

Construction & Environmental Management Plan



Noosa Oyster Ecosystem Restoration Project:

**Supply of services to construct rock oyster reef foundations at
select sites in the Noosa River estuary**

2022

34 Ryan Road, Medowie, NSW 2318
ABN: 766 242 991 45

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1. Introduction

1.1 Context

This Construction and Environmental Management Plan “CEMP” specifies, at a strategic level, the safeguards and controls proposed in order to manage potential environmental impacts from any works carried out by M&J Marine Services for the Oyster Ecosystem Restoration Project in Noosa.

This CEMP, and the following associated plans, have been developed in accordance with Development Permit for Operational Works – (Prescribed and Tidal Works – Noosa River Oyster Habitat Restoration) for Noosa River – Ref: OPW22/0029:

- Site Management Plan – M&J Marine Services - 2022
- Erosion and Sediment Control Plan – M&J Marine Services – 2022
- Marine Plant and Water Quality Monitoring Plan – M&J Marine Services – 2022
- Marine Biosecurity Management Plan – M&J Marine Services - 2022

The primary role of M&J Marine Services is to construct the oyster reef foundations at 4 restoration sites in the Noosa River.

Other parties which contribute to the delivery of this plan include:

The Nature Conservancy – project coordination, public information, complaints management, construction notifications and public reporting.

International Coastal Management (ICM) – engineering oversight and certification including oversight of environmental safeguards specific to marine plants and the use of oyster shell and seeded oyster cultch in the formation of reef patches.

Ecological Service Professionals (ESP) – pre-works and post-works ecological monitoring and shoreline erosion monitoring.

Relevant experience of M&J Marine Services

M&J Marine Services has been contracted to The Nature Conservancy to undertake construction of the oyster reef patches in the Noosa River estuary.

M&J Marine Services has direct experience with tidal works in similar, constrained estuaries and is the ONLY construction company with direct experience with rock oyster-dominated oyster reef restoration projects in Australia.

M&J Marine Services recently contracted to DPI Fisheries (NSW) and to TNC and constructed rock oyster reefs in Port Stephens and Narooma, NSW.

Recent relevant contracts

1	25/2/2019	Port Of Newcastle – marine works
2	15/5/2019	Sea Slip Marinas – marine works
3	1/12/2019	DPI Fisheries - Oyster reef pilot – reef construction

4	19/6/2020	Transport NSW - RMS
5	1/1/2021	DPI Fisheries - Oyster reef pilot stage 2 – reef construction
6	1/10/2021	Port Macquarie Hasting Council - flood clean ups
7	14/4/2022	TNC - Narooma Oyster Reef Project – reef construction
8	1/7/2022	Noosa River Oyster Reef Project – reef construction – this project

1.2 Scope of works

The Nature Conservancy is working in partnership with Noosa Shire Council, The Thomas Foundation and the Australian Government funded national *Reef Builder* Program to restore intertidal and shallow sub-tidal rock oyster shellfish reefs in the Noosa River estuary.

Reef Builder is Australia's largest marine restoration program and is rebuilding reefs at 13 locations across Australia - bringing shellfish reef ecosystems back from the brink of extinction for the benefit of both people and nature. All relevant technical assessments and community consultations are complete and relevant permits are pending.

Under the current contract to The Nature Conservancy, M&J Marine Services is delivering the following services:

- Mobilisation
- Establishment and management of a load out site on Hilton Esplanade (against the Load Out Site Management Plan)
- Deployment of 8 aids to navigation, two at each of the 4 restoration sites – at commencement of works
- Procurement, storage and transport of up to 3300 tonnes igneous rock (in total) and 4 tonnes of oyster shell from the load out site to the restoration sites – noting that only approximately 100 tonnes of rock will be held at the site at a time
- Deployment of the rock and cured oyster shell onto the sites into the configurations specified in the engineered specifications
- Monitoring and management of sediment and related environmental matters at the load out site and restoration sites during construction
- Decommissioning of the load out site and the completion of works

1.3 Use of oyster shells in construction

M&J Marine Services is responsible for the deployment of the rock and composite oyster reef patches. Composite reef patches contain up to 10 percent of cured and washed oyster shell supplied by The Nature Conservancy.

Rock and composite reef deployment may occur at any time of the year.

Seeding of the rock oyster reef patches, once established, with cured oyster shell ('cultch') with Noosa River sourced oyster spat attached is a separate activity to the mixing of cured oyster shell with rock to form a composite oyster reef base.

The Nature Conservancy is responsible for the reef reseeding activity, which will be undertaken in partnership with the Queensland Government-owned Bribie Island Research

Centre (BIRC) AFTER the reef patches are established.

The reseedling activity will be undertaken in October/November 2022. At this time, water temperatures are more favourable for oyster growth.

1.4 Timeframes

The deployment of the rock and composite rock/reef foundations of the oyster reef patches will take place between the 1st of August 2022 and the 30th of September, with a planned works completion being before the school holiday period, commencing mid-September, if practical.

Oyster reseedling will take place in October-November 2022 in coordination with the Queensland Government-owned Bribie Island Research Centre (BIRC)

1.5 Environmental policy

M&J Marine Services is committed to leading the industry in minimising the impact of its activities on the environment.

In particular, we will achieve this through our commitment to:

- Complying with all relevant legislation and regulations,
- Regularly reviewing the environmental impact of our activities, endeavour to reduce our overall environmental impact and prevent waste using best practice techniques,
- Integrating this Environmental Policy into work practices,
- Maintaining adequate hazardous waste materials management and disposal procedure records,
- Ensuring that all accidents and incidents, which pose potential harm to the environment, are reported to the relevant statutory authority, that internal investigations are carried out, and that recommendations arising out of investigations are implemented where practicable,
- Ensuring that all employees receive training to perform their tasks in a manner designed to comply with legislative requirements and minimise any negative impact on environment,
- Ensuring that employees and contractors adopt a high standard on environmental responsibility in the workplace and off the job,
- Ensuring that all contractors are inducted and have a site induction for the site that they will be working at,
- Consulting with employees about environmental matters which may affect them,
- Implementing the Environmental Management Policy in consultation with employees.

All M&J Marine Service employees are responsible to ensure that they comply with the policies and procedures of the Company. This Policy applies to all employees and contractors of M&J Marine Services

1.6 Construction materials, equipment and processes

1.6.1 Rock specifications and condition

- The reef patches are to be comprised of locally sourced igneous porphyry rock (the substrate) typically with a size range between 150mm to 500mm and mixed evenly before deployment at the source quarry. See Project Management Plan, January 2022 – section 5.1.
- The project will use a locally sourced igneous rock as the primary restoration substrate. The rock is in the size range 150-500mm diameter and deployed in configurations, as oyster reef patches, that meet engineering requirements related to movement, stability, erosion avoidance and minimisation of sediment accretion as per the specifications for each restoration site.

Using rock (as opposed to oyster shell) as the primary restoration substrate has many advantages. These include:

- Highly suitable as an oyster settlement substrate (rock oysters settle readily onto rock)
- Resembles natural oyster bed substrates
- Can be readily configured to meet engineering specifications for movement and stability under varying estuarine conditions
- Does not require complex engineering structures to support the shell to create vertical relief
- Can be deployed and configured using standard construction equipment and practices
- Readily meets ecological criteria for heterogeneity and rugosity and provision of habitats historically present in the estuary
- Raises the oysters above the benthic sediments of the river, helping ensure oysters attached to the rock are free from benthic sediments and have maximum exposure to water flow
- Offers multiple habitat opportunities across the intertidal and shallow subtidal ranges for multiple species
- Can be readily augmented with cured oyster shell to enhance rugosity, heterogeneity or chemical cues for oyster spat
- Is economically efficient to use, particularly if restoration is to occur at scale
- More readily passes the 'naturalness' test with stakeholders than shell in bags or cages (for example)

The use of local rock as a restoration substrate has been tried and tested by Te Nature Conservancy and its state and local government partners in sub-tidal oyster ecosystem restoration in Victoria, South Australia, Western Australia and by the Department of Primary

Industries (DPI) New South Wales in Port Stephens (Figures 5.1 and 5.2) for intertidal rock oyster ecosystem restoration.

1.6.2 Rock source and selection

- The rock is sourced from Boral Quarries, Moy Pocket.
- Boral Quarries, Moy Pocket, is outside of South-East Queensland Fire Ant Eradication Area / biosecurity zones (Reference: <https://www.fireants.org.au/stop-the-spread/fire-ant-biosecurity-zones>).
- The quarry cuts the required rock from the quarry wall. The rock is then graded to meet the engineering specifications (see Project Management Plan, January 2020, Annex 14: Engineering Drawings (NROR-2021-00)).
- The rock is inspected at the quarry by TNC and M&J Marine Services and checked visually for conformity with the specifications and to ensure the preparation methods minimise contamination of the rock.
- The quarry then provides technical rock specifications to engineers, International Coastal Management (ICM), who are contracted to The Nature Conservancy to provide independent construction oversight of the works, for checking against the engineering requirements of the rock.

ICM has final say on the appropriateness and cleanliness of the rock.

1.6.3 Oyster shell specification and preparation

- The oyster shell used has been cured and then thoroughly washed and bagged by The Nature Conservancy in accordance with the Queensland End of Waste Code - Oyster shells (ENEW07278317) and Waste Reduction and Recycling Act 2011 (See Project Management Plan, January 2020, Section 5.3 for detail of the shell preparation protocols).
- The Nature Conservancy is a registered waste provider under the Code.
- In one reef patch only, up to 4 tonnes of desiccated (cured) and washed shell is mixed with the rock to form one reef patch to form a composite reef, consistent with the engineering drawing (NROR-2021-02).
- All other reef patches will comprise only of rock.
- The specific reef patch will be selected by TNC in consultation with ICM and M&J Marine Services during construction.

1.6.4 Construction Equipment

- Load out site:
 - fencing + signage
 - Posi track – for loading rock and shell (Figure 1)



Figure 1: Pos-track – used for loading substrate onto the barge

- On-water operations (Figure 2):
 - Barge
 - Push vessel
 - Excavator
 - Construction position markers (star pickets)



Figure 2: Barge and push vessel used for transporting and deploying substrate on the restoration sites

1.6.5 Reef substrate handling

- Boral Quarries delivers the rock to the load out site load area B pre-mixed.
- The load out site can hold approximately 100 tonnes of rock.
- The posi-track will move the rock from load out area B, through load out area A and places the onto the barge, where it the excavator places the rock carefully into place on the barge in a manner, which prevents losses over the side of the barge.

- The rock size also creates aggregate lock, which ensures rock piles on the barge are stable and do not readily roll off the barge.
- When the small volume (4 tonnes) of cured oyster shell is added to the rock, it will be mixed in on the barge using a mixing procedure agreed between M&J Marine Services and ICM consultant engineers.
- A vessel then pushes the barge to the restoration site, where star pickets and GPS coordinates provided by ICM are used with a GPS positioning system (approved by ICM) to ensure the barge stays out of 2m buffer areas and that rock is accurately deployed onto the riverbed as per the engineering drawings approved engineering drawings (NROR-2021).
- The excavator then uses its bucket to place the rock from the barge onto the restoration site, working carefully to reduce the risk of sedimentation as each reef patch is formed.
- A post construction survey of each reef patch undertaken by M&J Marine Services will be used by ICM to ensure reef crests do not extend above MHWS.
- From commencement of works, it will take an estimated 5 to 6 weeks to deploy the rock, subject to adequacy of rock supply from the quarry, fine weather and other unforeseen stand-down matters which may arise as the normal part of construction.

1.7 Aids to navigation – site markers

(In compliance with Noosa Council condition 5 and Referral Agency conditions 3 and 18)

- Aids to navigation (600m yellow channel markers) are deployed at the commencement of works, one each at the seaward upstream and downstream corners of each restoration site (see Project Management Plan, Section 7).
- M&J Marine Services will install the aids to navigation used in this project.
- M&J Marine Services regularly contract to install, maintain or remove aids to navigation in coastal waterways and will liaise with MSQ on aid construction and installation protocols in Queensland.
- The dimensions and positioning of the aids to navigation have been agreed by The Nature Conservancy with MSQ and Noosa Council staff and ICM in accordance with the Project Management Plan, January 2020, Section 7 and complies with Referral Agency condition 3.
- Aids to navigation will be anchored to the seabed using weights and chain as per similar MSQ managed markers present the Noosa River estuary. MSQ is advising M&J Marine Services on aid to navigation requirements of the Noosa River.
- Consistent with all other aids to navigation specific to the Noosa River, the aids to navigation, referred to in Referral Agency condition 3, will not be lit.
- The three faces of each aid to navigation will present information about the project:
 - Face 1 – “Restoration Area”
 - Face 2 – “Avoid Anchoring”
 - Face 3 – “QR code linked information about construction works and to a contact person at The Nature Conservancy”

- Transport of the oysters in bags to each restoration site by foot and/or boat.
- Opening the bags and hand placing cultch into the voids of the rock reef.

THE BAGS WILL BE REMOVED AND NOT PUT IN THE RIVER

- Placing the cultch towards the middle of individual reef patches to minimise potential of displacement from the structure.
 - Ensuring no oysters sit on the surface of rocks but are inserted into the voids.
 - Storing the empty mesh bags appropriately, recycle these or disposed of them in an appropriate receptacle.
 - Providing ICM with photographic record of reseeded oysters to ensure compliance with the specifications.
 - Report on this activity to authorities in a formal report within 2 months of completion of the activity.
- Reseeding will be undertaken by a select few staff from The Nature Conservancy, BIRC and its contracted local partners to minimise the footprint of the activity on the Noosa River habitats and to ensure full compliance.
 - The Nature Conservancy will liaise closely with ESP prior to and during the activity to identify and create buffers between participants and marine plants and thus ensure that the reseeded activity does not interact with marine plants. ESP may participate directly in the activity.

PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE

SARA ref: 2202-27255 SRA

Date: 7 April 2022

GOAT ISLAND SITE

SITE LOCATION

(a) Only signs for safety or education purposes associated with the restoration works are permitted and if installed must be maintained.
(b) Any wording included on the signs must be consistent with the permitted development and associated activity and the permissible management of this development/activity within the Noosa River declared Fish Habitat Area.
(c) The authority holder or their agent is responsible for any enquiries directed by the sign.

Reef Patches Layout details:

- ROCK SUBSTRATE TO BE PLACED CLEAR OF EXISTING VEGETATION AND BELOW MHWS WHERE POSSIBLE.
- MHW LINE
- NOMINAL 30m DISTANCE
- RESTORATION FOOTPRINT
- SEAGRASS MIN 30m DISTANCE
- 1m 2m
- 1m 10m
- 837m² DISTURBANCE TO FHA
- REEF PATCH END TAPERED TO REDUCE IMPACTS TO CHANNEL FLOW
- MIN 30m DISTANCE FROM MSG MOORING
- Unallocated State Land NOOSA RIVER

Point	Easting	Northing
A	504793.4	7080575.3
B	504792.2	7080570.0
C	504793.3	7080563.0
D	504849.0	7080571.4
E	504853.1	7080581.6
F	504851.9	7080584.7

REEF PATCHES LAYOUT

Restoration Footprint cross-section details:

- 0.7m
- 12m to 14m
- 1m
- 3m to 6m
- 2m to 4m
- 1m to 3m
- +0.1 to +0.3m AHD
- 1.5 max
- MHWS
- MLWS
- LAT
- 1m Below MLWS

Amended in red by SARA on 7 April 2022



2. Environmental Management Structure

2.1 M&J Marine Services - responsibilities

Director/ manager

- Ensure this EMP is developed and reviewed with adequate consultation,
- Authorising approval and amendments to this EMP,
- Promoting and maintaining good environmental management,
- Implementing this EMP, including education regarding critical changes to the controls or safeguards are communicated to supervisors, employees and relevant contractors,
- Monitoring compliance with this EMP,
- Investigating reported non-compliances with this EMP.

