monitoring is being completed in accordance with the CEMP sub plans. No express provision to the contrary has been made during this reporting period.
M4.1	Monitoring and Recording Conditions	Rainfall at the premises must be measured and recorded in millimetres per 24 hour period at the same time each day from the time that the site office associated with the activities permitted by this licence is established.	* Soil and Water Management Plan (SWMP) * Weather Stations	Monthly reports	Weather station and two automated rain gauges were installed during this reporting period. Data available via https://new.mhl.nsw.gov.au/MHLWeb/main.php
M4.2	Monitoring and Recording Conditions	The rainfall monitoring data collected in compliance with Condition M4.1 can be used to determine compliance with Condition L2.5.	* Soil and Water Management Plan (SWMP) * Weather Stations	Monthly reports	Noted
M5.1	Monitoring and Recording Conditions	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	Community Involvement Plan / Consultation Manager	Monthly reports	Records kept in Consultation Manager (IT system) and reported within Monthly Environmental Performance Report.
M5.2	Monitoring and Recording Conditions	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details	Consultation Manager	Consultation Manager	Records kept in Consultation Manager (IT system) and reported within Monthly Environmental Performance Report.

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M5.3	Monitoring and Recording Conditions	The record of a complaint must be kept for at least 4 years after the complaint was made.	Consultation Manager	Consultation Manager	Records kept in Consultation Manager (IT system) and reported within Monthly Environmental Performance Report.
M5.4	Monitoring and Recording Conditions	The record must be produced to any authorised officer of the EPA who asks to see them.	Consultation Manager	Consultation Manager	N/a to date, however records available from Consultation Manager (IT system) and reported within Monthly Environmental Performance Report.
M6.1	Monitoring and Recording Conditions	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Community Involvement Plan	CIP/ Website at http://www.rms.nsw.gov.au/projects/northern-nsw/port-macquarie-to-coffs-harbour/frederickton-to-eungai/index.html	CIP and RMS website 1800 668 240 or email community-enquiries@F2E.incite.com.au.
M6.2	Monitoring and Recording Conditions	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Community Involvement Plan	CIP/ Website at http://www.rms.nsw.gov.au/roadprojects/projects/pac_hwy/port_macquarie-coffs_harbour/frederickton/project_documents.html	CIP and RMS website 1800 668 240 or email community-enquiries@F2E.incite.com.au.
M6.3	Monitoring and Recording Conditions	The preceding two conditions do not apply until 3 months after a) the date of the issue of this licence or b) if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation. Note: where no project website currently exists, a website for this purpose must be created.	Noted	Noted	Noted
M6.4	Monitoring and Recording Conditions	Prior to the commencement of the licensed activity, the licensee must ensure the project's website provides ready access to clear and concise information about: a) how to make a complaint on the telephone complaints line referred to in Condition M6.1; and b) how complaints on the telephone complaints line will be processed.	RMS Project Website	CIP/ Website at http://www.rms.nsw.gov.au/projects/northern-nsw/port-macquarie-to-coffs-harbour/frederickton-to-eungai/index.html	CIP/ Website at http://www.rms.nsw.gov.au/roadprojects/projects/pac_hwy/port_macquarie-coffs_harbour/frederickton/index.html

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Source Ref.	Type of Condition	Commitment, Obligation, Undertaking, Requirement (COUR)	How COUR will be complied with	Evidence Reference	Sept 2014 - March 2015 Compliance Report
M6.5	Monitoring and Recording Conditions	In response to any noise or vibration complaint made by any persons or bodies other than the EPA, the licensee must: a) investigate the complaint within 2 hours of the complaint being received or within the timeframe agreed with the complainant; b) offer to attend the complainant's premises to undertake noise or vibration monitoring at the complainant's premises as soon as is practical, or at a time agreed with the complainant; and c) advise the complainant of the results of the investigation and any proposed remedial action.	Community Involvement Plan	Consultation Manager	Complaints are reported to Environment Manager and monitoring offered & scheduled. Results of monitoring summaries in the monthly report (refer condition M1.1).
M6.6	Monitoring and Recording Conditions	In response to any complaint referred by the EPA to the licensee, the licensee must respond to the referred complaint in a manner and timeframe specified by the EPA.	Community Involvement Plan	Consultation Manager	Complaints are reported to Environment Manager and monitoring offered & scheduled. Results of monitoring summaries in the monthly report (refer condition M1.1).
M7.1	Monitoring and Recording Conditions	Noise monitoring must be carried out in accordance with Australian Standard AS 2659.1 -1998: Guide to the use of sound measuring equipment -Portable sound level meters, and the compliance monitoring guidance provided in the NSW Industrial Noise Policy.	* Construction Environmental Management Plan (CEMP) * Noise and Vibration Management Plan (NVMP) * Interim Construction Noise Guideline	Monthly reports	Noise monitoring completed in accordance AS 2659.1 -1998 of monitoring summaries in the monthly report (refer condition M1.1).
M7.2	Monitoring and Recording Conditions	Vibration monitoring must be carried out in accordance with the guidance provided in the Environmental Noise Management Assessing Vibration: A Technical Guideline, published by the Department of Environment and Conservation, February 2006.	* Construction Environmental Management Plan (CEMP) * Noise and Vibration Management Plan (NVMP) * Environmental Noise Management Assessing Vibration: A Technical Guideline * Interim Construction Noise Guideline		Vibration monitoring was completed in August near works at Station Street and reported in Monthly Environmental performance report. - August (F2E-TPL-REC-01017)
M7.3	Monitoring and Recording Conditions	The licensee must undertake noise and vibration monitoring as directed by an authorised officer of the EPA.	* Construction Environmental Management Plan (CEMP)* Noise and Vibration Management Plan (NVMP)* Interim Construction Noise Guideline	N/a at this time	N/a to date - means to comply are available should direction from EPA be received.
R1.1	Reporting conditions	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: a) a Statement of Compliance; and b) a Monitoring and Complaints Summary. At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.	CEMP/ EPL compliance.	N/a to date.	No applicable during this reporting period.

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Source Ref.	Type of Condition	Commitment, Obligation, Undertaking, Requirement (COUR)	How COUR will be complied with	Evidence Reference	Sept 2014 - March 2015 Compliance Report
R1.2	Reporting conditions	An Annual Return must be prepared in respect of each reporting period, except as provided below. Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.	CEMP/ EPL compliance.	N/a to date.	refer to condition R1.1
R1.3	Reporting conditions	Where this licence is transferred from the licensee to a new licensee: a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period. Note: An application to transfer a licence must be made in the approved form for this purpose.	CEMP/ EPL compliance.	N/a to date.	N/a to date
R1.4	Reporting conditions	Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on: a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or b) in relation to the revocation of the licence -the date from which notice revoking the licence operates.	CEMP/ EPL compliance.	N/a to date.	N/a to date
R1.5	Reporting conditions	The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	CEMP/ EPL compliance.	N/a to date.	refer to condition R1.1
R1.6	Reporting conditions	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	CEMP/ EPL compliance.	N/a to date.	Noted. Record maintained on Incite.
R1.7	Reporting conditions	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	CEMP/ EPL compliance.	N/a to date.	refer to condition R1.1
R1.8	Reporting conditions	A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.	CEMP/ EPL compliance.	N/a to date.	Noted

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Source Ref.	Type of Condition	Commitment, Obligation, Undertaking, Requirement (COUR)	How COUR will be complied with	Evidence Reference	Sept 2014 - March 2015 Compliance Report
R1.9	Reporting conditions	The licensee must provide the EPA with a Monthly Report containing the following information: a) details of all non-compliances with the conditions of this licence and measures taken, or proposed, to prevent a recurrence of such a non-compliance; and b) details of all discharges from the sediment basins where the water quality results exceed the limits prescribed by Condition L2.4 including the results of rainfall measurements to demonstrate compliance with Condition L2.5; and c) details of the results of any acoustic investigation made in relation to L4.2 d); and the report referred to in this condition must be received by the EPA within 10 working days of the end of each month.	* Environmental Performance Monthly Report	Monthly reports and Keystone submission records.	All monthly reports have been submitted on time to date. Refer to condition M1.1 Environmental monitoring data published on http://www.thiess.com.au/publications/reports?category=environmental-reports&project=frederickton-to-eungai-pacific-highway-upgrade
R2.1	Reporting conditions	Notifications must be made by telephoning the Environment Line service on 131 555. Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.	Note	N/a to date.	No material harm incidents during this reporting period
R2.2	Reporting conditions	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.	* Incident Report	N/a to date.	Not applicable this period
R3.1	Reporting conditions	Where an authorised officer of the EPA suspects on reasonable grounds that: a) where this licence applies to premises, an event has occurred at the premises; or b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.	N/a to date	N/a to date.	Not applicable this period
R3.2	Reporting conditions	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.	* Incident Report	N/a to date.	Refer to condition R3.1

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Source Ref.	Type of Condition	Commitment, Obligation, Undertaking, Requirement (COUR)	How COUR will be complied with	Evidence Reference	Sept 2014 - March 2015 Compliance Report
R3.3	Reporting conditions	The request may require a report which includes any or all of the following information: a) the cause, time and duration of the event; b) the type, volume and concentration of every pollutant discharged as a result of the event; c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and g) any other relevant matters.	* Incident / investigation report	N/a to date.	Refer to condition R3.1
R3.4	Reporting conditions	The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.	* Incident Report		Refer to condition R3.1
G1.1	General conditions	A copy of this licence must be kept at the premises to which the licence applies.	* Licence available to all Thiess employees on the sites local drive and Keystone. Hard copy maintained at the Premise.	G:\NSW\F2E\01 Environment\3 Legal and Other Compliance\3.2 Approvals, Licences and Permits\3.2.2 Lic\EPL	No change this period
G1.2	General conditions	The licence must be produced to any authorised officer of the EPA who asks to see it.	* Licence available to Thiess employees on the sites local drive and Keystone. Hard copy maintained at the Premise.	G:\NSW\F2E\01 Environment\3 Legal and Other Compliance\3.2 Approvals, Licences and Permits\3.2.2 Lic\EPL	No change this period
G1.3	General conditions	The licence must be available for inspection by any employee or agent of the licensee working at the premises. Note: Condition G1.1 above only applies from the time that the site office associated with the activities permitted by this licence is established.	* Licence available to all Thiess employees on the sites local drive and Keystone. Hard copy maintained at the Premise.	G:\NSW\F2E\01 Environment\3 Legal and Other Compliance\3.2 Approvals, Licences and Permits\3.2.2 Lic\EPL	No change this period

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Source Ref.	Type of Condition	Commitment, Obligation, Undertaking, Requirement (COUR)	How COUR will be complied with	Evidence Reference	Sept 2014 - March 2015 Compliance Report
G2.1	General conditions	The licensee must provide the EPA with up to date contact details to enable the EPA: a) to contact either the licensee or a representative of the licensee who can respond at all times to incidents relating to the premises, and b) to contact the licensee's senior employees or agents authorised at all times to: i) speak on behalf of the licensee, and ii) provide any information or document required under licence.	Provided to EPA via application. / Included within CEMP.	G:\NSW\F2E\01 Environment\3 Legal and Other Compliance\3.2 Approvals, Licences and Permits\3.2.2 Lic\EPL\EPL - Application\130705_scanned version	No change this period
G2.2	General conditions	The contact details required by Condition G2.1 above must include: a) the full name and title of the authorised representatives and the scope of their respective authorisations; and b) the direct telephone number, mobile number, pager number, fax number, email address and postal address for contacting each authorised representative.	Provided to EPA via application. / Included within CEMP.	G:\NSW\F2E\01 Environment\3 Legal and Other Compliance\3.2 Approvals, Licences and Permits\3.2.2 Lic\EPL\EPL - Application\130705_scanned version	No change this period
E1.1	Special conditions	In this Licence, unless the contrary is indicated, the terms below have the following meaning: Noise Sensitive Locations- Means buildings used as a residence, hospital, school, child care centre, places of public worship and nursing homes. A noise sensitive location includes the land within 30m of the building. NSW Industrial Noise Policy- Means the document titled :NSW Industrial Noise Policy" published by the Environment Protection Authority in January 2000. Works generating high noise impact- Means an LAeq(15min) noise measurement of 75 dB(A) as described in the document titled "Interim Construction Noise Guideline" published by the Department of Environment and Climate Change in July 2009. Critical out-of-hours works - Means works undertaken under a Road Occupancy Licence that dictates that the works must occur out-of-hours for traffic safety reasons, time critical works associated with concrete paving or other time critical works that cannot be undertaken under licence conditions L4.2c) or L4.2d) or L4.3 Reasonable and feasible - For the purposes of this licence the term "reasonable and feasible" has the same meaning as that defined under the "Interim Construction Noise Guideline DECC 2009/265".	Noted.	Note only.	Note only.

Appendix 3

Environmental incidents and complaints

Environmental incidents and near misses
Construction Phase
4 March – 3 September 2015

Event Date	Event Title	Environmental Category	Thiess Category	RMS Category	What Happened	Immediate Actions
04/03/15 12:33	Elevator Scrapper oil spill in Cut 23	Contamination of Land / Groundwater	Class 3	Category 2	Leaking O ring on hydraulics of scrapper whilst removing material during select placement. Leak noticed by operator.	Spill contained to site and removed. Fitter called and O ring replaced.
19/03/15 13:29	Hydraulic leak Zone 1	Contamination of Land / Groundwater	Class 3	Category 2	Site supervisor observed approximately 5L hydraulic oil had leaked onto the northbound carriage way concrete pavement from Fill 12 to Cut 9. The source of the leak is unknown. There was no evidence hydraulic oil was leaked off site.	Spill kit material was used and cleaned up. Incident to be included in toolbox.
04/03/15 07:00	EPL condition L2.5 Non-compliance (Basin 23850E)	Erosion and Sediment Control Works	Near Hit	Category 1	Non-conformance with EPL condition O5.9 due to failure to restore basin capacity following rainfall between 18-24 Feb 2015. Failure to dewater basin 23850E did not result on any additional overtopping. Basin capacity was restored on the 10/3/15.	Basin was being treated with liquid gypsum however did not achieve EPL discharge criteria. EPA and client notified of the non-conformance. Basin has been indicated as a priority basin for future rain events. Nominated gypsum dose rates for the basin are to be reviewed.

Environmental incidents and near misses
Construction Phase
4 March – 3 September 2015

Event Date	Event Title	Environmental Category	Thiess Category	RMS Category	What Happened	Immediate Actions
12/4/15	Non-compliance with EPL Condition 05.9 (not dewatering basin within 5 days following cessation of rainfall)	Non-compliance with EPL	Report only	Category 1	Water quality within basin didn't meet EPL discharge criteria at the end of the 5 day period and subsequently it wasn't discharged in accordance with EPL condition 05.9 requirement. Despite daily treatment following rainfall the basin crew were unable to reduce sediment load in basin to achieve EPL requirements.	A sample was sent to the lab on Monday (13/4/2015) and confirmed water quality for TSS (total suspended solids) was within allowable limits, and dewatering of basin commenced on Tuesday (14/4/2015) and concluded on the Thursday (16/4/2015). An investigation into this issue at 31750W has found offsite water (high in organic matter) entering the basin via the spillway due to elevated levels of water in catchment and subsequently has reduced the effectiveness of basin treatment. Crews were remediating the issue on the 16/4/2015 to prevent influx of offsite water entering basin in future.
14/4/15	Dozer hydraulic leak on Fill19b	Hydraulic oil / fuel spill	Class 3	Category 2	Dozer tracking across fill blew a hydraulic hose resulting in hydraulic leak onto fill.	Operator noticed leak, stopped and turned off plant, spill kit applied, fitter called to replace hose, and leak cleaned up.
23/4/15	Paving truck ruptured oil tank	Hydraulic oil / fuel spill	Class 3	Category 2	A truck delivering concrete to the paver was reversing down the steel ramps to enter the pour where the pickup pipe on the hydraulic tank clipped the ramp due to the incline of the steel ramps and ruptured tank.	Spill kits were immediately deployed to contain the spill. Oil absorbing pads and socks were placed on the sub base and along with kitty litter. The truck was moved to the median and an earth bund placed around it to contain spill while a repair was made.

Environmental incidents and near misses
Construction Phase
4 March – 3 September 2015

Event Date	Event Title	Environmental Category	Thiess Category	RMS Category	What Happened	Immediate Actions
24/4/15	Water cart transmission leak	Hydraulic oil / fuel spill	Class 3	Category 2	Transmission hose on water cart leaked resulting in spill on pavement.	Spill contained using spill kit and cleaned up.
11/05/15	Fish death in Borirgalla Creek during dewatering	Flora and Fauna	Class 3	Category 2	<p>Coffer dams were constructed in the waterway on Fri 8 May and completed on Sat 9 May to isolate works from up and down stream. Dewatering commenced on Saturday morning and exposed the culvert base. A pool was retained at each end of the culvert for fish / aquatic fauna where fish were residing beyond the extent of the culvert. With water below the culvert base and fish isolated out of the culvert area, demolition works commenced. Further dewatering occurred again on Mon 11 May in conjunction with fish relocation. At this time, the Project Ecologist found a number (>50) of dead native fish comprising empire, striped and firetail gudgeon within the work zone. Live fish and eels were also captured and relocated at this time. There was no evidence of dead native fish outside of the isolated works area.</p>	<p>Relocation of the remaining fish and eels was completed on Mon 11 May.</p> <p>The EWMS was reviewed with the works crews involved. Future EWMS should be written to provide clearer interpretation of the role of the Project / Aquatic Ecologist. Specifically, the extent to which dewatering can occur prior to having the Project / Aquatic Ecologist on site.</p>

Environmental incidents and near misses
Construction Phase
4 March – 3 September 2015

Event Date	Event Title	Environmental Category	Thiess Category	RMS Category	What Happened	Immediate Actions
11/05/15	Non-Compliance with EPL condition O5.9	Erosion and Sediment Control Works	Near Hit	Category 1	Following rainfall that ceased on the 5 May 2015, fourteen (14) basins did not have the capacity restored within 5 days of the cessation of rainfall (15500E, 18600E, 23850E, 24950W, 26050W, 26650E, 30400W, 31150E, 31250W, 31650E, 31750W, 32700E, 33950 and 34100E). The basins were all treated at least four times within the five day following the cessation of rain with liquid or mineral gypsum, however did not achieve EPL discharge criteria within the five day period.	The basins were discharged on 11 and 12 May once the discharge criteria was achieved. There was no additional overtopping during this period. The EPA and RMS were notified of the non-conformance.
15/05/15	Green cutting BW06	Uncontrolled Release - Contaminated Water	Class 3	Category 2	<p>Runoff from green cutting on bridge deck flowed uncontrolled onto headstock and working platform below. Runoff may have entered watercourse.</p> <p>Green cutting - concrete scarification process that involves spaying new concrete with Rugasol and then using a high pressure water hose to remove a thin layer of concrete to create rough surface.</p>	<p>Activity ceased and additional controls were implemented including a method to capture the runoff.</p> <p>Review of the work pack and Rugasol ecotoxicological information.</p> <p>Activity was not sufficiently described in workpack and has subsequently been added.</p> <p>Rugasol is a non-hazardous substance with no known significant effects or critical hazards.</p>

Environmental incidents and near misses
Construction Phase
4 March – 3 September 2015

Event Date	Event Title	Environmental Category	Thiess Category	RMS Category	What Happened	Immediate Actions
15/05/15	Pump and fuel can left in culvert works area.	Uncontrolled Release - Contaminated Water	Near Hit	Category 2	A 2 inch pump and a fuel can were left in CML203 culvert work area over the weekend. Subsequent rainfall has inundated work area. There was no evidence of any hydrocarbon leaks or off site impacts.	Remove pump and fuel can from the culvert work area immediately.
29/05/15	Oil / fuel spill as a result of a lighting tower tipped over onsite on pavement.	Contamination of Land / Groundwater	Class 3	Category 2	Night shift concrete cutters have discovered a lighting tower tipped over onsite near their work area which had resulted in oil and fuel spill on the pavement.	Plant damage reported and spill cleaned up.
01/06/15	Cutter oil from debond seal and curing compound flakes(wax) in a number of sediment basins.	Uncontrolled Release - Contaminated Water	Class 3	Category 2	Sub-base pavement has been laid in paving run 7 (cut 23, fill 27 and cut 24). Curing compound flakes from the southbound pavement has been mobilised by rainfall and accumulated in Basin 33950W via the long drainage. Cutter oil from the bitumen debond seal has also mobilised accumulated in a number of basins (34100E, 35200W, 35200E and 35250E). None of these basins overtopped and the contaminants were contained on site.	The incident was reported to the Environment Manager. The curing compound and cutter oil has been swept out of the basins on the 1/6/15. Further assessment and cleaning will be required on the 2/6/15.

