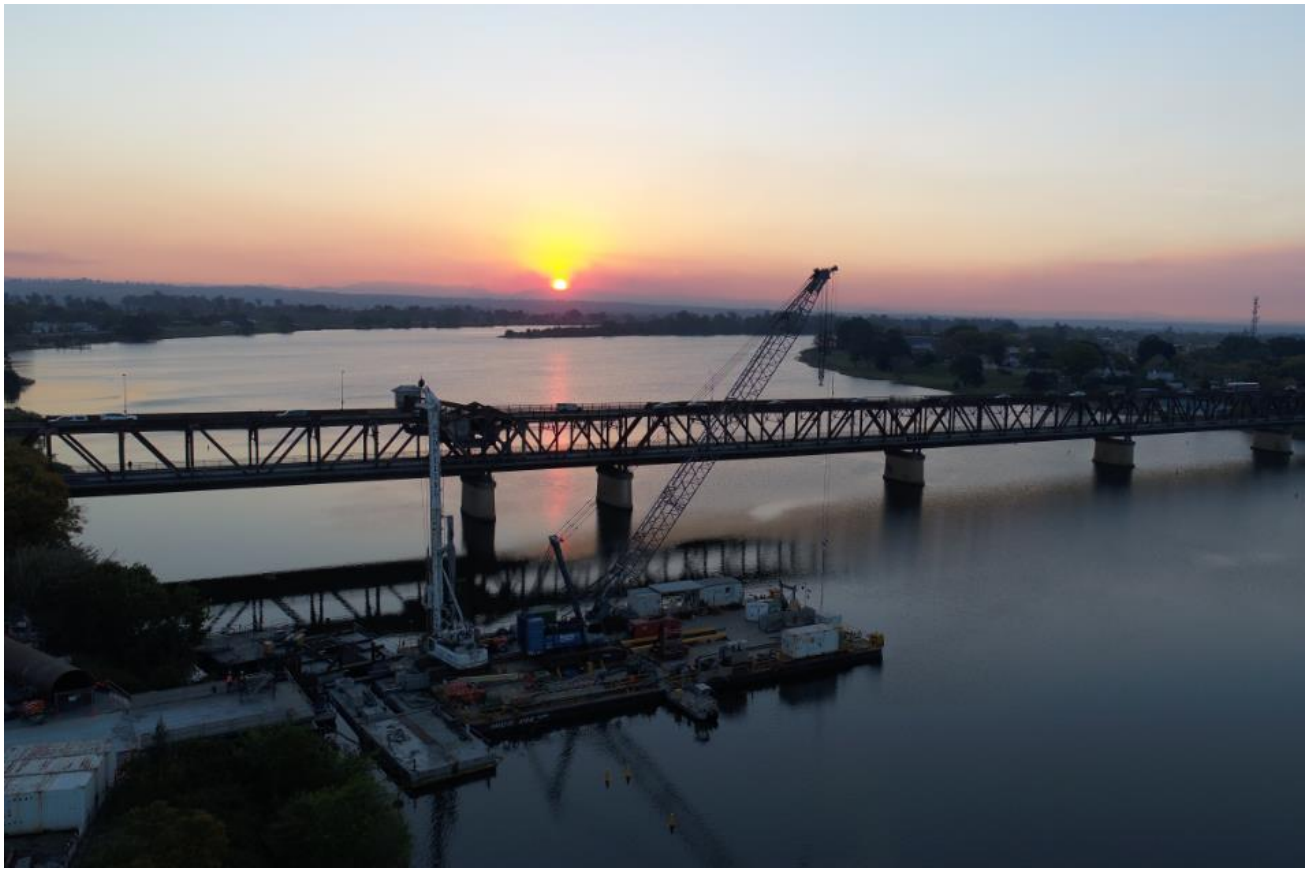
Clarence River Crossing

Construction Compliance Report

Report 2
18 April 2017 - 17 October 2017



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Distribution of controlled copies

The most current version of this report will be available on the Fulton Hogan database for all project personnel. The document will be publicly available at http://www.rms.nsw.gov.au/projects/northern-nsw/grafton-clarence-river-crossing/.

Distribution of this report will be made through the Clarence River Crossing project document control system. The environmental management team will maintain, review and update this document on a six monthly basis.

Copy Number	Issued to	Date	Name
1	Project Director	27 October 17	Mark Stevenson
2	Environmental Manager	27 October 17	Sam Leigh
3	NSW Environmental Manager	27 October 17	Irina Kliger
4	RMS Environmental Representative	27 October 17	John O'Donnell
5	DP&E endorsed Environmental Representative (ER)	27 October 17	Simon Williams

Revision History

Each new revision to the report will be distributed to all registered copyholders with an instruction that the superseded copy be destroyed or marker as superseded.

The revision number is included at the end of the document number, which is noted on each page. When amendments occur, the document or relevant section will be reissued with the revision number updated accordingly.

The Project Manager or Environmental Manager will approve amendments by initial in the Approval column below.

The following provides a record of amendments made to this document:

Revision	Date	Description	Page	Prepared By	Approved
0	26 October 2017	Draft for internal review	All	R. Hannah	S. Leigh
1	27 October 2017	RMS and ER review	All	R. Hannah	S. Leigh
2	20 November 2017	Reviewed in response to RMS and ER comments	All	R. Hannah	S. Leigh
3	28 November 2017	Reviewed in response to RMS comments	10, 11, 12 &16	R. Hannah	S. Leigh

Abbreviations

CEMP	Construction Environmental Management Plan
CPESC	Certified professional in erosion and sediment control
DP&E	Department of Planning & Environment
DPIW	Department of Primary Industries - Water
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPA	Environmental Protection Authority
EP&A Act	Environmental Planning & Assessment Act 1979
EPL	Environmental Protection Licence
ER	Environmental Representative
MCoA	Minister's Conditions of Approval
NCR	Non-conformance report
NML	Noise Management Level (RBL+5)
NSW	New South Wales
OOHW	Out of Hours Work
POEO Act	Protection of the Environmental Operations Act 1997
PPR	Preferred Project Report
RBL	Rating Background Level
RMS	Roads and Maritime Services
ROL	Road Occupancy Licence
SEPP	State Environmental Planning policy
SSI	State Significant Infrastructure
TMP	Traffic Management Plan
VENM	Virgin Excavated Natural Material

1.0 Introduction

The Clarence River Crossing entails a new 525-metre long road bridge crossing of the Clarence River, Grafton. The Bridge will comprise two traffic lanes (one in each direction), road shoulders and a pedestrian/cycle path and be located approximately 70-metres downstream of the existing Grafton Bridge, which will be retained. The Project will also consist of a replacement of a rail viaduct section in Pound Street, approach works and upgrades to sections of the local road network in both Grafton and South Grafton.

The Project is required to alleviate existing traffic congestion and safety issues that arise from increasing traffic demand and inherent design issues with the existing bridge. The Project is consistent with key strategic and transport planning policies including the State Infrastructure Strategy and the Mid North Coast Regional Strategy.

Key features of the project include:

- Construction of a new road bridge over the Clarence River, located approximately 70 meters downstream of the existing Grafton Bridge
- Upgrades to parts of the local road network in both Grafton and South Grafton including:
  - Realigning the existing Pacific Highway to join Iolanthe Street near Through Street
  - Providing a new roundabout at the intersection of Through Street and Iolanthe Street
  - Widening pound street to four lanes and approach to the new bridge
  - Providing traffic signals at the intersection at Pound street and Clarence Street
- Works to the existing rail viaduct section across Pound Street to provide sufficient vertical clearance from the Pound Street upgrade
- Construction of a new shared pathway for cyclists and pedestrians for access to and across the new bridge crossing
- Flood mitigation works including the uplift of sections of the existing levee system upstream of the current Grafton Bridge.

Benefits of the project include:

- Improve traffic efficiency between and within Grafton and South Grafton
- Reducing travel time and delays for local people and businesses in peak periods
- Support regional and local economic development
- New shared pathway to provide safe facilities for pedestrians and cyclists
- Flood mitigation works

The Clarence River Crossing is being delivered through a ‘design and construct’ process. Fulton Hogan was appointed by RMS on 13 September 2016 to deliver the project.

1.1 Background

Roads and Maritime Services (RMS) completed an environmental assessment of the Additional Crossing of the Clarence River at Grafton (the Project EIS) in August 2014. The Project EIS identified a range of environmental, social and planning issues associated with the construction and operation of the Additional Crossing of the Clarence River at Grafton and proposed measures to mitigate or manage those potential impacts.

The Project EIS was publicly exhibited in August 2014 for a period of 30 days. Following public exhibition, submissions from stakeholders were received and addressed by Roads and Maritime in the Submissions Report which was lodged with the Secretary of the Department of Planning and Environment in October 2014.

After consideration of the Project EIS and Submissions Report, the Minister for Planning approved the Additional Crossing of the Clarence River at Grafton Project under Section 115ZB of the Environmental Planning and Assessment Act 1979 (EP&A Act) on 19 December 2014 subject to the Minister's Conditions of Approval (CoA) being met (hereafter referred to as the Project Approval). The project is State Significant Infrastructure (SSI) approved under Part 5.1 of the EP&A Act.

For the purposes of this environmental assessment, the concept design described and assessed in the Project EIS and consequently approved by the Minister, is referred to as the Approved Project.

The CEMP and associated Management Plans were approved by DPE on 15 September, 2016.

1.2 Purpose of this report

The purpose of this compliance tracking report is to assess and provide a summary of the procedures and processes implemented to track compliance in regards to the conditions of approval on the Clarence River Crossing Project.

This is a requirement under the Minister's Condition of Approval (MCoA) A12 which specifies:

A12 – Compliance Tracking

"The proponent shall prepare and implement a Compliance Tracking Program to track compliance with the requirements of this approval. The program shall be submitted to the Secretary for approval prior to the commencement of construction and operate for a minimum of one year following commencement of operation, subject to the Secretary's review of the outcomes of the Independent Environmental Audit Report referred to in condition E5. The operation of the program may be extended if the Secretary determines that there has been unsatisfactory compliance. The program shall include but not necessarily be limited to:

- *(a) provisions for the notification of the Secretary prior to the commencement of works prior to the commencement of construction and prior to the commencement of operation of the SSI (including prior to each stage, where works are being staged);*
- *(b) provisions for periodic review of the compliance status of the SSI against the requirements of this approval;*
- *(c) provisions for periodic reporting of compliance status to the Secretary, including but not limited to:*
  - *i. a Pre-Construction Compliance Report, prior to the commencement of constructions;*
  - *ii. 6-monthly Construction Compliance reports, for the duration of construction; and*
  - *iii. a Pre-Operation Compliance Report prior to the commencement of operation;*
- *(d) a program for independent environmental auditing in accordance with AS/NZS ISO 19011:2014 – Guidelines for Auditing Management Systems;*
- *(e) mechanisms for recording environmental incidents during construction and actions taken in response to those incidents;*
- *(f) provisions for reporting environmental incidents to the Department and relevant public authorities during construction;*

(g) procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management;
(h) provisions for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities; and
(i) Provisions for reporting complaints received in accordance with the Construction Complaints Management System required under condition C2 of this approval.

The compliance tracking program was issued to DPE by RMS and approved by DPE on 10 October 2016.

During this reporting period, the Clarence River Crossing has been generally compliant to the conditions of approval (**Appendix A**). A review of compliance for the six month period from 18 April 2017 to 17 October 2017 is provided in this report.

1.3 Relevant Documentation

Documentation relevant to this report include:

- Additional crossing of the Clarence River at Grafton Instrument of Approval
- Environmental Impact Statement
- Submissions Report
- Hydrological Mitigation Report
- Construction Environmental Management Plan and sub plans

2.0 Project Update

Project works are proceeding generally in accordance with the construction program. During the reporting period there was a total of 62 rain days, 4 of which exceeded the 5 day 85th percentile rainfall depth value of 37.2mm. Total rainfall was 342mm for the reporting period.

The project continued to operate at full capacity as weather and site conditions allowed during the reporting period.

2.1 Levees

As a part of the project upgrades to the Grafton levee wall were required to be constructed, those works were completed in July 2017. Maintenance and minor defects repairs will be ongoing.

Figure 1 Completed levee works in Grafton at (a) NG04 and (b) LPO111

Temporary works in the Clarence River to facilitate the construction of the new bridge such as jetty construction and barge arrival occurred prior to the completion of levee works. This dispensation to the CoA was agreed with the DP&E on the 29 March 2017.

Two three toed snake-tooth skinks were found during the reporting period as a part of the final levee works. Both of these animals were returned to the area they were found after works were completed and the habitat had been improved.

2.2 Demolition

No demolition works occurred during the reporting period. Final demolition works to be completed on the project will be the removal of fencing, redundant power poles, road signage and the pound street rail bridge.

2.3 Utilities and service relocation

Utilities works have started in both Grafton and South Grafton, the general update to the status of work is as follows:

- 1500 meters out of 2200 meters of water relocation
- 280 meters out of 450 meters of sewer relocation
- 2300 out of 5000 pairs of copper cable relocation
- 7 out of 16 fibre optic cables
- Out of 6 electrical service packages, 2.5 have been completed
- ARTC signal cable successfully relocated

Telstra and Optus service relocations works required a number of out of hours to be approved pending agreement from nearby sensitive receivers to accommodate a 10 day working roster. All works were successfully completed under agreement with no complaints associated with the works.

2.3.1 Pump Station

The new stormwater pump station on Kent Street, Grafton commenced during the reporting period. The construction of this pump station comprises of:

- Sheet piling
- Temporary works
- Traffic diversion
- Concrete footings
- Pre-fabrication pump station elements

Completion of the pump station is expected in the first quarter of 2018. The pump station will provide future flood relief to residents on the north side.

2.4 Earthworks

Earthworks have been progressing well in South Grafton, the focus of works has been to install pre-load pads in soft ground areas so that settlement can occur. Site water has been well managed through highly maintained erosion and sediment controls established early onsite. Water continues to be directed away from the Clarence River into sediment basins and then through well vegetated swale drains.

All unsuitable material has been excavated throughout the road alignment and clean fill imported. Areas which have reached the top of pre-load and are now undergoing settlement include fill 1, fill 2, Butters lane and abutment A.

Smaller work areas included the pacific highway tie in, the round-a-bout at Iolanthe and Through Street and earthworks through the inside of the levee at fill 1. These areas are expected to reach the top of pre-load early into the next reporting period ready for settlement.

In Grafton, construction of the Clarence and Pound Street car park was completed and opened to the public in May 2017.

Figure 2 Completed construction of the Clarence and Pound Street car park

2.4.1 Contaminated Land

Two unexpected contaminated land finds occurred throughout the reporting period. On 29 June 2017, a concentrated pile of asbestos was uncovered during excavation works for the settlement trenches near abutment A. The asbestos is currently being managed onsite until a future long-term management strategy has been determined.

In August 2017, the earthworks team discovered a second unexpected find on the inside of the levee at fill 1. The area consisted of hydrocarbon contaminated soils from what is thought to be an old refuelling depot, it is unknown how the ground contamination occurred.

The project conditions of approval require the engagement of both a specialist contaminated land consultant and a contaminated land auditor. They are providing specialist advice to the project to ensure appropriate investigations, sampling, testing, remediation and validation of the site occurs in line with the objectives of the project. Department of Planning and Environment was advised of this process during the reporting process.

A remediation action plan will be developed and implemented during the next reporting period. These works will be certified in a validation report signed off from the site auditor.

2.4.2 Drainage

Drainage works have begun in South Grafton, the focus of those works is:

- Concrete drains progressing in fill 2

- Drains lined with jute mesh and ready for hydroseeding at Iolanthe Street and Through Street
- Installation of culverts and headwalls on Through Street
- Construction of the concrete base slab for the box culvert in fill 2

Figure 3 jute mesh lined drains completed to final design at Iolanthe/ Through Street

2.4.3 Traffic management

Traffic management is required throughout works to ensure that public road users and workers are kept separated and safe.

A summary of traffic management activities during the reporting period is detailed below:

- Continued temporary closure of Greaves Street
- The permanent closure of Kent Street implemented 11.09.17
- One lane periodic closures on Iolanthe, Through, Pound and Clarence Street during service relocation works
- 70 traffic control plans were approved and implemented during the reporting period

Figure 4 Permanent closure of Kent Street

2.5 Temporary Works

The project has put in place a number of temporary facilities and sites to support construction. The western boundary in South Grafton was extended by about 30m, this extension was done with the support of Ngerrie Local Aboriginal land council under the Major Consistency Review process. Other temporary works in place to support construction include:

- Crane pads
- Site access roads
- Temporary boundary fencing and signage
- Construction jetty
- Construction pads at the bridge works areas

All temporary work areas have appropriate environmental controls in place which are maintained on a regular basis. Temporary work areas and facilities will be remediated at the completion of construction.

2.6 Casting Yard

The project casting yard is a significant support facility needed to construct the new bridge. The bridge design is a balanced cantilever which requires more than 150 pre-cast segments to be built onsite. The segments will be built in South Grafton at the location on the eastern side of the project alignment that was assessed and approved in the project EIS and CEMP documents.

The following activities have progressed during the reporting period in the casting yard:

- Foundation layer and clean rock capping layer completed
- Concrete slabs poured for moulds
- Permanent fencing installation completed
- Progressive erosion and sediment controls
- Construction of all 5 pier skirts completed
- Arrival of the exterior mould tables onsite
- The reo cage for the first segment successfully constructed

Figure 5 Mould segments in the process of construction onsite

A mock segment trail was also completed during the reporting period during the design phase in order to optimise reinforcing constructability, trial concrete mixes and provide secondary design modifications.

2.7 Bridge Works

Both piles at pier 2 and one pile at pier 3 were successfully poured during the reporting period. All water was managed onsite and sent to the sediment basin at fill 1.

Figure 6 (a) completed pours at Pier 2 in preparation for pier skirt installation; (b) installed casings for pier 3 and; (c) concrete pump at pier 3

The second barge, the 'Rhumb barge', arrived to site October 9. This barge will be used in conjunction with the Mauve-Ann and will take over the concrete works while the Mauve-Ann continues to pitch and drill piles.

2.7.1 Land Substructure

Drilling at Abutment A, Pier 1 and Pier 8 was completed during the reporting period. Piles were successfully poured at both Pier 1 and Pier 8. The project used various drilling methods to complete the piling works with no major noise or vibration impacts on nearby residents.

The first of the 220m^3 bridge pier pours was completed at Pier 1 on 11 October 2017.

2.8 Sustainability

The Clarence River Crossing project has fostered a number of initiatives to promote sustainable outcomes. Sustainability month was run in July 2017 and consisted of 4 weeks broken down into 4 themes from which the project found ways to improve its sustainability contribution. The program consisted of weekly information sheets and take home facts as well as office and site challenges for the team to participate in.

The themes included:

- Power, electricity and energy efficiency
- Recycling, reusing and reducing plastics
- Transport and the carbon footprint
- Think global, act local

Outcomes achieved:

- Waste stations (general waste, recycling and organic waste) installed at main office and all site compounds
- Increasing carpooling to and from work

- Increasing the use of bikes around site
- Swapping out 200 fluorescent lights in the office for LED lights and recycled the used fluorescent tubes to a licensed facility
- Swapped to 100% recycled paper for printing
- Removed all plastic cutlery and kitchenware from the office and replaced with bamboo/sustainable products
- Brought plants to place around the office to clean the air and improve the vibe

The project has also been recycling both steel and concrete waste, utilising it on site where possible - crushed concrete has been used for stabilised access ways. It was also agreed by the project ERG that plastic linings in concrete washout were unnecessary, reducing the amount of waste being sent to landfill.

3.0 Environmental Control and Performance

During the reporting period, the project implemented and maintained a high standard of environmental controls and management measures.

The project's environmental performance is reviewed and measured by regional RMS, the project ER, EPA, local council, DP&E and the NSW Department of Primary Industries – Fisheries.

3.1 Effectiveness of Environmental Controls

Environmental controls were effective during the reporting period. The project is implementing processes to ensure continuous improvement of the work site.