On site Supervisor/ Person in charge

- Inducting all workers and sub-contractors and directing all site activities in accordance with this EMP,
- To ensure they and their team members comply with this EMP,
- To ensure adequate and appropriate instructions regarding this EMP are provided to new staff, other contractors as well as any relevant third parties,
- To report non-compliances with this EMP to Management,
- To complete any required documentation associated with this EMP.

Employees and Sub Contractors

- To comply with this EMP,
- To follow instructions from the supervisor or person in charge regarding this EMP,
- To report all potential environmental impacts/ hazards to your supervisor as soon as possible

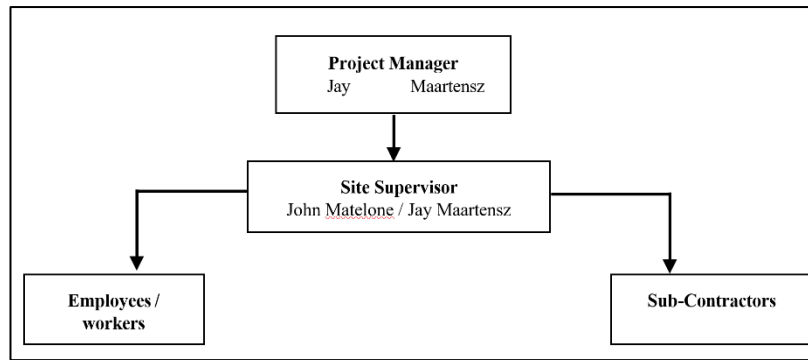


Figure 1: M&J Marine Services management hierarchy

Table 1 proves a break down M&J Marine Services' Task allocation within its construction team.

Table 1: M&J Marine Services Task Allocation

TASK	Project Manager	Site Supervisor	Workers	Subcontractors
Inducting workers and subcontractors and directing site activities in accordance with the EMP.	2	1	2	2
Identifying, assessing and eliminating any non-compliance or environmentally risky conditions and documenting the risk controls implemented.	1	1	2	2
Promoting and maintaining good environmental management in accordance with the relevant environmental legislation, regulations and laws.	1	1	2	2
Implementing practical measures to ensure the site complies with the EMP and project specifications	2	1	2	2
Maintaining, providing updates and supplying this EMP to relevant authorities and workers.	1	2	2	2
Monitoring and assessing subcontractors for the project to ensure environmental regulations are met and relate to the works undertaken	1	2	2	2
Maintaining stocks for environmental control	1	1	2	1
Provide and maintain a hazardous substances register for hazardous substances used and stored in the workplace;	1	1	2	2
1 = has responsibility for the overall implementation and / or management of the process/procedure on the project 2 = has responsibility for complying with the process/procedure on the project				

2.2 Approvals

The Project Restoration Plan, dated January 2022 and conditions of related development approvals override this EMP.

Summary of approvals

1. Owners Consent – Department of Resources – Ref: 2021/003013
2. Resource Allocation Authority (for interference with a declared Fish Habitat A Area – Goat Island and Tewantin restoration sites only) – Ref: 2021NA0011
3. Development Permit for Operational Works – (Prescribed Tidal Works – Noosa River Oyster Habitat Restoration) for Noosa River – Ref:OPW22/0029
4. Roads and Reserves Permit – to temporarily occupy road reserve for a work site to be set up at the end of Hilton Esplanade for material to be stored and moved in and out on to a barge for oyster ecosystem restoration project – Ref: RRP22/0050 WO 0167230

Approvals attached in full below:

2.2.1 Owners consent



Author: Leanne Hunter
File number: 2021/003013
Directorate / Unit: Land Administration and Acquisition
Phone: 4447 9165

13 October 2021

The Nature Conservancy
C/- International Coastal Management
Attn: Bobbie Corbett
PO Box 306
MAIN BEACH LPO QLD 4217

Dear Bobbie,

Reference is made:

- to the request for owner's consent required to accompany the development application for operational works for tidal works outside of a canal on land described as unallocated state land within the Noosa River system, adjacent to Lot 35 on MCH4795, Lot 326 on CP855842, Lot 604 on SP188270, Lot 0 on SP103385, Lot 0 on BUP13469, Lot 1 on RP92804, Lot 7 on RP107007, Lot 0 on BUP2048, Lot 5 on SP234718, Lot 2 & 3 on RP106422, Lot 1 on RP97493 and Lot 0 on BUP8432.

The department hereby gives owner's consent as the owner to accompany the development application for the purpose of:

- section 51(2) of the *Planning Act 2016* for operational works for tidal works outside of a canal for the placement of oyster bed restoration substrates.

Although owner's consent to the development application has been provided and no tenure under the Land Act is required, your client is to undertake works on the land only if and when the development application has been approved by the assessment manager, and in accordance with the conditions of that approval.

A copy of this letter is to be attached to your DA Form 1 as the required evidence of owner's consent.

Your client will also need to comply with all other legislative and regulatory requirements which may also include approvals that are not part of the assessment of the development application under the *Planning Act 2016* e.g. a marine park permit if in a marine park.

Level 9, 445 Flinders Street,
Townsville QLD 4810
PO Box 5318, Townsville
Queensland 4810, Australia
Telephone +61 7 4447 9165
www.resources.qld.gov.au
ABN 59 020 847 551

Further, please note that the above consent will expire on **13 April 2022**. Should the development application not be lodged with the assessment manager prior to this date, you or your client will be required again to lodge the DA Form 1 and any attachments with this Department with a further request for owner's consent - any further request will need to be reconsidered by the Department.

It is also advised that any land use activities must comply with the *Aboriginal Cultural Heritage Act 2003* or the *Torres Strait Islander Heritage Act 2003*.

Finally, owner's consent is required under the *Planning Act 2016* to enable the application to be considered properly made for lodging with the assessment manager and is a completely separate process to assessment of the application under the *Planning Act 2016*.

Accordingly, the State may act at a later date as assessment manager in the assessment of the development application - providing owner's consent will not influence any role the State may have in this development assessment.

If you wish to discuss this matter, please contact Leanne Hunter on 4447 9165.

All future correspondence relative to this matter is to be referred to the contact Officer at the address below or by email to Townsville.SLAMS@resources.qld.gov.au . Any hard copy correspondence received will be electronically scanned and filed. For this reason, it is recommended that any attached plans, sketches or maps be no larger than A3-sized.

Please quote reference number 2021/003013 in any future correspondence.


Yours sincerely



Deanna Holder
Senior Land Officer

A duly authorised delegate of the Minister
under the current Land Act (Ministerial) Delegation

2.2.2 Resource Allocation Authority



**Queensland
Government**
Department of
Agriculture and Fisheries

RESOURCE ALLOCATION AUTHORITY
Queensland Fisheries Act 1994, Fisheries (General) Regulation 2019
Authority Number: 2021NA0011

This is to certify that the authority holder:

The Nature Conservancy Limited (CAN 104 635 654) as trustee for The Nature Conservancy Australia Trust (ABN 83 243 328 398) (TNC Australia)

at the approved area described as:

1)	Description:	837 m ² Unallocated State Land within the Noosa River, adjacent to Lot 35 on Plan MCH4795
	Street Address:	Adjacent to Goat Island Conservation Park, Noosa North Shore Qld 4565
	Description:	1,667 m ² Unallocated State Land within the Noosa River, adjacent to Lot 326 on Plan CP855842
	Street Address:	Adjacent to 9 Pelican Street, Tewantin Qld 4565

is authorised to interfere with the Noosa River declared FHA for the prescribed development purpose/s of:


1. Restoring the fish habitat or natural processes.
2. Ensuring public health or safety (signs and navigation aids)
3. Researching, including monitoring, or educating (signs)

associated with:

- i. The placement of rock that may be augmented with cleaned and sterilised oyster shell to enable recruitment of oysters to provide substrate intended to trial the restoration of rock oyster ecosystems associated with Phase I of the Noosa Oyster Ecosystem Restoration Project.
- ii. The placement of signage if required for public education of the reefs and/or warning public of a safety or navigational hazard associated with the oyster reefs.
- iii. Within the allocated area shown on attached plan **Resource Allocation Authority within Noosa River declared Fish Habitat Area (FHA)**, dated 8 April 2022.

for the period 11 May 2022 until 30 September 2030.

Issued on 10 May 2022.




**Delegate of the
Chief Executive**

Northern Fisheries Facility
PO Box 5396, Cairns
Queensland 4870, Australia
Customer Service Centre: 13 25 23
Website: www.daf.qld.gov.au
FHA forms V1.0 of 2020

Maroochy Research Facility
PO Box 5083 SCMC Nambour
Queensland 4560 Australia
Customer Service Centre: 13 25 23
Website: www.daf.qld.gov.au

CONDITIONS	TIMING
1 The resource allocation authority for the prescribed development purpose/s must be held and current for works to be carried out under a development permit that was issued under the <i>Planning Act 2016</i> and also remains current.	At all times
2 The authority holder must ensure all relevant approvals are held prior to the commencement of development or activities requiring approval.	At all times
3 Reef seeding with oyster spat settled onto dried oyster shell (cultch) to augment oyster recruitment is only permitted if and to the extent this is authorised under separate General Fisheries Permit issued under the <i>Fisheries Act 1994</i> .	At all times
4 The boundaries of the approved resource allocation authority area must be adequately marked (e.g. with corner pegs, or buoy markers) to allow for ease of identification.	Prior to commencement of works and until the placement of rock to form reef units and installation of signage is complete
5 The proposed development is to be designed and constructed to minimise any impacts to tidal lands, marine plants and the declared Fish Habitat Area.	At all times
6 This resource allocation authority is issued for necessary disturbances within the approved area only, and the works involved must be performed in such a manner as to not cause direct or indirect disturbance or damage to adjacent tidal land or plants or unnecessary disturbance within the approved area.	At all times
7 Fish habitats and natural processes that may be temporarily disturbed must be restored.	On completion of each temporary disturbance
8 (a) Only signs for safety and/or to warn of navigational hazard and/or for education purposes associated with the restoration works are permitted and if installed signs must be maintained in good order.	At all times
(b) Any wording included on the signs must be consistent with the permitted development and associated activity and the permissible management of this development/activity within the Noosa River declared Fish Habitat Area.	
(c) The authority holder or their agent is responsible for any enquiries directed by the sign.	
9 Report to the Department of Agriculture and Fisheries in writing to planningassessment@daf.qld.gov.au on the progress achieved towards oyster reef restoration, including:	Annually by 30 June until target three is achieved or expiry of this authority whichever is sooner.
(a) Success of oyster recruitment to reefs with reference to the following:	
Number of total live oysters per m ² on average across reefs at each site	
Number of distinct age classes of oysters present	
And discuss the	
- density and distribution of oyster recruits	
- measures of epifauna on reefs compared to surrounding habitats	


 10/05/2022
 Delegate of the
 Chief Executive


- measures of success of restoration with comparison to application material and available literature.

(b) If there is a lack of successful oyster recruitment identify the reasons for this and proposed actions (if any) to address these; and

(c) If a natural catastrophic event such as, but not limited to, flooding, sediment plumes, heatwaves or disease occurs that could delay, impact or prevent successful oyster recruitment, then the authority holder should document this event including pertinent details of how the event has impacted restoration areas and evidence of the effect of the event on oyster recruitment or survival.

SCHEDULE OF FEES

<u>Date Paid</u>	<u>Amount</u>	<u>Receipt No.</u>	<u>Fee Type</u>
19 August 2021	\$636.95	1400172332	Assessment fee - Level 1


10/05/2022
Delegate of the
Chief Executive

2.2.3 Development Permit for Operational Works



Officer: Mark Lewis
Direct Telephone: 07 53296290
Our Reference: OPW22/0029
Your Reference: Noosa Oyster Project

25 May 2022

The Nature Conservancy Ltd
PO Box 833
NORTH MELBOURNE VIC 3051
b.corbett@coastalmanagement.com.au

Dear Sir/Madam,

Decision Notice *Planning Act 2016*

I refer to your application and advise that on 19 May 2022, Council decided to approve the application, subject to conditions.

- A. Approve the application in accordance with Referral Agency Conditions provided by SARA

Details of the decision are as follows:

1. APPLICATION DETAILS

Application No:	OPW22/0029
Street address:	Goat Island Noosa North Shore Qld 4565
Real property description:	SP 103385, BUP 13469, Lot 1 RP 92804, Lot 7 RP 107007, BUP 2048, Lot 3 RP 106422, Lot 2 RP 106422, Lot 1 RP 97493, BUP 8432, Lot 604 SP 188270, Lot 326 CP 855842, Lot 35 MCH 4795, Lot 5 SP 234718
Planning Scheme:	Noosa Plan 2020 (25 September 2020)

2. DECISION DETAILS

The following type of approval has been issued:

- Development Permit for Operational Works – (Prescribed Tidal Works – Noosa River Oyster Habitat Restoration) for Noosa River

3. CURRENCY PERIOD OF APPROVAL

The Currency Period for this development approval is stated in the conditions below.

4. ASSESSMENT MANAGER CONDITIONS

Approved Plans

- Phase 1 – Pilot Phase is only approved as part of this development approval.

NOOSA COUNCIL
ABN: 97 969 214 121

PO Box 141
TEWANTIN QLD 4565

P: (07) 5329 6500
F: (07) 5329 6501

mail@noosa.qld.gov.au
www.noosa.qld.gov.au

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Document Set ID: 221936626
Version: 4, Version Date: 25/05/2022

2. Development undertaken in accordance with this approval must generally comply with the approved plans of development. The approved plans are listed in the following table unless otherwise amended by these conditions.

Plan No.	Rev.	Plan/Document Name	Date
NROR-2021-00	A	General Notes & Site Selection	09/07/2021
NROR-2021-01	-	Restoration Zones	20/05/2021
NROR-2021-02	A	Module Designs	09/07/2021
NROR-2021-03	A	Goat Island Restoration Site	09/07/2021
NROR-2021-04	A	Tewantin Island Restoration Site	09/07/2021
NROR-2021-05	A	Noosa Sound West Restoration Site	09/07/2021
NROR-2021-06	A	Noosa Sound East Restoration Site	09/07/2021

Currency Period

3. The development approval lapses if the works have not been substantially started by **19 May 2024**, unless an application to extend the currency period is approved by Council.

General Conditions

- All works must be undertaken in accordance with the Noosa Oyster Restoration Project – Project Restoration Plan prepared by The Nature Conservancy dated January 2022.
- All works must be undertaken in accordance with Maritime Safety Queensland (MSQ) and Department of Agriculture and Fisheries (DAF) requirements relating to signage and aids to navigation as detailed in the Noosa Oyster Restoration Project – Project Restoration Plan (Section 7) prepared by The Nature Conservancy dated January 2022.
- All works must be undertaken in accordance with DAF requirements relating to notifications, marking of approved boundary areas and restoration of marine plants/tidal profiles that are temporarily impacted as a result of the works as detailed in the SARA Decision Notice.
- All works must be undertaken in accordance with Best Practice Erosion and Sediment Control (BPESC) guidelines for Australia (International Erosion Control Association).
- All works must be undertaken in accordance with Sections 6.1 and 6.4 of Noosa Oyster Ecosystem Restoration Project - Project Restoration Plan prepared by The Nature Conservancy Australia dated January 2022.
- All works must be undertaken in accordance with the current Queensland Acid Sulfate Soil Technical Manual: Soil management guidelines, prepared by the Department of Science, Information Technology, Innovation and the Arts, 2014.
- All materials used for construction works must be clean materials to ensure that the works do not contaminate the waterway.
- All structures must be designed and constructed such that they are free standing within the waterway and are not connected to or behind the revetment wall.
- All structures must have no detrimental effects on stormwater drains and/or easements.
- In the event of collapse or failure of structural integrity of the oyster restoration substrates, the works must be removed from the waterway or reconstructed in accordance with this development approval.