Environmental incidents and near misses
Construction Phase
4 March – 3 September 2015

Event Date	Event Title	Environmental Category	Thiess Category	RMS Category	What Happened	Immediate Actions
05/06/15	Fuel tank feed on float was sheared off	Mobile Plant Incident (incl Mechanical Failure)	Class 3	Category 2	Float was entering site to pick up a paver and the fuel tank feed on float was sheared off by a plastic bog mat. The bog mat on the concrete pavement from movement of the paver curled up under the wheel which caused it to shear the feed.	Driver identified the leak and plugged it and temporarily, a nearby work crew deployed spill kits and contained the spill to the pavement, a rubber stopper was inserted in to the hole. Truck was taken to onsite workshop to drain tank.
18/06/15	Wax based curing compound washed into and pooled in a clean water drain I	Uncontrolled Release - Chemicals (incl Gas & Hydrocarbons)	Class 3	Category 1	Wax based curing compound from pavement in Cut 15 has been washed into and pooled in a clean water drain and in Fill 18. The contaminated water has overtopped a sump in Fill 18 and settled in a low point in clean water diversion drain (on site) that was constructed for the project. A small quantity of the pigment (titanium dioxide)in the wax based curing compound goes a long way, as such a small volume can stain a large volume of water.	The contaminated water was pumped out of the depression within the clean water diversion drain to a water truck. The manufactures have been contacted to seek advice on how to prevent future occurrence. The manufactures have recommended changes to the wax based curing compound mix to speed up the curing rates during the cooler months thereby reduce the likelihood of the compound being washed off if rain occur following application.

Environmental incidents and near misses
Construction Phase
4 March – 3 September 2015

Event Date	Event Title	Environmental Category	Thiess Category	RMS Category	What Happened	Immediate Actions
18/06/15	Wax based curing compound washed into clean water drain II	Uncontrolled Release - Chemicals (incl Gas & Hydrocarbons)	Class 3	Category 1	Wax based curing compound had been applied to the sub-base pavement in anticipation for shoulder paving. A truck/s drove through a puddle in the median, washing storm water over the pavement and across the wax based curing compound on the sub-base. This water ended in the clean water drain in Fill 18.	The contaminated water was cleaned out of the depression within the clean water diversion drain. The manufactures have been contacted to seek advice on how to prevent future occurrence. The manufactures have recommended changes to the wax based curing compound mix to speed up the curing rates during the cooler months thereby reduce the likelihood of the compound being washed off if rain occur following application.

Environmental incidents and near misses
Construction Phase
4 March – 3 September 2015

Event Date	Event Title	Environmental Category	Thiess Category	RMS Category	What Happened	Immediate Actions
26/06/15	Concrete Curing Compound washed into four sediment basins	Uncontrolled Release - Chemicals (incl Gas & Hydrocarbons)	Class 3	Category 2	Wax based & resin based concrete curing compounds have been washed off the pavement into four basins (25550E, 26050W, 27550W & 30250E). On the 18/06/15, wax based curing compound applied to shoulder was washed off the by light overnight showers and discharged into basin 26050W. Wax based curing compound from sub-base paving was also washed off into basin 30250E. Wax based curing compound was identified in Basin 27550W. On the 24/06/15, resin based curing compound from the shoulder and SO gutter was identified in Basin 25550E & 26050W. In both cases concrete joints were being cut in the shoulder / SO gutter.	Basins were pumped out to a water truck and the contaminated water was carted to Cooks batch plant for incorporation back into paving activities. The product supplier was notified and an alternate, fast curing, mixes of the curing compounds have been provided. An audit of one of the paving work packs was also completed that identified that the EWMS - Managing Runoff from Curing Compounds' was not specifically referred to and would benefit from a review following these incidents.
01/07/15 16:00	Hydraulic leak Fill 11	Uncontrolled Release - Hydraulics & Other High Pressure Liquids	Class 3	Category 2	Truck and dog lowered hoist return and resulted in a hydraulic hose break.	Spill kit deployed, area banded. Contaminated material bagged and disposed of in appropriate bin. Truck to be repaired prior to reuse on site.

Environmental incidents and near misses
Construction Phase
4 March – 3 September 2015

Event Date	Event Title	Environmental Category	Thiess Category	RMS Category	What Happened	Immediate Actions
02/07/15 09:30	Emulsion wax in clean water drain Fill 18	Uncontrolled Release - Chemicals (incl Gas & Hydrocarbons)	Class 3	Category 1	In Preparation for shoulder paving wax was applied before 13:00 on Tuesday the 30th of June. There was a small rain event early on Wednesday morning at around 01:00, delaying the curing of this product. Rain that occurred on Wednesday the 1st of July washed this diluted wax residue through the controls and into the open drain. Wax was observed in NB open drain CH25600 to 25800, ponded on NB Fill, in basin 25550E and 26050W. A small amount was observed in the inlet to the pipe culvert CML206. No off site impacts were observed.	A crew was mobilised to remove the wax washout out of the basins and open drains as well as to remove the small amount evident at the inlet to the pipe culvert. Controls that were in place included geofabric wrapped gravel bags and manufactured sand bags at batter shutes and bunding constructed from select. It was observed that the compound had passed through ALL controls, subsoil drainage and nofines. This application of re-wax as required in the specification is under review. The rain predicted for these two days was 40% chance of less than 1mm (hence unexpected)- need to continue to monitor the likelihood of rain events and only apply the product prior to 10:00am and not when rain imminent.
02/07/15 05:30	Works commencing prior to permitted working hours	Communication Systems Failure	Near Hit	Category 2	Batch Plant Operation Activities commenced 5:30am - 6:00 which is outside approved OOHW approvals. Maintenance Concrete Batch Plant Mixer Bowl - Works should have started after 6am.	Batch Plant Operators and TPL Supervisors were notified immediately.

Environmental incidents and near misses
Construction Phase
4 March – 3 September 2015

Event Date	Event Title	Environmental Category	Thiess Category	RMS Category	What Happened	Immediate Actions
06/07/15 18:00	Out of hours works CML203	Communication Systems Failure	Incident	Category 2	Concreting of base slab at CML203 western headwall extended beyond 6:00pm to 6:45pm without out of hours work permit. The pour was completed at approximately 6:00pm. Concrete surface finishing was completed by 6:45pm. The site was then packed up and personnel vacated site by 7:15pm. The Environmental Manager was not informed of the potential for works to occur out of hours as per the NVMP due to a current out of hours work permit in place at this location however this permit does not include concreting activities.	Acoustic modelling was undertaken to demonstrate works would have been deemed exempt works i.e. less than 5dB(A) above background. Site engineers informed of the out of hours works requirements under the NVMP.
14/07/15 15:00	Hydraulic leak Fill 19A	Uncontrolled Release - Hydraulics & Other High Pressure Liquids	Class 3	Category 2	Water cart wetting down haul road blew hydraulic hose. All spilled material was contained on site.	Spill was contained and cleaned up. Material disposed to be disposed of to a licensed facility. Watercart to be repaired prior to reuse on site.

Environmental incidents and near misses
Construction Phase
4 March – 3 September 2015

Event Date	Event Title	Environmental Category	Thiess Category	RMS Category	What Happened	Immediate Actions
08/08/15 11:00	Burst hydraulic hose on smooth drum roller	Contamination of Land / Groundwater	Class 3	Category 2	Burst hydraulic hose on smooth drum roller.	Machine parked up on fill, spill kit material applied to contain spill within site boundaries, and fitter called to fix hose / joint.
20/08/15 14:45	Leaking oil hose on plant at Station St	Contamination of Land / Groundwater	Class 3	Category 2	Truck loading / unloading material within area of tie in works to Station Street from the Pacific Highway had a leaking hose from wear and tear. Leak occurred and contained within work area.	Spill kit applied to area contaminated by leak and fitter called to replace hose.

RMS Incident Classification

Category 1: Generally breaches of environmental legislation, such as pollution of waters, non-compliance with EPL / approval conditions, and unauthorised.

Category 2: Generally less environmental serious with no or minimal offsite environmental impact. E.g. Minor non-compliances with CEMP, small spills."

Thiess Incident Classification

Class 1 - High Severity Incident

Class 2 - Moderate Severity Incident

Class 3 - Low Severity Incident

Environmental management related complaints
Construction Phase
4 March – 3 September 2015

Event title	Type	Date	Complaint description	Response
Flooding afflux resulting in damage to pasture	Flooding	15/05/2015	<p>Resident complained that the works on the project caused additional flooding on his property which has destroyed his cattle pasture.</p> <p>Resident said he expected to be compensated by “filling his barn with hay by the end of next week” or he would make a complaint to the RSPCA.</p> <p>Resident was not happy with the length of time taken for the matter to be resolved to his satisfaction and said he wanted to escalate the matter to the EPA / Minister.</p>	<p>Thiess visited the property with construction manager and environmental manager.</p> <p>Project team determined best course of action was to send claim to the insurance company for assessment.</p> <p>Community Manager referred resident to the EPA project representative.</p>
Out of hours disturbance	Noise	2/7/2015	Resident sent a text to complain of “machinery noise” at 4.30am.	<p>After contacting the construction team to verify possible noise sources, the Project Community Manager reported back to the resident that the noise was the saw-cutting on the ramps adjacent to the rest area. Project Community Manager also advised that the work was finished that morning and she should not hear it again for some time. Project Community Manager committed to give her a call 48 hours in advance of future saw-cutting which may be audible at her property.</p>

Appendix 4

Monitoring data

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

AIR QUALITY MONITORING RESULTS

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Table 1 – Total Insoluble Solids

Gauge Number	Type	Monthly Results - Total Insoluble Solids - (g/m ² /month)							
		Max target	Ave +2g/m ² Target ¹	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15
DDG1 - Frederickton	A - Test	4	2.6	3.5	1.5	0.8	0.8	0.8	1
	B - Control	-	-	0.9	0.5	0.8	0.5	0.4	0.3
DDG2 – Kemps Access	A - Test	4	2.6	3.2	1	-	1.8	1.7	1.4
	B - Control	-	-	1.8	1.1	0.8	0.9	0.6	0.5
DDG 3 – Cooks Lane	A - Test	4	2.6	1.3	1.9	1.1	2.5	2.6	1.7
	B - Control	-	-	4.7	9.8	2.8	3.6	1.9	1.9
DDG 4 – Nirvana Way	A - Test	4	2.6	0.1	0.4	0.3	0.3	0.5	1.8
	B - Control	-	-	0.5	0.3	0.1	0.2	0.1	0.2
DDG 5 – Stuarts Point Road	A - Test	4	2.6	1	0.3	0.1	0.3	0.1	0.4
	B - Control	-	-	0.7	0.5	0.3	0.8	0.1	0.3
DDG 6 – Eungai Rail	A - Test	4	2.6	0.6	0.4	0.3	0.2	0.2	0.5
	B - Control	-	-	0.5	0.3	0.3	0.1	0.1	0.4

Table 2 – Total Ash Content

Gauge Number	Type	Monthly Results – Ash Content - (g/m ² /month)							
		Max target	Ave +2g/m ² Target ²	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15
DDG1 - Frederickton	A - Test	4	3.2	3.5	1.5	0.8	0.8	0.8	1
	B - Control	-	-	0.9	0.5	0.8	0.5	0.4	0.3
DDG2 – Kemps Access	A - Test	4	3.2	3.2	1	-	1.8	1.7	1.4
	B - Control	-	-	1.8	1.1	0.8	0.9	0.6	0.5
DDG 3 – Cooks Lane	A - Test	4	3.2	1.3	1.9	1.1	2.5	2.6	1.7
	B - Control	-	-	4.7	9.8	2.8	3.6	1.9	1.9
DDG 4 – Nirvana Way	A - Test	4	3.2	0.1	0.4	0.3	0.3	0.5	1.8
	B - Control	-	-	0.5	0.3	0.1	0.2	0.1	0.2
DDG 5 – Stuarts Point Road	A - Test	4	3.2	1	0.3	0.1	0.3	0.1	0.4
	B - Control	-	-	0.7	0.5	0.3	0.8	0.1	0.3
DDG 6 – Eungai Rail	A - Test	4	3.2	0.6	0.4	0.3	0.2	0.2	0.5
	B - Control	-	-	0.5	0.3	0.3	0.1	0.1	0.4

- Notes:
1. 12 month total insoluble average based on average of all control sites for the Sept 2014 – August 2015
 2. 12 month ash average based on average of all control sites for the Sept 2014 – August 2015

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Table 3 – Gauge Locations

Gauge Number	Type	Address	Proximity to Construction work
DDG1 B	Test (impact)	Frederickton School. Corner Great Northern Road / Pacific Highway	App. 850m to nearest construction area (west of corridor).
DDG2 B	Control	101 Kemps Access	App. 740m to nearest construction area (west of corridor)
DDG3 B	Test (impact)	92 Cooks Lane	App. 1000m to nearest construction (east of corridor)
DDG4 A	Control	62 Nirvana Way	App 370m to nearest construction (west of corridor)
DDG5 B	Test (impact)	165/175 Stuarts Point Road	App 1000m to nearest construction and 200m from proposed upgrade to access along Stuarts Point road (east of corridor)
DDG6 B	Control	Road Reserve. 26 – 30 Vacant blocks	App 700m to nearest construction (west of corridor)
DDG1 A	Test (impact)	Southern Compound	App. 140m to nearest construction area (west of corridor).
DDG2 A	Control	243 Kemps Access	App. 90m to nearest construction area (west of corridor)
DDG3 A	Test (impact)	229 Cooks Lane	App. 230m to nearest construction area (east of corridor)
DDG4 B	Control	Power line Easement south of Nirvana Way, opposite Kawana Lane	App. 315m to nearest construction area (east of corridor)
DDG5 A	Test (impact)	21 Stuarts Point Road	App. 35m to nearest construction area (east of corridor)
DDG6 A	Control	3420 Pacific Highway	App. 70m to nearest construction area (west of corridor)

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

NOISE MONITORING

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

March 2015 Noise Monitoring Summary

Monitoring Type	Reference Activity for Predicted $L_{Aeq,15min}$ Noise Levels	Site	Date (dd/mm/yyyy)	Time (24 Hour)	ICNG Noise Management Level	Predicted Noise Level (NVMP or Acoustic Assessment)	Specified Noise Level	Leq (dB(A))	Non-construction (background) LABB	Sampled at sensitive receiver?	Sound Level at receiver (dB(A) = $10\log(r12/r22)$)	Compliance to Specified Noise Level	Comments	Actions carried out in the event of an exceedance.
Periodic (monthly) monitoring	Bulk Earthworks	28a	20/03/2015	11:45	51	53	75	47.6	40-56	Yes	47.6	Compliant	Construction activities included the use of a grader and roller to trim and prepare select. Construction was audible between 40-50dB(A). The main source of noise was traffic on the pacific highway audible between 40-56dB(A).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	26c	20/03/2015	10:45	44	56	75	59.8	46-54	No	41.4	Compliant	Construction activities included the use of a roller to prepare select and on site haulage. Construction works were audible between 46-75dB(A). Other sources of noise included birds audible between 46-54dB(A).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	27b	20/03/2015	12:15	44	68	75	49.1	46-52	Yes	49.1	Compliant. Controls as per NVMP adequate	Construction activities included the use of a grader and roller to trim and prepare select. Construction was audible between 46-54dB(A). Other sources of noise included birds and traffic on the pacific highway audible between 46-52dB(A).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	29a	20/03/2015	12:45	52	55	75	53.8	44-52	No	51.3	Compliant	Construction activities in this area included dozers and a moxie fleet hauling material. the dozer was the main source of noise however the moxies fleet could also be heard. Construction noise was audible between 50-64dB(A). Constant noise from birds and bugs was heard throughout between 44-52dB(A).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	21g	19/03/2015	9:00	41	65	75	48.0	38-60+	Yes	48.0	Compliant. Controls as per NVMP adequate	Construction activities included the use of the crusher and placement of select on bridge abutment and fill areas. Construction works were audible between 38-46dB(A). Other sources of noise included birds audible between 38-60+dB(A).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	23a	18/03/2015	14:30	41	44	75	43.9	38-42	No	33.0	Compliant	Construction activities included the use of an excavator, pump and moxies tipping. Construction works were audible between 38-52dB(A). Other sources of noise included insects and birds audible between 38-42dB(A).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	20a	19/03/2015	8:30	41	45	75	40.2	36-44	Yes	40.2	Compliant	Construction activities included the use of the crusher and placement of select on bridge abutment and fill areas. Construction works were audible between 38-44dB(A). Other sources of noise included birds audible between 38-44dB(A).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	19a	19/03/2015	7:50	48	52	75	57.1	52-58	No	39.9	Compliant	Construction activities included the trimming of medians using and excavator and on site haulage. Construction works were audible between 50-68dB(A). Other sources of noise included birds, insects and frogs audible between 52-58dB(A).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	30d	31/03/2015	13:55	49	50	75	51.0	40-55	No	51.0	Compliant. Exceeding predicted noise level. Review adequacy of controls	Construction activities included use of Dozer, excavators, truck and dogs in Cut 27 and drainage works at Fill 31a. Construction was inaudible at sample location on Thurgood Lane, which was taken in line with receiver to project works, as only background (Highway) could be heard.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Saw Cutting Night Works (Lamax+2dB)	31c	30/03/2015	17:45	50	72 (74)	75	67.0	60 - 70	Yes	67.0	Compliant. Controls as per NVMP adequate	Sawcutting works commencing at tie in with existing south bound carriage way and progressing to BW17. Works were monitored approximately 50 metres to the north of the receiver.	TPL contacted the resident the following day seeking feedback from works. The resident had no complaints relating to the works.
Out of Hours Works Assessment	Saw Cutting Night Works (Lamax+2dB)	31c	30/03/2015	18:00	50	72 (74)	72 (74)	71.1	60 - 77	Yes	71.1	Compliant. Controls as per NVMP adequate	Sawcutting works commencing at tie in with existing south bound carriage way and progressing to BW17. Works were monitored approximately 30 metres to the north of the receiver.	TPL contacted the resident the following day seeking feedback from works. The resident had no complaints relating to the works.
Summary of monitoring events for report period						Notes								
Periodic (monthly) monitoring events - 10						1. Noise monitoring is completed in accordance with the Pacific highway Upgrade Frederickton to Eungai Construction Noise and Vibration Management Plan (http://www.rms.nsw.gov.au/road/projects/projects/pac_hwy/port_macquarie_coffs_harbour/fredrickton/project_documents.html)								
Response to Compliant events - 0														
Out of Hours Works Assessment events - 1														
Spot check of noise intensive plant - 0						2. Where noise monitoring is completed at a sensitive receiver, the 'Actual Sound Level at receiver' is equal to the Recorded Sound Level								
Spot check of background (no construction noise) - 0						3. Where noise monitoring is unable to be completed at a sensitive receiver, the 'Actual Sound Level at receiver' is calculated in accordance with the rough calculation of noise level (dB(A) = $10\log(r1^2/r2^2)$) as per the Interim Construction Noise Guidelines (DECC2009).								
Notes:						4. ICNG = Interim Construction noise Guideline (DECC, 2009)								
Orange shading indicates noise level above predicted noise level														
Red shading indicates noise level at receiver above specified noise level.														

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

April 2015 Noise Monitoring Summary

Monitoring Type	Reference Activity for Predicted $L_{Aeq,15min}$ Noise Levels	Site	Date (dd/mm/yyyy)	Time (24 Hour)	ICNG Noise Management Level	Predicted Noise Level (NVMP or Acoustic Assessment)	Specified Noise Level	Leq (dB(A))	Non-construction (background) LABB	Sampled at sensitive receiver?	Sound Level at receiver (dB(A) = $10\log(r_{12}/r_{22})$)	Compliance to Specified Noise Level	Comments	Actions carried out in the event of an exceedence.
Periodic (monthly) monitoring	Saw Cutting Night Works (Lamax+2dB)	31B	2/04/2015	16:20	50	54 (56)	75	61.7	NA	No	50.4	Compliant. Controls as per NVMP adequate	Sawcutting on mainline south of BW17 and water pump supplying water to saw cutter were monitored at 60 to 62 dB(A). No background was recorded.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Saw Cutting Night Works (Lamax+2dB)	29C	2/04/2015	17:00	52	75 (77)	75	72.0	66 to 80	No	63.9	Compliant. Controls as per NVMP adequate	Sawcutting on mainline south of BW17 and works were observed between 64 to 75 dB(A) and background consisting of traffic on the Pacific Highway ranged from 66 to 80 dB(A).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Saw Cutting Night Works (Lamax+2dB)	29F	2/04/2015	17:20	52	60	75	60.0	50 - 75	No	62.3	Compliant. Exceeding predicted noise level. Review adequacy of controls	Saw cutting works commencing south of BW17 and concluding at end of days paving run to the north of Cut 30 (Gate 8). Works were monitored in line with receiver on Station street and ranged from 49 to 54 dB(A). The predominant and main source of noise was the Pacific Highway and local traffic ranging from 50 to 75 dB(A).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	20C	17/04/2015	14:45	41	59	75	44.6	38-60	Yes	44.6	Compliant. Controls as per NVMP adequate	Construction activities include select placement on Fill 15A, onsite haulage and crusher operation.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	23A	17/04/2015	15:50	41	44	75	68.8	40-44	No	30.7	Compliant	Construction activities included select placement on Fill 15B and on site haulage.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	21C	17/04/2015	14:00	41	60	75	53.4	40-44	Yes	53.4	Compliant. Controls as per NVMP adequate	Construction activities included trimming median with an excavator and on site haulage.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	27C	18/04/2015	11:15	44	53	75	58.9	54-60	No	44.9	Compliant. Controls as per NVMP adequate	Construction activities included onsite haulage, dozer shaping mound, excavator loading bogies and dozer pushing up cut material. Other sources of noise included traffic on the Pacific highway.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	29A	18/04/2015	10:50	52	55	75	51.9	46-54	No	51.9	Compliant	Construction activities included dozer pushing up cut material, excavator loading bogies and moxy haul.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	28C	18/04/2015	11:40	51	60	75	50.6	50-52	Yes	50.6	Compliant	Construction activities included Dozer shaping mound.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	25D	18/04/2015	12:10	44	48	75	62.2	46.0	No	31.4	Compliant	Construction activities included placing select material on Fill 19B and onsite haulage.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Paving	31C	15/04/2015	15:35	50	69	75	61.4	52-75	Yes	61.4	Compliant. Controls as per NVMP adequate	Construction activities included saw cutting works on BW17. Saw cutting works were only audible when there was no traffic. Saw cutting was audible between 45-50dB. The main source of noise was traffic on the Pacific Highway audible between 52-75dB.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	19A	20/04/2015	15:00	48	52	75	45.1	46-50	No	37.7	Compliant	Construction activities included the intall of long drainage and select trimming.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	30b	24/04/2015	8:17	49	59	75	58.4	50-68	No	52.0	Compliant. Controls as per NVMP adequate	Activities included drainage works within cut and compaction / trimming of northbound off ramp. Works were recorded between 51 to 58 dB(A) and background at 50 to 68 dB(A) consisting of Pacific Highway traffic.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	26C	21/04/2015	12:45	44	56	75	50.8	NA	No	32.3	Compliant	Activities consisted of loader, haulage, light vehicles, and surveyors on ground. Background wasn't recorded during sample.	No additional mitigation measures implemented.
Summary of monitoring events for report period						Notes								
Periodic (monthly) monitoring events - 14						1. Noise monitoring is completed in accordance with the Pacific highway Upgrade Frederickton to Eungai Construction Noise and Vibration Management Plan (http://www.rms.nsw.gov.au/roadprojects/projects/pac_hwy/port_macquarie_coifs_harbour/fredrickton/project_documents.html)								
Response to Complaint events - 0														
Out of Hours Works Assessment events - 0														
Spot check of noise intensive plant - 0						2. Where noise monitoring is completed at a sensitive receiver, the 'Actual Sound Level at receiver' is equal to the Recorded Sound Level								
Spot check of background (no construction noise) - 0						3. Where noise monitoring is unable to be completed at a sensitive receiver, the 'Actual Sound Level at receiver' is calculated in accordance with the rough calculation of noise level (dB(A) = $10\log(r_{12}/r_{22})$)								
Notes:						4. ICNG = Interim Construction noise Guideline (DECC, 2009)								
Orange shading indicates noise level above predicted noise level														
Red shading indicates noise level at receiver above specified noise level.														