3.1.1 Soil and water management

As works have progressed across the site, previously installed environmental controls have been maintained and updated to a high standard. Specialist consultants have been engaged by the project throughout the reporting period to inspect, evaluate and audit the effectiveness of implemented environmental controls.

Weekly environmental inspections capture the need for maintenance of controls and ensure all controls are functioning properly and are fit for purpose. Weekly environmental inspections are completed as a minimum and include prior to, during and after rainfall events and prior to new works commencing.

Prior to heavy rainfall, site controls are reviewed and reinforced. Additional maintenance and controls are installed prior to shut down periods and long weekends ensuring maximum efficiency of the site during rainfall events.

During the reporting period, there was a total of 4 rainfall events which exceeded the 5 day 85th percentile rainfall of 37.2mm. All erosion and sediment controls performed well during these weather events minimising potential impacts on receiving catchments and adjacent sensitive receivers.

In South Grafton, controls remain focused on diverting water away from the Clarence River. As earthworks have progressed design drainage has been installed and areas landscaped to reduce distubrance footprint and maintain a high standard of site water control. The focus of the project is to control sediment at the source by applying hydromulching and polymer.

The Grafton section of the project is an urban construction area. This section of the project has limited space and a high complexity of works. In Grafton, the key focus was to minimise the amount of water entering site and reduce the sediment mobilisation. Key controls were seeding disturbed areas and earth mounds, mulch bunds around the works perimeter, polymer stabilisation on exposed dirt and stockpiles, and installing stormwater pit controls.

Figure 7 Controls in Grafton (a) mulch bund and seeded earth mounds and; (b) exposed areas bunded and polymer applied

Figure 8 Controls in South Grafton (a) sump removing sediment prior to entering sediment basin; (b) hydroseeding of topsoiled batters and; (c) polymer application on exposed batters

Figure 9 Grass strike from hydroseeding and polymer controls on batters surrounding clean water basin at Fill 2

3.1.2 Flora and Fauna

Whilst majority of clearing has been completed, the project continued to maintain a high level of ecological management ensuring all impacts on the '*Three Toed Snake Tooth Skink'* (TTSTS), and other local flora and fauna, were minimised.

A total of 7 skinks were encountered throughout the reporting period, 2 of which were found during pre-clearing inspections on the levee works. Both skinks were taken into captivity until works had completed and were successfully re-released into improved habitat at the find location. The remaining 5 skinks were found during earthworks for the main alignment and were relocated into nearby skink protected areas. Habitat enrichment including additional mulch and leaf litter, frequent watering and planting of native species was undertaken throughout the reporting period to maintain a high level of suitable habitat for protected skinks.

Figure 10 Watering down of skink habitat during dry months throughout the reporting period

Nine additional nest boxes were installed in excellent habitat close to Alipou Creek during the reporting period. Autumn and summer monitoring of nest boxes both took place during the reporting period.

Figure 11 Additional nest boxes installed along Alipou Creek

Further detail will be discussed in section 7.4.

3.1.3 Heritage

Education of field staff in recognising potential heritage items has resulted in further works being stopped 3 times for potential unexpected heritage finds during the reporting period.

Two heritage finds occurred within the main alignment on the Southern Bank of the Clarence River. During construction of Pier 2 of the new bridge, old structural timbers from the former jetty were found.

Figure 12 Heritage items found between Abutment A and Pier 1 during excavation works. Object (a) Woods Peppermint cough cure bottle from the early 1900's and object (b) an old copper train handle

Some of these structural forms were salvaged and cleaned to be donated to the local historical society. Excavation works between Abutment A and Pier 1 also found some scattered rubbish items including copper handles, a glass bottle and ceramic items.

The third heritage find occurred at 7 Riverside Drive during the last stages of the levee works. A potential rubbish pit was found during trenching works containing some green glass bottles and ceramics at the western side end of the trench, as well as some buried bricks at the northern end.

Further detail is outlined in Section 7.5.

3.2 Environmental Initiatives

The project team has continued to embraced a beyond compliance approach to the project, aiming to go above and beyond industry best practice standards and to strive for excellence in all aspects of environmental management.

Embracing the beyond compliance approach, the following goals have been achieved during the reporting period:

1. Successfully executing sustainability month, engaging the project and site crews on sustainability ideas and initiatives
2. Working bees with the local aboriginal pre-school helping to remove contaminated sand and replace with a new clean sand pit
3. Landscaping areas that are ready to final landscaping design reducing the amount of rework, minimising the disturbance footprint and increasing efficient water treatment on site
4. Encouraging sustainable outcomes in charity drives, the great cycle challenge was implemented throughout the month of October to support children's cancer and encourage the team to ride bikes around site with over 6,000km ridden between the team

Future project goals are likely to include:

- Assessing the amount of energy saved by the innovative pier skirt design
- Implementation of a waste reduction program
- Developing a positive project culture through project awards and future initiatives

4.0 Environmental Management System Overview

4.1 Environmental Management System Certification

The overall Environmental Management System (EMS) for the Project is described within the Construction Environmental Management Plan (CEMP) and relevant sub plans. The EMS for the Project has been prepared to comply with the requirements of AS/NZS ISO 14001 Environmental Management Systems.

The Fulton Hogan EMS is periodically audited by external auditors to ensure compliance with ISO 14001.

4.2 Environmental Management Framework

The framework of the environmental management documents has been designed to comply with the requirements of ISO 14001 and to be consistent with the Guidelines for the preparation of an EMP (DP&I 2004).

The CEMP comprises relevant sections from Fulton Hogan's Corporate Management System as well as a number of supporting documents (i.e. issue specific environmental sub plans) providing more detailed environmental management specifications.

4.3 Construction Environmental Management Plan

The CEMP is the key management tool in relation to environmental performance during the design and construction phases. The CEMP outlines Fulton Hogan's approach to minimising and managing environmental risks associated with the construction phase of the project. The CEMP is a dynamic document that is reviewed and amended to incorporate additional requirements as required, including changes to the project team, organisational structure and responsibilities or as improvements to procedures and methodologies develop.

The CEMP has been prepared in accordance with a number of guidelines including:

- Guideline for the Preparation of Environmental Management Plans (DP&I 2004);
- RMS Specification G36 – Environmental Protection (Management Systems);
- ISO 14001:2004 – Environmental Management Systems; and
- ISO 19011:2003 – Guidelines for Quality and/or Environmental Management Systems Auditing;
- NSW Minister for Planning Conditions of Approval (MCoA); and
- EA and Submissions Report

The CEMP was approved by the Department of Planning and Environment in accordance with MCoA B35 on 5 October 2016.

Detailed environmental management sub plans have been prepared n key environmental elements and identified for the Project through the environmental assessment and approval process. They document aspects, impacts, safe-guards and monitoring requirements for each key environmental element, nominate who is responsible for implementing controls and note the frequency/timing of implementation.

The CEMP and sub-plans have been reviewed and the dates of revision for the plans are detailed in table 4-1 below.

Table 4-1 CEMP and Sub-plans consistency with MCoA and ER review dates

Plan Name	Approved for use on the Project	Latest Revision Date
Construction Environmental Management Plan	15/09/16	06/10/17
Construction Contaminated Land Management Plan	15/09/16	06/10/17
Construction Air Quality Management Plan	15/09/16	15/08/16
Construction Flora and Fauna Management Plan	15/09/16	06/10/17
Construction Flood Management Plan	15/09/16	29/08/16
Construction Heritage Management Plan	15/09/16	29/08/16
Construction Noise and Vibration Management Plan	15/09/16	06/10/17
Construction Soil and Water Quality Management Plan	15/09/16	06/10/17
Construction Waste and Energy Management Plan	15/09/16	15/08/16
Construction Traffic and Access Management Plan	15/09/16	06/10/17

5.0 Non-Compliances and environmental incidents

5.1 Compliance Management

A non-compliance is a failure to comply with the requirements of the Infrastructure Approval or any applicable licence, permit or legal requirement. These are identified through routine inspections, formal reviews such as auditing and compliance reporting, and incident management.

During the reporting period there were:

- 1 non-compliance. See table 5-1
- Zero non-conformances. See table 5-2

Table 5-1 Non-compliance summary

Date	Description	Non-Compliant against	Status
October 2017	*The dust gauge located next to Bunnings DG3 recorded .6g over the allowable limit.* *This is the first time an exceedance has occurred on the project.*	*Nil*	*Nil*

Table 5-2 Non-conformance summary

Date	Description	Resolution	Status
Nil	*Nil*	*Nil*	*Nil*

5.2 Incident Management

During the reporting period there were eight events recorded as incidents - see tables 5-3 and 5-4 below. The incidents consisted of:

- One reportable event
- Six category 2 incidents
- One category 1 incident

Table 5-3 Recorded Incidents

RMS Incident Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
Category 1			1					1
Category 2	1			1	3		1	6
Reportable Event			1					1
Total	1	0	2	1	3	0	1	**8**

Table 5-4 Incident Summary

Date	Description	Classification	Status
21-Apr-17	A truck and dog broke down on the main road outside Macdonald's due to a faulty tail shaft. As it was being towed off the main road back into the site access road, the tail shaft bounced off the road and punctured the diesel tank	Category 2	Closed
12-Jun-17	The Grafton Bridge Project received a rainfall event that exceeded the design capacity of the installed sediment controls. On Monday 12 June it was observed that controls were over topping.	Reportable Event	Closed
19-Jun-17	The incident occurred during land piling when polymer was lost into the ground. On the Grafton bridge project the land piling method uses a polymer soil stabilisation, the polymer is designed to hold the bored pile hole together. The polymer was lost into a gravel layer about 20m deep in the ground	Category 1	Closed
27-Jul-17	Works commenced without following the CEMP requirements. While a noise assessment had been completed for the works, works proceeded 2 days ahead of schedule and included unplanned extra works	Category 2	Closed
1-Aug-17	Oil leaked onto the ground during piling works using the vibration plate at abutment A in South Grafton	Category 2	Closed
30-Aug-17	Water pump blew a head gasket during a pile pour at Pier 2 causing diesel and engine oil to mix with water and overflow onto the pontoon deck, some of which spilled into the water.	Category 2	Closed
30-Aug-17	Fitting came loose on the BG-40 drill rig during drilling works at Pier 8 causing a short instantaneous burst of oil to spray from the machine	Category 2	Closed
11-Oct-17	During re-filling of the concrete pump 'slopper box', a small amount of water based lubricant spilt onto the gravel surface	Category 2	Closed

6.0 Environmental representative reports and correspondence

The CEMP requires a suitably qualified and experienced person, independent of the project design and construction, to act as a principal point of assistance in relation to all questions and complaints regarding environmental performance. Updates to the CEMP, consistency assessments and any other plans required under MCoA are required to be signed off by the environmental representative (ER) as necessary. The ER is also required to monitor the implementation of environmental management plans and monitoring programs.

6.1 Environmental representative approvals

During the reporting period, correspondence with the environmental representative has been inclusive of the following:

April 2017

- Consistency Review – ARTC Access Track (approved).
- File Note – Creasy Levee Raising on private property (approved).
- Consistency Review – Eastern Boundary Extension (draft prepared).

May 2017

- Compliance Tracking Program (Reviewed).
- Six monthly compliance report, issued to DPE.
- Eastern Boundary extension CR (Approved).
- CEMP: CTAMP – Addenda 1 Navigation Management Plan (Approved)

June 2017

- Construction Heritage Management Plan – Addendum 1 (Approved)
- Marine Works Ancillary Facilities Assessment (Approved)
- Eastern Crane Pad Major Consistency Assessment (Approved)

July 2017

- Utility Design Refinements Minor Consistency Review(Approved)

August 2017

- Minor change to OOHW request form.
- OOHW Request for Pier 3 Concrete Pour – Inaudible.
- OOHW Request for Telstra Service Relocation works – Resident Agreements.
- OOHW Request for Mango Tree Clearing (Clarence Street) – Resident Agreements.
- Consistency Assessment – Western Boundary Extension (Pound Street Rail Bridge) – Reviewed

September 2017

- OOHW Request for River Works – reviewed and approved
- Minor Consistency Review – Pound Street Railway Closure Works: reviewed and approved
- Consistency Assessment – Western Boundary Extension (Pound Street Rail Bridge): reviewed.

October2017

- Consistency Assessment – Western Boundary Extension (Approved)
- Consistency Assessment – Pound Street Rail Bridge (Approved)

6.2 Environmental Representative Reports and Outcomes

Site inspections with the environmental representative occur on a monthly basis. The results of these inspections are detailed in this section.

Table 6-1 ER inspection report comments

Report Number	Date	Issues/Comments	Status
1	24 May 2017	Fix geofabric down to the end of the culvert to ensure runoff does not flow under geofabric	Closed out
		Clean up various existing debris and waste materials at the access to Fill No. 1	Closed out
		Create a number of armoured/stabilized batter chutes to drain runoff from fill into perimeter fill drains	Closed out
2	21 Jun 2017	Waste material (geofabric) left onsite on the eastern side of the access track to the crane pad. Requires disposal	Closed out
		Remove fuel jerry can or place in a bunded containment area. Ensure pumps are managed accordingly to prevent spills into waterway. May require appropriate spill kits in vicinity of pumps.	Closed out
		Confirm arrangement for basin spillways are blue book compliant and meet G38 specifications. Feedback from soil conservationist would be appreciated	Closed out
		Ensure adequate run on areas are provided prior to cattle grids	Closed out
3	24 Jul 2017	Repair project boundary flagging tape	Closed out
		Install ERSED controls along boundary	Closed out
		Investigate and install appropriate measures to ensure all site water is directed to appropriate treatment measures, in particular water directed down access ramps and to sediment basins. May require cut drains or rollover on ramp and appropriate bunding. Repair existing controls where required. Update PESCP to include any amendments, additions or omissions	Closed out
		Fix ERSED controls on ramp and clean and dirty water drains	Closed out
		Ensure that approved active stockpile sites are installed and managed in accordance with G36/38, Stockpile Management protocol, ASS management Plan, CSWMP and Bluebook. Ensure ASTA and Stockpile site drainage does not intersect. Update PESCP to include extent and management of approved active stockpile sites	Noted/ Closed out
		Clean/dirty water bund may require maintenance to reinstate capacity. Fill material appears to have encroached on bund and may result in dirty water over topping into clean water drain	Closed out
		Ensure appropriate marker pegs are installed in appropriate location with required markings i.e. storage zone and settlement zone and design capacity. Ensure that basins are constructed to meet the requirements outlines in G38 along with the bluebook	Closed out
		Ensure that appropriate testing and classification of any spoil is undertaken to determine potential reuse or disposal pathways	Closed out
		Ensure that batter chutes are reinstated and/or installed as required prior to any rainfall event or end of day control if required	Closed out

		Confirm arrangements and measures for washout pits to ensure no site water is diverted into pits which may result in over topping or spilling of the pits into drains/basins	Closed out
		Ensure that appropriate water management measures and procedures are implemented across the sites	Closed out
		Sites may require investigation and management of weeds	Closed out
4	21 Aug 2017	Ensure ECP is in place and is being followed	Closed out
		Review ERSED controls for crane pad and access, implement and sign off from Soil Conservationist	Closed out
		Re-install sed fence ensuring it is keyed in and stable	Closed out
		Finalise and install ERSED controls on the western side of embankment	Closed out
		Remove or bund small stockpile	Closed out
5	20 Sep 2017	Stockpile management – stockpiles are located throughout the site and need to be managed in accordance with the RMS stockpile protocol. Ensure there is no cross contamination of stockpile material with contaminated lands	Noted
		Update and distribute PESCPs. Furthermore, given the current vulnerability of the site to rain, perhaps prepare a list of immediate ERSED works that need to occur should rain be forecast	Closed out
		The site is dry and hence it is noted street sweepers and water carts are being used. Ensure this continues and dust and dirt tracking is monitored should additional resources be required.	Closed out
		Ensure weeds are being managed onsite according to the Weeds management specification. Spring it the season to control	Noted
		Ensure construction waste is properly management onsite and general waste is cleaned up	Noted
		Repair damage to access in fill one caused by installation of pipe	Closed out
		Ensure the ECS measures are in place and maintained as per approved ESCP. Appears that mulch bund may not link into existing controls for diverting site water to sediment basins	Closed out
		Review location cross flow drainage pipe inlayed into fill. Seems to be high	Noted
		Ensure that the access ramp from fill to sediment basin does not divert site water into the walls of the sediment basin. May need to ensure procedures are in place for reinstating bund on edge of sill prior to rain	Closed out

7.0 Environmental Monitoring

Environmental monitoring is used to review potential environmental risks caused by project activity. It allows the project to assess and evaluate receiving environment trends and ensure installed controls are appropriate and effective.

A range of environmental monitoring is required by the MCoA throughout the duration of construction of the project. These measures are listed in the CEMP. The results of the monitoring programs are described in this section.

7.1 Water Quality

Water quality throughout the reporting period has been representative of background data and has not demonstrated any impact as a result from construction. Results showed an increase in salinity during the dry months due to lack of fresh water inflows from upstream catchments. Decreases in water quality are typically observed following a large rainfall in the wider upstream catchment as can be seen in the June monitoring results. It takes about 2-7 days before upstream affected waters flow past the bridge works site in Grafton.

During the reporting period there was a total of 62 rain days, 4 of which exceeded the 5 day 85th percentile rainfall depth value of 37.2mm. Majority of this rainfall occurred in April, June and October. Total rainfall was 342mm for the reporting period. Site water from rainfall events were managed through the project sediment control devices, stored water was treated and pumped onto well grassed areas.

The project did not have any measurable effect on the background water quality of either Alipou creek or the Clarence River during the reporting period. Rainfall events were well managed and site materials and waters contained on the site. Marine works were also well managed - pile spoil, displaced water from pile pours and concrete have all been managed to and from the river correctly. The river water quality has been protected throughout the project works.

Water quality monitoring results can be seen in **Appendix B**.

7.1.1 Groundwater monitoring

Groundwater monitoring was undertaken in May 2017 to assess the extent and movement of the existing contaminated plume of groundwater beneath the southern abutment of the new bridge. The results showed that there was no measurable movement of the hydrocarbon plume, 6 out of 7 monitoring locations did not return results indicating contamination. PMW1 returned results indicating the presence of both PAH's and TPH's as well as exhibiting a strong hydrocarbon odour. PMW1 is directly on top of the plume and would be expected to show affected results.

The next round of groundwater monitoring is expected to take place in November 2017.

Section 2.3.1 of this report provides details on a new unexpected contaminated land find in South Grafton. The investigation into the extent of that contamination included new groundwater wells. That groundwater monitoring showed 2 of 10 wells to be highly contaminated with hydrocarbons. A remediation plan is in the process of being completed for the management of the contamination.

7.2 Noise and Vibration Monitoring

Noise monitoring was undertaken during standard construction hours for periodic (monthly) review, background noise assessments and for out of hours work assessments. All recorded noise levels were consistent with the anticipated levels as described in the approved Noise and Vibration Management Plan with no non-compliances.

23 out of hours work events were approved during the reporting period. Refer to table 7-1 below.