14. All works must be undertaken in accordance with an approved Construction Environmental Management Plan (CEMP) which consolidates the commitments and management measures described in the Noosa Oyster Ecosystem Restoration Project – Project Restoration Plan including, but not limited to:

- a. A Site Management Plan which describes environmental management measures at the proposed load out site including details of stockpile management;
- b. An Erosion and Sediment Control Plan (ESCP) in accordance with BPESC guidelines;
- c. A Marine Plant and Water Quality Monitoring Plan designed to monitor the composition of marine plant assemblages at habitat restoration sites and appropriate sites upstream and downstream; and
- d. A Marine Biosecurity Management Plan for construction vessels.

The CEMP should be submitted to Council for approval 20 business days prior to the commencement of works.

15. A monitoring report must be provided to Council on a six-monthly basis for the first year (and annually for the following 4 years) following completion of construction works which details the results of restoration monitoring and evaluation, including adaptive management measures taken and the success or otherwise of those measures.
16. Upon completion of construction works, any construction debris or waste must be removed from site and disposed of appropriately.
17. Lighting associated with the construction phase must be designed, installed, operated and maintained in accordance with Section 3 of AS4282 Control of the Obtrusive Effects of Outdoor Lighting.
18. Wastewater and sillage must only be disposed of at approved pumpout facilities.
19. Any construction and post construction activity must not impact on the condition of the waterway, and is to be conducted so as not to breach the Environmental Protection Act EPA (1994) and the Environmental Protection (Water) Policy 2009.
20. Certification by a Registered Professional Engineer of Queensland that states that the oyster habitat restoration substrates are constructed in accordance with best practice methods and is structurally sound must be submitted to Council. This certification must be submitted to Council within three (3) months of the completion of the works.
21. After completion, the proposed works must be maintained in a sound state of repair in accordance with the approved plans

5. REFERRAL AGENCIES

The referral agencies applicable to this application are:

Referral Status	Referral Agency and Address	Referral Trigger	Response
Concurrence	SARA at DILGP SARA at DILGP Via MyDAS2 at https://prod2.dev-assess.qld.gov.au/suite/ (for assistance, contact DILGP at 5352 9701 or email:SEQNorthSARA@dilgp.qld.gov.au	Planning Regulation 2017 Schedule 10, Part 6 – Declared Fish Habitat Area and Marine Plants, Part 17 – Tidal Works or Works in a Coastal Management District	The agency provided its response on 7 April 2022 (Reference No. 2202-27255 SRA). A copy of the response is attached

6. ADVISORY NOTES

The following notes are included for guidance and information purposes only and do not form part of the assessment manager conditions:

General Advisory Notes

1. Should any changes or modifications to the approved plans be required as a result of construction constraints, a "Request to change an existing approval" under the Planning Act 2016 must be made. Amended plans clearly indicating the changes must be lodged with this application along with the appropriate fees.

Building and Construction Industry (Portable Long Service Leave) Levy

2. The QLeave levy must be paid prior to the issue of a development permit where it is required. Council will not be able to issue a Decision Notice without receipt of details that the Levy has been paid.

Aboriginal Cultural Heritage Act 2003

3. There may be a requirement to establish a Cultural Heritage Management Plan and/or obtain approvals pursuant to the *Aboriginal Cultural Heritage Act 2003* (ACH Act).

The ACH Act establishes a cultural heritage duty of care which provides that: "A person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage". It is an offence to fail to comply with the duty of care. Substantial monetary penalties may apply to individuals or corporations breaching this duty of care. Injunctions may also be issued by the Land and Resources Tribunal, and the Minister administering the ACH Act can also issue stop orders for an activity that is harming or is likely to harm Aboriginal cultural heritage or the cultural heritage value of Aboriginal cultural heritage.

You should contact the Cultural Heritage Unit to discuss any obligations under the ACH Act.

Infrastructure Charges

4. All developments and/or changes to existing developments may require payment of "Infrastructure Charges" (as applicable) in accordance with Council's "Charges Resolution" made pursuant to the planning legislation and regulations current at the time of issue. For further information, please refer to <https://www.noosa.qld.gov.au/planning-development/development-tools-guidelines/infrastructure-charges>

7. PROPERTY NOTES

Not applicable.

8. VARIATION APPROVAL DETAILS

Not applicable.

9. FURTHER DEVELOPMENT PERMITS REQUIRED

Not Applicable

10. SUBMISSIONS

Not applicable.

11. RIGHTS OF APPEAL

You are entitled to appeal against this decision. A copy of the relevant appeal provisions from the *Planning Act 2016* is attached.

During the appeal period, you as the applicant may suspend your appeal period and make written representations to Council about the conditions contained within the development approval. If Council agrees or agrees in part with the representations, a negotiated decision notice will be issued. Only one negotiated decision notice may be given.

12. OTHER DETAILS

If you wish to obtain more information about the decision, electronic copies are available on line at www.noosa.qld.gov.au or at Council Offices.

Yours faithfully,



Patrick Murphy
Acting Manager, Development Assessment

Enc: Referral Agency Response
Appeal Rights
Approved Plans/Documents

cc. SARA at DILGP
Via MyDAS2 at <https://prod2.dev-assess.qld.gov.au/suite/>
(for assistance, contact DILGP at 5352 9701 or email SEQNorthSARA@dilgp.qld.gov.au)



Referral Agency Response

PLANNING ACT 2016 & PLANNING REGULATION 2017

RAG-N



SARA reference: 2202-27255 SRA
Council reference: OPW22/0029
Applicant reference: Noosa Oyster Project

7 April 2022

Chief Executive Officer
Noosa Shire Council
PO Box 141
Tewantin Qld 4565
mail@noosa.qld.gov.au

Attention: Mark Lewis

Dear Mr Lewis

SARA response—1B Serenity Close and 1, 3, 11, 13 and 15 Natasha Avenue Noosa Heads, Goat Island, Noosa North Shore and 9 Pelican Street, Tewantin

(Referral agency response given under section 56 of the Planning Act 2016)

The development application described below was confirmed as properly referred by the State
Assessment and Referral Agency (SARA) on 10 February 2022.

Response

Outcome:	Referral agency response – with conditions.
Date of response:	7 April 2022
Conditions:	The conditions in Attachment 1 must be attached to any development approval.
Advice:	Advice to the applicant is in Attachment 2 .
Reasons:	The reasons for the referral agency response are in Attachment 3 .

Development details

Description:	Development permit	Operational work for prescribed tidal works (Habitat restoration / enhancement in the Noosa River)
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South East Queensland (North) regional
office
Mike Ahern Building, Level 3, 12 First
Avenue, Maroochydore
PO Box 1129, Maroochydore QLD 4558

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SARA role: Referral agency
SARA trigger: Schedule 10, Part 17, Division 3, Table 1 (Planning Regulation 2017)
Tidal works in a coastal management district
Schedule 10, Part 17, Division 3, Table 2 (Planning Regulation 2017)
Tidal works in a coastal management district
Schedule 10, Part 6, Division 2, Subdivision 3, Table 1 (Planning Regulation 2017)
Works in a declared fish habitat area
Schedule 10, Part 6, Division 3, Subdivision 3, Table 1 (Planning Regulation 2017)
Removal, destruction or damage of marine plants
SARA reference: 2202-27255 SRA
Assessment Manager: Noosa Shire Council
Street address: 1B Serenity Close and 1, 3, 11, 13 and 15 Natasha Avenue Noosa Heads, Goat Island, Noosa North Shore and 9 Pelican Street, Tewantin
Real property description: 604SP188270; 35MCH4795; 326CP855842; 1RP92804; 1RP97493; 3RP106422; 5SP234718; 7RP107007; 0SP103385; 0BUP13469; 0BUP8432; 0BUP2048; 2RP106422
Applicant name: The Nature Conservancy Ltd
Applicant contact details: PO Box 306
Main Beach QLD 4217
bobbie@coastalmanagement.com.au


Representations

An applicant may make representations to a concurrence agency, at any time before the application is decided, about changing a matter in the referral agency response (s.30 Development Assessment Rules) Copies of the relevant provisions are in **Attachment 4**.

A copy of this response has been sent to the applicant for their information.

For further information please contact Danika Cowie, Principal Planning Officer, on (07) 5352 9776 or via email SEQNorthSARA@dsdipg.qld.gov.au who will be pleased to assist.

Yours sincerely



Jamaica Hewston
Manager

cc: The Nature Conservancy Ltd, bobbie@coastalmanagement.com.au

2202-27255 SRA

enc Attachment 1 - Referral agency conditions
Attachment 2 - Advice to the applicant
Attachment 3 - Reasons for referral agency response
Attachment 4 - Representations provisions
Attachment 5 - Approved plans and specifications

State Assessment and Referral Agency

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Attachment 1—Referral agency conditions

(Under section 56(1)(b)(i) of the *Planning Act 2016* the following conditions must be attached to any development approval relating to this application) (Copies of the plans and specifications referenced below are found at Attachment 5)

No.	Conditions	Condition timing
Operational work for prescribed tidal works (habitat restoration)		
10.17.3.2.1—The chief executive administering the <i>Planning Act 2016</i> nominates the Director-General of the Department of Transport and Main Roads (Maritime Safety Queensland) to be the enforcement authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following conditions:		
1.	<p>The development must be carried out generally in accordance with the following plans:</p> <ul style="list-style-type: none"> (a) General Notes and Site Selection prepared by International Coastal Management dated 09/07/2021, Drawing Number NROR-2021-00 Revision A. (b) Module Designs prepared by International Coastal Management dated 09/07/2021, Drawing Number NROR-2021-02 Revision A. (c) Phase 1 – Goat Island Restoration Site prepared by International Coastal Management dated 09/07/2021, Drawing Number NROR-2021-03 Revision A as amended in red by SARA dated 07/04/2022. (d) Phase 1 – Tewantin Restoration Site prepared by International Coastal Management dated 09/07/2021, Drawing Number NROR-2021-04 Revision A as amended in red by SARA dated 07/04/2022. (e) Phase 1 – Noosa Sound West Restoration Site prepared by International Coastal Management dated 09/07/2021, Drawing Number NROR-2021-05 Revision A. (f) Phase 1 – Noosa Sound East Restoration Site prepared by International Coastal Management dated 09/07/2021, Drawing Number NROR-2021-06 Revision A. 	At all times
2.	The development must be carried out generally in accordance with the Noosa Oyster Ecosystem Restoration Project - Project Restoration Plan prepared by The Nature Conservancy Australia dated January 2022, as amended in red by SARA dated 07/04/2022	For the duration of works
3.	<p>All vessels, structures, plant and equipment associated with the construction of the approved works must be lit/marked in accordance with the following specifications and requirements such that undertaking the construction works does not cause a risk to the safe navigation of ships:</p> <ul style="list-style-type: none"> (a) any anchors deployed must be marked with yellow buoys and fitted with FL yellow lights fitted <p>Lighting provided must not obscure, disguise or otherwise interfere with the effectiveness of navigational lighting.</p>	While the works are occurring
10.17.3.2.1— The chief executive administering the <i>Planning Act 2016</i> nominates the Director-General of the Department of Environment and Science to be the enforcement authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following conditions:		

4.	<p>The construction of the oyster reefs must be undertaken generally in accordance with the following plans:</p> <ul style="list-style-type: none"> • General Notes and Site Selection prepared by International Coastal Management dated 09/07/2021, Drawing Number NROR-2021-00 Revision A. • Module Designs prepared by International Coastal Management dated 09/07/2021, Drawing Number NROR-2021-02 Revision A. • Phase 1 – Goat Island Restoration Site prepared by International Coastal Management dated 09/07/2021, Drawing Number NROR-2021-03 Revision A. • Phase 1 – Tewantin Restoration Site prepared by International Coastal Management dated 09/07/2021, Drawing Number NROR-2021-04 Revision A. • Phase 1 – Noosa Sound West Restoration Site prepared by International Coastal Management dated 09/07/2021, Drawing Number NROR-2021-05 Revision A. • Phase 1 – Noosa Sound East Restoration Site prepared by International Coastal Management dated 09/07/2021, Drawing Number NROR-2021-06 Revision A. 	For the duration of the works.
5.	For the proposed works, only use clean materials and ensure that the works do not cause contamination.	For the duration of the works.
6.	Erosion and sediment control measures which are in accordance with Best Practice Erosion and Sediment Control (BPESC) guidelines for Australia (International Erosion Control Association), are to be installed and maintained to prevent the release of sediment to tidal waters.	For the duration of the works.
7.	<p>Should the oyster reef structures collapse, fail or otherwise suffer structural consequences which impact their integrity or ability to function as intended, the works must be:</p> <ol style="list-style-type: none"> a. reinstated in accordance with this development approval; or b. removed and disposed of at an appropriately licensed facility. 	As soon as reasonably practicable subsequent to the damage.
8.	<p>Submit "As Constructed drawings" to palm@des.qld.gov.au or mail to:</p> <p>Department of Environment and Science Permit and Licence Management Implementation and Support Unit GPO Box 2454 Brisbane Qld 4001</p>	Within two (2) weeks of the completion of the works.
9.	<p>(a) In the event that the works cause disturbance or oxidisation of acid sulfate soil, the affected soil must be treated and thereafter managed (until the affected soil has been neutralised or contained) in accordance with the current Queensland Acid Sulfate Soil Technical Manual: Soil management guidelines, prepared by the Department of Science, Information Technology, Innovation and the Arts, 2014.</p> <p>(b) Certification by an <u>appropriately qualified person</u>, confirming that the affected soil has been neutralised or</p>	<p>(a) Upon disturbance or oxidisation until the affected soil has been neutralised or contained.</p> <p>(b) At the time the soils have been neutralised or</p>

	<p>contained, in accordance with (a) above is to be provided to palm@des.qld.gov.au or mailed to:</p> <p>Department of Environment and Science Permit and Licence Management Implementation and Support Unit GPO Box 2454 Brisbane Qld 4001</p> <p>Note: Appropriately qualified person means a person or persons who has professional qualifications, training, skills and experience relevant to soil chemistry or acid sulfate soil management and can give authoritative assessment, advice and analysis in relation to acid sulfate soil management using the relevant protocols, standards, methods or literature.</p>	contained.
<p>10.6.2.3.1.1 and 10.6.3.3.1.1 — The chief executive administering the <i>Planning Act 2016</i> nominates the Director-General of the Department of Agriculture and Fisheries to be the enforcement authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following conditions:</p>		
10.	<p>Development authorised under this approval is limited as follows:</p> <ul style="list-style-type: none"> Operational work for the temporary removal, destruction or damage of marine plants for placement of oyster reef base being limited to 479m² of macroalgae and shown in Phase 1 – Tewantin Restoration Site, International Coastal management, 05 Aug 2021, NROR-2021-04, Revision A and amended in red by SARA dated 07/04/2022. <p>AND</p> <ul style="list-style-type: none"> The operational works within the Noosa River declared Fish Habitat Area Management A being limited to trial restoration of oyster reefs 2,504m² in area and installation of navigational and educational signage if required and shown in the following plans: <ul style="list-style-type: none"> Phase 1 – Tewantin Restoration Site, International Coastal management, 05 Aug 2021, NROR-2021-04, Revision A and amended in red by SARA, dated 07/04/2022; and Phase 1 – Goat Island Restoration Site, International Coastal management, 05 Aug 2021, NROR-2021-03, Revision A and amended in red by SARA dated 07/04/2022. 	At all times
11.	The reef construction and sediment control must be carried out generally in accordance with Sections 6.1 and 6.4 of Noosa Oyster Ecosystem Restoration Project - Project Restoration Plan prepared by The Nature Conservancy Australia dated January 2022, amended in red by SARA dated 07/04/2022.	For the duration of works
12.	Maintain the signage and navigation markers development in accordance with the plans referenced in condition 10, and the requirements of any conditions included in this referral agency response.	At all times
13.	<p>Provide written notice to notifications@daf.qld.gov.au, when the development authorised under this approval:</p> <p>(a) will start, and</p> <p>(b) when it has been completed.</p>	At least 5 business days but no greater than 20 business days prior to the

