COFFS HARBOUR BYPASS

Construction Environmental Management Plan

CHBPW-FGJV-NWW-EN-PLN-000001 - Revision M – Coffs Harbour Bypass

FERROVIAL GAMUDA JOINT VENTURE

DOCUMENT DETAILS

Document Title	Construction Environmental Management Plan
Project Name	Coffs Harbour Bypass
Client	Transport for New South Wales
Application No.	SSI-7666
Document Reference No.	CHBPW-FGJV-NWW-EN-PLN-000001
Principal Contractor	Ferrovial Gamuda Joint Venture

DOCUMENT AUTHORISATION

	Name	Position	Signature	Date
Prepared by	Reina Iligan	FGJV Environment Coordinator		
Reviewed by	Erran Woodward	FGJV Approvals Lead		
Approved by	Hari Corliss	FGJV Environment & Sustainability Manager		
Approved by	Daniel Perez	FGJV Project Director		
Endorsed by	Duncan Thomson	Environmental Representative		16/12/2022

DOCUMENT CONTROL

The current document version number and date of revision are shown in the document footer. All changes made to the Management Plan during its implementation on a live project are to be recorded in the amendment tables below.

Revision	Date	Description of changes
A	28/06/2021	TfNSW Draft for TFNSW and ER Review
B	06/07/2021	TfNSW updated for DPE Review
C	27/07/2021	TfNSW update following DPE review
D	03/08/2021	Review by newly appointed ER
E	18/08/2021	TfNSW for DPE Review
F	23/08/2022	FGJV update for TfNSW
G	05/09/2022	FGJV update following TfNSW review; for ER review
H	29/09/2022	FGJV update following ER comments
I	09/11/2022	FGJV update following ER comments; for ER endorsement
J	14/12/2022	Submission for ER Endorsement
K	27/01/2023	Update following DPE Comment
L	13/04/2023	Minor Update April 2023 for ER approval
M	6/09/2023	Minor Update September 2023 for ER approval

DISTRIBUTION OF CONTROLLED COPIES

This CEMP is available to all personnel and sub-contractors via the project document control management system. An electronic copy can be found on the project website.

The document is uncontrolled when printed. One controlled hard copy of the CEMP and supporting documentation will be maintained by the Quality Manager at the project office and on the project website.

Copy No.	Issued to	Version
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GLOSSARY/ABBREVIATIONS

Abbreviation	Expanded Text
ASS	Acid Sulphate Soils
CEMP	Construction Environmental Management Plan
CEMS	Contractors Environmental Management System
Compliance Audit	Verification of how implementation is proceeding with respect to a Construction Environmental Management Plan (CEMP) (which incorporates the relevant approval conditions).
CSSI	Critical State Significant Infrastructure
DPE	Department of Planning and Environment
DPE, EESG	Department of Planning and Environment, Environment, Energy and Science Group
EIS	Environmental Impact Statement
EEC	Endangered Ecological Community
Ecologically sustainable development	Using, conserving and enhancing the community's resources so that the ecological processes on which life depends are maintained and the total quality of life now and in the future, can be increased (Council of Australian Governments, 1992)
EPA	NSW Environment Protection Authority
EPBC-CoA	Federal Conditions of Approval under the EPBC Act
EMS	Environmental Management System
Environmental aspect	Defined by AS/NZS ISO 14001:2015 as an element of an organisation's activities, products or services that can interact with the environment.
Environmental impact	Defined by AS/NZS ISO 14001:2015 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.
Environmental incident	An environmental incident is an event or set of circumstances, as a consequence of which pollution (air, water, noise, or land) or an adverse environmental impact has occurred, is occurring, or is likely to occur. Adverse environmental impact includes contamination, harm to flora and fauna (either individual species or communities), damage to heritage items and adverse community impacts. An unexpected find that is not managed in accordance with relevant procedures / guidelines is also considered an environmental incident.
Environmental objective	Defined by AS/NZS ISO 14001:2015 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve.
Environmental policy	Statement by an organisation of its intention and principles for environmental performance.
Environmental target	Defined by AS/NZS ISO 14001:2015 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.
Environmental Representative	A suitably qualified and experienced person independent of project design and construction personnel employed for the duration of construction. The principal point of advice in relation to all questions and complaints concerning environmental performance.
EP&A Act	Environmental Planning and Assessment Act 1979 (NSW)
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan
EWMS	Environmental work method statement
FGJV	Ferrovial Gamuda Joint Venture
Hold point	Is a verification point that prevents work from commencing prior to approval from Transport for NSW
MCoA	Minister's Conditions of Approval
Minister, the	Minister for Planning and Public Spaces (or delegate)
Non-compliance	Failure to comply with the requirements of the project approval or any applicable licence, permit or legal requirements.

Abbreviation	Expanded Text
Non-conformance	Failure to conform to the requirements of project system documentation including this CEMP or supporting documentation.
PESCP	Progressive Erosion and Sediment Control Plan
PIRMP	Pollution Incident Response Management Plan
Principal, the	TfNSW
POEO Act	Protection of the Environment Operations Act 1997 (NSW)
project, the	Coffs Harbour Bypass
REMMs	Revised Environmental Management Measures
ROL	Road occupancy licence
SAP	Sensitive Area Plan
SEAR's	Secretary's Environmental Assessment Requirements
TfNSW	Transport for NSW

LIST OF EMERGENCY AND KEY CONTACTS

Position	Name	Phone
EPA Pollution Hotline	N/A	131 555
Fire and Rescue NSW	N/A	000 (for pollution incidents that present an immediate threat to human health or property) 1300 729 579 (for pollution incidents that do not present an immediate threat to human health or property)
NSW Ministry of Health	N/A	02 9391 9000 for NSW Ministry of Health 02 6589 2120 for Port Macquarie Public Health Unit
SafeWork NSW	N/A	131 050
Coffs Harbour City Council	N/A	02 6648 4000
24-hour Community Information Line	N/A	1800 550 621
FGJV Environment and Sustainability Manager	Hari Corliss	W 0419 124 227
FGJV Project Director	Daniel Perez	W 0437 332 451
FGJV Superintendent	Daryl Faithfull	W 0410 368 627
Environmental Representative	Duncan Thomson	W 0419 237 075
Acoustic Advisor	John Hutchison	W 0407 801 144
TfNSW Representative	Mick Browne	W 0437 018 941

CONTENTS

1 INTRODUCTION

1.1 BACKGROUND

On behalf of the Australian and New South Wales (NSW) governments, Transport for NSW (TfNSW) is progressively upgrading the Pacific Highway to dual carriageway between the Hunter and NSW/Queensland border.

The Ferrovial Gamuda Joint Venture (FGJV) will design and construct the Coffs Harbour Bypass (the Project). The project is located in the Coffs Harbour local government area (LGA) about three kilometres west of the Coffs Harbour central business district, about 540 kilometres north of Sydney and about 400 kilometres south of Brisbane.

The project includes a 14-kilometre bypass of Coffs Harbour, including a 12-kilometre new build from south of Englands Road to Korora Hill in the north and a two-kilometre upgrade of the existing highway between Korora Hill and Sapphire. The project would provide a four-lane divided highway that bypasses Coffs Harbour, passing through the North Boambee Valley, Roberts Hill and then traversing the foothills of the Coffs Harbour basin to the west and north to Korora Hill (Figure 1).

An environmental impact statement (EIS) was prepared in accordance with Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) as Critical State Significant Infrastructure (CSSI). The EIS was exhibited by the Department of Planning and Environment (DPE) from 11 September 2019 to 27 October 2019. During the exhibition of the EIS, 186 submissions were received from government agencies, stakeholders and the community. A Submissions Report was prepared and made available in June 2020 via the project website.

TfNSW also made a number of amendments and refinements to the concept design as exhibited in the EIS. A separate Amendment Report was prepared and made available in June 2020 which outlined the proposed design and construction amendments to the project and assessed the environmental impact of these changes. The DPE considered the Submissions Report and the Amendment Report during its assessment of the project. The project was approved on the 2nd of November 2020 subject to Minister's Conditions of Approval (MCoA).

The project is also a controlled action under *the Environment Protection and Biodiversity Conservation (EPBC) Act 1999* and on 8 December 2020 separate approval was received from the Australian Minister for the Environment.

Further information about the project is provided in Chapter 2 of the EIS.

1.2 PURPOSE OF THIS CEMP

This Construction Environmental Management Plan (CEMP) and sub plans have been prepared to outline and describe how the Ferrovial Gamuda Joint Venture (FGJV) and TfNSW will implement the construction phase of the project, in accordance with the following Project requirements:

- NSW Minister for Planning and Public Spaces conditions of approval (MCoA)
- Federal Minister for the Environment conditions of approval (EPBC-CoA).
- The Project Environmental Impact Assessment documents:
  - (a) Coffs Harbour Bypass Environmental Impact Statement Volume 1A – 10, (TfNSW, September 2019);
  - (b) Coffs Harbour Bypass Submissions Report Volume 1 – 3 (TfNSW, June 2020);
  - (c) Coffs Harbour Bypass Amendment Report Volumes 1 – 6 (TfNSW, June 2020); and
  - (d) AS/NZS ISO 14001.
- TfNSW QA Specification G36, G38 and G40
- The requirements of the *Environmental Management Plan Guideline for Infrastructure Projects* (DPE, 2020).

Additionally, the CEMP and Sub Plans outline how the FGJV will minimise the environmental risks, and achieve environmental outcomes on the project by providing a structured approach to ensure appropriate environmental management measures and controls are implemented.

In particular, this CEMP:

- Describes the project in detail including activities to be undertaken and relative timing
- Provides specific mitigation measures and controls that can be applied on-site to avoid or minimise negative environmental impacts
- Provides specific mechanisms for compliance with applicable policies, approvals, licences, permits, consultation agreements and legislation
- Describes the environmental management related roles and responsibilities of personnel
- States objectives and targets for issues that are important to the environmental performance of the Project
- Outlines a monitoring regime to check the adequacy of controls as they are implemented during construction.

1.3 MINISTER CONDITIONS OF APPROVAL

This CEMP meets the requirements of MCoA C2, as well as other applicable MCoA. The requirements of the applicable MCoA and where they are met in this CEMP are shown in Table 1-1.

TABLE 1-1 MINISTER'S CONDITIONS OF APPROVAL

MCoA No.	Requirement	CEMP Reference
A1	The Proponent must carry out the CSSI in accordance with the conditions of approval and generally in accordance with the: a) Coffs Harbour Bypass Environmental Impact Statement Volume 1A – 10, (TfNSW, September 2019); b) Coffs Harbour Bypass Submissions Report Volume 1 – 3 (TfNSW, June 2020); and c) Coffs Harbour Bypass Amendment Report Volumes 1 – 6 (TfNSW, June 2020).	CEMP and Sub Plans
A2	The CSSI may only be carried out in accordance with all procedures, commitments, preventative actions, performance criteria and mitigation measures set out in the documents listed in Condition A1 unless otherwise specified in, or required under, this approval.	CEMP and Sub Plans
A5	Where the terms of this approval require a document or monitoring program to be prepared or a review to be undertaken in consultation with identified parties, evidence of the consultation undertaken must be submitted to the Planning Secretary with the document. The evidence must include: a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval; b) a log of the dates of engagement or attempted engagement with the identified party; c) documentation of the follow-up with the identified party where engagement has not occurred to confirm that they do not wish to engage or have not attempted to engage after repeated invitations; d) outline of the issues raised by the identified party and how they have been addressed; and e) a description of the outstanding issues raised by the identified party and the reasons why they have not been addressed.	Consultation records to be provided to DPE in CEMP and Sub Plan submissions
A11	The CSSI must be staged in accordance with the Staging Report, as submitted to the Planning Secretary.	Staging currently not proposed
A12	Where staging is proposed, the terms of this approval that apply or are relevant to the work or activities to be carried out in a specific stage must be complied with at the relevant time for that stage.	Staging currently not proposed

MCoA No.	Requirement	CEMP Reference
A14	Ancillary facilities that are not identified by description and location in the documents listed in Condition A1 can only be established and used in each case if: a) they are located within or immediately adjacent to the construction boundary; b) they are not located next to a sensitive receiver (including where an access road is between the facility and the receiver), unless the sensitive receiver landowner and occupier have given written acceptance to the carrying out of the relevant facility in the proposed location; c) they have no impacts on heritage items (including areas of archaeological sensitivity), threatened species, populations or ecological communities beyond the impacts approved under the terms of this approval; and d) the establishment and use of the facility can be carried out and managed within the outcomes set out in the terms of this approval, including in relation to environmental, social and economic impacts.	Ancillary Site Establishment Management Plan(s) and Section 3.8.2.1of this CEMP.
A15	**Ancillary Site Establishment Management Plan** Before establishment of any construction ancillary facility (excluding minor construction ancillary facilities determined by the ER to have minimal environmental impact and those established under Condition A17), the Proponent must prepare an Ancillary Site Establishment Management Plan which outlines the environmental management practices and procedures to be implemented for the establishment of the construction ancillary facilities. The Ancillary Site Establishment Management Plan must be prepared in consultation with Council and government agencies. The Plan must be submitted to the Planning Secretary for approval one (1) month before the establishment of any construction ancillary facilities. The Plan must be endorsed by the ER before it is submitted to the Planning Secretary. The Ancillary Site Establishment Management Plan must detail the management of the construction ancillary facilities and include: (a) a description of activities to be undertaken during establishment of the construction ancillary facility (including scheduling and duration of work to be undertaken at the site); (b) figures illustrating the proposed operational site layout; (c) a program for ongoing analysis of the key environmental risks arising from the site establishment activities described in subsection (a) of this condition, including an initial risk assessment undertaken prior to the commencement of site establishment work; (d) details of how the site establishment activities described in subsection (a) of this condition will be carried out to: (i) meet the performance outcomes stated in the documents listed in Condition A1; (ii) manage the risks identified in the risk analysis undertaken in subsection (c) of this condition; and (e) a program for monitoring the performance outcomes, including a program for construction noise monitoring consistent with the requirements of Condition C13. Nothing in this condition prevents the Proponent from preparing individual Ancillary Site Establishment Management Plans for each construction ancillary facility.	Ancillary Site Establishment Management Plan(s) and Section 3.8.2.1of this CEMP.
A16	**Use of Construction Ancillary Facilities** The use of a construction ancillary facility for Construction must not commence until the CEMP required by Condition C1, relevant CEMP Sub-plans required by Condition C4 and relevant Construction Monitoring Programs required by Condition C13 have been approved by the Planning Secretary. This condition does not apply to the use of construction ancillary facilities as an office facility or where the ER has determined that the activities will have minimal impact on the environment and community.	Ancillary Site Establishment Management Plan(s) and Section 3.8.2.1of this CEMP.
A17	**Minor Construction Ancillary Facilities** Lunch sheds, office sheds, portable toilet facilities, and the like, can be established and used where they have been assessed in in the documents listed in Condition A1 or where they satisfy the following criteria: a) located within or adjacent to the construction boundary; and b) have been assessed by the ER to have - (i) minimal amenity impacts to surrounding residences and businesses, after consideration of matters such as compliance with the Interim Construction	Section 3.8.2.2

MCoA No.	Requirement	CEMP Reference
	Noise Guideline (DECC, 2009), traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and (ii) minimal environmental impact with respect to waste management and flooding, and (iii) no impacts on biodiversity, soil and water, and heritage items beyond those already approved under other terms of this approval.	
A18	**Boundary Screening** Boundary screening must be erected around construction ancillary facilities that are adjacent to sensitive receivers for the duration of construction of the CSSI unless otherwise agreed with affected residents, business operators or landowners.	Ancillary Site Establishment Management Plan(s)
A25	**Environmental Representative** For the duration of the work or as agreed with the Planning Secretary, the approved ER must: (a) receive and respond to communication from the Planning Secretary in relation to the environmental performance of the CSSI; (b) consider and inform the Planning Secretary on matters specified in the terms of this approval; (c) consider and recommend to the Proponent any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community; (d) review documents identified in Conditions A9, A15, C1, C4 and C13 and any other documents that are identified by the Planning Secretary, to ensure they are consistent with requirements in or under this approval and if so: (i) make a written statement to this effect before submission of such documents to the Planning Secretary (if those documents are required to be approved by the Planning Secretary); or (ii) make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Planning Secretary/Department for information or are not required to be submitted to the Planning Secretary/Department); (e) regularly monitor the implementation of the documents listed in Conditions A9, A15, C1, C4 and C13 to ensure implementation is being carried out in accordance with the document and the terms of this approval; (f) as may be requested by the Planning Secretary, help plan, attend or undertake audits of the development commissioned by the Department including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under Condition A34 of this approval; (g) as may be requested by the Planning Secretary, assist the Department in the resolution of community complaints; (h) assess the impacts of minor ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities as required by Condition A17 of this approval; (i) consider any minor amendments to be made to the CEMP, CEMP Sub-plans and monitoring programs that comprise updating or are of an administrative nature and are consistent with the terms of this approval and the CEMP, CEMP Sub-plans and monitoring programs approved by the Planning Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of this approval; and (j) prepare and submit to the Planning Secretary and other relevant regulatory agencies, for information, an Environmental Representative Monthly Report providing the information set out in the Environmental Representative Protocol under the heading “Environmental Representative Monthly Reports.” The Environmental Representative Monthly Report must be submitted within seven days following the end of each month for the duration of the ER’s engagement for the CSSI.	CEMP Section 4.2.3.1
A26	The Proponent must provide the ER with all documentation requested by the ER in order for the ER to perform their functions specified in Condition A25 (including preparation of the ER monthly report), as well as: (a) the complaints register (to be provided on a weekly basis or as requested); and	CEMP Section 6.4.1 and Section 3.8.1

MCoA No.	Requirement	CEMP Reference
	(b) a copy of any assessment carried out by the Proponent of whether proposed work is consistent with the approval (which must be provided to the ER before the commencement of the subject work).	
A28	An Acoustics Advisor (AA) who is independent of the CSSI's design and construction personnel, must be nominated by the Proponent and engaged for the duration of work (as required by Condition A29) and for no less than six (6) months following completion of construction of the CSSI. The AA must be suitably qualified and experienced in noise modelling and noise and vibration management. The details of the nominated AA must be submitted to the Planning Secretary for approval no later than one (1) month before commencement of work. The Proponent must cooperate with the AA by: (a) providing access to noise and vibration monitoring activities as they take place; (b) providing for review of noise and vibration plans, assessments, monitoring reports, data and analyses undertaken; and (c) considering any recommendations to improve practices and demonstrating, to the satisfaction of the AA, why any recommendation is not adopted.	CEMP Section 4.2.3.2
A29	Any activities generating noise in excess of 5 dB(A) above the 'Noise affected' Noise Management Levels derived from the Interim Construction Noise Guideline must not commence until an AA, nominated under Condition A28 of this approval, has been approved by the Planning Secretary.	CEMP Section4.2.3.2, Appendix B3 Construction Noise and Vibration Management Plan
A30	The approved AA must: (a) receive and respond to communication from the Planning Secretary in relation to the performance of the CSSI in relation to noise and vibration; (b) consider and inform the Planning Secretary on matters specified in the terms of this approval relating to noise and vibration; (c) consider and recommend, to the Proponent, improvements that may be made to avoid or minimise adverse noise and vibration impacts; (d) review all noise and vibration documents required to be prepared under the terms of this approval and, should they be consistent with the terms of this approval, endorse them before submission to the Planning Secretary (if required to be submitted to the Planning Secretary) or before implementation (if not required to be submitted to the Planning Secretary); (e) regularly monitor the implementation of all noise and vibration documents required to be prepared under the terms of this approval to ensure implementation is in accordance with what is stated in the document and the terms of this approval; (f) notify the Planning Secretary of noise and vibration incidents in accordance with Condition A39 of this approval; and (g) in conjunction with the ER, the AA must: (i) as may be requested by the Planning Secretary, help plan, attend or undertake audits of noise and vibration management of the CSSI including briefings, and site visits, (ii) in the event that conflict arises between the Proponent and the community in relation to the noise and vibration performance of the CSSI, follow the procedure in the Community Communication Strategy approved under Condition B2 to attempt to resolve the conflict, and if it cannot be resolved, notify the Planning Secretary, (iii) consider relevant minor amendments made to the CEMP, relevant sub-plans and noise and vibration monitoring programs that require updating or are of an administrative nature, and are consistent with the terms of this approval and the management plans and monitoring programs approved by the Planning Secretary and, if satisfied such amendment is necessary, endorse the amendment, (this does not include any modifications to the terms of this approval), and (iv) prepare and submit to the Planning Secretary and other relevant regulatory agencies, for information, a Monthly Noise and Vibration Report detailing the AA's actions and decisions on matters for which the AA was responsible	CEMP Section 4.2.3.2

MCoA No.	Requirement	CEMP Reference
	in the preceding month. The Monthly Noise and Vibration Report must be submitted within seven (7) days following the end of each month for the duration of the AA's engagement for the CSSI.	
A39	**Incident Notification and Reporting** The Department must be notified in writing via the Major Projects Website immediately after the Proponent becomes aware of an incident. The notification must identify the CSSI (including the application number and the name of the CSSI if it has one) and set out the location and nature of the incident.	CEMP Section 7.4, Appendix A5 TfNSW Environmental Incident Procedure
A40	Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix A.	CEMP Section 7.3, Appendix A5 TfNSW Environmental Incident Procedure
B11	**Provision of Electronic Information** A website or webpage providing information in relation to the CSSI must be established before commencement of Work and maintained for the duration of construction, and for a minimum of 24 months following the completion of construction. Up-to-date information (excluding confidential commercial information) must be published before the relevant work commencing and maintained on the website or dedicated pages including: (a) information on the current implementation status of the CSSI; (b) a copy of the documents listed in Condition A1 and Condition A2 of this approval, and any documentation relating to any modifications made to the CSSI or the terms of this approval; (c) a copy of this approval in its original form, a current consolidated copy of this approval (that is, including any approved modifications to its terms), and copies of any approval granted by the Minister to a modification of the terms of this approval; (d) a copy of each statutory approval, licence or permit required and obtained in relation to the CSSI; (e) a current copy of the final version of each document required under the terms of this approval; and (f) a copy of the audit reports required under this approval. Where the information / document relates to a particular Work or is required to be implemented, it must be published before the commencement of the relevant Work to which it relates or before its implementation.	CEMP Section 8.4.1
C1	A Construction Environmental Management Plan (CEMP) must be prepared in accordance with the Environmental Management Plan Guideline for Infrastructure Projects (DPE, 2020). The CEMP must detail how the performance outcomes, commitments and mitigation measures specified in the documents listed in Condition A1 will be implemented and achieved during construction.	CEMP and Sub Plans
C2	The CEMP must provide: (a) a description of activities to be undertaken during construction (including the scheduling of construction);	Section 2.2
	(b) details of environmental policies, guidelines and principles to be followed in the construction of the CSSI;	Section 3.3, Relevant policies, guidelines and principle are identified in each Sub Plan
	(c) a program for ongoing analysis of the key environmental risks arising from the activities described in subsection (a) of this condition, including an initial risk assessment undertaken before the commencement of construction of the CSSI;	Sections 4, 3.4.1, 8.1, 8.2, 8.3 & 9
	(d) details of how the activities described in subsection (a) of this condition will be carried out to: (i) meet the performance outcomes stated in the in the documents listed in Condition A1; and (i) manage the risks identified in the risk analysis undertaken in subsection (d) of this condition;	Sections 4, 8 & 9 & Appendix A2 Environmental Aspects and Impacts, EIS Revised Environmental Management Measures (REMMs) are addressed in Sub Plans
	(e) an inspection program detailing the activities to be inspected and frequency of inspections;	Section 8.1

<table>
<tr><th>MCoA No.</th><th>Requirement</th><th>CEMP Reference</th></tr>
<tr><td></td><td>(f) a protocol for managing and reporting any:
(i) incidents; and
(ii) non-compliances with this approval or statutory requirements;</td><td>Sections 0, 0, 9 & Appendix A5TfNSW Environmental Incident Procedure</td></tr>
<tr><td></td><td>(g) procedures for rectifying any non-compliance with this approval identified during compliance auditing, incident management or at any time during construction;</td><td>Section 0</td></tr>
<tr><td></td><td>(h) a list of all the CEMP Sub-plans required in respect of construction, as set out in Condition C4. Where staged construction of the CSSI is proposed, the CEMP must also identify which CEMP Sub-plan applies to each of the proposed stages of construction;</td><td>Section 4.1.3</td></tr>
<tr><td></td><td>(i) a description of the roles and environmental responsibilities for relevant employees and their professional / organisational relationship with the ER;</td><td>Section 4.2</td></tr>
<tr><td></td><td>(j) for training and induction for employees, including contractors and sub-contractors, in relation to environmental and compliance obligations under the terms of this approval;</td><td>Sections 5.1,5.2, 5.3 and 5.4</td></tr>
<tr><td></td><td>(k) for periodic review and update of the CEMP and all associated plans and programs; and</td><td>Section 9</td></tr>
<tr><td></td><td>(l) the outcomes of consultation with government agencies in accordance with Condition A5.</td><td>Consultation records with agencies provided with CEMP submission to DPE</td></tr>
<tr><td>C3</td><td>The CEMP must be endorsed by the ER and then submitted to the Planning Secretary for approval no later than one month before the commencement of construction.</td><td>Consultation records and Document Control table</td></tr>
<tr><td>C4</td><td>The CEMP Sub-plans in table below must be prepared in consultation with the government agencies identified for each CEMP Sub-plan. The outcomes of consultation with government agencies in accordance with Condition A5 must be provided with the relevant CEMP Sub-Plan.
<table>
<tr><th></th><th>Required CEMP Sub-plan</th><th>Relevant government agencies to be consulted for each CEMP Sub-plan</th></tr>
<tr><td>(a)</td><td>Air quality</td><td>EPA, DPI Agriculture, Council</td></tr>
<tr><td>(b)</td><td>Biodiversity</td><td>EESG, DAWE, DPI Fisheries, Council</td></tr>
<tr><td>(c)</td><td>Flooding</td><td>EESG, Council</td></tr>
<tr><td>(d)</td><td>Heritage</td><td>Heritage NSW, RAPs, Coffs Harbour and District Local Aboriginal Land Council, Council</td></tr>
<tr><td>(e)</td><td>Noise and vibration</td><td>EPA, Council</td></tr>
<tr><td>(f)</td><td>Soil and water</td><td>DPI Fisheries, DPE Water Group, DPI Agriculture, Council</td></tr>
<tr><td>(g)</td><td>Traffic and transport</td><td>Council</td></tr>
</table></td><td>Consultation records provided with CEMP submission</td></tr>
<tr><td>C5</td><td>The CEMP Sub-plans must state how:
(a) the environmental performance outcomes identified in the documents listed in Condition A1 will be achieved;
(b) the mitigation measures identified in the documents listed in Condition A1 will be implemented;
(c) the relevant terms of this approval will be complied with; and
(d) issues requiring management during construction, as identified through ongoing environmental risk analysis, will be managed.</td><td>Sub Plans & Appendices</td></tr>
<tr><td>C6</td><td>Any of the CEMP Sub-plans may be submitted along with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before construction.</td><td>Noted</td></tr>
</table>

<table>
<tr><th>MCoA No.</th><th>Requirement</th><th>CEMP Reference</th></tr>
<tr><td>C7</td><td>The Biodiversity Management Sub-plan must include:
(a) procedures for pre-clearing surveys for threatened species to be undertaken by a suitably qualified and experienced ecologist, including survey and relocation methodologies and management/offset measures;
(b) measures to prevent the spread of the pathogens myrtle rust, Phytopthora cinnamomi and chytrid fungus, and non-indigenous regenerative plant material and seeds, by the movement of all tools, vehicles, machinery, soil and earth, vegetative waste and personnel;
(c) a weed management plan, including appropriate protocols to demonstrate compliance with the requirements of the Biosecurity Act 2015 and Biosecurity Regulation 2017; and
(d) protocols for incidental finds of threatened species within the construction boundary, including guidance for updating biodiversity credit calculations and/or the use of supplementary measures where impacts cannot be avoided or minimised.</td><td>Appendix B2 Construction Biodiversity Management Plan</td></tr>
<tr><td>C8</td><td>The Flood Management Sub-Plan must include:
(a) measures to minimise the loss of material during storm/flood events where the stockpiling of material within the floodplain cannot be avoided;
(b) protocols to relocate site materials and machinery when a storm/flood event warning forecast has been issued by the Bureau of Meteorology (BOM);
(c) procedures for safe site evacuation of staff, construction personnel and visitors; and
(d) the induction of all staff, construction personnel and visitors on the project's storm/flood event emergency response procedures.</td><td>Appendix B4 Construction Soil and Water Management Plan</td></tr>
<tr><td>C9</td><td>The Heritage Management Sub-Plan must include an unexpected Heritage Finds and Human Remains Procedure consistent with the procedures in the Updated Aboriginal cultural heritage assessment report, May 2020 (Appendix G, Amendment Report).</td><td>Unexpected Heritage Finds and Human Remains Procedure forms Appendix A of CHMP</td></tr>
<tr><td>C10</td><td>The Noise and Vibration Management Sub-plan must include details of all sensitive land uses (including noise and or vibration sensitive working areas such as operating theatres and precision laboratories) that are potentially exposed to construction noise and vibration, construction ground-borne noise and operational noise.</td><td>Appendix B3Construction Noise and Vibration Management Plan</td></tr>
<tr><td>C11</td><td>The Soil and Water Management Sub-plan must include:
(a) details of enhanced erosion sediment controls in catchments that flow directly to the Solitary Islands Marine Park;
(b) a construction water reuse strategy; and
(c) a groundwater management plan.</td><td>Appendix B4Construction Soil and Water Management Plan</td></tr>
<tr><td>C12</td><td>Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary, including any minor amendments approved by the ER must be implemented for the duration of construction. Where construction of the CSSI is staged, construction of a stage must not commence until the CEMP and sub-plans for that stage have been approved by the Planning Secretary.</td><td>Noted</td></tr>
<tr><td>C13</td><td>The Construction Monitoring Programs in table below must be prepared in consultation with the relevant government agencies identified for each to compare actual performance of construction of the CSSI against the performance predicted in documents listed in Condition A1 or in the CEMP.
<table>
<tr><th></th><th>Required Construction Monitoring Programs</th><th>Relevant government agencies to be consulted for each Construction Monitoring Program</th></tr>
<tr><td>(a)</td><td>Air quality</td><td>EPA, DPI Agriculture, Council</td></tr>
<tr><td>(b)</td><td>Noise and vibration</td><td>EPA, Council</td></tr>
<tr><td>(c)</td><td>Surface & Ground Water Quality</td><td>EPA, DPI Agriculture, DPI Fisheries, DPE Water Group, Council</td></tr>
</table></td><td>Monitoring programs included in Sub-plans
(a) Construction Air Quality Management Plan,
(b) Construction Noise and Vibration Management Plan,
(c) Construction Soil and Water Management Plan</td></tr>
<tr><td>C16</td><td>The Construction Monitoring Programs must be endorsed by the ER and then submitted to the Planning Secretary for approval at least one month before the commencement of construction.</td><td>Air Quality Monitoring Program, Noise and Vibration Monitoring Program, Surface and</td></tr>
</table>

MCoA No.	Requirement	CEMP Reference
		Groundwater Monitoring Program
C17	Construction must not commence until the Planning Secretary has approved all of the required Construction Monitoring Programs, and all relevant baseline data for the specific construction activity has been collected.	Air Quality Monitoring Program, Noise and Vibration Monitoring Program, Surface and Groundwater Monitoring Program
C18	The Construction Monitoring Programs, as approved by the Planning Secretary including any minor amendments approved by the ER must be implemented for the duration of construction and for any longer period set out in the monitoring program or specified by the Planning Secretary, whichever is the greater.	Air Quality Monitoring Program, Noise and Vibration Monitoring Program, Surface and Groundwater Monitoring Program
C19	The results of the Construction Monitoring Programs must be submitted to the Planning Secretary, and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program. *Note: Where a relevant CEMP Sub-plan exists, the relevant Construction Monitoring Program may be incorporated into that CEMP Sub-plan.*	Air Quality Monitoring Program, Noise and Vibration Monitoring Program, Surface and Groundwater Monitoring Program

This CEMP is the overarching document in the environmental management system for the project that includes a number of management documents. It is applicable to all staff and sub-contractors associated with the construction of the project.

1.4 REVISED ENVIRONMENTAL MITIGATION MEASURES

This CEMP has been prepared to describe how the Project will meet the construction phase requirements of the Revised Environmental Mitigation Measures (REMMs). The requirements of the applicable REMMs and where they are met in this CEMP, or reference to other relevant project plan, are shown in Table 1-2.

Note, where a REMM is specifically addressed in a Sub-plan, these have not been included in the table below.

TABLE 1-2: APPLICABLE REMMS

REMM ID	Description	Reference
UD01	An urban design and landscape plan will be prepared in consultation with CHCC to support the detailed design of the project. The plan will present an integrated urban design for the project, providing practical detail on the application of design principles and objectives identified in the environmental assessment. The plan will include: …	Section 2.5 Place Design and Landscape Plan (CoA E63)
UD03	Temporary site lighting will be installed and operated in accordance with AS4282:1997 Control of the Obtrusive Effect of Outdoor Lighting (Standards Australia 1997).	Section 2.5
UD04	Project work sites, including construction areas and supporting facilities (such as ancillary sites) will be managed to minimise visual impacts, including appropriate storage of equipment, parking, stockpile screening and arrangements for the storage and removal of rubbish and waste materials.	Section 2.5
UD05	Boundary fencing that incorporates screening will be installed around all ancillary sites that are adjacent to residential areas for the duration of site establishment and	Section 2.5

	construction. The boundary fencing (and screening) will be designed to minimise visual impacts on nearby sensitive receivers.	
UD06	Where noise walls cause overshadowing, consideration will be given during detailed design to the use of transparent panels within the noise wall design in consultation with potentially affected property owners.	Section 2.5
UD07	A reflectivity study will be undertaken during detailed design to identify adverse reflective glare from the use of transparent panels in noise walls on road users and adjacent residential properties. An appropriate glazing design will be considered where issues are identified. The reflectivity study will also investigate the potential for glare impacts on road users associated with the morning sun for Shephards Lane and Gatelys Road tunnel.	Detailed Design and Design Review processes
LUP01	Consultation with CHCC will be undertaken during detailed design regarding the West Coffs Investigation Area to ensure appropriate consideration of the project is provided in any future master-planning.	Section 6.2
LUP03	Ancillary sites will be rehabilitated to their pre-construction condition (where reasonable and feasible) and managed in accordance with Appendix B of Appendix J, Urban design, landscape character and visual impact assessment of the EIS.	Section 2.5 Place Design and Landscape Plan (CoA E63)
LUP04	The following strategy for managing utilities will be implemented prior to construction in consultation with the relevant utility providers: • Further detailed utility investigations (revised 'Dial before you Dig' queries and/or potholing will be carried to confirm location of buried services) • Detailed utility design be undertaken in accordance with the relevant utility providers requirements • Relocation or protection work will be undertaken in a manner that minimises environmental impacts and addresses the relevant utility service providers requirements and construction methods.	Detailed Design and Design Review processes All utility works will be undertaken in accordance with the CEMP
AG03	Impacted structures, eg packing sheds and cropping structures, etc, will be replaced or reconfigured in consultation with affected property owners where feasible.	Section 6.4
AG04	Internal farm access impacted by the project will be reconfigured in consultation with affected property owners where reasonable and feasible.	Section 6.4
SE01	Consultation will be undertaken with potentially affected residences prior to the commencement of and during work in accordance with Community Liaison Implementation Plan. The Plan will be based on the draft Community consultation framework in Appendix D of the EIS and will be implemented prior to construction. The Plan will provide specific information in relation to community involvement during construction and will include, but not be limited to: …	Section 6.4 Community Consultation Strategy (CoA B3)
SE02	A Directional Signage Plan will be developed in accordance with TfNSW and Destination NSW signage guidelines to ensure effective and appropriate signposting for key locations along the project. The plan will identify the range of services that Coffs Harbour provides and will be prepared in consultation with CHCC, Coffs Harbour Chamber of Commerce and the NSW Government's Tourist Attraction Signposting Assessment Committee (TASAC).	Detailed Design and Design Review processes

SE03	Design investigation of the property access road south of the Coramba Road interchange and property owner consultation will be undertaken to develop reasonable and feasible options to avoid potential impacts on the tree planted as a memorial to a family member. This may include but may not be limited to realignment of the property access road or translocation of the tree.	Detailed Design and Design Review processes
SE04	Management of the gravestone of Herbert Frazer Simpson at the intersection of the existing Pacific Highway and James Small Drive will be undertaken in accordance with Roads and Maritime's Factsheet for Roadside Tributes (RTA 2016f). Every effort will be made to contact the family, if known, and work with them to develop an appropriate strategy for reinstallation, relocation or removal. If the family is unknown or cannot contacted, Roads and Maritime would store the gravestone off-site for future recovery if necessary.	Section 6.4 Community Consultation Strategy (CoA B3)
SE06	Ongoing consultation with CHCC will be undertaken to identify opportunities to reduce temporary construction impacts on the operation of Coffs Coast Resource Recovery Park.	Section 6.2
FH13	Consultation will be undertaken with Dams Safety NSW during detailed design regarding the potential for parts of the project to be Declared Dams under the Dams Safety Act 2015.	Section 6.2
S01	A Sustainability Management Plan will be developed to establish governance structures, processes and systems that ensure integration of all sustainability considerations (vision, commitments, principles, objectives and targets), initiatives, monitoring and reporting during the detailed design and construction phases of the project. The plan will include commitments detailed in Chapter 23, Sustainability of the EIS including but not limited to: • Key sustainability management roles and responsibilities • Targets for diverse and inclusive workforce participation and local employment opportunities • An energy efficiency and greenhouse gas emissions strategy • A sustainable procurement strategy • Water savings initiatives • Monitoring and reporting requirements for sustainability initiatives and performance.	Sustainability Strategy (CoA E86)
HZ01	Hydrological and hydraulic assessments undertaken during detailed design would consider the climate change related flood risks to the project and flood impacts from the project. The assessment would confirm the requirements for any additional management measures. The assessment would be undertaken in accordance with the Practical Considerations of Climate Change – Floodplain Risk Management Guideline (DECC 2007).	Detailed Design and Design Review processes.
HZ03	A Bushfire Management Plan will be prepared in accordance with the Planning for Bush Fire Protection 2006 (Rural Fire Service 2006) and implemented as part of the CEMP. Measures to be implemented to manage bushfire risk include: • Consultation requirements for community notifications in the event of a bushfire • Maintaining equipment in good working order • Ensuring plant and equipment are fitted with appropriate spark arrestors, where practicable	Section 7.2

	• Ensuring site workers are informed of the site rules including designated smoking areas and putting rubbish in designated bins • Obtaining hot work permits and implementing total fire bans as required • Implementing adequate storage and handling requirements for potentially flammable substances in accordance with the relevant guidelines.	
HZ06	A Surface Settlement Monitoring Program will be prepared and implemented prior to and during construction to identify whether the project is resulting in adverse subsidence impacts. In the unlikely event that subsidence as a result of the project is deemed to cause building and/or property damage, the damage would be repaired at no cost to the owner.	Detailed Design and Design Review processes.
HZ07	The dangerous goods risk assessment process is ongoing. Further assessment and consultation with relevant authorities and stakeholders will occur as part of this process.	Safety Management Plan
CI01	Where relevant, consultation would be undertaken with proponents of other nearby developments to increase the overall awareness of project timeframes and impacts.	Section 6.2
CI02	The CEMP will be updated with any revised or new environmental management measure identified from consultation with proponents of other nearby developments, where required.	Section 1.7

1.5 ENDORSEMENT AND APPROVAL

1.5.1 INTERNAL CONSULTATION

The development of the CEMP and its Sub-plans and monitoring programs involved detailed review of the documentation by the project senior management team.