Table 7-1 Approved OOHW summary

Date	Description	Location	Justification	Status
10/6/17	Scaffold Installation	Pound St Rail Bridge	Inaudible	Complete
1/8/17	Pile pour preparation	Pier 2	Inaudible	Complete
3/8/17	Pile pour	Pier 1	Inaudible	Complete
2/9/17	Clearing of 3 Mango Trees	Clarence Street	Agreement	Complete
3/8/17	Early access to barge	Pier 2	Inaudible	Complete
4/8/17	Extended Saturday works for marine pours	Pier 2	Inaudible	Complete
26/8/17	Telstra relocation works	Kent Street railway easement	Agreement	Complete
26/8/17	Telstra relocation works	Pound and Clarence Street	Agreement	Complete
23/9/17	Telstra relocation works	Bridge Street	Agreement	Complete
15/8/17	Early start for marine pile pour	Pier 2	Inaudible	Complete
26/8/17	ARTC Signal cable cut over	SG to NG train station rail corridor	Inaudible	Complete
26/8/17	Underbore of Optus optic fibre	Abutment A	Inaudible	Complete
26/8/17	Removal of asbestos from Telstra pits	Pound/Clarence Street	Inaudible	Complete
30/8/17	Early start for marine pile pour	Pier 2	Inaudible	Complete
3/9/17	Line switchover for underground HV power	Through Street	Inaudible	Complete
31/8/17	Pump running overnight to cool concrete	Pier 2	Inaudible	Complete
3/9/17	Removal of existing power pole	Kent and Greaves Street	Inaudible	Complete
18/9/17	Telstra relocation works	South Grafton	Inaudible	Complete
16/9/17	Drilling of Pier 3 piles	Pier 2 and 3	Agreement	Complete
20/9/17	Cable Pulling - Telstra	Pound and Greaves Street	Inaudible	Complete

28/9/17	Pile pour preparation	Pier 2 and 3	Inaudible	Complete
29/9/17	Pile Pour	Pier 3	Agreement	Complete
9/10/17	Stage 1 Pier 1 pour	Pier 1	Inaudible	Complete

Attended noise monitoring was undertaken to assess the modelled out of hours and evaluate calculated noise levels. Figure 13 below shows a comparison between a background noise assessment where no works were taking place against the monitored out of hours works during construction. Results confirmed the model indicating the difference to be negligible.

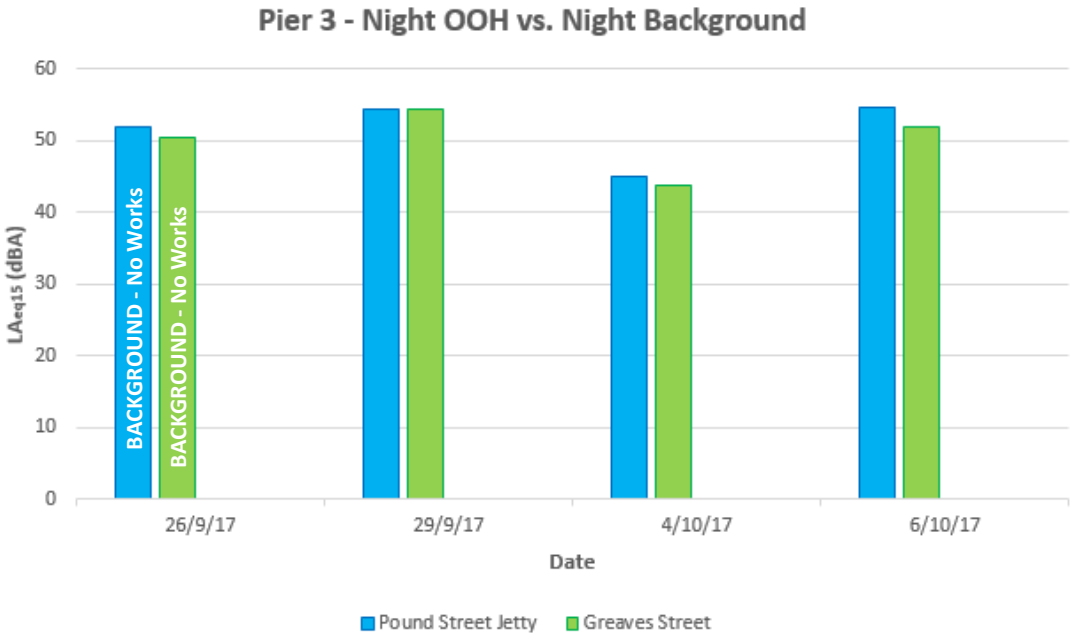

Figure 13 OOH works assessment vs. background noise levels for works at Pier 3

All out of hour's works were consistent with the CEMP management plans and were completed without complaint or incident.

Noise monitoring results can be seen in **Appendix C**.

Vibration monitoring was undertaken throughout the reporting period for the following activities:

- construction of the Clarence and Pound Street car park
- construction of the northern crane pad access track
- load and haul of fill for abutment B
- sheet piling works for the Kent Street pump station
- piling and pile case installation at Pier 8

Three out of twenty-seven monitoring samples exceeded the monitoring trigger value (5mm/s) and prompted attended monitoring. Two of these exceedances occurred during the construction of the northern crane pad access track and showed readings of 7.94mm/s and 7.76mm/s. The third occurred as a demonstration during a community walk through of how the system works and was not related

to construction activity. All recorded levels were within acceptable parameters described in the approve Noise and Vibration Management Plan.

Vibration monitoring results can be seen in **Appendix C**.

7.3 Air Monitoring

Ambient air quality monitoring was undertaken in accordance with the Construction Air Quality Management sub-plan. Dust monitoring gauges are placed at 4 locations across site:

- DMG1 – Pound Street, Grafton
- DMG2 – Rail Station, South Grafton
- DMG3 – Bunnings, South Grafton
- DMG4 – Control, South Grafton

From July to October, the project underwent a substantial period of dry weather with less than 8mm of total rainfall. Additional water carts were brought onsite daily to manage the dust levels. Results indicated 1 exceedance in the September to October monitoring period where DMG3 presented a result of 4.6g/m^2. The exceedance was recorded as a non-compliance and is the first exceedance the project has received.

Dust suppression on the project during the reporting period included the increased use of water carts, shade cloth, webbing around basin perimeters, and pre-wetting of materials prior to cartage. Seeding, hydromulching and polymer application to stockpiles, batters and earth mounds was implemented where possible.

Air monitoring results for the reporting period are shown in figure 14 below.

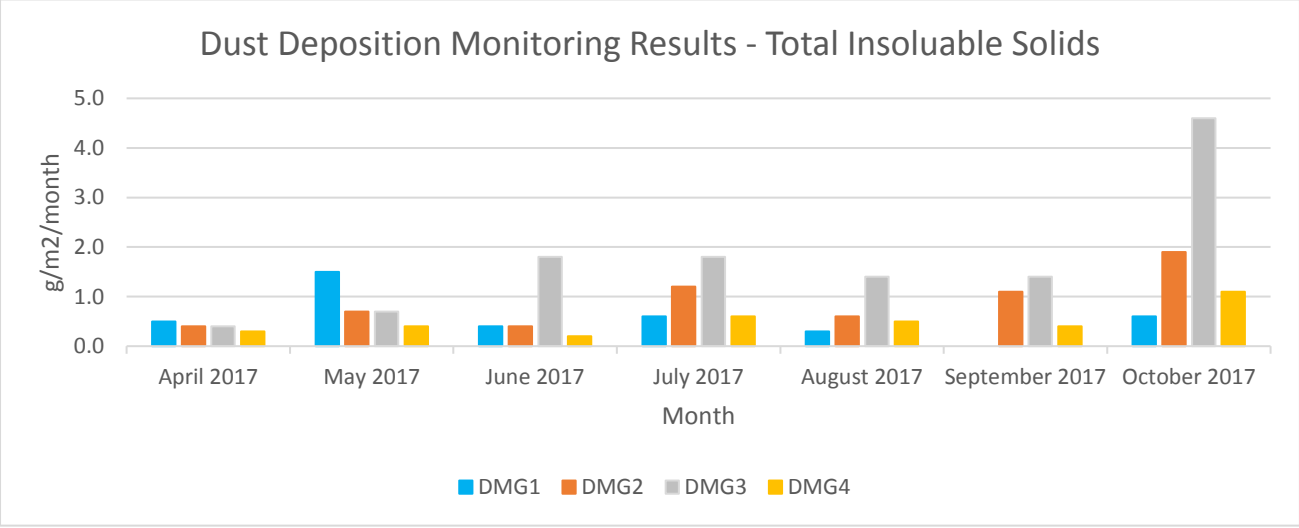

Figure 14 Air monitoring results for the reporting period. All results are reported in g/m2/month

7.4 Flora and Fauna

Project ecologists have been onsite to carry out pre-clearing inspections, hollow bearing tree inspections, nest box installations and monitoring, clearing reviews and fauna rescues. The project

ecologist has also been required to be onsite during the clearing works as well as completing pre-clearing inspections in areas identified for three-toed snake tooth skinks.

As a result, the skink management program has been highly successful. During the reporting period 7 more skinks were successfully caught and relocated. 2 were taken into captivity by an authorised ecologist and successfully released at a later date back onsite. The remaining 5 skinks were relocated into skink protection areas onsite. These areas have undergone recent habitat enrichment including new mulch and leaf litter, watered down during dry periods and planting of native flora.

As of October 2017, about 90% of clearing works has been completed.

Multiple fauna rescues occurred during the reporting period, refer to table 7-2 below. All staff and site crew have remained diligent in implementing the correct procedures when fauna have been sighted or injured, stopping works until the project ecologist had successfully removed the fauna and they had been safely relocated into adjacent unaffected habitat areas, or when injured, to the local veterinary clinic.

Table 7-2 Fauna rescues for the project throughout the reporting period

Fauna Type	Location Found	Works Occurring	Injured	Outcome
Red Belie Black Snake	Northern Crane Pad	Site set-up for earthworks	No	Relocated
Eastern long neck turtle	Access track to Thorley's Quarry	Site inspection	No	Relocated
Pardalote nest	Northern Crane Pad	Excavation for levee wall concrete base	No	Removed
Carpet Python	Fill 1	Earthworks	No	Relocated
Pigeon	Pier 2	Pier 2 construction	No	Taken to Vet
Pigeon	Greaves Street railway viaduct	Pump Station works	No	Taken to Vet
Juvenile Noisy Minor	Pier 2	Pier 2 construction	No	Taken to Vet
Rough Scaled Snake	Corner of Kent and Pound St	Lawn Maintenance	No	Relocated

7.5 Heritage (Aboriginal & Non-aboriginal)

All staff and site crew have remained diligent in implementing the unexpected find procedure when an unexpected heritage item is encountered. Two heritage finds were found during earthworks for the main alignment and 1 during levees works throughout the reporting period. Table 7-3 below summaries all heritage finds on the project during the reporting period.

Table 7-3 Heritage finds on the project during the reporting period

UF Number	Date	Location	Description	Significance
14	May 2017	7 Riverside Drive, South Grafton	Potential rubbish pit which contains some green glass bottles and ceramics at the western side end of the trench, as well as some buried bricks at the northern end of the trench.	Local

15	30 June 17	Pier 2 of the new bridge	Old structural timbers of the former jetty that was used when rail carts were put onto boats to get across the river	Local
16	30 June 17	Between Abutment A and Pier 1 on the western side of the alignment	Scattered rubbish items - copper handle, glass bottles, ceramic item	Local

All locally significant heritage locations in close proximity to the project have been protected with clear exclusion signage and boundary fencing.

8.0 Audits and Inspections

8.1 Compliance Auditing

Regular auditing of the management system is completed during construction. This includes:

- Internal compliance audits undertaken by Fulton Hogan
- External compliance audits undertaken by the ER and RMS appointed auditors

The intent of these audits is to identify opportunities for improvement and any non-compliances during the course of construction so appropriate corrective actions can be implemented in a timely manner.

Table 8-1 below summarises the audits undertaken during the reporting period.

Table 8-1 Audit summary

Audit	Type of Audit	Date	Overview	Outcome
ER Audit	Quarterly	April - June	Quarterly ER Audit	Nil

8.2 Internal and external environmental inspections

The project completes weekly site inspections as a minimum to assess environmental performance and identify areas of improvement and maintenance. This includes prior to, during and after adverse weather events, clearing activities, high risk activities and the opening new works areas.

Each inspection provides an opportunity to improve environmental management across the project including new erosion and sediment control installations, improved site mitigation measures and general site improvements.

Inspections are completed consistent with the requirements of the project CEMP. Table 8-2 below summarises the inspections completed on the project.

Table 8-2 Inspections summary

Type of Inspection	Attendees	Duration
Weekly	Fulton Hogan Staff; environmental, engineers, foreman, leading hand, labourers, superintendents, management	Weekly
Wet Weather	Fulton Hogan Staff; environmental, engineers, foreman, leading hand, labourers, superintendents, management	As required
ER	Simon Williams (ER - GeoLINK) Fulton Hogan Staff; environmental, engineers, foreman and superintendents	Monthly
Pacific Highway RMS	John O'Donnell Jason Sheehan Fulton Hogan Staff; environmental, engineers, foreman and superintendents	Monthly
NSW EPA	Craig Dunk Peter Higgs Fulton Hogan Staff; environmental, engineers, foreman and superintendents	As required

NSW DPI (Fisheries)	James Sakker Fulton Hogan Staff; environmental, engineers, foreman and superintendents	As required
DP&E	Michael Young Fulton Hogan Staff; environmental, engineers, foreman and superintendents	As required
Environmental Consultants	SEEC Ecosure Ecology Cavvanba Fulton Hogan Staff; environmental, engineers, foreman and superintendents	As required
Clarence Valley Council	David Morrison Fulton Hogan Staff; environmental, engineers, foreman and superintendents	As required
ERG	RMS ER EPA Council DPI (Fisheries) DP&E Fulton Hogan Staff; environmental, construction manager	Monthly

9.0 Environmental Complaints

In accordance with MCoA C2 and C3, a complaint management system has been established on the project to address any community enquiries and complaints during the course of construction. There are four mechanisms that have been established to facilitate the lodgement of enquiries and complaints:

Table 9-1: Community contact details

Tool	Details
Project Information line (24-hour toll free)	The Project information line (1800 918 759) is a 24-hour toll free telephone number allowing the community to contact the community relations team at all times when work is being carried out on site, including out of hours work. Outside of working hours, a recorded message with voicemail is available.
Email Address	The email address (graftonbridgecommunity@fultonhogan.com.au) is monitored by the community relations team for incoming emails during business days.
Postal Address	The postal address (76-79 Pound Street, Grafton NSW 2460) is monitored by the project team for incoming letters.
Website	The RMS Additional Crossing of the Clarence River – Grafton Bridge website (www.rms.nsw.gov.au/graftonbridge) includes the contact tools and will be updated regularly to have the latest information about the project.

These tools will be in place until eight weeks after the date of construction completion.

Stakeholder complaints will be responded to and managed in accordance with AS-ISO 10002-2006 Complaints Handling (which has superseded AS 4269 Complaints Handling).

9.1 Complaints Management

During the reporting period, 1030 events were logged by the community team including telephone calls, meetings, emails, letters, door-knocks and visits to the project display centre.

Of these events, 12 were registered as complaints relating to environmental management issues. A summary of these complaints are shown in table 9-2 below.

Table 9-1 Environmental complaints summary

Complaint Number	Date	Environmental Relevance	Summary	Status
1	1 May 2017	Vibration	Resident rang inquiring about vibration impacts on their residence. Vibration monitoring process explained along with information regarding the Australian Standard at which structural damage such as hairline cracks in plaster could occur. Results also provided from monitoring.	Closed
2	2 May 2017	Vibration	Resident rang inquiring about vibration impacts on their residence. Vibration monitoring process explained along with information regarding the Australian Standard at which structural damage such as hairline cracks in plaster could occur. Results also provided from monitoring.	Closed

3	25 May 2017	Vibration	Resident rang inquiring about vibration impacts on their residence. Vibration monitoring process explained along with information regarding the Australian Standard at which structural damage such as hairline cracks in plaster could occur. Results also provided from monitoring.	Closed
4	6 June 2017	Vibration	Resident rang inquiring about vibration impacts on their residence. Vibration monitoring process explained along with information regarding the Australian Standard at which structural damage such as hairline cracks in plaster could occur. Results also provided from monitoring.	Closed
5	6 June 2017	Dust	Resident rang inquiring about dust. Dust monitoring process explained along with provision of dust monitoring results.	Closed
6	14 June 2017	Dewatering	Resident rang about dewatering of a sediment basin through existing drainage line. Resident referred to the EPA as the agency which determines how the project can discharge water and information provided that the water has been treated and is clean.	Closed
7	22 June 2017	Vibration	Resident rang inquiring about vibration impacts on their residence. Vibration monitoring process explained along with information regarding the Australian Standard at which structural damage such as hairline cracks in plaster could occur. Results also provided from monitoring.	Closed
8	7 July 2017	Dust	Resident rang inquiring about dust. Dust monitoring process explained along with provision of dust monitoring results.	Closed
9	26 July 2017	Dust	Resident rang inquiring about dust. Dust monitoring process explained along with provision of dust monitoring results.	Closed
10	4 September 2017	Dust	Resident sent an email about dust and its impact on her asthma condition. Meeting held with resident to explain the dust monitoring process and results of the dust deposition gauges. Offer made of an air purifier and accepted. Information also provided regarding installing an additional dust deposition gauge behind the property, an additional dedicated water cart to the northern construction site and real time monitoring of air quality conditions in the town.	Closed
11	11 September 2017	Dust	Resident rang inquiring about dust. Dust monitoring process explained along with provision of dust monitoring results.	Closed
12	21 September 2017	Dust	Resident rang inquiring about dust. Dust monitoring process explained along with provision of dust monitoring results.	Closed

9.2 Community Engagement Initiatives

Throughout the report period, ongoing consultation with directly impacted residents about upcoming works took place. A member of the community relations team was available at all times during standard working hours at the community display centre at 76-79 Pound Street, Grafton.

Community consultation for works between 18 April 2017 and 17 October 2017 has included:

- High vehicle and heavy vehicle routes
- Proposed out of hours work for services relocations
- Vegetation removal in Clarence Street
- Changed access arrangements for Bridge Street
- Site tour and lunch for residents in the vicinity of Greaves Street
- Permanent closure to through traffic of section of Kent Street between Pound and Fitzroy streets
- Vegetation removal at the intersection of Pound and Villiers streets.

The community relations team has managed a number of community group presentations, staffed displays and static displays including the following:

- Presentation to the Grafton Chamber of Commerce on 19 April 2017
- Staffed display at the Grafton Show on 5 and 6 May 2017
- Staffed display at the NAIDOC Week family fun day on 6 July 2017
- Media event and staffed display for the 85th birthday of the existing bridge and the 'birth' of the new bridge on 19 July 2017
- Staffed display at FutureFest, a youth careers day at the North Coast TAFE on 8 August 2017
- Bridge tour for South Grafton High School students studying Certificate II qualifications in construction while undertaking their Higher School Certificate on 7 September 2017
- Bridge tour for more than 100 students from the Grafton Public School on 12 September 2017
- Half-day working bee at the Gummyaney Aboriginal Preschool as a community legacy project on 16 September 2017
- Bridge tour for representatives of the Grafton Base Hospital on 17 September 2017

The Project has established a positive relationship maintaining regular two-way communication with the community and stakeholders to effectively address and manage issues as they emerge during construction. All contact with the community and stakeholders is recorded in the community contact database – Consultation Manager.