	These notices must state this permit number 2202-27255 SRA.	commencement of the works Within 15 business days of the completion of the fisheries development works
14.	Spoil or construction debris is not disposed of on tidal lands or within waterways and is managed to prevent acid soil development.	At all times
15.	This fisheries development (as defined by the <i>Fisheries Act 1994</i>) constitutes a place that is required to be open for inspection by an inspector at all times, pursuant to section 145 of the <i>Fisheries Act 1994</i> .	At all times
16.	Marine plants that are temporarily removed, damaged or destroyed by this development must be restored to pre-disturbance condition. Note: Marine plants are matters of State environmental significance under the <i>Environmental Offsets Act 2014</i> . Due to the claims that restoration will occur made in this development application these have not been included in a significant residual impact for the purpose of calculating an environmental offset for this development. Failure to rehabilitate or restore these marine plants within 5 years will represent unlawful removal damage or destruction of marine plants under the <i>Fisheries Act 1994</i> from that date.	Within 5 years of removal, damage or destruction of the marine plants.
17.	The area shown as the 'buffer zone' from mangroves and seagrass on plans: <ul style="list-style-type: none"> Phase 1 – Tewantin Restoration Site, International Coastal management, 05 Aug 2021, NROR-2021-04, Revision A and amended in red by SARA dated 07/04/2022; and Phase 1 – Goat Island Restoration Site, International Coastal management, 05 Aug 2021, NROR-2021-03, Revision A and amended in red by SARA, dated 07/04/2022 is to be clearly marked with corner pegs and/or buoys and protected with sediment curtains if required to prevent development works and associated activities (sedimentation access) from entering the 'buffer zone'.	Prior to commencement of the works and maintained until their completion
18.	Mark with corner pegs and/or buoys, the boundary of the approved tidal component of the development footprint, as shown on: <ul style="list-style-type: none"> Phase 1 – Tewantin Restoration Site, International Coastal management, 05 Aug 2021, NROR-2021-04, Revision A and amended in red by SARA dated 07/04/2022; and Phase 1 – Goat Island Restoration Site, International Coastal management, 05 Aug 2021, NROR-2021-03, Revision A and amended in red by SARA dated 07/04/2022. 	Until completion of the installation of rock and any signage.
19.	Tidal land profiles that are temporarily disturbed by the development works (other than those within the permanent development footprint), as shown on: <ul style="list-style-type: none"> Phase 1 – Tewantin Restoration Site, International Coastal management, 05 Aug 2021, NROR-2021-04, Revision A and amended in red by SARA dated 07/04/2022; and Phase 1 – Goat Island Restoration Site, International Coastal management, 05 Aug 2021, NROR-2021-03, Revision A and amended in red by SARA dated 07/04/2022 must be promptly restored to pre-work profiles.	Upon completion of the works the subject of this approval
20.	The oyster reefs and any associated infrastructure including, but not	At all times

	limited to navigational and educational signage (if installed) and temporary corner pegs and/or buoys and/or sediment curtains are to be constructed and maintained to avoid fish injury, mortality and/or entrapment.	
21.	<p>(a) Implement an inspection and monitoring program for the purposes of confirming the performance of the oyster reefs. The inspection and monitoring program must:</p> <ul style="list-style-type: none"> i. have been prepared by a person or entity that is suitably qualified and experienced in ecology and restoration; ii. involve the provision of inspection and monitoring reports to notifications@daf.qld.gov.au at intervals of 6 monthly for the first year then annually for 8 years; iii. include an alert and action component, which will enable changes to be made to any deficiencies in the oyster reefs; iv. include a component to monitor and report on the regeneration of impacted marine plants within the works footprint at 6 month intervals until temporary impact areas have regenerated to equal or greater condition; v. be generally in accordance with the following documents: <ul style="list-style-type: none"> □ Table 8.3: Environmental safeguards of Noosa Oyster Ecosystem Restoration Project - Project Restoration Plan prepared by The Nature Conservancy Australia dated January 2022, amended in red by SARA dated 07/04/2022. □ Section 8.4 – Erosion monitoring and mitigation of Noosa Oyster Ecosystem Restoration Project - Project Restoration Plan prepared by The Nature Conservancy Australia dated January 2022, amended in red by SARA dated 07/04/2022 □ Table 8.6 - Contingency plan of Noosa Oyster Ecosystem Restoration Project - Project Restoration Plan prepared by The Nature Conservancy Australia dated January 2022, amended in red by SARA dated 07/04/2022 <p>The emails attaching the inspection and monitoring reports must state this permit number, the location and name of work and this condition number under which the report is being given.</p>	<p>(a) Prior to the completion of the works</p> <p>At all times and pursuant to the intervals of the timeframes stipulated in ii.</p>
22.	The sediment curtains described in condition 11 must be completely removed following completion of reef placement and associated increases in turbidity.	Immediately following completion of reef placement and associated increases in turbidity.

Attachment 2—Advice to the applicant

General advice	
1.	Terms and phrases used in this document are defined in the <i>Planning Act 2016</i> its regulation or the State Development Assessment Provisions (SDAP) v2.6. If a word remains undefined it has its ordinary meaning.
2.	While this development allows for the potential use of seeded oyster cultch in the construction of the oyster reefs, it does not authorise the translocation of oysters. This activity will need to be authorised separately under a <i>Fisheries Act 1994</i> General Fisheries Permit.
3.	A Resource Allocation Authority issued under the <i>Fisheries Act 1994</i> must be held before any works take place within the Noosa River declared Fish Habitat Area.
4.	<p>The development permit has allowed for flexibility in signage wording and format, for example, to accommodate other agencies navigation or safety management requirements or recommendations.</p> <p>Nonetheless, any wording on the signage must not be inconsistent with the relevant legislative and management requirements under the <i>Fisheries Act 1994</i>. The Department of Agriculture and Fisheries welcomes discussion on draft wording proposed for signage before installation – contact should be made through planningassessment@daf.qld.gov.au</p>

Attachment 3—Reasons for referral agency response

(Given under section 56(7) of the Planning Act 2016)

The reasons for SARA's decision are:

- The application is for operational work for prescribed tidal works for habitat restoration within the Noosa River.
- There are four restoration sites that form part of this proposal, which are located at Tewantin, Goat Island, Noosa Sound East and Noosa Sound West.
- The works at the four restoration sites are located in the Noosa River navigation corridor and in a coastal management district.
- The proposed works for the Tewantin and Goat Island restoration sites are within the Noosa River declared fish habitat area (FHA) - management A area. Part of the Tewantin restoration site and all of the Goat Island restoration site occurs within the declared FHA and these areas are 1,667m² and 837m² in size respectively, with a total proposed restoration area of 2,504m².
- The works will result in temporary removal, destruction or damage to 479m² of marine plants.
- The proposed prescribed tidal works will not impede on the safe navigation of vessels in the Noosa River and signage will be provided to ensure safe navigation within proximity to the restoration sites.
- The proposed operational work complies with State code 7: Maritime safety, State code 8: Coastal development and tidal works, State code 11: Removal, destruction or damage of marine plants and State code 12: Development in a declared fish habitat area, of the State Development Assessment Provisions, version 2.6, subject to conditions:
 - o to ensure the development is carried out generally in accordance with the plans of development submitted with the application.
 - o to ensure that at all times, all lights on or above the development site do not interfere with safe navigation in surrounding waterways.
 - o to ensure the development avoids or minimises adverse impacts on coastal resources and their values.
 - o to ensure landowners are aware they must take responsibility for their damaged property as they can impact on coastal resources and public safety.
 - o to allow for compliance in relation to what is considered generally in accordance with the approved plans when preliminary plans are submitted with the application. Development inconsistent with the approval may have an impact on coastal management that was not considered in assessment.
 - o to ensure any disturbance to acid sulfate soils is managed to prevent impacts to coastal environments.
 - o to ensure the development is carried out in the location and to the extent specified on the approved plans of development.
 - o to ensure the reef construction and sediment control is carried in accordance with the Project Restoration Plan.
 - o to ensure the development is maintained in accordance with the approved plans of development and any ongoing requirements of conditions.
 - o to ensure the disturbance of acid sulfate soil is managed to prevent impacts on fisheries resources and fish habitats.
 - o to facilitate the monitoring of the development works for compliance purposes.
 - o to ensure significant residual impacts to matters of State environmental significance are appropriately managed.
 - o to ensure the development avoids and protects identified fish habitats and fisheries resources.
 - o to ensure the development does not encroach into fish habitat areas outside the approved area.
 - o to ensure tidal land profiles are restored to match the surrounding or pre-works sediment profile to aid re-colonisation by flora and fauna.

- o to ensure the development does not increase the risk of mortality, disease or injury, or compromise the health and productivity in fish.
- o to ensure the fish way remains operational and a feasible and reliable solution providing adequate fish passage for as long as the waterway barrier is in position.
- o to ensure the waterway barrier exists only for a temporary period and cause minimal and acceptable disruption to fish movement in the area.

Material used in the assessment of the application:

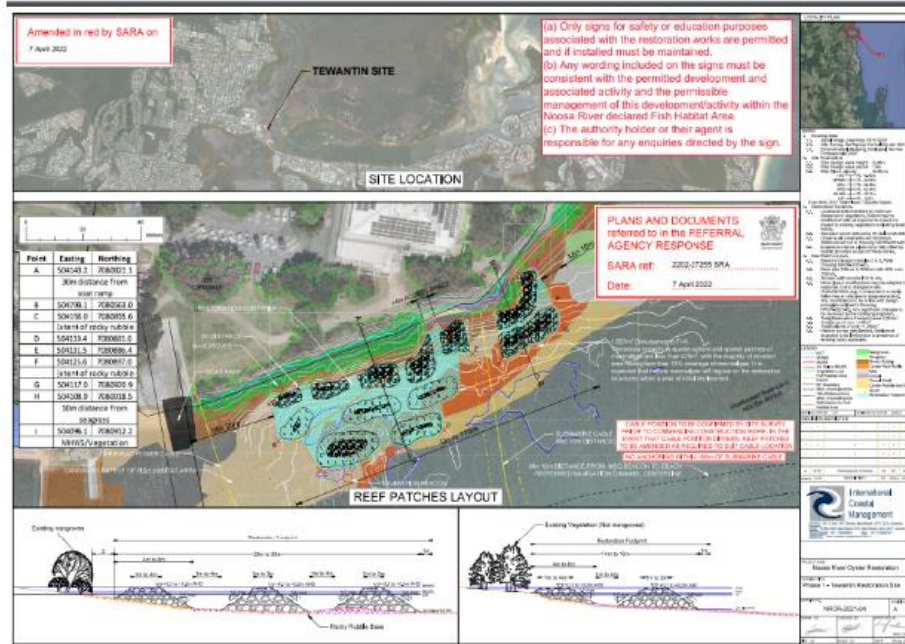
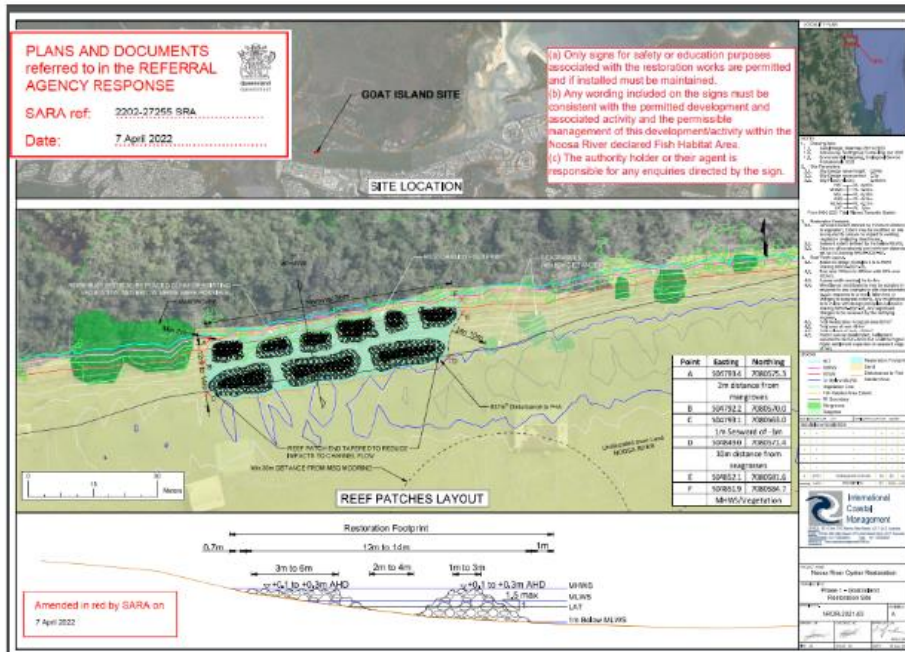
- The development application material and submitted plans
- *Planning Act 2016*
- Planning Regulation 2017
- The *State Development Assessment Provisions* (version 2.6), as published by the department
- The Development Assessment Rules
- SARA DA Mapping system
- *Human Rights Act 2019*

Attachment 4—Change representation provisions

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Attachment 5—Approved plans and specifications

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Chapter 6 Dispute resolution

Part 1 Appeal rights

229 Appeals to tribunal or P&E Court

(1) *Schedule 1 of the Planning Act 2016 states –*

- (a) Matters that may be appealed to –
 - (i) either a tribunal or the P&E Court; or
 - (ii) only a tribunal; or
 - (iii) only the P&E Court; and
- (b) The person-
 - (i) who may appeal a matter (the **appellant**); and
 - (ii) who is a respondent in an appeal of the matter; and
 - (iii) who is a co-respondent in an appeal of the matter; and
 - (iv) who may elect to be a co-respondent in an appeal of the matter.

(2) An appellant may start an appeal within the appeal period.

(3) The **appeal period** is –

- (a) for an appeal by a building advisory agency – 10 business days after a decision notice for the decision is given to the agency; or
- (b) for an appeal against a deemed refusal – at any time after the deemed refusal happens; or
- (c) for an appeal against a decision of the Minister, under chapter 7, part 4, to register premises or to renew the registration of premises – 20 business days after a notice is published under section 269(3)(a) or (4); or
- (d) for an appeal against an infrastructure charges notice – 20 business days after the infrastructure charges notice is given to the person; or
- (e) for an appeal about a deemed approval of a development application for which a decision notice has not been given – 30 business days after the applicant gives the deemed approval notice to the assessment manager; or
- (f) for any other appeal – 20 business days after a notice of the decision for the matter, including an enforcement notice, is given to the person.

Note – See the P&E Court Act for the court's power to extend the appeal period.

- (4) Each respondent and co-respondent for an appeal may be heard in the appeal.
- (5) If an appeal is only about a referral agency's response, the assessment manager may apply to the tribunal or P&E Court to withdraw from the appeal.
- (6) To remove any doubt, it is declared that an appeal against an infrastructure charges notice must not be about-
 - (a) the adopted charge itself; or
 - (b) for a decision about an offset or refund-
 - (i) the establishment cost of trunk infrastructure identified in a LGIP; or
 - (ii) the cost of infrastructure decided using the method included in the local government's charges resolution.

230 Notice of appeal

- (1) An appellant starts an appeal by lodging, with the registrar of the tribunal or P&E Court, a notice of appeal that-
 - (a) is in the approved form; and
 - (b) succinctly states the grounds of the appeal.
- (2) The notice of appeal must be accompanied by the required fee.

- (3) The appellant or, for an appeal to a tribunal, the registrar must, within the service period, give a copy of the notice of appeal to –
 - (a) the respondent for the appeal; and
 - (b) each co-respondent for the appeal; and
 - (c) for an appeal about a development application under schedule 1, table 1, item 1 – each principal submitter for the development application; and
 - (d) for an appeal about a change application under schedule 1, table 1, item 2 – each principal submitter for the change application; and
 - (e) each person who may elect to become a co-respondent for the appeal, other than an eligible submitter who is not a principal submitter in an appeal under paragraph (c) or (d); and
 - (f) for an appeal to the P&E Court – the chief executive; and
 - (g) for an appeal to a tribunal under another Act – any other person who the registrar considers appropriate.