Following TfNSW satisfaction of the documents, a review process was completed with the Environmental Representative (ER) and Acoustics Advisor ((AA) where applicable)) prior to submission of the document to the Department of Planning and Environment (DPE).

1.5.2 EXTERNAL CONSULTATION

External consultation for the CEMP's Sub-plans and monitoring programs was undertaken with relevant stakeholders, agencies, regulatory authorities and the Secretary.

In accordance with MCoA C3, CEMP Sub-plans must be endorsed by the ER and then submitted to DPE no later than one month prior to the commencement of construction. The CEMP Sub-plans will be submitted to DPE along with, or subsequent to, the submission of this CEMP as outlined in MCoA C6. Construction will not commence until the CEMP and all CEMP Sub-plans have been approved by DPE. Additionally, the approved CEMP and CEMP Sub-plans, including any amendments approved by the ER, will be implemented for the duration of construction.

Consultation will continue throughout the construction of the Project with relevant stakeholders and government authorities, where required.

In accordance with MCoA A5, a separate document 'CHB Management Plan Comment Summary' has been prepared to detail the consultation process and how stakeholder comments were addressed relative to each document. Responses to consultation feedback received are included in the summary tables, which has been provided to DPE for information.

1.6 DISTRIBUTION

This CEMP is available to all personnel and sub-contractors via the project document control management system. An electronic copy can be found on the project website.

The document is uncontrolled when printed. A controlled version of the CEMP will be maintained in the Project EDMS.

Registered copies will be distributed to:

- FGJV Project Manager
- Environmental Representative
- Acoustic Advisor
- FGJV Construction Manager
- FGJV Environment and Sustainability Manager
- FGJV Stakeholder and Communications Manager
- TfNSW Representative
- TfNSW Environmental Manager

1.7 CEMP AND SUB-PLAN REVISION

The CEMP will be updated with any revised or new environmental management measure identified from consultation with proponents of other nearby developments, where required.

A document review process ensures that environmental documentation, including this CEMP, is updated as appropriate for the specific works that are occurring on-site. This includes the management review process described in Section 9.

Should the document review process identify any issues or items within the documents that are either redundant or in need of updating, it is the responsibility of the FGJV Environment and Sustainability Manager or delegate to prepare the revised documents.

. The Environmental Representative can approve minor changes to the CEMP, CEMP Sub-plans and monitoring programs. Minor changes would typically include those that:

- Are editorial in nature e.g., Staff and agency/authority name changes
- Do not increase the magnitude of impacts on the environment when considered individually or cumulatively
- Do not compromise the ability of the project to meet approval or legislative requirements.

Where the Environmental Representative deems it necessary, the amended CEMP, CEMP Sub-plans and monitoring programs will be forwarded to the DPE for approval.

2 PROJECT DESCRIPTION

2.1 GENERAL FEATURES

The location and key features of the project include:

- Four-lane divided highway from south of Englands Road roundabout to the dual carriageway highway at Sapphire
- Bypass of the Coffs Harbour urban area from south of Englands Road intersection to Korora Hill
- Upgrade of the existing Pacific Highway between Korora Hill and the dual carriageway highway at Sapphire
- Grade-separated interchanges at Englands Road, Coramba Road and Korora Hill
- A one-way local access road along the western side of the project between the southern tie-in and Englands Road, connecting properties to the road network via Englands Road
- A new service road, located east of the project, connecting Solitary Islands Way with James Small Drive and the existing Pacific Highway near Bruxner Park Road
- Three short tunnels through ridges at Roberts Hill (around 190 metres long), Shephards Lane (around 360 metres long), and Gatelys Road (around 450 metres long)
- Relocation of the Kororo Public School bus interchange and Luke Bowen footbridge.

The project location and key feature are shown in Figure 1. A detailed description of the project is provided in Chapter 5 of the EIS. The construction of the project is described in Chapter 6 of the EIS.

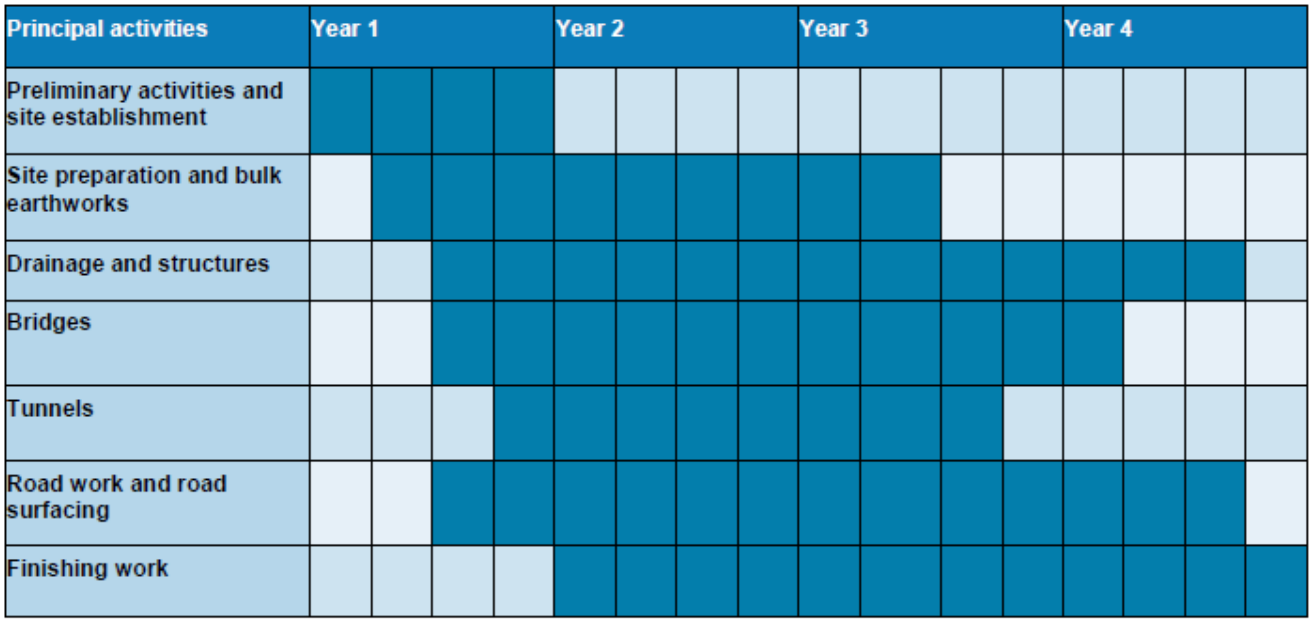
FIGURE 1 LOCATION OF COFFS HARBOUR BYPASS PROJECT

2.2 CONSTRUCTION ACTIVITIES

2.2.1 CONSTRUCTION PROGRAMME

The Project will involve a range of construction activities across the project alignment. An indicative construction program based on a four-year construction period shown in Table 2-1.

TABLE 2-1 INDICATIVE CONSTRUCTION PROGRAMME



2.2.2 PROJECT DELIVERY AND CONSTRUCTION METHODOLOGY

The project area has been broken down into ten works areas as shown in Table 2-2. FGJV's overall delivery strategy has been developed to mitigate program risks and meet project milestones. As such, the overall construction sequence for the project will incorporate simultaneous construction across sites, with key minor works and site establishment undertaken to assist delivery.

TABLE 2-2 PROJECT WORK AREAS

Project Work Areas	Start Chainage	Finish Chainage	Key Features
Englands Rd Interchange	9.330	10.855	BR01, BR02
From England Rd to Roberts Hill	10.855	13.620	BR25, BR03, BR04
Roberts Hill Tunnel	13.620	13.860	
Coramba Interchange	13.860	15.540	BR06, BR07, BR08, BR09
From Coramba Interchange to Shepard Tunnel	15.540	17.010	BR11, BR12
Shephards Tunnel	17.010	17.340	
From Shephards Tunnel to Gatelys Rd Tunnel	17.340	18.920	BR13
Gatelys Rd tunnel	18.920	19.360	
From Gatelys Rd Tunnel to Korora Interchange	19.360	20.680	BR16, B17
Korora Interchange	20.680	23.650	BR18, BR9, BR21, BR22

The broad categories of construction components and typical activities are identified below in Table 2-3. Refer to Appendix A2 – Environmental Aspects and Impacts for a detailed risk assessment of the proposed construction activities and required mitigation and management measures.

TABLE 2-3 PROPOSED CONSTRUCTION ACTIVITIES

Component	Typical activity
Pre-construction and site establishment	• Property acquisition and adjustments, including property access changes • Detailed investigations and survey work including investigative drilling, contamination investigations • Condition surveys and dilapidation assessments • General site clearance, site establishment work, fencing and signage • Establishment of temporary ancillary facilities and compound sites including the site office • Temporary traffic management arrangements including construction of minor access roads • Progressive installation of environmental controls including temporary or permanent fencing, and erosion and sediment control measures • Construction of temporary drainage controls including temporary creek crossings • Clearing and removal of vegetation (non-threatened species) • Threatened flora translocation • Heritage area investigation and salvage • Relocation and/or protection of utilities.
Site preparation and bulk earthworks	• Clearing and grubbing of vegetation • Mulching of vegetation for re-use in landscaping activities, where possible • Stripping topsoil and stockpiling it for reuse in landscaping • Excavation of cuttings, including processing, stockpiling or haulage of material, and stabilisation of batters • Drilling and blasting • Establishment of crushing plant • Crushing and screening excavated material • Hauling materials from excavated cuttings, borrow sites and external sources to fill embankment locations • Construction of fill embankments and earth mounds, including foundation drainage • Benching and stabilising cut and fill batter slopes.
Drainage and structures	• Construction of drainage, including kerb and gutter (where required) • Installation of cross-drainage, including culverts and inlet and outlet work, such as channel diversions and scour protection • Installation of longitudinal and vertical drainage in cuttings and embankments • Construction of diversion and catch drains along the formation and sedimentation control basins or swales (where required) • Construction of subsurface drainage • Construction of any retaining walls • Installation of fauna connectivity structures.
Bridge works	• Preparation of bridge work areas including temporary piling pads, access platforms • Installation of cofferdams or temporary access roads across waterways • Installation of bridge foundations (driven or bored piles, pile caps and footings) • Construction of new bridge abutments and piers • Construction of bridge superstructure including deck and road surface work (cast in situ or precast bridge elements) • Construction of scour protection • Construction of noise walls.
Tunnel works	• Establishment of portal sites in preparation for tunnel excavation, including provision of temporary tunnel services • Excavation of tunnel portals • Excavation of mined tunnels using drilling and blasting equipment for hard rock • Excavation of cross passages • Construction of tunnel operation centre • Construction of permanent tunnel access • Finishing works in tunnel and provision of permanent tunnel services • Test tunnel plant and equipment • Commissioning of tunnel operation centre.

Component	Typical activity
Demolition	• Construction and implementation of noise walls • Demolition of bridges (Luke Bowen footbridge and northbound carriageway bridge over Pine Brush Creek) • Demolition of buildings (properties and sheds).
Road work and road surfacing	• Construction of temporary local traffic management diversions • Construction of noise mounds, noise walls, and rock walls • Construction of base and select layers of materials • Paving works • Construction of road surface drainage, including kerb and gutter (where required) • Construction of concrete barriers, wire rope fencing and guardrails • Installation of traffic lights, road markings, signposting, roadside furniture and lighting • Progressive landscaping and tree planting.
Finishing work	• Remove temporary work • Restoration and landscaping of temporary sites • General site clean-up • Restoration of topsoil and revegetation of batters • Removal of temporary environmental controls • Fencing and property adjustment • Site clean-up and demobilisation, including restoration of ancillary sites and construction access roads (where required).

2.3 COMPOUND AND ANCILLARY FACILITIES

A number of temporary compound and ancillary facilities will be required to support construction of the project. Primary site compounds will be established for each stage of the project. These sites will accommodate the majority of management, engineering, specialist and administrative personnel. Typically, these facilities include:

- Office accommodation
- Staff amenities
- Light vehicle parking
- A plant and equipment maintenance workshop
- Material and chemical storage.
- Crib sheds and minimal office accommodation
- Concrete and asphalt batching plants
- Equipment storage
- Material storage
- Materials processing such as crushing and screening, mulching of vegetation and Acid Sulfate Soil treatment.

The Ancillary Site Establishment Management Plan(s) as required by MCoA A15 details the location, management measures and purpose of compound and ancillary facilities required for the project. The Ancillary Site Establishment Management Plan(s)will be submitted for separate approval as required by MCoA A15.

A summary of the MCoA assessment criteria for ancillary facilities is provided in Section 3.8.2.

2.4 CONSTRUCTION HOURS OF WORK

The Project is generally approved to work as follows:

(a) 7:00am to 6:00pm Mondays to Fridays, inclusive;

(b) 8:00am to 1:00pm Saturdays; and

(c) at no time on Sundays or public holidays.

In some cases, however, works outside these standard construction hours will be required. Further detail is provide in the Construction Noise and Vibration Management Plan, including the approval pathways and permitted justifications for such works.

Where works are required in evening or night time periods, light spillage will be minimised to surrounding properties in accordance with CoA E66, and must be consistent with the requirements of Australian Standard 4282-1997 - Control of the obtrusive effects of outdoor lighting and relevant Australian Standards in the series AS/NZ 1158 – Lighting for Roads and Public Spaces, in accordance with CoA E47. Additionally, mitigation measures (such as shielding, lighting orientation and height adjustments) will be implemented to manage any residual night lighting impacts to protect properties adjoining or adjacent to the Project, in consultation with affected landowners.

2.5 DESIGN

A Place Design and Landscape Plan (refer to CoA E63 – E65) must be prepared to inform the final design of the CSSI and to give effect to the commitments made in in the documents listed in Project approval A1 on the place design and landscaping of the Project. This will apply to the ongoing operational design requirements.

During construction, a number of design requirements must be addressed, including:

- Project work sites, including construction areas and supporting facilities (such as ancillary sites) will be managed to minimise visual impacts, including appropriate storage of equipment, parking, stockpile screening and arrangements for the storage and removal of rubbish and waste materials.
- Boundary fencing that incorporates screening will be installed around all ancillary sites that are adjacent to residential areas for the duration of site establishment and construction. The boundary fencing (and screening) will be designed to minimise visual impacts on nearby sensitive receivers.
- Where noise walls cause overshadowing, consideration will be given during detailed design to the use of transparent panels within the noise wall design in consultation with potentially affected property owners.
- The Project must be constructed with the objective of minimising light spillage to surrounding properties.
- All lighting associated with construction must be consistent with the requirements of Australian Standard 4282-1997 Control of the obtrusive effects of outdoor lighting and relevant Australian Standards in the series AS/NZ 1158 – Lighting for Roads and Public Spaces. Mitigation measures must be implemented to manage any residual night lighting impacts to protect properties adjoining or adjacent to the Project, in consultation with affected landowners.

3 PLANNING

3.1 PREPARATION AND AVAILABILITY OF THE CEMP

The CEMP for this project has been prepared in accordance with guidance provided in the *Environmental Management Plan Guideline - Guideline for Infrastructure Projects* (DPE, 2020). It incorporates all requirements of the EIS documentation and all relevant performance outcomes, commitments and mitigation measures to be implemented during construction of the project.

The CEMP is to be displayed on the project website and at the site office and communicated to staff and other interested parties via inductions and ongoing awareness programs.

Confidential information, which may include the location of threatened species, Aboriginal objects or places and personnel contact details, will be removed from all documents provided or made available to the public.

3.2 PROJECT ENVIRONMENTAL OBLIGATIONS

All construction personnel working on the project have the following general obligations:

- Minimise pollution of land, air and water
- Use pollution control equipment and keep it in proper working order
- Preserve the natural and cultural heritage environment
- Give notice to TfNSW and relevant authorities of a non-Aboriginal or Aboriginal heritage discovery
- Minimise the occurrence of offensive noise
- Be a good neighbour to surrounding land users
- Use equipment with noise control features where available and ensure that it is properly maintained
- Take all feasible and reasonable steps to ensure compliance with the requirements of this CEMP and sub-plans.

3.3 REGULATORY REQUIREMENTS AND COMPLIANCE

3.3.1 LEGISLATION

A register of legal and other requirements for the project is contained in Appendix A1. This register is maintained as a checklist. This register will be reviewed at regular intervals e.g. during management reviews, and updated with any applicable changes. Any changes made to the legal requirements register will be communicated to the wider team where necessary through toolbox talks, specific training and other methods detailed in Section 5.

3.3.2 APPROVALS, PERMITS AND LICENSING

A number of approvals, permits and licenses have and/or will be obtained for the project. Appendix A1contains a register of all relevant environmental approvals, permits and licenses. The register will be maintained by the FGJV Environment and Sustainability Manager and will be reviewed prior to the commencement of construction and/or stages of construction, and at regular intervals during construction and at least annually as part of the management review.

The EIS recognised that the following approvals and licences identified in the planning approval process would be obtained or are required for the project:

- Project Approval under the EP&A Act and EPBC Act
- Environmental protection licences (EPL) under the *Protection of the Environment Operations Act 1997* for road construction and/or for the operation of ancillary facilities
- Consent under section 138 of the *Roads Act 1993* for any work or activities in the public reserve or in public road way
- Notification to the Minister if dredging or reclamation work are required under section 199 of the *Fisheries Management Act 1994*
- Aquifer interference approval under section 91F of the *Water Management Act 2000* if construction requires interference with a groundwater source.

3.3.3 TFNSW QUALITY, ASSURANCE SPECIFICATIONS AND HOLD POINTS

All construction activities are to be undertaken in accordance with TfNSW Quality Assurance Specifications:

- G36 – Environmental Protection
- G38 – Soil and Water Management
- G40 – Clearing and Grubbing.

The above specifications are to be updated prior to construction for consistency with project approval requirements. Hold points are identified in each respective specification to ensure that all obligations, management and mitigation measures and necessary approvals, permits and licences are obtained and /or implemented prior to commencement of construction activities. No specific additional hold points are required in the CEMP and CEMP Sub-plans.

3.4 ENVIRONMENTAL ASPECTS AND IMPACTS

A risk management approach will be used to determine the severity and likelihood of an activity's impact on the environment and to prioritise its significance. This process considers potential regulatory and legal risks as well as taking into consideration the concerns of community and other key stakeholders.

The objectives of risk assessment are to:

- Identify activities, events or outcomes that have the potential to adversely affect the local environment and/or human health/property
- Qualitatively evaluate and categorise each risk item
- Assess whether risk issues can be managed by environmental protection measures
- Qualitatively evaluate residual risk with implementation of measures.

Risk assessments for the project are based on AS/NZS 4360:1999, the Australian standard for risk assessments.

Appendix A2includes a list of typical activities associated with the project, related aspects and corresponding risks. Measures to minimise the identified environmental risks are also provided and are to be considered in ongoing activity specific risk assessments which are to be undertaken in preparation of EWMS, as described in Section 4.1.3.

3.4.1 ENVIRONMENTAL RISK ASSESSMENT WORKSHOP

An initial risk assessment was undertaken by TfNSW to identify the relevant steps in the activity and the associated environmental hazards, initial risk levels, mitigation measures and to avoid, manage and/or minimise the risks and residual risks.

Subsequent to this, an environmental risk assessment workshop was held on 28 September 2022 and included invitees from:

- EPA
- DPI – Fisheries
- DPI - Agriculture
- DPE
- Coffs Harbour City Council
- DPE – EESG.

The intent of the workshop was to identify any new or emerging risks, mitigations measures or other concerns from industry stakeholders, to augment the initial risk assessment undertaken by TfNSW. This revised assessment is included in an Environmental Aspects and Impacts Register (Appendix A2).

Where residual risk is assessed as high, or if required under the Contract Specification, an Environmental Work Method Statement (EWMS) will be developed for that activity, additionally, complex and high environmental risk construction activities are to be assessed in a dedicated planning session to develop the appropriate mitigation measures and construction methodologies to ensure that risks are effectively managed. Planning sessions are to be attended by relevant project construction personnel, environmental,

safety and quality representatives and where required, regulatory stakeholders such as EPA and DPI Fisheries.

Where relevant, the requirements from the TfNSW Environmental Specifications, MCoA and REMMs will be incorporated into the environmental risk assessment, particularly in developing the agreed activity specific site controls.

Appendix A2contains a list of environmental aspects and impacts including those identified in the risk assessment workshop.

3.5 ENVIRONMENTAL POLICY

The environmental policy describes the FGJV commitment to continual improvement in environmental performance and compliance with applicable legal requirements The policy has been developed in accordance with requirements outlined in Section 4.2 of ISO 14001. The FGJV Environmental Policy is provided in Section Appendix A3.

The environmental policy is displayed on the project website and at the site office and communicated to staff and other interested parties via inductions and ongoing awareness programs.

3.6 OBJECTIVES AND TARGETS

As a means of assessing environmental performance during construction of the project, environmental objectives and targets have been established. These objectives and targets have been developed with consideration of the desired performance outcomes in Chapter 29.5 of the EIS. The desired performance outcomes for relevant sub-plans will be included in those plans. The objectives and targets are consistent with the project environmental policy and will assist in monitoring whether the commitments of the policy are being met.

The performance of the project will be monitored against the objectives and targets. Project performance monitoring will be documented in the project construction monitoring, audit and inspection reports and at least on an annual basis as part of the management review.

Environmental objectives and targets for the project are incorporated into relevant CEMP Sub-plans and a summary is provided in Table 3-1 below.

TABLE 3-1 ENVIRONMENTAL OBJECTIVES AND TARGETS

Objective	Target	Measurement tool
Construction of the Project in accordance with environmental approvals	Full compliance with statutory approvals.	Audits, construction compliance reporting, management reviews.
Compliance with all legal requirements	No regulatory infringements (PINs or prosecutions) No formal regulatory warning	Audits, construction compliance reporting, management reviews.
Implement a rigorous and comprehensive EMS that meets the requirements of AS/NZS ISO 14001.	Address non-compliances and corrective actions within specific timeframes.	Audits, management reviews.
Engage with the effected and broader community, minimise complaints and respond to any complaints within a suitable timeframe.	Disseminate regular Project updates and other information through the Project website and other tools identified in the Community Engagement Strategy. Record and respond to complaints within the timeframe specified in the Community Engagement Strategy.	Review complaints register, construction compliance reporting, audits.

Objective	Target	Measurement tool
Continuously improve environmental performance.	Develop and maintain a program of ongoing environmental training. Capture lessons learnt from environmental incidents to minimise repeat issues. Encourage and reward innovation and effort throughout the works force.	Construction compliance reporting, management reviews.

3.7 PERFORMANCE OUTCOMES

The project design has been prepared in consideration of the 'desired performance outcomes' provided in the SEARs. The table below outlines how construction phase performance outcome will be achieved by the project in relation to the Construction Environmental Management Plan, and a cross reference within this document or to other documents as appropriate.

Note, where performance outcomes are specifically addressed in the Sub-plans, these have not been included in the table below.

TABLE 3-2: PERFORMANCE OUTCOME

Desired Performance Outcome	Project Outcome	Where Addressed
Consultation The project is developed with meaningful and effective engagement during project design and preparation of the EIS.	Community and stakeholders are regularly engaged during development and delivery of the project and have informed the design process	Community Consultation Strategy (CoA B3)
	Complaints are responded to in a timely and appropriate manner so that concerns are managed effectively and promptly.	Community Consultation Strategy (CoA B3)
Urban design The project design complements the visual amenity, character and quality of the surrounding environment. The project contributes to the accessibility and connectivity of communities.	The project is a flowing road alignment that is responsive to, and integrated with, the landscape	Place Design and Landscape Plan (CoA E63)
	The road reserve is well vegetated with natural species	Place Design and Landscape Plan (CoA E63)
	The constructed project is simplified and unobtrusive, with consistent road elements. The driving experience is enjoyable and interesting for road users.	Place Design and Landscape Plan (CoA E63)
Visual Amenity The project minimises adverse impacts on the visual amenity of the built and natural environment (including public open space) and capitalises on opportunities to improve visual amenity.	Visual impacts are minimised using design solutions such as revegetation, integration of cut slopes and sensitive design of infrastructure elements.	Place Design and Landscape Plan (CoA E63)
Socio-economic, land use and property The project minimises adverse social and economic impacts and capitalises on opportunities potentially available to affected communities. The project minimises impacts to property and business and achieves appropriate integration with adjoining land uses, including maintenance of appropriate access to properties and community facilities, and minimisation of displacement of	Construction of the project has minimised property acquisitions and severances	This was addressed as part of the planning of the alignment during EIS. All works will be constructed in accordance with the EIS. Where changes are required, these will undertake a re-assessment process as described in Section 3.8.1, which will include consideration of socio-economic, land use and property impacts. .
	Construction of the project has avoided direct and indirect impacts on agricultural properties	
	Impacts on the agricultural industry has been minimised	
	Businesses experience minimal disturbance during construction and operation of the project, with ongoing community engagement and stakeholder involvement.	Community Consultation Strategy (CoA B3)

Desired Performance Outcome	Project Outcome	Where Addressed
existing land use activities, dwellings and infrastructure. Effective engagement is undertaken with stakeholders during project design and delivery.		
Sustainability The project reduces the NSW Government's operating costs and ensures the effective and efficient use of resources. Conservation of natural resources is maximised.	The project achieves an "Excellent" rating for both Design and As-Built under the Infrastructure Sustainability Council of Australia IS ratings scheme.	Sustainability Strategy (CoA E86)
Hazards and Risks The project avoids, to the greatest extent possible, risk to public safety. The project is designed, constructed and operated to be resilient to the future impacts of climate change.	Construction and operational risks, such as bushfire risk, subsidence and handling of dangerous goods are effectively managed.	Safety Management Plan Flooding Management Plan (CoA C4) Soil and Water Management Plan (CoA C4) Sustainability Strategy (CoA E86)

3.8 PROJECT REFINEMENTS

3.8.1 GENERAL CHANGES

Changes to the project may result from detailed design refinements or changed circumstances throughout construction. Any design changes or changes in scope of works must be communicated to the FGJV Environment and Sustainability Manager who will determine the appropriate pathway for approval in consultation with TfNSW and the ER.

Should a project modification be required (i.e., the impacts are of a nature and scale that it is not considered consistent with the project approval) the Environmental Representative will be informed and a modification application under Section 5.25 of the EP&A Act prepared and lodged by TfNSW to DPE for determination.

Should the changes be considered to be consistent with the Project a Consistency Assessment will be prepared verifying this outcome. In line with the TfNSW Assessment procedure, the TfNSW Environment Manager will approve all refinements that are deemed consistent with the project approval, where appropriate. In accordance with MCoA A26(b), a copy of this assessment will be provided to the ER prior to the commencement of the work that was assessed.

3.8.2 ANCILLARY FACILITIES ASSESSMENT CRITERIA

The assessment, approval and operational requirements pertaining to ancillary facilities are detailed in MCoA A14, A15, A16, and A17. The key criteria for construction ancillary facilities are provided below.

3.8.2.1 MAJOR CONSTRUCTION ANCILLARY FACILITIES

MCoA A14 – Ancillary facilities that are not identified by description and location in the documents listed in Condition A1 (the EIS, Submissions and Amendment Reports) can only be established and used in each case if:

(a) they are located within or immediately adjacent to the construction boundary;
(b) they are not located next to a sensitive receiver (including where an access road is between the facility and the receiver), unless the sensitive receiver landowner and occupier have given written acceptance to the carrying out of the relevant facility in the proposed location;
(c) they have no impacts on heritage items (including areas of archaeological sensitivity), threatened species, populations or ecological communities beyond the impacts approved under the terms of this approval; and
(d) the establishment and use of the facility can be carried out and managed within the outcomes set out in the terms of this approval, including in relation to environmental, social and economic impacts.

MCoA A15 details the requirement for an Ancillary Site Establishment Management Plan to be prepared before establishment of any construction ancillary facility (excluding minor construction ancillary facilities determined by the ER to have minimal environmental impact and those established under Condition A17).

The Ancillary Site Establishment Management Plan must detail the management of the construction ancillary facilities and include:

(a) a description of activities to be undertaken during establishment of the construction ancillary facility (including scheduling and duration of work to be undertaken at the site);
(b) figures illustrating the proposed operational site layout;
(c) a program for ongoing analysis of the key environmental risks arising from the site establishment activities described in subsection (a) of this condition, including an initial risk assessment undertaken prior to the commencement of site establishment work;
(d) details of how the site establishment activities described in subsection (a) of this condition will be carried out to:
    (i) meet the performance outcomes stated in the documents listed in the EIS, Submissions and Amendment Reports; and
    (ii) manage the risks identified in the risk analysis undertaken in subsection (c) of this condition; and
(e) a program for monitoring the performance outcomes, including a program for construction noise monitoring consistent with the requirements of Condition C13.

In accordance with Condition A16, the use of a construction ancillary facility for construction must not commence until the CEMP and relevant CEMP Sub-plans and Construction Monitoring Programs required by Condition C13 have been approved by DPE. This condition does not apply to the use of construction ancillary facilities as an office facility or where the ER has determined that the activities will have minimal impact on the environment and community.

3.8.2.2 MINOR CONSTRUCTION ANCILLARY FACILITIES

Minor construction ancillary facilities defined as lunch sheds, office sheds, portable toilet facilities, and the like, can be established and used where they have been assessed in in the EIS, Submissions and Amendment Reports or where they satisfy the following criteria, as provided in MCoA A17:

(a) located within or adjacent to the construction boundary; and
(b) have been assessed by the ER to have -
    (i) minimal amenity impacts to surrounding residences and businesses, after consideration of matters such as compliance with the Interim Construction Noise Guideline (DECC, 2009), traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts;
    (ii) minimal environmental impact with respect to waste management and flooding; and
    (iii) no impacts on biodiversity, soil and water, and heritage items beyond those already approved under other terms of this approval.

Where this criterion is unable to be met for any proposed ancillary facility, an assessment demonstrating how adverse impacts from construction or operation of the facility can be mitigated and managed to an acceptable standard will be undertaken and provided to DPE for approval.

3.8.2.3 STOCKPILE MANAGEMENT PROTOCOL

During construction a number of temporary stockpiles will be required. Stockpile sites may be required to store material including, but not limited to:

- Excavated material to be used in fill embankments and other design features
- Acid Sulfate Soil subject to treatment prior to reuse
- Excavated material unsuitable for reuse in the formation
- Excess concrete, pavement, rock, steel and other material stored for either future use in the Project or prior to removal from site
- Topsoil, mulch, excess timber for landscaping and revegetation works.

As defined in the MCoA, a Stockpile Management Protocol detailing the management and mitigation measures required for all stockpile types eliminates the need for stockpiles within the project boundary to be assessed as ancillary facilities. The Stockpile Management Protocol forms part of this CEMP as Appendix B4 of the Construction Soil and Water Management Plan.

4 IMPLEMENTATION AND OPERATION

This CEMP is the overarching management plan for a suite of environmental management documents. It provides a structured and systematic approach to environmental management.

The primary purpose of the system of documentation is to:

- Ensure compliance with all applicable environmental laws, obligations and approvals
- To minimise environmental impacts.

The structure of the environmental management system for the project is shown in Figure 2 below.

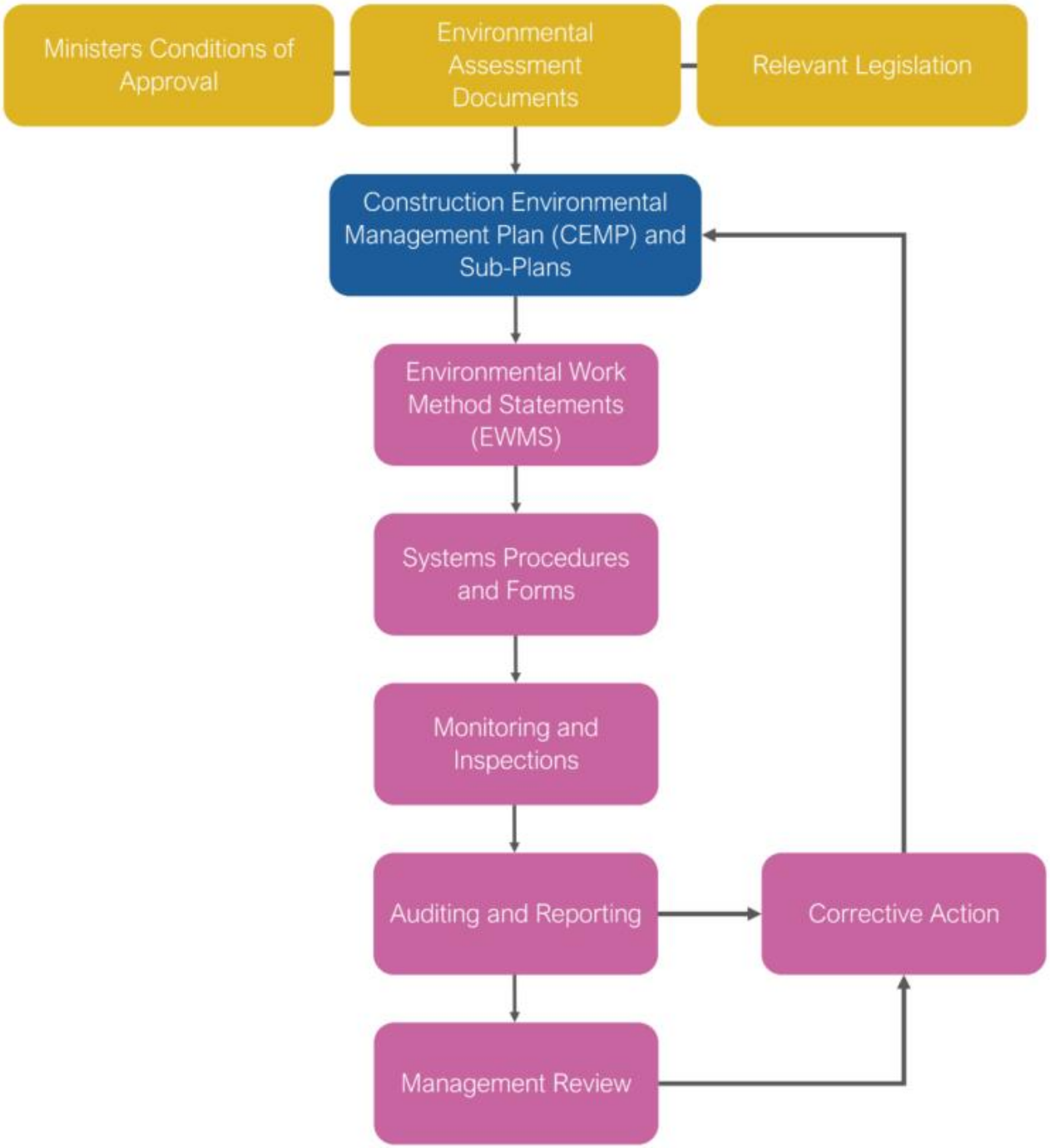


FIGURE 2 ENVIRONMENTAL MANAGEMENT SYSTEM STRUCTURE

4.1 ENVIRONMENTAL MANAGEMENT SYSTEM DOCUMENTATION

4.1.1 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

This CEMP provides the system to manage and control the environmental aspects of the project during pre-construction and construction. It identifies all requirements applicable to activities described in Section 2. It also provides the overall framework for the system and procedures to ensure environmental impacts are minimised and legislative and other requirements are fulfilled. The strategies defined in this CEMP have been developed with consideration of the project approval requirement, safeguards and mitigation measures presented in the environmental assessment and approval documents. This CEMP establishes the system for implementation, monitoring and continuous improvement to minimise impacts from the project on the environment.

This CEMP is consistent with:

- Guideline for the preparation of Environmental Management Plans for Infrastructure (DPE 2020)
- AS/NZS ISO14001: 2017, 'Environmental Management Systems - requirements with guidance for use'
- TfNSW QA Specification G36, G38 and G40
- Legislative and contractual requirements and other environmental obligations
- FGJV Environmental Policy and Sustainability Policy objectives
- Ferrovial Environmental Management System (Section 4.1.2).

4.1.2 FGJV ENVIRONMENTAL MANAGEMENT SYSTEM

The Project Environmental Management System (EMS) is based on the requirements of the Ferrovial Management System and has been specifically tailored to ensure compliance with TfNSW QA Specification G36, G38 and G40 and additional environmental requirements. The Project Management Plan provides further detail about systems and processes adopted to deliver against the projects overall requirements.

FGJV has developed an Integrated Management System (IMS), which enables integration of all subcontractors, suppliers and other Project participants through centralised, collaborative planning, management, monitoring, performance assessment, reporting and continuous improvement across all phases and all Project activities. The IMS supports our holistic approach to project delivery and will reduce integration and interface risks and provide a systematic process for project management and governance.

These systems will be applied to the relevant scope of works contractually delegated by FGJV to the subcontractor with activities governed by scope-specific policies, plans and procedures to ensure efficient, compliant delivery and effective risk management.

Our nominated management systems encompass safety, quality, environment, and risk management and are accredited or conform to the following standards:

- AS/NZS ISO 9001:2008 Quality Management Systems - Requirements
- AS/NZS ISO 31000:2009 Risk Management - Principles and Guidelines
- OHSAS 18001:2007 Occupational Health and Safety Management Systems - Requirements
- AS/NZS 4801:2001 Occupational Health and Safety Management Systems - Specification with guidance for use
- Compliance with the requirements of the Australian Government Building and Construction OHS Accreditation Scheme - through the Office of the Federal Safety Commissioner (OFSC)
- AS/NZS ISO 14001:2004 Environmental Management Systems - Requirements with guidance for use
- AS/NZS ISO 19011:2014 Guidelines for auditing management systems.

4.1.3 ENVIRONMENTAL MANAGEMENT SUB PLANS AND STRATEGIES

A number of environmental management sub-plans support the CEMP. These documents are prepared to identify requirements and processes applicable to specific impacts or aspects of the activities described in Section 3.4. They address requirements of the MCoA, REMMs and other measures identified in the environment assessment documentation.

Environmental strategies may also be developed as required throughout the project. These will also guide environmental management of potential impacts on-site.

A list of construction Sub-plans and strategies for the project, and their approval requirements, are provided in Table 4-1.