Figure 15 Mavis and Barry Green talk to new Grafton bridge project team member Rachael at the NAIDOC Family Fun Day in Grafton

APPENDIX A

Project Approval Compliance Table

CoA Ref	Condition	Timing	Responsible Party	Status (open/closed)	Compliance comments
Part A - Admin Conditions					
A1.	In addition to meeting the specific performance criteria established under this approval, the Proponent shall implement all feasible and reasonable measures to prevent and/or minimise any harm to the environment that may result from the construction or operation of the SSI.	Pre-construction, construction, and operation	Contractor and RMS	Open	Measures used to reduce environmental impacts include additional environmental requirements in the SWTC, a series of FHC/ RMS environmental workshops, ERG meetings (in construction), CEMP and sub-plans, environmental work method statements for high-risk construction activities.
A2.	The Proponent shall carry out the SSI generally with the: **(a)** *State signifiant infrastructure application SSI-6103* ; **(b)** *Additional Crossing of the Clarence River at Grafton Environmental Impact Statement Main Volume and Appendices A - L, prepared by Roads and Maritime Services, dated August 2014;* **(c)** *Additional Crossing of the Clarence River at Grafton Submissions Report Main Volume and Appendices, prepared by Roads and Maritime Services, dated October 2014;* **(d)** *Correspondence from Roads and Maritime Services to the Department titled Grafton Bridge - Additional Crossing of the Clarence River at Grafton – Proposed Early Works dated 1 December 2014;* **(e)** *Modification request 1 and letter dated 24 September 2015 to modify the approval to update references to public authorities in the conditions of approval; and* **(f)** *Conditions of this approval*	Pre-construction, construction, and operation	Contractor	Open	Addressed in compliance register. These sheets are updated regularly.
A3.	If there is any inconsistency between the above documents, the more recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.	Pre-construction, construction,	Contractor	Open	No inconsistency noted at this stage.
A4.	The Proponent shall comply with any reasonable requirement(s) of the Secretary arising from the Department's assessment of: **(a)** *any documentation or correspondence that is submitted in accordance with this approval; and* **(b)** *the implementation of any actions or measures contained in these documents.*	Pre-construction, construction, and operation	Contractor	Open	Have an Excel sheet layer for DPE letters and applicable tracking. Refer extra Excel sheet layer for DPE letters and applicable compliance tracking.
A5.	This approval shall lapse 10 years after the date on which it is granted, unless the works the subject of this SSI approval are physically commenced on or before that date	Pre-construction, construction, and operation	RMS	Open	Construction started in October 2016 and will be completed within the ten years allowed under the approval.
A6.	The Proponent shall ensure that all licences, permits and approvals are obtained as required by law and maintained as required throughout the life of the SSI. No condition of this approval removes the obligation for the Proponent to obtain, renew or comply with such licences, permits or approvals.	Pre-construction, construction, and operation	Contractor and RMS	Open	Addressed in Deed, SWTC, G 36 and Environment Documents. Fulton Hogan has an approved EPL for the Rail Viaduct over Pound Street.
A7.	The Proponent may elect to construct and/or operate the SSI in stages. Where staging is proposed, the Proponent shall submit a **Staging Report** to the Secretary prior to the commencement of each proposed stage. The Staging Report shall provide details of: **(a)** *how the SSI would be staged, including general details of work activities associated with each stage and the general timing of when each stage would commence; and* **(b)** *details of the relevant conditions of approval, which would apply to each stage and how these shall be complied with across and between the stages of the SSI.*	Pre-construction, construction	Contractor and RMS	Open	This matter has been discussed with DPE. The Department has confirmed on 15 September 2016 that a staging report is not required for the early opening of parts of the project (Clarence Street, Iolanthe Street and Spring Street) as indicated in the email provided from RMS dated 6 September 2016. Generally the Department requires a Staging Report where a project is opened to traffic, however, as the Additional Crossing of the Clarence River at Grafton project involves a new bridge, this project is considered to be different to a Pacific Highway Upgrade project. This detail on need for a staging report has been included in the Compliance Tracking Program and Pre-construction Compliance Report for CoA A7.

CoA Ref	Condition	Timing	Responsible Party	Status (open/closed)	Compliance comments
A8.	The Proponent shall ensure that any strategy, plan, program or other document required by the conditions of this approval and relevant to each stage (as identified in the Staging Report) is submitted to the Secretary no later than one month prior to the commencement of the relevant stage(s), unless otherwise agreed by the Secretary. Notes: • While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and • If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program shall clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program	Pre-construction, construction	Contractor and RMS	Open	Noted, refer detail re staging above.
A9.	The Proponent shall ensure that employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.	Pre-construction, construction	Contractor	Open	For early works induction training booklets are issued for all works. Addressed in FHC's induction program and environmental awareness training. This would also be considered in planning sessions and addressed in EWMSs.
A10.	The Proponent shall be responsible for environmental impacts resulting from the actions of all persons that it invites onto the site, including contractors, sub-contractors and visitors	Construction	Contractor	Open	For early works induction training booklets have been issued by RMS for all works. Addressed in FHC's induction program and environmental awareness training. This would also be considered in planning sessions and addressed in EWMSs.
A11.	In the event of a dispute between the Proponent and a public authority, in relation to an applicable requirement in this approval or relevant matter relating to the SSI, either party may refer the matter to the Secretary for resolution. The Secretary's determination of any such dispute shall be final and binding on the parties.	Pre-construction, construction, and operation	Contractor and RMS	Open	To be undertaken if required.
A12.	The Proponent shall prepare and implement a **Compliance Tracking Program**, to track compliance with the requirements of this approval. The Program shall be submitted to the Secretary for approval prior to the commencement of construction and operate for a minimum of one year following commencement of operation, subject to the Secretary's review of the outcomes of the Independent Environmental Audit Report referred to in condition E5. The operation of the program may be extended if the Secretary determines that there has been unsatisfactory compliance. The Program shall include, but not necessarily be limited to: **(a)** *provisions for the notification of the Secretary prior to the commencement of construction and prior to the commencement of operation of the SSI (including prior to each stage, where works are being staged) ;* **(b)** *provisions for periodic review of the compliance status of the SSI against the requirements of this approval;* **(c)** *provisions for periodic reporting of compliance status to the Secretary, including but not limited to: (i) a Pre-Construction Compliance Report, prior to the commencement of construction; (ii) 6-monthly Construction Compliance Reports, for the duration of construction; and (iii) a Pre-Operation Compliance Report prior to the commencement of operation;* **(d)** *a program for independent environmental auditing in accordance with AS/NZS ISO 19011:2014 – Guidelines for Auditing Management Systems;* **(e)** *mechanisms for recording environmental incidents during construction and actions taken in response to those incidents;* **(f)** *provisions for reporting environmental incidents to the Department and relevant public authorities during construction;* **(g)** *procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management;* **(h)** *provisions for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities; and* **(i)** *provisions for reporting complaints received in accordance with the Construction Complaints Management System required under condition C2 of this approval.*	Pre-construction, construction, and operation	Contractor to prepare, and RMS input	Open	This table is Appendix A of the Compliance Tracking Program. Compliance is being managed under a shared compliance system by RMS and FHC, with regular updating. DPE approval letter dated 10 October 2016. The letter approved the Compliance Tracking Program and Pre-Construction Compliance Report. Modification 1 requirements raised in the DPE letter have been updated in this register.
A13.	The Proponent shall notify the EPA in relation to any pollution incident in carrying out the SSI as required by the *Protection of the Environment (Operations) Act 1997* as required by that Act. The Proponent shall provide the Secretary with a record of any such notification.	Construction	Contractor and RMS	Open	EPA are advised of all applicable incidents. EPA are given construction updates generally which include information on waste management, threatened species management and other activities as they are occuring. EPA are consulted on all of the project EWMS.

CoA Ref	Condition	Timing	Responsible Party	Status (open/closed)	Compliance comments
A14	The Proponent shall notify the Secretary (using the contact name and phone number notified by the Department from time to time) of any incident (other than those relating to the Protection of the Environment (Operations) Act 1997) with actual or potential significant off-site impacts on people or the biophysical environment within 24 hours of becoming aware of the incident on weekdays, or the following business day on weekends. The Proponent shall provide full written details of theincident to the Secretary within seven days of the date on which the incident occurred.	Construction	Contractor and RMS	Open	Being undertaken as required.
A15	The Proponent shall meet the requirements of the Secretary or relevant public authority (as determined by the Secretary) to address the cause or impact of any incident, as it relates to this approval, reported in accordance with condition A14, within such period as the Secretary may require.	Construction	Contractor	Open	To be undertaken as required, in consultation with DPE and RMS.
Part B- Environmental Performance					
B1.	The clearing of native vegetation shall be generally in accordance with the areas specified in the documents listed in condition A2, and with the objective of reducing impacts to any endangered ecological communities (EECs), threatened species and their habitat to the greatest extent practicable.	Pre-construction, construction	Contractor	Open	RMS and FHC will ensure compliance with the approved clearing limits under the Planning Approval. The project has scattered trees in an urban and rural environment. Clearing has been minimsed to only the areas required for construction. Clearing works is being completed in accordance with the project EWMS 003. Clearing of native vegetation has been minimised with a detailed design objective being to reduce impacts to any threatened species or EECs where feasible and reasonable. Clearing limits are clearly shown on relevant construction drawings and closely tracked throughout the project. Impacts on vegetation have been significantly reduced on the levees due to improved bridge design reducing need for levee works in some areas. Less than 20 trees/ shrubs were removed for levee works, much less than the EIS areas. Impacts on vegetation have been reduced in Grafton at 31 and 33 Pound St, 37 Pound St, 13-17 Pound St and at the Pacific Highway .
B2.	Prior to construction, pre-clearing surveys and inspections for EECs and threatened species shall be undertaken. The surveys and inspections, and any subsequent relocation of species, shall be undertaken under the guidance of a suitably qualified ecologist and shall be in accordance with the methodology incorporated into the approved Construction Flora and Fauna Management Plan required under condition D46(e).	Pre-construction	Contractor	Open	Pre clearing suveys has been undertaken by a qualified ecologist appointed by FHC prior to commencement of construction. This condition has been addressed in the CFFMP. Ecosure are undertaking ecological works. Pre-clearing surveys have so far resulted in 50 threatened skinks been moved safley away from the construction zone ahead of works.
B3.	The Proponent shall undertake flora and fauna surveys of those parts of the project area previously not surveyed, due to accessibility issues, prior to the commencement of construction that affects those areas. Should threatened species, communities or habitats be identified, these shall be offset and addressed in the Biodiversity Offset Statement required under condition D1.	Pre-construction	RMS	Open	Surveys of missed areas have been undertaken by RMS in January/ February 2016. These surveys have been undertaken and 2-3 Three toed Snake Tooth Skink found in these missing lots. Further surveys were undertaken on the project and outside the project. An TTSTS MP has been prepared. DPE has been advised of the missing lot survey results and referral to the DoE re EPBC.. EPBC referal has been determined 30/06/2016 as "Not Controlled Action". Work is being undertaken in accordance with TTSTS Management plan. .
B4.	The Proponent shall undertake a targeted rehabilitation program post construction to restore riparian habitat to at least the pre-construction condition or better, unless otherwise agreed by DPI (Fisheries) and NOW.	Construction, Operation	Contractor	Open	Has been addressed in consultation with agencies and in the FFMP, UDLP and revegetation plans.The rehabilitation of the riparian areas will be targeted to follow the completion of the superstructure.
B5.	Vegetation shall be established in or adjacent to disturbed areas and include species which may provide habitat for wildlife following the completion of construction in the vicinity of the disturbed area Revegetation is to be consistent with the Urban Design and Landscape Plan required under condition D42.	Construction, Operation	Contractor	Open	Has been addressed in consultation with agencies and in the FFMP, UDLP and revegetation plans. TTSTS MP measures have been included in the UDLP, RMS have raised the importance of this issue. As noted above, impacts on vegetation have been reduced in Grafton at 31 and 33 Pound St, 37 Pound St, 13-17 Pound St and 4 McClymont Place.
B6.	Scour protection measures shall be implemented prior to and during construction on the banks of the Clarence River in the vicinity of the bridge works to protect the riverbank from erosion and instability during construction and operation.	Pre-construction, construction	Contractor	Open	The Clarence River riparian vegetation has been maintained and protected for construction. Only very minor cut stump clearing hs occurred to allow for the jetty and pontoon construction. Post rainfall inspections during the reporting period confirm no visible bank erosion as a result of construction

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B7.	The Proponent shall consult with and provide feasible and reasonable assistance to NSW State Emergency Service and Council, prior to operation of the SSI, to: **(a)** *prepare any new or necessary update(s) to the relevant evacuation, traffic management and flood plans and documents in relation to flooding events in Grafton and South Grafton, to reflect changes to flooding levels, flows and characteristics; and* **(b)** *prepare or update community evacuation information, to improve the community's awareness of the risk of flooding and the need to evacuate Grafton and South Grafton prior to the levees overtopping.*	Pre-construction, construction	Contractor	Open	FH has consulted with SES and council on emergency response. FH wil continue to work with these groups throughout construction. RMS has provided mapping showing changes to the flood behaviour to SES and Council.
B8.	Any drainage works that are intended to be operated by Council shall be designed in consultation with Council. Facilities such as back-up generators shall be provided to ensure continued operation of the Pound Street pumping station during electrical power outages.	Pre-construction	Contractor	Open	This condition is being addressed through detailed design in consultation with RMS and Clarence Valley Council.
B9.	The SSI shall be constructed and operated to comply with section 120 of the *Protection of the Environment Operations Act 1997* , which prohibits the pollution of waters.	Construction, Operation	Contractor and RMS	Open	In accordance with CoA D46 (c) a Construction Soil and Water Quality Management Plan (CSWQMP) was prepared and submitted to the Secretary for approval. The Plan outlines the mitigation and management measures that would be implemented during construction to ensure compliance with section 120 of the Protection of the Environment Operations Act 1997. Planning sessions are held for earthworks to optimise controls and PESCPs. Innovation has been achieved at Fill 1 to divert dirty water away from the Clarence. Other innovations including ESCs, basins and land irrigation are being adopted.
B10.	All water from the SSI shall be appropriately treated prior to discharge, to protect the quality of the receiving waters.	Construction, Operation	Contractor and RMS	Open	In accordance with CoA D46 (c) a Construction Soil and Water Quality Management Plan (CSWQMP) was prepared and submitted to the Secretary for approval. The Plan outlines the mitigation and management measures that will be implemented during construction to meet water quality criteria for all off site water discharges.Planning sessions are held for earthworks to optimise controls and PESCPs. Innovation has been achieved at Fill 1 to divert dirty water away from the Clarence.
B11.	In the event that remediation of contaminated soils is required, the Proponent shall engage a suitably qualified and experienced contaminated land consultant to prepare a validation report upon completion of the remediation. The validation report shall verify that the site has been remediated consistent with the remediation action plan for the project and to a standard consistent with the clean-up criteria for the site.	Pre-construction, construction	Contractor and RMS	Open	The project has a 'Contaminated Land Management Plan'. In the reporting period two contaminated land unexpected finds were observed. One location is capped and management will be addressed after construction activities are completed. The other location in South Grafton is a diesel contamination and a contamianted land auditor has been appointed. The final management strategy for this area of contamination will be reported in the next period
B12.	The Proponent shall engage an accredited NSW Site Auditor to prepare a **Site Audit Report** and **Site Audit Statement** to determine the land use suitability. The Site Audit Report shall summarise the information reviewed by the auditor and provide the basis for the conclusions contained in the Site Audit Statement. The Statement and Report shall be submitted to the Secretary within seven days of the report being finalised and prior to the commencement of site preparation or excavation activities within areas identified as requiring remediation. A copy of the report shall also be submitted to Council for its information.	Pre-construction	RMS and Contractor	Open	Not applicable at this stage.
B13.	Impacts to Aboriginal heritage shall be minimised to the greatest extent practicable through both detailed design and construction, particularly with regard to encroachment on the Aboriginal dreaming site Golden Eel (AHIMS site number 12-6-0326). Where impacts are unavoidable, works shall be undertaken in accordance with the strategy outlined in the Construction Heritage Management Plan required under condition D46(d).	Pre-construction, construction	Contractor	Open	Management strategies are included in the project Construction Heritage Management Plan (CHMP). The CHMP was prepared in consultation with OEH, NSW Heriatge Council and Aboriginal groups. Heriatge isues have also been included in site environmental induction training. Permanent fencing has been installed on the eastern side of the corridor west of Alipou Ck in South Grafton. A meeting of Ngerrie LALC and RMS discussed Aboriginal heritage issues on 8 Feb 2016 and again on 28 June 2016. There have been further meetings with the LALC organised by Fulton Hogan. A consistency review was prepared for an additional construction area east of the project boundary and at closer to the imporant Alipou creek cultural site. Ngerrie LALC approved the boundary extension and have taken part in onsite hertiage inductions discussing the history and signifiance of the site with construction crews.
B14.	Prior to the commencement of construction in proximity to the following heritage items: CZB18, CZB25, CZB26, CZB27, CZB28, CZB30, CZB31, CZB32, CZB33 and CZB35, the Proponent shall complete all archival recordings, including photographic recording of these heritage items, unless otherwise agreed by the Secretary.	Pre-construction	Contractor and RMS	Open	Archival reports have been addressed by Biosis heritage consultants. Also included this detail in the CHMP. The reports were forwarded to relevant agencies in November 2016.

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B15.	Prior to construction partially affecting the following heritage items: CZB10, CZB11, CZB19, CZB20, CZB21 and CZB37, the Proponent shall complete archival recordings of existing condition, including photographic recording of these heritage items, unless otherwise agreed by the Secretary. The Proponent shall ensure the project is conducted in a sympathetic manner that minimises impact to these sites.	Pre-construction	Contractor and RMS	Open	Archival reports have been addressed by Biosis heritage consultants. Also included this detail in the CHMP. The reports were forwarded to relevant agencies in November 2016.
B16.	Archival recording shall be undertaken by an experienced heritage consultant, in accordance with the Guidelines issued by the Heritage Council of NSW. The areas containing heritage items shall be clearly identified and/or fenced until the completion of the archival recordings. Within 6 months of completing the archival recording, the Proponent shall submit a report containing the archival and photographic recordings and the historical research, where required, to the Department, the Heritage Council of NSW, Australian Rail Track Corporation, the local library and the local Historical Society.	Pre-construction	Contractor and RMS	Open	Has been addressed by Biosis heritage consultants. Also include this detail in the CHMP. Note updated Sched 28 ammended requirement.
B17.	A monitoring program shall be implemented for construction works in the vicinity of the flood levee in highly archaeologically sensitive areas and overseen by an appropriately qualified archaeologist. Any previously unidentified heritage items shall be managed in accordance with the procedures detailed in the Construction Heritage Management Plan provided under condition D46(d) of this approval	Pre-construction, construction	Contractor and RMS	Open	Being addressed by Biosis heritage consultants for RMS requirements only/ RMS monitoring. Biosis attended the levee works for inductions, heritage protection issues and unexpected finds. Levee work now completed. For construction of the main line project, Biosis is managing heritage issues. The CHMP has addressed this condition.
B18.	Prior to the commencement of construction, the Proponent shall implement 'no-go' exclusion zones to prevent access and protect the following heritage item: FMW29.	Pre-construction	Contractor	Open	The item was signposted during levee works close to the ship wreck. No impacts occurred. The contruction of the bridge will not go near this site. A marine exclusion area has been implemented on the Clarence River, this area is downstream of the current bridge. The marine exclusion is also the heritage site exclusion
B19.	The Proponent shall not destroy, modify or otherwise physically affect the heritage items listed in Table 8-46 in the *Additional Crossing of the Clarence River at Grafton Environmental Impact Statement Main Volume* (RMS, August 2014).	Pre-construction, construction	Contractor	Open	The CHMP has addressed this condition. Heritage sites are included in Sensitive Area Plans. Important all heritage items are included in the GIS sensitive area plan layers, including those additional items addressed in the June 2016 Built Heritage report.
B20	Identified impacts to heritage sites shall be minimised where feasible and reasonable through both detailed design and construction, particularly with regard to retained locally listed historic properties and the existing Grafton Bridge. Where impacts are unavoidable, works shall be undertaken in accordance with the actions to manage heritage construction impacts required by condition D46(d) and under the guidance of an appropriately qualified heritage specialist.	Pre-construction, construction	Contractor and RMS	Open	This condition is being addressed thorugh detailed design and in the CHMP.
B21.	This approval does not allow the Proponent to destroy, modify or otherwise physically affect human remains as part of the SSI	Pre-construction, construction	Contractor	Open	Addressed in the CHMP.
B22.	The Proponent shall not destroy, modify or otherwise physically affect any heritage items outside the SSI footprint, unless otherwise agreed by the Secretary in accordance with condition D41.	Pre-construction, construction	Contractor	Open	Addressed in the CHMP and managed during construction, including using the Sensitive Area Plans.
B23.	The measures to protect heritage sites near or adjacent to the SSI during construction shall be detailed in the Construction Heritage Management Plan required under condition D46(d).	Pre-construction	Contractor	Open	The CHMP has addressed this condition. The boundary fence has been installed on the eastern side of the works on South Grafton to protect sensitive areas to the east.
B24.	In relation to new or modified local road, parking, pedestrian and cycle infrastructure, the SSI shall, where feasible and reasonable, be designed: **(a)** *in consultation with the Council;* **(b)** *to take into consideration existing and future demand, road safety and traffic network impacts;* **(c)** *to meet relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Engineering Practice; and* **(d)** *be certified by an appropriately qualified person that has considered the above matters.*	Pre-construction	Contractor	Open	This condition is being addressed by Fulton Hogan through detailed design in consultation with Council, TAFE and local businesses. The car park on the corner of Pound and Clarence St has been installed early in the project to provide extra car parking to the community as soon as possible. The temporary closure of Greaves Street and the permanent closure of Kent Street were both successfully implemented. Consultation was undertakne with Council, emergency services and local residents for these closures.
B25	The Proponent shall ensure that the SSI is designed to minimise land take impacts to surrounding properties as far as feasible and reasonable, in consultation with the affected landowners.	Pre-construction	Contractor	Open	This condition is being addressed by Fulton Hogan through detailed design in consultation with affected landowners. 13 and 15 Pound Street have had impacts removed and are now TTSTS relocation areas. Both properties have been acquired by RMS but will be returned to the property market at the end of the project.Fulton Hogan will continue to consult and engage with project neighbours throughout construction
B26	The Proponent shall, in consultation with relevant landowners, construct the SSI in a manner that minimises intrusion and disruption to surrounding properties, unless otherwise agreed by the landowner.	Pre-construction, construction	Contractor	Open	This condition is being addressed by Fulton Hogan through detailed design in consultation with affected landowners. Intrusion into other properties at 13 and 15 Pound St has been avoided by the retention of these properties. Design measures on the levees have also significantly reduced impacts to vegetation and properties.