(4) The **service period** is –

- (a) if a submitter or advice agency started the appeal in the P&E Court – 2 business days after the appeal has started; or
- (b) otherwise – 10 business days after the appeal is started.
- (5) A notice of appeal given to a person who may elect to be a co-respondent must state the effect of subsection (6).
- (6) A person elects to be a co-respondent by filing a notice of election, in the approved form, within 10 business days after the notice of appeal is given to the person.

231 Other appeals

- (1) Subject to this chapter, schedule 1 and the P&E Court Act, unless the Supreme Court decides a decision or other matter under this Act is affected by jurisdictional error, the decision or matter is non-appealable.
- (2) The *Judicial Review Act 1991*, part 5 applies to the decision or matter to the extent it is affected by jurisdictional error.
- (3) A person who, but for subsection (1) could have made an application under the *Judicial Review Act 1991* in relation to the decision or matter, may apply under part 4 of that Act for a statement of reasons in relation to the decision or matter.
- (4) In this section –
 - decision** includes-
 - (a) conduct engaged in for the purpose of making a decision; and
 - (b) other conduct that relates to the making of a decision; and
 - (c) the making of a decision or failure to make a decision; and
 - (d) a purported decision; and
 - (e) a deemed refusal.

non-appealable, for a decision or matter, means the decision or matter-

- (a) is final and conclusive; and
- (b) may not be challenged, appealed against, reviewed, quashed, set aside or called into question in any other way under the *Judicial Review Act 1991* or otherwise, whether by the Supreme Court, another court, a tribunal or another entity; and
- (c) is not subject to any declaratory, injunctive or other order of the Supreme Court, another court, a tribunal or another entity on any ground.

232 Rules of the P&E Court

- (1) A person who is appealing to the P&E Court must comply with the rules of the court that apply to the appeal.
- (2) However, the P&E Court may hear and decide an appeal even if the person has not complied with the rules of the P&E Court.



NOOSA COUNCIL

Officer Name: Nick Rocca
Officer Email: mail@noosa.qld.gov.au
Phone No: 07 5329 6372
ECM REF: Hilton ESP
Tewantin
RRP:RRP22/0050 WO 0167230

20 July 2022

Megan Connell
The Nature Conservancy Australia
Sunshine Coast Queensland

Email – megan.connell@tnc.org
Site Contact: Megan
Mobile: 0405 466 729

Dear Megan,

**RE:PERMIT TO TEMPORARY OCCUPY ROAD RESERVE FOR A WORK SITE
TO BE SET UP AT THE END OF HILTON ESPLANADE FOR MATERIAL TO
BE STORED AND MOVED IN AND OUT ON TO A BARGE FOR
OYSTER ECOSYSTEM RESTORATION PROJECT.**

Council would like to advise you that your recent application for permission to occupy the road reserve at western end of Hilton Esplanade next to Earl Street Park as programmed and required has been approved under the site specific conditions indicated below.

This conditional approval is for the 25/7/2022 through to the 7/10/2022 inclusive. If any changes or extension to the time frame is required, an application must be made to Council five (5) days prior to 7/10/2022.

1. No unnecessary delays or disruption to the general public is permitted at any time.
2. All Workplace Health and Safety regulations must be adhered to.
3. Any pedestrian or traffic advice required must be MUTCD (Manual of Uniform Traffic Control Devices) compliant. You are advised that all traffic and pedestrian advice required by legislation must be Manual of Uniform Traffic Control Devices (MUTCD) compliant.
4. The holder of this permit must have, for the term of the permit, a \$20,000,000 public liability insurance policy and such policy shall name the insured as "the applicant for the permit and the Noosa Shire Council" and extend the terms of the policy to the area of the road to which the permit applies. (To ensure you fulfill your duty of disclosure to your insurer, you have an obligation under your insurance contract to contact and inform them of the full scope of the activity to ensure adequate coverage is available to you under the policy).
5. Pedestrian access must be provided along the footpath at all times behind appropriate barricading for your activities.
6. If there is adjacent inset Vehicle Car Parking Bay adjacent to your nominated site may be utilized for safe site access onto site from the roadway during daytime working hours. The parking bay must be reinstated on weekends and when not required for public parking when not required.

NOOSA COUNCIL
ABN: 97 969 214 121

PO Box 141
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P. (07) 5329 6500
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www.noosa.qld.gov.au

7. This permit, a copy of your Public Liability Insurance and a copy of your Traffic Management Plan must be kept on the site and be made available to Council Officers when requested.
8. All and any required environmental and pollution controls must be in place prior to work commencing. Particular attention must be paid to the roadway and storm water network.
9. The applicant is responsible for ensuring that no unlawful noise problems emanate from or are caused due to this work.
10. The applicant must undertake that all employees and or sub-contractors park in a designated parking area and that no local or state law is broken unless stated like above for temporary use.
11. Particular care must be taken to ensure that no damage occurs to Council infrastructure, such as roadway surface, kerb, street signs, vegetation including neighboring kerb or footpath used for construction access. Any damage must be rectified to Council's standards and all costs borne by the applicant.
12. Safe and clear passage of 1200mm minimum – 1500mm desirable must be provided for pedestrians at all times. Traffic control or spotters must be on site during the performance of the works the work site must be signposted and barricaded in accordance with the requirements of the Manual of Uniform Traffic Control Devices. It is the applicant's responsibility to manage all movements in and out of the site ensuring pedestrian and traffic safety at all times. All liability related issues resulting from this activity are the applicant's responsibility.
13. A letter drop should also be undertaken to all/any properties/business that may be affected, outlining the property access arrangements, scope of work and the timeframe involved and your contact details. Council may require proof of this advice.
14. The one way roadway is to remain open at all times.
15. Council reserves the right to immediately rescind this approval in the event of any concerns regarding non-compliance with the conditions or issues that might impact on traffic flows through the works site.
16. Council reserves the right to change or add any condition to this approval if required.
17. The applicant is responsible for the response and any action required if a complaint is made by the public, the applicant must have their contact details clearly displayed at all times around the site.
18. At completion of the works, the community land must be reinstated to its pre-existing condition. It is strongly recommended that you take detailed and dated photographs of the area prior to commencement of any work to protect your interests. Council will undertake an inspection of the area prior to the bond being refunded at the satisfactory completion of the job.

Should any damage be detected at the time of inspection Council may draw down upon the bond and part of or all of the amount may be affected. Council may also seek further financial restitution should the amount be insufficient, plus any legal costs incurred. This permit is approved under conditions set out in Local Law No. 4 (Local Government Controlled Areas, Facilities, Infrastructure and Roads) 2015.

Site inspections will be conducted throughout the duration of this permit to ensure compliance.

Failure to comply with these conditions may result in the cancellation of the permit, the loss of part or all of the bond plus any/all legal expenses incurred by Council.

It is strongly recommended that you take dated photos of the area prior to occupation.

Please note in order to receive the bond refund you must contact Council upon completion of all work so an inspection of the site can be undertaken.

BOND REFUNDS

Please note that, once **all** the work in the road reserve has been completed (including removal of all material, the reinstatement of the nature strip and the removal of all other items, such as fencing and any environmental controls); your security bond may be refunded subject to a satisfactory inspection of the works. ***You must contact Council to arrange an inspection, please phone Council's Customer Service centre on 07 5329 6500.***

If you have any further questions in relation to this matter, please don't hesitate to contact Technical Officer, Nick Rocca on 07 53296372.

Yours faithfully

N Rocca

Nick Rocca
Acting Technical Officer- Road
Reserves Infrastructure Services
Department

Cc- LOCAL LAWS MAILBOX, Noosa Council
Cc-

***PLEASE PROVIDE A COPY OF THESE APPROVAL CONDITIONS TO THE SITE
CONTRACTOR TO ENSURE COMPLIANCE OF COUNCIL PERMIT REQUIREMENTS***

Attachment - Site plan information

2.2.4 Roads and Reserves Permit



Officer Name: Nick Rocca
Officer Email: mail@noosa.qld.gov.au
Phone No: 07 5329 6372
ECM REF: Hilton ESP
Tewantin

RRP:RRP22/0050 WO 0167230

20 July 2022

Megan Connell
The Nature Conservancy Australia
Sunshine Coast Queensland

Email – megan.connell@tnc.org
Site Contact: Megan
Mobile: 0405 466 729

Dear Megan,

RE:PERMIT TO TEMPORARY OCCUPY ROAD RESERVE FOR A WORK SITE TO BE SET UP AT THE END OF HILTON ESPLANADE FOR MATERIAL TO BE STORED AND MOVED IN AND OUT ON TO A BARGE FOR OYSTER ECOSYSTEM RESTORATION PROJECT.

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1. No unnecessary delays or disruption to the general public is permitted at any time.
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3. Any pedestrian or traffic advice required must be MUTCD (Manual of Uniform Traffic Control Devices) compliant. You are advised that all traffic and pedestrian advice required by legislation must be Manual of Uniform Traffic Control Devices (MUTCD) compliant.
4. The holder of this permit must have, for the term of the permit, a \$20,000,000 public liability insurance policy and such policy shall name the insured as "the applicant for the permit and the Noosa Shire Council" and extend the terms of the policy to the area of the road to which the permit applies. (To ensure you fulfill your duty of disclosure to your insurer, you have an obligation under your insurance contract to contact and inform them of the full scope of the activity to ensure adequate coverage is available to you under the policy).
5. Pedestrian access must be provided along the footpath at all times behind appropriate barricading for your activities.
6. If there is adjacent inset Vehicle Car Parking Bay adjacent to your nominated site may be utilized for safe site access onto site from the roadway during daytime working hours. The parking bay must be reinstated on weekends and when not required for public parking when not required.

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7. This permit, a copy of your Public Liability Insurance and a copy of your Traffic Management Plan must be kept on the site and be made available to Council Officers when requested.
8. All and any required environmental and pollution controls must be in place prior to work commencing. Particular attention must be paid to the roadway and storm water network.
9. The applicant is responsible for ensuring that no unlawful noise problems emanate from or are caused due to this work.
10. The applicant must undertake that all employees and or sub-contractors park in a designated parking area and that no local or state law is broken unless stated like above for temporary use.
11. Particular care must be taken to ensure that no damage occurs to Council infrastructure, such as roadway surface, kerb, street signs, vegetation including neighboring kerb or footpath used for construction access. Any damage must be rectified to Council's standards and all costs borne by the applicant.
12. Safe and clear passage of 1200mm minimum – 1500mm desirable must be provided for pedestrians at all times. Traffic control or spotters must be on site during the performance of the works the work site must be signposted and barricaded in accordance with the requirements of the Manual of Uniform Traffic Control Devices. It is the applicant's responsibility to manage all movements in and out of the site ensuring pedestrian and traffic safety at all times. All liability related issues resulting from this activity are the applicant's responsibility.
13. A letter drop should also be undertaken to all/any properties/business that may be affected, outlining the property access arrangements, scope of work and the timeframe involved and your contact details. Council may require proof of this advice.
14. The one way roadway is to remain open at all times.
15. Council reserves the right to immediately rescind this approval in the event of any concerns regarding non-compliance with the conditions or issues that might impact on traffic flows through the works site.
16. Council reserves the right to change or add any condition to this approval if required.
17. The applicant is responsible for the response and any action required if a complaint is made by the public, the applicant must have their contact details clearly displayed at all times around the site.
18. At completion of the works, the community land must be reinstated to its pre-existing condition. It is strongly recommended that you take detailed and dated photographs of the area prior to commencement of any work to protect your interests. Council will undertake an inspection of the area prior to the bond being refunded at the satisfactory completion of the job.

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Site inspections will be conducted throughout the duration of this permit to ensure compliance.

Failure to comply with these conditions may result in the cancellation of the permit, the loss of part or all of the bond plus any/all legal expenses incurred by Council.

It is strongly recommended that you take dated photos of the area prior to occupation.

Please note in order to receive the bond refund you must contact Council upon completion of all work so an inspection of the site can be undertaken.

BOND REFUNDS

Please note that, once ***all*** the work in the road reserve has been completed (including removal of all material, the reinstatement of the nature strip and the removal of all other items, such as fencing and any environmental controls); your security bond may be refunded subject to a satisfactory inspection of the works. ***You must contact Council to arrange an inspection, please phone Council's Customer Service centre on 07 5329 6500.***

If you have any further questions in relation to this matter, please don't hesitate to contact Technical Officer, Nick Rocca on 07 53296372.

Yours faithfully



Nick Rocca
Acting Technical Officer- Road
Reserves Infrastructure Services
Department

Cc- LOCAL LAWS MAILBOX, Noosa Council
Cc-

***PLEASE PROVIDE A COPY OF THESE APPROVAL CONDITIONS TO THE SITE
CONTRACTOR TO ENSURE COMPLIANCE OF COUNCIL PERMIT REQUIREMENTS***

Attachment - Site plan information

2.3 Environmental Training

All M&J Marine workers who will be working on site shall receive site-specific induction training. The induction training will include:

- familiarisation with the requirements of this EMP;
- environmental emergency response training; and
- familiarisation with site environmental controls.

M&J Marine may combine the Work Health and Safety (WHS) and Environmental induction into one. A record of the site induction will be made on the *Site Environmental Induction Register (below)*.

SITE ENVIRONMENTAL INDUCTION REGISTER				
<i>Record of persons receiving environmental induction for this site</i>				
Project Name:		Date:		
Address:				
Name of Inductor:		Telephone:		
Topics Covered:				
I have attended this induction and have read and understood the environmental rules of this site and EMP.				
Date	Worker Name	Induction Number (e.g. general induction card, license)	Worker Signature	Supervisor

2.4. Emergency Contacts and Response

This EMP sets out M&J Marines Services manages environmental emergencies during the project. Protocols includes keeping record of:

- the names of key emergency response personnel and contact details (including all- hours telephone numbers),
- contact details for emergency services (e.g., ambulance, fire brigade, spill clean-up services),
- the location of on-site information on hazardous materials, including SDS (Safety Data Sheets) and spill containment material,
- steps to follow to minimise damage and control the emergency; and
- instructions and contact details for notifying the Site Supervisor, EPA, local council, nearby residents or the community if necessary.

Key Emergency Response Personnel

Jay Maartensz will be the first point of contact when an incident or spill occurs. He can be contacted 24 hours a day. Contact details including emergency services are included in Table 2.

Table 2: Emergency services contact details

Emergency Services	
Ambulance, Fire or Police	000
Poisons Information	13 11 26
First Aiders	
Jay Maartensz	0457 425 260
Ian Johnson	0412 517 640
Utilities	
Water	132 203
Electricity	131962
Gas	1800 427 532
Dial Before You Dig	1100
EPA (<i><u>24 hour pollution line</u></i>)	1300 130 372

2.5 Hazardous Substances

M&J Marine will maintain an up-to-date register of Hazardous Substances and Safety Data Sheets (MSDS) for all materials used on the project (below).

Controlled, updated copies of these SDS will be readily available to the Project Manager and Site Supervisor and prominently displayed at the worksite.

HAZARDOUS SUBSTANCES REGISTER						
Product Name	Location where Product is Used	Quantity	Clearly Labeled	SDS on Site		Action / Comments
			Yes / No	Yes / No	Date	
<p>An SDS is a Safety Data Sheet – these are available from the substance manufacturer or the point of purchase. SDS must be on site together with the hazardous substance.</p> <p>Action / Comments - note any particular safety controls required e.g. use, transport, PPE, first aid, storage, spill control and whether each substance is classified as hazardous (according to NOHSC) or dangerous goods for transportation (according to ADG code).</p>						

2.6 Emergency Response Procedures

Fire Emergency

- Steps to manage a fire emergency:
- Call '000' as soon as possible. If '000' does not work on your mobile phone call '112',
- If safe to do so leave the work area. If unsafe to leave, seek refuge in a safe area immediately,
- Go to the designated Emergency Assembly Area or to a clear/open area,
- Make sure all workers are present and accounted for, do not return to the work area to locate any missing workers; and
- Notify the Site Supervisor and wait for instructions

Gas Leak Emergency

Steps to manage a gas leakage emergency:

- Call the Site Supervisor immediately, if deemed necessary call the Fire Brigade on '000'.
- If '000' does not work on your mobile phone call '112';
- Site Supervisor to immediately arrange to turn off the gas supply,
- Site Supervisor to turn off the site's electrical supply,
- If deemed necessary, notify all persons to evacuate the work area and assemble at the Emergency Assembly Area,
- Control the movement of people to the Emergency Assembly Area,
- Check all workers and others are in attendance; and
- Remain at the Emergency Assembly Area until notified that the area is safe to reoccupy.