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

May 2015 Noise Monitoring Summary

Monitoring Type	Reference Activity for Predicted $L_{Aeq,15min}$ Noise Levels	Site	Date (dd/mm/yyyy)	Time (24 Hour)	ICNG Noise Management Level	Predicted Noise Level (NVMP or Acoustic Assessment)	Specified Noise Level	Leq (dB(A))	Non-construction (background) LABB	Sampled at sensitive receiver?	Sound Level at receiver (dB(A) = $10\log(r_{12}/r_{22})$)	Compliance to Specified Noise Level	Comments	Actions carried out in the event of an exceedance.
Periodic (monthly) monitoring	On-site Haulage	19A	15/05/2015	8:00	48	42	75	49.2	40-50	No	34.0	Compliant	Activities consisted of truck and dog onsite haulage, install of pipes at CML101 and concrete pours for median drains.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	20D	13/05/2015	11:58	41	59	75	43.1	40.0	Yes	43.1	Compliant. Controls as per NVMP adequate	Activities included trimming of select on Fill 15A and use of the crusher.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	On-site Haulage	21I	13/05/2015	11:15	41	38	75	50.2	35-46	No	31.7	Compliant	Activities consisted of truck and dog onsite haulage.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	23A	15/05/2015	8:55	41	44	75	59.0	42-50	No	22.0	Compliant	Activities consisted of truck and dog onsite haulage, bridge abutment backfill, rolling up of select.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	31A	29/05/2015	14:18	50	60	75	55.3	48-70+	No	48.3	Compliant	Construction activities included the use of excavator to topsoil batters, bogies hauling materials and the use of a sweeper water cart. Other sources of noise included traffic on the Pacific Highway.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	On-site Haulage	28A	29/05/2015	11:30	51	42	75	46.6	44-50	No	29.7	Compliant	Construction activities included on site haulage.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	27C	29/05/2015	12:00	44	53	75	55.2	50-62	No	48.3	Compliant. Controls as per NVMP adequate	Construction activities included bulk earthworks in Cut 27.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	30E	29/05/2015	13:40	49	56	75	52.0	46-70+	Yes	52.0	Compliant. Controls as per NVMP adequate	Construction activities included bulk earthworks in Cut 28 and around BW16.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	29F	29/05/2015	12:30	52	65	75	59.1	52-68	Yes	59.1	Compliant. Controls as per NVMP adequate	Construction activities included the use of excavator to topsoil batters, bogies hauling materials and the use of a sweeper water cart. Other sources of noise included traffic on the Pacific Highway and Station Street.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	26A	27/05/2015	12:50	44	52	75	43.6	36-60	Yes	43.6	Compliant	Construction noise was deemed inaudible. Construction activities included onsite haulage and no fines placement between CH32900 and CH33600.	No additional mitigation measures implemented.
Summary of monitoring events for report period						Notes								
Periodic (monthly) monitoring events - 10						1. Noise monitoring is completed in accordance with the Pacific Highway Upgrade Frederickton to Eungai Construction Noise and Vibration Management Plan (http://www.rms.nsw.gov.au/roadprojects/projects/pac_hwy/port_macquarie_coifs_harbour/fredrickton/project_documents.html)								
Response to Complaint events - 0														
Out of Hours Works Assessment events - 0														
Spot check of noise intensive plant - 0						2. Where noise monitoring is completed at a sensitive receiver, the 'Actual Sound Level at receiver' is equal to the Recorded Sound Level								
Spot check of background (no construction noise) - 0						3. Where noise monitoring is unable to be completed at a sensitive receiver, the 'Actual Sound Level at receiver' is calculated in accordance with the rough calculation of noise level (dB(A) = $10\log(r_{12}^2/r_{22}^2)$) as per the Interim Construction Noise Guidelines (DECC2009).								
Notes:						4. ICNG = Interim Construction noise Guideline (DECC, 2009)								
Orange shading indicates noise level above predicted noise level														
Red shading indicates noise level at receiver above specified noise level.														

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

June 2015 Noise Monitoring Summary

Monitoring Type	Reference Activity for Predicted $L_{Aeq,15min}$ Noise Levels	Site	Date (dd/mm/yyyy)	Time (24 Hour)	ICNG Noise Management Level	Predicted Noise Level (NVMP or Acoustic Assessment)	Specified Noise Level	Leq (dB(A))	Non-construction (background) LABB	Sampled at sensitive receiver?	Sound Level at receiver (dB(A) = $10\log(r_{12}/r_{22})$)	Compliance to Specified Noise Level	Comments	Actions carried out in the event of an exceedance.
Periodic (monthly) monitoring	Paving	25A	2/06/2015	15:15	40	43	75	64.6	-	No	42.8	Compliant. Controls as per NVMP adequate	Construction activities included paving of sub-base and delivery of concrete to paver.	No additional mitigation measures implemented.
Out of Hours Works Assessment	Paving	26A	17/06/2015	6:00	44	48	48	64.8	-	No	48.0	Compliant. Controls as per NVMP adequate	Construction activity was concrete cutting. Sample as initially intended to be taken at residence on Hills Lane, however the activity was inaudible and our presence was causing the owners dogs to bark. Sample was taken on alignment.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Paving	26A	16/06/2015	15:10	44	48	75	48.6	44-60	Yes	48.6	Compliant. Exceeding predicted noise level. Review adequacy of controls	Main source of noise was non construction noise consisting of birds and traffic on the Pacific Highway. Construction noise was just audible between 42-48dB(A). Construction activities included base paving.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	23A	15/06/2015	16:00	41	44	75	61.7	40-54	No	30.8	Compliant	Construction activities included bulk earthworks on Fill 15B, bridge works at BW06 and onsite haulage.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	19A	15/06/2015	16:45	48	52	75	53.4	48-50	No	44.2	Compliant	Construction activities included the use of excavators to topsoil in cut 8 and bulk earthworks on Fill 11.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	21G	16/06/2015	7:30	41	65	75	49.2	46-60	Yes	49.2	Compliant. Controls as per NVMP adequate	Construction activities included the use of a crane to unload bridge decks, dozer pushing in crushing area and select preparation on Fill 15A.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	20C	16/06/2015	8:00	41	59	75	48.5	40-60	Yes	48.5	Compliant. Controls as per NVMP adequate	Construction activities included the use of a crane to unload bridge decks, dozer pushing in crushing area and select preparation on Fill 15A.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	25C	16/06/2015	12:30	44	51	75	55.9	48.0	No	41.9	Compliant	Construction activities included bulk earthworks in the rest area, use of excavator of Fill 19B and on site haulage.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	29M	16/06/2015	13:55	52	50	75	41.6	36-50	Yes	41.6	Compliant	Construction activities included traffic switch preparation works.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	31B	16/06/2015	14:35	45	57	75	54.8	54-60	No	51.6	Compliant. Controls as per NVMP adequate	Construction activities included traffic switch preparation works.	No additional mitigation measures implemented.
Out of Hours Works Assessment	Paving	27a	25/06/2015	5:50	36	49-50	49-50	53.7	-	No	47.7	Compliant. Controls as per NVMP adequate	Saw cutting on northbound mainline	No additional mitigation measures implemented.
Out of Hours Works Assessment	Paving	28a	25/06/2015	6:10	51	49	49	54.0	-	No	47.3	Compliant	Saw cutting on northbound mainline	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Paving	27a	27/06/2015	11:22	44	49-50	75	54.8	44-46	No	39.3	Compliant	Paving machine maintenance	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Paving	28a	27/06/2015	11:00	51	49	75	44.2	40.0	No	19.4	Compliant	Paving string line adjustment and haulage from compound to paving machine for routine maintenance.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bridgeworks (D-Driven Piles)	30b	29/06/2015	10:28	41	54	75	57.8	50 - 56	No	49.4	Compliant. Controls as per NVMP adequate	Structure works at Bridge 14 (Stuarts Point Road Interchange) and consisted of drilling / jackhammering, as well as excavator works to the north.	No additional mitigation measures implemented.
Summary of monitoring events for report period						Notes								
Periodic (monthly) monitoring events - 12						1. Noise monitoring is completed in accordance with the Pacific highway Upgrade Frederickton to Eungai Construction Noise and Vibration Management Plan (http://www.rms.nsw.gov.au/roadprojects/projects/pac_hwy/port_macquarie_coifs_harbour/fredrickton/project_documents.html)								
Response to Complaint events - 0						2. Where noise monitoring is completed at a sensitive receiver, the 'Actual Sound Level at receiver' is equal to the Recorded Sound Level								
Out of Hours Works Assessment events - 3						3. Where noise monitoring is unable to be completed at a sensitive receiver, the 'Actual Sound Level at receiver' is calculated in accordance with the rough calculation of noise level (dB(A) = $10\log(r_{12}/r_{22})$) as per the Interim Construction Noise Guidelines (DECC2009).								
Spot check of noise intensive plant - 0						4. ICNG = Interim Construction noise Guideline (DECC, 2009)								
Spot check of background (no construction noise) - 0														
Notes:														
Orange shading indicates noise level above predicted noise level														
Red shading indicates noise level at receiver above specified noise level.														

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

July 2015 Noise Monitoring Summary

Monitoring Type	Reference Activity for Predicted $L_{Aeq,15min}$ Noise Levels	Site	Date (dd/mm/yyyy)	Time (24 Hour)	ICNG Noise Management Level	Predicted Noise Level (NVMP or Acoustic Assessment)	Specified Noise Level	Leq (dB(A))	Non-construction (background) LABB	Sampled at sensitive receiver?	Sound Level at receiver (dB(A) = $10\log(r_{12}/r_{22})$)	Compliance to Specified Noise Level	Comments	Actions carried out in the event of an exceedance.
Periodic (monthly) monitoring	Bulk Earthworks	23A	8/07/2015	12:10	41	44	75	47.4	42-48	No	41.3	Compliant. Controls as per NVMP adequate	Construction activities included bulk earthworks on Fill 15B, paving preparation works on fill 15B and Cut 12, bridge works at BW06 and onsite haulage.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	19A	8/07/2015	8:00	48	52	75	56.5	44-60	No	50.0	Compliant. Controls as per NVMP adequate	Construction activities included bulk earthworks on Fill 11, SO turnouts on Fill 12, culvert works at CML101 and on site haulage.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	21H	8/07/2015	8:45	41	60	75	49.8	40-54	Yes	49.8	Compliant. Controls as per NVMP adequate	Construction activities included shotcreting of open drains and on site haulage. Other sources of noise included birds which were audible between 40-54dB(A).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Paving	20C	8/07/2015	9:15	40	55	75	45.4	40-50	Yes	45.4	Compliant. Controls as per NVMP adequate	Construction activities included paving of base and delivery of concrete to paver and crusher operation.	No additional mitigation measures implemented.
Out of Hours Works Assessment	Saw Cutting Night Works (Lamax+2dB)	20C	10/07/2015	5:18	41	63	63	63.8	0.0	No	47.0	Compliant. Controls as per NVMP adequate	Construction activity included OoH saw cutting works at approximate chainage 18700. Predicted noise levels for works at this location is 45-50dB(A).	No additional mitigation measures implemented. Noise levels consistent with saw cutting modeling.
Periodic (monthly) monitoring	Paving	28a	22/07/2015	12:10	51	49	75	53.3	54-56	No	34.5	Compliant	Shoulder paver and watercart sweeping pavement were being monitored at time of sampling. Construction activities ranged from 48 to 60 dB(A) at sampling location and background recorded was between 52 to 56 dB(A) and consisted of wildlife.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	31c	22/07/2015	11:25	50	73	75	70.2	50-80	No	66.7	Compliant. Controls as per NVMP adequate	An excavator removing material into trucks from an excavated section adjacent to the existing bridge over the railway was being monitored at the time of sampling. Construction noise levels ranged from 50 to 68 dB(A), however the dominant and main source of noise recorded was that of traffic on the Pacific Highway.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Paving	25a	22/07/2015	14:35	44	43	75	58.5	45-65	No	41.4	Compliant	Construction activities being monitored consisted of so turnout paving works and haulage along the alignment. Works ranged from 45 to 80dB(A) and background consisted of local traffic and wildlife, which ranged from 45 to 65 dB(A).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	26a	22/07/2015	12:50	44	52	75	62.2	NA	No	37.9	Compliant	Pumping works were being monitored at time of sampling and ranged between 61 to 63 dB(A). No background was recorded.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	30b	22/07/2015	9:00	49	59	75	59.2	58-66	No	43.5	Compliant	Construction activities consisted of SMZ placement in cut by moxy's and graders, backhoe on southbound on ramp working around pits, and structures at BW16. Construction works were recorded between 55 to 58 dB(A), however the main and dominant source of noise recorded was that of traffic on the Pacific Highway between 60 to 66 dB(A).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	27c	22/07/2015	8:20	44	53	75	62.5	58-66	No	49.1	Compliant. Controls as per NVMP adequate	Construction activities at time of sampling consisted of longreach excavator cleaning out basin, moxy dropping off material for cleaning of basin, and haulage onto the alignment from Gate 6. Noise recorded for construction activities ranged from 58 to 72 dB(A). Background consisted of traffic on the Pacific Highway and wildlife, ranging from 58 to 66 dB(A).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	29a	22/07/2015	8:00	52	55	75	47.9	50.0	No	43.2	Compliant	Construction activities monitored consisted of a dozer ripping in cut 27 and structure works to BW14, both activities recorded between 46 to 50 dB(A) at monitoring location. Background recorded at 50 dB(A) and consisted of bird noises.	No additional mitigation measures implemented.
Out of Hours Works Assessment	Saw Cutting Night Works (Lamax+2dB)	23A	29/07/2015	6:05	41	66	66	43.1	40-50	No	37.1	Compliant	Construction activity included OoH saw cutting works at approximate chainage 21700. Predicted noise levels for works at this location is 30-35dB(A).	No additional mitigation measures implemented. Noise levels consistent with saw cutting modeling.
Summary of monitoring events for report period						Notes								
Periodic (monthly) monitoring events - 11						1. Noise monitoring is completed in accordance with the Pacific Highway Upgrade, Frederickton to Eungai Construction Noise and Vibration Management Plan (http://www.rms.nsw.gov.au/roadprojects/projects/pac_hwy/port_macquarie_coefs_harbour/fredrickton/project_documents.html)								
Response to Complaint events - 0														
Out of Hours Works Assessment events - 2														
Spot check of noise intensive plant - 0						2. Where noise monitoring is completed at a sensitive receiver, the 'Actual Sound Level at receiver' is equal to the Recorded Sound Level								
Spot check of background (no construction noise) - 0						3. Where noise monitoring is unable to be completed at a sensitive receiver, the 'Actual Sound Level at receiver' is calculated in accordance with the rough calculation of noise level (dB(A) = $10\log(r_1^2/r_2^2)$) as per the Interim Construction Noise Guidelines (DECC2009).								
Notes:						4. ICNG = Interim Construction noise Guideline (DECC, 2009)								
Orange shading indicates noise level above predicted noise level														
Red shading indicates noise level at receiver above specified noise level.														

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

August 2015 Noise Monitoring Summary

Monitoring Type	Reference Activity for Predicted $L_{Aeq,15min}$ Noise Levels	Site	Date (dd/mm/yyyy)	Time (24 Hour)	ICNG Noise Management Level	Predicted Noise Level (NVMP or Acoustic Assessment)	Specified Noise Level	Leq (dB(A))	Non-construction (background) LABB	Sampled at sensitive receiver?	Sound Level at receiver (dB(A) = $10\log(r_{12}/r_{22})$)	Compliance to Specified Noise Level	Comments	Actions carried out in the event of an exceedance.
Periodic (monthly) monitoring	Bulk Earthworks	31b	6/08/2015	12:16	50	57	75	59.2	50-70	No	51.2	Compliant. Controls as per NVMP adequate	Monitoring of construction activities on Station Street where works were located on the other side of the Pacific Highway. Excavator / bogey movements and reversing quacker were all recorded during break in highway traffic at 51/52 dB(A), otherwise the main and loudest noise source recorded was that of the Pacific Highway.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	30b	6/08/2015	12:37	49	59	75	59.3	55 - 70	No	44.2	Compliant	Monitoring construction activities on Mainline carriageway, which consisted of smz placement on the northbound off ramp at Stuarts Point and Bridge tie in works at the eastern abutment to BW16. Works were recorded between 54 to 58 dB(A). Background, being the Pacific Highway, was the loudest and main source of noise recorded.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Paving	20C	7/08/2015	14:30	41	55	75	47.2	42-60	Yes	47.2	Compliant. Controls as per NVMP adequate	Construction activities included base paving on Fill15A.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	21C	5/08/2015	14:40	41	60	75	42.4	32-50	Yes	42.4	Compliant. Controls as per NVMP adequate	Construction activities included basin backfill works and on site haulage.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Paving	23A	5/08/2015	13:40	41	40	75	69.4	38.0	No	38.5	Compliant	Construction activities included subbase paving in Cut12 and Fill15B, on site haulage and bridge works at BW06.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	19A	6/08/2015	8:15	48	52	75	47.4	40-52	Yes	47.4	Compliant	Construction activities included select trimming and repair works on Fill11, CML101 completion works, loading out of topsoil from Cut 8 and on site haulage. Other sources of noise included birds, dogs, beeper alarms (not from F2E site).	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Paving	26C	7/08/2015	13:00	44	53	75	54.6	46-52	No	52.7	Compliant. Controls as per NVMP adequate	Construction activities included shoulder paving and onsite haulage. The main source of noise was traffic on the Pacific Highway.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	25D	7/08/2015	13:40	44	48	75	59.4	42-44	No	47.4	Compliant. Controls as per NVMP adequate	Construction activities included SMZ placement in rest areas, loading out of material in the northbound rest area, CML303 earthworks, joint sealing on northbound carriageway on Fill19B, moxies unloading in MEWB and on site haulage.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	29A	10/08/2015	15:40	52	55	75	50.9	46-62	Yes	50.9	Compliant	Construction activities included earthworks in cut and bridgeworks. Other sources of noise included traffic on the Pacific Highway.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	28A	10/08/2015	14:45	51	53	75	47.0	42-48	No	31.7	Compliant	Construction activities included median trimming, loading bogies and haulage. Other sources of noise included traffic on the Pacific Highway.	No additional mitigation measures implemented.
Periodic (monthly) monitoring	Bulk Earthworks	27B	10/08/2015	15:10	44	68	75	51.1	44-54	Yes	51.1	Compliant. Controls as per NVMP adequate	Construction activities included median trimming, loading bogies and haulage. Other sources of noise included traffic on the Pacific Highway.	No additional mitigation measures implemented.
Summary of monitoring events for report period						Notes								
Periodic (monthly) monitoring events - 11						1. Noise monitoring is completed in accordance with the Pacific Highway Upgrade Frederickton to Eungai Construction Noise and Vibration Management Plan (http://www.rms.nsw.gov.au/roadprojects/projects/pac_hwy/port_macquarie_coifs_harbour/fredrickton/project_documents.html)								
Response to Complaint events - 0														
Out of Hours Works Assessment events - 0														
Spot check of noise intensive plant - 0						2. Where noise monitoring is completed at a sensitive receiver, the 'Actual Sound Level at receiver' is equal to the Recorded Sound Level								
Spot check of background (no construction noise) - 0						3. Where noise monitoring is unable to be completed at a sensitive receiver, the 'Actual Sound Level at receiver' is calculated in accordance with the rough calculation of noise level (dB(A) = $10\log(r_{12}/r_{22})$)								
Notes:						4. ICNG = Interim Construction noise Guideline (DECC, 2009)								
Orange shading indicates noise level above predicted noise level														
Red shading indicates noise level at receiver above specified noise level.														