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B27	Any damage caused to property as a result of the SSI shall be rectified or the landowner compensated, within a reasonable timeframe, with the costs borne by the Proponent. This condition is not intended to limit any claims that the landowner may have against the Proponent.	Pre-construction, Construction. operation	Contractor	Open	Noted.
B28	Utilities, services and other infrastructure potentially affected by construction and operation shall be identified prior to construction to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the SSI shall be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The cost of any such arrangements shall be borne by the Proponent.	Pre-construction	Contractor	Open	This condition is being addresed through detailed design. Minor refinements to utilities have and are being progressed for proposed minor design refinements to utilities.
Part C - Community Information and Reporting					
C1.	C1. Prior to the commencement of construction or as otherwise agreed by the Secretary, the Proponent shall prepare and implement a Community Communication Strategy to the satisfaction of the Secretary. The Strategy shall provide mechanisms to facilitate communication between the Proponent (and its contractor(s)), the Environmental Representative (see condition D43), the Council and community stakeholders (particularly adjoining landowners) on the construction environmental management of the SSI. The Strategy shall include, but not be limited to: **(a)** *identification of stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners;* **(b)** *procedures and mechanisms for the regular distribution of information to community stakeholders on construction progress and matters associated with environmental management;* **(c)** *the formation of community-based focus groups for key environmental management issues for the SSI. The Strategy shall provide detail on the structure, scope, objectives and frequency of the community-based focus groups;* **(d)** *procedures and mechanisms through which the community stakeholders can discuss or provide feedback to the Proponent and/or Environmental Representative in relation to the environmental management and delivery of the SSI;* **(e)** *procedures and mechanisms through which the Proponent can respond to enquiries or feedback from the community stakeholders in relation to the environmental management and delivery of the SSI; and* **(f)** *procedures and mechanisms that would be implemented to resolve issues/ disputes that may arise between parties on the matters relating to environmental management and the delivery of the SSI. This may include the use of an appropriately qualified and experienced independent mediator.* Issues that shall be addressed through the Community Communication Strategy include (but are not necessarily limited to): **(i)** *flooding and hydrology matters, including levee works;* **(ii)** *traffic management (including parking, property access, pedestrian access) ;* **(iii)** *noise and vibration mitigation and management;* **(iv)** *heritage matters;* **(v)** *landscaping and urban design matters;* **(vi)** *construction staging, hours and activities;* **(vii)** *the relocation of moorings including a strategy for consulting with affected mooring owners;* **(viii)** *biodiversity matters; and* **(ix)** *socio-economic, property and land use impacts, including impacts to recreational and commercial river users.*	Pre-construction	Contractor	Open	A Community Communication Strategy (CCS) has been prepared and submitted to the Secretary prior to commencement of construction. DPE approval letter dated 6 October 2016.
C2.	Prior to the commencement of pre-construction and construction, or as otherwise agreed by the Secretary, the Proponent shall ensure that the following are available for community enquiries and complaints for the duration of construction: **(a)** *a 24 hour telephone number(s) on which complaints and enquiries about the SSI 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; and* **(d)** *a mediation system for complaints unable to be resolved.* The telephone number, the postal address and the email address shall be published in newspaper(s) 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 website (or dedicated pages) required by this approval.	Prior to pre-construction, Prior to construction, prior to operation.	Contractor and RMS	Open	The web site is being updated progressively by RMS and Fulton Hogan. A toll free number is established and well publicised in all communications material since the development of the project. Postal address is established to the RMS Pacific Highway Office and publicised in all communications material and on the webiste. A dedicated Grafton Bridge email address is estabilised and managed by RMS. Addressed in Community Communications Strategy. This are included in the project web site. RMS placed advertisements prior to commencement of construction on two occasions (between 12 October and 19 October) in the Grafton Coastal Views, Grafton Daily Examiner and Clarence Valley Review.

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C3.	Prior to the commencement of pre-construction and construction, or as otherwise agreed by the Secretary, 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 and up to 12 months following completion of the SSI. Information on all complaints received, including the means by which they were addressed and whether resolution was reached, with or without mediation, shall be maintained in a complaints register and included in the construction compliance reports required by condition A12 of this approval. The information contained within the System shall be made available to the Secretary and relevant agencies on request.	Prior to pre-construction	Contractor and RMS	Open	Consultation Manager database is established which manages and tracks consultation, feedback and complaints. This will be handed over to the contractor to manage through construction. Fulton Hogan's Construction Complaints Management System is described in the Community Communications Strategy.
C4.	Prior to the commencement of pre-construction and construction, or as otherwise agreed by the Secretary, the Proponent shall establish and maintain a new website, or dedicated pages within an existing website, for the provision of electronic information associated with the SSI, for the duration of construction and for 12 months following completion of the SSI. The Proponent shall, subject to confidentiality, publish and maintain up-to-date information on the website or dedicated pages including, but not necessarily limited to: **(a)** *information on the current implementation status of the SSI;* **(b)** *a copy of the documents listed in condition A2, and any documentation supporting modifications to this approval that may be granted from time to time;* **(c)** *a copy of this approval and any future modification to this approval;* **(d)** *a copy of each relevant environmental approval, licence or permit required and obtained in relation to the SSI;* **(e)** *a copy of each current strategy, plan, program or other document required under this approval;* **(f)** *the outcomes of compliance tracking in accordance with condition A12 of this approval; and* **(g)** *details of contact point(s) to which community complaints and enquiries may be directed, including a telephone number, a postal address and an email address.*	Prior to pre-construction	Contractor and RMS	Open	The Grafton Bridge web site has been established for a long period and is regularly updated with Commuunity Updates. The EIS is included in the web site. Subs report and planning approval docs on website. http://www.rms.nsw.gov.au/projects/northern-nsw/grafton-clarence-river-crossing/environmental-impact-statement.html
Part D - Construction Environmental Management, Reporting and Auiting.					
D1.	Prior to the commencement of operation of the SSI, the Proponent shall prepare a **Biodiversity Offset Statement** in consultation with the EPA. The Statement shall: **(a)** *confirm the threatened species, communities and their habitat (in hectares) cleared and their condition; and* **(b)** *provide details of measures to offset impacts of the SSI on native vegetation, including threatened species, communities and their habitats, including the timing, responsibility, management and monitoring, and implementation of the offset measures.* Biodiversity impacts shall be offset in in accordance with the document Principles for the Use of Biodiversity Offsets in NSW (DECCW, 2008). A copy of the statement shall be submitted to the Secretary and EPA.	Construction	Contractor and RMS		Biodiversity Offset Statement will be prepared in consultation with the DPE and EPA. It is important to note that the project impact 0.41 ha of EEC vegetation, remaining impacts include weeds/ planted native vegetation. TTSTS impacts would need to be considered. Vegetation impacts have been reduced on the levees and somewhat on the Grafton bridge side of the project.To be progressed in later 2017, has started early progression of the Biodiversity Offset Statement .
D2.	Construction activities associated with the SSI shall be undertaken during the following standard construction hours: **(a)** 7:00 am to 6:00 pm Monday to Friday, inclusive; and **(b)** 8:00 am to 1:00 pm Saturday; and **(c)** at no time on Sunday or public holidays.	Construction	Contractor	Open	Hours of work and Out-of-Hours Work Protocol have been included in the CNVMP. The CNVMP has been submitted to the Secretary for approval and was approved as part of the CEMP. During the reporting period one out of hours activitiy occurred in consultation with EPA, local community and sensitive recievers - approved by the project ER

CoA Ref	Condition	Timing	Responsible Party	Status (open/closed)	Compliance comments
D3.	Construction works outside the standard construction hours may be undertaken in the following circumstances: **(a)** *construction works that generate noise and vibration that is:* **(i)** *LAeq(15 minute) noise levels no more than 5 dB(A) above rating background level at any residence in accordance with the Interim Construction Noise Guideline (Department of Environment and Climate Change, 2009); and* **(ii)** *LAeq(15 minute) noise levels no more than the noise management levels specified in Table 3 of the Interim Construction Noise Guideline (Department of Environment and Climate Change, 2009) at other sensitive receivers; and* **(iii)** *continuous or impulsive vibration values, measured at the most affected residence, that are no more than those for human exposure to vibration, specified for residences in Table 2.2 of Assessing Vibration: a technical guideline; and* **(iv)** *intermittent vibration values, measured at the most affected residence, that are no more than those for human exposure to vibration, specified for residences in Table 2.4 of Assessing Vibration: a technical guideline; or* **(b)** *where a negotiated agreement has been reached with affected receivers, where the prescribed noise and vibration levels cannot be achieved; or* **(c)** *for the delivery of materials required outside the standard construction hours by the NSW Police Force or other authorities for safety reasons; or* **(d)** *where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; or* **(e)** *out-of-hours work in accordance with condition D4.*	Construction	Contractor	Open	Out of hours works have been required for a number of reasons in the reporting period, those reasons included: new services construction, services connections, concrete pours to manage temperature and critical works that were not audible. The approval pathway for the works has been under condtion D3 the works were either done with a negotiated agreement or they were inaudible.
D4.	Construction activities which cannot be undertaken during the standard construction hours for technical or other justifiable reasons (Out of Hours work) may be permitted with the approval of the Environmental Representative. Out of Hours work shall be undertaken in accordance with an approved Construction Environment Management Plan or Construction Noise and Vibration Management Plan for the SSI, where that plan provides a process for the consideration of Out of Hours work. This consideration includes: **(a)** *process for obtaining the Environmental Representative's approval for Out of Hours work;* **(b)** *details of the nature and need for activities to be conducted during the varied construction hours;* **(c)** *justifies the varied construction hours in accordance with the Interim Construction Noise Guideline (DECC, 2009);* **(d)** *provides evidence that consultation with potentially affected receivers, that the issues raised have been addressed and all feasible and reasonable mitigation measures have been put in place; and* **(e)** *provides evidence of consultation with the EPA and Council on the proposed work outside the standard construction hours.*	Construction	Contractor	Open	Out of hours works have been required for a number of reasons in the reporting period, those reasons included: new services construction, services connections, concrete pours to manage temperature and critical works that were not audible. The approval pathway for the works has been under condtion D3 the works were either done with a negotiated agreement or they were inaudible.
D5.	Construction activities resulting in impulsive or tonal noise emission (such as rock breaking, rock hammering, pile driving) shall only be undertaken: **(a)** between the hours of 8:00 am to 6:00 pm Monday to Friday; **(b)** between the hours of 8:00 am to 1:00 pm Saturday; and **(c)** in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block. For the purposes of this condition 'continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition.	Construction	Conctractor	Open	See CNVMP
D6.	The Proponent shall, where feasible and reasonable, limit high noise impact activities and work to the mid-morning and mid-afternoon periods.	Construction	Conctractor	Open	See CNVMP
D7.	The SSI shall be constructed with the aim of achieving the construction noise management levels detailed in the *Interim Construction Noise Guideline* (DECC, 2009). All feasible and reasonable noise mitigation measures shall be implemented and any activities that could exceed the construction noise management levels shall be identified and managed in accordance with the Construction Noise and Vibration Management Plan required under condition D46(a).				See CNVMP. At residence vibrationmonitoring is undertaken as required and results discussed at each ERG. Vibration montoring data is included in the 6 monthly reports.

CoA Ref	Condition	Timing	Responsible Party	Status (open/closed)	Compliance comments
D8.	The SSI shall be constructed with the aim of achieving the following construction vibration goals: **(a)** *for structural damage to heritage structures, the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration – Part 3 Effects of vibration on structures;* **(b)** *for damage to other buildings and/or structures, the vibration limits set out in the British Standard BS 7385-1:1990 – Evaluation and measurement of vibration in buildings - Guide for measurement of vibration and evaluation of their effects on buildings (and referenced in Australian Standard 2187.2 – 2006 Explosives – Storage and use – Use of explosives); and* **(c)** *for human exposure, the acceptable vibration values set out in Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006).*	Construction	Conctractor	Open	The project is undertaking vibration monitoring at sensitive receivers for all works which cause vibration and are near sensitive receivers. The monitoring is compliant with the project CNVMP for the reporting period.
D9.	Wherever feasible and reasonable, piling activities shall be undertaken using quieter construction methods, such as bored piles or vibrated piles rather than impact or percussion piling methods.	Construction	Conctractor	Open	The has been no percussing piling on the project, piles in Grafton near residents have used a method of vibration and drill and vibration to install steel casings.
D10	During construction, affected educational institutions shall be consulted and reasonable steps taken to ensure that noise generating construction works in the vicinity of affected buildings are not timetabled during examination periods where practicable, unless other reasonable arrangements to the affected institutions are made at no cost to the affected institution.	Construction	Conctractor	Open	See CNVMP
D11.	The Proponent shall undertake a review of the operational noise mitigation measures proposed to be implemented for the SSI, within six months of commencing construction, unless otherwise agreed by the Secretary. The review shall be submitted for the approval of the Secretary, and be prepared in consultation with the EPA, and shall:	Construction	Conctractor	Open	Operational Noise report submitted to DP&E and approved by Secretary on 4/8/2017.
D12.	Where feasible and reasonable, operational noise mitigation measures shall be implemented at the start of construction (or at other times during construction) to minimise construction noise impacts.	Pre - Construction and Construction	Conctractor	Open	RMS is undertaking at residence treatment and is endeavouring to complete this pre start of road and bridge construction. The Contractor is required to design operational noise measures and measures such as noise walls and low noise pavements. These measures need completion of earthworks/ drainage as a first stage. The Contractor is finalising the Operational Noise Report and this includes operational noise mitigation measures. Scoping of sensitive receivers impacted by noise levels that exceed the RNP guidelines has commenced. The first package of building works for the installation of mitigation commenced in September 17. The second package should commence mid October 17.
D13.	Access to all properties shall be maintained during construction, where feasible and reasonable, unless otherwise agreed by the relevant property owner or occupier. Any access physically affected by the SSI shall be reinstated to at least an equivalent standard, unless agreed with by the property owner.	Construction	Conctractor	Open	See CTAMP. CTAMP has been submitted to the Secretary for approval. This plan was approved with the CEMP.
D14.	Safe pedestrian and cyclist access through or around worksites shall be maintained during construction. In circumstances where pedestrian and cyclist access is restricted due to construction activities, a satisfactory alternate route shall be provided and signposted.	Construction	Contractor	Open	See CTAMP. CTAMP has been submitted to the Secretary for approval and approved by DPE.
D15.	Construction vehicles (including staff vehicles) associated with the SSI shall be managed to: **(a)** *minimise parking or queuing on public roads;* **(b)** *minimise idling and queuing in local residential streets where practicable* ; **(c)** *minimise the use of local roads (through residential streets and town centres) to gain access to construction sites and compounds; and* **(d)** *adhere to the nominated haulage routes identified in the Construction Traffic and Access Management Plan required under condition D46(b)*	Construction	Contractor	Open	Parking for the project works have been modified to reduce the traffic and visual effects on nieghbours and the community. Where possible traffic is directed through the project on away from public roads, for example this method has been used to bring in concrete trucks for sub-structure works in Grafton.
D16.	Where feasible and reasonable, the Proponent shall provide alternative temporary parking spaces for formal on-street parking spaces removed and/or impacted by the construction of the SSI. The location and number of temporary or relocated parking spaces shall be determined in consultation with Council and affected businesses. The alternative parking spaces shall be provided prior to commencement of construction activities that impact on parking spaces within the SSI footprint.	Construction	Contractor	Open	See CTAMP. CTAMP has been submitted to the Secretary for approval and approved by DPE. Pound St carpark has been completed and open to traffic. This 28 space carpark will provide alternate parking for the TAFE and adjacent businesses during construction.

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D17.	Upon determining the haulage route(s) for construction vehicles associated with the SSI, and prior to construction, an independent and qualified expert shall prepare a **Road Dilapidation Report** for local roads outside the SSI boundary. The Report shall assess the current condition of the road and describe mechanisms to restore any damage that may result due to their use by traffic and transport related to the construction of the SSI. The Report shall be submitted to Council for review prior to the commencement of haulage. Following completion of construction, a subsequent Report shall be prepared to assess any damage that may have resulted from the construction of the SSI. Measures undertaken to restore or reinstate local roads affected by the SSI shall be undertaken in a timely manner, in accordance with the reasonable requirements of Council, and at the full expense of the Proponent. *Note:* *• Nothing in this condition restricts the Proponent commencing adjustments and minor upgrades to the existing road network to cater for construction traffic and installation of temporary project signage prior to the commencement of construction.*	Construction	Contractor	Open	A road dilapidation report was completed prior to construction vehicles accessing public roads, the reports were compiled in March 2017.
D18.	Where available and practicable, and of appropriate chemical and biological quality, stormwater, recycled water or other water sources shall be used, where feasible and reasonable, in preference to potable water for construction activities, including concrete mixing and dust control.	Construction	Contractor	Open	This condition has been addressed in the CSWQMP. The issues has also been discussed at the ERG meetings in July and Aug 2016. Water source options have been discussed at ERGs. Fulton Hogan will where possible recylce captured site waters to aid this extra capacity will be provided in site sediment basins. Blue book requirements to empty sediment basins after rainfall will also be met
D19.	Soil and water management measures consistent with *Managing Urban Stormwater - Soils and Construction Volumes 1 and 2, 4th Edition* (Landcom, 2004) shall be employed during the construction of the SSI to minimise soil erosion and the discharge of sediment and other pollutants to land and/or water.	Construction	Contractor	Open	This condition has been addressed in the CSWQMP. Innovation has been applied at Fill 1 to divert dirty water away from the Clarence and improvement treatment.
D20. (missing from previous)	Works in riparian areas and on riverfront land shall be undertaken in accordance with NOW guidelines for controlled activities on waterfront land, as applicable				This issue is being addressed in updated riparian designs. Also being addressed in the Biodiversity offset Statement currently under preparation, which includes riparian areas inside and outside the project.
D21.	The Proponent shall consult with the NSW State Emergency Service during detailed design on feasible and reasonable measures to maximise the evacuation capability of Grafton and South Grafton during a major flood emergency.	Pre-construction	Contractor and RMS	closed	The project has consulted with CVC and SES during the detailed design phase to implement measures that will maximise the flood evacuation capability of Grafton and South Grafton during a major flood event.
D22.	The Proponent shall undertake further flood modelling based on the detailed design of the SSI. The flood modelling shall consider the recommendations of WMAwater outlined in Appendix A *EIS flooding and hydrology technical paper peer review* in the document listed in condition A2(c), and: **(a)** *include a detailed floor level survey of potentially affected properties, as identified in the flood modelling;* **(b)** *update the flood frequency analysis and application of the latest hydrological practice of the new Australian Rainfall and Runoff publication;* **(c)** *assess the same design flood events as those in the EIS, including the probable maximum flood (PMF) event; and* **(d)** *assess and report all flood height changes to a resolution no coarser than 1cm.*	Pre-construction	Contractor and RMS	Open	WBM are undertaking the flood modelling for RMS. The modelling includes MCoA D 22 a), b) and c) requirements. Flood modelling is addressed in SWTC App 4 Section 4.16. WMA are the appointed RMS independent hydrologic consultant. KBR have prepared the Hydrological Mitigation report, approved by the Secretary. The flood modelling does consider the recommendations from WMA Water