Leak Or Spill Emergency

Steps to manage any Leak or Spill in a work site:

- Identify the source of the problem,
- Stop goods leaking,
- Contain spilt material, using spills kit or sand,
- Notify officer or Site Supervisor,
- Remove spilt material and place in sealed container for disposal (if possible), and
- Site Supervisor to record incident.

OR

- As suggested on Safety Data Sheet (SDS)

3. Implementation

3.1 Environmental management controls

The following environmental management control measures, and monitoring protocols, will be adopted to prevent or minimise environmental impacts

3.1.1 Air Quality

Control Measure	Responsibility	Timing / Frequency
Potential Impact: Emissions of air pollutants from motor vehicles, vessels & plant		
Regular maintenance of machinery. Workers instructed not to leave machinery idling when not in use.	Site Supervisor	Ongoing during project
Potential Impact: Dust generated from movement of plant and equipment		
Disturbance of site will be <u>monitored</u> and the site will be restored prior to carrying out earthworks in new area.	Site Supervisor	Ongoing during project
Excavated materials will be stocked piled and where possible re-used on site. Excess materials to be disposed of in accordance with the Protection of the Environment Operations Act 1997.	Site Supervisor	Ongoing during project
Where significant dust is generated, the work area will be watered down.	Site Supervisor	Ongoing during project

3.1.2 Sediment Plumes

The following measures are taken to control sediment plumes that may be created by construction operations. See also Project Management Plan, January 2020, Section 6.4 (*Sediment Management*). These measures are in compliance with Referral Agency condition 17.

The protocol for sediment plume minimisation, monitoring and management includes the following:

- Preferential selection of rock from the quarry with minimum fracking.
- Organising the transport of rock to minimise contamination from loose material.
- Washing the rock prior to use, at the quarry, if the rock is contaminated with loose material is greater than 50% by area.
- Managing the rock at the load out site to minimise significant fouling by ground sediments, if detected. This may include measures such as laying a bed of gravel on which the rock sits at the load out site, loading rock directly from the truck onto the barge, minimising the movement of barge equipment on and off the barge to avoid contamination from the tracks of the equipment.
- Washing oyster shells prior to mixing this into a composite substrate with rock. Washing will occur at the Doonan Solid Waste Facility.
- Deploying the rock on site by placing it on site carefully, rather than dumping it off the side of the barge, if plumes are caused.
- Inspection and physical marking of the seagrasses in closest proximity to the site is to be undertaken prior to commencement of works. During works visual monitoring of the sediment plume is to be undertaken. Where the visible plume extends to within 5m of seagrass beds, turbidity monitoring is to be undertaken.
- The extent and duration of the anticipated sediment plume is such that mangrove species are unlikely to be impacted and do not require monitoring unless significant sediment plumes are observed.

If seagrass remains at risk of sediment smothering (if turbidity monitoring indicates turbidity (NTU) is more than 10% above background), when measured with a secci disc, then employ a combination of the following:

- Deployment of silt curtains around the seagrass beds, or in close proximity to the restoration site and/or,
- Deploy substrate down current of the seagrass bed (e.g. on a falling tide for seagrasses located upstream of the works), or within an hour of high or low tide (slack water).
- Ensuring silt curtains do not interact with marine plants and are deployed for the absolute minimum possible soak time required to achieve the rock deployment at the site.
- Constant monitoring of the silt curtains to ensure they do not move and interact with marine plants, impede fish passage or impose unreasonable imposition on other waterway users.

- Review substrate handling protocols and enhance the substrate cleaning/preparation efforts until plumes are minimised.
- Review construction operations procedures and amend as required to minimise potential for impacts.
- Consider implementing additional operational measures.
- Inspect the seagrass beds to determine if there is evidence of sediment smothering compared to pre-works inspection.
- Report any impacts on seagrass or other marine habitats to the Department of Environment and Science (DES) and Department of Fisheries (DAF).

3.1.3 Load Out Site – Sediment Management

The load out site will be managed by M&J Marine Services.

A Roads and Reserves Permit (Ref: RRP22/0050 WO 0167230 has been secured from Noosa Council to occupy the site, which is located at the end of Hilton Esplanade, Noosaville.

A map of the load out site is given in Figure 1 below:



Figure 1: Load out site, Hilton Esplanade, Noosaville

Operational parameters (summary)

Parameter	Proposal
Permit	Permit to temporarily occupy road reserve for a work site to be setup at the end of Hilton Esplanade for material to be stored and moved in and out on to a barge for the oyster ecosystem restoration project.
Period:	25/7/2022 – 7/10/2022
Management:	Oversight – The Nature Conservancy (permit holder) Management – M&J Marine Services (construction contractor)
Contact	The Nature Conservancy (Megan Connell) – 0405 466 729 M&J Marine Services (Jay Maartensz) – 0457 425 260 Noosa Council (Nick Rocca) – 07 5229 6372
Site area:	Exclusive use of 540m ² of road reserve (350m ² at high tide) at the end of Hilton Esplanade (Figure 6.5b) Load out area A = 300m ² area (150m ² at high tide) Load out area B = 200m ² area Load out area connection = 40m ² Area A is primarily for rock storage and equipment loading/unloading operations in association with the barge. Area B is primarily for machinery storage and rockpile overflow from Area A. The load out area connection creates a safe corridor for the movement of the Posi-track loader between Areas A and B. When not in use, the corridor will be opened to allow boat ramp users improved access to the site.
Nature of uses:	Movement of up to 7 commercial trucks per day to deliver rock Storage of up to 90m ³ of rock (150mm to 500mm diameter) per day Loading of rock and dried oyster shell onto the barge using an excavator + Posi-track Storage of loading ramps, vehicle and heavy equipment No chemicals, fuels or liquids will be stored at the site.
Frequency of use:	12 hour/day operational. 6am to 6pm including site management. Expected up to 7 truck movements per day along Hilton Esplanade to deliver rock to the load out site per day. Barge will ferry rock to restoration sites as needed from the load out facility with expected 2- 5 loadings per day subject to tides.

Public access:	<p>A dual carriage way with a minimum of 8m width will be maintained to allow access to the boat ramp along Hilton Esplanade.</p> <p>A dual public boat launch area 12m wide will be maintained along the shoreline. Note that the formal dual boat ramp at Tewantin is 10m wide.</p> <p>Adequate vessel reversing area will be maintained between site areas A and B.</p> <p>Access to Hilton Esplanade from Hilton Terrace via the pathway leading from Hilton Terrace will be maintained.</p> <p>Commercial operators wishing to use the ramp may negotiate temporary access to the shoreline directly with the project's construction contractor.</p>
Public safety:	<p>Load out site areas A and B will be fenced using commercial fencing as will a 2.5m corridor joining areas A and B.</p> <p>Signage will be used on the fencing to inform the public about the site, its purpose and cautions.</p> <p>The barge will only come ashore within site area A.</p> <p>The construction company will use standard traffic control methods to ensure the public is separated from truck movements at the end of Hilton Esplanade and operations between site area A and B.</p>
Public notifications	<p>A public notification regarding the works will be printed in the Noosa News two weeks prior to commencement of activities.</p> <p>An announcement will be made in the Noosa Council's circular.</p> <p>Relevant authorities will be notified of works prior to commencement.</p> <p>Public notification signage will be posted at the site and will include a QR code which connects to online information about the construction process: Timeframe, purpose, activities, further information.</p> <p>Tourism facilities adjacent to the site will be specifically notified and met with to explain the work schedule.</p>
Noise management:	<p>Truck movements and barge loading will take place between 7am and 6pm weekdays, and between 8am and 5pm on weekends.</p>
Environmental management:	<p>Fencing will be placed at a distance from the tree line and visible tree roots will be avoided.</p> <p>Silt booms and sediment fences will be used as indicated on the site map.</p> <p>The site will be rehabilitated to its pre-use condition or better.</p> <p>All rubbish will be disposed of appropriately.</p>

Load out site management on a daily basis will be in conformity with the BPESC Field Guide 'Maintenance Control Measures' including:

- Regular site inspections by the site controller (Jayson Maatrtensz).
- Control of shifting earth – the site will be regularly graded to maintain a relatively smooth surface. Any sediment control fencing deployed will be cleared of soil.
- Rock stockpiles regularly inspected for rilling and erosion potential and covered or additional sediment management fencing or booms deployed, as required. Please note that any given rock pile will be deployed within 24 to 48 hours of arrival on site.
- Equipment stockpiles re-ordered at the end of each day and any waste disposed of appropriately.
- Prompt cleanup of any sediments.
- Re-ordering of the load out site, after storms including sediment management measures.
- Maintaining site signage and fencing in sound operating conditions

There will be no site shed.

Most small equipment will be stored offsite, on the vessels, or within fenced area A, as indicated on the site map.

Traffic and pedestrian control

- Traffic and pedestrian movements in the proximity of the load out site will be monitored and directed during loading and unloading operations by M&J Marine Service staff spotters, who will be on site at all times.
- Pedestrians will principally be directed, using fencing, around the load out site.
- Vehicles will generally share the access to the site and will be separated by fencing.
- Any additional pedestrian or traffic advice required will be compliant with the Manual of Uniform Traffic Control Devices (MUTCD) and consistent with the conditions of the Roads and Footpaths Permit issued by Noosa Council for the site.

Sediment Control

The load out site will be managed in accordance with the BPESC Field Guide – Sediment Control (pgs 30-38).

- The base of the load out site is sand, which has very low relief in the direction of the river. The site partially floods during spring tide and storm events.
- M&J Marine Services will maintain the site in good working order, with a low relief sand base being maintained.
- Rock will be stockpiled onto the sand in Area A with machinery storage and overflow in Area B as per the site map.
- The posi-track will not drive onto the barge, to reduce sediment contamination of the rock and tire treads used to further reduce rock contamination in transport. M&J have developed specific sediment reduction techniques to meet the high specifications of TNC

oyster restoration project and applied these in Port Stephens and Narooma (NSW) oyster reef restoration projects.

- Between the shoreline and the loading barge, a sediment boom will be used to reduce overland runoff from the load out site (see Load Out Site diagram below). The boom will be maintained, whenever vessel loading is occurring.
- Please note that this is a shared site with other users, so the boomed area will be specific to the operations of this project on those of other commercial and recreational users.
- Fencing is used to further contain sediment. Area B (see Figure below) is the primary rock storage area, while area A is the loading area.
- The area will store approximately 100 tonnes at a time, and this is roughly the daily use level.
- The stockpile will not generate dust due to the coarse particle nature (150-500mm diameter) and expected low level of fines.
- The stockpile will be covered, if the pile poses the risk of becoming a source of additional sediment to the river. This will be monitored daily by the construction team and a boom deployed around the stockpile, if sediment runoff is detected at any point.
- The fencing has been designed by TNC, M&J Marine and Noosa council staff and is part of the approved Roads and Footpath Permit for the management of this site.
- The stockpile will be monitored for rilling, and if it occurs, will be covered or a filter fence will be deployed around the stockpile to reduce runoff by reducing overland flow from the pile (in accordance with BPESC 'Filter Fence' specifications).
- Waste will be appropriately stored and removed from site on a regular basis.
- Clean water diversion will be created around areas A and B if site inspections show there to be an overland flow issue that needs managing. M&J will remain in close contact with TNC and Noosa Council staff on this issue during the site establishment phase.
- Stockpiling of equipment will occur along the fence line, at the road end of Area A.
- M&J Marine Services uses the following checklist to help manage the load out site against the BPESC Field Guide check list (below).

Site check list

Location: Date:

- ☐ Site-generated dust and stormwater run-off are not causing nuisance or damage to adjoining properties.
- ☐ Up-slope stormwater run-off is managed to minimise soil erosion and site wetness.
- ☐ Stormwater run-off is not causing unacceptable levels of soil erosion.
- ☐ Roof water run-off is not causing unnecessarily soil wetness within active work areas.
- ☐ Site activities are being carried out in a manner that minimises the duration that disturbed areas are exposed to the erosive forces of wind, rain and flowing water.
- ☐ Soil erosion resulting from rainfall is being minimised.
- ☐ Soil erosion resulting from strong winds is being minimised.
- ☐ Sediment leaching from material stockpiles is not contaminating stormwater run-off.
- ☐ Exposed soil surfaces are being rehabilitated as soon as practicable to minimise soil erosion.
- ☐ Adequate precautions are being taken to minimise sediment leaving the work area as a result of site traffic.
- ☐ Site activities are not causing unacceptable levels of sediment to leave the work site.
- ☐ Sediment control measures are located fully within the property.
- ☐ Off-site material spills and sediment deposits have been cleared in a manner that minimises environmental harm, safety issues, and damage to public and private property.
- ☐ All reasonable and practicable measures are being taken to prevent concrete waste or wash-off entering gutters, drains and waterways.
- ☐ All reasonable and practicable measures are being taken to prevent contaminated water from cutting and cleaning activities entering gutters, drains and waterways.
- ☐ Drainage, erosion, and sediment control measures are being maintained in proper working order at all times.
- ☐ Safety risks associated with erosion and sediment control measures are being minimised, if not totally prevented.

3.1.4 Excavation and ASS

There will be no excavation as part of the works.

- Rock is placed on top of sand substrates, which have been mapped by bathymetric survey and samples lab tested for particle size during the engineering design phase of this project.
- ICM does not expect subsidence to be an issue but will monitor with M&J Marine Services using standard survey techniques.
- Rectifications will be agreed on and undertaken, as required and in accordance with the engineering drawings (NROR-2021).
- In the design process, Acid Sulphate Soils (ASS) were considered by ICM and excluded from the potential restoration footprint. The construction method conforms with development approval condition 9).
- Where sediments are disturbed, M&J Marine Services will notify The Nature Conservancy and ICM immediately and undertake site management and any required remedial action in accordance with the Queensland Acid Sulfate Soil Technical Manual: Soil management guidelines, as per Noosa Council and Referral Agency condition 9.

3.1.5 Erosion monitoring and control

- Ecological Service Professionals (ESP) is responsible for shoreline erosion monitoring, assessment and reporting.
- ESP will be undertaken baseline shoreline monitoring just prior to commencement of construction works.
- ESP will establish photo points and use high resolution GPS and RTK survey methods (<0.1 metres accuracy) to create baseline create plan-view map (GIS shape files) of the shoreline adjacent to each restoration site (including 100m upstream and downstream of each site).
- ESP will include a photo reference log for each site.
- ESP will note any areas that appear to be highly erosional, if relevant.
- ESP will then repeat shoreline monitoring and assessment 6 then 12 months post construction then annually, reporting the results and analysis to The Nature Conservancy.
- The Nature Conservancy will include ESP reports with reports to agencies (Noosa Council condition 15 and Referral Agency condition 21).
- Where ESP detects significant shoreline erosion (> 1metres), The Nature Conservancy will be immediately notified.
- The Nature Conservancy will immediately contact authorities and determine the contribution the reefs have made to the erosion and will decide collaboratively on the solutions.

- If reefs are a contributing factor to shoreline erosion, The Nature Conservancy will arrange appropriate rectification actions to be undertaken in consultation with agencies.
- Rectifications may include making changes to reef profiles, if this action is deemed appropriate.
- Remediation actions and responsibilities will be decided between The Nature Conservancy and agencies.
- All post construction activities will be conformity with the Environmental Protection Act EPA (1994) and the Environmental Protection (Water) Policy 2009 (as per Noosa Council condition 19).