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

VIBRATION MONITORING

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Date	Time	Dwelling ID	Location	Activity	Recorded Peak (mm/s)(dB)	Objective (mm/s)	Compliant	Observations
28/08/2015	10:19	29f	29f	Compaction and Roller	0.22	5	Yes	Monitoring of vibration roller (>7 tonne) compacting the foundation of tie-in between Station Street and Property Adjustment 70
28/08/2015	10:32	29g	29g	Compaction and Roller	0.17	5	Yes	Monitoring of vibration roller (>7 tonne) compacting the foundation of tie-in between Station Street and Property Adjustment 70

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

SURFACE WATER QUALITY MONITORING

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Unnamed Waterway north of Frederickton (Fill 11)

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 1 U	Dry	24/02/15	6	5.2	2/03/15	10:25:00	-	-	-	6.47	19	Upstream sample taken prior to commencement of dewatering from CML 101.	Dewatering CML 101 temporary culvert.
SW 1 D	Dry	24/02/15	6	5.2	2/03/15	10:50:00	-	-	-	6.21	20	Sample taken within 30 minutes of the commencement of discharge from CML 101. Water quality between sheet piles was pH 6.45 and NTU 21.	Dewatering CML 101 temporary culvert.
SW 1 D	Dry	24/02/15	6	5.2	2/03/15	11:15:00	-	-	-	6.21	20	Sample taken between 30 - 60 minutes of the commencement of discharge from CML 101.	Dewatering CML 101 temporary culvert.
SW 1 U	Wet	22/03/15	1	81.2	23/03/15	12:17	27.56	291	59.5	6.55	11.6	Following significant rainfall event. Upstream sheet piles had not overtopped, tannin coloured, sediment and erosion controls in place.	CML 101 construction with sheet piles isolating works. Bypass pumping ceased on the 20th prior to rainfall on the 21st.
SW 1 D	Wet	22/03/15	1	81.2	23/03/15	12:21	26.96	303	72.4	6.2	104.2	Downstream sheet piles had not over topped. Sediment and erosion controls in place.	Water flowing through CML102. Algae growth and other plant matter present contributed to the increase in turbidity reading.

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 1 U	Wet	7/04/15	1	84.0	8/04/15	7:00	-	-	-	6.62	21	Bypass pumping occurring.	CML101 under construction and pumping works occurring at time of inspection. NTU and pH sample only.
SW 1 D	Wet	7/04/15	1	84.0	8/04/15	7:00	-	-	-	6.74	25	No visual difference in water from upstream to downstream.	As above.
SW 1 U	Dry	11/04/15	6	2.0	17/04/15	14:59	22.82	253	62.8	6.22	19.2	Clear, slightly stained, heavy presence of algae growth.	Haulage across culvert and culvert installation works that included the pumping of water to control water levels within work area.
SW 1 D	Dry	11/04/15	6	2.0	17/04/15	14:55	20.46	312	69.3	6.38	21.1	Same as upstream.	As above.
SW 1 U	Wet	3/05/15	1	133.8	4/05/15	16:09:46	24.17	210	109.5	6.5	16	Following significant rainfall event. Over topping sheet piles and water flowing through partially completed culverts.	Install of pipe culvert.
SW 1 D	Wet	3/05/15	1	133.8	4/05/15	16:06:51	21.16	184	33.6	6.07	29.1	As above	As above
SW 1 U	Dry	6/05/15	7	0.2	13/05/15	16:23:58	13.79	178	17	6.35	22.9	Bypass pump around pipe culvert works ongoing.	Install of pipe culvert
SW 1 D	Dry	6/05/15	7	0.2	13/05/15	16:17:30	16.42	292	60.5	6.32	14.6	As above	As above
SW 1 U	Dry	10/06/15	5	2.4	15/06/15	10:37:44	15.34	269	38.5	6.28	34.2	Stagnate, growth on surface.	Sheet piles in place, pump around on going.
SW 1 D	Dry	10/06/15	5	2.4	15/06/15	10:46:38	17.09	441	59.7	6.31	35.3	As above	Culvert headwall works, backfill of pipes, bypass pumping.

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 1 U	Dry	26/06/15	7	5.2	3/07/15	7:45:20	10.36	418	3.6	6.32	25.4	Low flow algae growth bird activity.	Culvert headwall works, by pass pumping , trimming subgrade, placement of select and trimming batters.
SW 1 D	Dry	26/06/15	7	5.2	3/07/15	7:33:32	15.83	1021	77.6	6.16	32.8	Low flow algae growth, shallow.	As above
SW 1 U	Dry	29/07/15	24	0.4	22/08/15	13:38	21.91	1457	109.2	4.25	17.3	Low flow, shallow, clear.	Culvert works completed, area hydro-mulched and sediment controls in place.
SW 1 D	Dry	29/07/15	24	0.4	22/08/15	14:00	22.64	1322	105.1	5.57	25.5	Low flow, shallow, vegetation growth in waterway and on surface.	As above
SW 1 U	Wet	24/08/15	0	10.0	24/08/15	16:18:26	17.59	1489	85.4	4.09	27.9	Low flow, shallow, clear.	Select placement and trimming on Northbound and sealed on Southbound ready for paving. Controls installed and functioning.
SW 1 D	Wet	24/08/15	0	10.0	24/08/15	16:22:02	17.41	1314	71.2	5.25	63.8	As above	As above

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Collombatti Creek

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 2 U	Dry	13/03/15	6	34.2	19/03/15	14:45	28.28	363	85.7	6.24	32.6	Still water, slightly turbid.	Controls in place, construction includes bridge abutment works and haulage.
SW 2 D	Dry	13/03/15	6	34.2	19/03/15	14:50	28.79	268	145	6.53	10.8	As above	As above
SW 2 U	Wet	22/03/15	1	81.2	23/03/15	10:37	26.04	418	86.7	5.83	12.8	Slow moving, tannin staining, some growth on surface.	Controls at bridge abutments in place.
SW 2 D	Wet	22/03/15	1	81.2	23/03/15	10:47	26.48	244	90.1	6.39	9.3	As above	As above.
SW 2 U	Wet	7/04/15	1	84.0	8/04/15	7:00	-	-	-	6.68	18	Steady flow. NTU and pH samples only.	Bridge 3 abutment construction. Planks in place.
SW 2 D	Wet	7/04/15	1	84.0	8/04/15	7:00	-	-	-	6.25	20	No visual difference in water from upstream to downstream. NTU and pH samples only.	Rock platform removed under southbound carriageway.
SW 2 U	Dry	11/04/15	6	2.0	17/04/15	15:17	26.61	321	101.4	6.08	0	Clear, slightly stained, algae growth, and no flow.	Haulage across temporary crossing and bridge works ongoing.
SW 2 D	Dry	11/04/15	6	2.0	17/04/15	15:20	24.48	316	75.1	6.1	0	Same as upstream.	
SW 2 U	Wet	3/05/15	1	133.8	4/05/15	15:38:24	22.85	89	48.2	5.55	62	In flood - over topping side track and working platform.	Install of parapet and abutments
SW 2 D	Wet	3/05/15	1	133.8	4/05/15	15:45:59	22.19	71	41.9	5.55	39.9	As above	As above
SW 2 U	Dry	6/05/15	7	0.2	13/05/15	15:29:01	16.75	230	60.8	6.37	12.1	Creek levels dropping, pipes under track functioning	Bridge abutments and deck works
SW 2 D	Dry	6/05/15	7	0.2	13/05/15	15:32:25	17.25	185	62.6	6.35	18.6	As above	As above
SW 2 U	Dry	10/06/15	5	2.4	15/06/15	12:02:59	18.34	381	124.2	6.17	20.5	Stagnate, some growth on surface	Abutment backfill, deck works
SW 2 D	Dry	10/06/15	5	2.4	15/06/15	11:53:38	18.11	355	108.5	5.93	39.1	Stagnate, some growth on surface, water birds.	As above

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 2 U	Dry	26/06/15	7	5.2	3/07/15	8:16:45	8.65	411	71.6	6.47	21.6	Shallow, clear, low flow, some growth in waterway.	Bridge deck works, haulage, abutment backfill works.
SW 2 D	Dry	26/06/15	7	5.2	3/07/15	8:07:18	12.05	387	76.9	6.52	18	Low flow clear some plant growth in waterway, signs of cattle and bird activity.	As above
SW 2 U	Dry	29/07/15	24	0.4	22/08/15	14:53	23.85	468	106.5	7.1	35.5	Low flow, shallow, slightly turbid.	Bridge parapet works ongoing, sub base paving complete on southbound carriageway. Sediment and erosion controls in place.
SW 2 D	Dry	29/07/15	24	0.4	22/08/15	14:57	23.74	464	106.3	7.07	36.8	Low flow, shallow, slightly turbid.	As above
SW 2 U	Wet	24/08/15	0	10.0	24/08/15	16:40:21	18.2	495	84.1	6.18	29	Little to no flow, clear and shallow	Trimming of select and bridge works ongoing. Controls in place and functioning
SW 2 D	Wet	24/08/15	0	10.0	24/08/15	16:42:57	18.79	473	121.7	6.24	29.8	As above	As above

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Seven Oaks Drain

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 3 U	Dry	13/03/15	6	34.2	19/03/15	15:05	28.54	315	88.8	6.76	7.6	Still water, debris growth on surface, and water clear.	Bridge abutment works ongoing
SW 3 D	Dry	13/03/15	6	34.2	19/03/15	15:15	29.45	359	79.1	6.15	10.6	As above	As above
SW 3 U	Wet	22/03/15	1	81.2	23/03/15	10:41	27.11	332	84.5	6.2	7.2	Slow moving, tannin staining, some growth on surface and debris present in watercourse.	Controls at bridge abutments in place.
SW 3 D	Wet	22/03/15	1	81.2	23/03/15	10:45	26.72	326	86.4	6.23	7.5	As above	As above.
SW 3 U	Wet	7/04/15	1	84.0	8/04/15					6.27	18	Steady flow.	Bridge 4 abutment construction.
SW 3 D	Wet	7/04/15	1	84.0	8/04/15					6.29	18	No visual difference in water from upstream to downstream.	As above
SW 3 U	Dry	11/04/15	6	2.0	17/04/15	15:27	26.84	320	79.4	6	0	Clear, slightly stained, algae growth, no flow.	Haulage across temporary crossing and bridge works ongoing.
SW 3 D	Dry	11/04/15	6	2.0	17/04/15	15:29	25.54	314	66.9	5.99	0	Same as upstream.	
SW 3 U	Wet	3/05/15	1	133.8	4/05/15	-	-	-	-	-	-	Assessment during significant rainfall event. No access due to flood waters. Visual assessment only.	-
SW 3 D	Wet	3/05/15	1	133.8	4/05/15	-	-	-	-	-	-	Assessment during significant rainfall event. No access due to flood waters. Visual assessment only.	-
SW 3 U	Dry	6/05/15	7	0.2	13/05/15	15:37:24	17.44	237	55.7	6.4	12.8	Flood water levels in creek / floodplain receding.	Bridge abutment works
SW 3 D	Dry	6/05/15	7	0.2	13/05/15	15:39:52	17.44	243	52.4	6.26	12.2	As above	As above

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 3 U	Wet	21/05/15	1	10.8	22/05/15	14:05	17.29	197	56.4	6.3	10.8	Flood water levels in creek / floodplain receding.	Bridge abutment works
SW 3 D	Wet	21/05/15	1	10.8	22/05/15	14:06	17.37	203	54.3	6.38	9.7	As above	As above
SW 3 U	Dry	10/06/15	5	2.4	15/06/15	12:09:13	18.45	385	104.9	6.14	19.9	Stagnate	Bridge abutment backfill, works on bridge decks.
SW 3 D	Dry	10/06/15	5	2.4	15/06/15	12:14:07	18.56	384	108.1	6.2	13.1	Stagnate	As above
SW 3 U	Dry	26/06/15	7	5.2	3/07/15	8:38:46	11.37	388	68.7	6.34	23.3	Shallow, slightly turbid, low flow, some growth in waterway evidence of bird activity.	Bridge deck works, haulage, LD install, abutment backfill works.
SW 3 D	Dry	26/06/15	7	5.2	3/07/15	8:30:08	11.94	388	69.5	6.36	20.1	Low flow shallow, clear, some algae and plant growth.	As above
SW 3 U	Dry	29/07/15	24	0.4	22/08/15	15:03	24.36	539	96.6	7.3	41.6	Low flow, shallow, slightly turbid.	Bridge parapet works ongoing, sub base paving complete on southbound carriageway. Sediment and erosion controls in place.
SW 3 D	Dry	29/07/15	24	0.4	22/08/15	15:08	24.87	529	97	7.09	45.5	As above	As above
SW 3 U	Wet	24/08/15	0	10.0	24/08/15	16:47:10	18.5	519	103.7	6.22	33.8	Little to no flow, clear and shallow	Trimming of select and bridge works ongoing. Controls in place and functioning
SW 3 D	Wet	24/08/15	0	10.0	24/08/15	16:50:59	17.96	541	86.2	6.13	25.8	As above	AS above

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Wizzenbucca Creek

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 4 U	Dry	13/03/15	6	67.8	19/03/15	7:00	-	-	-	-	-	Visual assessment only. No connection due to coffer dam upstream of cross drainage works.	Cross drainage works at CML 203.
SW 4 D	Dry	13/03/15	6	67.8	19/03/15	7:00	-	-	-	-	-	As above	As above
SW 4 U	Wet	22/03/15	1	77.0	23/03/15	11:33	27.2	220	83.2	6.25	13.3	Upstream cofferdam did not over top.	All sediment and erosion controls were in place.
SW 4 D	Wet	22/03/15	1	77.0	23/03/15	7:00	-	-	-	-	-	Post rainfall event assessment. Visual assessment only. No sample taken as neither of the up or downstream coffer dam had over topped.	As above.
SW 4 U	Wet	7/04/15	1	93.8	8/04/15	7:00	-	-	-	6.23	28	NTU and pH assessment only. Water overflowing coffer dam into project works, slightly turbid and stained, organic plant matter well represented on surface.	Cross drainage works at CML 203
SW 4 D	Wet	7/04/15	1	93.8	8/04/15	7:00	-	-	-	6.15	30	NTU and pH assessment only. Similar to upstream sample. Water height near top of pipe, boom downstream of cross drainage works still in place and functional.	As above.
SW 4 U	Dry	11/04/15	6	2.0	17/04/15	16:06	10	200	35.3	5.74	2.1	Same as downstream.	
SW 4 D	Dry	11/04/15	6	2.0	17/04/15	15:59	27.56	191	104.8	6.8	0.6	Clear, slightly stained and algae growth.	Creek banded off due to drainage works currently in progress.
SW 4 U	Wet	3/05/15	1	208.2	4/05/15	14:23:01	19.59	1685	65.5	6.05	50.6	Over topping coffer dams	Install of pipe culvert
SW 4 D	Wet	3/05/15	1	208.2	4/05/15	14:30:22	19.96	114	67.7	6.18	49	As above	As above

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 4 U	Dry	6/05/15	7	0.2	13/05/15	15:07:58	15.64	242	27.3	5.86	13.5	Pump around of pipe culvert works ongoing.	Install of pipe culvert
SW 4 D	Dry	6/05/15	7	0.2	13/05/15	15:13:23	19.13	213	53.7	6.09	18.7	As above	As above
SW 4 U	Dry	10/06/15	5	10.6	15/06/15	14:02:00	14.85	325	16.9	5.69	26	Pump around operating no connection with downstream. Stagnate, tannin stained, growth in waterway.	Coffer Dam in place, pump around in operation.
SW 4 D	Dry	10/06/15	5	10.6	15/06/15	14:09:27	19.81	332	155.3	7.66	9.5	Stagnate , growth in waterway, algae growth on surface.	Headwall formwork install, dewatering to swale drain.
SW 4 U	Dry	1/07/15	2	1.4	3/07/15	9:15:54	9.57	367	42.9	5.81	26.6	Shallow slightly turbid growth in waterway. Bypass pumping ongoing. No connection to downstream.	Headwall construction ongoing, cofferdams in place.
SW 4 D	Dry	1/07/15	2	1.4	3/07/15	9:23:49	8.61	620	42.6	6.37	21.6	Very shallow, stagnate no connection to upstream as cofferdam are in place.	As above
SW 4 U	Dry	15/08/15	7	0.2	22/08/15	15:15	-	-	-	-	-	Visual assessment only. Creek dry no connection with downstream	Culvert works completed, area hydro-mulched and sediment controls in place.
SW 4 D	Dry	15/08/15	7	0.2	22/08/15	15:16	-	-	-	-	-	Visual assessment only. Creek dry no connection with upstream	As above
SW 4 U	Dry	24/08/15	1	4.6	25/08/15	7:34:40	-	-	-	-	-	Visual assessment only. No connection with upstream, no sample taken	Long drainage installed and trimming upper zone for select placement. Controls in place and functioning.

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 4 D	Dry	24/08/15	1	4.6	25/08/15	7:32:40	13.78	846	24.1	6.1	22.6	Slight connection between culvert works and downstream. Very shallow	As above

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Johnsons Creek

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 5 U	Dry	13/03/15	6	34.2	19/03/15	16:05	28.82	305	75.7	6.44	13.1	Stained water, no flow through pipes, otherwise clear.	Bridge abutment / piling works being undertaken.
SW 5 D	Dry	13/03/15	6	67.8	19/03/15	16:10	27.28	318	71	6.21	14.7	As above	As above
SW 5 U	Wet	22/03/15	1	77.0	23/03/15	14:00	27.25	181	65.5	5.9	2.8	Medium flow, tannin staining, water flowing through rock and pipe on the northern side.	Piling and abutment works ongoing.
SW 5 D	Wet	22/03/15	1	77.0	23/03/15	14:05	27.11	138	87.6	5.67	7.1	As above	As above.
SW 5 U	Wet	7/04/15	1	93.8	8/04/15	7:00	-	-	-	6.24	18	NTU and pH assessment only. Clear, stained and levels breached height of fence at temp crossing and water resting against rock crossing. Pipes charged and flowing.	No construction due to weather. Bridge abutment works and removal of surcharge ongoing.
SW 5 D	Wet	7/04/15	1	93.8	8/04/15	7:00	-	-	-	6.31	26	NTU and pH assessment only. Similar to upstream	As above
SW 5 U	Dry	11/04/15	6	2.0	17/04/15	12:40	21.19	226	27.1	5.65	0.8	No flow observed, clear, and stained.	Haulage over side track and bridge works.
SW 5 D	Dry	11/04/15	6	2.0	17/04/15	12:42	25.95	224	33.3	5.68	0.2	Same as upstream.	As above.
SW 5 U	Wet	3/05/15	1	208.2	4/05/15	14:03:32	23.47	92	41.1	5.84	37.4	In flood - over topping side track and working platform, some scour of track.	Install of planks and abutments
SW 5 D	Wet	3/05/15	1	208.2	4/05/15	14:06:11	22.04	85	37.4	5.78	36.6	As above	As above
SW 5 U	Dry	6/05/15	7	0.2	13/05/15	14:54:06	17.52	163	57.3	5.87	3.1	Creek levels dropping, pipes under track functioning	Bridge abutment works
SW 5 D	Dry	6/05/15	7	0.2	13/05/15	14:56:31	19.18	177	32.3	5.63	8.8	As above	As above
SW 5 U	Dry	10/06/15	5	10.6	15/06/15	13:37:24	16.01	345	41.1	4.19	22	Stagnate, reeds, shallow.	Bridge abutment and deck works.

**Monitoring Data
Construction Phase
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Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 5 D	Dry	10/06/15	5	10.6	15/06/15	13:46:13	16.91	354	84.5	5.49	18.2	Stagnate algae growth on surface.	As above
SW 5 U	Dry	1/07/15	1	1.4	2/07/15	16:18:09	16.81	590	87.5	3.75	18	shallow clear low flow reeded	As below
SW 5 D	Dry	1/07/15	1	1.4	2/07/15	16:05:41	16.57	638	87.3	5.44	28.5	Shallow reeded low flow.	Removal of piling platform and install of large scour rock around piers and abutment. Hydrocarbon and sediment boom I place. Works causing water behind boom to become turbid. Boom containing turbid water no evidence of turbid water beyond project boundary.
SW 5 U	Dry	15/08/15	7	0.2	22/08/15	15:20	-	-	-	-	-	Visual assessment only. No sample taken due to very low water levels	Bridge abutment backfill works ongoing. Sediment and erosion controls in place.
SW 5 D	Dry	15/08/15	7	0.2	22/08/15	15:23	-	-	-	-	-	Visual assessment only. As above. No clear connection downstream.	As above
SW 5 U	Dry	23/08/15	1	10.8	24/08/15	14:02:55	15.75	765	28.8	3.65	24.7	Shallow, clear, little to no flow	Bridge works and abutment backfill works ongoing.
SW 5 D	Dry	23/08/15	1	10.8	24/08/15	14:04:55	-	-	-	-	-	Visual assessment only. No sample taken due to very low water levels	As above

**Monitoring Data
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Barraganyatti Creek

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 6 U	Dry	13/03/15	7	47.6	20/03/15	10:15	25.93	472	82.9	6.51	3.9	Small flow, algae growth on creek bed and water clear.	Activities include SMZ placement and trimming works. All controls in place and basins have capacity.
SW 6 D	Dry	13/03/15	7	47.6	20/03/15	10:00	25.89	490	95.7	6.68	18	Similar to upstream although no flow observed, and algae more dispersed within water column.	As above
SW 6 U	Wet	23/03/15	0	53.6	23/03/15	12:20	-	482	100.2	7.2	50.4	Slow to medium flow, stained water and slightly turbid. Visual assessment only. Temperature probe not functioning.	No activities due to wet weather, however basin 35200W, 35200E, 35250W, and 35250E overtopped as a result of wet weather event.
SW 6 D	Wet	23/03/15	0	53.6	23/03/15	12:20	-	546	92.2	7.15	11.6	Elevated levels compared to background, water height over causeway located downstream of works, little to no flow observed, water clear and slightly stained. Temperature probe not functioning.	As above
SW 6 U	Wet	7/04/15	1	112.6	8/04/15	16:08:29	20.66	245	89.9	6.34	7.4	Slow to medium flow, stained water otherwise clear.	SMZ has been trimmed and ready for seal, basins on both side of creek have been treated for dewatering following rainfall.