CoA Ref	Condition	Timing	Responsible Party	Status (open/closed)	Compliance comments
D23.	The Proponent shall prepare a **Hydrological Mitigation Report** that details all feasible and reasonable flood mitigation measures for properties where flood impacts are predicted to increase as a result of the SSI. The Report shall be prepared by a suitably qualified and experienced expert, whose appointment has been approved by the Secretary. The Report shall: **(a)** *be informed by the detailed surveys (e.g. floor levels) of potentially affected properties and the results of the flood modelling of the detailed design carried out under condition D22 of this approval and in consultation with EPA and Council;* **(b)** *include mitigation measures based on documented flood management objectives for affected properties. The flood management objectives shall cover flood level (height), duration, velocity and direction, and flood evacuation and be developed in consultation with Council and the SES;* **(c)** *ensure mitigation measures that include changes to the height of the levees have no detrimental impact on residences and urban land uses protected by the levees and properties downstream of the SSI;* **(d)** *identify properties in those areas likely to have an increased/exacerbated flooding impact and detail the predicted impact. The types of impacts to be considered include all those examined in the EIS including but not limited to changes in flood levels and velocities, alteration to drainage, reduction in flood evacuation access or capability and impacts on infrastructure,;* **(e)** *identify mitigation measures to be implemented to address these impacts:* **(f)** *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 SSI;* **(g)** *demonstrate consistency with the flood management objectives in subsection (b);* **(h)** *be developed in consultation with directly-affected landowners, and Council and in relation to public assets and community flood evacuation issues; and* **(i)** *where house raising is proposed, ensure habitable floor levels are raised to a minimum height of the 100 year ARI flood plus 0.5m freeboard, unless justified by site-specific assessment.* Where the flood management objectives in subsection (b) cannot be complied with, the Proponent shall achieve compliance through modified design of the SSI; or achieve an acceptable level of mitigation of impacts through at property design measures (e.g. raised access tracks, flood refuge, house raising) in consultation with affected landowners. The Report shall be submitted for the approval of the Secretary one month prior to the commencement of construction within the floodplain that has potential to alter flood behaviour, unless otherwise agreed by the Secretary. Construction shall not commence on any components of the SSI that have potential to alter flood conditions until such time as works identified in the hydrological mitigation report have been completed, unless otherwise agreed by the Secretary.	Pre-construction	RMS	closed	Schedule 41.Future Approvals to be obtained by RMS. "The Secretary of the Department of Planning and Environment's approval required by condition D23. of the Planning Minister's Approvals in respect of the Hydrological Mitigation Report". KBR have prepared the Hydrological Mitigation report and DPE have approved it. (a) potentially affected properties have been identified. Floor level surveys have been completed. (b) Flood management objectives have been set in the HMR and have been developed in consultation with Council and SES. (c) the proposed levee mitigation measures have no measurable impact on properties downstream of the new bridge. (d) potentially affected properties have been identified. Floor level surveys have been completed and directly affected property owners have been consulted with. One shed floor has been raised slightly. (e) Likely mitigation measures have been identified in the HMR. (f) Flood velocities are mostly not predicted to increase. Where they do increase, the potential impact is addressed in the HMR. (g) Flood management objectives are identified in the HMR and they form the basis for determining flood impact on properties (h) Directly affected landowners and Council have been consulted with with regard to refinement of public assets (levee). This consultation is ongoing. (i) No house raising is required. One shed floor has been raised. Mitigation measures are being determined in consultation with landowners. The HMR has been submitted to DPE and approved by DPE on 6/7/2016. Levee mitigation measures are now complete.
D24.	Based on the mitigation measures identified in the Hydrological Mitigation Report, the Proponent shall prepare and implement a final schedule of feasible and reasonable flood mitigation measures proposed at each directly-affected property in consultation with the landowner, and consistent with the flood management objectives described in condition D23(b). The schedule shall be provided to the relevant landowner(s) prior to the implementation/construction of the mitigation works, unless otherwise agreed by the Secretary. A copy of each schedule of flood mitigation measures shall be provided to the Department and Council prior to the implementation/construction of the mitigation measures on the property.	Pre-construction	RMS	Open	Copies of the final mitigation measures have been provised to relevant land owners, CVC and provided to DP&E.
D25.	The Proponent shall undertake engineering and property investigations of the Grafton and South levees prior to detailed design to inform the structural capability of changes to the levees. Any work to augment the structure of the levees shall be carried out in consultation with Council and affected landowners. Note:• Should additional assessment of work arising from the engineering and property investigations of the levees be required, the proponent shall undertake a review of the consistency of those works with the SSI approval. Work that is inconsistent with the SSI may require a modification of the approval.	Pre-construction, construction	RMS	Open	RMS organised regular meetings with Council, OEH and SES to progress levee upgrading works. PWD have undertaken an engineering assessment of the levees and detailed design of the levee works for RMS. All levee works completed. All work has been carried out in accordance with plans approved by Clarence Valley Council and the private landowners of individual properties impacted.
D26.	The proposed Grafton and South Grafton levee flood mitigation measures shall be implemented prior to construction commencing in the Clarence River, including pier/pile construction and the installation of temporary in-river rock platforms, unless otherwise agreed by the Secretary.	Pre-construction	Contractor	Open	Grafton abnd South Grafton flood levee mitigation measures implemented with secretary approval received 29/3/2017 to allow commencement of construction in the Clarence River.
D27	The Proponent shall employ a suitably qualified and experienced independent hydrological expert, whose appointment has been endorsed by the Secretary, to provide independent advice for all hydrological matters, including assistance to landowners in resolving feasible and reasonable mitigation measures.	Pre-construction, construction	RMS	closed	WMA are the appointed RMS independent hydrologic consultant. The appointment of WMA Water has been approved by DPE on 27/11/2015.

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D28	During detailed design, the Proponent shall undertake a detailed drainage study of the SSI adjacent to the northern and southern approach roads within the levees to ensure there are no adverse impacts to property or existing infrastructure. The study shall be carried out in consultation with Council and include the design of the Pound Street drainage basin and pumping station, and Council's existing drainage and flood relief systems.	Pre-construction	Contractor and RMS	closed	A detailed drainage study has been undertaken for the areas adjacent to the SSI for the northern and southern approach roads. This study was undertaken in consultation with CVC and SES.
D29.	The SSI shall be constructed in a manner that minimises dust emissions from the site, including wind-blown and traffic-generated dust and tracking of material onto public roads. All activities on the site shall be undertaken with the objective of preventing visible emissions of dust from the site. Should such visible dust emissions occur at any time, the Proponent shall identify and implement all feasible and reasonable dust mitigation measures, including cessation of relevant works, as appropriate, such that emissions of visible dust cease.	Construction	Contractor	Open	Addressed in the CAQMP. CAQMP has been submitted to the Secretary for approval and approved as part of the CEMP. Construction measures to reduce dust emissions include the use of water carts, mud tracking controls, revegetation and other measures. Dust monitoring results are discussed at monthly ERGs.
D30.	Dangerous goods, as defined by the Australian Dangerous Goods Code, shall be stored and handled strictly in accordance with: (a) all relevant Australian Standards;(b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume, within the bund; and (c) the Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin (Environment Protection Authority, 1997). In the event of an inconsistency between the requirements listed from (a) to (c) above, the most stringent requirement shall prevail to the extent of the inconsistency.	Construction	Contractor	Open	This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP.
D31.	Waste generated outside the site shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence or waste exemption under the Protection of the Environment Operations Act 1997, if such a licence is required in relation to that waste.	Construction	Contractor	Open	Waste is not been received on the project. Waste will be managed through the correct waste stream and taken to licenced facilities as required.
D32.	The reuse and/or recycling of waste materials generated on site shall be maximised as far as practicable, to minimise the need for treatment or disposal of those materials off site.	Construction	Contractor	Open	This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP. Clearing material has been used for timber eg Men Shed and used for mulch for landscaping and erosion and sediment control. As much as possible of the house demolition materials were recycled. Topsoil is recycled as well as waste concrete and steel where possible. Recycled paper is used in site offices.
D33.	All liquid and/or non-liquid waste generated on the site shall be assessed and classified in accordance with Waste Classification Guidelines (Department of Environment, Climate Change and Water, 2009).	Construction	Contractor	Open	This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP.
D34.	All waste materials removed from the site shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.	Construction	Contractor	Open	This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP.
D35.	The Proponent shall ensure that all plant and equipment used at the site is: **(a)** *maintained in a proper and efficient condition; and* **(b)** *operated in a proper and efficient manner.*	Construction	Contractor	Open	This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP.

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D36.	The sites for ancillary facilities that are associated with the construction of the SSI and that have not been identified and assessed in the documents listed in condition A2 shall: **(a)** *be located more than 50 metres from a waterway, including the Clarence River;* **(b)** *be located within or adjacent to the SSI boundary;* **(c)** *have ready access to the road network or direct access to the construction corridor;* **(d)** *be located to minimise the need for heavy vehicles to travel through residential areas;* **(e)** *be located in areas of low ecological significance and require no clearing of native vegetation;* **(f)** *be located on relatively level land;* **(g)** *be separated from the nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant);* **(h)** *be above the 20 year ARI flood level unless a contingency plan to manage flooding is prepared and implemented;* **(i)** *not unreasonably affect the land use of adjacent properties;* **(j)** *provide sufficient area for the storage of material to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours; and* **(k)** *be located in areas of low heritage conservation significance (including areas identified as being of Aboriginal cultural value) and not impact on heritage sites beyond those already impacted by the SSI.* The Proponent shall undertake an assessment of the facility against the above criteria in consultation with the relevant public authority(s) and the Council. The site and relevant environmental management measures shall be included in the Construction Environmental Management Plan required under condition D45.	Pre-Construction, Construction	Contractor	Open	This has been addresse in Appendix A5 of the CEMP. Ancillary facilities outside the SSI includes a current shed in the industrial area of South Grafton for levee works. Office facilities are located in Pound Street, two houses retained rather than demolished. This is all within the SSI corridor. The two houses used were originally to be demolished, but are now retained, improving street amenity. An approved ancillary area is located on the eastern site of Iolanthe Stree, north of Bunnings. The casting yard is within the EIS/ CEMP approved corridor/ approved ancillary area.
D37.	Ancillary facilities that have not been previously identified and assessed in the documents listed in condition A2, and do not meet the criteria set out under condition D36, shall be approved by the Environmental Representative prior to its establishment. In obtaining this approval, the Proponent shall consult with the relevant public authority(s) and the Council, and demonstrate to the satisfaction of the Environmental Representative, how the potential environmental impacts can be mitigated and managed to acceptable standards. The outcomes of the assessment shall be documented in a report and include, but not necessarily be limited to: **(a)** *details on the site location and access arrangements;* **(b)** *a description of the activities to be undertaken including the hours of use and storage of dangerous goods;* **(c)** o*utcomes of the assessment of the site against the locational criteria set out in condition D36;* **(d)** *an assessment of the environmental impacts on the site and the surrounding environment, including, but not limited to noise, vibration, air quality, traffic and access during site establishment and operation, flora and fauna, heritage, erosion and sedimentation, water quality and light spill;* **(e)** *details of the mitigation, monitoring and management procedures specific to the ancillary facility that would be implemented to minimise environmental impacts; and* **(f)** *demonstrated overall consistency with the approved SSI (including impacts identified in the documents listed in condition A2).* A copy of the report shall be included in the Construction Environmental Management Plan required under condition D45.	Pre-Construction, Construction	Contractor	Open	This has been addressed in Appendix A5 of the CEMP. Ancillary facilities outside the SSI includes a current shed in the industrial area of South Grafton for levee works.Assessment of ancillary sites against these criteria will be undertaken by Fulton Hogan where proposed in consultation with RMS. Refer additional ancillary sites under MCoA D 36.
D38.	Notwithstanding condition D37, ancillary facilities that that have not been previously identified and assessed in the documents listed in condition A2 and result in additional impacts to biodiversity, heritage, flooding and noise beyond those approved for the SSI, shall be approved by the Secretary prior to their establishment. In order to obtain this approval, the Proponent shall undertake an assessment of the ancillary facility in accordance with condition D37 and forward a copy of the assessment report to the Secretary, as part of the approval submission, at least one month prior to the establishment of the facility.	Pre-construction	Contractor and RMS	Open	This will be undertaken by Fulton Hogan in consultation with RMS where proposed. An office ancillary site in Pound/ Greaves St has been approved, all within the SSI corridor. The two houses used were originally to be demolished, but are now retained, improving street amenity.
D39.	All ancillary facilities and access points shall be rehabilitated to at least their preconstruction condition or better, unless otherwise agreed by the landowner where relevant.	Construction	Contractor	Open	This will be undertaken by Fulton Hogan in consultation with RMS.

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D40.	Where changes are made to the boundary or use of an ancillary facility, including facilities identified in the documents listed in condition A2, the Proponent shall assess the facility against the criteria set out in condition D36 If the ancillary facility site: **(a)** *does not meet the criteria set out under condition D36 the Proponent shall seek the approval of the Environmental Representative in accordance with condition D37; or* **(b)** *results in impacts to biodiversity, heritage, flooding and noise beyond those approved for the SSI, the Proponent shall seek the approval of the Secretary in accordance with condition D38 .* The relevant approval shall be obtained prior to the establishment of the ancillary facility.	Pre-construction	Contractor and RMS	Open	This will be undertaken by Fulton Hogan in consultation with RMS where proposed.
D41.	The Proponent may undertake archaeological investigations at ancillary sites that do not meet the criterion set out in condition D36, where this is required to assess the potential Aboriginal and non-Aboriginal archaeological impacts of the ancillary facility provided they are undertaken under a methodology prepared to the satisfaction of the Secretary in consultation with EPA.	Pre-construction	Contractor	Open	This will be undertaken by Fulton Hogan in consultation with RMS where proposed. A archaeologist/ LALC site walk over was undertaken for the Woods ancillary area (had been heritage assessed previously in the EIS)and Robertson easement.
D42.	The Proponent shall prepare and implement an Urban Design and Landscape Management Plan prior to the commencement of permanent built works and/or landscaping, unless otherwise agreed by the Secretary, to present an integrated landscape and design for the SSI. The Plan shall be prepared in accordance with the Roads and Maritime Services urban design and visual guidelines, and the design principles and revegetation guidelines outlined in the EIS. The Plan shall be prepared by an appropriately qualified expert in consultation with EPA, including the Heritage Division, Council and community, and submitted to the Secretary for approval. The Plan shall include, but not necessarily be limited to: **(a)** *identification of design principles and standards based on -* *(i) local environmental values,* *(ii) heritage values,* *(iii) urban design context,* *(iv) sustainable design and maintenance,* *(v) community amenity and privacy,* *(vi) relevant design standards and guidelines including "Crime Prevention Through Environmental Design Principles", and* *(vii) the urban design objectives outlined in the EIS Technical Paper Urban Design and Landscape Concept Report;* **(b)** *details on the location of existing vegetation and proposed landscaping (including use of indigenous and endemic species where possible). Details of species to be replanted/revegetated shall be provided in a Revegetation Strategy, including their appropriateness to the area and habitat for threatened species;* **(c)** *a description of locations along the corridor directly or indirectly impacted by the construction of the SSI (e.g. temporary ancillary facilities, access tracks, etc.) and details of the strategies to progressively rehabilitate regenerate and/or revegetate the locations with the objective of promoting biodiversity outcomes and visual integration;* **(d)** *appropriate roadside plantings and landscaping in the vicinity of heritage items and ensure no additional heritage impacts;* **(e)** *appropriate landscape treatments on flood levees to ensure the structural integrity of the levees is not compromised;* **(f)** *strategies for progressive landscaping of environmental controls (such as erosion and sedimentation controls, drainage controls);* **(g)** *responsibilities for maintaining landscaping treatments and areas of regeneration and revegetation;* **(h)** *location and design treatments for any associated footpaths and cyclist elements, and other features such as seating, fencing, materials and signs;* **(i)** *a lighting plan lighting (with lighting in accordance with AS/NZS 1158 Lighting for Roads and Public Spaces series as relevant and AS 4282-1997 Control of the Obtrusive Effect of Outdoor Lighting) including lighting designs;* **(j)** *an assessment of the visual screening effects of existing vegetation and the proposed landscaping and built elements. Where properties have been identified as likely to experience high visual impact as a result of the SSI and high residual impacts are likely to remain, the Proponent shall, in consultation with affected landowners, identify opportunities for providing at-property landscaping to further screen views of the SSI. Where agreed with the landowner, these measures shall be implemented during the construction of the SSI;* **(k)** *graphics such as sections, perspective views and sketches for key elements of the SSI, including, but not limited to built elements of the SSI;* **(l)** *final design details of the proposed external materials and finishes for the bridge and noise barriers, including schedules and a sample board of materials and colours;*	Pre-construction	Contractor	Open	The UDLMP was issued to the Secretary on 23/3/2017. the department has provised comments on the plan which are being addressed by the project team.

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	(m) *monitoring and maintenance procedures for the built elements, including performance indicators, responsibilities, timing and duration; and* **(n)** *evidence of consultation with EPA, Council and community on the proposed urban design and landscape measures prior to finalisation of the Plan.* Note: • The Urban Design and Landscape Plan shall be consistent with any revegetation and biodiversity offsets established for the SSI under the conditions of this approval.				
D43.	Prior to the commencement of construction of the SSI, or as otherwise agreed by the Secretary, the Proponent shall nominate for the approval of the Secretary a suitably qualified and experienced Environmental Representative(s) that is independent of the design and construction personnel. The Proponent shall employ the Environmental Representative(s) for the duration of construction, or as otherwise agreed by the Secretary. The Environment Representative(s) shall: **(a)** *be the principal point of advice in relation to the environmental performance of the SSI;* **(b)** *monitor the implementation of environmental management plans and monitoring programs required under this approval and advise the Proponent upon the achievement of these plans/programs;* **(c)** *have responsibility for considering and advising the Proponent on matters specified in the conditions of this approval, and other licences and approvals related to the environmental performance and impacts of the SSI;* **(d)** *ensure that environmental auditing is undertaken in accordance with the Proponent's Environmental Management System(s);* **(e)** *be given the authority to approve/reject minor amendments to the Construction Environment Management Plan. What constitutes a "minor" amendment shall be clearly explained in the Construction Environment Management Plan;* **(f)** *be given the authority to approve/reject Out of Hours Works in accordance with condition D4. These works shall be conducted in accordance with the Out of Hours Works Protocol (OOHW Protocol) required in accordance with condition D46(a)(vi);* **(g)** *be given the authority to approve/reject ancillary facilities in accordance with conditions D36 and D37;* **(h)** *be 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; and* **(i)** *be consulted in responding to the community concerning the environmental performance of the SSI where the resolution of points of conflict between the Proponent and the community is required.*	Pre-construction	RMS	Open	Simon Williams has been appointed the Environmental Representative for the project/ approved by DPE on 16/1/2015.
D44.	The Environmental Representative shall prepare and submit to the Secretary a monthly report on the Environmental Representative's actions and decision on matters specified in condition D43 for the preceding month. The reports shall be submitted within seven (7) days from the end of each month for the duration of construction of the SSI, or as otherwise agreed by the Secretary. Notwithstanding, the Environmental Representative shall be given the independence to report to the Secretary at any time and/or at the request of the Secretary.	Construction	RMS	Open	The Project Environmental Representative restarted in early 2016 and increased presence at 20 September, 2016. Recommenced monthly reports from October 2016 as agreed with DPE.
D45.	The Proponent shall prepare and implement a **Construction Environmental Management Plan** for the SSI, prior to the commencement of construction, or as otherwise agreed by the Secretary. The Plan shall be prepared in consultation with relevant agencies and Council and outline the environmental management practices and procedures that are to be followed during construction. The Plan shall be prepared in accordance with the *Guideline for the Preparation of Environmental Management Plans* (Department of Infrastructure, Planning and Natural Resources, 2004) : SEE CRITIRIA Clauise D45 (a) - (d)(x) of Consolidated instrument Grafton Bridge Modification Document	Pre-Construction	Contractor and RMS	Open	CEMP has been submitted to the Secretary for approval. The following associated management plans have also been submitted to the Secretary for approval: - CNVMP - CSWQMP - CFFMP - CAQMP - CCLMP - CFMP - CHMP - CTAMP. The CEMP and Management Plans were approved by DPE.