3.1.6. Water quality

Control Measure	Responsibility	Timing / Frequency
Potential Impact: Contamination of water due to chemicals, fuels or wastes		
Storage of fuels, chemicals and wastes will be clear of stormwater or drainage lines and be in an appropriately bunded area which will be located above HAT line.	Site Supervisor	Ongoing during project
Safety Data Sheet (SDS) of hazardous substance will be referred to when spills occur.	Site Supervisor	Ongoing during project
Work site will hold a spill kit to contain site spills.	Site Supervisor	Ongoing during project
All hazardous substances on site will be recorded in the Hazardous Substances and Safety Data Sheet Registers.	Site Supervisor	Ongoing during project

3.1.4 Fauna

Potential Impact: Disturbance to endangered species		
Where an endangered species is identified, works will stop immediately and the relevant authority notified.	Site Supervisor	Ongoing during project
Protective fencing will be installed around trees and areas where endangered species are found.	Site Supervisor	Ongoing during project
Any fauna species encountered on site will be relocated by a qualified wildlife carer from an organisation such as WIRES.	Site Supervisor	Ongoing during project
Potential Impact: Spread of weeds		
Weeds will be removed from the site and composted or disposed of to prevent spread.	Site Supervisor	Ongoing during project

3.1.5 Marine plants

- Prior to works commencing, independent consultants, Ecological Service Professionals ESP, surveys and confirms the position of marine plants within and 50 metres upstream and downstream of each restoration site.
- ESP provides this information to M&J Marine Services as well as to consultant engineers, ICM, for checking against the site drawings.
- If seagrass or other marine plants have changed position or extended their range or have colonized new areas within a restoration site or within 50 metres upstream and downstream of a restoration site, then ICM advises on how to adjust the reef patch configuration (within the scope of the approved engineering drawings (NROR-2021-02).
- At the start up meeting, M&J Marine Services meets with The Nature Conservancy and ICM to review and, if necessary, revise the construction drawings, including in relation to marine plants and to agree on work methods.
- Prior to works commencing, M&J Marine Services marks the position of any marine plants within each restoration site and 50 metres upstream and downstream of the site using GPS coordinates and star pickets and uses these to create a 2m buffer from works undertaken (as per DAF requirement 17), which cannot be impacted, and as reference points for sediment plume monitoring.
- In shallow areas, a "Channel" will be marked where it is suitable to allow the barge to transit to a given restoration site and to avoid marine plants. The number of star pickets will be optimized, and carefully monitored, so as not to provide a navigational hazard.
- Prior to construction, The Nature Conservancy inspects all markers to ensure adequately of buffering of marine plants provided (minimum 2m), prior to works commencement at each restoration site.
- Where damage to marine plants occurs, the extent of the damage will be quantified by ESP by visual census and appropriate rectification actions decided and implemented by The Nature Conservancy in direct consultation with DAF and DES.

3.1.6 Waste Management

Control Measure	Responsibility	Timing / Frequency
Potential Impact: Unacceptable disposal of site waste		
All material waste will be recorded in the Waste Register.	Site Supervisor	Ongoing during project
All waste removed from site will be disposed of in accordance with the Environmental Protection Regulation 2019	Site Supervisor	Ongoing during project
Appropriate space will be provided for the temporary storage of garbage, recyclable and compostable waste to ensure separation of waste products.	Site Supervisor	Ongoing during project
During works, on-going checks will be carried out to ensure correct separation and re-use of recyclable materials is being maintained.	Site Supervisor	Ongoing during project
Where possible all existing building and excavation materials will be re-used on site.	Site Supervisor	Ongoing during project

3.1.7 Noise

Control Measure	Responsibility	Timing / Frequency
Potential Impact: Unacceptable noise levels and vibrations		
Work equipment will be maintained in good working order to comply with EPA guidelines. Where required, noise suppressors will be installed.	Site Supervisor	Ongoing during project
Hearing protection will be worn eg earplugs or earmuffs.	All workers	Ongoing during project
Work will take place during nominated work hours only.	Site Supervisor	Ongoing during project

3.1.8 Heritage

Control Measure	Responsibility	Timing / Frequency
Potential Impact: Damage to heritage items		
All heritage items will be identified and fenced off prior to commencing works.	Site Supervisor	Ongoing during project
All workers and visitors will be notified of any heritage items on site.	Site Supervisor	Ongoing during project
No items will be stored, or work undertaken within the boundary of a heritage item.	Site Supervisor	Ongoing during project
If heritage items are found during the course of works, work will stop immediately, and the relevant authorities notified.	Project Manager	Ongoing during project

3.1.9 Hazardous material

Control Measure	Responsibility	Timing / Frequency
Potential Impact: Spills and uses of hazardous materials		
All hazardous and/or intractable wastes are to be disposed of in accordance with relevant Authority and EPA requirements.	Site Supervisor	Ongoing during project
All hazardous waste removed from site will be disposed of in accordance with Environmental Protection Regulation 2019	Site Supervisor	Ongoing during project
Safety Data Sheet (SDS) of hazardous substance will be referred to if spills occur.	Site Supervisor	Ongoing during project
All hazardous substances will be recorded in the Hazardous Substances Register and the SDS recorded in the Safety Data Sheets (SDS) Register.	Site Supervisor	Ongoing during project

HAZARDOUS SUBSTANCES REGISTER

Product Name	Location where Product is Used	Quantity	Clearly Labeled	SDS on Site		Action / Comments
			Yes / No	Yes / No	Date	
<p>An SDS is a Safety Data Sheet – these are available from the substance manufacturer or the point of purchase. SDS must be on site together with the hazardous substance.</p> <p>Action / Comments - note any particular safety controls required e.g. use, transport, PPE, first aid, storage, spill control and whether each substance is classified as hazardous (according to NOHSC) or dangerous goods for transportation (according to ADG code).</p>						

SAFETY DATA SHEET (SDS) REGISTER

Prepared By: _____

SAFETY DATA SHEET REGISTER					
SDS Number	Date of Issue	Worker	Description	Date Reviewed*	Signed

*Check SDS is current before starting each project.

SDS must not be more than five years old from date of issued date.

Refer to: *Safe Work Australia Code of Practice - Preparation of Safety Data Sheets for Hazardous Chemicals*

3.1.10 Soil contamination

Control Measure	Responsibility	Timing / Frequency
Potential Impact: Spillage and leaking of hazardous material into the soil		
Regular maintenance will be undertaken on all machinery and transport vehicles to ensure there are no fuel or oil spills or leaks.	Site Supervisor	Ongoing during project
Only trained workers will handle hazardous materials.	Site Supervisor	Ongoing during project
All materials will be labelled and stored in a lock-up with an impervious floor.	Site Supervisor	Ongoing during project
Safety Data Sheets (SDS) for all hazardous materials will be kept on site.	Site Supervisor	Ongoing during project
All site workers will be trained in spill management.	Site Supervisor	Ongoing during project

3.1.11 Biosecurity

M&J Marine Services is responsible for minimizing the risk of introducing biosecurity hazards to the Noosa River. The main potential biosecurity hazards associated with the construction works include:

- a. Biofouling of the construction barge or push vessels, which have been mobilized to the Noosa River from New South Wales, with foreign or invasive marine species.
- b. Biofouling of the rock substrate with soil or sediment from the quarry.
- c. Biofouling of oyster shells, used as a composite (with rock) in reef construction
- d. Biofouling seeded oyster cultch, used for the ecological re-seeding of the oyster reef patches, once constructed
- e. Translocation of invasive fire ants from a fire ant quarantine zone

Each of these hazards are specifically treated in the *Marine Biosecurity Plan for Construction Vessels 2022*, which accompanies this document.

4. Monitoring, Record Keeping, Reporting

4.1. Site inductions

M&J Marine staff will be inducted as to the environmental monitoring controls listed in Section 3. Visitors to the load outsite will also be inducted as to the controls that pertain to the operation of the load out site, if they enter the load out site compound (fenced areas).

The register below will be used to confirm that inductons have occurred:

SITE ENVIRONMENTAL INDUCTION REGISTER				
<i>Record of persons receiving environmental induction for this site</i>				
Project Name: _____		Date: _____		
Address: _____				
Name of Inductor: _____		Telephone: _____		
Topics Covered: _____				

I have attended this induction and have read and understood the environmental rules of this site and EMP.				
Date	Worker Name	Induction Number (e.g. general induction card, license)	Worker Signature	Supervisor

4.2. Environmental inspections

M&J Marine Services will undertake inspections of the environmental controls listed in Section 3.

Site environmental inspections will be undertaken halfway through the job and will be recorded by the Site Supervisor on the Site Inspection Checklist (below)

SITE ENVIRONMENTAL INSPECTION CHECKLIST

PROJECT DETAILS

**Project
Name:** _____

**Contact
Name:** _____

Telephone: _____

Email _____

Date: _____

ENVIRONMENTAL ISSUES

Erosion and Sediment Control	Yes	No	N/A	Comments
Has an erosion and sediment control plan been created.				
Are sediment and control measures in place for construction works <u>e.g.</u> sediment traps, sediment fences etc.				
Are these being maintained and kept in correct working order.				
Have materials been contained or placed in designated areas to be away from stormwater drains/runoff.				

Are designated washout areas in place away from storm water drains.				
Is relevant protection in place surrounding flora to stop any damage.				
Is the site maintained and cleared away daily of all soil, earth, mud, clay and concrete waste that may cause an environmental <u>issue</u> .				

Waste Management	Yes	No	N/A	Comments
Has a Waste Management Plan been created and <u>implemented</u> .				
Have <u>stock piles</u> or designated waste areas been created.				
Is the waste being stored in such an area as not to pollute or contaminate stormwater drains.				

Continued.....

Have excess materials been recycled, reused or returned.				
Hazardous Materials	Yes	No	N/A	Comments
Are spill kits available and held on site.				
Are spills attended to and cleaned up immediately.				
Are procedures in place noting the correct methods for removing Asbestos.				
Is there a designated storage area for hazardous materials where leaks can't flow to open ground or drains.				
Are all hazardous material containers sealed properly and no leaks evident.				
Are Safety Data Sheet (SDS) on site for all hazardous materials				
Air Quality	Yes	No	N/A	Comments
Does all plant and equipment comply with the relevant codes and emission standards for air quality				
Noise Management	Yes	No	N/A	Comments
Are procedures in place to minimise noise to workers, site and surrounding areas.				
Does all plant and equipment comply with the relevant codes, guidelines and standards for noise control				
Company Representative Name:				Company Representative Signature:
Print				DATE

M&J Marine Services will report any environmental incidents immediately to The Nature Conservancy and decisions taken as to the appropriate course of action.

M&J Marine Services will log environmental incidents using the incidents register below.

4.3 Environmental auditing

Planned and documented audits aimed at evaluating the environmental conformance of the project will be carried out by M&J Marine.

Any deficiencies identified during the audits shall be documented and actioned in accordance with M&J Marine corrective action procedure (Section 4.4).

Audit Type	Frequency	Record	Auditor
Environmental Management Plan	<u>Half way</u> through the project duration	Audit Report	Project Manager / External Auditor
Sub-contractor Environmental Performance Audit	<u>Half way</u> through the project duration	Audit Report	Project Manager / External Auditor
Site Inspection	weekly / daily	Site Environmental Inspection Checklist	Site Supervisor

4.4 Corrective actions

A non-conformance occurs when a procedure or environmental control is not followed or does not perform as required by this EMP.

M&J Marine will monitor non-conformances to the EMP and initiate corrective and preventive action where required.

All non- conformances will be recorded on the *Non-Conformance Report Form* (below)

M&J Marine will undertake corrective action in case of incidents that have an environmental impact or works not carried out according to the required standard.

Procedures M&J Marine Services will apply for identifying corrective action include:

- Review of the Environmental Management Plan in consultation with The Nature Conservancy,
- Investigation into the causes of incidents and recording of results, and
- Evaluating further environmental risks and ensuring procedures are adequate to mitigate environmental impacts.

NON-CONFORMANCE REPORT FORM

Project Name: _____ NCR Number: _____
 Address _____ Date: _____
 NCR issued to: _____ NCR issued by: _____

Outline the evidence obtained for Non Conformance

Corrective or preventive action to be taken to fix the <u>Non Conformance</u>	Responsible person	Date to be completed by

Sign Off

Corrective or preventive action is complete and dealt with by the responsible person noted above

Name:		Date:	
Signature:			
..... agrees corrective or preventative is complete			
Name:		Date:	
Signature:			

Corrective or preventive action is complete and dealt with by the responsible person noted above			
Name:		Date:	
Signature:			
..... agrees corrective or preventative is complete			
Name:		Date:	
Signature:			

4.5 Complaints management

(As per Project Management Plan, January 2022, Section 8.5)

The Nature Conservancy is responsible for complaints management during the development permitting period.

The Nature Conservancy will manage the response to all complaints in liaison with relevant authorities as well as the contracted construction company.

The rating and intended responses to complaints is given in Table 8.5. The complaints record keeping system is as per Table 8.5a.

Complaints and responses will be included, in general terms, in annual reports. Relevant agencies may access the detail of complaints, as per the tables (taken from the Project Management Plan).

Table 8.5: Complaint rating and response

Complaint severity	Nature	Response	Timeframe
Low	General concerns and questions about project activities, timeframes or details.	Phone call and/or email response giving response or source of information.	Within 48 hours
	General inquires not directly related to the project	Refer to appropriate agency	
Medium	Concerns related to specific project actions and impact on visual amenity or environment, as they occur	Phone call and/or formal written response depending on nature.	Within 24 hours
	Specific complaints about the project in general	Consultation with relevant agencies regarding the response, if required. Additional actions, as required	
High	Concerns that a specific project activity is posing an immediate and significant threat to life, property or natural environment	Phone call and/or formal written response depending on nature. Consultation with relevant agencies regarding the response, if required. Additional actions, as required	Within 12 hours

Table 8.5a: Complaints Record Management

Details of Plaintiff	Description of Complaint	Severity	Response/s
Date of complaint Full name of plaintiff Contract details Contact modality (email, phone, etc)	Detailed description including any historic or contextual information	Low/Medium/High	- Date/s taken - Description - Persons involved in the response Chronological log, if multiple actions taken and multiple responses from plaintiff received

4.6 Communications

M&J Marine Services will maintain signage at the load out site including signage on public facing fencing advising the public about the project, the works and include a QR code to contact The Nature Conservancy for information or to register complaints.

M&J Marine Services will maintain information signage on the barge and push vessel.

M&J Marine Service team members will be briefed by The Nature Conservancy on public engagement by The nature Conservancy.

Public notifications are managed by The Nature Conservancy.

Public notifications, as agreed between The Nature Conservancy and Noosa Shire Council under the agreed Construction Communications Plan include:

Prior to works

The Nature Conservancy shall facilitate:

- Formal notification to DAF, in obedience with Referral Agency condition 13.
- Formal works notification in Noosa News.
- Works notification on Noosa Council e-news.
- Letter box drops to riverside houses facing Noosa Sound restoration sites.
- Letter box drops to houses along Hilton Esplanade, near the load out site.
- Face-to-face meeting with affected tourism resort adjacent to the load out site
- Construction works briefings to stakeholders via The Nature Conservancy's e-news "Oyster Chronicle".
- Construction commencement media release (between The Nature Conservancy, Federal Government, Noosa Shire Council and donors).

During construction

M&J Marine Services shall:

- Communicate daily with TNC on works activities, issues, incidents.
- Report to The Nature Conservancy weekly regarding construction progress, issues and resolutions by M&J Marine Services to The Nature Conservancy.

The Nature Conservancy shall:

- Oversee works generally and report to authorities against contractual and permit requirements
- Coordinate inspections, responses to issues and incidents that arise with contractors and relevant authorities
- Respond to public inquiries, and in liaison with relevant authorities, as required
- Maintain records of major issues, incidents and complaints and report on their resolution to authorities through formal reporting channels

Post construction

M&J Marine Services shall:

- Provide The Nature Conservancy with a construction report

ESP shall:

- Carry out post construction ecological monitoring and reporting to The Nature Conservancy on 6 monthly for the first year then annual for 4 years basis as per Noosa Council condition 15 and Referral Agency condition 21.

ICM shall:

- Provide Registered Professional Engineer of Queensland (RPEQ) certification of the 'as built' reefs for inclusion with public reporting (as per Noosa Council condition 20).