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 6 D	Wet	7/04/15	1	112.6	8/04/15	16:09:39	21.64	327	89.7	6.37	17.7	Elevated levels compared to background, water height over causeway located downstream of works, little to no flow observed, water clear and slightly stained.	As above
SW 6 U	Dry	11/04/15	7	1.6	18/04/15	10:34:29	20.18	438	42.6	5.99	55.2	Medium flow, shallow, slightly cloudy due to flow rate.	Trimmed SMZ ready for seal.
SW 6 D	Dry	11/04/15	7	1.6	18/04/15	10:12:39	22	411	91.7	6.28	9.1	Low to no flow, clear, algae, reeds.	As above.
SW 6 U	Wet	3/05/15	1	208.2	4/05/15	15:25:56	20.88	182	80.9	5.84	16.7	Fast flowing, slightly elevated water level and clear.	As below.
SW 6 D	Wet	3/05/15	1	208.2	4/05/15	15:17:16	20.87	182	83.4	5.83	27.7	Elevated creek levels, slow to no flow observed, and water clear	Road is sealed, basins had overtopped and still overtopping at time of sampling, which appeared to be elevating the turbidity within the creek downstream.
SW 6 U	Dry	6/05/15	7	0.2	13/05/15	8:35:49	14.05	380	67.4	6.88	1.9	Medium flow and water clear.	Seal on carriageway complete and ready for pavement. Controls in place and basins functional.
SW 6 D	Dry	6/05/15	7	0.2	13/05/15	8:28:18	13.88	363	66.9	6.7	3.6	Low flow and water clear.	As above
SW 6 U	Dry	10/06/15	6	10.8	16/06/15	15:30:00	16.13	576	79.6	6.39	25.8	Gentle flow	No works in stream. Preparation of fill for paving.
SW 6 D	Dry	10/06/15	6	10.8	16/06/15	11:16:48	15.91	580	91.2	6.47	14.2	Gentle flow	No works in stream. Preparation of fill for paving.

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Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 6 U	Dry	24/07/15	7	2.6	31/07/15	10:52:25	16.42	634	101	6.95	5	Little to no flow observed, clear, and stained.	Pavement installed to the south of culvert and shoulder works commencing. Cleaning out 35200W basin.
SW 6 D	Dry	24/07/15	7	2.6	31/07/15	10:44:55	15.79	683	117.6	7.18	5	As above.	As above
SW 6 U	Wet	21/07/15	1	9.6	22/07/15	15:37:47	13.08	654	80.3	6.38	5.3	Little to no flow observed, clear, and stained.	Pavement installed to the south of culvert and shoulder works commencing.
SW 6 D	Wet	21/07/15	1	9.6	22/07/15	15:44:13	14.08	620	89.2	6.76	2.1	As above.	As above
SW 6 U	Dry	24/07/15	12	3.2	5/08/15	9:57:56	13.85	630	93.1	6.7	6.7	Slow to no flow observed, clear, stained, and algae present within water.	Excavator delisting basin and shoulder paving works on both northbound and southbound carriageways.
SW 6 D	Dry	24/07/15	12	3.2	5/08/15	10:10:03	15.04	628	103	6.85	5	No flow observed, clear, stained, and algae present within water.	As above.

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Boringgalla Creek

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 7 U	Dry	13/03/15	7	47.6	20/03/15	9:30	26.09	286	72.4	6.12	22.2	No flow, clear water with organic stain, and at background height levels.	Activities include scrapper haul over culvert and foundations to Bridge 18 on eastern side. Controls in place and basins have capacity.
SW 7 D	Dry	13/03/15	7	47.6	20/03/15	9:45	25.41	263	75	6.34	24.5	Same as upstream	As above
SW 7 U	Wet	23/03/15	0	53.6	23/03/15	12:20	-	180	105.7	6.32	94.8	No flow, elevated level to background, organic content on surface, and partly cloudy.	No activity as site was shutdown to wet weather. Basin 36850E and 36550W overtopped as a result of wet weather event and bund on north eastern side of BW18 failed resulting in scour to batter and damage to secondary controls.
SW 7 D	Wet	23/03/15	0	53.6	23/03/15	12:20	-	180	85.7	6.61	88.3	No flow, elevated levels in height to that of background, and appeared more cloudy than upstream however taken in deeper water.	As above

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 7 U	Wet	7/04/15	1	112.6	8/04/15	15:03:58	24.8	140	75.3	5.92	52.4	Elevated levels to that of background (halfway up sediment fence at base to future foundation works on western side), slightly turbid and stained, good vegetation cover within creek upstream.	Foundation works at Bridge 18 ongoing. Site control maintenance and basin treatment undertaken at time of inspection.
SW 7 D	Wet	7/04/15	1	112.6	8/04/15	15:04:41	23.28	139	85.2	5.88	44.2	Similar quality to upstream sample.	As above.
SW 7 U	Dry	11/04/15	9	2.0	20/04/15	11:15	19.82	181	38.2	6.82	24.3	Little to no flow observed, water clear, and slightly stained.	Scour protection rock installed downstream of culvert, temporary crossing reshaped, additional rock installed on basin spillways to creek. General earthworks ongoing to the south in Cut 28.
SW 7 D	Dry	11/04/15	9	2.0	20/04/15	11:22	18.73	185	41.6	5.98	30.2	No flow observed, clear, and stained.	As above.
SW 7 U	Wet	3/05/15	1	208.2	4/05/15	15:57:57	19.32	77	71.5	6.29	44	Turbid and little flow observed	Temporary controls around foundations were damaged by heightened creek flows

**Monitoring Data
Construction Phase
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Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 7 D	Wet	3/05/15	1	220.0	4/05/15	16:21:57	20.36	101	64.3	5.81	29.8	No flow, slightly turbid water	Culvert demolition preparation works and temporary crossing of creek (no demolition of culvert has taken place at this stage due to forecast wet weather). Controls damaged on eastern side due to raised water height.
SW 7 U	Dry	6/05/15	7	0.2	13/05/15	7:34:54	12.78	139	27.9	7.06	44.4	Standing water due to culvert works. Water clear and slightly stained	Culvert works ongoing where coffer dams have been installed upstream and downstream of works, and water is being pumped around site to maintain creek level below the height of the coffer dam upstream.
SW 7 D	Dry	6/05/15	7	0.2	13/05/15	8:14:35	12.58	139	25.3	6.52	41.4	Standing water. Clear with a slight organic stain to the water.	As above
SW 7 U	Dry	10/06/15	6	10.8	16/06/15	16:04:00	14.23	195	7.9	6.44	24.9	Bypass pumping occurring around coffer dams.	Culvert demolition works followed by installation of scour rock under bridge 18
SW 7 D	Dry	10/06/15	8	10.8	18/06/15	12:43:12	13.09	285	65.4	6.01	36.6	Bypass pumping occurring around coffer dams.	Culvert demolition works followed by installation of scour rock under bridge 18

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Location	Type of Sampling	Last date of rain before sample taken	Days since last 10 mm rain event and sample taken	Rain event (mm)	Sample date	Time	Temp (C)	Elec. Conduct. (µS/cm)	Dissolved Oxygen (%sat)	pH	Turbidity (NTU)	Comments	Construction or other contributing activities
SW 7 U	Dry	24/07/15	7	2.6	31/07/15	11:03:23	15.96	218	105.3	6.73	15.7	No flow observed, slightly turbid, and stained.	Coffer dam on western side removed and creek now connected with scour rock placed between abutments at BW18. Coffer dam on eastern side yet to be removed.
SW 7 D	Dry	24/07/15	7	2.6	31/07/15	11:20:19	12.12	0.5	90.8	7.07	16	As above	As above
SW 7 U	Wet	21/07/15	1	9.6	22/07/15	15:20:48	12.95	840	56.1	6.9	20	No flow observed, clear, and stained.	Coffer dam in place at both ends to work area, scour rock installed up to western coffer dam.
SW 7 D	Wet	21/07/15	1	9.6	22/07/15	15:29:57	10.93	236	43.8	6.88	14.4	As above	As above.
SW 7 U	Dry	24/07/15	12	3.2	5/08/15	13:43:03	11.25	234	23.2	6.51	31.6	No flow observed, clear, and algae present on creek surface.	Abutment backfill works on northern side, abutment formwork on southern side, and one coffer dam to the east is still in place for removal as creek works have been completed.
SW 7 D	Dry	24/07/15	12	3.2	5/08/15	14:00:12	9.53	630	109.8	6.61	13.9	No flow observed, slightly turbid.	As above

**Monitoring Data
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4 March – 3 September 2015**

Sediment Basin Overtopping Events

F2E Pacific Highway Upgrade - Construction Sediment Basin Performance Report

Rainfall Event: 13th - 18th March 2015

Rainfall Summary 13th - 18th March 2015			
Date	Rainfall (mm)		
	Main Compound	Northern Compound	Southern Compound
13/03/2015	67.8	47.2	34.2
14/03/2015	0	0.4	0.2
15/03/2015	0	0	0
16/03/2015	0	0	0.2
17/03/2015	0	0	0
18/03/2015	0.2	0	0.2
Total	68.0	47.6	34.8

ZONE	Basin	Easting	Northing	Site Location	Basin Capacity	Condition of Basin prior to the 12 March 2015	Rainfall event 13 March 2015		Comments / Failures / Actions Taken	Action Close Out Timeframe / Date	Basin Capacity Restored Within Timeframe
							Overflow (Y/N)	Date Capacity Restored			
Zone 2	25550E	488005.7	6578066.5	E of CP 1/2 Road 550m	729	Design capacity available	Y	18/03/2015	Basin did not over top.	Basin Capacity Restored	Yes
Zone 2	25950E	488208.1	6578332.4	SE of Spankers Flat Road near CP 1/3 Road 400m	546	Basin inundated	Y	-	Basin over topped.	-	NA
Zone 2	26050W	488204.2	6578484.9	Floodplain	869	Design capacity available	Y	18/03/2015	Basin did not over top.	Basin Capacity Restored	Yes
Zone 2	26650E	488725.6	6578883.5	SE of Spankers Flat Road 450m	682	Design capacity available	Y	17/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 2	27550E	489479.3	6579311	SE of Battersons Road 1km	920	Design capacity available	Y	16/03/2015	Basin over topped. Capacity restored 20%	Basin Capacity Restored	Yes
Zone 2	27550W	489424.5	6579375.9	SE of Battersons Road 1km	696	Design capacity available	Y	16/03/2015	Basin over topped. Capacity restored 20%	Basin Capacity Restored	Yes
Zone 3	30150W-30250W	#N/A	#N/A	Doughboy Swamp - Fill 19 Swale Drain	NA	Design capacity available	Y	18/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	30350E	492045.7	6580278.3	SW of Cooks Lane near Interchange	1677	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	31150E	492702.9	6580868.4	NE of Cooks Lane 130m	625	Design capacity available	Y	16/03/2015	Priority treatment basin.	Basin Capacity Restored	Yes
Zone 3	31250W	492679.1	6580960.2	NE of Cooks Lane 130m	593	Design capacity available	Y	16/03/2015	Priority treatment basin.	Basin Capacity Restored	Yes
Zone 3	31650E	493016	6581264.9	Swamp Sclerophyll Forest	439	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	31750W	492989.6	6581393.9	SW of Hills Lane 700m	1369	Design capacity available	Y	17/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	32700E	493437.4	6582209.2	N of Hills Lane 120m	455	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	33070E	493558.3	6582525.4	E of Clancys Road 270m	643	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	33950E	493695.7	6583488	W Pacific Highway 400m River-flat Forest	796	Design capacity available	Y	16/03/2015	Batter slip has resulted in high silt load at inlet.	Basin Capacity Restored	Yes
Zone 3	33950W	493571.2	6583407.8	W Pacific Highway 300m River-flat Forest	787	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	34000W	493594.8	6583493.8	W Pacific Highway 385m River-flat Forest	284	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	34100E	493688.2	6583609.6	W Pacific Highway 320m River-flat Forest	499	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	35200E	493385.9	6584674.1	N of Nirvana Road 650m	789	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	35200W	493328	6584637.2	S Pacific Highway 650m	970	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	35250E	493368.4	6584724	S Pacific Highway 600m	494	Design capacity available	Y	17/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	35650E	493186.6	6585068.8	W Pacific Highway (adjacent) Swamp Sclerophyll Forest	412	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	35750E	493097.4	6585194	E Pacific Highway (adjacent) Swamp Sclerophyll Forest	440	Design capacity available	Y	18/03/2015	Basin over topped. Stand pipe on basin and restored via watercarts	Basin Capacity Restored	Yes
Zone 3	35750W	493056.2	6585129.6	W Pacific Highway (adjacent) Swamp Sclerophyll Forest	552	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	36750E	492439.9	6585933	E Pacific Highway (adjacent) Swamp Sclerophyll Forest	722	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes

Zone	Basin	Design	Flowing	Site Location	Basin Capacity	the 12 March 2015	Overflow (Y/N)	Date Capacity Restored	Comments / Notes / Action Taken	Timeframe / Date	Recovery Timeframe
Zone 3	36750W	492412.5	6585841	W Pacific Highway (adjacent) Swamp Sclerophyll Forest	488	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	36850E	492411.3	6585957.9	E Pacific Highway (adjacent) Swamp Sclerophyll Forest	396	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	37200E	492130.5	6586255.7	W Pacific Highway, 490m SE Stuarts Point Road	232	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	37350E	492097.6	6586291.6	W Pacific Highway, 340m SE Stuarts Point Road	426	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	37600E	491933.2	6586494.5	Close to intersection of Stuarts Point Road and Pacific Highway	NA	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	37600W	491840.9	6586417.9	Close to intersection of Stuarts Point Road and Pacific Highway	NA	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	38100W	491453.3	6586830.1	W Pacific Highway, 450m N Stuarts Point Road	500	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	38450E	491293.5	6587168.2	E Pacific Highway, 300m S Brushbox Lane	541	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	39400E	490853.5	6587923.6	Opp intersection of Pacific Highway and Station Street	447	Design capacity available	Y	16/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	TB30100	#N/A	#N/A	Main Compound - E	1897.5	Design capacity available	Y	18/03/2015	Basin over topped. Pumped to storage dam for use onsite	Basin Capacity Restored	Yes
Zone 3	TB30300	#N/A	#N/A	Main Compound - D	123	Design capacity available	Y	18/03/2015	Basin over topped. Pumped to storage dam for use onsite	Basin Capacity Restored	Yes
Zone 3	TB30400	#N/A	#N/A	Main Compound - C	1132.5	Design capacity available	Y	18/03/2015	Basin over topped. Pumped to storage dam for use onsite	Basin Capacity Restored	Yes
Zone 3	TB30450	492399.2	6580054.2	Main Compound - B	1739	Design capacity available	Y	18/03/2015	Basin over topped. Pumped to storage dam for use onsite	Basin Capacity Restored	Yes
Zone 3	TB30600	#N/A	#N/A	Main Compound - F	NA	Design capacity available	Y	18/03/2015	Basin over topped. Pumped to storage dam for use onsite	Basin Capacity Restored	Yes
Zone 3	TB30900	#N/A	#N/A	Main Compound - A	684	Design capacity available	Y	18/03/2015	Basin over topped. Pumped to storage dam for use onsite	Basin Capacity Restored	Yes
Summary Overtopped							40				

F2E Pacific Highway Upgrade - Construction Sediment Basin Performance Report

Rainfall Event commencing 21st March 2015

Rainfall Summary 21st -28th March 2015			
Date	Rainfall (mm)		
	Main Compound	Northern Compound	Southern Compound
21/03/2015	68.8	31.8	68.4
22/03/2015	8.2	14.4	12.8
23/03/2015	3	7.4	3
24/03/2015	0	0	0
25/03/2015	0	0	0
26/03/2015	0	0	0
27/03/2015	0	0	0
28/03/2015	0	0	0
Total	80.0	53.6	84.2

ZONE	Basin	Easting	Northing	Site Location	Basin Capacity	Condition of Basin prior to the 21 March 2015	Rainfall event 21 March 2015		Comments / Failures / Actions Taken	Action Close Out Timeframe / Date	Basin Capacity Restored Within Timeframe
							Overflow (Y/N)	Date Capacity Restored			
Zone 1	TB13750	488644.5	6567460.7	Southern Batch Plant	319	Design capacity available	Y	28/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 1	14500E	488294.7	6568081.8	N of un-named waterway N of Frederickton	231	Design capacity available 20/2/15	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 1	15000E	487947.2	6568447.9	W of Raymonds Lane	440	Design capacity available	Y	27/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 1	15000W	487882.6	6568376.7	E of Raymonds Lane	259	Design capacity available	Y	25/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 1	15400E	487636	6568734.8	E CML 104	352	Design capacity available	Y	26/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 1	15450W	487516.5	6568742.1	Swamp Sclerophyll Forest	938	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 1	15500E	487614	6568767.5	W CML 104	1352	Design capacity available	Y	26/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 1	16350E	487067.7	6569472.9	N Mill/Quarry Road 250m	474	Design capacity available	Y	27/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 1	16500E	487055.2	6569494.7	N Mill/Quarry Road 170m	766	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 1	17350E	486683.7	6570386	W Seashore Lane - upstream of Maundia	696	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 1	17350W	486615.8	6570263	W Seashore Lane - upstream of Maundia	914	Design capacity available	Y	26/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 1	17400W	486589.2	6570388.1	W Seashore Lane - upstream of Maundia	1071	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 1	17450E	486657.5	6570507.7	W Seashore Lane Swamp Sclerophyll Forest	1620	Design capacity available	Y	27/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 1	18950E	486539.1	6571983.9	Swamp Sclerophyll Forest	428	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 1	18950W	486459	6571965	Swamp Sclerophyll Forest	406	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 2	21200E	486502.1	6574181.1	Swamp Oak Floodplain Forest	344	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 2	21700E	486391.3	6574710.4	S of Seven Hills Road 1km	1563	Design capacity available	Y	28/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 2	21700W	486304.9	6574680	S of Seven Hills Road 1km	771	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 2	22750E	486467.1	6575698.2	W of Seven Hills Road	1293	Design capacity available	Y	23/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 2	22900E	486512.9	65758320.1	W of Seven Hills Road	NA	Design capacity available	Y	23/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 2	23800W	486998.7	6576620	E of Tanban Road 400m	430	Design capacity available	Y	23/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 2	23850E	487091	6576583.9	E of Tanban Road 400m	862	Design capacity available	Y	23/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 2	24300W	487256.3	6577008.3	E of Tanban Road 600m	490	Design capacity available	Y	28/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 2	25550E	488005.7	6578066.5	E of CP 1/2 Road 550m	729	Design capacity available	Y	25/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 2	25950E	488208.1	6578332.4	SE of Spankers Flat Road near CP 1/3 Road 400m	546	Basin inundated	Y	-	Basin over topped.	Basin Capacity Restored	Yes
Zone 2	26050W	488204.2	6578484.9	Floodplain	869	Design capacity available	Y	25/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 2	27550W	489424.5	6579375.9	SE of Battersons Road 1km	696	Design capacity available	Y	25/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 2	28100E	489976.5	6579488.1	Floodplain	681	Design capacity available	Y	25/03/2015	Basin over topped.	Basin Capacity Restored	Yes