CoA Ref	Condition	Timing	Responsible Party	Status (open/closed)	Compliance comments
D46.	As part of the Construction Environmental Management Plan for the SSI, the Proponent shall prepare and implement: SEE CRITIRIA Clause D46 (a) - (f)(vii) of Consolidated instrument Grafton Bridge Modification Document				DPE CEMP approval was received on 4 October 2016, subject to addressing 4 conditions. DPE issue another letter dated 5 October 2016 correcting errors in the CEMP plan list.
Part E - Operational Environmental Management, Reporting and Auditing					
E1.	The SSI shall be designed and operated with the objective of not exceeding the road noise criteria outlined in the NSW Road Noise Policy (Department of Environment, Climate Change and Water, 2011).	Pre-construction, Operation	Contractor and RMS	Open	There are extensive Environnmental Document requirements for design and operation in regards to noise. The SWTC App 4 includes extensive operational noise requirements and the Operational Noise Management Report. Still being considered as part of detailed design
E2.	The Pumping Station at Pound Street shall be designed and operated (including regular maintenance and testing) to not exceed the noise criteria in the *NSW Industrial Noise Policy* (2000).	Pre-construction, construction, operation	Contractor	Open	The operational noise report establishes the porject criteris for long term noise management goals in section 2.5. The specific assessment for the pump station is in section 4.8 of the same report. The final model of the pump will need to be checked against the assumptions and noise modelling of that used in section 4.8. This review will
E3.	The Proponent shall undertake operational noise monitoring, to compare actual noise performance of the SSI against noise performance predicted in the review of noise mitigation measures required by condition D11 within 12 months of the commencement of operation of the SSI, or as otherwise agreed by the Secretary. The Proponent shall subsequently prepare an Operational Noise Compliance Report to document this monitoring. The Report shall include, but not necessarily be limited to: (a) noise monitoring to assess compliance with the operational noise levels predicted in the review of operational noise mitigation measures required under condition D11 and documents listed in condition A2; (b) a review of the operational noise levels in terms of criteria and noise goals established in the NSW Road Noise Policy 2011; (c) methodology, location and frequency of noise monitoring undertaken, including monitoring sites at which SSI noise levels are ascertained, with specific reference to locations indicative of impacts on sensitive receivers; (d) details of any complaints and enquiries received in relation to operational noise generated by the SSI between the date of commencement of operation and the date the report was prepared; (e) any required recalibrations of the noise model taking into consideration factors such as noise monitoring and actual traffic numbers and proportions; (f) an assessment of the performance and effectiveness of applied noise mitigation measures together with a review and if necessary, reassessment of feasible and reasonable mitigation measures; and (g) identification of additional feasible and reasonable measures to those identified in the review of noise mitigation measures required by condition D11, that would be implemented with the objective of meeting the criteria outlined in the NSW Road Noise Policy 2011, when these measures would be implemented and how their effectiveness would be measured and reported to the Secretary and the EPA. The Proponent shall provide the Secretary and the EPA with a copy of the Operational Noise Report within 60 days of completing the operational noise monitoring referred to in (a) above or as otherwise agreed by the Secretary.	Pre-construction, construction, operation	RMS	Open	Operational noise monitoring will be undertaken within 12 months of the commencement of operation.
E4.	Prior to the commencement of operation, the Proponent shall incorporate the SSI into existing environmental management systems administered by the Proponent and prepared in accordance with the AS/NZS ISO 14000 or similar Environmental Management System series.If there is an inconsistency between the existing environmental management systems and the conditions of this SSI approval, the requirements of this SSI approval shall prevail.	Construction, Operation	Contractor and RMS	Open	To be undertaken closer to operation.

CoA Ref	Condition	Timing	Responsible Party	Status (open/closed)	Compliance comments
E5.	Within 18 months of the commencement of operation, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the SSI. This audit shall: **(a)**. *be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;* **(b).** *include consultation with the relevant agencies and Council;* **(c).** *assess the environmental performance of the SSI and assess whether it is complying with the requirements in this approval, and any other relevant approvals (including any assessment, plan or program required under these approvals);* **(d).** *review the adequacy of any approved strategy, plan or program required under the abovementioned approvals; and* **(e).** *recommend measures or actions to improve the environmental performance of the SSI, and/or any strategy, plan or program required under these approvals.*	Operation	RMS	Open	To be undertaken in operation. Sch 41. Future Approvals to be obtained by RMS. "The Secretary of the Department of Planning and Environment's approval required by condition E5. of the Planning Minister's Approvals in respect of the suitably qualified, experienced and independent team of experts to conduct an Independent Environmental Audit of the SSI (as defined in the Planning Minister's Approvals)".
E6.	Within 90 days of commissioning this audit, or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary and relevant public authorities, together with its response to any recommendations contained in the audit report. Should the Audit identify unsatisfactory compliance with the SSI approval, the Secretary may require an additional Audit to be undertaken at a later date(s).	Operation	RMS	Open	To be undertaken in operation.
E7.	The Proponent shall maintain the SSI in accordance with the documents listed in condition A2 and any strategy, plan, program or other document required by the conditions of this approval.	Operation	RMS	Open	Noted.

APPENDIX B

Water Quality Monitoring Results

B-1: Surface water quality monitoring completed during the reporting period

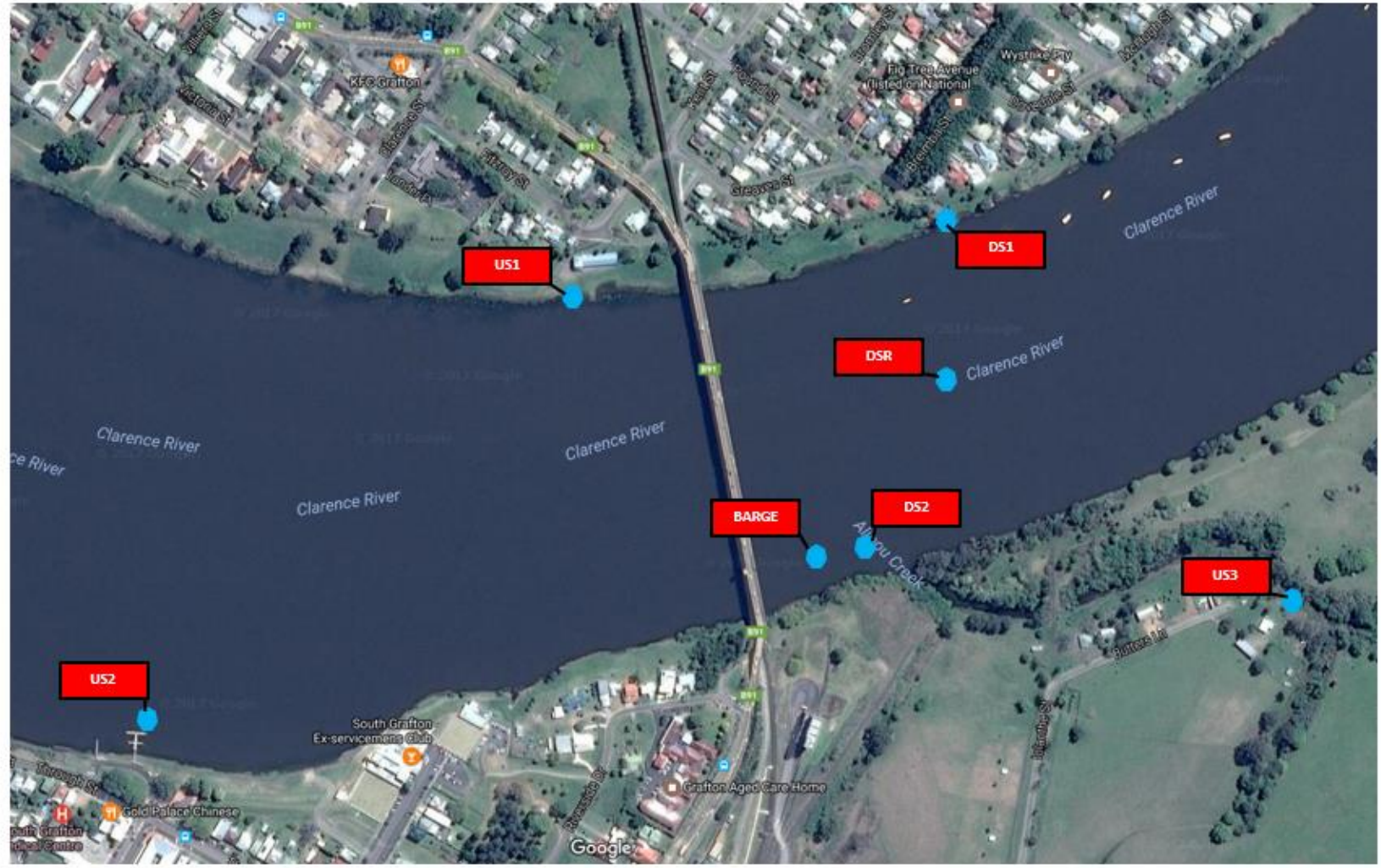
						Observations			Flow		
Date	Sample Location	Turbidity (NTU)	pH	Conductivity (µs/cm)	Temp (C)	Oil/ Grease	Algae	Debris	Speed	Colour	Comments
28/04/2017	Sailing Club	12.33	8.41	123.3	21.8	No	No	No	Slow	Brown	
28/04/2017	Boat Ramp South	11.57	7.87	124.3	22.5	No	No	No	Slow	Brown	
28/04/2017	Pound Street	9.33	7.8	119.8	21.9	No	No	No	Slow	Brown	
28/04/2017	Alipou Creek	-	-	-	-	-	-	-	-	-	
28/04/2017	Butters Lane	9.14	7.94	188.3	19.3	No	No	No	Slow	Brown	
28/04/2017	Upstream River	-	-	-	-	-	-	-	-	-	
28/04/2017	Downstream River	-	-	-	-	-	-	-	-	-	
25/05/2017	Sailing Club	8.89	8.43	146.5	19.4	No	No	No	Slow	Blue	
25/05/2017	Boat Ramp South	5.85	8.07	127.7	20.2	No	No	No	Slow	Blue	
25/05/2017	Pound Street	5.48	7.88	129.5	20.3	No	No	No	Slow	Brown	
25/05/2017	Alipou Creek	6.11	8.14	129.2	20.8	No	No	No	Slow	Brown	
25/05/2017	Butters Lane	4.66	7.98	127.9	21.6	No	No	No	Slow	Brown	
25/05/2017	Upstream River	4.65	8.38	130.9	21.2	No	No	No	Slow	Brown	Piling in the river not yet started
25/05/2017	Downstream River	4.83	7.95	128.2	21.5	No	No	No	Slow	Brown	
15/06/2017	Sailing Club	24.6	7.6	129	16.8	No	No	No	Slow	Brown	Monitoring post major rainfall event 10th - 14th of June
15/06/2017	Boat Ramp South	71.6	7.5	104.2	16.8	No	No	No	Moderate	Brown	Monitoring post major rainfall event 10th - 14th of June
15/06/2017	Pound Street	55	7.8	168.9	17.2	No	No	No	Moderate	Brown	Monitoring post major rainfall event 10th - 14th of June
15/06/2017	Alipou Creek	35	8.02	114.1	17.5	No	No	No	Slow	Brown	Monitoring post major rainfall event 10th - 14th of June
15/06/2017	Butters Lane	62.7	7.6	142.3	16.4	No	No	No	Moderate	Brown	Monitoring post major rainfall event 10th - 14th of June
15/06/2017	Upstream River	-	-	-	-	-	-	-	-	-	
15/06/2017	Downstream River	-	-	-	-	-	-	-	-	-	
25/07/2017	Sailing Club	7.56	8.31	128	19.1	No	No	No	Slow	Brown	
25/07/2017	Boat Ramp South	7.82	8.63	186.7	17.6	No	No	No	Slow	Brown	
25/07/2017	Pound Street	7.3	8.11	126.6	17.9	No	No	No	Slow	Brown	

25/07/2017	Alipou Creek	31	7.83	116.4	18.2	No	No	No	Slow	Brown	
25/07/2017	Butters Lane	7.91	8.02	133.5	18.1	No	No	No	Slow	Brown	
25/07/2017	Upstream River	-	-	-	-	-	-	-	-	-	
25/07/2017	Downstream River	-	-	-	-	-	-	-	-	-	
21/08/2017	Sailing Club	7.61	8.1	152.2	16.8	No	No	No	Slow	Brown	High tide. Water level higher than normal.
21/08/2017	Boat Ramp South	7.19	8.52	504	16.6	No	No	No	Slow	Brown	High tide
21/08/2017	Pound Street	7.53	8.25	213	16.8	No	No	Yes	Slow	Brown	High tide. Reed and plant debris in river
21/08/2017	Alipou Creek	6.23	7.82	1276	16.8	No	No	No	Slow	Clear	Upstream sample - high salinity, potentially from irrigation
21/08/2017	Butters Lane	18.2	8.43	422	16.7	No	No	No	Slow	Brown	barge boat passed a few minutes before sample
21/08/2017	Upstream River	-	-	-	-	-	-	-	-	-	
21/08/2017	Downstream River	-	-	-	-	-	-	-	-	-	
22/09/2017	Sailing Club	5.53	7.34	2380	21.3	No	No	No	Slow	Brown	Low Tide - high salinity
22/09/2017	Boat Ramp South	4.09	7.15	2200	20.9	No	No	No	Slow	Brown	
22/09/2017	Alipou Creek	6.5	7.06	1800	20.5	No	No	No	Nil observed	Clear	Clear appearance due to shallow water
22/09/2017	Pound Street	18.33	7.45	2840	21.4	No	No	No	Slow	Brown	Dirty water plume along bank edge - not construction related
22/09/2017	Butters Lane	6.1	7.6	1900	21	No	No	No	Slow	Brown	
22/09/2017	Downstream River	-	-	-	-	-	-	-	-	-	
22/09/2017	Barge	-	-	-	-	-	-	-	-	-	

B-2: Ground water quality monitoring completed during the reporting period

Date Sampled	Monitoring	Sample Location	Depth (m)	Temp (C)	pH	Conductivity (µs/cm)	PAH's	Dissolved Metals	BTEX/ TPH	Contaminants	Comments
22/05/2017	4276/1	South Sentinel	1.61	23	6.4	810	No	No	No		
22/05/2017	4276/2	Middle Sentinel	1.95	22.6	6.4	726	No	No	No		
22/05/2017	4276/3	North Sentinel	5.68	26.6	6	524	No	No	No		
22/05/2017	4276/4	PMW2	2.08	22.7	6.3	578	No	No	No		
22/05/2017	4276/4	PMW3	2.33	21.9	6.4	744	No	No	No		
22/05/2017	4276/5	PMW1	3.22	24.4	6.4	505	Yes	No	Yes	PAH's - Naphthalene, Acenaphthene, Fluorene, Phenanthrene BTEX/TPH - C6-C9, C10-C14, C15-C28, C29-C36, C10-C36, C6-C10, >C10-C16, >C16-C34, >C10-C40	Strong hydrocarbon odour
22/05/2017	4276/6	FD (South Sentinel)	(NT)	22.8	6.5	802	No	No	No		

B-3: Water quality monitoring locations, including extra locations sampled for construction



APPENDIX C

Noise and Vibration Monitoring Results

C-1: Noise monitoring completed during the reporting period

Monitoring Type	Date	Time (24 hr)	Works Activity	Works Location	Monitoring Location	NML (RBL+5)	LA_{eq15}	LA_{max}	LA_{min}	LA_{10}	LA_{90}	Compliant	Additional Comments
Spot check (activity)	26/4/17	15:00	Assembly of the crane	Southern bank of the Clarence River	Butters lane residents	49	43.8	48.7	36.2	45.1	39.2	Yes	Construction works barely audible
Spot check (activity)	26/4/17	15:30	Laying out geo-fabric at casting yard	Pre-cast yard	Through Street businesses	55	53.2	59.7	42.9	54.2	49.8	Yes	Construction works not audible above background
Spot check (activity)	10/5/17	9:25	Vib piling for temporary jetty piers	Temporary Jetty	8 Greaves Street	54	52.4	61.1	49.4	53.9	50.7	Yes	Temp works inaudible. Background 51-52 dBA. Lmax from trucks crossing existing bridge.
Spot check (activity)	12/5/17	14:24	Hammer piling for temporary jetty piers	Temporary Jetty	8 Greaves Street	54	53.6	72.6	46	55.1	48.5	Yes	Audible works. Hammering 69 dBA. Background 50-51 dBA. Hammer piling occurred in short bursts lasting no more than 30-40 seconds followed by a respite period.
Spot check (activity)	15/5/17	9:40	Hammer piling for temporary jetty piers	Temporary Jetty	8 Greaves Street	54	62.6	77.3	44.9	68.1	47.2	Yes	Works audible but are intermittent bursts on and off for roughly 20 minutes. Lmax recorded by train passing. Background with minimum traffic 48-49 dBA
Periodic (monthly)	25/5/17	9:14	No Works	Car-Park and Pound Street	16 Clarence Street	58	58.6	82.8	44.6	61.2	47.6	Yes	No works occurring. Lmax from passing car. Cars passing averaging 65 dBA. Background (no cars) 48 dBA. Frequent traffic.
Periodic (monthly)	25/5/17	9:28	Northern access track construction	Greaves and Kent Street	10 pound Street	54	56	75	43.4	58.8	48.5	Yes	Background 49-50 dBA. Construction works 51-55 dBA - majoritively below NML. Train passing 63 dBA. Cockatoos above reaching 62 dBA
Periodic (monthly)	25/5/17	9:46	Northern access track construction	Greaves and Kent Street	5 Kent Street	63	65.7	86.8	54.6	66.2	58.3	Yes	Lmax from passing motorbike at 86dBA. Construction work 59-62 dBA (below NML). Trucks and cars on bridge up to 70 dBA
Periodic (monthly)	25/5/17	10:11	Haul and load	Fill 1	Butters lane residents	49	49.3	78.9	42.4	50.4	44.9	Yes	Background 48-50 dBA. Lmax from truck passing on bridge. Construction peak recorded 54 dBA
Periodic (monthly)	25/5/17	10:29	Haul and load	Fill 1	28 Through Street	55	63.6	80.4	47.2	66.9	51.1	Yes	Compliant. Construction works inaudible over background. Background 51-5s dBA. Cars passing up to 73 dBA. Lmax from passing motorbike
Periodic (monthly)	25/5/17	10:48	No Works	Southern bank of the Clarence River	3 Riverside Drive	69	59.7	73.5	51.1	62.9	54.5	Yes	No construction works occurring. Sample is of background only.
Spot check (background)	30/5/17	13:30	No Works	Southern bank of the Clarence River	3 Riverside Drive	69	59.7	72.9	52.1	62.2	55.4	Yes	No construction works occurring. Secondary sample for ancillary facility assessment
Out of hours	10/6/17	13:30	Erect scaffolding and identify service locations using a shovel	Pound street rail viaduct	24 Pound Street	49	50.3	64.6	44.6	52.2	47.3	Yes	Noise recorded primarily from passing traffic. Occasional bang audible from scaffold erection works. Works inaudible from rain which started half way through the sample.