TABLE 4-1 CONSTRUCTION ENVIRONMENTAL MANAGEMENT SUB-PLANS

Document name	Document	Approval pathway / consultation requirement
Construction Traffic and Transport Management Sub Plan	CEMP Appendix B1	Approval: DPE Consultation Requirement: Coffs Harbour City Council,
Construction Biodiversity Management Sub Plan **Pittosporum Coffs Harbour Sp. and Jordans Creek Exclusion Zone Management Plan** **Fontainea Coffs Harbour Sp. Management Plan**	CEMP Appendix B2	Approval: DPE Consultation Requirement: Coffs Harbour City Council, EESG, DAWE, DPI Fisheries
Construction Noise and Vibration Management Sub Plan	CEMP Appendix B3	Approval: DPE Consultation Requirement: Coffs Harbour City Council, EPA
Construction Soil and Water Management Sub Plan	CEMP Appendix B4	Approval: DPE Consultation Requirement: DPI Fisheries, DPE Water Group, DPI Agriculture, Coffs Harbour City Council
Construction Heritage Management Sub Plan	CHBPW-FGJV-NWW-EN-PLN-000002 CEMP Appendix B5	Approval: DPE Consultation Requirement: Heritage NSW, RAPs, Coffs Harbour and District Local Aboriginal Land Council, Coffs Harbour City Council
Construction Air Quality Management Sub Plan	CHBPW-FGJV-NWW-AH-PLN-000001 CEMP Appendix B6	Approval: DPE Consultation Requirement: EPA, DPI Agriculture, Coffs Harbour City Council
Construction Waste and Resource Management Plan	CEMP Appendix B8	Approval: TfNSW (REMM WM01)
Construction Flood Management Sub Plan	CEMP Appendix B9	Approval: DPE Consultation Requirement: EESG, Coffs Harbour City Council

4.1.4 CONSTRUCTION MONITORING PROGRAMS

As required by MCoA C13 the following Construction Monitoring Programs have been prepared for the duration of the Project:

- Noise and Vibration Monitoring Program
- Surface and Ground Water Quality Monitoring Program
- Air Quality Monitoring Program.

Monitoring requirements are also described in the Biodiversity Management Plan

These monitoring programs have been prepared as part of the applicable CEMP sub-plan.

Prior to submission for endorsement from the ER (and AA for the Noise and Vibration Monitoring Program), these Construction Monitoring Programs followed the consultation process with relevant government agencies, as well as approval from DPE as detailed within Table 4-2.

TABLE 4-2 CONSTRUCTION MONITORING PROGRAMS

Monitoring Program	Consultation	Responsibility	Endorsement	Approval
Noise and Vibration Monitoring Program	• EPA; • Coffs Harbour City Council	FGJV	ER and AA	DPE
Surface and Ground Water Quality Monitoring Program	• EPA; • DPI Agriculture; • DPI Fisheries; • DPE Water; • Coffs Harbour City Council	FGJV	ER	DPE
Air Quality Monitoring Program	• EPA • DPI Agriculture; • Coffs Harbour City Council	FGJV	ER	DPE
Biodiversity Monitoring Program	• EESG • DAWE • Coffs Harbour City Council	TfNSW	N/A	N/A

4.1.5 ENVIRONMENTAL WORK METHOD STATEMENTS

EWMS are prepared to manage and control all activities that have the potential to negatively impact on the environment. EWMS will be prepared prior to the commencement of relevant construction activities on site and will incorporate mitigation measures and controls from the CEMP and sub plans. They also identify key procedures to be used concurrently with the EWMS. EWMS are specifically designed to communicate requirements, actions, processes and controls to construction personnel using plans, diagrams and simply written instructions.

EWMS will be prepared progressively in the lead up to and throughout construction in consultation with relevant members from the project team, and will be approved by the FGJV Environment and Sustainability Manager.

EWMS will be prepared for high-risk activities including those outlined in the EIS and those identified through the Environmental Risk Assessment Workshop (see Section 3.4.1 above). As a minimum, EWMS will be prepared for the following activities:

- Working platforms in or adjacent to waterways
- Temporary waterway crossings
- Site compound establishment
- Public road accesses and managing mud tracking
- Batch plant establishment and operation
- Managing runoff from concrete curing processes
- Clearing and grubbing
- Sediment basin design, construction and management
- Dewatering and pumping operations
- Piling
- Blasting
- Excavation and management of acid sulfate soils
- Excavation and management of contaminated soils
- Stockpile Management.

The EWMS will include at least the following elements:

- Description of the work activity, including any plant and equipment to be used
- Outline of the sequence of tasks for the activity, including interfaces with other construction activities and project stakeholders

- Identification of any environmental and/or socially sensitive areas, sites or places
- Identification of potential environmental risks/impacts due to the work activity
- Mitigation measures to reduce the identified environmental risk, including assigned responsibilities to site management personnel
- Process for assessing the performance of the implemented mitigation measures.

All construction personnel and sub-contractors undertaking a task governed by an EWMS must participate in training on the EWMS and acknowledge that they have read and understood their obligations by signing an attendance record prior to commencing work.

Regular ongoing monitoring, inspections and auditing of compliance with the EWMS will be undertaken by Project management and environmental personnel to ensure that all controls are being followed and that any non-compliances are recorded and corrective actions implemented.

A register of EWMS will be maintained, as discussed in Section 10.

4.1.6 SENSITIVE AREA PLANS

The project traverses a diversity of environmentally sensitive areas. To assist pre-construction planning and on-site construction management, site constraints associated with environmentally sensitive areas are consolidated on the Coffs Harbour Bypass Environmental Portal, a GIS based mapping platform that shows the entire project area. Sensitive area mapping includes information pertaining, but not limited to:

- The project design
- Noise and vibration sensitive receivers e.g., Residential dwellings, educational institutions
- Aboriginal and non-Aboriginal heritage sites, including items, places, objects and sites
- Flora features, including plant community types, threatened species and endangered ecological communities
- Fauna habitat areas and recorded threatened fauna sightings and habitat
- Known site conditions including acid sulfate soils and soil pathogens
- Local waterways
- Exclusion zones
- National Parks / Nature Reserves.

Sensitive Area Plans will be developed using the Project GIS platform, this will allow plans to be developed for location specific areas for use. Additionally, this functionality will enable Project personnel to access the GIS in real time while in the field. Further assisting project planning and compliance. Plots of environmentally sensitive areas will be made available on request to field staff as hard copies.

The mapping is a working element of the CEMP and will be revised throughout construction to reflect true ground conditions and the most up-to-date information available on sensitive sites. Sensitive area plans will be used in conjunction with EWMS to help identify key risk areas and to promote ongoing risk assessment and communication to construction personnel during the project. An indicative Sensitive Area Plan is included in Appendix A4.

4.1.7 PROGRESSIVE EROSION AND SEDIMENT CONTROL PLANS

Progressive Erosion and Sediment Control Plans (PESCPs) are planning documents that clearly show the site layout and the approximate location of erosion and sediment control structures onsite. They cover all construction stages from initial vegetation clearing through to rehabilitation when erosion and sediment control are no longer required and are removed. PESCPs will be developed and implemented across the project where there is a risk of erosion and sediment loss.

PESCPs may be produced in conjunction with EWMS to provide more detailed site-specific environmental mitigation measures.

PESCPs will be developed by suitably qualified environment staff in consultation with the superintendent, site engineers, foreman and other relevant site personnel, as required. All PESCPs are to be prepared in accordance with the Blue Book - Managing Urban Stormwater: Soils and construction - Volume 2D. The FGJV Environment and Sustainability Manager (or delegate) will approve PESCPs in consultation with the

Project Soil Conservationist in the first instance. Minor changes thereafter will be approved by environment staff in consultation with the FGJV Environmental and Sustainability Manager, as required.

PESCPs will be developed for all work areas prior to commencing activities and maintained for currency throughout the duration of the works, until site stabilisation has been achieved and there is low risk of erosion and sediment loss.

4.1.8 SYSTEM PROCEDURES, FORMS AND OTHER DOCUMENTS

The project EMS, procedures, forms and other documents provide instructions and records related to both environmental and non-environmental activities throughout the project.

Project specific procedures will be developed in accordance with the requirements for the project. Where applicable, existing contractor procedures and work instructions will be applied or amended for use on the project.

A register of relevant environmental procedures and forms will be maintained as discussed in Section 10.

4.2 RESOURCES, RESPONSIBILITIES AND AUTHORITY

4.2.1 KEY PERSONNEL

The key environmental management roles and responsibilities for the construction phase of the project are depicted in Figure 3 as an organisational chart and described in Table 4-3.

While role titles and adjustments are likely to occur during the different phases of the Project, for example splitting the Project into smaller zones for separate management when major construction is underway, this structure will be generally applied.

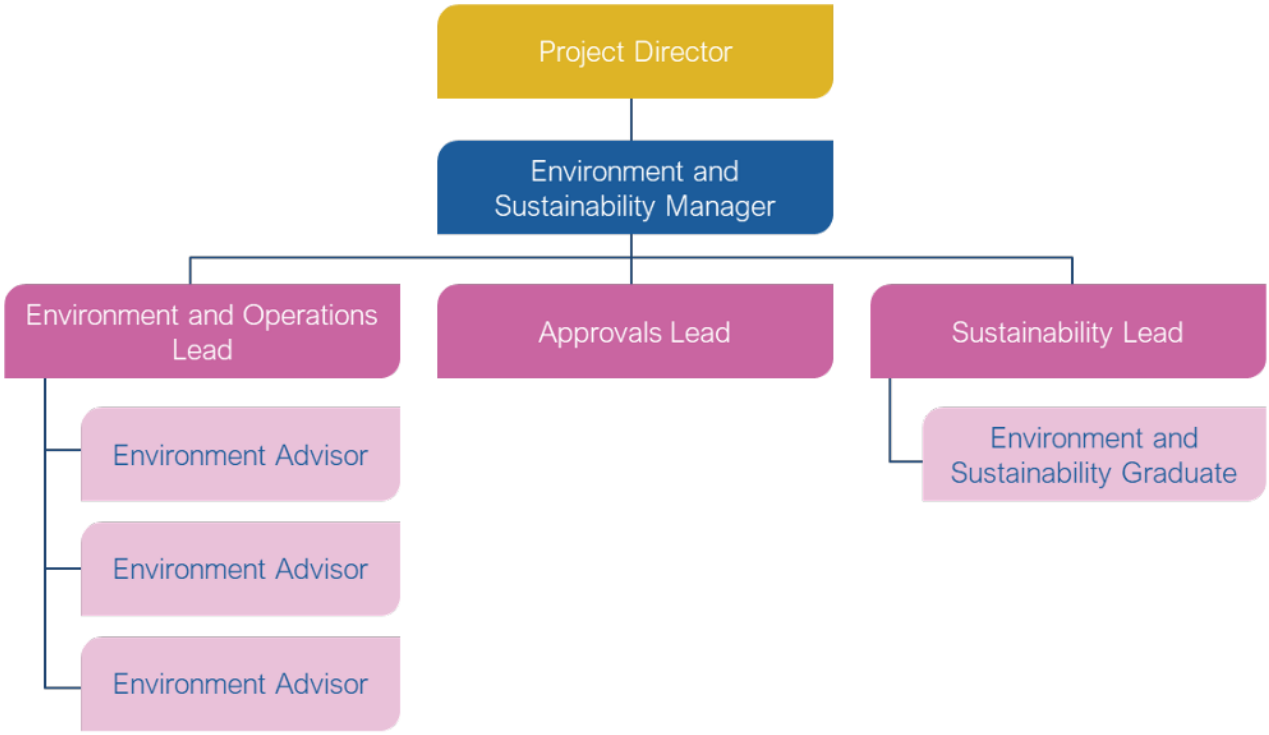


FIGURE 3 INDICATIVE PROJECT ORGANISATIONAL CHART (ENVIRONMENT AND SUSTAINABILITY)

TABLE 4-3 FGJV ROLES, RESPONSIBILITIES AND AUTHORITIES

Title	Roles, responsibilities and authorities relevant to this plan
FGJV Project Director	• Ensure all works comply with relevant regulatory and project requirements • Ensure the requirements of this CEMP are fully implemented, and in particular, that environmental requirements are not secondary to other construction requirements • Endorse and support the project environmental policy attached as Appendix A3 • Liaise with TfNSW, Environmental Representative and other government authorities as required • Participate and provide guidance in the regular review of this CEMP and supporting documentation • Provide adequate resources (personnel, financial and technological) to ensure effective development, implementation and maintenance of this CEMP • Ensure that all personnel receive appropriate induction training, including details of the environmental and community requirements • Ensure that complaints are investigated to ensure effective resolution • Stop work immediately if an unacceptable impact on the environment is likely to occur.
FGJV Construction Manager	• Plan construction works in a manner that avoids or minimises impact to environment • Ensure the requirements of this CEMP are fully implemented • Ensure construction personnel manage construction works in accordance with statutory and approval requirements • Support the FGJV Environment and Sustainability Manager in achieving the project environmental objectives • Ensure environmental management procedures and protection measures are implemented • Ensure all project personnel attend an induction prior to commencing works • Liaise with TfNSW, Environmental Representative and other government authorities as required • Stop work immediately if an unacceptable impact on the environment is likely to occur.
FGJV Superintendent	• Communicate with all personnel and sub-contractors regarding compliance with the CEMP and site-specific environmental issues • Ensure all site workers attend an environmental induction prior to the commencement of works • Co-ordinate the implementation of the CEMP • Co-ordinate the implementation and maintenance of pollution control measures • Identify resources required for implementation of the CEMP • Support the FGJV Environment and Sustainability Manager in achieving the project environmental objectives, including on ground implementation of the EWMS and ESCP • Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the FGJV Environment and Sustainability Manager / Environmental Officers • Co-ordinate action in emergency situations and allocate required resources • Stop activities where there is an actual or immediate risk of harm to the environment and advise the Construction Manager and FGJV Environment and Sustainability Manager.
FGJV Environment and Sustainability Manager	• Overall responsibility for the implementation of environmental matters on the project • Development, implementation, monitoring and updating of the CEMP and sub plans in accordance with ISO14001 • Report to Project Manager and other senior managers on the performance and implementation of the CEMP • Ensure management reviews of the CEMP are undertaken annually, documented and actions implemented • Ensure environmental risks of the project are identified and appropriate mitigation measures implemented • Identify where environmental measures are not meeting the targets set and where improvement can be achieved • Ensure environmental protocols are in place and managed • Ensure environmental compliance • Obtain and update all environmental licences, approvals and permits as required

Title	Roles, responsibilities and authorities relevant to this plan
	• Liaise with Environmental Representative, Acoustics Advisor, approval and regulatory authorities and arrange Environmental Risk Workshops and planning sessions • Manage environmental document control, reporting, inductions and training • Manage environmental reporting within the project team and to the TfNSW and regulatory authorities • Preparing reports on a monthly basis outlining the Project Works undertaken and the achievements that have been met, as well as identifying those areas where improvements were made • Oversee site monitoring, inspections and audits and EWMS preparation • Manage all subcontractors and consultants with regards to environmental matters, including assessing their environmental capabilities and overseeing the submission of their environmental documents • Prepare and/or distribute environment awareness notes • Review and approve PESCPs • Develop and facilitate induction, toolbox talks and other training programs regarding environmental requirements for all site personnel • Notify TfNSW and relevant authorities in the event of an environmental incident and manage close-out of these • Stop activities where there is an actual or immediate risk of harm to the environment, or to prevent environmental non-conformities, and advise the Project Manager, Construction Manager and Superintendent • Assist the Communications Manager to resolve environment-related complaints.
FGJV Environmental Advisor/Officer/Coordinator	• Assist in preparing the CEMP (including any future revisions) in accordance with all relevant requirements • Develop PESCPs in consultation with the Superintendent, Site Engineers, Foreman and other relevant site personnel, as required • Undertake site inspections, carry out monitoring activities and complete site checklists • Ensure monitoring records are appropriately maintained, reviewed and any non-compliance issues addressed • Manage the day-to-day environmental elements of construction • Record and provide written reports to the FGJV Environment and Sustainability Manager of non-compliances or corrective actions with the CEMP. This may include the need to implement additional, or revise existing, mitigation measures • Assist in identifying environmental risks • Advise the FGJV Environment and Sustainability Manager and FGJV Construction Manager of the need to stop work immediately if an unacceptable impact on the environment is likely to occur or to require other reasonable steps to be taken by the Construction Manager or site construction staff to avoid or minimise impacts • Provide reports to the FGJV Environment and Sustainability Manager on any major issues resulting from the project • Assist all site staff with issues concerning Project environmental matters • Assist in developing training programs regarding environmental requirements and deliver where required, including delivery of the environmental component of toolbox talks • Stop activities where there is an actual or immediate risk of harm to the environment and advise FGJV's Project Manager, Construction Manager, Superintendent and Environment and Sustainability Manager.
FGJV Stakeholder and Communications Manager	• Ensure that all community consultation activities are carried out in accordance with the Community Consultation Strategy • Report any environmental issues to the FGJV Environment and Sustainability Manager raised by stakeholders or members of the community • Communicate general project progress, performance and issues to stakeholders including the community • Maintain the 24 hour complaints hotline • Maintain the records relating to community and stakeholder consultation and interaction.
FGJV Project/Site Engineers	• Provide input into the preparation of environmental planning documents as required • Ensure that instructions are issued and adequate information provided to employees that relate to environmental risks on-site

Title	Roles, responsibilities and authorities relevant to this plan
	• Ensure that the works are carried out in accordance with the requirements of the CEMP and supporting documentation, including the implementation of all environmental controls • Identify any environmental risks • Identify resource needs for implementation of CEMP requirements and related documents • Ensure that complaints are investigated to ensure effective resolution • Take action in the event of an emergency and allocate the required resources to minimise the environmental impact • Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the FGJV Superintendent and FGJV Environment and Sustainability Manager.
FGJV Foreman	• Undertake any environmental duties as defined by the Superintendent or Project/Site Engineer • Control field works and implement/maintain effective environmental controls • Where required, undertake environmental risk assessment of works prior to commencement • Ensure site activities comply with EWMS and PESCPs and relevant records are kept • Ensure all site workers are site inducted prior to commencement of works • Attend to any spills or environmental incidents that may occur on-site • Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Superintendent • Stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Manager, Construction Manager, Superintendent or FGJV Environment and Sustainability Manager.
Wider FGJV Project Team (including subcontractors)	• Comply with the relevant requirements of the CEMP, or other environmental management guidance as instructed by a member of the Project's management • Participate in the mandatory project/site induction program • Report any environmental incidents to the foreman immediately or as soon as practicable if reasonable steps can be adopted to control the incident • Undertake remedial action as required to ensure environmental controls are maintained in good working order • Stop activities where there is an actual or immediate risk of harm to the environment and advise FGJV's Project Manager, Construction Manager, Superintendent or Environment and Sustainability Manager.

4.2.2 TRANSPORT FOR NEW SOUTH WALES

TfNSW is the Proponent under the EP&A Act with ultimate responsibility for compliance with the Planning Approval.

The TfNSW Environment Team will ensure compliance with the Project Planning Approval obligations held by TfNSW. The key environmental management roles and responsibilities for TfNSW during the construction phase of the project are described in Table 4-4.

TABLE 4-4 TFNSW ROLES, RESPONSIBILITIES AND AUTHORITIES

Title	Roles, responsibilities and authorities relevant to this plan
TfNSW Deputy Project Director	• Effective interface management for the resolution of complex project issues and challenges • Manage the environmental aspects of the project and working closely with TfNSW Environment Manager.
TfNSW Environmental Manager	• Review any environmental management plans and related documents prepared for the project • Review and consider minor project refinements that are consistent with the project EIS in accordance with the TfNSW Division 5.2 Environmental Assessment Procedure • Monitor the environmental performance of the project in relation to TfNSW requirements • Provide guidance and where appropriate, monitor compliance with DPE post approval document submission requirements.

Title	Roles, responsibilities and authorities relevant to this plan
TfNSW Environmental Officer	• Monitor, evaluate and advise on compliance with TfNSW and DPE environmental requirements • Review and approve any environmental management plans for the project or related activities that are not required to be approved by DPE.

4.2.3 REGULATORY AND OTHER KEY STAKEHOLDERS

4.2.3.1 ENVIRONMENTAL REPRESENTATIVE

The Environmental Representative (ER) is approved by the Planning Secretary and engaged TfNSW. The ER was not involved in development of the Planning Approval documents (including the EIS) and is independent of the design and construction personnel. The roles and responsibilities of the ER has been described in Table 4-5.

TABLE 4-5 ROLES AND RESPONSIBILITIES OF THE ENVIRONMENTAL REPRESENTATIVE

Title	Roles and responsibilities
Environmental Representative	The environmental responsibilities of the Environmental Representative are detailed in MCoA A25 and include, but are not limited to, the following: • Receive and respond to communication from the Planning Secretary in relation to the environmental performance of the CSSI; • Consider and inform the Planning Secretary on matters specified in the terms of this approval; • Consider and recommend to the Proponent any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community; • Review documents identified in Conditions A9, A15, C1, C4 and C13 and any other documents that are identified by the Planning Secretary, to ensure they are consistent with requirements in or under this approval and if so; • Make a written statement to this effect before submission of such documents to the Planning Secretary (if those documents are required to be approved by the Planning Secretary); or • Make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Planning Secretary/Department for information or are not required to be submitted to the Planning Secretary/Department); • Regularly monitor the implementation of the documents listed in Conditions A9, A15, C1, C4 and C13 to ensure implementation is being carried out in accordance with the document and the terms of this approval; • As may be requested by the Planning Secretary, help plan, attend or undertake audits of the development commissioned by the Department including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under Condition A34 of this approval; • As may be requested by the Planning Secretary, assist the Department in the resolution of community complaints; • Assess the impacts of minor ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities as required by Condition A17 of this approval; and • Consider any minor amendments to be made to the CEMP, CEMP Sub-plans and monitoring programs that comprise updating or are of an administrative nature and are consistent with the terms of this approval and the CEMP, CEMP Sub-plans and monitoring programs approved by the Planning Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of this approval; • Prepare and submit to the Planning Secretary and other relevant regulatory agencies, for information, an Environmental Representative Monthly Report providing the information set out in the Environmental Representative Protocol under the heading “Environmental Representative Monthly Reports.” The Environmental Representative Monthly Report must be submitted within seven days following the end of each month for the duration of the ER’s engagement for the CSSI.

4.2.3.2 ACOUSTICS ADVISOR

The Acoustics Advisor (AA) is approved by the Planning Secretary and engaged by TfNSW. The AA is independent of the design and construction personnel.

The role of the AA is to oversee compliance and provide independent noise and vibration advice in accordance with the Planning Approval. The roles and responsibilities of the AA has been described in Table 4-6.

TABLE 4-6 ROLES AND RESPONSIBILITIES OF THE ACOUSTICS ADVISOR

Title	Roles and responsibilities
Acoustics Advisor	The environmental responsibilities of the Acoustics Advisor are detailed in MCoA A30 and include, but are not limited to, the following: • Receive and respond to communication from the Planning Secretary in relation to the performance of the CSSI in relation to noise and vibration; • Consider and inform the Planning Secretary on matters specified in the terms of this approval relating to noise and vibration; • Consider and recommend, to the Proponent, improvements that may be made to avoid or minimise adverse noise and vibration impacts; • Review all noise and vibration documents required to be prepared under the terms of this approval and, should they be consistent with the terms of this approval, endorse them before submission to the Planning Secretary (if required to be submitted to the Planning Secretary) or before implementation (if not required to be submitted to the Planning Secretary); • Regularly monitor the implementation of all noise and vibration documents required to be prepared under the terms of this approval to ensure implementation is in accordance with what is stated in the document and the terms of this approval; • Notify the Planning Secretary of noise and vibration incidents in accordance with Condition A39 of this approval; • In conjunction with the ER, the AA must: a) as may be requested by the Planning Secretary, help plan, attend or undertake audits of noise and vibration management of the CSSI including briefings, and site visits; b) in the event that conflict arises between the Proponent and the community in relation to the noise and vibration performance of the CSSI, follow the procedure in the Community Communication Strategy approved under Condition B2 to attempt to resolve the conflict, and if it cannot be resolved, notify the Planning Secretary; c) consider relevant minor amendments made to the CEMP, relevant sub-plans and noise and vibration monitoring programs that require updating or are of an administrative nature, and are consistent with the terms of this approval and the management plans and monitoring programs approved by the Planning Secretary and, if satisfied such amendment is necessary, endorse the amendment, (this does not include any modifications to the terms of this approval); and d) prepare and submit to the Planning Secretary and other relevant regulatory agencies, for information, a Monthly Noise and Vibration Report detailing the AA's actions and decisions on matters for which the AA was responsible in the preceding month. The Monthly Noise and Vibration Report must be submitted within seven (7) days following the end of each month for the duration of the AA's engagement for the CSSI.

4.2.3.3 ENVIRONMENT PROTECTION AUTHORITY

The NSW Environment Protection Authority (NSW EPA) has powers under a range of legislation and is the agency primarily responsible for administering the POEO Act. The Project will require an environmental protection licence (EPL) [Pending] as the construction activities are consistent with those defined. As part of the approved EPL, FGJV are required to:

- Work closely with the EPA to obtain and hold an EPL for the works
- Notify the EPA in the event of an incident in accordance with relevant legislation and this plan
- Report to the EPA as required by the EPL
- Provide access to the site as reasonably required.

4.2.4 SPECIALIST CONSULTANTS

A number of specialist environmental consultants will support FGJV to provide expert advice and assistance in developing and delivering the CEMP and Sub-plans. Proposed consultants will include those outlined in Table 4-7. If required, FGJV will seek expert advice from additional expert consultants during the delivery of the works.

TABLE 4-7 SPECIALIST ENVIRONMENTAL CONSULTANTS REQUIRED

Environmental Aspect	Area of advice, as required
Contamination	Detailed Site Investigations Remediation Action Plans Validation Reports
EPA Accredited Auditor	Auditing in accordance with the *Contaminated Land Management Act 1997* (CLM Act)
Noise and Vibration	Noise and Vibration Management
Archaeology	Aboriginal and non-Aboriginal Archaeology
Built Heritage	Heritage Management
Ecology	Flora and Fauna Management
Creek Restoration	Creek restoration / naturalisation

4.2.5 SELECTION AND MANAGEMENT OF SUBCONTRACTORS

The FGJV Environment and Sustainability Manager, or delegate, will participate in the tender assessment and selection process where appropriate in consideration of environmental risks.

All sub-contractors are required to work in accordance with the approved CEMP and associated EWMS.

All sub-contractors are required to attend project and/or site inductions where the requirements and obligations of the CEMP are communicated. A record of all sub-contractors inducted will be maintained as part of the project induction and training register.

A standard monitoring form will be developed that will be used to assess:

- The sub-contractor's general work practices
- The effectiveness of the sub-contractor's environmental protection measures
- The sub-contractor's compliance with the requirements of this CEMP
- The maintenance of environmental measures.

All environmental documentation submitted by contractors will be subject to review and approval by the FGJV Environment and Sustainability Manager to ensure compliance with TfNSW contract requirements and Project approval conditions and requirements before works may begin.

Environmental requirements and responsibilities are to be specified to sub-contractors in the contract documentation. As part of the selection process, consideration will also to be given to their past environmental performance.

5 COMPETENCE, TRAINING AND AWARENESS

To ensure that this CEMP is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are aware of the requirements of this CEMP. The FGJV Environment and Sustainability Manager will coordinate the environmental training in conjunction with other training and development activities.

5.1 ENVIRONMENTAL INDUCTION

All personnel (including sub-contractors) are required to attend a compulsory site induction that includes a cultural component and an environmental component prior to commencement on-site. This is done to ensure all personnel involved in the project are aware of the project culture, requirements of the CEMP, and to ensure the implementation of REMMs, MCoA and other relevant project requirements.

Short-term visitors to site undertaking inspections / entering the site (such as regulators) will be required to undertake a visitors induction and be accompanied by inducted personnel at all times.

Temporary visitors to site for purposes such as deliveries will be required to be accompanied by inducted personnel at all times.

The FGJV Environment and Sustainability Manager (or delegate) will conduct the environmental component of the site inductions.

The environmental component of the induction must cover all relevant elements of the CEMP and would include as a minimum:

- Relevant details of the CEMP including purpose and objectives
- Requirements of due diligence and duty of care
- Identify the importance of compliance with conditions of environmental licences, permits and approvals
- Potential environmental emergencies on site and the emergency response procedures
- Reporting and notification requirements for pollution and other environmental incidents
- Environmentally high risk activities and associated environmental safeguards, or where these safeguards are to be included (ie EWMS)
- Working in or near environmentally sensitive areas
- Aboriginal and non-Aboriginal heritage management requirements
- Specific environmental management requirements and responsibilities
- Examples of mitigation measures for the control of environmental issues, and how specific measures will be communicated
- Incident response and reporting requirements
- The existence of EWMS for high-risk activities and compliance obligations
- Information relating to the location of environmental constraints and associated sensitive area mapping resources.
- Key environmental issues.

A record of all environment inductions will be maintained and kept on-site. The FGJV Environment and Sustainability Manager may authorise amendments to the induction at any time. Possible reasons for changes to the induction may be project modifications, legislative changes or amendments to this CEMP or related documentation.

The Environmental Representative will review and approve the induction program (where required) and monitor implementation.

5.2 TOOLBOX TALKS, TRAINING AND AWARENESS

Toolbox talks will be one method of raising awareness and educating personnel on issues related to all aspects of construction including environmental issues. The toolbox talks are used to ensure environmental awareness continues throughout construction.

Toolbox talks will include details of EWMSs for relevant personnel. Toolbox talks will also be tailored to specific environmental issues relevant to upcoming works.

Relevant environmental issues may include (but are not limited to):

- Erosion and sedimentation control
- Hours of work
- Emergency and spill response
- Aboriginal and non-Aboriginal heritage
- Threatened species, endangered ecological communities, clearing controls and vegetation protection
- Weed management
- Dust control.

Toolbox attendance is mandatory for relevant project personnel and attendees of toolbox talks are required to sign an attendance form and the records maintained.

TABLE 5-1 POTENTIAL ENVIRONMENTAL TOOLBOX TALKS

Aspect	Training Inclusion	Personnel Required	Timing/Frequency/ Means
Emergency Spill Response	• Use/location of spill kits • Spill control • Emergency response procedures • Identify hydraulic hose fatigue	Construction Personnel	Project Toolbox Talks
Incident Management and Reporting	• Incident Management and Reporting Procedure	Construction Personnel	Project Toolbox Talks
Noise and Vibration Management	• The management of noise impacts • Out-of-Hours Work Protocols • High noise generating activities	Project engineers responsible for the implementation of noise and vibration mitigation measures	Prior to the commencement of activities with the potential for high noise impacts on sensitive receivers
Blue Book Training	• Erosion and sediment control training	Relevant Construction Personnel	Prior to commencement of bulk earthworks
Heritage Management	• The management of heritage impacts • Unexpected finds	Construction Personnel	Project Toolbox Talks
Flora and Fauna Management	• The management of flora and fauna impacts • Unexpected threatened species finds procedure • No-go Zones • Vegetation clearing procedure	Construction Personnel	Project Toolbox Talks
Air Quality Management	• The management of air quality impacts	Construction Personnel conducting dust generating activities	Prior to the commencement of activities with the potential for dust generation
Soil and Water Management	• Erosion and sediment controls • Acid sulfate soil management • Unexpected, contaminated land and asbestos finds procedure • Construction site water reuse and dewatering procedure	Construction Personnel	Project Toolbox Talks
Waste Management	• The management of waste • Waste recording and reporting • Waste classification • Stockpile management	Construction Personnel	Project Toolbox Talks
Spoil Management	• The management of spoil • Spoil recording and reporting • Spoil classification • Stockpile management	Construction Personnel	Project Toolbox Talks

Aspect	Training Inclusion	Personnel Required	Timing/Frequency/ Means
Visual Amenity Management	• The management of visual amenity impacts • Light spill management • Stockpile management	Construction Personnel	Project Toolbox Talks

5.3 TRAINING NEEDS ANALYSIS

Targeted environmental awareness training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact. Topics covered may include those detailed above, or others deemed necessary in the lead up to or during construction.

Another way to inform construction personnel will be through the development and distribution of awareness notes. These will typically take the form of a poster, booklet, or similar and will be distributed to engineers, leading hands, foreman and others with a responsibility for managing specific work locations or activities. This documentation will be used to inform the broader workforce through either daily pre-starts meeting or provision in worker crib sheds / break facilities.

A Training Register is to be maintained by the FGJV.

An Environmental Training Needs Analysis has been undertaken by the FGJV Environment and Sustainability Manager and the Workforce Development Manager during the CEMP planning phase. The analysis included an assessment of training skill level required and the potential for any gaps between required knowledge and actual knowledge levels. The analysis will inform a Project wide Training Management Plan. It will be particularly useful in identifying the need for target environmental awareness training across the project.

For each key environmental risk, relevant training requirements have been identified. An indicative training matrix (Table 5-2) has been prepared listing all roles that hold environmental responsibility as detailed in this CEMP, against training requirements based on the environmental aspect that that role would encounter as part of its activities on this project. The matrix specifies the minimum training requirements for each role, it outlines all training courses or events and the frequency of that training. This matrix will be managed and updated throughout the Project to capture new training requirements, in a process to be managed outside the scope of this CEMP.

The Workforce Development team along with the Environmental team will schedule and coordinate the training to be delivered to the identified team members as outlined in the training matrix.

The above teams will co-manage the matrix, including revisions as appropriate, and update completion against the identified workforce participants. Participants will be sent calendar invites to notify them of the training, and attendance will be recorded within the Workforce Development records keeping system. Upon attendance, the matrix will be updated to reflect the training has been completed and training records will be maintained. The matrix will be reviewed on an ongoing basis to ensure people who were unable to attend and any new starters are captured and invited to the next session.

Personnel performing tasks that can cause significant environmental impacts will be selected on competency based on education, training and experience. All employees will receive suitable environmental induction/training to ensure that they are aware of their responsibilities and are competent to carry out the work. Environmental requirements will be explained to employees during site induction and on-going training via toolbox meetings, briefings, notifications and the like.

TABLE 5-2 INDICATIVE TRAINING NEEDS ANALYSIS

Training Topic / Course	Personnel															
	Project Director	Senior Managers	Superintendent	Engineers	Safety	Traffic Engineers	Quality Systems & Digital	Environmental	Sustainability	Community Stakeholder & Engagement	Site Foreman / Supervisor	Leading Hands	Labourers	Subcontractors	Design	Administration
Project induction	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
CEMP onboarding	X	x	x	x	x	x	x	x	x	x	x					
Project approvals, licences, obligations and requirements	X	x	x	x	x	x	x	x	x	x	x				x	
Out of hours works approvals and permit processes and requirements	X	x	x	x	x	x	x	x	x	x	x	x		x		
Dewatering of sediment control basins / water treatment plants			X	x				x	X		x	x	x	x		
Environmental incident identification, response and management	X	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Noise and vibration monitoring				x				x	x	x						
Water treatment plant monitoring, alarms and response			x	x				x	x		x	x				
Environmental management obligations and due diligence	X	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Erosion and Sediment Control – Blue Book								x								
Practical erosion and sediment control for the workforce			x	x				x	x		x	x	x	x		
Acid sulfate soils management for construction sites			x	x				x	x		x	x	x	x		
Environmental sampling techniques								x				x				
Unexpected finds procedure and asbestos awareness	X	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
ICAM or similar incident investigation training								x								
ISAP – Infrastructure Sustainability Assessment Practitioner									x							
Complaints and Inquiries Management	X	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

5.4 DAILY PRE-START MEETINGS

The pre-start meeting is a tool for informing the workforce of the day's activities, safe work practices, environmental protection practices, work area restrictions, activities that may affect the works, coordination issues with other trades, hazards and other information that may be relevant to the day's work.

The Foreman will conduct a daily pre-start meeting with the site workforce before the commencement of work each day (or shift) or where changes occur during a shift. Daily pre-start meetings are generally succinct in nature and take approximately 10-15 minutes.

The environmental component of pre-starts will be determined by relevant foreman and environmental personnel and will include any environmental issues that could potentially be impacted by, or impact on, the day's activities. All attendees will be required to sign on to the pre-start and acknowledge their understanding of the issues explained.

Pre-start topics, dates delivered and a register of attendees will be recorded.

5.5 WORKING HOURS

Approved Standard Construction Hours

Approved standard construction working hours for normal construction works on this project in accordance with MCoA E32 are:

(a) 7:00am to 6:00pm Mondays to Fridays, inclusive;
(b) 8:00am to 1:00pm Saturdays; and
(c) at no time on Sundays or public holidays.

Approved Hours for Blasting Operations

Approved working hours for blasting operations on this project in accordance with MCoA E54 are:

(a) 9:00am to 5:00pm, Monday to Friday, inclusive;
(b) 9:00am to 1:00pm on Saturday;
(c) at no time on Sunday or public holidays; and
(d) 7:00 am to 6:00 pm, Mondays to Fridays, inclusive, for work required for the Roberts Hill, Shephard's Lane and Gately's Road tunnels.

Blasting may be undertaken outside the above hours where:

(a) no sensitive receivers would be impacted by blasting; or
(b) an agreement has been made with potentially affected receivers.

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

Approved Hours for Tunnelling Works

Tunnelling works may be undertaken 24 hours per day, seven days per week at the Roberts Hill, Shephard's Lane and Gately's Road tunnel sites once portal acoustic sheds and/or acoustic curtains have been installed in accordance with MCoA E33:

(a) tunnelling (does not include cut and cover tunnelling);
(b) work within an acoustic shed/curtain; and
(c) tunnel fit out work.

Approved Construction Hours for Highly Noise Intensive Work

MCoA E38 prescribes restriction on certain activities likely to result in noise impacts to sensitive receivers, Highly Noise Intensive Work defined as annoying under the Interim Construction Noise Guideline (DECC, 2009) including:

- Use of power saws, such as used for cutting timber, rail lines, masonry, road pavement or steel work;
- Grinding metal, concrete or masonry;

- Rock drilling;
- Line drilling;
- Vibratory rolling;
- Bitumen milling or profiling;
- Jackhammering, rock hammering or rock breaking; and
- Impact piling.

Except as permitted by an EPL, highly noise intensive work that result in an exceedance of the applicable NML at the same receiver must only be undertaken:

(a) between the hours of 8:00am to 6:00pm Monday to Friday;
(b) between the hours of 8:00am to 1:00pm Saturday; and
(c) if continuously, then not exceeding three (3) hours, with a minimum cessation of work of not less than one (1) hour.

For the purposes of this condition, 'continuously' includes any period during which there is less than one (1) hour between ceasing and recommencing any of the work.

Refer to the Construction Noise and Vibration Management Plan (Appendix B3) and Out of Hours Work Protocol for full details of project working hours and the assessment and approval process for variation to working hours.

6 COMMUNICATION

6.1 INTERNAL COMMUNICATION

Internal stakeholders include FGJV employees/staff and subcontractors. General internal communication methods will depend on the urgency and nature of the information and include:

- Toolbox talks, employee inductions, and subject specific training
- Management reports
- Site inspection reports, audit reports and incident reports
- Noticeboards, notifications and alerts
- Site meetings and briefings.

Clear lines of communication throughout all levels and functions (eg management, staff and sub-contracted service providers), is key to minimising environmental impacts and achieving continual improvements in environmental performance.

The FGJV Environment Team meet regularly to discuss any issues with environmental management on-site, any amendments to plans that might be required or any new / changes to construction activities.

Regular meetings may also be scheduled with the Environmental Representative and relevant TfNSW environmental staff. The purpose of these meetings would be to communicate ongoing environmental performance and to identify any issues to be addressed.

In addition, the FGJV Environment Team will participate in toolbox talks on at least a weekly basis. This forum will provide an opportunity for the environment team members to communicate on environmental performance, to advise on any upcoming sensitive environmental matters for future work areas and to receive feedback from on-site personnel.

Further internal communications regarding environmental issues and aspects will be through awareness training as described in Section 5.2.