Zone	Basin	Design	Flowing	Site Location	Basin Capacity	the 21 March 2015	Overflow (Y/N)	Date Capacity Restored	Comments / Notes / Action Taken	Timeframe / Date	Performance Timeframe
Zone 3	30150W-30250W	#N/A	#N/A	Doughboy Swamp - Fill 19 Swale Drain	NA	Design capacity available	Y	25/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	30250E	491996.4	6580259.2	SW of Cooks Lane near Interchange	656	Design capacity available	Y	25/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	30350E	492045.7	6580278.3	SW of Cooks Lane near Interchange	1677	Design capacity available	Y	25/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	31150E	492702.9	6580868.4	NE of Cooks Lane 130m	625	Design capacity available	Y	25/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	31250W	492679.1	6580960.2	NE of Cooks Lane 130m	593	Design capacity available	Y	27/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	31650E	493016	6581264.9	Swamp Sclerophyll Forest	439	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	31750W	492989.6	6581393.9	SW of Hills Lane 700m	1369	Design capacity available	Y	25/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	32450W	493258.3	6581996.2	SW of Hills Lane 700m	331	Design capacity available	Y	28/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	32700E	493437.4	6582209.2	N of Hills Lane 120m	455	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	32800E	493454.4	6582281.1	N of Hills Lane 230m	306	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	33000E	493546.8	6582502.8	E of Clancys Road 270m	382	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	33070E	493558.3	6582525.4	E of Clancys Road 270m	643	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	33950W	493571.2	6583407.8	W Pacific Highway 300m River-flat Forest	787	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	34000W	493594.8	6583493.8	W Pacific Highway 385m River-flat Forest	284	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	34100E	493688.2	6583609.6	W Pacific Highway 320m River-flat Forest	499	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	35200E	493385.9	6584674.1	N of Nirvana Road 650m	789	Design capacity available	Y	23/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	35200W	493328	6584637.2	S Pacific Highway 650m	970	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	35250E	493368.4	6584724	S Pacific Highway 600m	494	Design capacity available	Y	23/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	35750E	493097.4	6585194	E Pacific Highway (adjacent) Swamp Sclerophyll Forest	440	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	36750W	492412.5	6585841	W Pacific Highway (adjacent) Swamp Sclerophyll Forest	488	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	36850E	492411.3	6585957.9	E Pacific Highway (adjacent) Swamp Sclerophyll Forest	396	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	37350E	492097.6	6586291.6	W Pacific Highway, 340m SE Stuarts Point Road	426	Design capacity available	Y	26/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	37600E	491933.2	6586494.5	Close to intersection of Stuarts Point Road and Pacific Highway	NA	Design capacity available	Y	27/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	37600W	491840.9	6586417.9	Close to intersection of Stuarts Point Road and Pacific Highway	NA	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	38100W	491453.3	6586830.1	W Pacific Highway, 450m N Stuarts Point Road	500	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	38450E	491293.5	6587168.2	E Pacific Highway, 300m S Brushbox Lane	541	Design capacity available	Y	24/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	39400E	490853.5	6587923.6	Opp Intersection of Pacific Highway and Station Street	447	Design capacity available	Y	25/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	TB30100	#N/A	#N/A	Main Compound - E	1897.5	Design capacity available	Y	28/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	TB30300	#N/A	#N/A	Main Compound - D	123	Design capacity available	Y	28/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	TB30400	#N/A	#N/A	Main Compound - C	1132.5	Design capacity available	Y	28/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	TB30450	492399.2	6580054.2	Main Compound - B	1739	Design capacity available	Y	28/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	TB30600	#N/A	#N/A	Main Compound - F	NA	Design capacity available	Y	28/03/2015	Basin over topped.	Basin Capacity Restored	Yes
Zone 3	TB30900	#N/A	#N/A	Main Compound - A	684	Design capacity available	Y	28/03/2015	Basin over topped.	Basin Capacity Restored	NA
Summary Overtopped							61				

F2E Pacific Highway Upgrade - Construction Sediment Basin Performance Report

Rainfall Event commencing 30th March 2015

Rainfall Summary 30th March - 8th April 2015			
Date	Rainfall (mm)		
	Main Compound	Northern Compound	Southern Compound
30/03/2015	2.2	2.8	2.6
31/03/2015	9	6.6	10.8
1/04/2015	21.6	26.6	18.8
2/04/2015	0.2	0	0
3/04/2015	13.4	23.4	17.8
4/04/2015	24.2	31.6	26.4
5/04/2015	7	3.4	2
6/04/2015	3.2	5.2	0.4
7/04/2015	13	13	6
8/04/2015	0	0	0
9/04/2015	0	0	0
10/04/2015	0	0	0
11/04/2015	0.6	1.6	2
12/04/2015	0	0	0
13/04/2015	0	0	0
14/04/2015	0	0	0
Total	94.4	114.2	86.8

ZONE	Basin	Easting	Northing	Site Location	Basin Capacity	Condition of Basin prior to the 12 March 2015	Rainfall event starting 30 th March 2015		Comments / Failures / Actions Taken	Action Close Out Timeframe / Date	Basin Capacity Restored WithinTimeframe
							Overflow (Y/N)	Date Capacity Restored			
Zone 1	TB13750	488644.5	6567460.7	Southern Batch Plant	319	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 1	14500E	488294.7	6568081.8	N of un-named waterway N of Frederickton	231	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 1	14900E	487982.3	6568408.9	E of Raymonds Lane	833	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 1	15000E	487947.2	6568447.9	W of Raymonds Lane	440	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 1	15000W	487882.6	6568376.7	E of Raymonds Lane	259	Design capacity available	Y	9/04/2015	Basin over topped.	9/04/2015	Yes
Zone 1	15400E	487636	6568734.8	E CML 104	352	Design capacity available	Y	9/04/2015	Basin over topped.	9/04/2015	Yes
Zone 1	15500E	487614	6568767.5	W CML 104	1352	Design capacity available	Y	11/04/2015	Basin over topped.	11/04/2015	Yes
Zone 1	16350E	487067.7	6569472.9	N Mill/Quarry Road 250m	474	Design capacity available	Y	9/04/2015	Basin over topped.	9/04/2015	Yes
Zone 1	16500E	487055.2	6569494.7	N Mill/Quarry Road 170m	766	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 1	17350E	486683.7	6570386	W Seashore Lane - upstream of Maundia	696	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 1	17350W	486615.8	6570263	W Seashore Lane - upstream of Maundia	914	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes
Zone 1	17400W	486589.2	6570388.1	W Seashore Lane - upstream of Maundia	1071	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 1	17450E	486657.5	6570507.7	W Seashore Lane Swamp Sclerophyll Forest	1620	Design capacity available	Y	9/04/2015	Basin over topped.	9/04/2015	Yes
Zone 1	18800W	486448.5	6571827.9	N of Kemps Access 500m	216	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes
Zone 1	18950W	486459	6571965	Swamp Sclerophyll Forest	406	Design capacity available	Y	9/04/2015	Basin over topped.	9/04/2015	Yes
Zone 2	21550W	486332.3	6574537.3	Swamp Oak Floodplain Forest	306	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 2	21600W	486328.7	6574576.2	Swamp Oak Floodplain Forest	276	Design capacity available	Y	9/04/2015	Basin over topped.	9/04/2015	Yes
Zone 2	21700W	486304.9	6574680	S of Seven Hills Road 1km	771	Design capacity available	Y	11/04/2015	Basin over topped.	11/04/2015	Yes
Zone 2	23800W	486998.7	6576620	E of Tanban Road 400m	430	Design capacity available	Y	9/04/2015	Basin over topped.	9/04/2015	Yes
Zone 2	25550E	488005.7	6578066.5	E of CP 1/2 Road 550m	729	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes
Zone 2	25950E	488208.1	6578332.4	SE of Spankers Flat Road near CP 1/3 Road 400m	546	Basin inundated	Y	NA	Basin over topped. Basin inundated by surrounding water	NA	NA
Zone 2	26050W	488204.2	6578484.9	Floodplain	869	Design capacity available	Y	11/04/2015	Basin over topped.	11/04/2015	Yes
Zone 2	27550E	489479.3	6579311	SE of Battersons Road 1km	920	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes

Zone	Basin	Design	Flowing	Site Location	Design Capacity	the 12 March 2015	Overflow (Y/N)	Date Capacity Restored	Comments / Issues / Action Taken	Timeframe / Date	Performance Timeframe
Zone 2	27550W	489424.5	6579375.9	SE of Battersons Road 1km	696	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	30150W-30250W	#N/A	#N/A	Doughboy Swamp - Fill 19 Swale Drain	NA	Design capacity available	Y	11/04/2015	Basin over topped. Reused for dust suppression.	11/04/2015	Yes
Zone 3	30250E	491996.4	6580259.2	SW of Cooks Lane near interchange	656	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	30350E	492045.7	6580278.3	SW of Cooks Lane near Interchange	1677	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	31150E	492702.9	6580868.4	NE of Cooks Lane 130m	625	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	31250W	492679.1	6580960.2	NE of Cooks Lane 130m	593	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes
Zone 3	31650E	493016	6581264.9	Swamp Sclerophyll Forest	439	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	31750W	492989.6	6581393.9	SW of Hills Lane 700m	1369	Design capacity available	Y	15/04/2015	Basin over topped. Water quality within basin was well above discharge criteria and despite numerous treatment attempts the field NTU remained above 100. Sample taken on 13/4/15 and Lab confirmed TSS value was below 50 mg/l. Basin proceeded to be discharged on the 14/4/15 and capacity expected to be restored by the morning of the 15/4/15.	15/05/2015	No
Zone 3	32450W	493258.3	6581996.2	SW of Hills Lane 700m	331	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	32700E	493437.4	6582209.2	N of Hills Lane 120m	455	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	32800E	493454.4	6582281.1	N of Hills Lane 230m	306	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	33070E	493558.3	6582525.4	E of Clancys Road 270m	643	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes
Zone 3	33950W	493571.2	6583407.8	W Pacific Highway 300m River-flat Forest	787	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	34000W	493594.8	6583493.8	W Pacific Highway 385m River-flat Forest	284	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	34100E	493688.2	6583609.6	W Pacific Highway 320m River-flat Forest	499	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	34350E	493645.3	6583853	S of Nirvana Road 100m	271	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	34400E	493638.4	6583881.7	S of Nirvana Road 600m	563	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	35200E	493385.9	6584674.1	N of Nirvana Road 650m	789	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	35200W	493328	6584637.2	S Pacific Highway 650m	970	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes
Zone 3	35250E	493368.4	6584724	S Pacific Highway 600m	494	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	35250W	493315.4	6584669.5	S Pacific Highway 600m	351	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	35650E	493186.6	6585068.8	W Pacific Highway (adjacent) Swamp Sclerophyll Forest	412	Design capacity available	Y	9/04/2015	Basin over topped.	9/04/2015	Yes
Zone 3	35750E	493097.4	6585194	E Pacific Highway (adjacent) Swamp Sclerophyll Forest	440	Design capacity available	Y	8/04/2015	Basin over topped. Water pumped to stand pipe.	8/04/2015	Yes
Zone 3	35750W	493056.2	6585129.6	W Pacific Highway (adjacent) Swamp Sclerophyll Forest	552	Design capacity available	Y	9/04/2015	Basin over topped. Stand pipe at basin restored capacity.	9/04/2015	Yes
Zone 3	36750W	492412.5	6585841	W Pacific Highway (adjacent) Swamp Sclerophyll Forest	488	Design capacity available	Y	9/04/2015	Basin over topped.	9/04/2015	Yes
Zone 3	36850E	492411.3	6585957.9	E Pacific Highway (adjacent) Swamp Sclerophyll Forest	396	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes
Zone 3	37200E	492130.5	6586255.7	W Pacific Highway, 490m SE Stuarts Point Road	232	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	37350E	492097.6	6586291.6	W Pacific Highway, 340m SE Stuarts Point Road	426	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes
Zone 3	37600E	491933.2	6586494.5	Close to intersection of Stuarts Point Road and Pacific Highway	NA	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	37600W	491840.9	6586417.9	Close to intersection of Stuarts Point Road and Pacific Highway	NA	Design capacity available	Y	11/04/2015	Basin over topped.	11/04/2015	Yes
Zone 3	38100W	491453.3	6586830.1	W Pacific Highway, 450m N Stuarts Point Road	500	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	38450E	491293.5	6587168.2	E Pacific Highway, 300m S Brushbox Lane	541	Design capacity available	Y	8/04/2015	Basin over topped.	8/04/2015	Yes
Zone 3	39400E	490853.5	6587923.6	Opp Intersection of Pacific Highway and Station Street	447	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes
Zone 3	TB30100	#N/A	#N/A	Main Compound - E	1897.5	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes
Zone 3	TB30300	#N/A	#N/A	Main Compound - D	123	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes

Zone	Basin	Design	Flowing	Site Location	Design Capacity	the 12 March 2015	Overflow (Y/N)	Date Capacity Restored	Comments / Issues / Action Taken	Timeframe / Date	Overtopped Timeframe
Zone 3	TB30400	#N/A	#N/A	Main Compound - C	1132.5	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes
Zone 3	TB30450	492399.2	6580054.2	Main Compound - B	1739	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes
Zone 3	TB30600	#N/A	#N/A	Main Compound - F	NA	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes
Zone 3	TB30900	#N/A	#N/A	Main Compound - A	684	Design capacity available	Y	10/04/2015	Basin over topped.	10/04/2015	Yes
					Summary Overtopped		62				

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Rainfall Event commencing 29th April 2015

Rainfall Summary 29th April - 13th May 2015			
Date	Rainfall (mm)		
	Main Compound	Northern Compound	Southern Compound
29/04/2015	7	12.2	10.4
30/04/2015	29.6	28.2	30.2
1/05/2015	73.2	68.4	46.4
2/05/2015	90.8	103.2	41.4
3/05/2015	7.6	4.4	5.4
4/05/2015	1	0.2	0.8
5/05/2015	0.2	0.2	0
6/05/2015	0.2	0.2	0.2
7/05/2015	0	0.2	0
8/05/2015	0	0.2	0
9/05/2015	0	0.2	0
10/05/2015	0	0.2	0
11/05/2015	0	0	0
12/05/2015	0	0.8	0
13/05/2015	0.4	0.2	0.2
Total	210.0	218.8	135.0

ZONE	Basin	Easting	Northing	Site Location	Basin Capacity	Condition of Basin prior to the 12 March 2015	Rainfall event starting 29th April 2015		Comments / Failures / Actions Taken	Action Close Out Timeframe / Date	Basin Capacity Restored Within Timeframe
							Overflow (Y/N)	Date Capacity Restored			
Zone 1	TB13750	488644.5	6567460.7	Southern Batch Plant	319	Design capacity available	Y	6/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 1	14500E	488294.7	6568081.8	N of un-named waterway N of Frederickton	231	Design capacity available	Y	5/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 1	14900E	487982.3	6568408.9	E of Raymonds Lane	833	Design capacity available	Y	7/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 1	15000E	487947.2	6568447.9	W of Raymonds Lane	440	Design capacity available	Y	9/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 1	15000W	487882.6	6568376.7	E of Raymonds Lane	259	Design capacity available	Y	6/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 1	15400E	487636	6568734.8	E CML 104	352	Design capacity available	Y	6/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 1	15450W	487516.5	6568742.1	Swamp Sclerophyll Forest	938	Design capacity available	Y	6/05/2015	Basin over topped. Off site run off over topped clean water drain causing slightly tannin affected water to enter basin.	Capacity Restored	Yes
Zone 1	15500E	487614	6568767.5	W CML 104	1352	Design capacity available	Y	11/05/2015	Basin over topped. Basin was continually treated following rainfall until discharge criteria met.	Capacity Restored	No
Zone 1	16350E	487067.7	6569472.9	N Mill/Quarry Road 250m	474	Design capacity available	Y	9/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 1	16500E	487055.2	6569494.7	N Mill/Quarry Road 170m	766	Design capacity available	Y	6/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 1	17350E	486683.7	6570386	W Seashore Lane - upstream of Maundia	696	Design capacity available	Y	8/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 1	17350W	486615.8	6570263	W Seashore Lane - upstream of Maundia	914	Design capacity available	Y	5/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 1	17400W	486589.2	6570388.1	W Seashore Lane - upstream of Maundia	1071	Design capacity available	Y	9/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 1	17450E	486657.5	6570507.7	W Seashore Lane Swamp Sclerophyll Forest	1620	Design capacity available	Y	9/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 1	18600E	486531.3	6571628.3	N of Kemps Access 280m	1198	Design capacity available	Y	12/05/2015	Basin over topped. Basin was continually treated following rainfall until discharge criteria met.	Capacity Restored	No
Zone 1	18800W	486448.5	6571827.9	N of Kemps Access 500m	216	Design capacity available	Y	8/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 1	18950E	486539.1	6571983.9	Swamp Sclerophyll Forest	428	Design capacity available	Y	5/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 1	18950W	486459	6571965	Swamp Sclerophyll Forest	406	Design capacity available	Y	6/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 2	20422E-20721E	#N/A	#N/A	Collombatti Flood Plain - Fill 15 Swale Basin	NA	Design capacity available	Y	9/05/2015	No Access due to flood water. Water reused on site.	Capacity Restored	Yes
Zone 2	21200E	486502.1	6574181.1	Swamp Oak Floodplain Forest	344	Design capacity available	Y	6/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 2	21550W	486332.3	6574537.3	Swamp Oak Floodplain Forest	306	Design capacity available	Y	6/05/2015	Basin over topped. Height of water within offsite catchment has resulted in influx of offsite water into basin through spillway.	Capacity Restored	Yes
Zone 2	21600W	486328.7	6574576.2	Swamp Oak Floodplain Forest	276	Design capacity available	Y	5/05/2015	Basin over topped. Height of water within offsite catchment has resulted in influx of offsite water into basin through spillway.	Capacity Restored	Yes
Zone 2	21700E	486391.3	6574710.4	S of Seven Hills Road 1km	1563	Design capacity available	Y	9/05/2015	Basin over topped. Water reused onsite for dust suppression.	Capacity Restored	Yes
Zone 2	21700W	486304.9	6574680	S of Seven Hills Road 1km	771	Design capacity available	Y	7/05/2015	Basin over topped.	Capacity Restored	Yes

Zone	Basin	Capacity	Volume	Location	Design Capacity	the 12 March 2015	Overflow (Y/N)	Date Capacity Restored	Comments / Issues / Action Taken	Timeframe / Date	Final Timeframe
Zone 2	22750E	486467.1	6575698.2	W of Seven Hills Road	1293	Design capacity available	Y	5/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 2	22900E	486512.9	65758320.1	W of Seven Hills Road	NA	Design capacity available	Y	5/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 2	23345E-23431E	#N/A	#N/A	Collombatti Flood Plain - Fill 16 Swale Basin	NA	Design capacity available	Y	9/05/2015	Basin over topped. Water reused onsite.	Capacity Restored	Yes
Zone 2	23800W	486998.7	6576620	E of Tanban Road 400m	430	Design capacity available	Y	6/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 2	23850E	487091	6576583.9	E of Tanban Road 400m	862	Design capacity available	Y	12/05/2015	Basin over topped.	Capacity Restored	No
Zone 2	24300W	487256.3	6577008.3	E of Tanban Road 600m	490	Design capacity available	Y	5/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 2	24400W	487327.8	6577128.8	E of Tanban Road 700m	312	Design capacity available	Y	8/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 2	24518E-24603E	#N/A	#N/A	Wizzenbucca Catchment - Fill 17 Swale Basin	NA	Design capacity available	Y	9/05/2015	Basin over topped. Water reused onsite.	Capacity Restored	Yes
Zone 2	24950E	487641.9	6577444.1	E of Tanban Road 900m	626	Design capacity available	Y	9/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 2	24950W	487548.7	6577475.9	E of Tanban Road 900m	381	Design capacity available	Y	12/05/2015	Basin over topped. Basin was continually treated following rainfall until discharge criteria met.	Capacity Restored	No
Zone 2	25550E	488005.7	6578066.5	E of CP 1/2 Road 550m	729	Design capacity available	Y	7/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 2	25950E	488208.1	6578332.4	SE of Spankers Flat Road near CP 1/3 Road 400m	546	Basin inundated	Y	-	Basin over topped. Basin inundated by surrounding water	-	-
Zone 2	26050W	488204.2	6578484.9	Floodplain	869	Design capacity available	Y	12/05/2015	Basin over topped.	Capacity Restored	No
Zone 2	26650E	488725.6	6578883.5	SE of Spankers Flat Road 450m	682	Design capacity available	Y	12/05/2015	Basin over topped. Basin was continually treated following rainfall until discharge criteria met.	Capacity Restored	No
Zone 2	27550E	489479.3	6579311	SE of Battersons Road 1km	920	Design capacity available	Y	8/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 2	27550W	489424.5	6579375.9	SE of Battersons Road 1km	696	Design capacity available	Y	8/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 2	28100E	489976.5	6579488.1	Floodplain	681	Design capacity available	Y	4/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	30150W-30250W	#N/A	#N/A	Doughboy Swamp - Fill 19 Swale Drain	NA	Design capacity available	Y	5/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	30250E	491996.4	6580259.2	SW of Cooks Lane near Interchange	656	Design capacity available	Y	5/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	30350E	492045.7	6580278.3	SW of Cooks Lane near Interchange	1677	Design capacity available	Y	4/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	30400W	492011.4	6580424	SW of Cooks Lane near Interchange	1690	Design capacity available	Y	11/05/2015	Basin over topped. Basin was continually treated following rainfall until discharge criteria met.	Capacity Restored	No
Zone 3	30750E	492415.1	6580576.4	SW of Cooks Lane 200m	266	Design capacity available	Y	5/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	31150E	492702.9	6580868.4	NE of Cooks Lane 130m	625	Design capacity available	Y	12/05/2015	Basin over topped. Height of water within offsite catchment has resulted in influx of offsite water into basin through spillway. Basin was continually treated following rainfall until discharge criteria met.	Capacity Restored	No
Zone 3	31250W	492679.1	6580960.2	NE of Cooks Lane 130m	593	Design capacity available	Y	11/05/2015	Basin over topped. Basin was treated on four separate occasions following rainfall.	Capacity Restored	No
Zone 3	31650E	493016	6581264.9	Swamp Sclerophyll Forest	439	Design capacity available	Y	12/05/2015	Basin over topped. Height of water within offsite catchment has resulted in influx of offsite water into basin through spillway. Basin was continually treated following rainfall until discharge criteria met.	Capacity Restored	No
Zone 3	31750W	492989.6	6581393.9	SW of Hills Lane 700m	1369	Design capacity available	Y	11/05/2015	Basin over topped. Height of water within offsite catchment has resulted in influx of offsite water into basin through spillway. Basin was continually treated following rainfall until discharge criteria met.	Capacity Restored	No
Zone 3	32400E	493333.2	6581935.3	SW of Hills Lane 700m	620	Design capacity available	Y	7/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	32450W	493258.3	6581996.2	SW of Hills Lane 700m	331	Design capacity available	Y	8/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	32700E	493437.4	6582209.2	N of Hills Lane 120m	455	Design capacity available	Y	12/05/2015	Basin over topped and capacity restored on the 12/5/2015. Basin was continually treated following rainfall until discharge criteria met.	Capacity Restored	No
Zone 3	32800E	493454.4	6582281.1	N of Hills Lane 230m	306	Design capacity available	Y	8/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	33000E	493546.8	6582502.8	E of Clancys Road 270m	382	Design capacity available	Y	4/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	33070E	493558.3	6582525.4	E of Clancys Road 270m	643	Design capacity available	Y	9/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	33950E	493695.7	6583488	W Pacific Highway 400m River-flat Forest	796	Design capacity available	Y	13/05/2015	Basin over topped as a result of the clean water drain overtopping into the basin that is currently offline to runoff from the formation.	Capacity Restored	No
Zone 3	33950W	493571.2	6583407.8	W Pacific Highway 300m River-flat Forest	787	Design capacity available	Y	7/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	34000W	493594.8	6583493.8	W Pacific Highway 385m River-flat Forest	284	Design capacity available	Y	5/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	34100E	493688.2	6583609.6	W Pacific Highway 320m River-flat Forest	499	Design capacity available	Y	13/05/2015	Basin over topped.	Capacity Restored	No