Periodic (monthly)	20/7/17	14:45	No Works	Car-Park and Pound Street	16 Clarence Street	58	63.4	84.3	44.8	65.5	49.5	Yes	Noise generated from passing traffic. Background (no traffic) 45 dBA
Periodic (monthly)	20/7/17	14:25	No Works	Greaves and Kent Street	10 pound Street	54	55.7	78.6	40.9	52.3	43	Yes	Background 42 dBA. Trucks on bridge 54 dBA. Car passing monitor 74 dBA
Periodic (monthly)	20/7/17	14:10	No Works	Greaves and Kent Street	5 Kent Street	63	64.9	86.6	47	63.6	51.4	Yes	No traffic or background noise 48 dBA. Background general traffic noise 51 dBA. Trucks passing on bridge 65-68 dBA Lmax from passing train at 85 dBA
Periodic (monthly)	20/7/17	13:12	Load and Haul of fill	Fill 1	Butters lane residents	49	52.2	72.2	43	52.9	45.6	Yes	Construction work barely audible when traffic decreases. Reverse quacker from grader 45 dBA. Trucks crossing the bridge 49 dBA. Background 46 dBA. Reverse beeper from crane audible but very intermittent 53 dBA
Periodic (monthly)	20/7/17	13:34	Construction of Pier Skirts & Load and Haul	Casting Yard and Fill 1	28 Through Street	55	62.6	81.5	44.7	65.2	49.6	Yes	Background (minimal traffic) 49 dBA. Cars passing up to 74 dBA. Construction works inaudible
Periodic (monthly)	20/7/17	13:50	Installation of pile cages	Pier 2	3 Riverside Drive	69	59.5	69.9	53.4	61.6	56	Yes	Background 55 dBA. Trucks passing on bridge 65-67 dBA. Reverse beeper of crane 56 dBA. Construction noise inaudible over background
Out of hours	3/8/17	18:35	Pile pour	Abutment A	8 Greaves Street	44	44.8	56.6	40	46.7	42	Yes	Background (minimal traffic) 42 dBA. Construction works inaudible over traffic noise. Trucks crossing bridge 48 dBA
Out of hours	3/8/17	19:04	Pile pour	Abutment A	3 Riverside Drive	51	54	68.8	45	56.4	48.6	Yes	Dominant noise source traffic on bridge. Construction works inaudible over traffic noise. Lmax from car driving past monitor. No traffic 48 dBA
Out of hours	3/8/17	19:32	Pile pour	Abutment A	Butters lane residents	47	50	55.9	44.1	52.2	47	Yes	Construction work barely audible from resident's properties. Occasional brake release from agi's could be hear but very intermittently
Out of hours	5/8/17	14:06	Marine pour preparation	Pier 2	8 Greaves Street	49	47.6	64.4	41.8	49.8	44.2	Yes	Construction works inaudible over background noise level. Dominant noise source traffic on the bridge
Out of hours	5/8/17	14:38	Marine pour preparation	Pier 2	3 Riverside Drive	64	53.5	73.2	43.8	53.3	47.6	Yes	Construction works inaudible over background noise level. Dominant noise source traffic on the bridge. Lmax from car passing monitor. Crews finished on site and locking up at 2:50
Out of hours	15/8/17	6:02	Marine pour preparation	Pier 2	8 Greaves Street	40	52.2					Yes	Bird noise throughout. Consistent traffic hum from Summerland way. Various engine breaking from pacific highway. Construction noise inaudible over background
Out of hours	15/8/17	6:25	Marine pour preparation	Pier 2	3 Riverside Drive	41	53.8					Yes	Council sweeper very noisy - at least 8 minutes of sample time. Birds chirping and dogs barking. Bridge traffic dominant noise source. Construction works inaudible over background

Out of hours	15/8/17	6:46	Marine pour preparation	Pier 2	Butters lane residents	42	51.9					Yes	Predominant noise source pacific highway and truck engine braking. Summerland way also audible. Construction work inaudible over background
Spot check (activity)	16/8/17	11:01	Earthworks	Greaves St Levee Bank	7 Greaves Street	54	57.4	74.8	46.7	59.9	52.9	Yes	Monitoring sample taken prior to sheet piling works while earthworks were being completed for the re-design of the levee bank. Sample included excavator tracking in front of monitor location. V8 car running in driveway behind monitor impacting sample.
Spot check (background)	16/8/17	11:15	No Works	Kent Street	7 Greaves Street	54	53.4	66.5	46.8	55.3	50.9	Yes	Background sample. Prior to sheet piling and after earthworks had completed.
Spot check (activity)	16/8/17	11:26	Sheet piling	Kent Street	7 Greaves Street	54	67.5	84.2	53.1	67.3	54.8	Yes	Sheet piling clearly audible but very intermittent. Lasts roughly 30 seconds. Only occurred once throughout sample period
Spot check (background)	16/8/17	11:44	No works	Kent Street	5 Kent Street	58	56	67.2	49.5	58.7	51.7	Yes	Background noise sample - no works occurring. Dominant noise source bridge and Kent Street traffic
Spot check (activity)	16/8/17	12:00	Sheet piling	Kent Street	5 Kent Street	58	68	87.1	49.6	60.3	52.5	Yes	Sheet piling clearly audible but very intermittent. Lasts roughly 30 seconds. Only occurred once throughout sample period
Periodic (monthly)	21/8/17	14:14	Lifting of pile cases at Pier 2	Pier 2	Butters lane residents	49	48.2	67.1	40.8	49.1	43.5	Yes	Dog barking throughout sample. Construction works occasionally audible during traffic lulls but very faint.
Periodic (monthly)	21/8/17	14:32	Scaffolding and steel works	Casting Yard	28 Through Street	55	64.7	79.4	47.9	69.2	53.7	Yes	Works inaudible over background. Dominant noise source passing traffic
Periodic (monthly)	21/8/17	14:50	Delivery and pitching of pile cages	Pier 2	3 Riverside Drive	69	59.4	82	48.8	61.9	51.5	Yes	Birds chirping throughout full sample. Construction works inaudible over background traffic from bridge. Lmax from passing car
Periodic (monthly)	22/8/17	13:54	Telstra relocation works	37 Pound Street	16 Clarence Street	58	57.2	75.4	46.9	60.1	48.9	Yes	Cars passing on pound street dominant noise source. Construction works barely audible
Periodic (monthly)	22/8/17	13:34	Land Piling Preparation	Greaves and Kent Street	10 pound Street	54	53.8	69.9	40	56.3	42	Yes	Occasional audible noise from sheet piling. Care passing dominant noise source. Piling rig slewing audible
Periodic (monthly)	22/8/17	13:06	Sheet Piling	Greaves and Kent Street	5 Kent Street	63	67.7	86	49.5	62.5	51.3	Yes	Sheet piling clearly audible but very intermittent, occurred twice throughout sample. Lasts roughly 30 seconds. Cars passing on Kent St dominant noise source. Bridge traffic audible
Out of hours	29/8/17	5:54	Marine pour preparation	Pier 2	Butters lane residents	42	52.4	71.9	46.6	53.1	48.6	Yes	Construction works inaudible over background. Bridge and pacific highway traffic dominant noise source
Out of hours	29/8/17	6:13	Marine pour preparation	Casting Yard	28 Through Street	41	60.3	72.9	45.5	64.8	47.9	Yes	Passing traffic and Summerland way traffic dominant noise source. Casting yard works inaudible over traffic.

Out of hours	29/8/17	6:29	Marine pour preparation	Pier 2	3 Riverside Drive	41	61.1	82.4	39.2	65.1	48.9	Yes	Lorikeets chattering directly above monitor in trees - dominant noise source. Bridge traffic audible. Construction works inaudible over birds and traffic.
Periodic (monthly)	13/9/17	8:58	Load and Haul of fill	Abutment A	Butters lane residents	49	49.7	64.2	44.3	51.4	46.4	Yes	Grader audible in background - consistent hum @ 48 dBA. Birds chirping dominant noise source
Periodic (monthly)	13/9/17	9:37	Scaffolding and steel works	Casting Yard	28 Through Street	55	64.5	79.9	46.9	68.1	54.2	Yes	Background traffic dominant noise 51-54 dBA. Very short breaks in traffic 47 dBA. Construction works inaudible
Periodic (monthly)	13/9/17	9:20	Load and Haul of fill	Abutment A	3 Riverside Drive	69	59.1	89.4	50.6	60.2	53.1	Yes	Earthworks at Abutment A and crane movements at Brady's site. Construction works inaudible over background. Background (minimal traffic) 53-54 dBA. Lmax from lorikeet @89 dBA
Periodic (monthly)	13/9/17	8:35	No works	37 Pound Street	16 Clarence Street	58	59.7	77.5	44.3	63	47.9	Yes	Background (no traffic) 46 dBA. Cars passing consistently throughout sample at 69-72 dBA. Dog barking 67 dBA. No construction works taking place
Periodic (monthly)	13/9/17	8:15	Excavation of pump station	Greaves and Kent Street	10 pound Street	54	54.4	74.5	45.8	56.6	48.2	Yes	Birds chirping dominant noise source 53-56 dBA. Background 49 dBA. 'Hum' audible from construction works for small period of the sample at 56 dBA. Cars passing 70-72 dBA
Periodic (monthly)	13/9/17	10:00	Excavation of pump station	Greaves and Kent Street	5 Kent Street	63	57	74	48.5	58.4	53.1	Yes	Excavator 56-58 dBA. Bobcat 55 dBA. Works taking place in small periods while excavator is loading the bogie - no works 49-51 dBA. Audible but not intrusive.
Out of hours	16/9/17	13:50	Pier 3 Pile preparation	Pier 3	Butters lane residents	44	50	75.6	36	48.6	38.1	Yes	Dominant noise source birds. Background 39-41 dBA. Occasional banging from construction audible but not intrusive (46 dBA). Kookaburra 53 dBA. Car passing at 74 dBA. Bridge traffic in background 43-45 dBA
Out of hours	16/9/17	14:10	Pier 3 Pile preparation	Pier 3	3 Riverside Drive	64	57.5	69.6	47.6	59.7	53.6	Yes	Background 55-56 dBA. Dominant noise source bridge traffic. Car pulling up next to monitor 64 dBA. Crane tracking during sample, audible but not louder than passing traffic (58-60 dBA)
Out of hours	16/9/17	14:35	Pier 3 Pile preparation	Southern bank of the Clarence River	8 Greaves Street	49	48.8	68	42.3	50.5	44.6	Yes	Background 44-45 dBA. Bridge traffic dominant noise source. Boast passing on river at 53 dBA. Birds 54 dBA. Traffic on bridge 48-52 dBA. Construction works not audible over background
Spot check (background)	26/9/17	4:30	No Works	Southern bank of the Clarence River	3 Riverside Drive	41	47					Yes	Background monitoring. No works
Spot check (background)	26/9/17	4:50	No Works	Southern bank of the Clarence River	Pound Street Jetty	40	52					Yes	Background monitoring. No works
Spot check (background)	28/9/17	5:50	No Works	Southern bank of the Clarence River	8 Greaves Street	40	50.4	67.7	39.6	53.8	43.8	Yes	Background monitoring. No works

Out of hours	28/9/17	6:05	Pier 3 Pile preparation	Southern bank of the Clarence River	8 Greaves Street	40	48.8	63.4	39.1	51.6	43.4	Yes	Birds' dominant noise source. Bridge traffic audible in background. Construction inaudible over background
Out of hours	28/9/17	6:28	Pier 3 Pile preparation	Southern bank of the Clarence River	Butters lane residents	42	52.1	70.5	44.4	54.3	47.6	Yes	Birds' dominant noise source 51-53 dBA. Bridge traffic audible in background 48-49 dBA. Construction inaudible over background
Out of hours	28/9/17	6:50	Pier 3 Pile preparation	Southern bank of the Clarence River	3 Riverside Drive	41	62.4	79.5	41.6	65.8	43.7	Yes	Birds' dominant noise source 53-56 dBA. Construction inaudible
Out of hours	29/9/17	5:05	Pier 3 Pile preparation and pour	Southern bank of the Clarence River	Butters lane residents	42	51.5	66.4	40.8	54	45.2	Yes	Birds' dominant noise source - kookaburra 59 dBA. Bridge/Hwy traffic hum in background. Construction inaudible.
Out of hours	29/9/17	5:28	Pier 3 Pile preparation and pour	Southern bank of the Clarence River	8 Greaves Street	40	54.4	68.5	39.5	58.4	45.2	Yes	Birds' dominant noise source. Train passing at 66 dBA. Trucks on bridge 55 dBA. Construction inaudible over background
Out of hours	29/9/17	5:45	Pier 3 Pile preparation and pour	Southern bank of the Clarence River	Pound Street Jetty	40	54.3	73.8	44.2	58.4	46.9	Yes	Birds' dominant noise source. Magpies 60 dBA other birds 47-49 dBA. Train passed at 61 dBA. Trucks 52 dBA. Construction works inaudible but not intrusive - small bursts of noise, grinding at 51-52 dBA.
Out of hours	4/10/17	5:04	Pier 3 Pile Pour	Southern bank of the Clarence River	Pound Street Jetty	40	44.9	56.2	39.3	46.7	42.1	Yes	(Post daylight savings) Background 44 dBA. Hum of plant audible but distant and not intrusive - 46-47 dBA. Small bursts. Trucks passing on bridge 49 dBA.
Out of hours	4/10/17	5:20	Pier 3 Pile Pour	Southern bank of the Clarence River	8 Greaves Street	40	43.8	59.2	36.2	45.3	39.8	Yes	(Post daylight savings) Background 39 dBA. Dominant noise source traffic on bridge 43-45 dBA. Trucks 50 dBA. Construction not audible over background
Out of hours	4/10/17	5:41	Pier 3 Pile Pour	Southern bank of the Clarence River	3 Riverside Drive	41	54.2	66.3	45.6	56.7	48.7	Yes	(Post daylight savings) Background 47 dBA. Dominant noise source traffic on bridge 54-56 dBA. Trucks 60-64 dBA. Hum from crane towards end of sample 52 dBA. Construction inaudible over background
Out of hours	4/10/17	6:01	Pier 3 Pile Pour	Southern bank of the Clarence River	Butters lane residents	42	54.5	78.1	41.6	57.9	45.5	Yes	(Post daylight savings) Background 43 dBA. Birds chirping 49-52 dBA up to 64 dBA - dominant noise source. Bridge/Hwy traffic audible in distance. Construction inaudible over background.
Out of hours	6/10/17	5:57	Pier 3 drilling at low tide	Pier 3	Pound Street Jetty	40	54.6	75.1	46	57	48.9	Yes	Background 49-51 dBA. Dominant noise source birds 53-57 dBA up to 61 dBA. Trucks on bridge 50 dBA. Intermittent banging from construction works for roughly 2 seconds 53 dBA otherwise construction works inaudible above background
Out of hours	6/10/17	6:16	Pier 3 drilling at low tide	Pier 3	8 Greaves Street	40	51.8	67.7	40.9	55.1	45.8	Yes	Birds' dominant noise source up to 61 dBA. Background 47-48 dBA. Traffic on bridge audible, trucks up to 60 dBA. Drill rig 'hum' 47 dBA.

C-2: Vibration monitoring completed during the reporting period

Date	Construction Activity	Monitoring location	Structure	Building Structure Requirement (mm/s)	Human Response Criteria (mm/s)	Recorded Peak (mm/s)	Compliant	Additional Comments
20/4/17	Vibratory Rolling	18B Clarence Street	Residential	20	200	1.56	Yes	Monitoring of construction at Pound/Clarence St car park
21/4/17	Background (No works)	18B Clarence Street	Residential	20	200	0.31	Yes	Background check - no activity
27/4/17	Excavation for access track	8 Greaves Street	Residential	20	200	3.2	Yes	Monitoring of excavation for northern embankment access track
1/5/17	Vibratory Rolling	18B Clarence Street	Residential	20	200	1.23	Yes	Monitoring of construction at Pound/Clarence St car park
2/5/17	Vibratory Rolling	18B Clarence Street	Residential	20	200	0.53	Yes	Monitoring of construction at Pound/Clarence St car park
10/5/17	Construction of Access Track	8 Greaves Street	Residential	20	200	7.94	Yes	Moxie delivering clean rock, excavator moving it, roller compacting. Screening level for potential impact exceeded during vibration rolling. Compliant.
11/5/17	Construction of Access Track	8 Greaves Street	Residential	20	200	7.76	Yes	Moxie delivering clean rock, excavator moving it, roller compacting. Screening level for potential impact exceeded during vibration rolling. Compliant.
12/5/17	Construction of Access Track	8 Greaves Street	Residential	20	200	2.56	Yes	Moxie delivering clean rock, excavator moving it, roller compacting. Screening level for potential impact exceeded during vibration rolling. Compliant.
25/5/17	Construction of Access Track	10 Greaves Street	Residential	20	200	3.92	Yes	Vibration monitoring in response to complaint from 12 Greaves Street. Trigger value was not exceeded. No action required.
14/6/17	Installation of pile casings for Pier 8	10 Greaves Street	Residential	20	200		Yes	Monitoring the installation of pile casings for pier 8 in preparation for land piling
15/6/17	Installation of pile casings for Pier 8	10 Greaves Street	Residential	20	200		Yes	Monitoring the installation of pile casings for pier 8 in preparation for land piling
22/6/17	Load and Haul of abutment fill	15 Pound Street	Residential	20	200	3.2	Yes	Vibration monitoring in response to enquiry about vibration from 9 Greaves Street. Trigger value was not exceeded. No action required.
23/6/17	Load and Haul of abutment fill	15 Pound Street	Residential	20	200	1.83	Yes	Continued vibration monitoring in response to enquiry about vibration from 9 Greaves Street. Trigger value was not exceeded. No action required.
26/6/17	Earthworks construction for abutment	15 Pound Street	Residential	20	200	2.94	Yes	Monitoring of earthworks construction at Greaves/Kent St abutment
27/6/17	Earthworks construction for abutment	15 Pound Street	Residential	20	200	1.79	Yes	Monitoring of earthworks construction at Greaves/Kent St abutment
16/8/17	Sheet Piling	15 Pound Street	Residential	20	200	0.87	Yes	Monitoring of sheet piling for Kent Street Pump Station. Monitoring location roughly 70m from works. Closest resident roughly 75m from works
17/8/17	Sheet Piling	15 Pound Street	Residential	20	200	1.55	Yes	Monitoring of sheet piling for Kent Street Pump Station. Monitoring location roughly 70m from works. Closest resident roughly 75m from works
18/8/17	Sheet Piling	15 Pound Street	Residential	20	200	1.56	Yes	Monitoring of sheet piling for Kent Street Pump Station. Monitoring location roughly 70m from works. Closest resident roughly 75m from works

19/8/17	Sheet Piling	15 Pound Street	Residential	20	200	1.3	Yes	Monitoring of sheet piling for Kent Street Pump Station. Monitoring location roughly 70m from works. Closest resident roughly 75m from works
20/8/17	Background (No works)	15 Pound Street	Residential	20	200	0.23	Yes	Background check - no activity
21/8/17	Sheet Piling	15 Pound Street	Residential	20	200	0.93	Yes	Monitoring of sheet piling for Kent Street Pump Station. Monitoring location roughly 70m from works. Closest resident roughly 75m from works
22/8/17	Sheet Piling	15 Pound Street	Residential	20	200	1.63	Yes	Monitoring of sheet piling for Kent Street Pump Station. Monitoring location roughly 70m from works. Closest resident roughly 75m from works
24/8/17	Sheet Piling	15 Pound Street	Residential	20	200	0.85	Yes	Monitoring of sheet piling for Kent Street Pump Station. Monitoring location roughly 70m from works. Closest resident roughly 75m from works
25/8/17	Sheet Piling	15 Pound Street	Residential	20	200	1.67	Yes	Monitoring of sheet piling for Kent Street Pump Station. Monitoring location roughly 70m from works. Closest resident roughly 75m from works
26/8/17	Piling	15 Pound Street	Residential	20	200	7.81	Yes	Monitoring conducted during community walk through. Exceedance was from demonstration to community of the text message notification
28/8/17	Piling	15 Pound Street	Residential	20	200	0.9	Yes	Monitoring of land piling works for Pier 8
30/8/17	Piling	15 Pound Street	Residential	20	200	0.96	Yes	Monitoring of land piling works for Pier 8