6.2 LIAISON WITH EPA, GOVERNMENT AUTHORITIES OR OTHER STAKEHOLDERS

The FGJV Environment and Sustainability Manager has the responsibility to report on the ongoing environmental performance of the Project to TfNSW, the Environmental Representative and EPA. The FGJV Environment and Sustainability Manager will report regularly to Transport for NSW on progress and any key environmental matters and to the EPA through monthly EPL reports.

The FGJV Project Manager and the FGJV Environment and Sustainability Manager are 24-hour contacts. They have the authority to halt the progress of the works if necessary. They are the key emergency response personnel during an environmental site emergency.

The FGJV Environment and Sustainability Manager is the authorised contact person for communications with the client and the EPA on environmental matters.

In accordance with TfNSW G36 Specification, a report will be prepared on each occasion the site is visited by EPA, and the TfNSW will be immediately notified. The report will be provided to TfNSW within one working day of the visit.

Other external stakeholder consultation is required as follows:

- Where relevant, consultation would be undertaken with proponents of other nearby developments to increase the overall awareness of project timeframes and impacts (REMM CI01)
- Consultation will be undertaken with Dams Safety NSW during detailed design regarding the potential for parts of the project to be Declared Dams under the Dams Safety Act 2015 (REMM FH13)
- Ongoing consultation with CHCC will be undertaken to identify opportunities to reduce temporary construction impacts on the operation of Coffs Coast Resource Recovery Park (REMMSE06)

- Consultation with CHCC will be undertaken during detailed design regarding the West Coffs Investigation Area to ensure appropriate consideration of the project is provided in any future master-planning (REMM LUP01)

6.3 EXTERNAL STAKEHOLDER AND GOVERNMENT AGENCY SITE INSPECTIONS

Throughout the design and construction of the Project, the FGJV will facilitate regular inspections/site visits from external stakeholders and government agencies. The FGJV will be represented by members of both the environmental management team and the construction team during these inspections/site visits.

6.4 COMMUNITY COMMUNICATION

FGJV has developed a Community Stakeholder Engagement Management Plan (CSMP) that meets the conditions of the MCoA, specifically MCoA B1, B2, B3, B4, and B5 (community communication strategy), B6 (complaints management system) and B9 and B10 (complaints register).

It also refers to sections which require stakeholder consultation such as out-of-hours work protocols (E39), landowner agreement for higher blasting limits (E57 and E58).

This plan builds on the Community Communication Strategy, prepared by TfNSW, and approved by the Planning Secretary during the development of the project, with a focus on construction activities.

In accordance with MCoA B2, The Community Communication Strategy must:

(a) identify people and organisations to be consulted during the design and work phases;
(b) identify community demographics and approaches to address the needs of vulnerable communities;
(c) set out procedures and mechanisms for the regular distribution of accessible information about or relevant to the Project including use of construction hoardings to provide information regarding construction. The information to be distributed must include information regarding current site construction activities, schedules and milestones at each construction site;
(d) identify opportunities and make provision for key stakeholder or community groups to visit construction sites (taking into consideration workplace, health and safety requirements);
(e) provide for the formation of issue or location-based community forums that focus on key environmental management issues of concern to the relevant communities; and
(f) set out procedures and mechanisms:
    (i) through which the community can discuss or provide feedback to the Proponent; and
    (ii) through which the Proponent will respond to enquiries or feedback from the community; and to resolve any issues and mediate any disputes that may arise in relation to construction of the Project, including disputes regarding rectification or compensation.

Community consultation will be required for a number of reasons throughout the duration of construction. The following requirements are specific to community liaison and consultation:

- Impacted structures, eg packing sheds and cropping structures, etc, will be replaced or reconfigured in consultation with affected property owners where feasible (REMM AG03).
- Internal farm access impacted by the project will be reconfigured in consultation with affected property owners where reasonable and feasible (REMM AG04).
- Management of the gravestone of Herbert Frazer Simpson at the intersection of the existing Pacific Highway and James Small Drive will be undertaken in accordance with Roads and Maritime's Factsheet for Roadside Tributes (RTA 2016f). Every effort will be made to contact the family, if known, and work with them to develop an appropriate strategy for reinstallation, relocation or removal. If the family is unknown or cannot contacted, Roads and Maritime would store the gravestone off-site for future recovery if necessary. (REMM SE04)

6.4.1 COMPLAINTS MANAGEMENT

The CSMP meets the requirements of MCoA B6 (complaints management system) and B10 (complaints register).

All community inquiries and complaints related to the construction activities will be referred to the 24-hour community information line (1800 550 621). A postal address (PO Box 541, Grafton, 2460) and email address (via website: www.pacifichighway.nsw.gov.au/coffsharbourbypass) has been provided for receipt of complaints and enquiries. The telephone number, the postal address and the email address was published in newspapers circulating in the local area prior to the commencement of construction and is provided on the project website and project fencing and hoarding prior to the commencement of construction, in accordance with CoA B8.

A Complaints Register must be maintained recording information on all complaints received about the Project during the carrying out of any work and for a minimum of 12 months following the completion of construction, the complaints Register must record the:

(a) number of complaints received;
(b) the date and time of the complaint;
(c) the method by which the complaint was made;
(d) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect
(e) nature of the complaint;
(f) means by which the complaint was addressed and whether resolution was reached, with or without mediation; and
(g) if no action was taken, the reason(s) why no action was taken.

This information will be included in a Communications Register, the information contained within the register will be made available to the Minister on request. In accordance with MCoA A26, the register detailed project complaints will be provided to the ER on a weekly basis, or as requested by the ER.

Attempts will be made to resolve all complaints in accordance with the community engagement strategy. An initial response to complaints will be provided within 24 hours of a complaint being received. A further detailed response, including steps taken to resolve the issue(s) that lead to the complaint, will be provided within 10 days. All complaints will be closed off in the stakeholder database. At all times the stakeholder will be kept informed of when they will receive a response.

The FGJV Environment and Sustainability Manager, in consultation with the ER and AA, will apply an adaptive approach to ensure that corrective actions are applied in consultation with the appropriate construction staff to allow modifications and improvements in the management of any environmental issues resulting in community complaints.

7 EMERGENCY AND INCIDENT PLANNING

In the event of an environmental incident, the TfNSW Environmental Incident Procedure will be implemented. The full procedure is provided in Appendix A5.

The procedure provides the TfNSW approach to:

- Types of incidents.
- Criteria for classifying of environmental incidents
- Processes, and legal requirements (eg Acts, Regulations, EPL), for reporting and notification of an environmental incident.

The procedure covers the management of events such as, but not limited to:

- Spills of fuels, oils, chemicals and other hazardous materials
- Unauthorised discharge from sediment basins or other containment devices
- Potential contamination of waterways or land
- Accidental starting of a fire or a fire breaking out of containment
- Any potential breach of legislation, including a potential breach of a condition of an EPL, MCoA or any agency permit condition
- Unauthorised dumping of waste.

7.1 EMERGENCY PREPAREDNESS AND RESPONSE

The types of environmental emergencies which could occur on this site as outlined in Appendix A5. The client and relevant statutory and regulatory authorities (such as the EPA NSW) will also be informed as necessary.

Environmental emergencies will be handled by:

- Immediately reporting all incidents to the Head of Project / Construction Manager who will assess the situation and manage the following steps:
- Immediately take all reasonable steps to contain further damage or danger to personnel and the environment;
- Inform relevant authorities in accordance with the regulatory requirements;
- Contact emergency service personnel as necessary (e.g., local fire brigade, spill clean-up services, etc). Site emergency response team will also be contacted;
- Provide notification to the Manager, HSEQ, Head of Operations, Executive Director (Australia) and GA Legal counsel immediately via initial internal incident notification;
- Inform the Client's Representative as necessary and in accordance with contractl
- Complete a detailed report of the incident using HSE Incident report form and upload to GAs designated electronic database;
- Liaise with the Client's Representative regarding corrective and preventive actions required and the timeframes within which these actions must occur; and
- The designated personnel will undertake an investigation to determine the corrective and preventive actions.

Information on the handling of hazardous materials is contained in the safety data sheet application, ChemAlert. Emergency Services contact numbers are to be displayed in the main site office.

Further detail on environmental incident management will be described in a Pollution Incident Response Management Plan which is required under the Project EPL [pending]. This document will consolidate the requirements under the EPL, TfNSW and FGJV incident management processes.

7.2 BUSHFIRE MANAGEMENT

A Bushfire Management Plan is required to be prepared Planning for Bush Fire Protection 2006 (Rural Fire Service 2006) and implemented as part of the CEMP as per REMM HZ03. It is noted that this content is not required to be included in the document, but the process must be referenced to ensure implementation is addressed as part of the CEMP.

The Project safety and emergency documentation is considered the appropriate framework for bushfire management and communication. This documentation will include measures to be implemented to manage bushfire risk include:

- Consultation requirements for community notifications in the event of a bushfire
- Emergency notification will be made directly to emergency services. Where time permits, additional notification may be made to immediately adjacent occupiers.
- Maintaining equipment in good working order
- The maintenance of fire safety equipment will be undertaken in accordance with equipment specifications.
- Ensuring plant and equipment are fitted with appropriate spark arrestors, where practicable
- Where appropriate, the requirement for spark arrestors will be included in plant/equipment 'pre-start' checklist.
- Ensuring site workers are informed of the site rules including designated smoking areas and putting rubbish in designated bins
- Designated smoking areas will be signposted at relevant worker facilities (for example, crib hut, lunch area, ablutions). Smoking rules will be communicated through the Project Inductions or other appropriate communications.
- Obtaining hot work permits and implementing total fire bans as required
- The requirement to obtain hot works permits for specific activities will be communicated as part of the Project safety induction.
- Implementing adequate storage and handling requirements for potentially flammable substances in accordance with the relevant guidelines.
- All hazardous and/or flammable materials will be handled in accordance with the relevant Material Safety Data Sheets.

7.3 INCIDENT CLASSIFICATION

All incidents will be classified, notified and reported in accordance with the TfNSW Environmental Incident Procedure (Appendix A5). All incidents will be classified by the FGJV Environment and Sustainability Manager in consultation with the FGJV Project Manager.

The Project Director, Deputy Project Director, Construction Manager and relevant Project Manager will be made aware of the incident as soon as possible.

In the event an actual or potential incident is reported through the Community Complaints line, the Environment Manager will be contacted immediately to respond and investigate.

7.4 INCIDENT NOTIFICATION AND REPORTING

In the event of an incident, FGJV will undertake the notification requirement detailed in Table 7-1.

TABLE 7-1 NOTIFICATION REQUIREMENTS

Notification Requirements	
Report only	*Notifiable*
• Verbally notify TfNSW of incidents immediately, followed by written notification to TfNSW and the ER within 24 hours of the incident • If required, FGJV will notify the EPA and relevant authorities immediately.	• Verbally notify TfNSW of incidents immediately, followed by written notification to TfNSW and the ER within 24 hours of the incident • Notify the EPA and relevant authorities immediately • Prepare an incident notification / non-compliance report and submit to TfNSW and the ER within 48 hours • Prepare an investigation report and submit to TfNSW and the ER within 7 days.

7.4.1 REPORTING PROCEDURE

The Environmental and Sustainability Manager and TfNSW Environment Manager will determine the appropriate classification of the event and required notification requirements. Incident reports will be provided to TfNSW Representative and the Environmental Representative in accordance with the Procedure, including lessons learnt from each environmental incident and proposed measures to prevent the occurrence of a similar incident. All efforts will be undertaken immediately to avoid and reduce impacts of incidents and suitable controls put in place. Incidents will be closed out as quickly as possible, taking all required action to resolve each environmental incident. This notification process is in addition to other regulatory incident reporting requirements, as detailed in following sections.

7.4.2 NSW EPA REPORTING PROCEDURE

The EPA will be notified of any pollution incidents on or around the site via the EPA Environment Line (telephone 131 555) in accordance with Part 5.7 of the Protection of the Environment Operations Act 1997 (NSW) (POEO Act) and any relevant EPL conditions. The circumstances where this will take place include:

- Where the incident involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial; or
- Where the incident results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations).

A Pollution Incident Response Management Plan will be prepared prior to construction in accordance with EPL requirements, this plan will include all reporting requirements.

7.4.3 DPE WRITTEN NOTIFICATION AND REPORTING REQUIREMENTS

In accordance with MCoA A39 and A40, the ER and DPE are to be notified immediately after the project team becomes aware of an incident, the notification requirements from Appendix A of the Project Approval:

1. A written incident notification addressing the requirements set out below must be submitted to the Department via the Major Projects website within seven days after the Proponent becomes aware of an incident. Notification is required to be given under this condition even if the Proponent fails to give the notification required under Condition A39 or, having given such notification, subsequently forms the view that an incident has not occurred.
2. Written notification of an incident must:
   (a) identify the CSSI and application number;
   (b) provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
   (c) identify how the incident was detected;
   (d) identify when the Proponent became aware of the incident;
   (e) identify any actual or potential non-compliance with conditions of approval;
   (f) describe what immediate steps were taken in relation to the incident;
   (g) identify further action that will be taken in relation to the incident; and
   (h) identify a project contact for further communication regarding the incident.
3. Within 30 days of the date on which the incident occurred, the Proponent must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.
4. The Incident Report must include:
   (a) a summary of the incident;
   (b) outcomes of an incident investigation, including identification of the cause of the incident;
   (c) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
   (d) details of any communication with other stakeholders regarding the incident.

The Incident Report will be submitted to the Planning Secretary within 30 days of the incident, and in accordance with the requirements set out in MCoA A44.

For clarity, the State Infrastructure Approval instrument provides the following definitions for incident and material harm, which differ slightly from the TfNSW Incident Classification and Reporting Guideline definition.

“Incident” as defined in the State Infrastructure Approval instrument:

> *An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance.*
>
> “Material Harm” as defined in the State Infrastructure Approval instrument:
>
> *is harm that:*
>
> *(a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial; or*
>
> *(b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding;*
>
> *$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).*

FGJV will maintain and provide all records of the environmental incidents and regulatory action to the TfNSW project team.

8 INSPECTIONS, MONITORING AND AUDITING

Key characteristics of the project operations and activities which have an impact on the environment will be regularly monitored and measured. This may include issue-specific environmental monitoring, recording of information to track performance, monitoring operational controls and level of compliance with objectives and targets.

8.1 ENVIRONMENTAL INSPECTIONS

8.1.1 WEEKLY AND RAINFALL SITE INSPECTIONS

Regular monitoring and inspections will be undertaken in the lead up to, during and following construction. Monitoring and inspections form a fundamental aspect of ongoing project risk analysis and will include, but not be limited to:

- Weekly site inspections are to be undertaken in all project areas with the FGJV Environment and Sustainability Manager, Officer/Coordinator and area Supervisor/Foreman in attendance, action lists are to be produced to address any maintenance issues or additional controls required and compliance with implementation of EWMS and PESCPs reviewed
- Pre rainfall and post rainfall inspections are to be undertaken to evaluate the effectiveness of erosion and sediment controls measures. Pre rainfall inspections are to be triggered by a forecast of 90% probability of 20mm or more, and post rainfall inspections are required following a rain event of 20mm or more within the project area in a 24-hour period. Action lists are to be produced to address any maintenance requirements or additional controls required
- During the initial establishment and operation period of realigned or adjusted waterways, regular inspections will be carried out to ensure effective design of the realignment, these inspections are to be undertaken as part of the rainfall and weekly site inspection process as a minimum or in accordance with the frequency stated in the EWMS prepared for the location specific scope of works.

All environmental inspection reports are to be closed out in the agreed timeframes, actions are to be recorded in an action register and provided to TfNSW upon request. Copies of all reports are to be kept by FGJV with the project records.

If any maintenance and/or deficiencies in environmental controls or in the standard of environmental performance are observed, they will be recorded on the checklist form. Records will also include details of any maintenance required, the nature of the deficiency, any actions required and an implementation priority. Actions will be closed out in accordance with the identified priority and evidence of close out would be kept on file. Refer to the Construction Soil and Water Management Plan for full details of rainfall and erosion and sediment control focussed inspection requirements.

8.1.2 ENVIRONMENTAL REPRESENTATIVE AND TFNSW INSPECTIONS

The Environmental Representative and TfNSW staff will undertake regular inspections of works sites, and in particular critical activities throughout construction of the project. Inspections by the Environmental Representative and TfNSW project staff would typically occur on a weekly or fortnightly basis depending on the complexity and anticipated risks associated with the stage of construction.

A member of the FGJV Environment team will participate in all Environmental Representative TfNSW inspections, and records maintained. Deficiencies and required actions will be analysed and prioritised at the completion of the inspection and timeframes for implementation of corrective actions agreed.

8.1.3 VEGETATION PRE-CLEARING INSPECTIONS

The Threatened Species Management Plan and Biodiversity Management Plan detail the specific requirements that relate to the inspection process to be followed during vegetation clearing works.

8.1.4 PRE-WORK INSPECTIONS

Prior to the commencement of works on each shift, an inspection will be carried out and will include a check of relevant environmental controls and resources required to ensure effective operation and maintenance. Works are not to commence unless inspections are found to be satisfactory. The FGJV Area Supervisor will undertake the inspections.

8.2 ENVIRONMENTAL MONITORING

Monitoring will be undertaken to validate the impacts predicted for the project, to measure the effectiveness of environmental controls and implementation of this CEMP, and to address approval requirements. The monitoring requirements for required aspects are included in the relevant environmental management sub plans and summarised in Table 8-1 below.

TABLE 8-1 SUMMARY OF CONSTRUCTION PHASE ENVIRONMENTAL MONITORING REQUIRED BY THE PROJECT APPROVAL

MCoA	Required Construction Monitoring Programs	Relevant sub-plans
C13	Air quality Monitoring Program	CAQMP
	Noise and Vibration Monitoring Program	CNVMP
	Surface & Ground Water Quality Program	CSWMP

The results of monitoring will be reviewed by the FGJV Environment Manager (or Coordinator as delegated) to identify any potential non-compliances or results that indicate nuisance, environmental harm or in relation to community complaints.

The Construction Monitoring Programs, as the ER has endorsed, including any minor amendments approved by the ER, will be implemented for the duration of construction and for any longer period set out in the monitoring program or specified by the ER, whichever is the greater.

Real-time monitoring will be in place for all surface construction sites. This will include SiteHive equipment, which monitors dust, noise and vibrational emissions.

The results of any monitoring undertaken as a requirement of a license or permit that is required to be published, will be published on the project website within 14 days of obtaining the results, or as otherwise specified on that license or permit. In addition, as per MCoA C18, the results of the Construction Monitoring Programs will be submitted to the Planning Secretary, ER and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.

In addition to the nominated monitoring programs, routine monitoring undertaken during construction will include:

- Construction sediment basin water quality prior to discharge in accordance with a specific sediment basin management EWMS to be developed prior to sediment basin construction and operation
- Daily records of rainfall to determine if local rainfall events may trigger a wet weather surface water sampling event as required in the Surface Water Quality Monitoring Program.

The Environmental Representative and TfNSW Environment Manager will be advised of any construction phase non-compliances from monitoring and details reported.

Where a non-compliance is detected or monitoring results are outside of the expected range and are directly attributable to the project (i.e., are influenced by factors under the direct control of the Project e.g., noise from construction equipment), the process described in the respective monitoring program is to be followed. Steps in the process will typically include:

- An analysis of the results by the FGJV Environment and Sustainability Manager in more detail with a view of determining possible causes for the non-compliance
- A site inspection by the FGJV Environment and Sustainability Manager or delegate
- Advising relevant personnel of the problem
- Identifying and agreeing on actions to resolve or mitigate the non-compliance

- Implementing actions to rectify or mitigate the non-compliance.

A Non-Compliance Report and/or Environmental Improvement Notice may be issued by the FGJV Environment and Sustainability Manager in response to the non-compliance problem if it is found to be construction related, in accordance with the Project Quality Plan. The nature of the non-conformity also needs to be assessed against the criteria detailed in the Incident Classification and Reporting Guidelines to determine if the identified issue constitutes an incident or reportable event.

The timing for any improvement will be agreed between the relevant Engineer/Superintendent and FGJV Environment and Sustainability Manager based on the level of risk (eg a significant risk will require immediate action).

All environmental monitoring equipment shall be maintained and calibrated according to manufacturer's specifications and appropriate records kept.

8.3 AUDITING

8.3.1 FGJV INTERNAL AUDITS

Internal auditing will be undertaken generally on a six-monthly basis throughout the project. The purpose of auditing is to verify compliance with:

- This CEMP and Sub Plans
- Approval requirements (MCoA, REMMs)
- Any relevant legal and other requirements (e.g., licenses, permits, regulations, TfNSW contract documentation).
- Implementation of EWMS and PESCPs.

An audit checklist will be developed and amended as necessary to reflect changes to this CEMP, subsequent approvals and changes to Acts, regulations or guidelines. Note that audit findings may result in the CEMP and Sub-plans requiring updates. All audit findings and associated corrective actions are to be provided to TfNSW in an audit report. The minimum timeframes for undertaking internal audits are detailed in Table 8-2.

8.3.2 INDEPENDENT AUDITS

In accordance with MCoA A33 – A38, independent auditors are to be appointed and approved by DPE, independent audits are to be carried out in accordance with frequency prescribed in the Independent Audit Post Approval Requirements (DPE, 2020); the minimum timeframes for undertaking independent audits are detailed in Table 8-2.

DPE may require the initial and subsequent Independent Audits to be undertaken at different times to those specified above, upon giving at least 4 weeks' notice (or timing as stipulated by the DPE) of the date upon which the audit must be commenced.

Auditing will also be undertaken by an independent environment auditor independent to the Coffs Harbour Bypass in accordance with ISO 19011:2014 - Guidelines for Quality and/ or Environmental Management Systems Auditing. Note that audit findings may result in the CEMP and Sub-plans requiring updates. As per CoA A34, Independent Audits must be conducted and carried out in accordance with the Independent Audit Post Approval Requirements (DPIE, 2020).

TABLE 8-2 INTERNAL AND INDEPENDENT AUDIT REQUIREMENTS

No	Audit	Requirement	Timing	Responsibility	Recipient
1	Internal audit	Verify compliance with approval and legal requirements, TfNSW specifications and construction documentation	• The first audit within three months of the commencement of construction and then at six monthly intervals thereafter. -The final submitted within five working days of contract completion date.	FGJV Environment and Sustainability Manager	Project manager, TfNSW, DPE

No	Audit	Requirement	Timing	Responsibility	Recipient
2	External independent audit	Verify compliance with approval and legal requirements, TfNSW specifications, construction documentation and any other commitments.	• Within 12 weeks of the commencement of construction • At intervals, no greater than 26 weeks from the date of the initial Independent Audit or as otherwise agreed by the Secretary.	FGJV Environment and Sustainability Manager	Project manager, TfNSW, DPE

8.4 OTHER REPORTING

Prior to, during and following construction, various reports will be prepared to fulfil TfNSW and other reporting needs, and requirements under the project approval. Table 8-3 sets out the reporting requirements applicable to the project, timing of the reporting, who is responsible for managing preparation of the reports and the intended recipient(s).

Additional reporting may be necessary as the works progress. In such a circumstance, Table 8-3 will be amended to reflect these changes.

TABLE 8-3 REPORTING REQUIREMENTS

No	Report	Requirement	Timing	Responsibility	Recipient
1	Monthly environmental and sustainability report	For incorporation in project Monthly Reports including environmental statistics (i.e., incidents, regulatory action, complaints on environmental issues), regulatory and authority considerations, monitoring program performance and key environmental issues. For incorporation in project Monthly reports including sustainability statistics (i.e., monthly reporting on waste generated, re-used and recycled as per SWTC)	Within 10 working days of the end of each calendar month.	FGJV Environment and Sustainability Manager	TfNSW
2	EPL annual returns	Report on compliance with EPL.	Within 60 days of the anniversary of the EPL.	FGJV Environment and Sustainability Manager	EPA
3	ER inspection report	Report of site environmental performance following routine inspections.	Fortnightly	Environmental Representative	TfNSW /DPE
4	ER monthly report	Report on project progress and compliance status, the project team is to provide the ER: (a) the complaints register (to be provided on a weekly basis or as requested); and (b) a copy of any assessment carried out by the Proponent of whether proposed work is consistent with the approval (which must be provided to the ER before the commencement of the subject work).	Monthly	Environmental Representative	TfNSW /DPE
5	Environmental risk assessment	Provides a program of analysis of key environmental risks, which includes a review of the Environmental Aspects and Impacts Register and how it is applicable to current and upcoming construction activities.	Prior to construction during development of CEMP and during Management Reviews.	FGJV Environment and Sustainability Manager, FGJV Construction Manager.	TfNSW

No	Report	Requirement	Timing	Responsibility	Recipient
6	Monitoring Program Reporting	Reports on monitoring data recorded and potential exceedances against criteria.	As specified in Monitoring Programs.	FGJV Environment and Sustainability Manager, FGJV Environmental Officer(s).	TfNSW, DPE and Regulatory Agencies (as per MCoA C13)
7	TfNSW and/or EPA environmental inspection reports	Response to matters raised in TfNSW and/or EPA site inspections.	As required. Typically, every two weeks for TfNSW inspection reports and monthly for EPA inspection reports.	FGJV Environment and Sustainability Manager, FGJV Environmental Officer(s).	TfNSW /EPA
8	Waste Avoidance and Resource Recovery Report	Information relating to wastes generated or recycled in accordance with Annexure G36/F.	Annual within one month form 1 July and at actual completion date.	FGJV Environment and Sustainability Manager, FGJV Environmental Officer(s).	TfNSW
9	Air Emissions Performance Report	Report on conformity, or otherwise, of mobile non-road diesel plan and equipment with relevant standards or approved equivalent emission standards.	Annual before 31 July and at actual completion date.	FGJV Environment and Sustainability Manager, FGJV Environmental Officer(s).	TfNSW

8.4.1 PROVISION OF ELECTRONIC INFORMATION

FGJV in consultation with TfNSW, will develop a suitable project website to ensure compliance with MCoA B11:

> *A website or webpage providing information in relation to the CSSI must be established before commencement of Work and maintained for the duration of construction, and for a minimum of 24 months following the completion of construction. Up-to-date information (excluding confidential commercial information) must be published before the relevant work commencing and maintained on the website or dedicated pages including:*
>
> *(a) information on the current implementation status of the CSSI;*
>
> *(b) a copy of the documents listed in Condition A1 and Condition A2 of this approval, and any documentation relating to any modifications made to the CSSI or the terms of this approval;*
>
> *(c) a copy of this approval in its original form, a current consolidated copy of this approval (that is, including any approved modifications to its terms), and copies of any approval granted by the Minister to a modification of the terms of this approval;*
>
> *(d) a copy of each statutory approval, licence or permit required and obtained in relation to the CSSI;*
>
> *(e) a current copy of the final version of each document required under the terms of this approval; and*
>
> *(f) a copy of the audit reports required under this approval.*
>
> *Where the information / document relates to a particular Work or is required to be implemented, it must be published before the commencement of the relevant Work to which it relates or before its implementation.*

8.5 COMPLIANCE MANAGEMEMT

8.5.1 COMPLIANCE ISSUES

For the purpose of this document, the following definitions are provided:

- Non-conformance – inconsistency with Project plans and procedures (note, where Project documentation has been approved by DPE, TfNSW or the Environmental Representative this will be a non-compliance.
- Non-compliance – inconsistency with mandatory requirements, such as CoA, REMMs

A non-conformance, non-compliance (aka 'compliance issue') may be raised by:

- Any member of the project team
- The Environmental Representative
- TfNSW Representative
- or public authority / regulatory agency

Compliance issues may be identified because of incidents or emergencies, monitoring and measurement, audit findings or other reviews.

Compliance issues will be recorded and addressed in accordance with the TfNSW Environmental Incident Procedure. For each recorded compliance issue a corrective/preventative action (or actions) must be identified and implemented. These will be entered into the FGJV Incident and Non-Conformance Register and include detail of the issue, action required and timing and responsibilities. The record will be updated with date of close out and any necessary notes. The database will be reviewed regularly to ensure actions are closed out as required.

Non-compliant activities may be stopped, if necessary until the corrective / preventative action has been closed out.

All compliance issues will be reviewed to evaluate the need for action to prevent recurrence. Actions to review the compliance issue will include:

- Understand the nature of the compliance issue and (where relevant) the requirement it relates to
- Determining the cause(s). Once a non-compliance has been confirmed, TfNSW and the ER will be advised.
- Determining if similar issues exist, or could potentially occur
- Identify the need for corrective actions to ensure the compliance issue is understood by the relevant project personnel and that the requirement is clearly documented. Corrective actions may include team communication such as alerts or toolbox talks, training, or review of this plan
- Review the effectiveness of any corrective action taken.

Where a non-compliance is identified through audits process, as per MCoA A37, the Planning Secretary will receive Independent Audit Reports and the Proponent's response to audit findings within 2 months of undertaking the independent audit. Non-compliances and their corrective actions will also be summarised in the ER Monthly Report.

8.5.2 CORRECTIVE ACTIONS

Corrective Actions arising from audits, inspections, non-compliances or incidents will be captured in a Corrective Actions Register to prevent recurrence or manage ongoing environmental risk. This register will track the action, when and how it was raised, who is responsible and timeframe for implementation. Corrective actions are differentiated by risk ranking. The nominated timeframes to resolve items on the register are detailed in Table 8-4.

TABLE 8-4 CORRECTIVE ACTION REQUESTS

CAR Risk Ranking	Timeframe for resolution
1	Action needs to be commenced immediately to resolve the issue.
2	Action needs to be resolved within one week.
3	Action needs to be resolved within one month.

8.5.3 COMPLIANCE TRACKING

Compliance with all relevant laws and approvals will be monitored throughout construction through the auditing program, monitoring and inspections. A compliance register will be developed and managed internally by FGJV to monitor and track compliance against MCoA, REMMs, EPL [Pending], Federal Approval, SWTC, IS rating tool requirements and TfNSW G36, G38 and G40 Specifications.

Evidence of compliance will be monitored and assessed by the ER and/or AA as part of auditing procedures described in the Conditions of Approval, and by TfNSW as part of any audits undertaken as described in Section 8.3.

9 REVIEW AND IMPROVEMENT

Management reviews are undertaken as part of the continual improvement and ongoing risk analysis process. The management review can consist of group reviews, or executive reviews.

A group review is initiated by the FGJV Environment and Sustainability Manager and includes relevant project team members and stakeholders. The environment team also meet as least quarterly, or at other pre-determined periods, to review environmental management issues for the project. The environment team meeting can be run in conjunction with a wider group meeting if the FGJV Environment and Sustainability Manager deems it appropriate.

The environment group meetings agenda may include:

- A review of the aspects and impacts register, CEMP ad Sub plans, risks, legal register and environmental induction
- Consideration of monitoring, inspection and audit results
- Consideration of incidents and any lessons learnt
- Consideration of any new regulatory issues
- A review of the effectiveness of erosion and sediment controls
- Consultation outcomes with proponents of nearby developments are to be considered and project management documents including the CEMP are to be updated as required.
- Feedback from management reviews.

An executive review will involve the management team. This review will be held every 12 months and will include a review of:

- Effectiveness of environmental management documentation implementation
- Management effectiveness
- Potential improvements to the environmental management documentation
- Adequacy of resources
- Findings of audits
- Environmental objectives and targets
- Environmental performance
- Compliance with legal and other requirements
- Critical non-compliance or repeated non-compliance
- Organisation changes
- Effectiveness of training and inductions.

The outcomes of the group and executive reviews could include amendments to this CEMP and related documentation, revision to the project's environmental management system, risk assessment review and re-evaluation of the project objectives and targets and also personnel training and education opportunities.

The respective Ferrovial and Gamuda Management Teams will review the status and adequacy of the FGJV EMS, including this CEMP. The objective of the review will be to ensure that it meets current TfNSW and FGJV requirements as well as relevant environmental standards.

FGJV will undertake an internal audit within the first three months from commencement of construction and then annually for the CEMP and associated Sub-plans.

Additionally, continual review and improvement of the CEMP will occur in response to:

- Issues raised during environmental inspections and/or monitoring,
- Change in scope of works,
- Changes in legislation,
- Environmental incidents; and
- Environmental non-compliances.

The CEMP and an analysis of key environmental risks, driven by the Environmental Risk Workshop and contained in the Environmental Aspects and Impacts Register will be reviewed during the course of the Project in response to:

- Opportunities identified by TfNSW or the ER and AA

- Changes to the Ferrovial EMS
- Non-compliances, incidents or recurring issues
- In response to internal or external audits
- Changes in legislation
- Changes in the risk assessment
- Changes in environmental management practices or technology.

10 RECORDS AND DOCUMENT CONTROL

All environmental management documents are subject to ongoing review and continual improvement. This includes times of change to scheduled activities or to legislative or licensing requirements. Only the FGJV Environment and Sustainability Manager, or delegate, has the authority to change any of the environmental management documentation.

FGJV, or TfNSW where relevant, will coordinate the preparation, review and distribution, as appropriate, of the environmental documents and records. During the project, the environmental documents and records will be stored at the main site compound.

FGJV will implement a document control procedure to control the flow of documents within and between TfNSW, stakeholders and subcontractors.

The procedure will also ensure that documentation is:

- Developed, reviewed and approved prior to issue
- Issued for use
- Controlled and stored for the legally required timeframe
- Removed from use when superseded or obsolete
- Archived.

The FGJV Environment and Sustainability Manager is responsible for maintaining all environmental management documents and records as current at the point of use. The master ‘controlled’ CEMP document will be held within the Project’s document management system, in addition to the current version being available online, where it can be accessed by personnel as necessary. All paper copies of this CEMP will be considered as ‘uncontrolled’.

All environmental documentation will be controlled in accordance with FGJV Project Document Control requirements. Formal submissions will be managed through the project electronic document management system (TeamBinder). Other documents and records will be saved in the Project shared drive. Access controls will be applied as appropriate.

A register will be maintained to list the current revision of all environmental documents (Plans, Protocols, Procedures, EWMS, Permits and Forms) which will be consistent with the Project naming and numbering protocols. Environmental records will also be maintained and kept as objective evidence of compliance with environmental requirements. Typical records may include:

- Site inspections,
- Audits,
- Formal document reviews
- Incident and Non-Compliance Reports
- Compliance tracking reports
- Induction and training records
- Documentation as required by performance conditions, approvals, licences and legislation
- Superseded versions of environmental documentation
- Monitoring data
- Correspondence with public authorities
- Minutes of CEMP and construction environmental management system review meetings and evidence of any action taken
- Additional management documents and requirements as identified in the MCoA, REMMs and TfNSW Specifications.

APPENDICES

APPENDIX A1 LEGAL REQUIREMENTS

Table A1.1 Legal Requirements

Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
General				
Environmental Planning and Assessment Act 1979	All	Comply with the terms Minister for Planning and Infrastructure's approval for the project. Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.	S115ZI	Yes
Water				
Water Management Act 2000 With the exception of controlled activity approvals, the *Water Management Act 2000* (WM Act) only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State's major regulated river systems.	Water access and use.	Do not take water from a water source (a lake, river or estuary or place where water occurs naturally on or below the surface of the ground, and includes coastal waters) without an access licence. Do not use water on land (unless supplied by a water utility, irrigation corporation or in accordance with basic landholder rights) without a water use approval.	S56 S60A S89 S91A	No
Water Management Act 2000	Water management works	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	S90 S91B S91C S91D	No

Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
Water Management Act 2000	Waterfront land.	Do not deposit material, excavate, or remove material within a watercourse bank, shore or bed, or on land 40 metres inland, or interfere with the likely flow of water to such a body, without a controlled activity approval.	S91	No Public authorities are exempt from the need to obtain a controlled activity approval. Water Management (General) Regulation 2004 (cl.39A)
Water Act 1912 Note that this Act is being progressively repealed by the *Water Management Act 2000* (WM Act). With the exception of controlled activity approvals, the WM Act only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State's major regulated river systems.	Surface water	Obtain a licence or permit for construction or use of 'work' for purposes including the taking and using of water.	S21B	Yes
	Groundwater	Obtain a licence where interference with groundwater is likely to occur.	S112 S121A	S112 does not apply to the Crown. TfNSW is therefore not required to obtain a licence under this provision.
	Floodplains	Obtain an approval for controlled works. These include works which occur on a designated floodplain, which can prevent land from being flooded or which can affect water flow to or from a river or lake.	S180	An exemption in relation to roads potentially applies – see clause 4 of the Water (Part 8-General) Regulation 1995.
Protection of the Environment Operations Act 1997	Water pollution	Do not cause water pollution (other than to a sewer), except in accordance with the conditions of any EPA licence.	S120 S122	Yes

Act	Activity/aspect	Requirement	Referenc	Part 5.1 applicability
Noise				
Protection of the Environment Operations Act 1997	Plant maintenance and operation	Do not operate plant if it emits noise caused by poor maintenance or operation.	S139	Yes
Protection of the Environment Operations Act 1997	Materials management	Do not cause noise by failing to properly and efficiently deal with materials.	S140	Yes
Contaminated material				
Protection of the Environment Operations Act 1997	Land pollution	Do not cause or permit land pollution other than under authority of a licence or regulation. (However it is not a land pollution offence to place virgin excavated natural material or lawful pesticides and fertilisers on land, or by placing matter on land that has been notified to the EPA as an unlicensed landfill and which is operated in accordance with the regulations.)	S142A – S142E	Ye
Contaminated Land Management Act 1997	Reporting contamination	Notify the EPA if: • Contaminants exceed thresholds contained in guidelines or the regulations where contamination has entered or will foresee ably enter neighbouring land, the atmosphere, groundwater or surface water. • Contaminants in soil are equal to or exceed guideline levels with respect to the current or approved use of the land. • Contamination meets other criteria that may be prescribed by the regulations.	S60	Yes

Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
Biodiversity				
Biodiversity Conservation Act 2016	Fauna	Do not harm any animal that is; of a threatened species, that is part of a threatened ecological community or is a protected animal, unless authorised under other legislation (e.g. planning approval).	S2.1 S2.8	Yes
	Habitat	Do not damage habitat of a threatened species or ecological community unless authorised under other legislation (e.g. planning approval).	S2.4 S2.8	Yes
	Biodiversity	Do not damage declared areas of outstanding biodiversity value unless authorised under other legislation (e.g. planning approval).	S2.3 S2.	Yes
	Flora	Do not pick a plant that is; of a threatened species, that is part of a threatened ecological community or is a protected plant, unless authorised under other legislation (e.g. planning approval).	8 S2.	
Biosecurity Act 2015	Biosecurity matters including pests, diseases and weeds.	The duty to prevent, eliminate and minimise biosecurity risks posed by biosecurity matters as defined by the Act.	S22	Yes
National Parks and Wildlife Act 1974	Native fauna	Do not harm any animal that is of a threatened species population or ecological community, or its habitat except in accordance with a planning approval.	Part 8A	Yes
		Do not harm critical habitat except as in accordance with a planning approval.	S98	Yes
		Do not harm native fauna (other than listed unprotected fauna) except in accordance with a planning approval or licence.	S120, S127, 132C	Yes
National Parks and Wildlife Act 1974	Flora and native vegetation	Do not pick protected native plants without a licence.	S117 S131	Yes

	conservation			
Fisheries Management Act 1994	Dredging or reclamation	Provide the Minister for Primary Industries 28 days notice of planned dredging or reclamation work.	S199	Yes

Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
Fisheries Management Act 1994	Mangroves, seagrasses and marine vegetation	Do not harm any mangroves, seagrasses or other marine vegetationon public water land protected by the regulations without a permit.	S205	No
Fisheries Management Act 1994	Fish passage	Do not block fish passage without a permit.	S219	No
Environment Protection Biodiversity Conservation Act, 1999 (Commonwealth)	Flora and fauna conservation	Do not kill, injure or take a member of a listed threatened specieswithout a permit.	Part 13	Yes
	All	Comply with the terms of any EPBC Act approval for the project.		Yes
Waste				
Protection of the Environment Operations Act 199	Littering	Do not litter in a public place or an open private place. Do not litterfrom a vehicle. Only deposit advertising material in receptacles providedfor mail ornewspapers or under the door of the premises. Do not deposit advertising material on or in vehicles.	Part 5.6A	Yes
Protection of the Environment Operations Act 1997	Waste and transportation	Do not undertake a scheduled waste activity unless in accordance with an environmental protection licence.	Protection of the Environment Operations Act 1997	Waste and transportation

Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
		A licence must be obtained if more than 2,500 tonnes (or cubic metres, whichever is lesser) are stored on a stockpile site at any one time, or more than 30,000 tonnes of waste is received per year from off site.		
		Only transport waste to a facility that can lawfully accept the waste.	S143	Yes
		Do not dispose of waste in a manner that harms or is likely to harm the environment.	S115	Yes
Protection of the Environment Operations (Waste) Regulation 2014	Waste and transportation	Comply with general requirements for the transport of waste. For example, any vehicle used by the person to transport waste must be kept in a clean condition and be maintained so as to prevent spillage of waste. For some wastes only licensed transporters can beused.	Regulation cl.49	Yes
		Comply with record keeping requirements in relation to the transport of certain types of waste.	Regulation Part 3	Yes
Heritage				
Heritage Act 1977	Heritage	Do not undertake an activity that will affect a place, building, work, relic, moveable object or precinct which is subject to an Interim Heritage Order or is listed on the State Heritage Register without approval from the Heritage Council.	S56-57	No
		Do not disturb or excavate land with knowledge or reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed. Do not disturb or excavate land on where a relic has been discovered or exposed.	S139	No
		Notify the heritage Council on discovery of a relic.	S146	Yes

Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
National Parks and Wildlife Act 1974	Aboriginal places and objects	Do not harm or desecrate an Aboriginal object or Aboriginal place without consent.	S86 S90	No
		Notify the NPWS within reasonable time of becoming aware of the location or discovery of certain Aboriginal objects.	S89A	Yes
Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)	Protection of areas and objects	Report any discovery of Aboriginal remains to the Federal Minister for the Environment and Heritage.	S20	Yes
		Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	S22	Yes
General				
Protection of the Environment Operations Act 1997	Harming the environment	Do not risk harming the environment by wilfully or negligently: • Disposing of waste unlawfully. • Causing any substance to leak, spill or otherwise escape (whether or not from a container). • Emitting an ozone depleting substance.	S115 S116 S117	Yes
Protection of the Environment Operations Act 1997	Control equipment	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices).	S167	Yes
Protection of the Environment Operations Act 1997	Notification of pollution incidents	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	S148	Yes

Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
Protection of the Environment Operations Act 1997	Site licensing Do	not carry out or allow an activity listed in Schedule 1, or carry out work to enable such an activity, unless the premises are licensed by the EPA. This applies to: • road construction: meaning the construction, widening or re-routing of roads if it results in the existence of four or more traffic lanes (other than bicycle lanes or lanes used for entry or exit) for 1 kilometres of their length in the metropolitan area, or 5 kilometres in length in any other area, where the road is classified, or proposed to be classified, as a freeway or tollway under the Roads Act 1993.	S47 S48	Yes
Environmentally Hazardous Chemicals Act, 1985	Hazards and risks	Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes.	S28	Yes
Dangerous Goods (Road and Rail Transport) Act 2008	Hazards and risks	Ensure that dangerous goods are transported in a safe manner.	S9	Yes
Pesticides Act 1999	Hazards and risks	Do not use an unregistered pesticide without a permit. Read the label or permit for the pesticide. Use registered pesticides in accordance with instructions on the label. Do not use any restricted pesticide unless authorised by a certificate of competency or a pesticide control order under the Act. Compliance with pesticide codes of practice is required.	S12 S13 S14 S15 S17	Yes
National Greenhouse and Energy Reporting Act, 2007 and Regulations 2008	Greenhouse gas emissions	Accounting and reporting of greenhouse gases produced and energy consumed during construction. Applicability dependent on thresholds.	-	Yes

APPENDIX A2 ENVIRONMENTAL ASPECTS AND IMPACTS

The identification of significant construction activities and associated impacts that could eventuate during construction of the Project is central to the selection of appropriate environmental safeguards.