Zone	Basin	Design	Flowing	Site Location	Design Capacity	the 12 March 2015	Overflow (Y/N)	Date Capacity Restored	Comments / Status / Action Taken	Timeframe / Date	Within Timeframe
Zone 3	34350E	493645.3	6583853	S of Nirvana Road 100m	271	Design capacity available	Y	6/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	34400E	493638.4	6583881.7	S of Nirvana Road 600m	563	Design capacity available	Y	5/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	35200E	493385.9	6584674.1	N of Nirvana Road 650m	789	Design capacity available	Y	6/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	35200W	493328	6584637.2	S Pacific Highway 650m	970	Design capacity available	Y	8/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	35250E	493368.4	6584724	S Pacific Highway 600m	494	Design capacity available	Y	7/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	35250W	493315.4	6584669.5	S Pacific Highway 600m	351	Design capacity available	Y	5/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	35650E	493186.6	6585068.8	W Pacific Highway (adjacent) Swamp Sclerophyll Forest	412	Design capacity available	Y	7/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	35750E	493097.4	6585194	E Pacific Highway (adjacent) Swamp Sclerophyll Forest	440	Design capacity available	Y	6/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	35750W	493056.2	6585129.6	W Pacific Highway (adjacent) Swamp Sclerophyll Forest	552	Design capacity available	Y	7/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	36750E	492439.9	6585933	E Pacific Highway (adjacent) Swamp Sclerophyll Forest	722	Design capacity available	Y	7/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	36750W	492412.5	6585841	W Pacific Highway (adjacent) Swamp Sclerophyll Forest	488	Design capacity available	Y	5/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	36850E	492411.3	6585957.9	E Pacific Highway (adjacent) Swamp Sclerophyll Forest	396	Design capacity available	Y	7/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	37200E	492130.5	6586255.7	W Pacific Highway, 490m SE Stuarts Point Road	232	Design capacity available	Y	5/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	37350E	492097.6	6586291.6	W Pacific Highway, 340m SE Stuarts Point Road	426	Design capacity available	Y	7/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	37600E	491933.2	6586494.5	Close to intersection of Stuarts Point Road and Pacific Highway	NA	Design capacity available	Y	7/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	37600W	491840.9	6586417.9	Close to intersection of Stuarts Point Road and Pacific Highway	NA	Design capacity available	Y	9/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	38100W	491453.3	6586830.1	W Pacific Highway, 450m N Stuarts Point Road	500	Design capacity available	Y	7/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	38450E	491293.5	6587168.2	E Pacific Highway, 300m S Brushbox Lane	541	Design capacity available	Y	8/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	39400E	490853.5	6587923.6	Opp Intersection of Pacific Highway and Station Street	447	Design capacity available	Y	8/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	TB30100	#N/A	#N/A	Main Compound - E	1897.5	Design capacity available	Y	9/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	TB30300	#N/A	#N/A	Main Compound - D	123	Design capacity available	Y	9/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	TB30400	#N/A	#N/A	Main Compound - C	1132.5	Design capacity available	Y	9/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	TB30450	492399.2	6580054.2	Main Compound - B	1739	Design capacity available	Y	9/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	TB30600	#N/A	#N/A	Main Compound - F	NA	Design capacity available	Y	9/05/2015	Basin over topped.	Capacity Restored	Yes
Zone 3	TB30900	#N/A	#N/A	Main Compound - A	684	Design capacity available	Y	9/05/2015	Basin over topped.	Capacity Restored	Yes
					Summary						
					Overtopped		85				

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Rainfall Event commencing 16th May 2015

Rainfall Summary 16th May - 28th May 2015			
Date	Rainfall (mm)		
	Main Compound	Northern Compound	Southern Compound
16/05/2015	5.2	5.8	1.6
17/05/2015	13.6	19.4	12.6
18/05/2015	13.8	15.6	11.2
19/05/2015	0	0	0.2
20/05/2015	0.4	0.2	0.2
21/05/2015	9.4	11.6	9.8
22/05/2015	8	9.4	9
23/05/2015	0.2	0	0.8
24/05/2015	0	0	0
25/05/2015	0	0.2	0
26/05/2015	0	0.2	0
27/05/2015	0	0	0
28/05/2015	0	0.4	0.2
Total	50.6	62.8	45.6

ZONE	Basin	Easting	Northing	Site Location	Basin Capacity	Condition of Basin prior to the 12 March 2015	Rainfall event starting 16th May 2015		Comments / Failures / Actions Taken	Action Close Out Timeframe / Date	Basin Capacity Restored Within Timeframe
							Overflow (Y/N)	Date Capacity Restored			
Zone 2	21700W	486304.9	6574680	S of Seven Hills Road 1km	771	Design capacity available	Y	28/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 2	25950E	488208.1	6578332.4	SE of Spankers Flat Road near CP 1/3 Road 400m	546	Basin inundated	Y	-	Basin over topped. Basin inundated by surrounding water	-	-
Zone 2	26050W	488204.2	6578484.9	Floodplain	869	Design capacity available	Y	27/05/2015	Basin over topped. Dewatered 20/5/15	Restore basin capacity	Yes
Zone 2	27550W	489424.5	6579375.9	SE of Battersons Road 1km	696	Design capacity available	Y	27/05/2015	Basin over topped. Dewatered 20/5/15.	Basin capacity restored.	Yes
Zone 3	30400W	492011.4	6580424	SW of Cooks Lane near Interchange	1690	Design capacity available	Y	26/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	31150E	492702.9	6580868.4	NE of Cooks Lane 130m	625	Design capacity available	Y	26/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	31250W	492679.1	6580960.2	NE of Cooks Lane 130m	593	Design capacity available	Y	27/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	31750W	492989.6	6581393.9	SW of Hills Lane 700m	1369	Design capacity available	Y	26/05/2015	Basin over topped. Dewatered 22/5/15.	Basin capacity restored.	Yes
Zone 3	33950W	493571.2	6583407.8	W Pacific Highway 300m River-flat Forest	787	Design capacity available	Y	27/05/2015	Basin over topped.	Basin capacity restored.	Yes

Zone	Basin	Design	Flowing	Site Location	Basin Capacity	the 12 March 2015	Overflow (Y/N)	Date Capacity Restored	Comments / Status / Actions Taken	When Basin Was Restored / Date	When Restored / Timeframe
Zone 3	35650E	493186.6	6585068.8	W Pacific Highway (adjacent) Swamp Sclerophyll Forest	412	Design capacity available	Y	20/05/2015	Basin over topped. Dewatered initially on the 20/5/15 and again on the 28/5/15 following further rainfall.	Basin capacity restored.	Yes
Zone 3	35750E	493097.4	6585194	E Pacific Highway (adjacent) Swamp Sclerophyll Forest	440	Design capacity available	Y	26/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	35750W	493056.2	6585129.6	W Pacific Highway (adjacent) Swamp Sclerophyll Forest	552	Design capacity available	Y	19/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	36750E	492439.9	6585933	E Pacific Highway (adjacent) Swamp Sclerophyll Forest	722	Design capacity available	Y	26/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	36750W	492412.5	6585841	W Pacific Highway (adjacent) Swamp Sclerophyll Forest	488	Design capacity available	Y	27/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	36850E	492411.3	6585957.9	E Pacific Highway (adjacent) Swamp Sclerophyll Forest	396	Design capacity available	Y	26/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	37200E	492130.5	6586255.7	W Pacific Highway, 490m SE Stuarts Point Road	232	Design capacity available	Y	26/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	37350E	492097.6	6586291.6	W Pacific Highway, 340m SE Stuarts Point Road	426	Design capacity available	Y	26/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	37600E	491933.2	6586494.5	Close to intersection of Stuarts Point Road and Pacific Highway	NA	Design capacity available	Y	27/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	37600W	491840.9	6586417.9	Close to intersection of Stuarts Point Road and Pacific Highway	NA	Design capacity available	Y	28/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	38100W	491453.3	6586830.1	W Pacific Highway, 450m N Stuarts Point Road	500	Design capacity available	Y	20/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	38450E	491293.5	6587168.2	E Pacific Highway, 300m S Brushbox Lane	541	Design capacity available	Y	20/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	39400E	490853.5	6587923.6	Opp Intersection of Pacific Highway and Station Street	447	Design capacity available	Y	20/05/2015	Basin over topped.	Basin capacity restored.	Yes
Zone 3	TB30900	#N/A	#N/A	Main Compound - A	684	Design capacity available	Y	27/05/2015	Basin over topped.	Basin capacity restored.	Yes
					Summary Overtopped		23				

**Monitoring Data
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Sediment Basin Discharge Events

Basin ID	Last day of rain	Release date	Within 5 day timeframe	pH	NTU	TSS	Hydrocarbons	Volume (Kl)	Land / Water
33950E	25/02/2015	2/03/2015	Yes	7.67	30	26.5	nil	796	water
24950W	26/02/2015	2/03/2015	Yes	7.3	30	26.5	nil	723	water
25550E	26/02/2015	2/03/2015	Yes	7.1	50	44.2	nil	630	water
36750W	25/02/2015	2/03/2015	Yes	7.85	35	31.0	nil	488	water
33950W	25/02/2015	2/03/2015	Yes	7.83	55	48.7	nil	787	water
35200W	25/02/2015	2/03/2015	Yes	7.65	21	18.6	nil	970	water
35200E	25/02/2015	2/03/2015	Yes	7.16	30	26.5	nil	789	water
35750W	25/02/2015	3/03/2015	No	6.87	38	33.6	nil	552	water
25550E	26/02/2015	2/03/2015	Yes	7.4	35	31.0	nil	630	water
33950E	13/03/2015	16/03/2015	Yes	6.63	27	23.9	nil	796	water
33950W	13/03/2015	16/03/2015	Yes	6.77	30	26.5	nil	787	water
34000W	13/03/2015	16/03/2015	Yes	6.94	16	14.2	nil	284	water
34100E	13/03/2015	16/03/2015	Yes	6.72	35	31.0	nil	499	water
35750W	13/03/2015	16/03/2015	Yes	7.04	20	17.7	nil	552	water
36750W	13/03/2015	16/03/2015	Yes	7.15	10	8.8	nil	488	water
36850E	13/03/2015	16/03/2015	Yes	6.73	5	4.4	nil	378	water
37200E	13/03/2015	16/03/2015	Yes	6.88	5	4.4	nil	232	water
37350E	13/03/2015	16/03/2015	Yes	6.94	5	4.4	nil	426	water
38450E	13/03/2015	16/03/2015	Yes	6.66	45	39.8	nil	541	water
35200W	13/03/2015	16/03/2015	Yes	6.96	38	33.6	nil	970	water
35200E	13/03/2015	16/03/2015	Yes	6.55	37	32.7	nil	789	water
30400W	13/03/2015	16/03/2015	Yes	6.79	5	4.4	nil	1014	water
30350E	13/03/2015	16/03/2015	Yes	7.02	5	4.4	nil	1677	water
30250E	13/03/2015	17/03/2015	Yes	7.12	13	11.5	nil	656	water
35250W	13/03/2015	17/03/2015	Yes	7.02	17	15.0	nil	280.8	water
35250E	13/03/2015	14/03/2015	Yes	8.46	50	44.2	nil	494	water
35650E	13/03/2015	16/03/2015	Yes	7.02	11	9.7	nil	370.8	water
15400E	13/03/2015	14/03/2015	Yes	8.3	35	31.0	nil	274.4	water
17350E	13/03/2015	14/03/2015	Yes	7.8	22	19.5	nil	376.8	water
17400W	13/03/2015	14/03/2015	Yes	8.1	20	17.7	nil	709.2	water
17450E	13/03/2015	14/03/2015	Yes	8.4	50	44.2	nil	940.2	water
15450W	13/03/2015	16/03/2015	Yes	8	48	42.5	nil	687.4	water
24950E	13/03/2015	16/03/2015	Yes	6.9	20	17.7	nil	267.4	water
17350W	13/03/2015	17/03/2015	Yes	8.2	10	8.8	nil	528.8	water
24950W	13/03/2015	17/03/2015	Yes	7.8	5	4.4	nil	506.1	water
26050W	13/03/2015	17/03/2015	Yes	7.5	21	18.6	nil	771.2	water
25550E	13/03/2015	18/03/2015	Yes	8	50	44.2	nil	504	water
17450E	23/03/2015	27/03/2015	Yes	7.8	56	49.6	nil	1567	water
15500E	23/03/2015	26/03/2015	Yes	7.7	40	35.4	nil	1304	water
15400E	23/03/2015	26/03/2015	Yes	7.4	50	44.2	nil	392	water
17350W	23/03/2015	26/03/2015	Yes	7.2	53	46.9	nil	661	water

**Monitoring Data
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Basin ID	Last day of rain	Release date	Within 5 day timeframe	pH	NTU	TSS	Hydrocarbons	Volume (KI)	Land / Water
15450W	23/03/2015	24/03/2015	Yes	7.9	24	21.2	nil	982	water
17350E	23/03/2015	24/03/2015	Yes	8.1	50	44.2	nil	942	water
17400W	23/03/2015	24/03/2015	Yes	8.4	40	35.4	nil	1182	water
36750E	23/03/2015	27/03/2015	Yes	7.6	5	4.4	nil	722	water
38450E	23/03/2015	24/03/2015	Yes	6.9	27	23.9	nil	541	water
37200E	23/03/2015	24/03/2015	Yes	7.8	24	21.2	nil	232	water
36850E	23/03/2015	24/03/2015	Yes	7	5	4.4	nil	378	water
36750E	23/03/2015	24/03/2015	Yes	6.9	5	4.4	nil	722	water
36750W	23/03/2015	24/03/2015	Yes	6.8	8	7.1	nil	488	water
35750W	23/03/2015	24/03/2015	Yes	7	28	24.8	nil	552	water
35650E	23/03/2015	24/03/2015	Yes	7.1	5	4.4	nil	412	water
35250W	23/03/2015	24/03/2015	Yes	6.9	6	5.3	nil	351	water
35200W	23/03/2015	24/03/2015	Yes	7.4	50	44.2	nil	970	water
34100E	23/03/2015	24/03/2015	Yes	7	8	7.1	nil	499	water
34000W	23/03/2015	24/03/2015	Yes	6.9	5	4.4	nil	284	water
33950W	23/03/2015	24/03/2015	Yes	8	10	8.8	nil	787	water
33950E	23/03/2015	25/03/2015	Yes	6.8	47	41.6	nil	796	water
30350E	23/03/2015	25/03/2015	Yes	7.2	35	31.0	nil	1677	water
30250E	23/03/2015	25/03/2015	Yes	7	46	40.7	nil	656	water
37350E	23/03/2015	26/03/2015	Yes	7.2	45	39.8	nil	426	water
35200E	23/03/2015	23/03/2015	Yes	7.1	27	23.9	nil	789	water
35250E	23/03/2015	23/03/2015	Yes	6.7	55	48.7	nil	494	water
26050W	23/03/2015	25/03/2015	Yes	6.76	17	15.0	nil	964	water
25550E	23/03/2015	25/03/2015	Yes	7.43	15	13.3	nil	630	water
24950W	23/03/2015	25/03/2015	Yes	6.8	5	4.4	nil	723	water
37350E	30/03/2015	2/04/2015	Yes	7.01	35	31.0	nil	426	water
36850E	30/03/2015	2/04/2015	Yes	6.87	10	8.8	nil	378	water
35650E	30/03/2015	2/04/2015	Yes	6.61	5	4.4	nil	412	water
35650E	7/04/2015	9/04/2015	Yes	8.4	20	17.7	nil	412	water
36750W	7/04/2015	9/04/2015	Yes	8.3	40	35.4	nil	488	water
36750E	7/04/2015	8/04/2015	Yes	7.4	5	4.4	nil	577.6	water
36850E	7/04/2015	10/04/2015	Yes	6.6	45	39.8	nil	378	water
37200E	7/04/2015	8/04/2015	Yes	6.8	55	48.7	nil	232	water
37350E	7/04/2015	10/04/2015	Yes	6.6	15	13.3	nil	426	water
38450E	7/04/2015	8/04/2015	Yes	6.7	50	44.2	nil	541	water
30250E	7/04/2015	8/04/2015	Yes	6.71	30	26.5	nil	656	water
30350E	7/04/2015	8/04/2015	Yes	6.62	12	10.6	nil	1677	water
30400W	7/04/2015	8/04/2015	Yes	6.83	5	4.4	nil	1690	water
35200E	7/04/2015	8/04/2015	Yes	7.07	45	39.8	nil	789	water
35250W	7/04/2015	8/04/2015	Yes	6.77	12	10.6	nil	351	water
34100E	7/04/2015	8/04/2015	Yes	6.95	5	4.4	nil	499	water
34000W	7/04/2015	8/04/2015	Yes	6.67	5	4.4	nil	284	water
33950W	7/04/2015	8/04/2015	Yes	6.8	47	41.6	nil	787	water

**Monitoring Data
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Basin ID	Last day of rain	Release date	Within 5 day timeframe	pH	NTU	TSS	Hydrocarbons	Volume (Kl)	Land / Water
35250E	7/04/2015	8/04/2015	Yes	6.93	32	28.3	nil	494	water
35200W	7/04/2015	10/04/2015	Yes	6.99	45	39.8	nil	970	water
33950E	7/04/2015	10/04/2015	Yes	7.04	52	46.0	nil	756.2	water
26050W	7/04/2015	11/04/2015	Yes	7.4	50	44.2	nil	964	water
15500E	7/04/2015	11/04/2015	Yes	7.5	42	37.2	nil	1304	water
17350W	7/04/2015	10/04/2015	Yes	7.5	53	46.9	nil	661	water
25550E	7/04/2015	10/04/2015	Yes	7.4	46	40.7	nil	630	water
15400E	7/04/2015	9/04/2015	Yes	7.4	54	47.8	nil	392	water
15450W	7/04/2015	9/04/2015	Yes	6.7	56	49.6	nil	982	water
17450E	7/04/2015	9/04/2015	Yes	7.4	52	46.0	nil	1567	water
17400W	7/04/2015	8/04/2015	Yes	7.6	51	45.1	nil	1182	water
17350E	7/04/2015	8/04/2015	Yes	7.5	40	35.4	nil	942	water
25550E	5/05/2015	7/05/2015	Yes	8.1	52	46.0	nil	630	water
15450W	5/05/2015	6/05/2015	Yes	7.7	50	44.2	nil	982	water
17350W	5/05/2015	5/05/2015	Yes	7.1	54	47.8	nil	661	water
30350E	4/05/2015	4/05/2015	Yes	7.19	19	14.0	nil	1677	water
30250E	4/05/2015	5/05/2015	Yes	6.93	52	38.2	nil	656	water
34000W	4/05/2015	6/05/2015	Yes	7.27	52	38.2	nil	284	water
35200E	4/05/2015	6/05/2015	Yes	7.2	50	36.8	nil	789	water
35250W	4/05/2015	6/05/2015	Yes	6.98	12	8.8	nil	351	water
35250E	4/05/2015	7/05/2015	Yes	7.27	50	36.8	nil	494	water
33950W	4/05/2015	7/05/2015	Yes	6.63	55	40.4	nil	787	water
35200W	4/05/2015	8/05/2015	Yes	6.81	62	45.6	nil	970	water
30400W	4/05/2015	11/05/2015	No	7.13	68	50.0	nil	1690	water
33950E	4/05/2015	13/05/2015	No	6.87	50	36.8	nil	796	water
34100E	4/05/2015	13/05/2015	No	6.97	68	50.0	nil	499	water
37200E	4/05/2015	5/05/2015	Yes	7	47	34.6	nil	232	water
36750W	4/05/2015	5/05/2015	Yes	7.7	52	38.2	nil	488	water
36750E	NA	14/05/2015	#VALUE!	6.73	26	19.1	nil	722	water
36850E	NA	14/05/2015	#VALUE!	6.56	27	19.9	nil	378	water
38450E	4/05/2015	8/05/2015	Yes	7.7	68	50.0	nil	541	water
35650E	4/05/2015	7/05/2015	Yes	7.15	65	47.8	nil	412	water
35750W	4/05/2015	7/05/2015	Yes	7.07	68	50.0	nil	552	water
36750E	4/05/2015	7/05/2015	Yes	7.15	65	47.8	nil	722	water
36850E	4/05/2015	7/05/2015	Yes	6.71	55	40.4	nil	378	water
37350E	4/05/2015	7/05/2015	Yes	6.83	55	40.4	nil	426	water
17400W	4/05/2015	9/05/2015	Yes	7.2	53	39.0	nil	1182	water
15500E	4/05/2015	11/05/2015	No	7.8	55	40.4	nil	1304	water
24950W	4/05/2015	11/05/2015	No	7.4	60	44.1	nil	723	water
17350E	4/05/2015	8/05/2015	Yes	7.2	55	40.4	nil	942	water
17450E	4/05/2015	8/05/2015	Yes	7.1	90	28.1	nil	1567	water
24400W	4/05/2015	8/05/2015	Yes	7.2	70	39.0	nil	292	water
24950E	4/05/2015	8/05/2015	Yes	7.1	38	27.9	nil	382	water