The risk management process involved an assessment of all specific project activities/aspects in or near environmentally sensitive areas and resulted in the development of a list of environmental risks (effects and

impacts) and a corresponding risk mitigation strategy and risk ranking in accordance with AS31000:2009. Each environmental risk was categorised, based on the following:

- The environmental aspect,
- Relative scale of the potential impact,
- Type of potential impact and likelihood of occurrence.

Likelihood	Consequence 1	2	3	4	5
A	Medium	High	Significant	Significant	Extreme
B	Medium	Medium	High	Significant	Extreme
C	Low	Medium	High	High	Significant
D	Low	Low	Medium	High	Significant
E	Low	Low	Low	Medium	High

Level	Likelihood	Definition
A	Almost Certain	Is expected to occur during the project, ~90% r > probability
B	Likely	Will probably occur during the project, ~50% probability
C	Possible	Might occur at some time during the project, ~10% probability
D	Unlikely	Could occur at some stage during the project ~1% probability
E	Rare	Only occur in exceptional circumstances <1% probability

Level	Descriptor	Definition
1	Insignificant	No lasting detrimental effect on the environment i.e., harm, nuisance, noise, fumes, or dust emissions of short-term duration. Negligible reputational impact. Ad hoc mentions or rumours of a negative event on social media.
2	Minor	Short term, detrimental effect on the environment or social impact, e.g., minor discharge of pollutants on site. Adverse local and social media coverage for a brief time.
3	Moderate	Serious discharge of pollutant or source of community annoyance within general neighbourhood that requires remedial action. Can be fully remediated.
4	Major	Long term detrimental environmental or social impact i.e., chronic &/or significant discharge of pollutant. There will be some ongoing impact.
5	Severe	Extensive detrimental long-term impacts on the environment and community i.e., catastrophic and/or extensive discharge of persistent hazardous pollutant.

The identification of risks included a review of the proposed works, the MCoA, and review of the environmental risks identified by the EIS and the Submissions/Amendment Report.

TABLE 10-1 ENVIRONMENTAL ASPECTS AND IMPACTS RISK ASSESSMENT

Issue	Construction activity/aspect	Potential Impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
Hydrology and flooding	• Water crossings • Transverse drainage • General earthworks and construction • Bridge design and construction.	Alteration to flood behaviour due to hydrology charges.	A (high)	• Design drainage structures to cope with design flood events • Locate compounds/plant/storage/stockpiles above the 20 year ARI flood level unless a contingency plan to manage flooding is prepared and implemented • Evacuation and access will be assessed in consultation with landowners • Design and build temporary crossings to be stabilised and minimise scour/erosion during flood events • Install scour protection as early as possible • Predict flood events from gauges or rainfall predictions.	B (moderate)	• Construction Soil and Water Quality Management Plan • EWMS • Sensitive Area Plans • Technical Briefing Note; Temporary Waterway Crossings Minimum Standards (Pacific Complete 2017) • PESCP • RMS Stockpile Management Protocol and Stockpile Site Management Guideline Toolbox Talk - ESC/flood watch.
		Increases in flood afflux levels during flood events.	A (high)		B (moderate)	
		Increases in duration of flood inundation.	A (high)		B (moderate)	
		Increases in flood impacts and damage costs on residential properties and cane land.	B (moderate)		C (low)	
		Change to creek bed and bank stability due to increases in runoff volumes and flow rates.	B (moderate)		C (low)	
		Impacts to flood evacuation and access movements.	B (moderate)		C (low)	
		Impacts to stockpiles during flood events.	B (moderate)		C (low)	

Issue	Construction activity/aspect	Potential Impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
Soils, sediments and water	• Clearing and grubbing • Earthworks • Storage of fuels, chemicals and other dangerous goods • Material stockpiles • Maintenance of plant and equipment, including servicing and refuelling • Sediment basin management • Drainage works • Water use/extraction • Concrete works • Batch plant operations • Temporary access road construction • Bridge and tunnel construction • Landscaping • Noxious weed treatment.	Potential for groundwater discharge during construction, resulting in localised drawdown of groundwater resources.	B (moderate)	• Appropriately design erosion control structures (eg sedimentation basins, ERSED-straw bales, mulch berms, silt fences and sand bags) will be installed, maintained and cleaned regularly • Locate stockpiles, plant and equipment away from drainage lines, watercourses or stormwater drains in accordance with established criteria • Develop and implement a groundwater management strategy • Install clean water diversions to ensure clean and dirty water are not mixed on site • Storage, compound access and parking areas sealed, as early during works as practicable • Chemical storage meets WorkCover and EPA bunding/storage requirements • Mud tracking reduction and cleaning measures at exit of all sites where required. • Well designed temporary waterway crossings minimising risk of fines in waterways and designed to address larger flow volumes • Buffer zones of vegetation will be maintained adjacent to waterways for as long as practical • Rehabilitation and landscaping	C (low)	• Construction Soil and Water Quality Management Plan • EWMS • Sensitive Area Plans • Basin management procedure • PESCP Bluebook Vol 2D training • Practical ESC training • RMS mulch and tannin protocol • Unexpected contaminated land and asbestos find procedure • Induction • Surface and Groundwater Monitoring Programs • Technical Briefing Note: Temporary Waterway Crossings Minimum Standards (Pacific Complete 2017) Acid Sulfate Soil Contingency and Management
		Changes to water chemistry altering aquatic habitats, including	A (high)		B (moderate)	

Issue	Construction activity/aspect	Potential Impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
		threatened species habitats.		works of disturbed areas undertaken as soon as the works are completed and/or • Undertake threatened species management as required under the Conditions of Approval • Implement washing procedures to prevent the spread of pests and disease. • Undertake monitoring as required in the Approval • Obtain permits from Fire authorities during high risk fire periods • Design lighting to minimise light spill in relevant habitat of threatened rainforest invertebrates.		Procedure • Toolbox Talks
		Major impacts to various sensitive receiving environments through accidental release of water pollutants during construction.	B (moderate)		C (low)	
		Impact to water quality due to fuels and leaks and inappropriate storage of material.	B (moderate)		C (low)	
		Changes in water chemistry, in particular pH values, affecting aquatic ecosystems.	B (moderate)		C (low)	
		Exposed soils during earthworks or landscaping will erode and cause sedimentation of waterways and aquatic environments.	A (high)		B (moderate)	
		Potential acidic leachate from exposure of acid sulphate soils.	B (moderate)		C (low)	
		Potential release of tannins from stored mulch piles.	A (high)		B (moderate)	
		Disturbance of contaminated material causing pollution.	B (moderate)		C (low)	
		Degeneration of local soils due to erosion.	B (moderate)		C (low)	

Issue	Construction activity/aspect	Potential Impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
		Direct or indirect injury or mortality of fauna in general impacts on koala populations.	B (moderate)		C (low)	
Visual amenity, place design and landscaping	• General earthworks and construction • Stockpiling • Open excavation works • Clearing of vegetation • Construction site compounds • Rehabilitation of disturbed land • Bridge and tunnel design • Cuttings and cut finishes • Evening / night works.	Change to landscape character and visual environment as a result of large cuttings, bridges, interchanges and realignment of the highway away from the existing road corridor.	B (moderate)	• Landscape an rehabilitation plan including extensive seeding planting in required areas will be developed and implemented • Landscape treatments will incorporate the surrounding landscape types and vegetation patterns • Embankments and cuttings will be stabilised the use of appropriate landscape treatments • The use of night-lighting will be minimised where possible during the construction phase and directed away from residential areas. • Site compounds and areas surrounding them will be kept tidy and be regularly cleaned and maintained • Undertake landscaping revegetation works in accordance with the approved Place Design and Landscape Plan • Monitoring and weed control.	C (low)	• Place Design and Landscape Plan • EWMS • Construction Biodiversity Management Plan • Sensitive Area Plans • Induction.
		Temporary visual impacts as a result of construction activities and ancillary facilities.	B (moderate)		C (low)	
		Poor management of revegetation by contractor.	B (moderate)		C (low)	

Issue	Construction activity/aspect	Potential Impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
Aboriginal Heritage	• Earthworks including non-substantial construction activities e.g., services relocations • Planned salvage of Aboriginal heritage items • Clearing of vegetation • Initial removal of topsoil • Construction of site compounds and stockpile areas • Temporary access roads.	Disturbance and/or destruction of Aboriginal sites, artefacts and cultural places.	B (moderate)	• Prior to construction, identify and assess Aboriginal heritage items on proposed sites and predict potential impacts • induct personnel on heritage issues and safeguards • Protect identified heritage items with protective fencing, exclusion zones or flagging being disturbed during construction • Undertake salvage works in accordance with the Construction Heritage Management Plan prior to impacting site. • If design changes or construction activities impact on areas outside of those identified in the EIS, EPA and relevant Aboriginal groups will be consulted and approval obtained pre any required salvage • Implement unexpected find procedures as required.	C (low)	• Construction Heritage Management Plan • EWMS • Construction Noise and Vibration Management Plan • Sensitive Area Plans • Toolbox Talk - Heritage • Induction • Unexpected Heritage Finds and Human Remains Procedure.
		Impacts on unknown Aboriginal sites or artefacts.	A (high)		B (moderate)	
		Change in visual integrity of cultural area.	A (high)		B (moderate)	
		Finding/disturbing burial or human remains.	B (moderate)		C (low)	
		Impact (machinery vibration, stockpiles, blasting) during the construction period to identified sites.	C (low)		C (low)	
Non-Aboriginal Historic Heritage	• Early works • Clearing of vegetation • Initial removal of topsoil • Construction of site compounds and stockpile areas	Disturbance and/or destruction of items of heritage significance, including items listed on heritage registers.	B (moderate)	• Prior to construction, identify and assess non-Aboriginal heritage items on proposed sites and predict potential impacts • induct personnel on heritage issues and safeguards • Protect identified heritage items	C (low)	• Construction Heritage Management Plan • EWMS • Construction Noise and Vibration Management Plan

Issue	Construction activity/aspect	Potential Impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
	• Temporary access roads.	Change in the visual character of historic heritage items, precincts or places.	B (moderate)	with protective fencing, exclusion zones or flagging being disturbed during construction • Undertake archival recording as specified in the Construction Heritage Management Plan • Regular inspection of heritage protection fencing • Implement unexpected find procedures as required • Landholder consultation.	C (low)	• Sensitive Area Plans • Toolbox Talk - Heritage • Induction • Unexpected Heritage Finds and Human Remains Procedure.
		Vibration damage during the construction period to identified sites.	B (moderate)		C (low)	
		Impaction undiscovered or undocumented heritage sites.	B (moderate)		C (low)	
Traffic and Transport	• Temporary access roads • General earthworks and construction • Import of material/plant/equipment • Construction site compounds • Construction vehicle movements and deliveries • Travel to/from site.	Temporary disruptions/delays to local and highway traffic.	A (high)	• Develop and update Traffic Management Plans for all stages of work • Identify and assess roads likely to be affected by Project construction and develop methods to minimise traffic increases Undertake before and after dilapidation surveys on local roads • Traffic controllers and/or signage for both egress and ingress off the work sites • All vehicles carrying materials to be adequately covered to prevent any loss of material, which may cause driver safety issues.	B (moderate)	• Construction Traffic and Transport Management Plan • Construction Noise and Vibration Management Plan • EMS • Induction • Toolbox Talk - Access and Careful Driving.
		Temporary restrictions to private access roads.	B (moderate)		C (low)	
		Permanent adjustment to some private property access roads and local/regional roads.	A (high)		B (moderate)	
		Changed traffic patterns.	B (moderate)		C (low)	

Issue	Construction activity/aspect	Potential Impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
		Noise and vibration and dust nuisance to residents on haul routes.	A (high)		B (moderate)	
		Vehicle accident resulting in fuel/chemical spill.	B (moderate)		C (low)	
Noise and Vibration	• Site establishment • Clearing and grubbing • Demolition • Earthworks and drainage • Batch plant • Bridge work • Piling • Paving • Saw cutting • Blasting crushing and screening • Rock hammering and drilling • Quarrying • Road furnishing.	Temporary noise impacts on sensitive receivers during construction.	A (high)	• Liaise (agreements where applicable) with local communities and affected residents • Adherence to working hours in Construction Noise and Vibration Management Plan unless otherwise approved.	B (moderate)	• Construction Noise and Vibration Management Plan • EWMS.
		Temporary vibration impacts on sensitive receivers.	B (moderate)		C (low)	
Greenhouse gas emissions	• Vehicular movements • Vehicle emissions Equipment/plant use • Vegetation clearing.	Greenhouse gases emitted from construction plant, equipment and vehicles.	B (moderate)	• Vegetation clearance minimised where feasible • Reuse of materials maximised where possible • Maximise use of resources with recycled components/contents • Consider feasibility of use of biofuels.	C (low)	• EWMS • Induction
		Greenhouse gases embodied in materials consumed in construction or impacted by the project, such as vegetation	B (moderate)		C (low)	

Issue	Construction activity/aspect	Potential Impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
		removal and soil disturbance.				
Air Quality	• Site establishment • General earthworks • Vegetation clearing • Bulk earthworks • Drilling and blasting • Spoil handling - including liming of Acid Sulphate Soils • Stockpiling • Vehicular movements • Material haulage • Quarrying • Batch plant • Vehicle emissions • Handling of chemicals, waste and hazardous goods.	Potential for decreases in air quality during construction associated with dust generating activities and emissions from heavy construction machinery.	B (moderate)	• Induct personnel on air quality issues and safeguards • Suppress dust on unsealed surfaces, stockpiles and other exposed surfaces • Modify or cease operations during high winds • All trucks on public roads to cover loads • Vehicles, equipment, machinery used and all facilities - designed, operated and maintained to control the emission of smoke, dust, odours and fumes • Vegetation clearing to be staged to minimise time and area that surfaces are exposed • All disturbed areas stabilised, revegetated and/or landscaped as soon as practicable • Install wheel wash facilities • Regularly inspect erosion control measures • Dust monitoring.	C (low)	• Construction Air Quality Management Plan • EWMS • Construction Soil and Water Management Plan • ESCP • Complaints procedure • Induction • Toolbox Talk - Interaction with Community • Toolbox Talk - Access and Careful Driving.
		Impacts on residential sensitive receivers, including impacts on living areas, agricultural activities, swimming pools and general amenities.	C (low)		C (low)	
		Potential adverse health effects.	C (low)		C (low)	

Issue	Construction activity/aspect	Potential Impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
		Impacts on water quality and vegetation health from dust deposition.	C (low)		C (low)	
		Complaints from community and stakeholders.	B (moderate)		C (low)	
Resource management and waste	• General earthworks • Vegetation Clearing • Open excavation works • Spoil handling • Stockpiling • Quarrying • Material haulage • Handling of chemicals, waste and hazardous goods.	Disposal of unsuitable or surplus earthworks material.	B (moderate)	• Refine cut-and fill balance and maximise reuse of material on site • Develop and implement a resource management strategy • Maintain a waste register • Manage waste in accordance with the Waste Classification Guidelines and POEO Act • Use recycled products where possible • Undertake additional waste classification where required • Locate appropriate waste removal contractor and/or appropriately licenced waste facilities in the area.	C (low)	• EWMS • Induction • Waste Register
		Disposal of green waste (not including millable timber).	B (moderate)		C (low)	
		Disposal of materials resulting from replacement of existing pavements.	B (moderate)		C (low)	
		Depletion of sterilisation of non-renewable resources, including sand and aggregate materials.	B (moderate)		C (low)	
		Direct impacts to existing quarries.	B (moderate)		C (low)	
		Difficult disposal of waste materials including hazardous waste.	B (moderate)		C (low)	

Issue	Construction activity/aspect	Potential Impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
Biodiversity Management	• Vegetation clearing • General earthworks • Fencing • Revegetation • Operation of ancillary facilities	Impact to native flora and fauna in excess of that approved by the Planning Approval.	B (moderate)	• Detailed design refinements of clearing footprint. • Implement clearing and grubbing EWMS. • Induction process • Engagement of suitably qualified Project Ecologist	C (low)	EWMS Biodiversity Management Plan Threatened Species Management Plan

APPENDIX A3 ENVIRONMENTAL POLICY

ENVIRONMENTAL POLICY

OUR COMMITMENT

FGJV values the natural environment and its cultural heritage and is committed to providing net positive environmental outcomes. We support ecologically sustainable development and will adopt responsible environmental practices in all our business operations.

OUR APPROACH

FGJV addresses its commitment to environmental sustainability and conservation through the consistent implementation of its Environmental Management System and by the following:

- Comply with relevant legal and regulatory obligations, standards, licences and client requirements.
- Integrate environmental aspects into all project decision making, including planning, design, construction, and delivery.
- Enhance the awareness and knowledge of our employees, subcontractors, and supply chain to promote a shared culture of environmental accountability.
- Establish environmental objectives and targets, and transparently communicate our performance to ensure we continually improve.
- Focus on identifying and implementing opportunities throughout design and construction to identify and implement operational resource use efficiencies.
- Take proactive steps to prevent adverse environmental and heritage impacts.
- Minimise waste generation as far as reasonably practicable and prioritise the re-use and recycling of surplus materials.
- Investigate significant environment incidents and take immediate actions to prevent recurrence.
- Work collaboratively with all stakeholders to leave a positive environment and heritage legacy.

Nick Armaos

Date 15/11/2022

Construction Director – Coffs Harbour Bypass

Daniel Perez

Date 15/11/2022

Project Director – Coffs Harbour Bypass

Ferrovial Construction Australia and Gamuda Berhad Joint Venture

APPENDIX A4 INDICATIVE SENSITIVE AREA PLAN

Coffs Harbour Bypass - Pacific Highway Upgrade

Sensitive Area Maps

Complete Key

Project framework
- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Proposed Road Design
- Survey Cadastral Models (NKWP, 2022.10.06)

Ecological framework
- Surface water monitoring site
- Potential exclusion zone around Jordans Creek
- Clearing boundary
- Clearing boundary (exclusion)
- Reserves
- State Forest
- Drainage lines
- Named Watercourses

Threatened flora
- Rhodamnia Rubescens
- Marsdenia Longiloba
- Niemeyera Whitei
- Fontainea
- Pittosporum
- Translocated Pittosporum Patches (2022.09.06)
- Pittosporum Patches (2022.06.23)
- Rusty Plum habitat
- Scrub Turpentine habitat
- Southern Myotis habitat

Threatened fauna habitat
- Hollow bearing trees
- Potential Microbat roost
- Proposed nest box sites
- Common Planigale habitat
- Pale Vented Bush Hen habitat
- Giant Barred Frog habitat
- Coastal Petaltail habitat
- Known Koala habitat

Sensitive agricultural areas
- Current banana plantation (2019.05)

Current Banana Plantations Susceptible to Panama Disease (TfNSW, 2021.12.13)
- Vegetation and root zone
- Root zone only

Native vegetation
Threatened Ecological Communities (BC Act)
- Lowland Rainforest in NSW North Coast and Sydney Basin Bioregion
- Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions

Plant Community Type (ID)
- 1064
- 1244
- 1262
- 1285
- 1302
- 670
- 692
- 695
- 747
- 780
- NA
- Outside PIB

Heritage - Cultural
- AHIMS sites
- Tree stumps

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)
- Salvage completed
- Salvage not completed

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)
- Salvage completed
- Salvage not completed
- Additional Aboriginal Cultural Heritage Sites for investigation

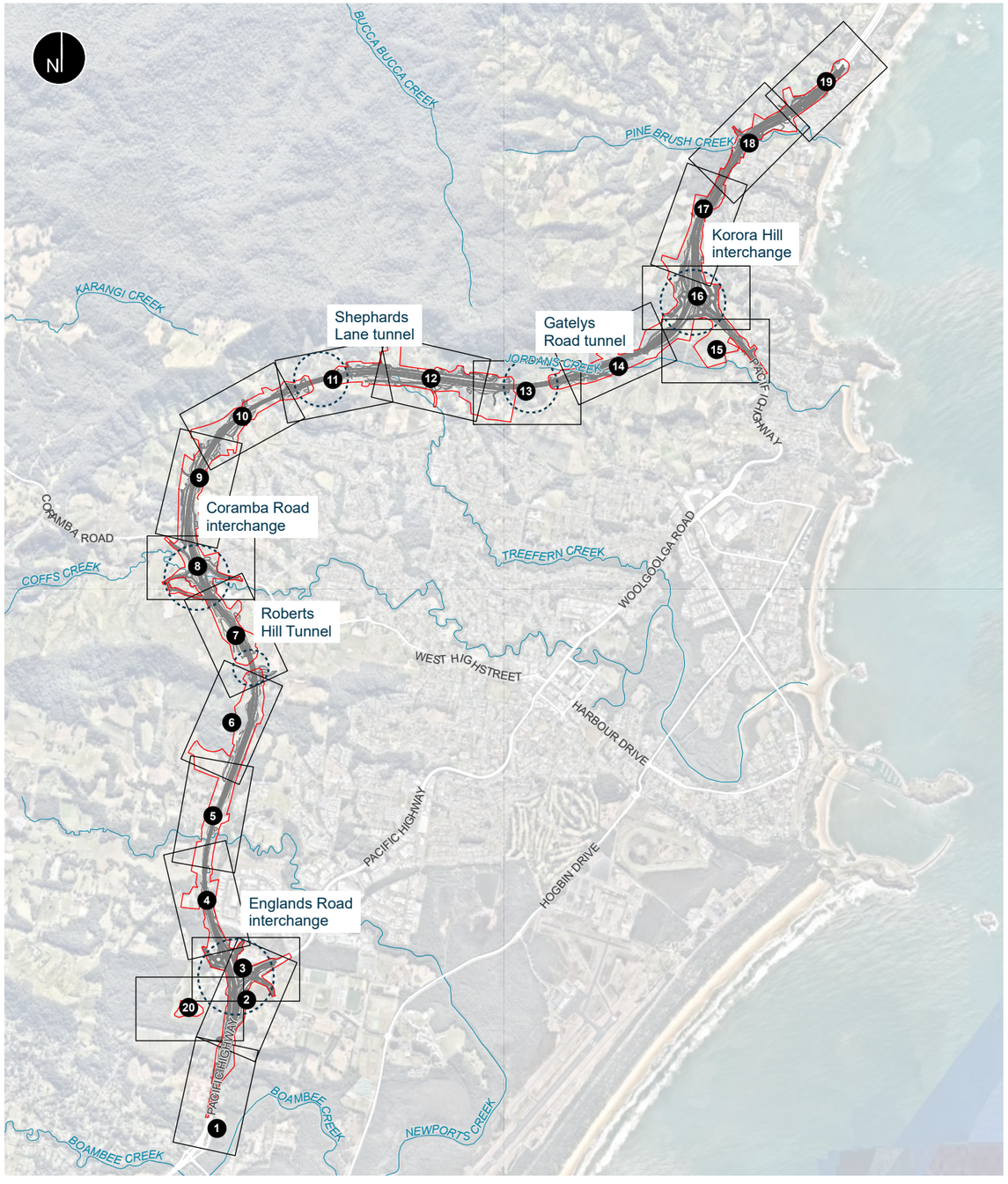
Heritage - Historic
- Historic heritage items
- North Coast Railway buffer

Geotechnical
- GWMP Installed (RCA, 2021)
- Existing groundwater bores (BoM, 1/8/2017)

Contamination
- Potential extent of contamination - surface impact
- Potential extent of contamination - below ground

Noise and Air
- Sensitive receivers

Sensitive receiver building type
- Commercial
- Hospital
- Industrial
- Place of Worship
- Residential
- School
- Dust depositional gauge (Monitoring Program - App D)



COFFS HARBOUR BYPASS team	NOTES: Xxxxx			REV 1 / DATE 20.10.2022 / DESCRIPTION Xxxxx	
TITLE: Sensitive Area Maps	PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade			CLIENT: TfNSW	
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	SHEET: na	COORDINATE SYSTEM: GDA2020 MGA Zone 56	REVIEW: HC	DATE: 20/10/2022	v1

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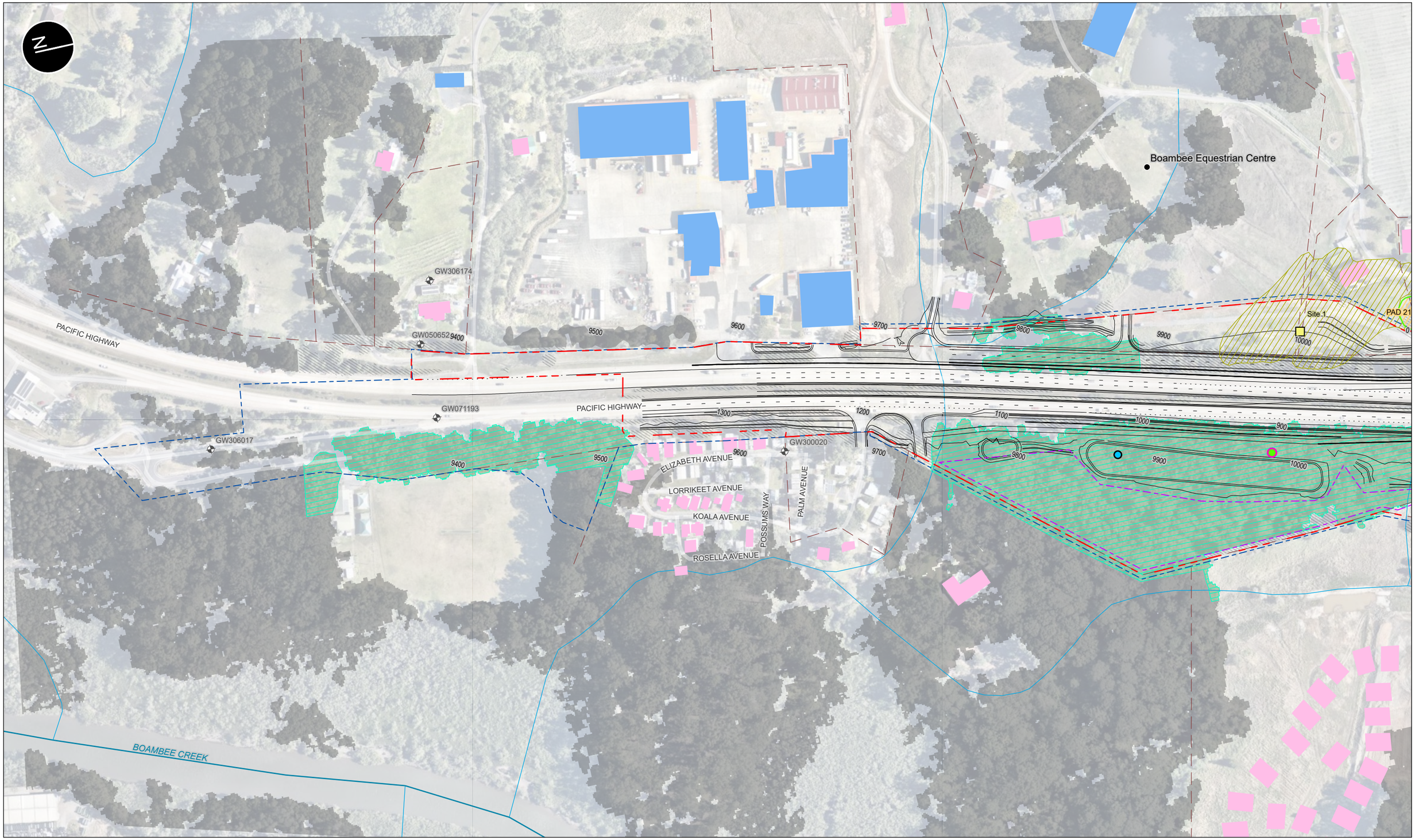

LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Proposed Road Design
- Survey Cadastral Models (NKWP, 2022.10.06)
- Clearing boundary
- Clearing boundary (exclusion)
- Named Watercourses
- Drainage lines
- Rhodamnia Rubescens
- Hollow bearing trees
- Known Koala habitat

Plant Community Type (ID)

- 692
- NA
- Outside PIB

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Existing groundwater bores (BoM, 1/8/2017)
- Dust depositional gauge (Monitoring Program - App D)
- Sensitive receivers

Sensitive receiver building type

- Commercial
- Residential

0 50 100m

COFFS HARBOUR BYPASS team

NOTES
Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

TITLE: Sensitive Area Maps

PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

CLIENT: TfNSW

SCALE: 1:2,500 | A3 | DRAWN BY: JC | APPROVED: HC | MAP #: ENV M001 SAM | REV: 1

SHEET: 1 of 20 | COORDINATE SYSTEM: GDA2020 MGA Zone 56 | REVIEW: HC | DATE: 20/10/2022 | v1

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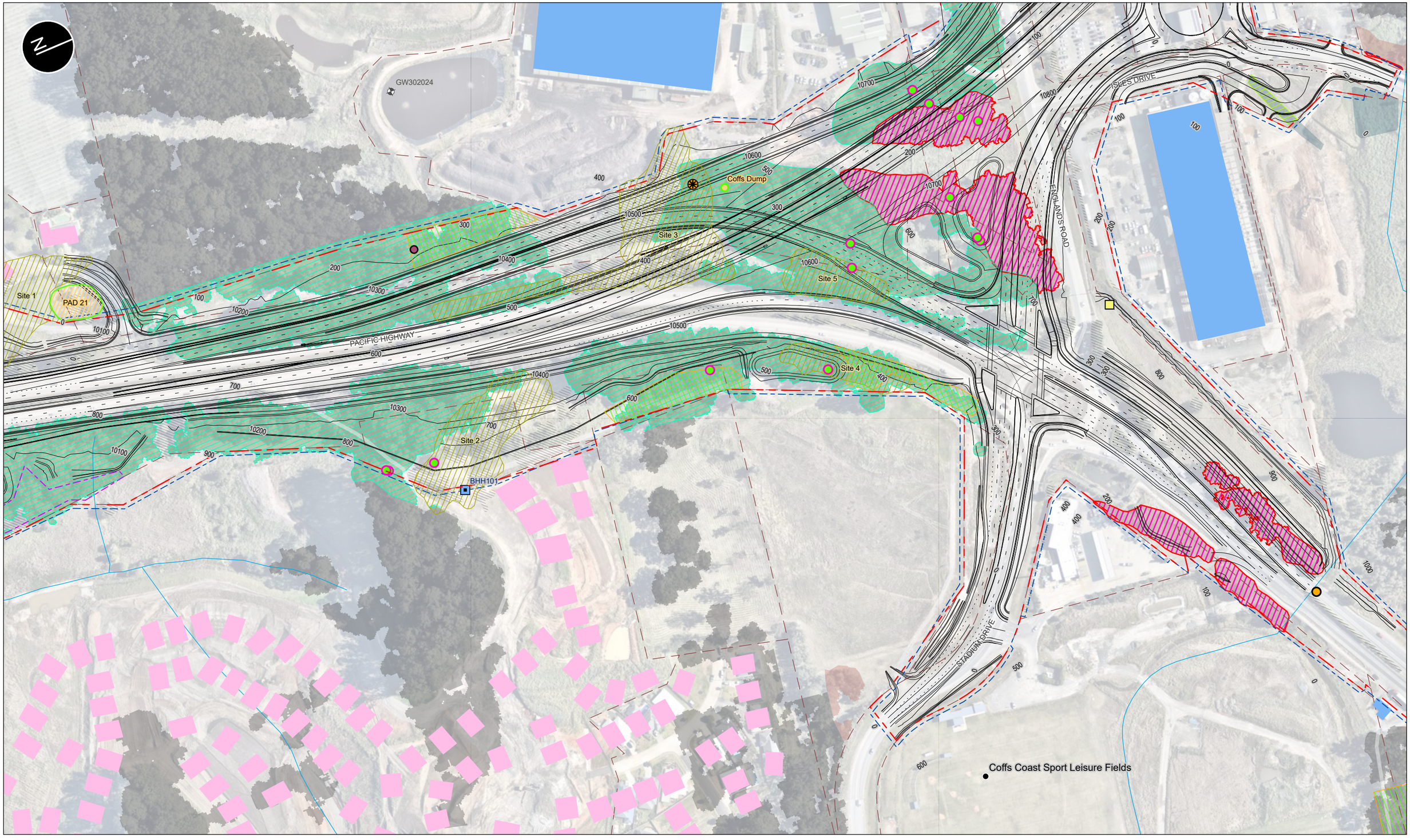


LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Proposed Road Design
- Survey Cadastral Models (NKWP, 2022.10.06)
- Clearing boundary
- Clearing boundary (exclusion)
- Drainage lines
- Marsdenia Longiloba
- Hollow bearing trees
- Potential Microbat roost
- Proposed nest box sites
- Coastal Petaltail habitat
- Known Koala habitat

Threatened Ecological Communities (BC Act)

- Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions

Plant Community Type (ID)

- 1064
- 692
- 780
- NA
- Outside PIB
- AHIMS sites

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)

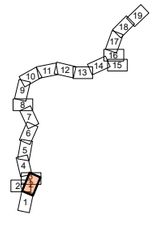
- Salvage completed

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- GWMP Installed (RCA, 2021)
- Existing groundwater bores (BoM, 1/8/2017)
- Dust depositional gauge (Monitoring Program - App D)
- Sensitive receivers

Sensitive receiver building type

- Commercial
- Residential



COFFS HARBOUR BYPASS team

TITLE: Sensitive Area Maps	PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade		CLIENT: TfNSW
0 50 100m	SCALE: 1:2,500 A3	DRAWN BY: JC	APPROVED: HC
	SHEET: 2 of 20	REVIEW: HC	DATE: 20/10/2022
	COORDINATE SYSTEM: GDA2020 MGA Zone 56		MAP #: ENV M001 SAM v1 REV: 1

NOTES: Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

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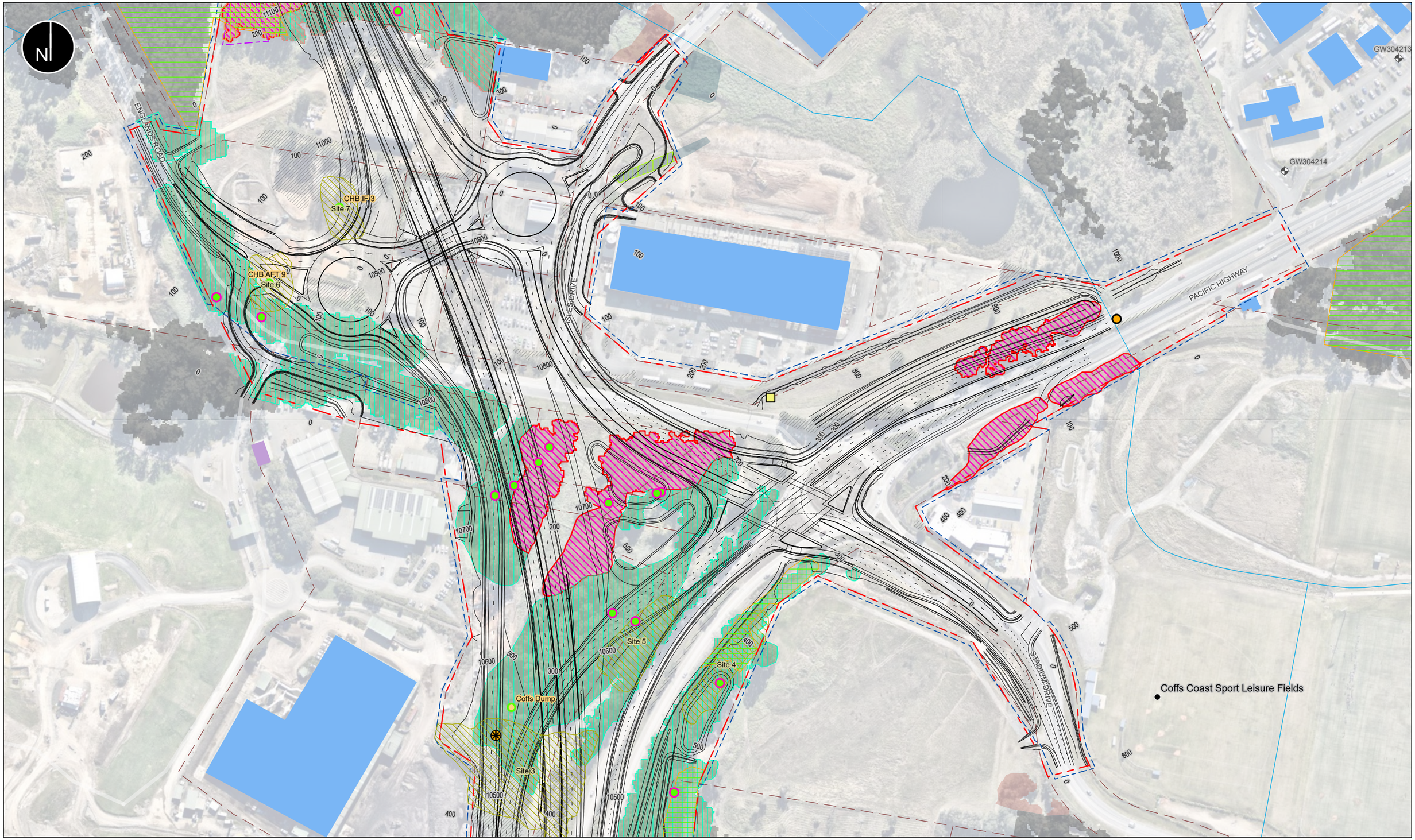


LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Proposed Road Design
- Survey Cadastral Models (NKWP, 2022.10.06)
- Clearing boundary
- Clearing boundary (exclusion)
- Drainage lines
- Hollow bearing trees
- Potential Microbat roost
- Proposed nest box sites
- Southern Myotis habitat
- Coastal Petaltail habitat
- Known Koala habitat

Threatened Ecological Communities (BC Act)

- Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions

Plant Community Type (ID)

- 1064
- 692
- 780
- NA
- Outside PIB
- AHIMS sites

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)

- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Existing groundwater bores (BoM, 1/8/2017)
- Dust depositional gauge (Monitoring Program - App D)
- Sensitive receivers

Sensitive receiver building type

- Commercial
- Industrial

COFFS HARBOUR BYPASS team

NOTES: Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

TITLE: Sensitive Area Maps

0 50 100m

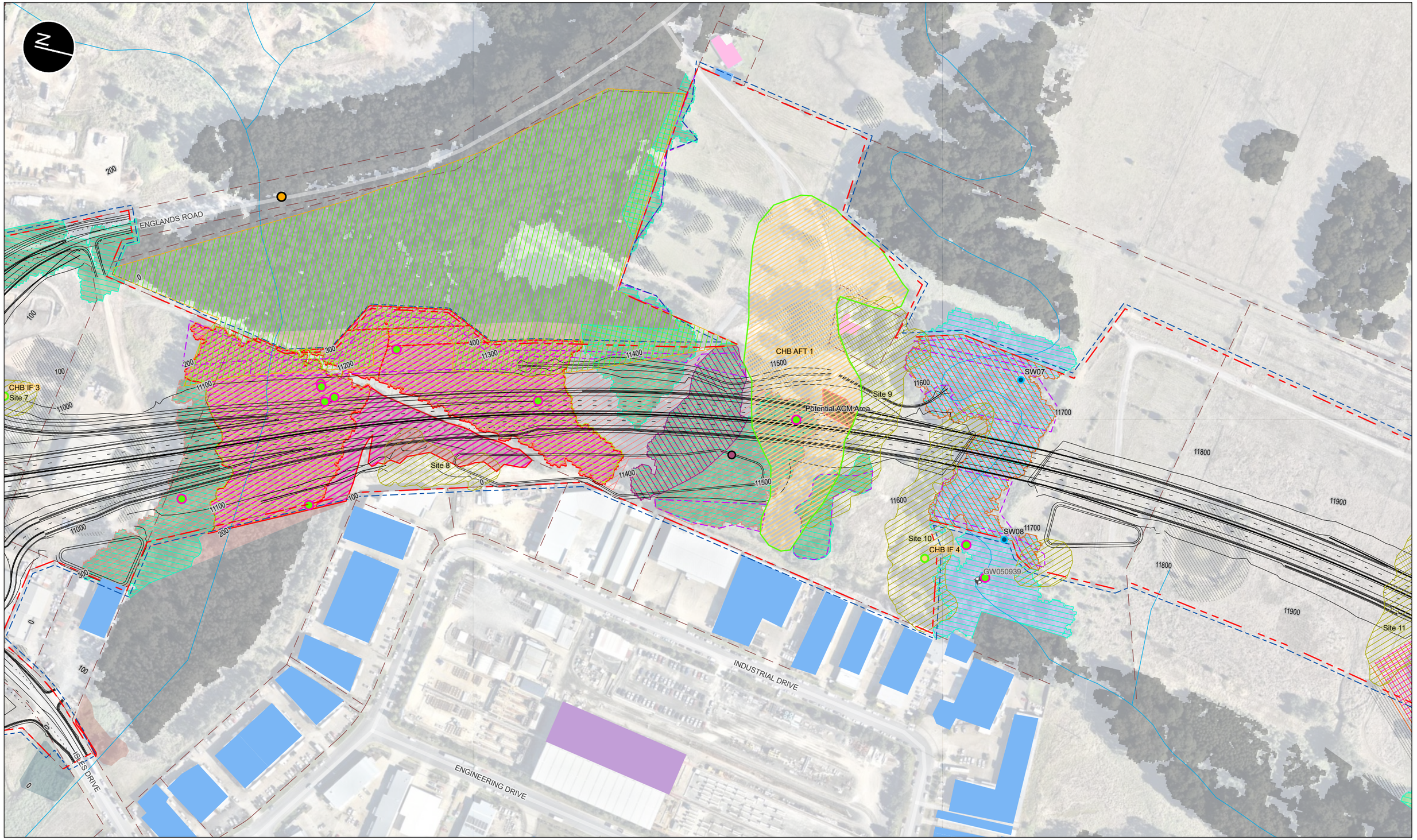
PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

CLIENT: TfNSW

SCALE: 1:2,500 A3 | DRAWN BY: JC | APPROVED: HC | MAP #: ENV M001 SAM | REV: 1

SHEET: 3 of 20 | COORDINATE SYSTEM: GDA2020 MGA Zone 56 | REVIEW: HC | DATE: 20/10/2022 | v1

MAPOLOGY for FGJV - GIS MAP file : CHB_Environment | C:\Live_Projects\chb_gis\a_current\maps\Environment\CHB_Environment.aprx



LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Proposed Road Design
- Survey Cadastral Models (NKWP, 2022.10.06)
- Surface water monitoring site
- Clearing boundary
- Clearing boundary (exclusion)
- Drainage lines
- Marsdenia Longiloba
- Hollow bearing trees
- Potential Microbat roost
- Proposed nest box sites
- Scrub Turpentine habitat
- Southern Myotis habitat
- Giant Barred Frog habitat
- Coastal Petaltail habitat
- Known Koala habitat

Threatened Ecological Communities (BC Act)

- Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions

Plant Community Type (ID)

- 1064
- 1244
- 692
- 747
- 780
- NA
- Outside PIB

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)

- Salvage completed

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

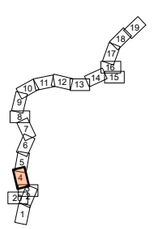
- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Existing groundwater bores (BoM, 1/8/2017)

Contamination

- Potential extent of contamination - below ground

Sensitive receiver building type

- Commercial
- Industrial
- Residential



COFFS HARBOUR BYPASS team

TITLE: Sensitive Area Maps	PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade		CLIENT: TfNSW
0 50 100m	SCALE: 1:2,500 A3	DRAWN BY: JC	APPROVED: HC
	SHEET: 4 of 20	REVIEW: HC	DATE: 20/10/2022
	COORDINATE SYSTEM: GDA2020 MGA Zone 56		MAP #: ENV M001 SAM v1 REV: 1

NOTES: Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

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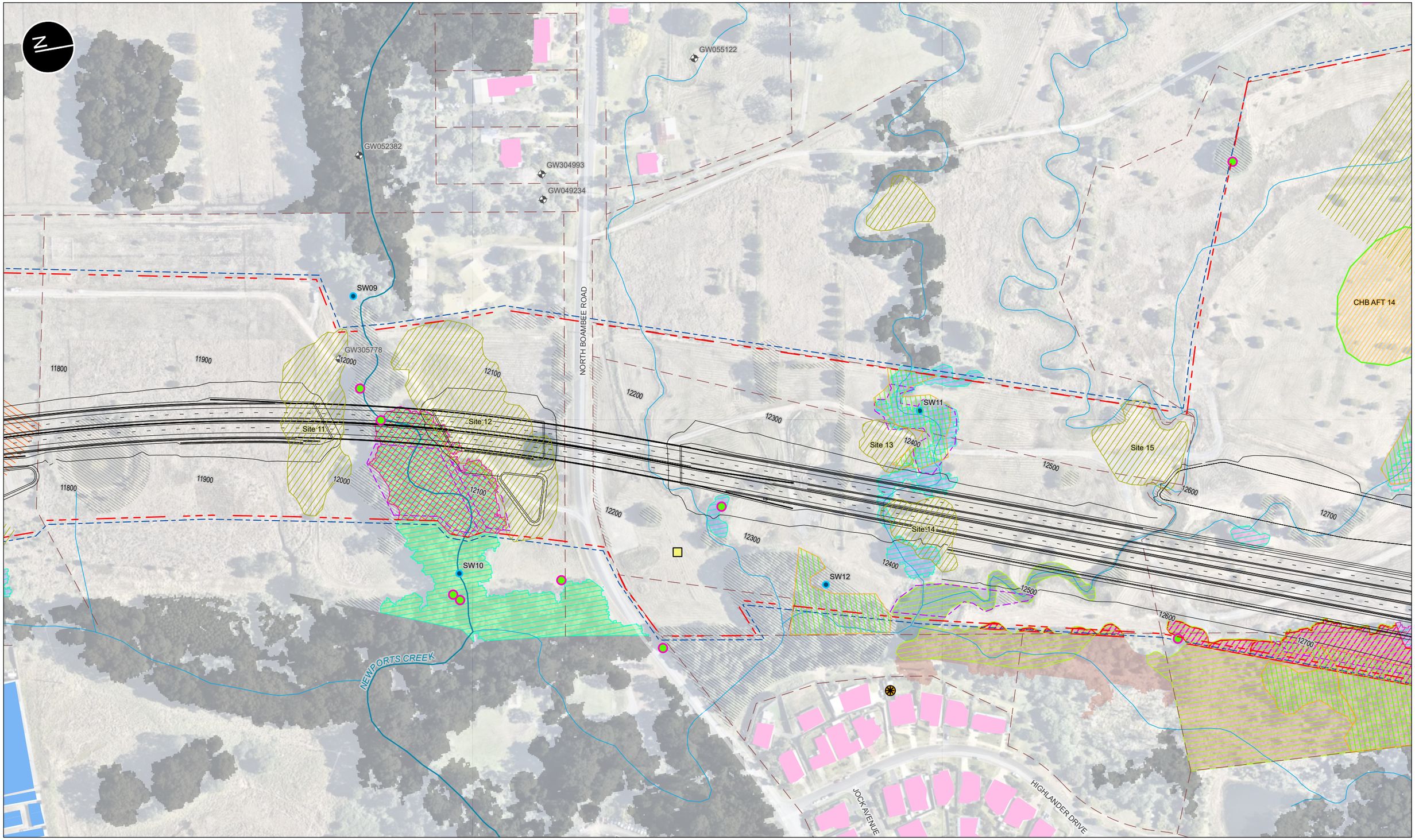


LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Surface water monitoring site
- Clearing boundary
- Clearing boundary (exclusion)
- Named Watercourses
- Drainage lines
- Hollow bearing trees
- Proposed nest box sites
- Common Planigale habitat
- Giant Barred Frog habitat
- Coastal Petaltail habitat
- Known Koala habitat

Threatened Ecological Communities (BC Act)

- Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions

Plant Community Type (ID)

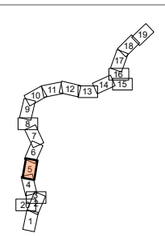
- 1064
- 1244
- 695
- 747
- 780
- NA
- Outside PIB
- AHIMS sites

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Existing groundwater bores (BoM, 1/8/2017)
- Dust depositional gauge (Monitoring Program - App D)

Sensitive receiver building type

- Commercial
- Residential
- School

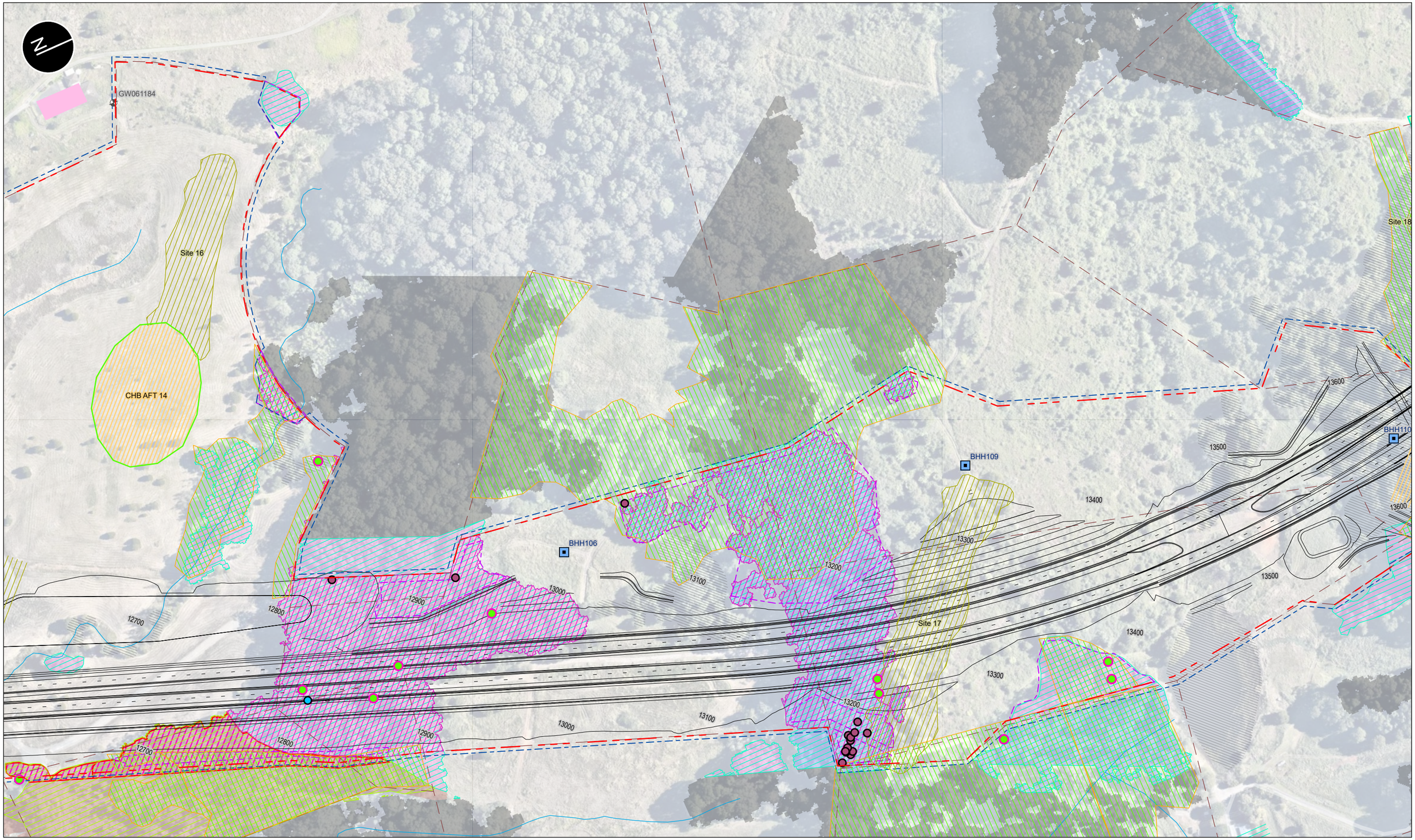


COFFS HARBOUR BYPASS team

TITLE: Sensitive Area Maps	PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade		CLIENT: TfNSW
0 50 100m	SCALE: 1:2,500 A3	DRAWN BY: JC	APPROVED: HC
	SHEET: 5 of 20	COORDINATE SYSTEM: GDA2020 MGA Zone 56	REVIEW: HC
		DATE: 20/10/2022	MAP #: ENV M001 SAM v1 REV: 1

NOTES: Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx



LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Clearing boundary
- Clearing boundary (exclusion)
- Drainage lines
- Rhodamnia Rubescens
- Marsdenia Longiloba
- Hollow bearing trees
- Proposed nest box sites
- Proposed BSA boundary
- Current banana plantation (2019.05)

Current Banana Plantations Susceptible to Panama Disease (TfNSW, 2021.12.13)

- Root zone only
- Common Planigale habitat
- Coastal Petaltail habitat
- Known Koala habitat

Threatened Ecological Communities (BC Act)

- Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions

Plant Community Type (ID)

- 1064
- 1262
- 695
- 747
- NA
- Outside PIB

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- GWMP Installed (RCA, 2021)
- Existing groundwater bores (BoM, 1/8/2017)

Sensitive receiver building type

- Residential

COFFS HARBOUR BYPASS team

NOTES
Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

TITLE: Sensitive Area Maps

PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

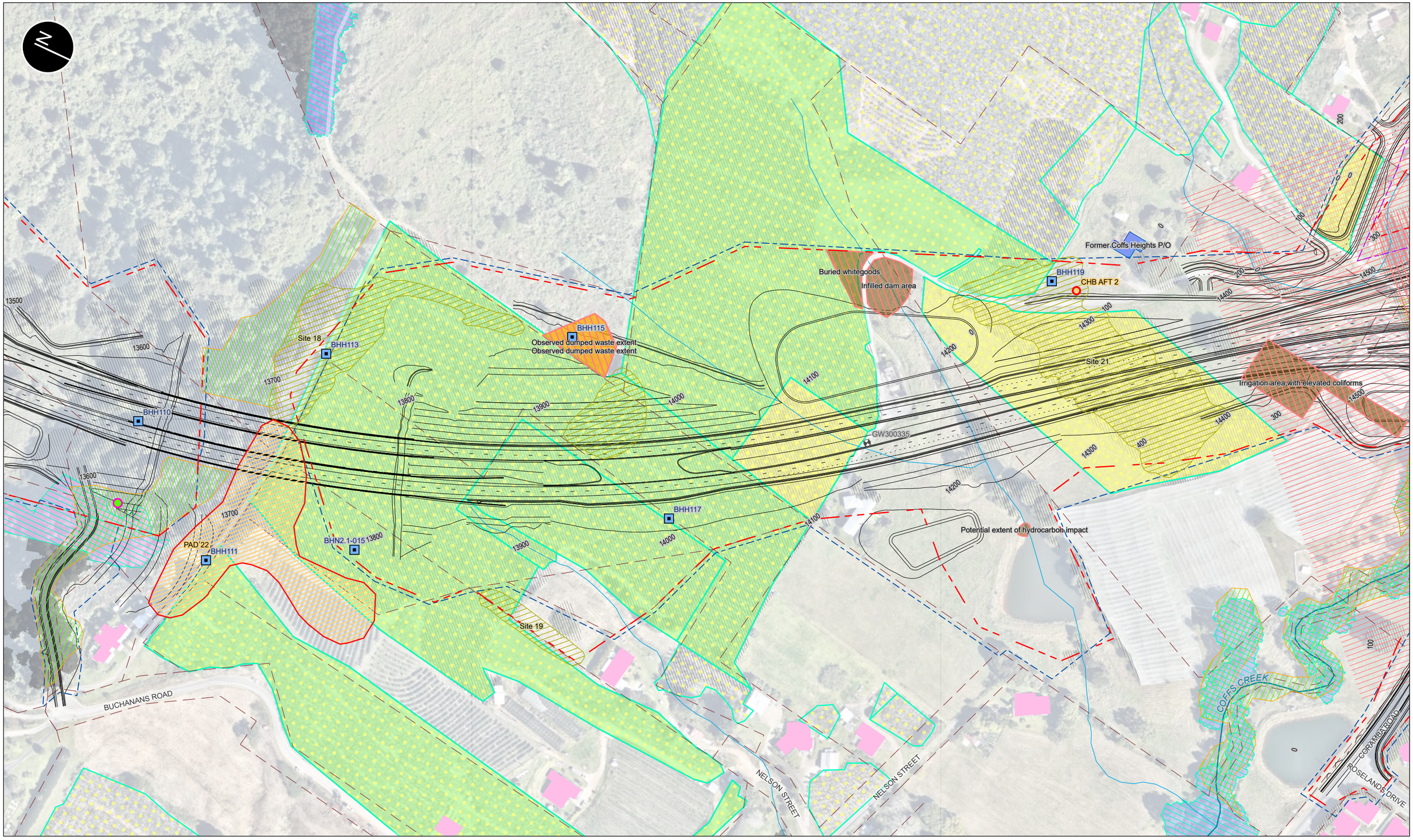
CLIENT: TfNSW

0 50 100m

SCALE: 1:2,500 A3 | DRAWN BY: JC | APPROVED: HC | MAP #: ENV M001 SAM | REV: 1

SHEET: 6 of 20 | COORDINATE SYSTEM: GDA2020 MGA Zone 56 | REVIEW: HC | DATE: 20/10/2022 | v1

MAPOLOGY for FGJV - GIS MAP file : CHB_Environment | C:\Live_Projects\chb_gis\a_current\maps\Environment\CHB_Environment.aprx



LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Clearing boundary
- Clearing boundary (exclusion)
- Named Watercourses
- Drainage lines
- Hollow bearing trees
- Proposed nest box sites
- Proposed BSA boundary
- Current banana plantation (2019.05)

Current Banana Plantations Susceptible to Panama Disease (TfNSW, 2021.12.13)

- Vegetation and root zone
- Root zone only
- Southern Myotis habitat
- Known Koala habitat

Plant Community Type (ID)

- 1262
- 695
- 747
- NA
- Outside PIB

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)

- Salvage not completed

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

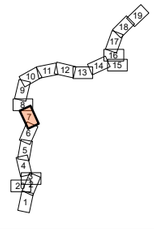
- Salvage not completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Historic heritage items
- GWMP Installed (RCA, 2021)
- Existing groundwater bores (BoM, 1/8/2017)

Contamination

- Potential extent of contamination - surface impact
- Potential extent of contamination - below ground

Sensitive receiver building type

- Residential

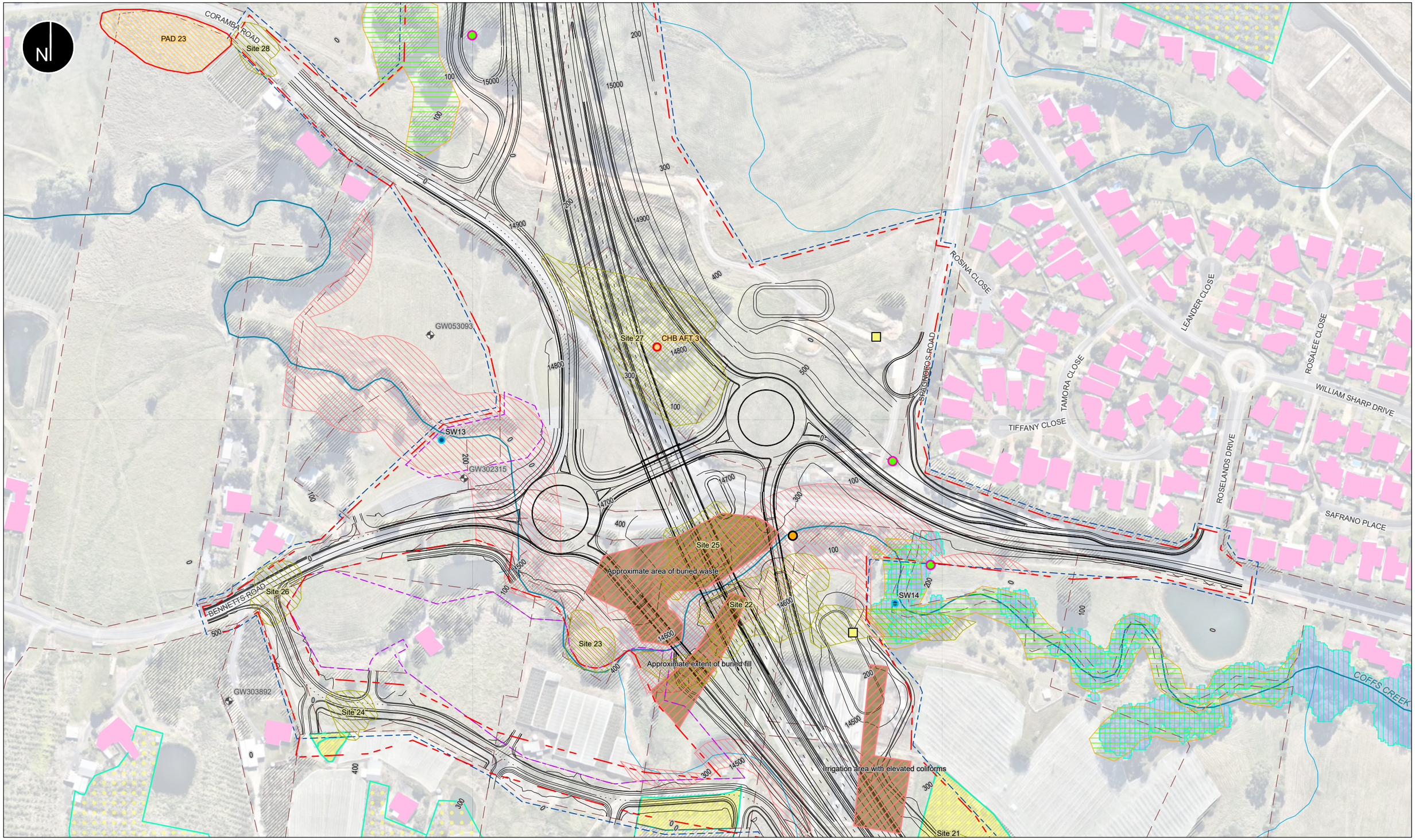


COFFS HARBOUR BYPASS team

TITLE: Sensitive Area Maps	PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade		CLIENT: TfNSW
0 50 100m	SCALE: 1:2,500 A3	DRAWN BY: JC	APPROVED: HC
	SHEET: 7 of 20	COORDINATE SYSTEM: GDA2020 MGA Zone 56	REVIEW: HC
			DATE: 20/10/2022
			MAP #: ENV M001 SAM v1
			REV: 1

NOTES: Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx



LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Surface water monitoring site
- Clearing boundary
- Clearing boundary (exclusion)
- Named Watercourses
- Drainage lines
- Hollow bearing trees
- Potential Microbat roost
- Proposed nest box sites
- Proposed BSA boundary
- Current banana plantation (2019.05)

Current Banana Plantations Susceptible to Panama Disease (TfNSW, 2021.12.13)

- Vegetation and root zone
- Southern Myotis habitat
- Known Koala habitat

Plant Community Type (ID)

- 747
- NA

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)

- Salvage not completed

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

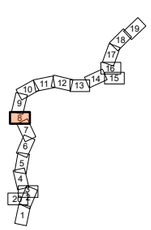
- Salvage not completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Existing groundwater bores (BoM, 1/8/2017)
- Dust depositional gauge (Monitoring Program - App D)

Contamination

- Potential extent of contamination - below ground

Sensitive receiver building type

- Residential



COFFS HARBOUR BYPASS team

NOTES
Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

TITLE: Sensitive Area Maps

PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

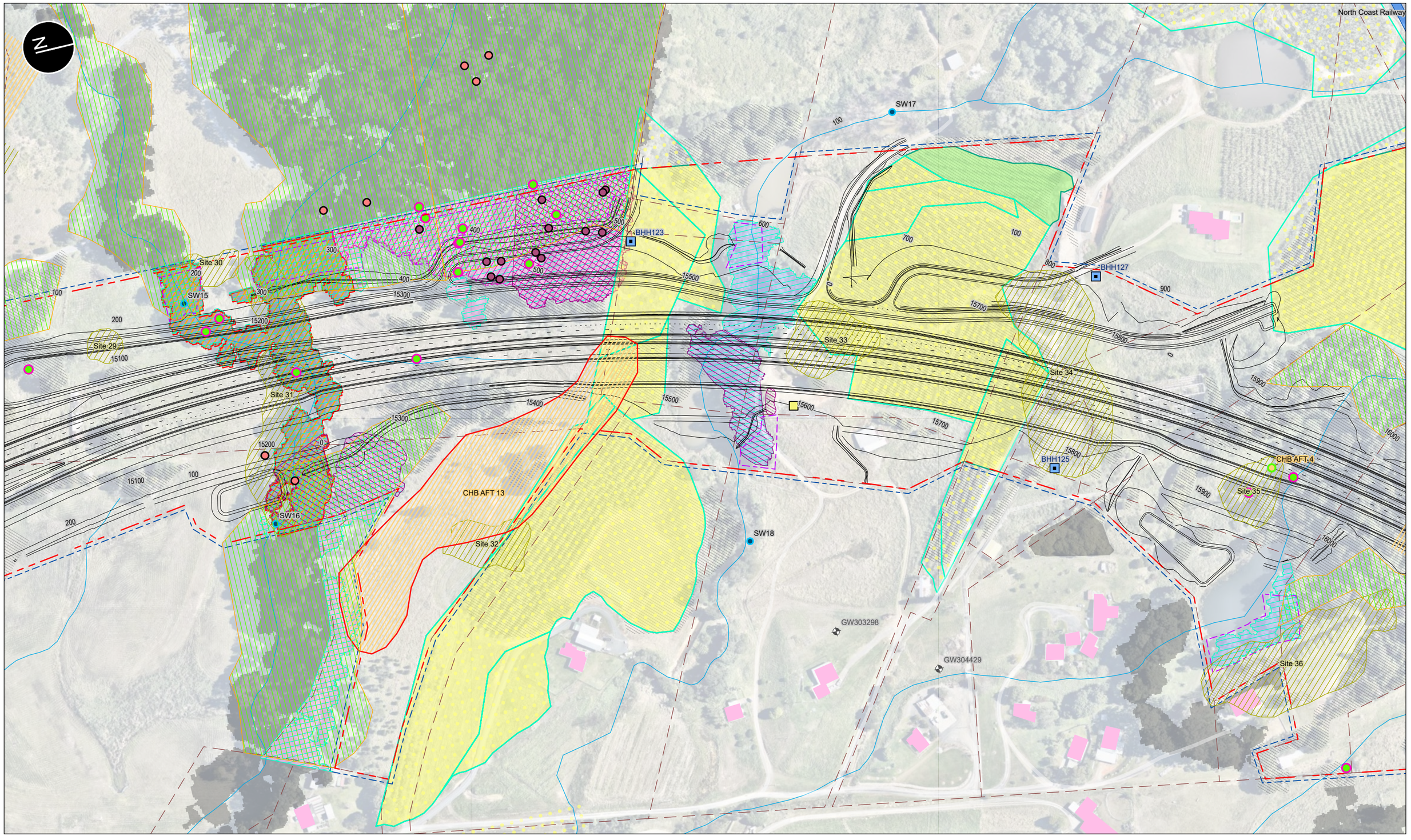
CLIENT: TfNSW

0 50 100m

SCALE: 1:2,500 A3 | DRAWN BY: JC | APPROVED: HC | MAP #: ENV M001 SAM | REV: v1 1

SHEET: 8 of 20 | COORDINATE SYSTEM: GDA2020 MGA Zone 56 | REVIEW: HC | DATE: 20/10/2022

MAPOLOGY for FGJV - GIS MAP file : CHB_Environment | C:\Live_Projects\chb_gis\a_current\maps\Environment\CHB_Environment.aprx



LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Surface water monitoring site
- Clearing boundary
- Clearing boundary (exclusion)
- Drainage lines
- Marsdenia Longiloba
- Niemeyera Whitei
- Hollow bearing trees
- Proposed nest box sites
- Proposed BSA boundary
- Current banana plantation (2019.05)

Current Banana Plantations Susceptible to Panama Disease (TfNSW, 2021.12.13)

- Vegetation and root zone
- Root zone only
- Scrub Turpentine habitat
- Common Planigale habitat
- Known Koala habitat

Threatened Ecological Communities (BC Act)

- Lowland Rainforest in NSW North Coast and Sydney Basin Bioregion

Plant Community Type (ID)

- 1302
- 695
- 747
- NA
- Outside PIB

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)

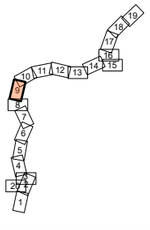
- Salvage completed

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

- Salvage not completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Historic heritage items
- GWMP Installed (RCA, 2021)
- Existing groundwater bores (BoM, 1/8/2017)
- Dust depositional gauge (Monitoring Program - App D)

Sensitive receiver building type

- Residential



COFFS HARBOUR BYPASS teamm

NOTES
Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

TITLE: Sensitive Area Maps

0 50 100m

PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

CLIENT: TfNSW

SCALE: 1:2,500 A3

DRAWN BY: JC

APPROVED: HC

REVIEW: HC

SHEET: 9 of 20

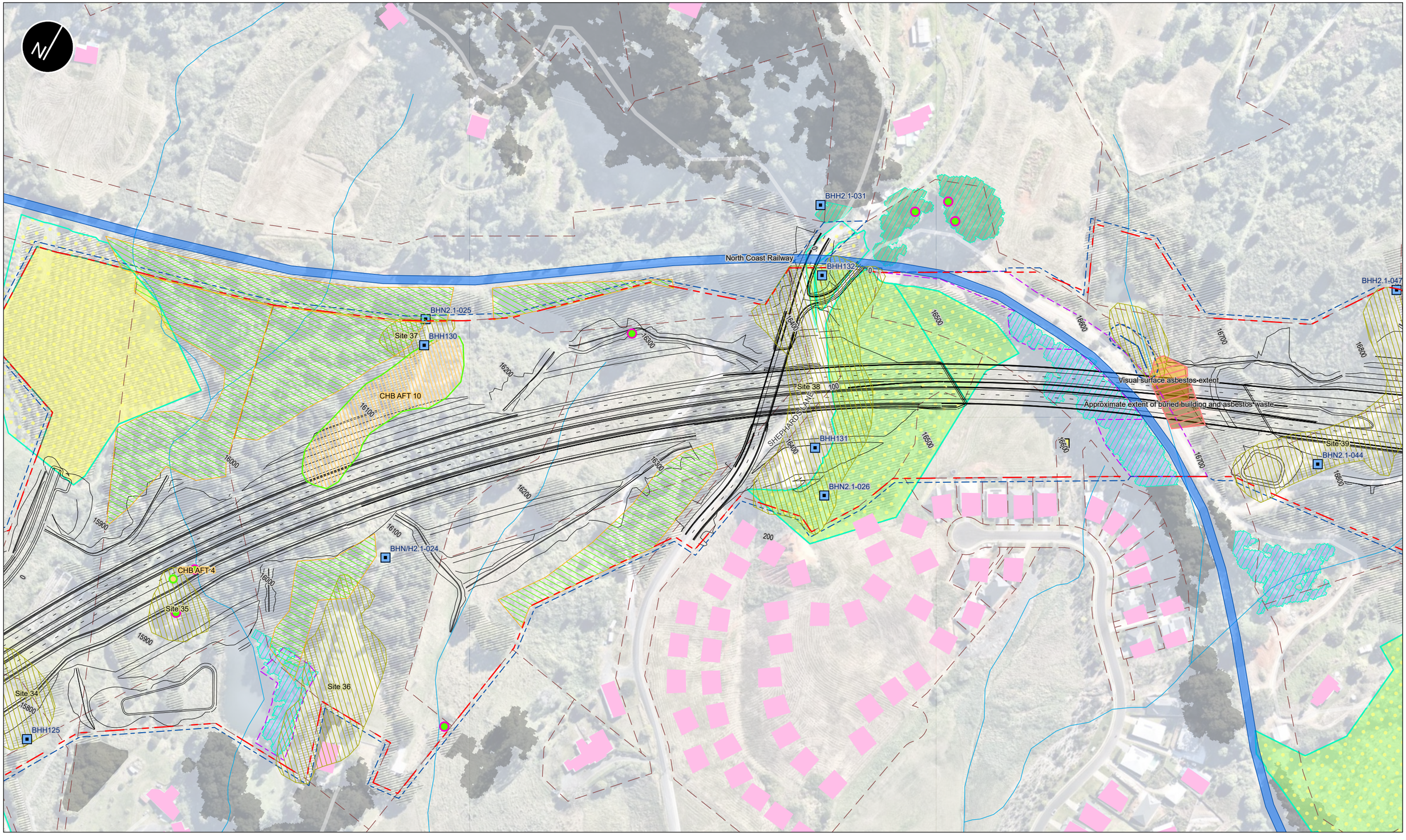
COORDINATE SYSTEM: GDA2020 MGA Zone 56

DATE: 20/10/2022

MAP #: ENV M001 SAM v1

REV: 1

MAPOLOGY for FGJV - GIS MAP file : CHB_Environment | C:\Live_Projects\chb_gis\a_current\maps\Environment\CHB_Environment.aprx



LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Clearing boundary
- Clearing boundary (exclusion)
- Drainage lines
- Hollow bearing trees
- Proposed nest box sites
- Current banana plantation (2019.05)

Current Banana Plantations Susceptible to Panama Disease (TfNSW, 2021.12.13)

- Vegetation and root zone
- Root zone only
- Known Koala habitat

Plant Community Type (ID)

- 692
- 747
- NA
- Outside PIB

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)

- Salvage completed

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Historic heritage items
- North Coast Railway buffer
- GWMP Installed (RCA, 2021)
- Dust depositional gauge (Monitoring Program - App D)

Contamination

- Potential extent of contamination - surface impact
- Potential extent of contamination - below ground