**Monitoring Data
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Basin ID	Last day of rain	Release date	Within 5 day timeframe	pH	NTU	TSS	Hydrocarbons	Volume (Kl)	Land / Water
17400W	18/05/2015	19/05/2015	Yes	7.9	20	14.7	nil	472.8	water
15500E	18/05/2015	19/05/2015	Yes	8.4	53	39.0	nil	391.2	water
17350W	18/05/2015	19/05/2015	Yes	7.8	20	14.7	nil	132.2	water
17450E	18/05/2015	19/05/2015	Yes	7.9	17	12.5	nil	626.8	water
25550E	18/05/2015	19/05/2015	Yes	8.5	27	19.9	nil	630	water
15400E	18/05/2015	19/05/2015	Yes	7.1	35	25.7	nil	156.8	water
30350E	18/05/2015	19/05/2015	Yes	6.9	32	23.5	nil	1677	water
25550E	23/05/2015	27/05/2015	Yes	7.8	27	19.9	nil	220.5	water
30350E	NA	14/05/2015	NA	6.5	27	19.9	nil	1677	water
30250E	18/05/2015	22/05/2015	Yes	6.7	20	14.7	nil	262.4	water
30350E	18/05/2015	22/05/2015	Yes	6.6	52	38.2	nil	1677	water
35200E	18/05/2015	20/05/2015	Yes	7.8	20	14.7	nil	394.5	water
35250E	18/05/2015	20/05/2015	Yes	7.2	24	17.6	nil	494	water
35250W	18/05/2015	20/05/2015	Yes	7.3	23	16.9	nil	140.4	water
35200W	18/05/2015	20/05/2015	Yes	7.4	28	20.6	nil	873	water
30250E	18/05/2015	20/05/2015	Yes	7	12	8.8	nil	590.4	water
33950W	23/05/2015	27/05/2015	Yes	7.3	65	47.8	nil	787	water
35200W	23/05/2015	27/05/2015	Yes	7.5	70	51.5	nil	776	water
30250E	23/05/2015	26/05/2015	Yes	6.6	5	3.7	nil	131.2	water
30350E	23/05/2015	26/05/2015	Yes	6.9	5	3.7	nil	1006.2	water
30400W	23/05/2015	26/05/2015	Yes	6.7	27	19.9	nil	1690	water
34100E	23/05/2015	26/05/2015	Yes	6.9	15	11.0	nil	99.8	water
35250E	23/05/2015	26/05/2015	Yes	7.3	12	8.8	nil	419.9	water
15500E	23/05/2015	26/05/2015	Yes	7.6	50	36.8	nil	586.8	water
15450W	23/05/2015	26/05/2015	Yes	8.4	40	29.4	nil	392.8	water
17350W	23/05/2015	26/05/2015	Yes	7.5	12	8.8	nil	661	water
17400W	23/05/2015	26/05/2015	Yes	7.8	12	8.8	nil	1182	water
17450E	23/05/2015	26/05/2015	Yes	7.7	24	17.6	nil	940.2	water
26050W	18/05/2015	20/05/2015	Yes	7.4	19	14.0	nil	964	water
26050W	23/05/2015	26/05/2015	Yes	7.7	30	22.1	nil	964	water
24950E	23/05/2015	26/05/2015	Yes	6.9	20	14.7	nil	382	water
24950W	23/05/2015	26/05/2015	Yes	7	15	11.0	nil	144.6	water
24950W	18/05/2015	20/05/2015	Yes	7.3	16	11.8	nil	723	water
30350E	NA	15/05/2015	NA	6.7	20	14.7	nil	1677	water
38450E	23/05/2015	25/05/2015	Yes	8.04	19	14.0	nil	541	water
30350E	18/05/2015	19/05/2015	Yes	6.9	32	23.5	nil	1677	water
35750W	23/05/2015	26/05/2015	Yes	7.8	9	6.6	nil	552	water
36750E	23/05/2015	26/05/2015	Yes	7	10	7.4	nil	722	water
36750W	23/05/2015	26/05/2015	Yes	7.7	10	7.4	nil	488	water
36850E	18/05/2015	20/05/2015	Yes	6.6	23	16.9	nil	302.4	water
36850E	23/05/2015	26/05/2015	Yes	7.2	10	7.4	nil	378	water
37200E	18/05/2015	20/05/2015	Yes	6.7	12	8.8	nil	185.6	water
37200E	23/05/2015	26/05/2015	Yes	7.9	10	7.4	nil	232	water

**Monitoring Data
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Basin ID	Last day of rain	Release date	Within 5 day timeframe	pH	NTU	TSS	Hydrocarbons	Volume (Kl)	Land / Water
37350E	18/05/2015	20/05/2015	Yes	6.6	10	7.4	nil	340.8	water
37350E	23/05/2015	26/05/2015	Yes	8.1	20	14.7	nil	426	water
38450E	23/05/2015	25/05/2015	Yes	8	19	14.0	nil	541	water
38450E	18/05/2015	20/05/2015	Yes	7.2	30	22.1	nil	432.8	water
35650E	23/05/2015	28/05/2015	Yes	6.6	10	7.4	nil	412	water
15500E	4/05/2015	11/05/2015	No	7.8	55	40.4	nil	1304	water
24950W	4/05/2015	11/05/2015	No	7.4	60	44.1	nil	723	water
26050W	4/05/2015	11/05/2015	No	7.4	60	44.1	nil	964	water
35200E	31/05/2015	3/06/2015	Yes	8.4	25	18.4	nil	552.3	water
35250E	31/05/2015	2/06/2015	Yes	7.3	28	20.6	nil	345.8	water
35200W	31/05/2015	3/06/2015	Yes	8.06	20	14.7	nil	388	water
33950W	31/05/2015	4/06/2015	Yes	8.1	34	25.0	nil	787	water
30250E	31/05/2015	2/06/2015	Yes	6.8	10	7.4	nil	656	water
30350E	31/05/2015	2/06/2015	Yes	6.8	5	3.7	nil	1006.2	water
30400W	31/05/2015	2/06/2015	Yes	7.2	5	3.7	nil	422.5	water
26050W	31/05/2015	3/06/2015	Yes	7.9	50	36.8	nil	626.6	water
15500E	31/05/2015	2/06/2015	Yes	8.5	53	39.0	nil	326	water
15400E	31/05/2015	2/06/2015	Yes	7.7	45	33.1	nil	196	water
15450W	31/05/2015	2/06/2015	Yes	8.2	40	29.4	nil	98.2	water
17450E	31/05/2015	2/06/2015	Yes	7.8	52	38.2	nil	313.4	water
17350W	31/05/2015	2/06/2015	Yes	7.8	45	33.1	nil	66.1	water
17400W	31/05/2015	2/06/2015	Yes	8.1	35	25.7	nil	177.3	water
24950W	10/06/2015	15/06/2015	Yes	7.5	9	6.6	nil	325.35	water
35650E	31/05/2015	2/06/2015	Yes	6.5	9	6.6	nil	123.6	water
35750W	31/05/2015	2/06/2015	Yes	7.6	13	9.6	nil	441.6	water
36750E	31/05/2015	1/06/2015	Yes	7	55	40.4	nil	577.6	water
36750W	31/05/2015	3/06/2015	Yes	6.9	12	8.8	nil	146.4	water
36850E	31/05/2015	3/06/2015	Yes	6.9	55	40.4	nil	302.4	water
37200E	31/05/2015	2/06/2015	Yes	6.5	9	6.6	nil	116	water
37350E	31/05/2015	2/06/2015	Yes	8.1	12	8.8	nil	426	water
33950W	12/06/2015	17/06/2015	Yes	7.04	7	5.1	nil	314.8	water
30350E	12/06/2015	16/06/2015	Yes	6.8	30	22.1	nil	838.5	water
30350E	12/06/2015	15/06/2015	Yes	6.9	40	29.4	nil	838.5	water
30350E	12/06/2015	12/06/2015	Yes	7.25	34	25.0	nil	838.5	water
30250E	12/06/2015	12/06/2015	Yes	7.8	25	18.4	nil	262.4	water
30350E	5/06/2015	5/06/2015	Yes	6.9	55	40.4	nil	419.25	water
30350E	21/07/2015	25/07/2015	Yes	7.34	10	7.4	nil	670.8	water
17350W	24/08/2015	26/08/2015	Yes	8.1	17	12.5	nil	264.4	water
24950W	24/08/2015	28/08/2015	Yes	7.3	12	8.8	nil	72.3	water
24950E	24/08/2015	28/08/2015	Yes	7.5	5	3.7	nil	114.6	water
17400W	24/08/2015	28/08/2015	Yes	8.2	60	44.1	nil	236.4	water
15500E	24/08/2015	27/08/2015	Yes	8.2	35	25.7	nil	521.6	water
15400E	24/08/2015	28/08/2015	Yes	8.03	35	25.7	nil	39.2	water

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

Basin ID	Last day of rain	Release date	Within 5 day timeframe	pH	NTU	TSS	Hydrocarbons	Volume (Kl)	Land / Water
25550E	24/08/2015	27/08/2015	Yes	6.9	50	36.8	nil	63	water
26050W	24/08/2015	29/08/2015	Yes	7.8	30	22.1	nil	482	water

Count: 221

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

RAINFALL DATA

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

March 2015

Date	Northern Compound Weather Station		Main (Cooks) Compound Weather Station		Southern (Frederickton) Compound Weather Station	
	Daily Rainfall	5 day cumulative rainfall	Daily Rainfall	5 day cumulative rainfall	Daily Rainfall	Daily Rainfall
1/03/2015			0.6	0.6	1.2	0.2
2/03/2015	0.2	0.2				
3/03/2015						
4/03/2015						
5/03/2015						
6/03/2015						
7/03/2015	0.6					
8/03/2015						
9/03/2015			0.2			
10/03/2015						
11/03/2015	2.4					
12/03/2015	1.0		1.4		6.4	
13/03/2015	47.6	48.6	67.2	68.6	28.4	34.8
14/03/2015		48.6		68.6		34.8
15/03/2015		48.6		68.6	0.2	35
16/03/2015		48.6		68.6		35
17/03/2015		48.6	0.2	68.8	0.2	35.2
18/03/2015						
19/03/2015						
20/03/2015						
21/03/2015	33.6	33.6	70.0	70	69.2	69.2
22/03/2015	19.8	53.4	9.8	79.8	15.0	84.2
23/03/2015	0.2	53.6	0.2	80		84.2
24/03/2015		53.6		80		84.2
25/03/2015		53.6		80	11.6	95.8
26/03/2015		53.6	9.8	89.8	9.8	105.6
27/03/2015				89.8		105.6
28/03/2015				89.8		105.6
29/03/2015				89.8		105.6
30/03/2015	2.8		2.4	92.2	3.0	108.6
31/03/2015	28.2	31	26.0	118.2	27.0	135.6
Summary						
Total Rainfall	136.4		187.8		172.0	
Number of rain days	10		11		11	
Maximum rainfall	47.6	53.6	70	118.2	69.2	135.6

Red indicated exceedance of the 85th percentile five day rainfall event (46m)

Orange indicated exceedance of the 80th percentile five day rainfall event (36.5mm)

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

April 2015

Date	Northern Compound Weather Station		Main (Cooks) Compound Weather Station		Southern (Frederickton) Compound Weather Station	
	Daily Rainfall	5 day cumulative rainfall	Daily Rainfall	5 day cumulative rainfall	Daily Rainfall	Daily Rainfall
1/04/2015	5.0	36	4.4	122.6	2.2	137.8
2/04/2015		36	0.2	122.8	0.0	137.8
3/04/2015	37.6	73.6	21.8	144.6	29.4	167.2
4/04/2015	19.0	92.6	17.0	161.6	16.6	183.8
5/04/2015	1.8	94.4	6.2	167.8	0.4	184.2
6/04/2015	18.2	112.6	15.6	183.4	6.2	190.4
7/04/2015		112.6	0.2	183.6	0.0	190.4
8/04/2015		112.6	0.0	183.6	0.0	190.4
9/04/2015		112.6	0.0	183.6	0.0	190.4
10/04/2015	1.2	113.8	0.6	184.2	0.8	191.2
11/04/2015	0.4				1.2	
12/04/2015						
13/04/2015						
14/04/2015						
15/04/2015	0.2					
16/04/2015	0.2					
17/04/2015						
18/04/2015	5.6		4.0		1.4	
19/04/2015	1.6		1.6		1.8	
20/04/2015						
21/04/2015						
22/04/2015	0.2					
23/04/2015	0.0					
24/04/2015	0.2					
25/04/2015						
26/04/2015						
27/04/2015						
28/04/2015						
29/04/2015	12.6	12.6	7.4	7.4	11.6	11.6
30/04/2015	64.0	76.6	80.0	87.4	53.4	65
Summary						
Total Rainfall	167.8		159		125	
Number of rain days	16		14		15	
Maximum rainfall	64	113.8	80	184.2	53.4	191.2

Red indicated exceedance of the 85th percentile five day rainfall event (46m)

Orange indicated exceedance of the 80th percentile five day rainfall event (36.5mm)

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

May 2015

Date	Northern Compound Weather Station		Main (Cooks) Compound Weather Station		Southern (Frederickton) Compound Weather Station	
	Daily Rainfall	5 day cumulative rainfall	Daily Rainfall	5 day cumulative rainfall	Daily Rainfall	5 day cumulative rainfall
1/05/2015	105.2	181.8	101.6	189	53.6	118.6
2/05/2015	30.4	212.2	11.8	200.8	11.6	130.2
3/05/2015	4.4	216.6	8.4	209.2	4.4	134.6
4/05/2015	0.2	216.8	0.0	209.2	0.0	134.6
5/05/2015	0.2	217	0.2	209.4	0.2	134.8
6/05/2015	0.2	217.2	0.2	209.6		134.8
7/05/2015	0.2	217.4	0.0	209.6		
8/05/2015	0.2					
9/05/2015	0.2					
10/05/2015						
11/05/2015						
12/05/2015	1.0					
13/05/2015			0.4		0.2	
14/05/2015						
15/05/2015	4.0		3.4		1.8	
16/05/2015	1.8		2.0		0.0	
17/05/2015	20.8	26.6	14.8	20.2	13.2	13.2
18/05/2015	14.2	40.8	12.6	32.8	10.8	24
19/05/2015	0.2	41	0.2	33	0.2	24.2
20/05/2015	4.8	45.8	2.8	35.8	4.0	28.2
21/05/2015	7.0	52.8	7.8	43.6	7.6	35.8
22/05/2015	9.2	62	7.0	50.6	7.6	43.4
23/05/2015	0.0	62	0.2	50.8	0.4	43.8
24/05/2015	0.2	62.2		50.8		43.8
25/05/2015	0.2	62.4		50.8		43.8
26/05/2015	0.0	62.4		50.8		43.8
27/05/2015	0.2				0.2	
28/05/2015	0.4					
29/05/2015	0.2		0.8		0.2	
30/05/2015	5.6		5.0		5.6	
31/05/2015	8.0	13.8	10.2	16	6.0	11.8
Summary						
Total Rainfall	219		189.4		127.6	
Number of rain days	25		19		18	
Maximum rainfall	105.2	217.4	101.6	209.6	53.6	134.8

Red indicated exceedance of the 85th percentile five day rainfall event (46m)

Orange indicated exceedance of the 80th percentile five day rainfall event (36.5mm)

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

June 2015

Date	Northern Compound Weather Station		Main (Cooks) Compound Weather Station		Southern (Frederickton) Compound Weather Station	
	Daily Rainfall	5 day cumulative rainfall	Daily Rainfall	5 day cumulative rainfall	Daily Rainfall	5 day cumulative rainfall
1/06/2015	0.2	14	0.2	16.2		11.8
2/06/2015		14		16.2		11.8
3/06/2015	0.2	14.2		16.2		11.8
4/06/2015	0.2	14.4		16.2		11.8
5/06/2015	1.4				0.6	
6/06/2015	0.8		1.8		0.8	
7/06/2015	0.2		0.2			
8/06/2015						
9/06/2015	0.2		0.2			
10/06/2015	10.8	11	10.6	10.8	2.6	
11/06/2015	0.2	11.2	0.2	11		
12/06/2015	2.4	13.6	2.0	13	0.4	
13/06/2015		13.6		13		
14/06/2015	0.2	13.8	0.2	13.2		
15/06/2015			1.0		0.4	
16/06/2015	1.2		1.2		1.2	
17/06/2015	2.0		1.6		1.6	
18/06/2015	0.2		0.2			
19/06/2015						
20/06/2015	0.4					
21/06/2015						
22/06/2015	0.2					
23/06/2015	0.2					
24/06/2015						
25/06/2015	3.2		6.0		6.0	
26/06/2015	0.2		0.2		0.2	
27/06/2015	0.2					
28/06/2015	0.2					
29/06/2015			0.8			
30/06/2015						
Summary						
Total Rainfall	24.8		26.4		13.8	
Number of rain days	21		15		9	
Maximum rainfall	10.8	14.4	10.6	16.2	6	11.8

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

July 2015

Date	Northern Compound Weather Station		Main (Cooks) Compound Weather Station		Southern (Frederickton) Compound Weather Station	
	Daily Rainfall	5 day cumulative rainfall	Daily Rainfall	5 day cumulative rainfall	Daily Rainfall	5 day cumulative rainfall
1/07/2015	2.0		0.4		0.2	
2/07/2015			0.2			
3/07/2015						
4/07/2015						
5/07/2015	0.2					
6/07/2015	0.2					
7/07/2015						
8/07/2015	0.4					
9/07/2015	1.6					
10/07/2015					0.4	
11/07/2015	0.6		1.0		0.8	
12/07/2015						
13/07/2015						
14/07/2015						
15/07/2015						
16/07/2015						
17/07/2015						
18/07/2015						
19/07/2015	0.8		0.6		0.6	
20/07/2015	4.8		2.6		7.4	
21/07/2015	5.0	10.6	3.2		3.4	11.4
22/07/2015	0.8	11.4	0.2		0.4	11.8
23/07/2015	0.6	12	0.6			11.8
24/07/2015	3.0	15	2.2			11.8
25/07/2015		15	0.2			
26/07/2015						
27/07/2015	0.2					
28/07/2015					0.4	
29/07/2015						
30/07/2015						
31/07/2015						
Summary						
Total Rainfall	20.2		11.2		13.6	
Number of rain days	13		10		10	
Maximum rainfall	5	15	3.2	<10	7.2	11.8

**Monitoring Data
Construction Phase
4 March – 3 September 2015**

August 2015

Date	Northern Compound		Main (Cooks) Compound		Southern Compound	
	Daily Rainfall	5 day cumulative	Daily Rainfall	5 day cumulative	Daily Rainfall	5 day cumulative
1/08/2015						
2/08/2015	0.2					
3/08/2015			0.2			
4/08/2015	0.6					
5/08/2015						
6/08/2015						
7/08/2015	0.2					
8/08/2015						
9/08/2015						
10/08/2015	0.2					
11/08/2015						
12/08/2015	0.4		0.6			
13/08/2015						
14/08/2015						
15/08/2015			0.2			
16/08/2015						
17/08/2015						
18/08/2015						
19/08/2015	0.4					
20/08/2015						
21/08/2015						
22/08/2015						
23/08/2015	14.0	14	10.8	10.8	10.0	
24/08/2015	8.2	22.2	4.6	15.4	6.8	16.8
25/08/2015	0.2	22.4		15.4		16.8
26/08/2015		22.4		15.4		16.8
27/08/2015	0.8	23.2	0.6	16		16.8
28/08/2015		23.2		16		16.8
29/08/2015						
30/08/2015						
31/08/2015						
Summary						
Total Rainfall	25.2		17		16.8	
Number of rain days	10		6		2	
Maximum rainfall	14	23.2	10.8	16	10	16.8