Sensitive receiver building type

- Residential

COFFS HARBOUR BYPASS team

NOTES
Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

TITLE: Sensitive Area Maps

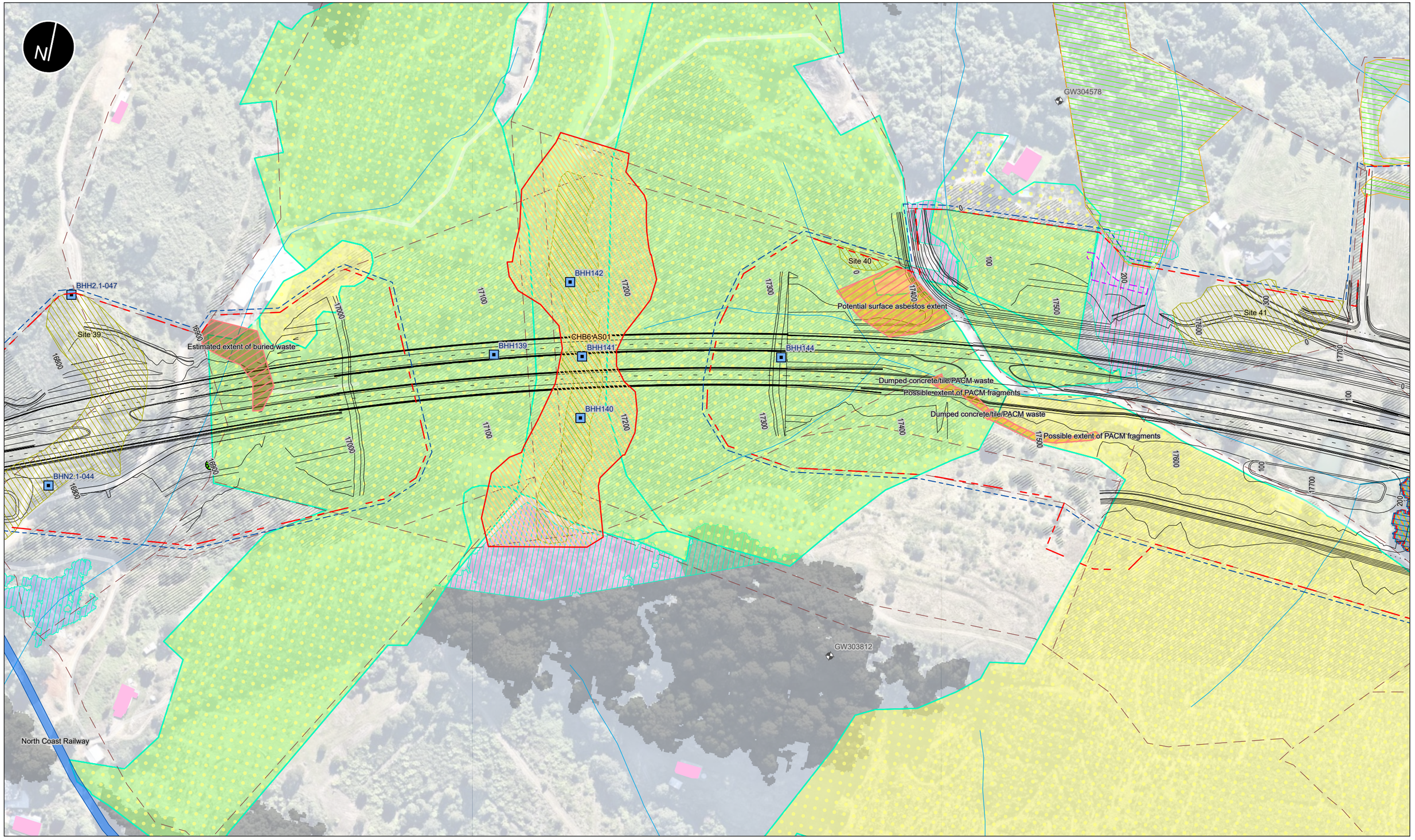
0 50 100m

PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

CLIENT: TfNSW

SCALE	DRAWN BY	APPROVED	MAP #	REV
1:2,500 A3	JC	HC	ENV M001 SAM	1
SHEET: 10 of 20	REVIEW: HC	DATE: 20/10/2022	v1	

COORDINATE SYSTEM: GDA2020 MGA Zone 56



LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Clearing boundary
- Clearing boundary (exclusion)
- Named Watercourses
- Drainage lines
- Proposed nest box sites
- Current banana plantation (2019.05)

Current Banana Plantations Susceptible to Panama Disease (TfNSW, 2021.12.13)

- Vegetation and root zone
- Root zone only
- Rusty Plum habitat
- Known Koala habitat

Threatened Ecological Communities (BC Act)

- Lowland Rainforest in NSW North Coast and Sydney Basin Bioregion

Plant Community Type (ID)

- 1302
- 692
- 695
- 747
- NA
- Outside PIB
- Tree stumps

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

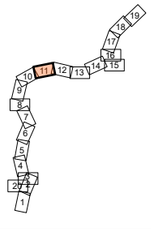
- Salvage not completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Historic heritage items
- GWMP Installed (RCA, 2021)
- Existing groundwater bores (BoM, 1/8/2017)

Contamination

- Potential extent of contamination - surface impact
- Potential extent of contamination - below ground

Sensitive receiver building type

- Residential



COFFS HARBOUR BYPASS team

NOTES
Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

TITLE: Sensitive Area Maps

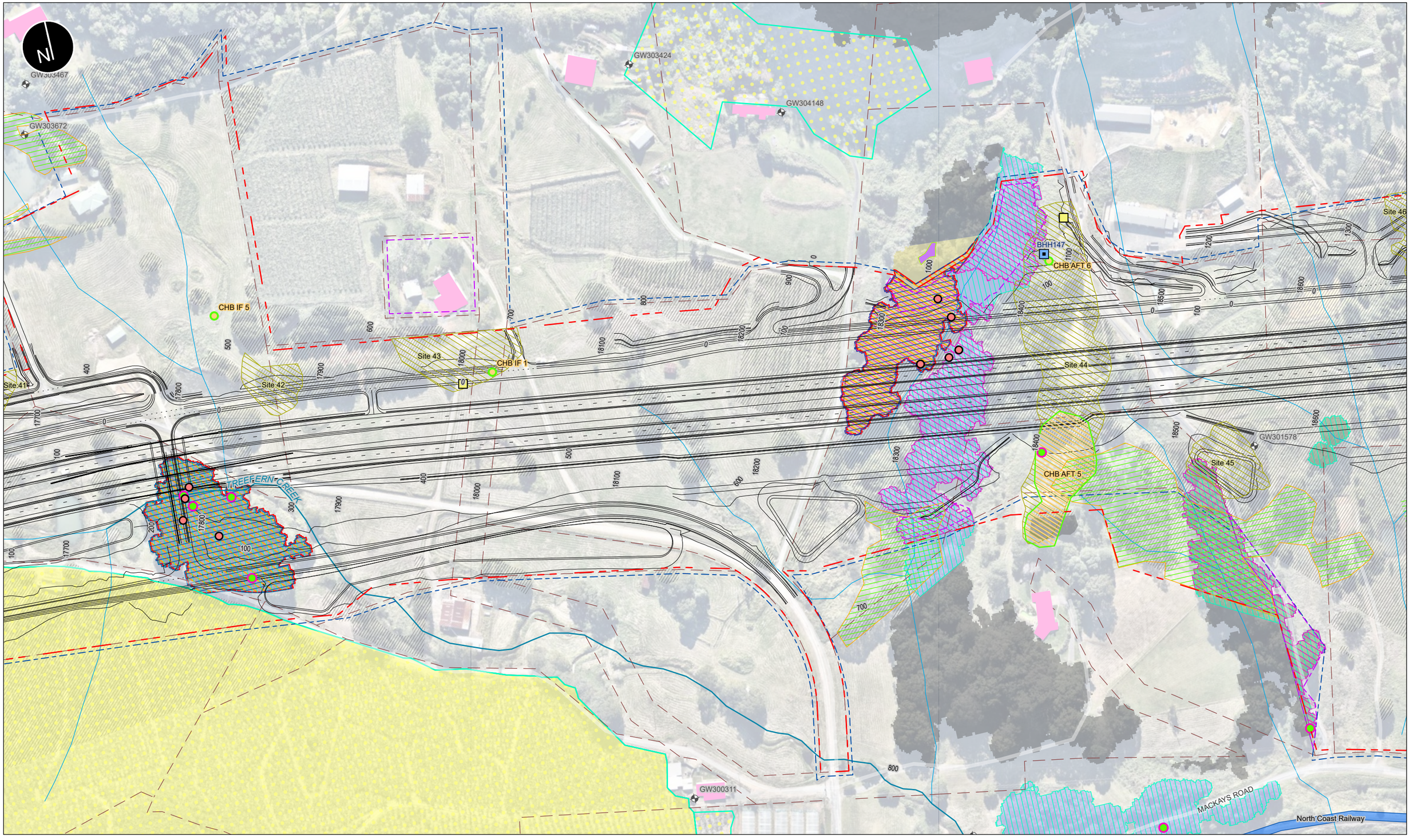
PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

CLIENT: TfNSW

0 50 100m

SCALE: 1:2,500 A3 | DRAWN BY: JC | APPROVED: HC | MAP #: ENV M001 SAM | REV: 1

SHEET: 11 of 20 | COORDINATE SYSTEM: GDA2020 MGA Zone 56 | REVIEW: HC | DATE: 20/10/2022 | v1



LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Clearing boundary
- Clearing boundary (exclusion)
- Named Watercourses
- Drainage lines
- Niemeyera Whitei
- Pittosporum Patches (2022.06.23)
- Hollow bearing trees
- Proposed nest box sites
- Current banana plantation (2019.05)

Current Banana Plantations Susceptible to Panama Disease (TfNSW, 2021.12.13)

- Vegetation and root zone
- Rusty Plum habitat
- Common Planigale habitat
- Known Koala habitat

Threatened Ecological Communities (BC Act)

- Lowland Rainforest in NSW North Coast and Sydney Basin Bioregion

Plant Community Type (ID)

- 1302
- 670
- 692
- 747
- NA
- Outside PIB

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)

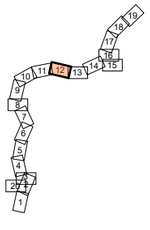
- Salvage completed

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Historic heritage items
- GWMP Installed (RCA, 2021)
- Existing groundwater bores (BoM, 1/8/2017)
- Dust depositional gauge (Monitoring Program - App D)

Sensitive receiver building type

- Residential



COFFS HARBOUR BYPASS team

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REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

TITLE: Sensitive Area Maps

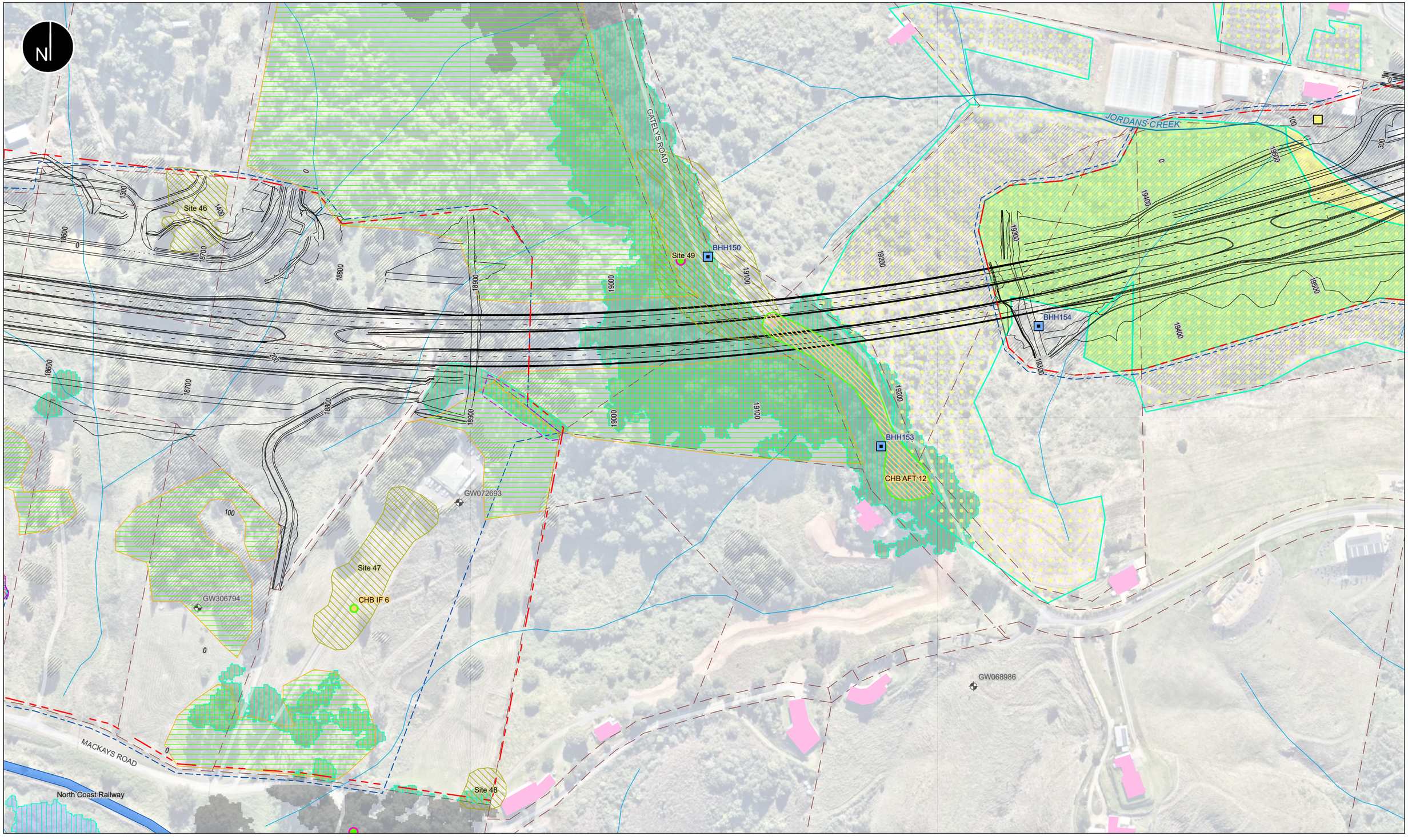
0 50 100m

PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

CLIENT: TfNSW

SCALE: 1:2,500 A3 | DRAWN BY: JC | APPROVED: HC | MAP #: ENV M001 SAM | REV: 1

SHEET: 12 of 20 | COORDINATE SYSTEM: GDA2020 MGA Zone 56 | REVIEW: HC | DATE: 20/10/2022 | v1



LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Clearing boundary
- Clearing boundary (exclusion)
- Named Watercourses
- Drainage lines
- Hollow bearing trees
- Proposed nest box sites
- Proposed BSA boundary
- Current banana plantation (2019.05)

Current Banana Plantations Susceptible to Panama Disease (TfNSW, 2021.12.13)

- Vegetation and root zone
- Root zone only
- Common Planigale habitat
- Known Koala habitat

Plant Community Type (ID)

- 692
- 747
- NA
- Outside PIB

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)

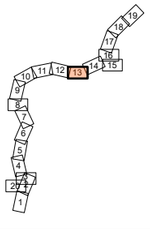
- Salvage completed

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Historic heritage items
- GWMP Installed (RCA, 2021)
- Existing groundwater bores (BoM, 1/8/2017)
- Dust depositional gauge (Monitoring Program - App D)

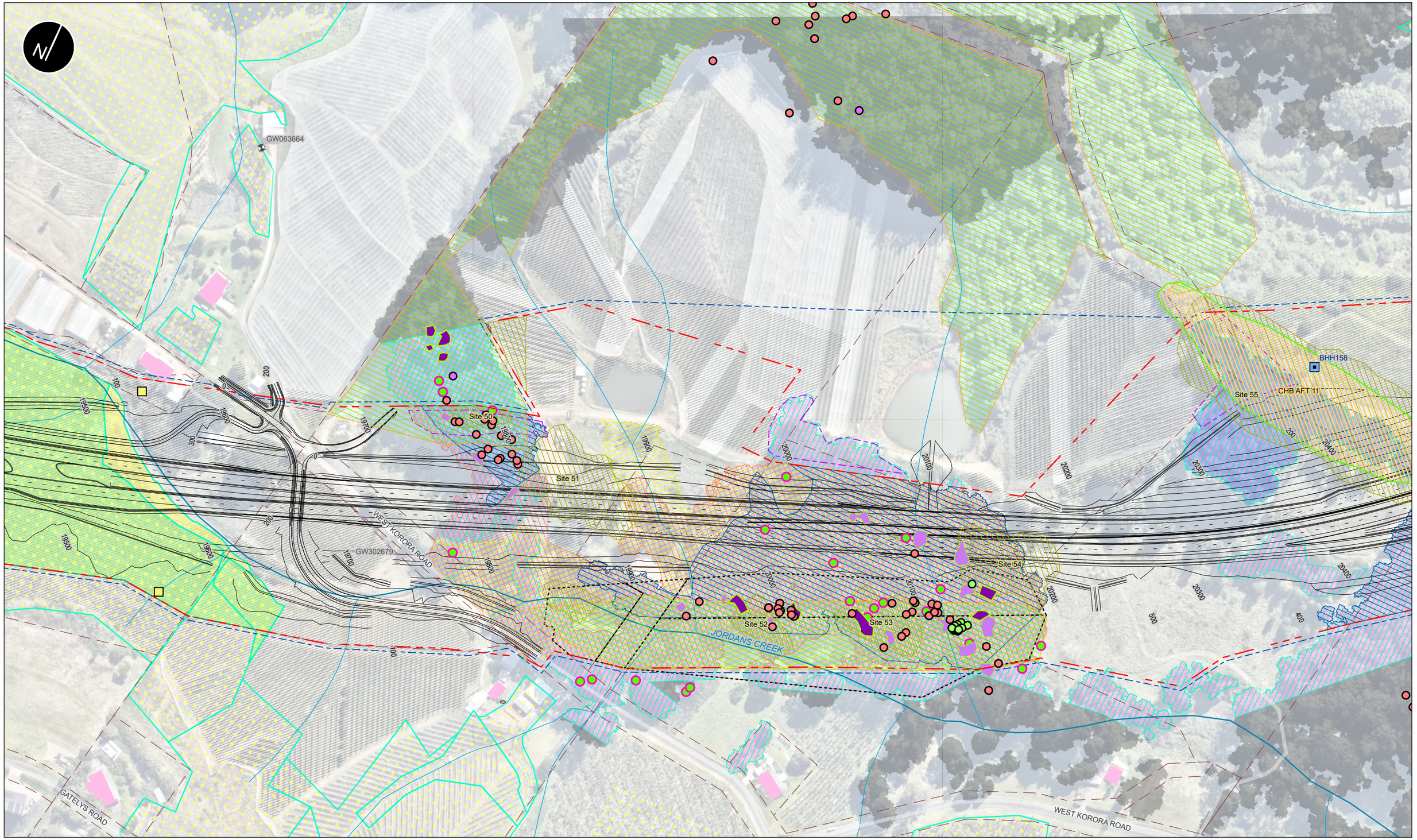
Sensitive receiver building type

- Residential



COFFS HARBOUR BYPASS team

NOTES: Xxxxx			REV 1 · DATE 20.10.2022 · DESCRIPTION Xxxxx
TITLE: Sensitive Area Maps	PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade		CLIENT: TfNSW
0 50 100m	SCALE: 1:2,500 A3 · DRAWN BY: JC	APPROVED: HC	MAP # ENV M001 SAM v1 · REV 1
	SHEET: 13 of 20 · COORDINATE SYSTEM: GDA2020 MGA Zone 56 · REVIEW: HC	DATE: 20/10/2022	



LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Potential exclusion zone around Jordans Creek
- Clearing boundary
- Clearing boundary (exclusion)
- Named Watercourses
- Drainage lines
- Niemeyera Whitei
- Fontainea
- Pittosporum
- Translocated Pittosporum Patches (2022.09.06)
- Pittosporum Patches (2022.06.23)
- Hollow bearing trees
- Proposed nest box sites
- Proposed BSA boundary
- Current banana plantation (2019.05)

Current Banana Plantations Susceptible to Panama Disease (TfNSW, 2021.12.13)

- Vegetation and root zone
- Root zone only
- Rusty Plum habitat
- Southern Myotis habitat
- Pale Vented Bush Hen habitat
- Known Koala habitat

Plant Community Type (ID)

- 1262
- 695
- 747
- NA
- Outside PIB

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- GWMP Installed (RCA, 2021)
- Existing groundwater bores (BoM, 1/8/2017)
- Dust depositional gauge (Monitoring Program - App D)

Sensitive receiver building type

- Residential

COFFS HARBOUR BYPASS team

NOTES: Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

TITLE: Sensitive Area Maps

0 50 100m

PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

CLIENT: TfNSW

SCALE: 1:2,500 A3 | DRAWN BY: JC | APPROVED: HC | MAP #: ENV M001 SAM | REV: 1

SHEET: 14 of 20 | COORDINATE SYSTEM: GDA2020 MGA Zone 56 | REVIEW: HC | DATE: 20/10/2022 | v1

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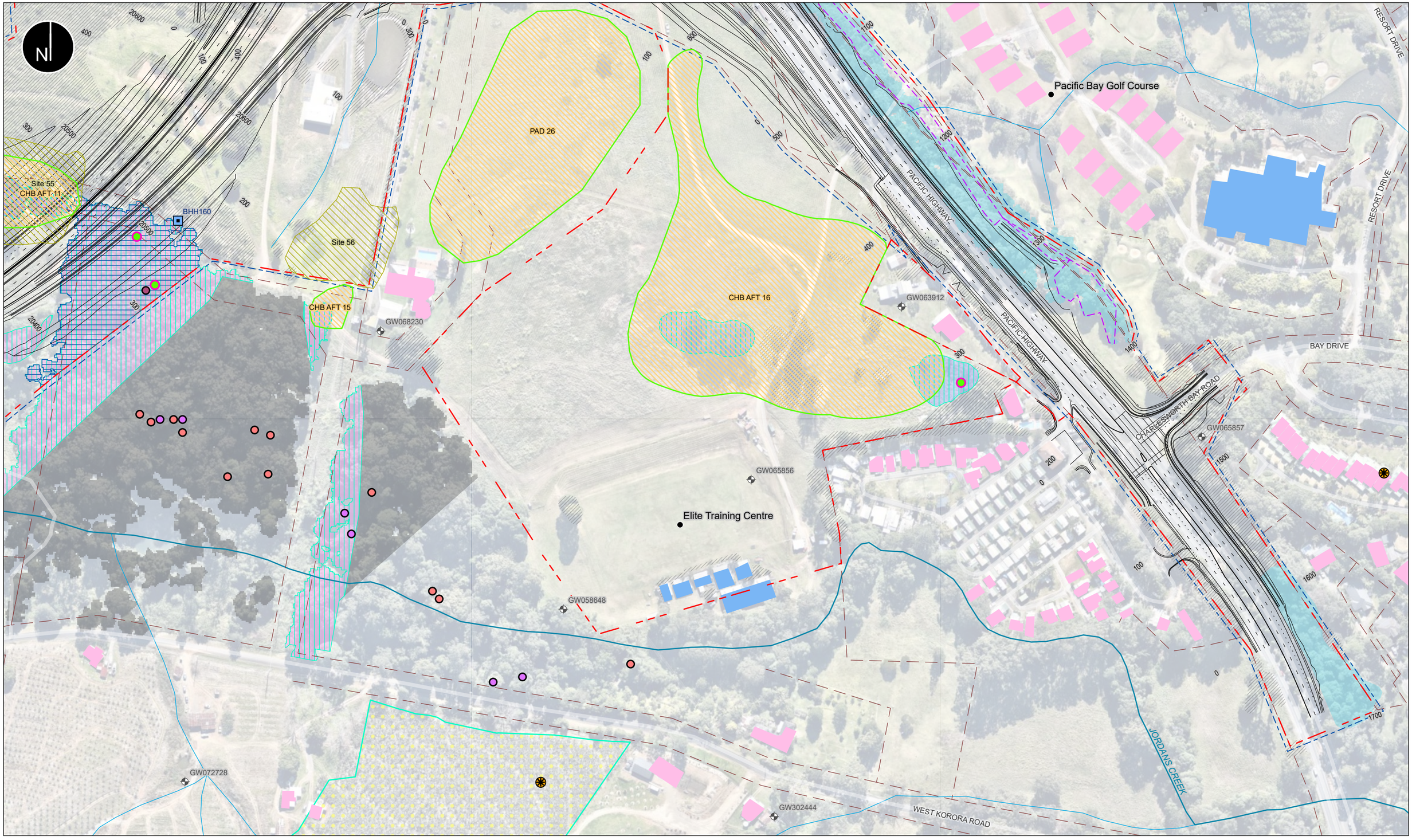


LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Clearing boundary
- Clearing boundary (exclusion)
- Named Watercourses
- Drainage lines
- Marsdenia Longiloba
- Niemeyera Whitei
- Pittosporum
- Hollow bearing trees
- Proposed BSA boundary
- Current banana plantation (2019.05)
- Rusty Plum habitat
- Known Koala habitat

Plant Community Type (ID)

- 1262
- 1285
- 695
- 747
- NA
- Outside PIB

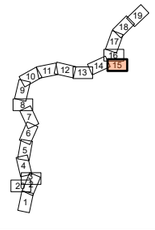
- AHIMS sites

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- GWMP Installed (RCA, 2021)
- Existing groundwater bores (BoM, 1/8/2017)
- Sensitive receivers

Sensitive receiver building type

- Commercial
- Residential



COFFS HARBOUR BYPASS team

NOTES
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REV	DATE	DESCRIPTION
1	20.10.2022	Xxxx

TITLE: Sensitive Area Maps

0 50 100m

PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

CLIENT: TfNSW

SCALE: 1:2,500 | A3 | DRAWN BY: JC | APPROVED: HC

SHEET: 15 of 20 | COORDINATE SYSTEM: GDA2020 MGA Zone 56 | REVIEW: HC | DATE: 20/10/2022

MAP #: ENV M001 SAM v1 | REV: 1

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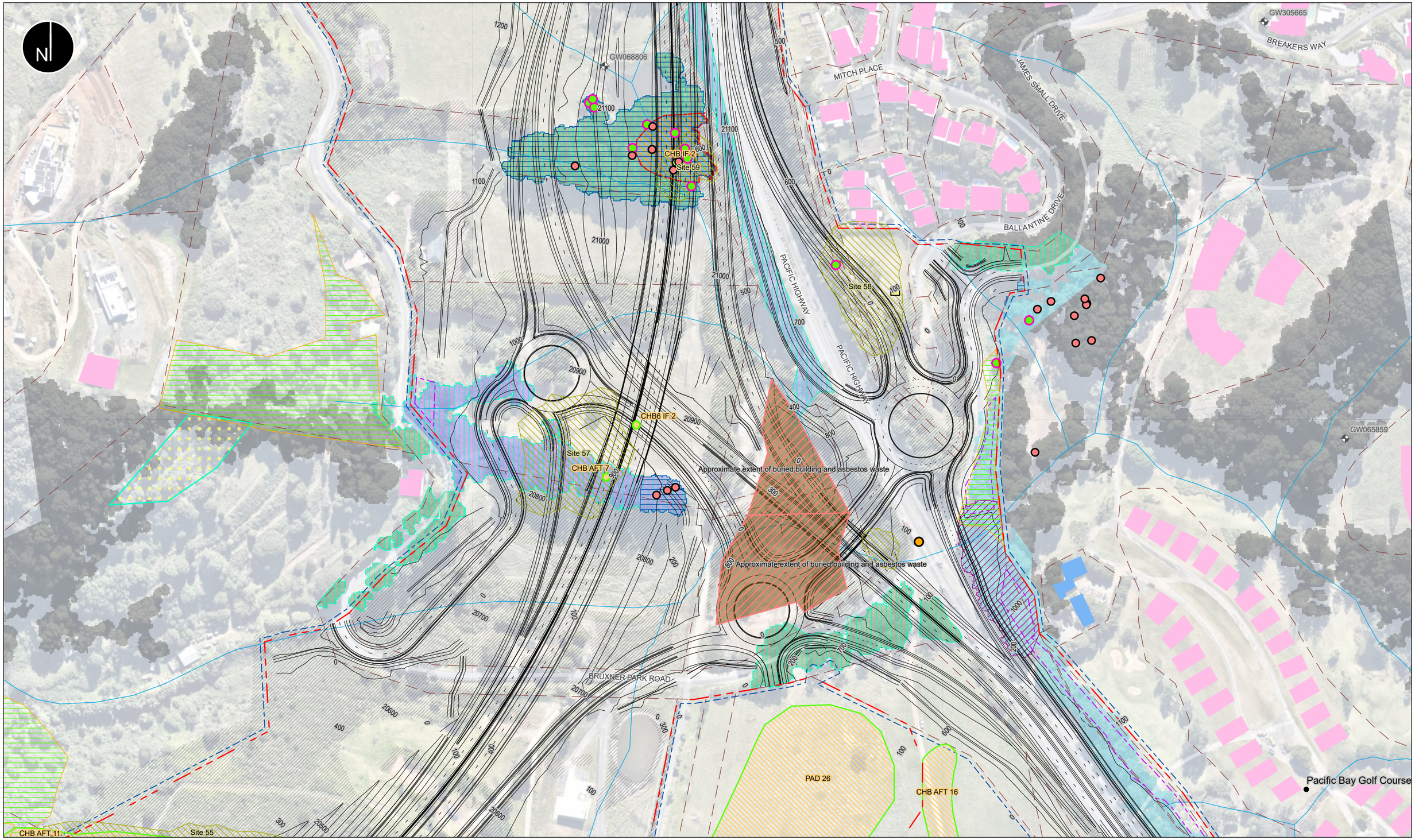


LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Clearing boundary
- Clearing boundary (exclusion)
- Drainage lines
- Niemeyera Whitei
- Fontainea
- Hollow bearing trees
- Potential Microbat roost
- Proposed nest box sites
- Current banana plantation (2019.05)
- Rusty Plum habitat
- Scrub Turpentine habitat
- Known Koala habitat

Threatened Ecological Communities (BC Act)

- Lowland Rainforest in NSW North Coast and Sydney Basin Bioregion

Plant Community Type (ID)

- 1262
- 1285
- 1302
- 692
- 747
- NA
- Outside PIB

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)

- Salvage completed

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

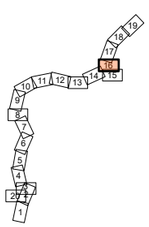
- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Existing groundwater bores (BoM, 1/8/2017)
- Dust depositional gauge (Monitoring Program - App D)

Contamination

- Potential extent of contamination - below ground
- Sensitive receivers

Sensitive receiver building type

- Commercial
- Residential



COFFS HARBOUR BYPASS team

NOTES: Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

TITLE: Sensitive Area Maps

0 50 100m

PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

CLIENT: TfNSW

SCALE: 1:2,500 A3 | DRAWN BY: JC | APPROVED: HC | MAP #: ENV M001 SAM | REV: 1

SHEET: 16 of 20 | COORDINATE SYSTEM: GDA2020 MGA Zone 56 | REVIEW: HC | DATE: 20/10/2022 | v1

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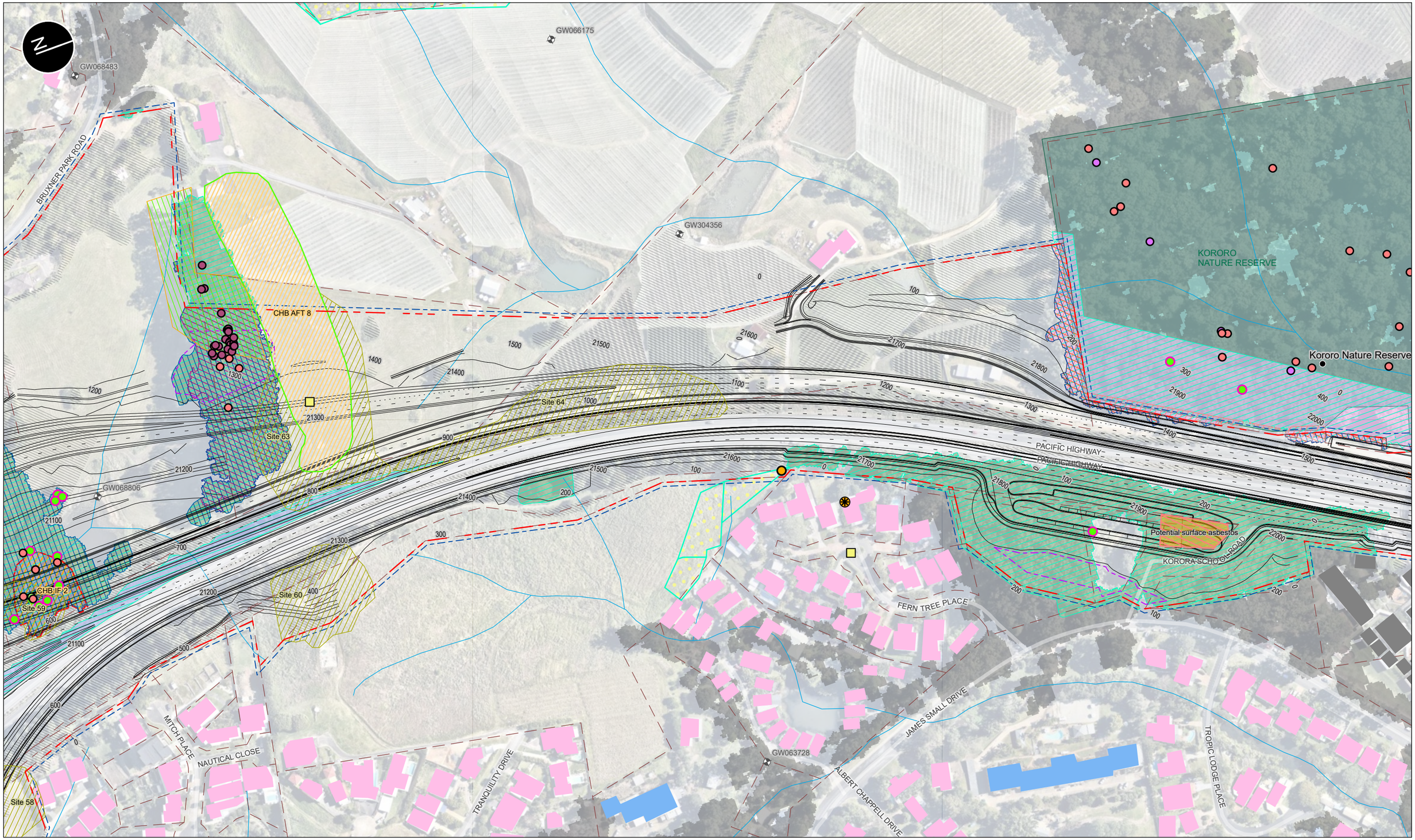


LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Clearing boundary
- Clearing boundary (exclusion)
- Reserves
- Drainage lines
- Marsdenia Longiloba
- Niemeyera Whitei
- Fontainea
- Pittosporum
- Hollow bearing trees
- Potential Microbat roost
- Proposed nest box sites
- Current banana plantation (2019.05)
- Rusty Plum habitat
- Scrub Turpentine habitat
- Southern Myotis habitat
- Giant Barred Frog habitat
- Known Koala habitat

Threatened Ecological Communities (BC Act)

- Lowland Rainforest in NSW North Coast and Sydney Basin Bioregion

Plant Community Type (ID)

- 1302
- 692
- 695
- 747
- NA
- Outside PIB
- AHIMS sites

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)

- Salvage completed

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

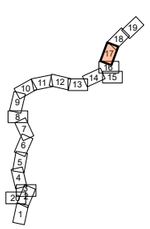
- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Existing groundwater bores (BoM, 1/8/2017)
- Dust depositional gauge (Monitoring Program - App D)

Contamination

- Potential extent of contamination - surface impact
- Sensitive receivers

Sensitive receiver building type

- Commercial
- Residential
- School



COFFS HARBOUR BYPASS team

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REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

TITLE: Sensitive Area Maps

PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

CLIENT: TfNSW

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SCALE: 1:2,500 A3 | DRAWN BY: JC | APPROVED: HC | MAP #: ENV M001 SAM | REV: v1 1

SHEET: 17 of 20 | COORDINATE SYSTEM: GDA2020 MGA Zone 56 | REVIEW: HC | DATE: 20/10/2022

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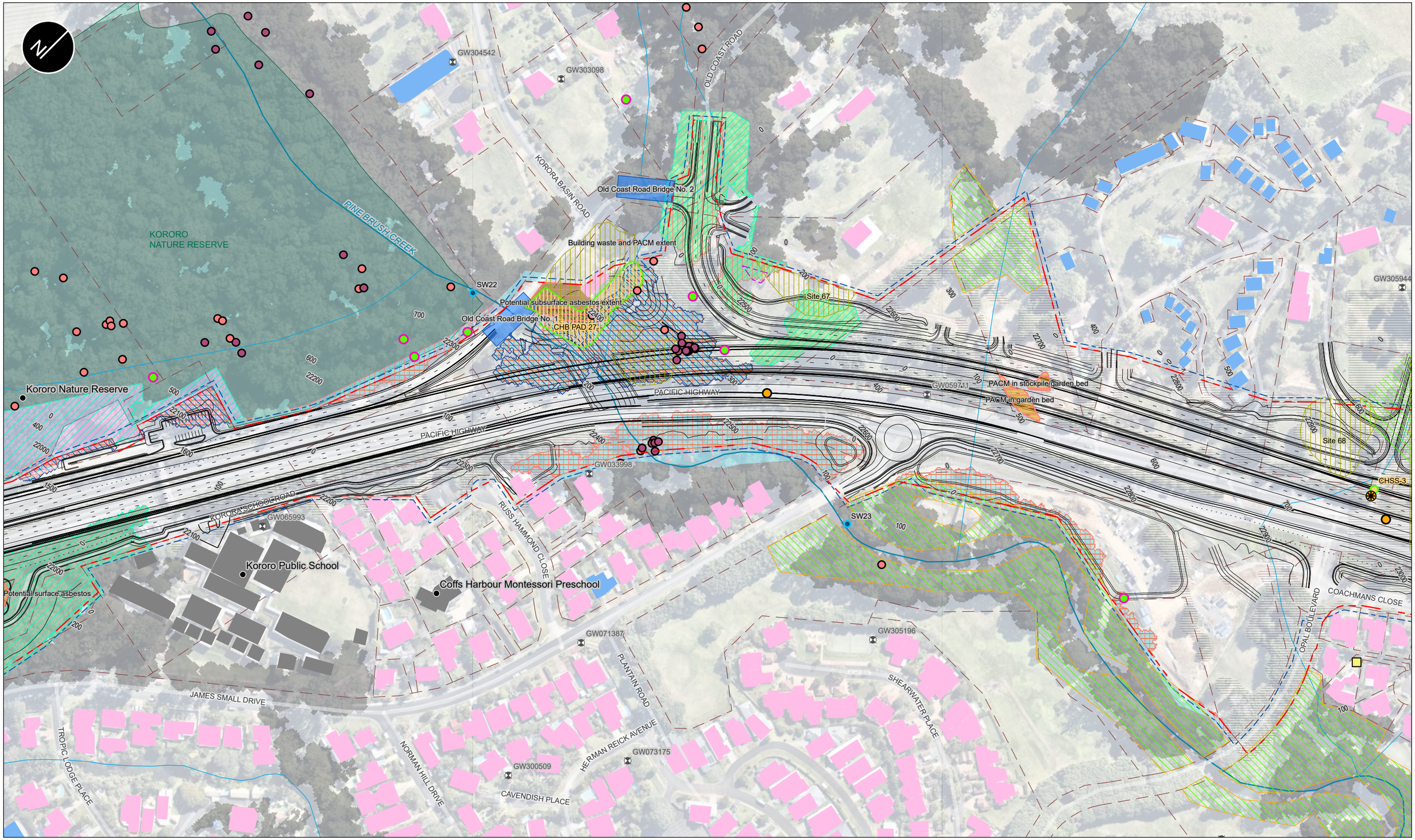

LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Surface water monitoring site
- Clearing boundary
- Clearing boundary (exclusion)
- Reserves
- Named Watercourses
- Drainage lines
- Marsdenia Longiloba
- Niemeyera Whitei
- Hollow bearing trees
- Potential Microbat roost
- Proposed nest box sites
- Rusty Plum habitat
- Southern Myotis habitat
- Giant Barred Frog habitat
- Known Koala habitat

Plant Community Type (ID)

- 1244
- 1285
- 692
- 695
- NA
- Outside PIB
- AHIMS sites

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)

- Salvage completed

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Historic heritage items
- Existing groundwater bores (BoM, 1/8/2017)
- Dust depositional gauge (Monitoring Program - App D)

Contamination

- Potential extent of contamination - surface impact
- Potential extent of contamination - below ground
- Sensitive receivers

Sensitive receiver building type

- Commercial
- Residential
- School

0 50 100m

COFFS HARBOUR BYPASS team

NOTES
Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

TITLE: Sensitive Area Maps

PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

CLIENT: TfNSW

SCALE: 1:2,500 | A3 | DRAWN BY: JC | APPROVED: HC | MAP #: ENV M001 SAM | REV: v1 1

SHEET: 18 of 20 | COORDINATE SYSTEM: GDA2020 MGA Zone 56 | REVIEW: HC | DATE: 20/10/2022

MAPOLOGY for FGJV - GIS MAP file : CHB_Environment | C:\Live_Projects\chb_gis\a_current\maps\Environment\CHB_Environment.aprx

LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Survey Cadastral Models (NKWP, 2022.10.06)
- Surface water monitoring site
- Clearing boundary
- Clearing boundary (exclusion)
- Reserves
- Named Watercourses
- Drainage lines
- Hollow bearing trees
- Potential Microbat roost
- Proposed nest box sites
- Current banana plantation (2019.05)
- Rusty Plum habitat
- Scrub Turpentine habitat
- Known Koala habitat

Plant Community Type (ID)

- 695
- 747
- NA
- Outside PIB
- AHIMS sites

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)

- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Existing groundwater bores (BoM, 1/8/2017)
- Dust depositional gauge (Monitoring Program - App D)

Contamination

- Potential extent of contamination - surface impact

Sensitive receiver building type

- Commercial
- Residential

COFFS HARBOUR BYPASS team

NOTES: Xxxxx

REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

TITLE: Sensitive Area Maps

PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

CLIENT: TfNSW

0 50 100m

SCALE: 1:2,500 A3 | DRAWN BY: JC | APPROVED: HC | MAP #: ENV M001 SAM | REV: 1

SHEET: 19 of 20 | COORDINATE SYSTEM: GDA2020 MGA Zone 56 | REVIEW: HC | DATE: 20/10/2022 | v1

N

GW304649

GW302023

GW302024

GW302021

Site 5

Coffs Dump

Site 3

Site 2

Site 1

PAD 21

PACIFIC HIGHWAY

LEGEND

- Approved Construction Boundary – EIS (ARUP, 19/12/2019 as defined in the MCoA)
- Proposed Road Design
- Survey Cadastral Models (NKWP, 2022.10.06)
- Clearing boundary
- Drainage lines
- Marsdenia Longiloba
- Hollow bearing trees
- Proposed nest box sites
- Current banana plantation (2019.05)
- Known Koala habitat

Threatened Ecological Communities (BC Act)

- Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions

Plant Community Type (ID)

- 1064
- 692
- NA
- Outside PIB
- AHIMS sites

Archaeological Site Location (Kelleher Nightingale, 2020.03.06)

- Salvage completed

Archaeological Site Area (Kelleher Nightingale, 2020.03.06)

- Salvage completed
- Additional Aboriginal Cultural Heritage Sites for investigation
- Existing groundwater bores (BoM, 1/8/2017)

Sensitive receiver building type

- Commercial
- Residential

COFFS HARBOUR BYPASS team

0 50 100m

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REV	DATE	DESCRIPTION
1	20.10.2022	Xxxxx

TITLE: Sensitive Area Maps

PROJECT: Coffs Harbour Bypass - Pacific Highway Upgrade

CLIENT: TfNSW

SCALE: 1:2,500 A3

DRAWN BY: JC

APPROVED: HC

MAP #: ENV M001 SAM v1

REV: 1

SHEET: 20 of 20

COORDINATE SYSTEM: GDA2020 MGA Zone 56

REVIEW: HC

DATE: 20/10/2022

APPENDIX A5 TFNSW ENVIRONMENTAL INCIDENT PROCEDURE

Environmental Incident Procedure

Procedure Number: EMF-13-PR-0001 Environmental Incident Procedure
Effective Date: 19/07/2021
Review Date: 19/07/2023

1 Who is this document for?

All Ongoing / Temporary/ Seconded/Casual staff of TfNSW	**YES**
Transport Service Senior Managers and Executives	**YES**
Labour Hire, Consultants and Professional Service Contractors	**YES**
Delivery Partners / Contractors	**YES**

2 Purpose and Scope

2.1 Purpose

The purpose of this document (Procedure) is to set out the procedure to be followed if, during an activity being carried out by or on behalf of TfNSW, there is:

- a report-only event
- a non-compliance
- regulatory action received
- an environmental incident.

The Procedure sets out the steps for the:

- identification,
- classification and
- reporting

of report-only events, non-compliances, regulatory action and environmental incidents.

2.2 Scope

The Procedure sets out internal only reporting processes for environmental events and the additional process for ‘notifiable events’, which are environmental incidents that must be reported externally (see section 3.3).

The Procedure is applicable to all TfNSW activities where report-only events, non-compliances, regulatory action and environmental incidents may occur. The requirements of the Procedure must be communicated to all TfNSW employees and contractors (e.g. during inductions) who undertake those activities.

This includes (but is not limited to):

- Activities undertaken by contractors on behalf of TfNSW
- Temporary activities, such as preliminary investigations (e.g. geotechnical and environmental surveys)
- Construction and maintenance of TfNSW assets
- Activities at TfNSW properties and facilities (including TAHE)
- Maritime vessels operated by TfNSW.

The procedure does NOT cover report-only events, non-compliances, regulatory action and environmental incidents relating to:

- Operating agencies embedded within TfNSW, such as Sydney Metro. At the time of release of the Procedure, there was a Corporate Functions Review underway, which sought to incorporate Sydney Trains and NSW TrainLink into TfNSW. The single operating model may involve the future amalgamation of environmental incident procedures. Regardless, it is noted that all agencies provide their incident data to Environment and Sustainability (E&S) Branch for the purposes of cluster reporting;
- Operational road and traffic activities of the general public (e.g. vehicle accidents, fires caused by discarded cigarette butts);
- Boating accidents (except those involving TfNSW Maritime vessels);
- Dumping of materials by members of the public on TfNSW managed land (except where hazardous materials are unexpectedly found during construction or maintenance activities);
- Marine oil and chemical spills covered by the National Plan for Maritime Environmental Emergencies (Australian Maritime Safety Authority, 2014).

The Procedure does not provide guidance on management responses or corrective actions required following environmental incidents and non-compliances, which are site specific and should be addressed by those with responsibility for the activity that caused the incident or non-compliance.

However, TfNSW E&S Branch is available to provide advice on appropriate responses and corrective actions in relation to individual incidents or non-compliances.

3 Requirements

3.1 Environmental incidents, report-only events, non-compliances and regulatory action

This Procedure is applicable to a range of environmental incidents, report-only events, non-compliances and regulatory action that may occur during activities undertaken by, or on behalf of, TfNSW. Each of these events and their reporting requirements are described in the following sections.

Personnel using this Procedure should consider the definitions of each of these events when reporting. Definitions are provided in Section 6.

Note that a set of circumstances may be both a non-compliance and an environmental incident. An environmental incident could also result in regulatory action.

3.1.1 Environmental incidents

Environmental incidents are defined in section 6. Reporting requirements are detailed in section 3.2.

The person responsible for operational management of the site/activity that caused the incident should assume responsibility for reporting in accordance with this Procedure, together with coordinating the response to the incident, including directing actions as necessary.

The TfNSW Environment Manager will classify reported incidents for the purposes of internal environmental performance reporting and analysis of environmental incident trends (as outlined in Figure 3.2.1).

Environmental incident classifications are described in Table 3.1.1, below. The classification system is aligned to the consequence levels (C6 – C1) from the TfNSW Enterprise Risk Management Standard and considers the key risk areas of:

- Environment

- Reputation and Integrity
- Regulations and Compliance.

The appropriate consequence level for each of the three key risk areas will be recorded for each incident, but only the highest recorded consequence level will be used as the incident classification for reporting purposes.

Note that not all criteria described for each consequence level in Table 3.1.1 need to be met in order to assign an incident classification – the most appropriate criteria should be considered when determining the consequence level for each key risk area for each incident.

Table 3.1.1: Environmental Incident Classification

	Incident Category					
Key risk area	**C6 Insignificant**	**C5 Minor**	**C4 Moderate**	**C3 Major**	**C2 Severe**	**C1 Catastrophic**
Environment	No appreciable changes to environment.	Change from existing conditions that can be rectified immediately (< 1 day) with available resources.	Short-term (< 1 year) and/or well-contained environmental impact. Minor remedial actions probably required.	Short to medium term (between 1 and <5 years) environmental impact. Considerable remedial actions probably required.	Medium-term (>5 years) environmental impact. Extensive remedial actions probably required.	Long-term (>10 years) large-scale environmental impact. Extensive and ongoing remedial actions probably required.
Reputation and integrity	Single negative article in local media. Limited social media commentary. Goodwill, confidence and trust retained. Confined to the Branch. Local council may want to discuss.	Series of negative articles in local media (District / electorate based adverse media). Some social media commentary. Confidence remains - minor loss of goodwill. Confined to Branch but requiring notification to Division. Council requires written explanation. Recoverable with little effort or cost. Some continuing scrutiny/attention.	Extended local media coverage with some broader Regional media coverage. Extended negative social media coverage. Confidence and trust of stakeholders dented (recoverable at modest cost within existing budget and resources). Division formal response needed to State Government/Regulator.	State media coverage, short term negative national media coverage. Widespread social media coverage Confidence/trust impaired. Project/activity credibility under question. TfNSW and/or Ministers Department requires update.	Sustained negative State media coverage. Regular ‘talk-back’ programs questioning credibility and capability. Confidence and trust are severely damaged. Widespread negative social media coverage. Regular updates demanded by Minister. Stakeholders withdraw their support recoverable at considerable cost, time and staff effort.	Sustained, high profile media attention at National level. Material change in the public perception of the Agency. Extensive negative social media coverage Confidence and trust non-existing. Government forced to reverse decision. Stakeholders are actively campaigning against the organisation.

Table 3.1.1: Environmental Incident Classification

	Incident Category					
Key risk area	**C6 Insignificant**	**C5 Minor**	**C4 Moderate**	**C3 Major**	**C2 Severe**	**C1 Catastrophic**
Regulations and compliance	Low-level/Technical non-compliance with legal and/or regulatory requirement or duty by individuals or TfNSW- not reportable. Minor non-compliance to a low impact contract clause – little or no interest by either party to pursue or rectify.	Non-compliance with whole or significant aspects of Government policy not reportable but requiring internal activity to put in place. Formal investigation and/or formal notification to regulator. Minor breach of contract by either party rectified through local management discussion.	Non-compliance with key Government policy - reportable and/or explanation required – need to put in place as soon as possible. Non-compliance – key obligation. Formal notification to regulator. Agency on notice. Breach of contract by either party rectified at Branch level management discussion. Small fine and no disruption to services.	Technical non-compliance with a minor Government Policy - not reportable. Low level non-compliance. Technical non-conformance. Minor non-compliance to a low impact contract clause – little or no interest by either party to pursue or rectify. Substantial fine and no disruption to services.	Non-compliance with high profile, outward facing Government policy or Ministerial decree - immediately reportable to Government body (e.g. Treasury) and action to put in place required immediately (high priority). Continuous breach resulting in prohibition notices. Breach of significant, key aspects of contract by either party leading to lodgement (threat) to sue and recompense at severe financial levels Cessation of contract may occur. Large fines as a result of non-compliance. Licence or accreditation restricted or conditional affecting ability to operate.	Non-compliance with high profile Government policy or Ministerial decree - immediately reportable to Ministerial level requiring actions to put in place immediately (high priority) and progress to be reported to the Minister on an agreed and appropriate schedule. Litigation and potentially imprisonment. Loss of Operating licenses. Continued breach cannot be tolerated. Major contract breach by either party leading to significant litigation and financial costs . Total breakdown and cessation of contract. Criminal prosecution as a result of non-compliance.

3.1.2 Significant environmental incidents

Significant Incidents are environmental incidents that are serious in nature and have significant consequences warranting escalation to TfNSW senior management.

An environmental incident is to be defined and treated by the TfNSW Environment Manager as a potential Significant Incident if it meets one or both of the following:

- the severity of the incident is likely to be classified as C3, C2, or C1 in accordance with Section 3.1.1
- the history of the project, past performance and/or previous regulatory interest, indicate the project is likely to be the subject of a penalty notice or prosecution

Potential Significant Incidents are escalated by TfNSW to the Executive Director Environment and Sustainability, who will determine whether the incident is deemed to be a Significant Incident and require further escalation to the Secretary and other senior management, to ensure they are aware of the incident and can implement or authorise any required responses.

The Significant Incident escalation process is detailed in Appendix A and Figure 3.2.1.

3.1.3 Report-only events

Report-only events are defined in section 6. Reporting requirements are detailed in section 3.2. Examples of report-only events include:

- Environmental incidents caused by weather events that are beyond the design capacity of environmental controls and/or mitigation measures in accordance with project specific requirements;
- Environmental incidents caused by persons or entities not associated with an activity being undertaken by TfNSW;
- Pre-existing conditions not associated with an activity being undertaken by TfNSW;
- Unexpected finds that are managed in accordance with relevant procedures / guidelines.

Despite these events being outside the scope of control of an activity, it is likely that a management response will be required to address them. As such, it is important that they are still reported (see section 3.2) to understand any resulting environmental impacts, inform trend analysis and any future activities in that location and allow any required management responses to be developed.

Report-only events can be considered to be unavoidable and so not reflecting the performance of a site, and will not be included in performance reporting. However, the response to a report-only event should be taken into account when considering site performance, as a deficient or inappropriate management response could result in a non-compliance and/or an environmental incident.

Where a report-only event relates to an unexpected find and the same issue can then reasonably expected to be found at the same location in future, additional finds from that location need not be reported.

3.1.4 Non-compliances

Non-compliance is defined in section 6. Reporting requirements are detailed in section 3.2.

A non-compliance could also be an environmental incident.

3.1.5 Regulatory action

Regulatory action is defined in section 6. Reporting requirements are detailed in section 3.2.

Regulatory action includes, but is not limited to:

- Prosecutions
- Penalty notices
- Clean up notices
- Prevention notices
- Official cautions
- Formal warnings
- EPA show cause notifications.

Copies of any regulatory action issued by an environmental regulator must be provided as part of the reporting that is undertaken in accordance with section 3.2.

3.2 Reporting process

3.2.1 Standard reporting process

The standard reporting process for all environmental incidents, significant environmental incidents, report-only events, non-compliances and regulatory action is detailed in Figure 3.2.1.

Where the reporting process requires submission of a written report to TfNSW, the person making the report must use the following formats and meet the information requirements detailed within each:

- Road based and maritime projects: Environmental Event Reporting Form (624/400)
- Rail based projects: INX reporting system

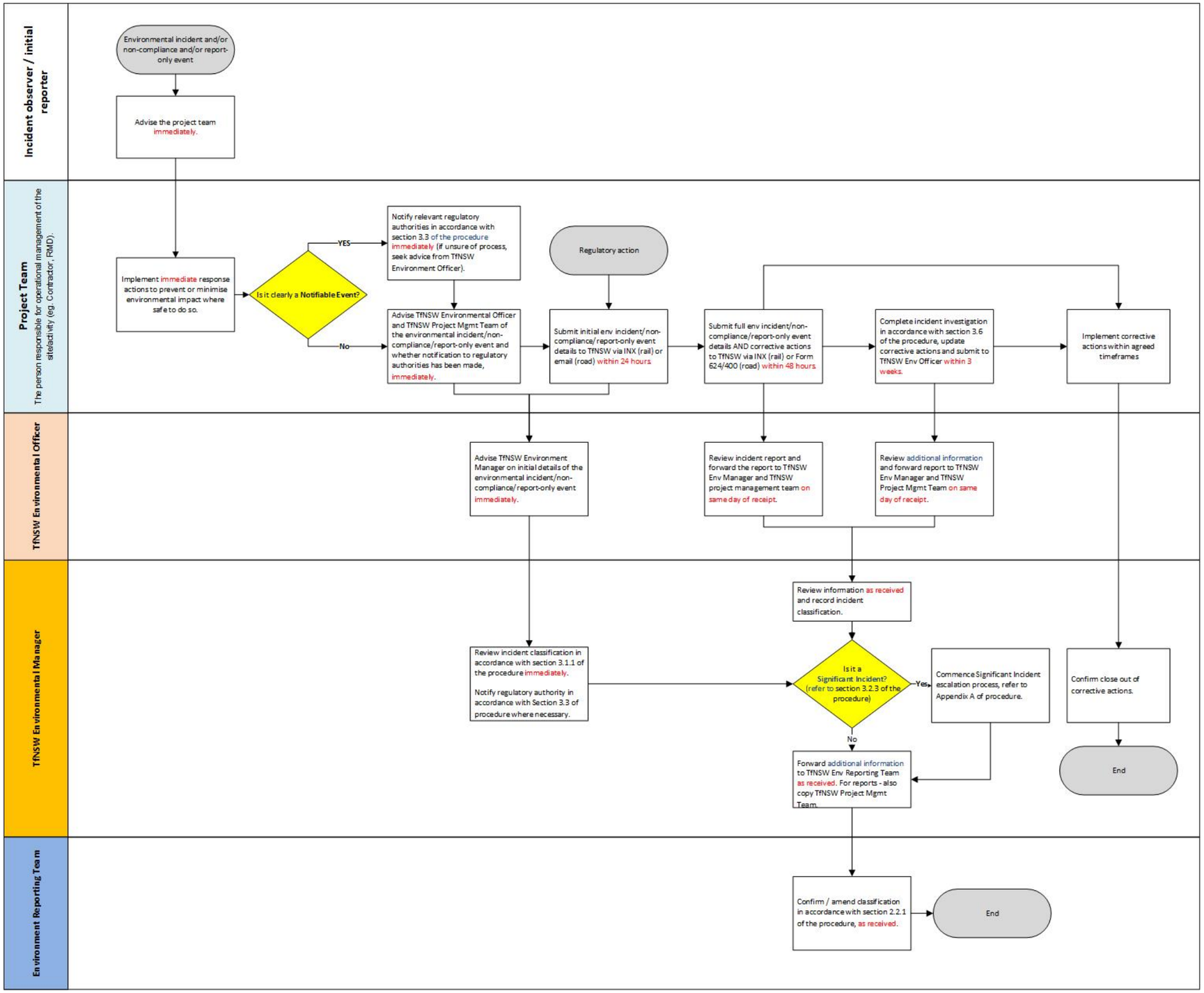
Information included in reporting must be factual and accurate.

For the initial 24-hour email notification for road projects, the following information must be provided:

- Date of event
- Project / site name
- Type of event that has occurred (ie- environmental incident, incident and non-compliance, non-compliance, report-only or regulatory action)
- Description of the event
- Quantity / volume
- Immediate response actions that were implemented
- Notification/s undertaken.

In the case that regulatory action is received relating to a previously reported environmental incident, non-compliance or report-only event, reference to the relevant event must be made in the report for the regulatory action.

Figure 3.2.1: Reporting process



3.2.2 Other internal notifications

When reporting in accordance with Figure 3.2.1, TfNSW project management teams should also undertake the following internal notifications as appropriate:

- Corporate Communications / Media for any environmental incidents, report-only events, non-compliances and regulatory action that have potential for negative community or media attention;
- Legal Branch, for any environmental incidents, report-only events, non-compliances and regulatory action that could result in a (further, in the case of the latter) regulatory response against TfNSW. In these instances, limit written commentary on the incident by all staff, including emails;
- Safety Branch for any incidents that involve actual or potential risks to the health and safety of workers or the general public.

3.3 Notifiable events

A notifiable event is any environmental incident, report-only event or non-compliance (see section 3.1, above) that triggers a specific statutory requirement to notify an authority.

The key notification requirements are described below. Note each statutory requirement to notify may specify a particular person who is responsible to make the notification as well as the timing of when this must occur. The details of any notification conducted must be included in the reporting that is undertaken in accordance with section 3.2.

3.3.1 Material Harm pollution incidents

Under Part 5.7 of the POEO Act, there is a duty to immediately notify (i.e. promptly and without delay) each relevant authority (see section 3.3.2) of a pollution incident where material harm to the environment is caused or threatened.

The POEO Act states that a pollution incident should be considered Material Harm if:

> *"(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*
>
> *(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000"*

Material Harm only relates to pollution incidents. Other environmental incidents, such as conservation, heritage and planning breaches, are not included in the definition of a pollution incident.

3.3.2 Notification of Material Harm pollution incidents

The relevant authorities that must be notified for a Material Harm pollution incident are listed in tables 3.3.2a and 3.3.2b below. It is important to note the order of notification and phone numbers to use can vary depending on the nature of the pollution incident, as detailed in the two tables.

All of the authorities listed (whether considered relevant or not) must be contacted for each Material Harm pollution incident to satisfy POEO Act requirements. Serious penalties apply to both individuals and corporations for failing to notify Material Harm pollution incidents:

- Maximum penalty for individuals - $500,000
- Maximum penalty for corporations - $2,000,000.

Table 3.3.2a: Authorities to notify for Material Harm pollution incidents that present an immediate threat to human health or property		
Order	**Authority**	**Contact number**
1	Fire and Rescue NSW	000
2	NSW EPA environment line	131 555
3	Ministry of Health (via the local Public Health Unit)*	Contact 1300 066 055 to be directed to the local Public Health Unit, or visit the NSW Health Website
4	SafeWork NSW	131 050
5	The Appropriate Regulatory Authority*, being either: • Local council • Western Lands Commissioner for the Western Division (except any part of the Western Division within the area of a local council).	Local council - contact Office of Local Government on 4428 4100, or visit the Office of Local Government website Western Lands Commissioner – phone 6883 5400

Table 3.3.2b: Authorities to notify for Material Harm pollution incidents that do **NOT** present an immediate threat to human health or property		
Order	**Authority**	**Contact number**
1	NSW EPA environment line	131 555
2	The Appropriate Regulatory Authority*, being either: • Local council • Western Lands Commissioner for the Western Division (except any part of the Western Division within the area of a local council).	Local council - contact Office of Local Government on 4428 4100, or visit the Office of Local Government website Western Lands Commissioner – phone 6883 5400
3	Ministry of Health (via the local Public Health Unit)*	Contact 1300 066 055 to be directed to the local Public Health Unit, or visit the NSW Health Website
4	SafeWork NSW	131 050
5	Fire and Rescue NSW	1300 729 579

** The appropriate contact for the Appropriate Regulatory Authority and Public Health Unit will vary according to the geographic location of the activity. These contact numbers should be found in advance and stored for immediate access (e.g. in a project's Construction Environmental Management Plan and/or on site notice boards) should a pollution incident need to be notified.*

When notifying authorities, do not speculate on the origin, causes or outcomes of a pollution incident. Rather, state very simply and concisely the following only:

a) The time, date, nature, duration and location of the incident

b) The location of the place where pollution is occurring or is likely to occur, the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known
c) The circumstances in which the incident occurred (including the cause of the incident, if known)
d) The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

If further information becomes known after the initial notification, that information must immediately be notified to all authorities in accordance with Section 150 of the POEO Act. The verbal notification must be followed by written notification to each relevant authority within seven days of the date on which the incident occurred, setting out the above information.

3.3.3 Summary of other regulatory agency notification requirements

A summary of the other key statutory notification requirements that could arise from TfNSW environmental incidents, report-only events and non-compliances is provided in Table 3.3.3.

Table 3.3.3: Regulatory agency notification requirements				
Event type	**Legislation**	**Part / section**	**Agency**	**Notification requirement**
Discover Aboriginal object	*National Parks and Wildlife Act 1974*	Section 89A	Heritage NSW	Notify the Secretary of the Department of Planning, Industry and Environment in writing using the form approved by the Secretary (if any) within a reasonable time after becoming aware
Discover Aboriginal remains	*Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984*	Section 20	Commonwealth Department of Agriculture, Water and the Environment	Notify the Commonwealth Minister in writing as soon as practicable after becoming aware, giving particulars of the remains and their location
Discover non-Aboriginal relic	*Heritage Act 1977*	Section 146	Heritage NSW	Notify the Heritage Council in writing within a reasonable time after becoming aware
Fires	*Rural Fires Act 1997*	Section 64	NSW Rural Fire Services	Notify an appropriate fire officer of the inability to extinguish any fire burning during a bush fire danger period applicable to the land.
Land contamination	*Contaminated Land Management Act, 1997*	Section 60(1)	EPA	Notify EPA in writing as soon as practicable after becoming aware of the contamination, where required as prescribed in the EPA 'Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997'
Non-compliance	Various	N/A	Various	Requirements to notify the relevant regulatory authority when a non-compliance has occurred (eg- with a Condition of Approval issued under Division 5.2 of the EP&A Act)
Pollution incident (material harm)	*Protection of the Environment Operations Act, 1997*	Part 5.7	EPA	See section 3.3.2
Pollution incident in water supply catchment area	Various	N/A	N/A	Notify the relevant water supply authority if an environmental incident has the potential for unapproved impacts on a drinking water supply

3.4 Requests for written reports from regulatory authorities

If TfNSW receives a request from an environment regulatory authority for a written report regarding an environmental incident, report-only event or non-compliance, the relevant Environment Manager must be immediately contacted for advice. No further correspondence (including email) about the event should be distributed either internally or externally until advice is received. E&S will then coordinate with Legal Branch to:

- assist in the investigation of the environmental incident, report-only event or non-compliance
- provide legal advice to the project
- co-ordinate the preparation of the written response to the regulatory authority.

3.5 Corrective actions

A key aspect of the TfNSW Environment and Sustainability Policy that is addressed through this procedure is being accountable for addressing and minimising the environmental impacts of TfNSW activities. This can be achieved by developing appropriate corrective actions and implementing them within a timely manner following an environmental incident, with the aim of avoiding a repeat of that incident.

There are a variety of scenarios in which an environmental event may occur on a TfNSW project. It is important that corrective actions are:

- specific to the incident that has occurred
- meaningfully address the root cause(s) of the incident
- designed to prevent incident reoccurrence.

Corrective actions could include (but are not limited to) the following:

- physical works to install, augment or rectify controls or a site issue
- testing and/or monitoring
- review and improvement of construction methods or work practices
- review and update of management plans, procedures or other tools
- communication, training and awareness initiatives for workers.

In most cases it will not be sufficient to simply notify workers of correct systems / procedures (e.g. via toolbox talk). A review should be undertaken by the project team following an incident or non-compliance to determine why the systems / procedures failed (or alternatively a formal investigation, when required by section 3.6), and necessary changes made to ensure they do not fail in future. Site staff should then be made aware of the changes and trained as necessary.

Immediate/short-term corrective actions including timeframes for completion must be clearly described in incident/non-compliance reporting. Updates about longer-term corrective actions including timeframes for completion can be provided to the TfNSW Environment Officer and TfNSW Project Management Team post submission of the incident/non-compliance report.

3.6 Investigations

Serious environmental incidents and non-compliances must be investigated to identify the causes, with the purpose of preventing a recurrence. A root cause analysis investigation must be completed by the project team for all environmental incidents with a classification of C1, C2 or C3, or any other environmental incidents or non-compliances as determined by TfNSW.

The scope of the investigation will be determined by the TfNSW Environment Officer or Environment Manager. The project team must provide TfNSW with a final investigation report

within three weeks of the environmental incident or non-compliance being identified. The report must include the minimum information described in Table 3.6 (below).

Table 3.6: Investigations

Element	Description
Sequence of events	The sequence of events that led to the incident or non-compliance
Findings	Given the sequence of events, what are the key findings of the investigation (i.e. what are the main causes of the incident or non-compliance).
Management methods	A record of the management methods to be changed and/or implemented to avoid the incident or non-compliance reoccurring.
Key learnings	Describe the key learnings from the investigation into the incident or non-compliance. Detail which learnings may be relevant to other transport projects.

4 Accountabilities

Table 4 details the key accountabilities for implementing this Procedure.

Table 4: Key accountabilities

Requirement	Detail
Environment Director	Oversee compliance with the procedure and make the final determination on the classification of all environmental incidents, report-only events and non-compliances
Environment reporting team	Recording of all environmental incidents, report-only events, non-compliances and regulatory action, confirm / amend the classification of environmental incidents, report-only events and non-compliances in accordance with section 3.1 and monitor compliance with the Procedure
Executive Director Environment and Sustainability	Make determinations on whether an environmental incident will be considered a Significant Incident (see section 3.1.2). Assume the role of Information Distributor when a Significant Incident has occurred (see Appendix A).
Observer of environmental incident, report-only event, non-compliance or regulatory action	Immediately report in accordance with Figure 3.2.1
Person/s responsible for environmental incident, report-only event, non-compliance or regulatory action	Report and respond in accordance with Figure 3.2.1
Project Managers	Provide appropriate resources to respond to an environmental incident, report-only event, non-compliance or regulatory action in accordance with this Procedure

Table 4: Key accountabilities	
Requirement	**Detail**
TfNSW Environment Manager	Report environmental incidents, report-only events, non-compliances or regulatory action in accordance with Figure 3.2.1, assign initial classification in accordance with section 3.1.1, monitor corrective actions, and actively promote compliance with this procedure at a program level. Assume the role of Information Controller when a Significant Incident has occurred (see Appendix A).
TfNSW Environment Officer	Report environmental incidents, report-only events, non-compliances or regulatory action in accordance with Figure 3.2.1, monitor corrective actions and actively promote compliance with this procedure at a project level

5 Related policy, systems and documents

The following documents and systems are available on agency intranets and the internet:

- Environmental Event Report Form (for use by road and maritime sites and projects)
- INX system (for use by rail and light rail sites and projects)
- Environment and Sustainability Policy
- Unexpected finds procedures – refer to relevant guideline/procedure

6 Definitions and acronyms

All terminology in this Procedure is taken to mean the generally accepted or dictionary definition with the exception of the following terms which have a specifically defined meaning:

- **Significant incident** – an environmental incident that is likely to receive a classification of C3, C2 or C1, OR the history of the project, past performance and/or previous regulatory interest, indicate the project is likely to receive a penalty notice or be subject to prosecution, and therefore requires escalation to the Secretary and other TfNSW senior management
- **DPIE** – Department of Planning, Industry and Environment
- **Environment Director –** consists of Associate Director Environmental Management; Director Environment Motorways; Director Environment Regions; Director Environment Sydney
- **Environment Manager** – consists of Environment Manager or Senior Manager Environment from Environment and Sustainability Branch
- **Environment Officer** – consists of Environment Officer and Environment and Planning Manager from Environment and Sustainability Branch
- **Environment Reporting team** – consists of those in Environment and Sustainability Branch responsible for administering and maintaining the EnvOps mailbox and INX reporting system (for environment entries)
- **Environmental event** – a report-only event, non-compliance, regulatory action or environmental incident
- **Environmental incident** - An environmental incident is an event or set of circumstances, as a consequence of which pollution (air, water, noise, or land) or an adverse environmental impact has occurred, is occurring, or is likely to occur. Adverse environmental impact includes contamination, harm to flora and fauna (either individual

species or communities), damage to heritage items and adverse community impacts. An unexpected find that is not managed in accordance with relevant procedures / guidelines is also considered an environmental incident

- **EPA** - NSW Environment Protection Authority
- **EPL** – Environment Protection Licence (issued by EPA)
- **E&S** – (Safety, Environment and Regulation) Environment and Sustainability Branch
- **Investigation** – The process by which the cause(s) of an environmental incident is examined and identified.
- **INX reporting system** – the online system used to record and track environmental incidents, report-only events, non-compliances and regulatory action relating to rail projects and premises.
- **Non-compliance** - a failure to comply with any condition of approval, environmental assessment safeguard / mitigation measure, licence condition, permit or any other statutory approval relevant to the activity and/or area where the activity occurs;
- **Notifiable event** - Any environmental incident, report-only event or non-compliance that triggers a specific statutory requirement to notify a regulatory authority.
- **POEO Act** - Protection of the Environment Operations Act 1997
- **Pollution** – Pollution (including air pollution, water pollution, noise pollution and land pollution) as defined in the dictionary to the POEO Act.
- **Pollution incident** – Has the same meaning as defined in the dictionary to the POEO Act.
- **Regulatory action** - any formal regulatory response from an environmental regulator including but not limited to penalty notices, clean-up notices, prevention notices, official cautions, show cause notices and formal warnings.
- **Report-only event** - An environmental incident or unexpected find resulting from circumstances outside the scope of controls and of an activity.
- **RMS** – Roads and Maritime Services
- **TfNSW** – Transport for NSW (excludes the operating agencies: Sydney Trains; Sydney Metro; State Transit Authority; NSW TrainLink)
- **Transport Cluster** – all TfNSW divisions and operating agencies (includes the operating agencies: Sydney Trains; Sydney Metro; State Transit Authority; NSW TrainLink)
- **Unexpected find** – An unexpected discovery such as a heritage item, threatened species, contamination, asbestos or hazardous substance.
- **WHS** – Work Health and Safety

7 Document control

7.1 Superseded documents

This Procedure replaces the following documents:

- Roads and Maritime Services Environmental Incident Classification and Reporting Procedure (RMS 17.374)
- Transport for NSW Environmental Incident Classification and Reporting (PR-105)

7.2 Document history

Date & Procedure No	Document owner	Approved by	Amendment notes
19/07/2021 EMF-13/PR-0001	Environment Manager Performance Improvement	Executive Director Environment and Sustainability	N/A

7.3 Feedback and help

For advice on using this Procedure please contact:

Environment Manager Performance Improvement

Email: envops@rms.nsw.gov.au

Phone: (02) 8849 2586.

Appendix A: Significant Incident escalation process

A1 Confirmation of a Significant Incident

Where an Environment Manager believes that a Significant Incident has occurred (see section 3.1.2 and Figure 3.2.1), they must immediately phone the relevant Environment Director. The Environment Director will consult with the Executive Director Environment and Sustainability, who will determine whether the incident will be considered a Significant Incident. Once a Significant Incident has been determined, the escalation process will commence in accordance with sections A2 and A3, below.

A2 Significant Incident information management

Following determination of a Significant Incident (see section A1, above), it is essential that there is fast, consistent and accurate reporting of information to the TfNSW senior management. As such, clear roles and responsibilities must be established in two key areas, as described in Table A2.

Table A2: Roles and responsibilities during a Significant Incident

Role	Who	Responsibilities
Information Controller	Environment Manager (or relevant Environment Officer in their absence)	• Liaise between the on-site TfNSW project management team and the Information Distributor (below) • Be the single point of contact to provide information and updates about the status of the Significant Incident to the Information Distributor
Information Distributor	Executive Director Environment and Sustainability (or relevant Environment Director in their absence)	• Identify the relevant members of the Executive and other senior management that will form the distribution group to be informed about the Significant Incident (see Table A3) • Consolidate information from the Information Controller, and distribute it to the distribution group • Provide key ongoing updates to the distribution group as it becomes available • Respond to enquiries from the distribution group, ensuring all members of the distribution group are copied into every response

A3 Parties to be notified

As described in Table A2, the Information Distributor must identify relevant TfNSW senior management from delivery and client divisions that will form the distribution group to be informed about the Significant Incident, including ongoing updates. Table A3 provides the key positions that must be included (at a minimum), depending on who is undertaking the activity. Depending on the type and location of the activity, there may be other areas of TfNSW that should be included in the distribution group – see section 3.2.2.

The distribution group should all be notified concurrently in a single email that a Significant Incident has occurred. The email should be sent by the Information Distributor within five minutes of making the determination of the Significant Incident.

Table A3: TfNSW distribution group to be notified during a Significant Incident

	Greater Sydney (Client)	Regional & Outer Metropolitan (Client)
Transport exec notification	• Secretary	• Secretary
SER exec notification	• Deputy Secretary, Safety Environment and Regulation	• Deputy Secretary, Safety Environment and Regulation
Client exec notification	• Deputy Secretary, Client Division • Executive Director, Community and Place • Relevant City Director (Harbour/River/Parkland)	• Deputy Secretary, Client Division • Executive Director, Community and Place • Relevant Regional Director
Delivery exec notification	• Deputy Secretary, relevant Delivery Area • Executive Director (or equivalent) of relevant Delivery Area (e.g. Head of Sydney Project Delivery, Head of Rail Delivery, Chief Operations Officer, Executive Director Planning and Programs) • Director of relevant Delivery Area (e.g. WSPO, GSPO, Parramatta Light Rail, Rail Infrastructure Delivery, Sydney Maintenance, Easing Sydney's Congestions etc.)	• Deputy Secretary, relevant Delivery Area • Executive Director (or equivalent) of relevant Delivery Area (e.g. Head of Regional Project Delivery, Executive Director Network and Assets) • Director of relevant Delivery Area (e.g. Regional Maintenance, NPO, SaWPO)
Project Team notification	• Project Director (or equivalent) of relevant Delivery Area • Senior Project Manager • Project Manager • Environment Manager	• Project Director (or equivalent) of relevant Delivery Area • Senior Project Manager • Project Manager • Environment Manager

APPENDIX B1 CONSTRUCTION TRAFFIC AND TRANSPORT MANAGEMENT PLAN

APPENDIX B2 CONSTRUCTION BIODIVERSITY MANAGEMENT PLAN

APPENDIX B3 CONSTRUCTION NOISE AND VIBRATION MANAGEMENT PLAN

APPENDIX B4 CONSTRUCTION SOIL AND WATER MANAGEMENT PLAN

APPENDIX B5 CONSTRUCTION HERITAGE MANAGEMENT PLAN

APPENDIX B6 CONSTRUCTION AIR QUALITY MANAGEMENT PLAN

APPENDIX B7 NOT USED

APPENDIX B8 CONSTRUCTION WASTE AND RESOURCE MANAGEMENT PLAN

APPENDIX B9 CONSTRUCTION FLOOD MANAGEMENT PLAN