The Nature Conservancy shall facilitate:

- Notice to Mariners with Maritime Safety Queensland
- Post construction media release
- Reef site maps and summary information to tourism operators and other river stakeholders
- Responses to public inquiries, in liaison with relevant authorities, as required
- Maintain records of major issues, incidents and complaints and report on their resolution to authorities through formal reporting channels

- Six-monthly / annual formal reporting to authorities against contracts and permit requirements

4.7 Responsibilities of all parties

M&J Marine Services is responsible for:

- Maintaining maintain equipment of the appropriate size for operating in the Noosa River estuary.
- Monitoring rock quality (after initial approval for use from ICM), acquiring the rock as per the specifications, stockpiling the at designated load out site, monitoring and managing the stockpile and load out site.
- Managing the oyster shell to be used in the composite mix at the stockpile site. The Nature Conservancy will deliver the oyster shell to the site from its location at the Resource Recovery Centre at Doonan.
- Managing all site marking, load out processes, material transport, works and signage at each restoration site until such time as the restoration substrates are laid and configurations and positions of substrates against the plans are confirmed by ICM.
- Undertaking all construction monitoring and reporting to The Nature Conservancy.
- Procurement, management, deployment and monitoring of aids to navigation and temporary star picket markers during construction.
- Monitoring markers and reefs weekly to ensure they allow for fish passage, overland flow (runoff) during rain events, avoid marine plants and are maintained throughout the construction for good operational integrity.
- Recording dates of installation and removal of silt curtains deployed during operations.
- Monitoring built reefs weekly by visual inspection, during the construction period and rectifying any, if their profiles fall outside the specifications. Do so in coordination with ICM and The Nature Conservancy.
- Monitoring sediment plume creation and dispersal daily, and leading any management actions (as per the sediment protocols) and reporting planned and actions to The Nature Conservancy.
- Removal of temporary markers directly after their use is at a restoration site.
- Weekly inspection of aids to navigation (8 aids, two installed at each up and downstream end of each restoration site) for stability and functionality during the build and make any modifications or improvements to ensure long-term durability.
- Weekly inspections of each site to check for reef movement/settling. If movement or settling falls outside what the ICM deems to be acceptable, the rectifications will be agreed between parties and undertaken by M&J Marine Services.
- Daily inspections of the load out site against the site management checklist and undertake any site improvement or remedial actions required.

- Reporting weekly to The Nature Conservancy. Included in the report is progress against the Scope of Works, issues, incidents and their resolution.
- Providing a final construction report to The Nature Conservancy.

ICM is responsible for:

- Undertaking periodic site inspections of the works, to guide the works and to ensure compliance with the approved design specifications.
- Guiding M&J Marine Services if any adjustments to reef patch configuration is required, ensuring consistency with Referral Agency conditions 1 and 2.
- Confirming site profiles with ESP and request a pre-works profile survey to be undertaken.
- Confirming that the final 'as constructed' reef patches conform with the specifications. Certify the final 'as built' reef structures and provide RPEQ certification for the build as per Referral Agency condition 8.
- Directing any rectifications of reef structures are required, ICM will direct these works to be undertaken.

ESP is responsible for:

- Undertaking pre-construction ecological and shoreline erosion monitoring and reporting on the location of marine plants to M&J Marine Services, ICM and The Nature Conservancy.
- Undertaking six monthly then annual ecological and shoreline erosion monitoring of the oyster reef restoration sites, marine plants and shorelines (50 metres up and downstream of each site) and reports findings to the Nature Conservancy as per Referral Agency condition 21.
- Reporting environmental impacts from the works to The Nature Conservancy immediately they are detected.
- Reporting ecological and erosion monitoring findings formally to The Nature Conservancy

The Nature Conservancy is responsible for providing:

- Oversight to engineering, construction and ecological monitoring
- Maintaining a public information and complaints management system including reporting to authorities
- Ensuring that all works minimise impacts on the ecology of the river, river users and the general public.
- Inspection of all markers to ensure adequately of buffering provided, prior to works commencement
- Supervision of the first rock deployment
- Providing a post construction report to all relevant agencies.

- Providing 'As built' drawings to DAF and MSQ and Noosa Council.
- Sharing shape files of reef footprints, position of aids to navigation and habitats mapped with agencies.
- Reporting on ecological performance and any environmental matters observed by ESP, or other stakeholders (and that is reported to authorities or to The Nature Conservancy) 6 monthly in the first year then annual to agencies.
- Monitoring public complaints, feedback regarding the construction works or post construction reef restoration.
- Monitoring reef integrity and ecological performance during and post construction
- Reporting on rectifications needed and undertaken to the reef structures to ensure ongoing conformity to the 'as-built drawings'
- Monitoring the eight aids to navigation every three months and maintaining these in good working order for the life of development permits (5 to 8 years)
- Carrying out a post construction audit against permit conditions
- Reseeding the reefs with seeded oyster cultch post reef construction
- Reporting the outcomes on reef reseeded to ICM, authorities and general public through formal reporting and The Nature Conservancy's email list "Oyster Chronicle"

4.8 Contact points

Environmental incidents

Jay Maatensz
 Director
 M&J Marine Services
 Ph: 0457 425 260
 E: jay@mjmarineservices.com.au

Coordinate construction and load out site activities, communication with The Nature Conservancy, ESP and ICM

Craig Bohm
 Queensland Oceans Manager (Noosa)
 Ph: 0410 872 435
 E: craig.bohm@tnc.org

Coordinate incident communications with agencies (DES, DAF, MSQ, NFBP, Noosa Council)

Construction and load out site management

Jay Maatensz
 Director
 M&J Marine Services
 Ph: 0457 425 260
 E: jay@mjmarineservices.com.au

Coordinate construction and load out site activities, communication with The Nature

Conservancy, ESP and ICM

Nick Rocca
Reserves Infrastructure Services Department
Noosa Shire Council
Ph: 07 5329 6372

Oversight of load out site integrity and reinstatement of site at end of works

Oyster reef project coordination

Craig Bohm
Queensland Oceans Manager (Noosa)
Ph: 0410 872 435
E: craig.bohm@tnc.org

For all general matters relating to the project, regular site inspections of works and management of permits

Oyster reef project communications

Megan Connell
Queensland Oceans Coordinator (Noosa)
Ph: 0405 466 729
E: megan.connell@tnc.org

Coordinates public communications and activities with agencies, stakeholders and partners. Maintains public information activities and public complaints mechanism

Engineering oversight

Bobbie Corbett
Principal Coastal Engineer
International Coastal Management
Ph: 07 5564 0564
E: icm@coastalmanagement.com.au

Ensures construction proceeds according to the engineering specifications, with appropriate practices and buffers to minimise environmental impacts. Certifies the final 'as built' reefs (RPEQ Certification)

Ecological monitoring and oversight

Simon Walker
Principal Ecologist
Ecological Service Professionals
Ph: 0428 118 496
E: swalker@ecosp.com.au

Undertakes pre-construction and periodic ecological monitoring of restoration sites, control sites and shoreline condition (erosion monitoring) and provides relevant data and analysis.

Marine biosecurity and marine plants

Stephen Wesche
Principle Scientist Department of Agriculture and Fisheries (Queensland)
Ph: 0410 872 435
E: stephen.wesche@daf.qld.gov.au

Advises on all biosecurity protocols and matters.

Rivers and Coast Officer
Noosa Shire Council
Ph: (07) 5329 6500

Oversees biosecurity matters on behalf of Noosa Council

Waterways operations and safety

Gary Patten
Noosa River Marine Officer, Waterways Operations
Maritime Safety Queensland
Ph: 0436 949 506
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Oversees maritime safety, installation of aids to navigation and notifications to mariners

Fishing and Boating Patrol

Matthew Albiez
District Officer
Queensland Boating and Fishing Patrol
Ph: 0408 455 987
E: Matthew.Albiez@daf.qld.gov.au

Advising fishing and boating communities about the works when inquiries are received.

Reporting

Resource Allocation Authority – RRA – 2020NA0011
planningassessment@daf.qld.gov.au
Period – Annually

Development Permit for Operational Works - (Prescribed Tidal Works – Noosa River Oyster Habitat Restoration) for Noosa River – OPW22/0029

Period - Development commencement – notifications@daf.qld.gov.au
Period - Development completion - notifications@daf.qld.gov.au
Liaison (optional) re: signage – planningassessment@daf.qld.gov.au

Roads and Reserves Permit
Liaison (Noosa Council) re: load out site management - Ph: 07 5329 6372

Site Management Plan



Noosa Oyster Ecosystem Restoration Project:

**Supply of services to construct rock oyster reef foundations at
select sites in the Noosa River estuary**

2022

34 Ryan Road, Medowie, NSW 2318
ABN: 766 242 991 45

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1. Project overview

M&J Marine Services is providing services to The Nature Conservancy (TNC) to construct rock foundations of oyster reefs in the Noosa River Estuary.

The work includes the deployment of up to 3300 tonnes of igneous rock and 4 tonnes of oyster shell, which is mixed as a composite in one reef patch, onto 4 restoration sites.

For this purpose, M&J Marine will utilise necessary barges, boats and heavy machinery, and require a site for stockpiling rock, and a small amount of cured oyster shell, which will be transported to the 4 oyster ecosystem restoration sites.

Other partners in this work are:

The Nature Conservancy – project coordination, public information, complaints management, construction notifications and public reporting.

International Coastal Management (ICM) – engineering oversight and certification including oversight of environmental safeguards specific to marine plants and the use of oyster shell and seeded oyster cultch in the formation of reef patches.

Ecological Service Professionals (ESP) – pre-works and post-works ecological monitoring and shoreline erosion monitoring.

The works will be undertaken in August and September 2022.

This document should be read in construction with the Project Management Plan, January 2022 and M&J Marine Services Construction and Environmental Management Plan (CEMP).

2. Purpose

Ensuring that the load out site is managed to maximise efficiency and safety of operation and to minimise the impact of the site on the natural environment, other public assets and the general public.

3. Scope

This plan pertains specifically to the management of the project load out site at the end of Hilton Esplanade, Noosaville - see Figure 1, and its servicing of oyster reef construction at the 4 oyster ecosystem restoration sites in the lower Noosa River estuary – see Figures 2-6.



Figure 2: Relative locations of reef restoration sites in the lower Noosa River estuary

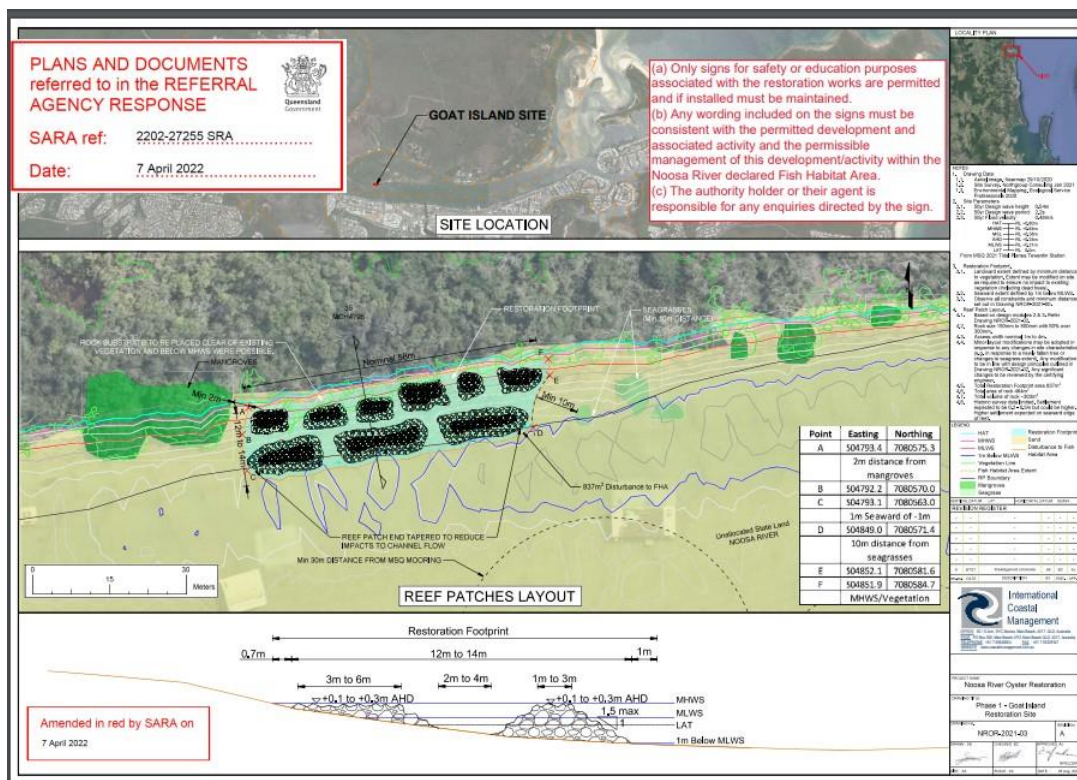


Figure 3: Goat Island restoration site including approved reef patch configuration

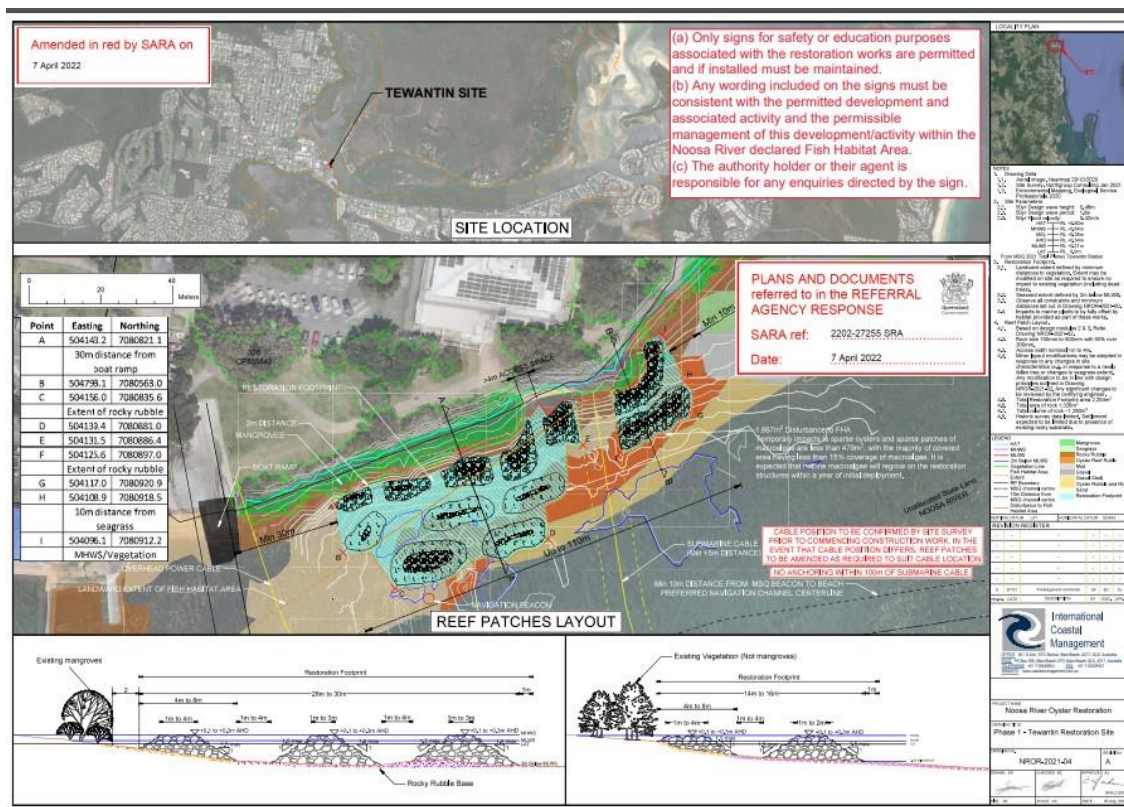


Figure 4: Tewantin restoration site including approved reef patch configuration

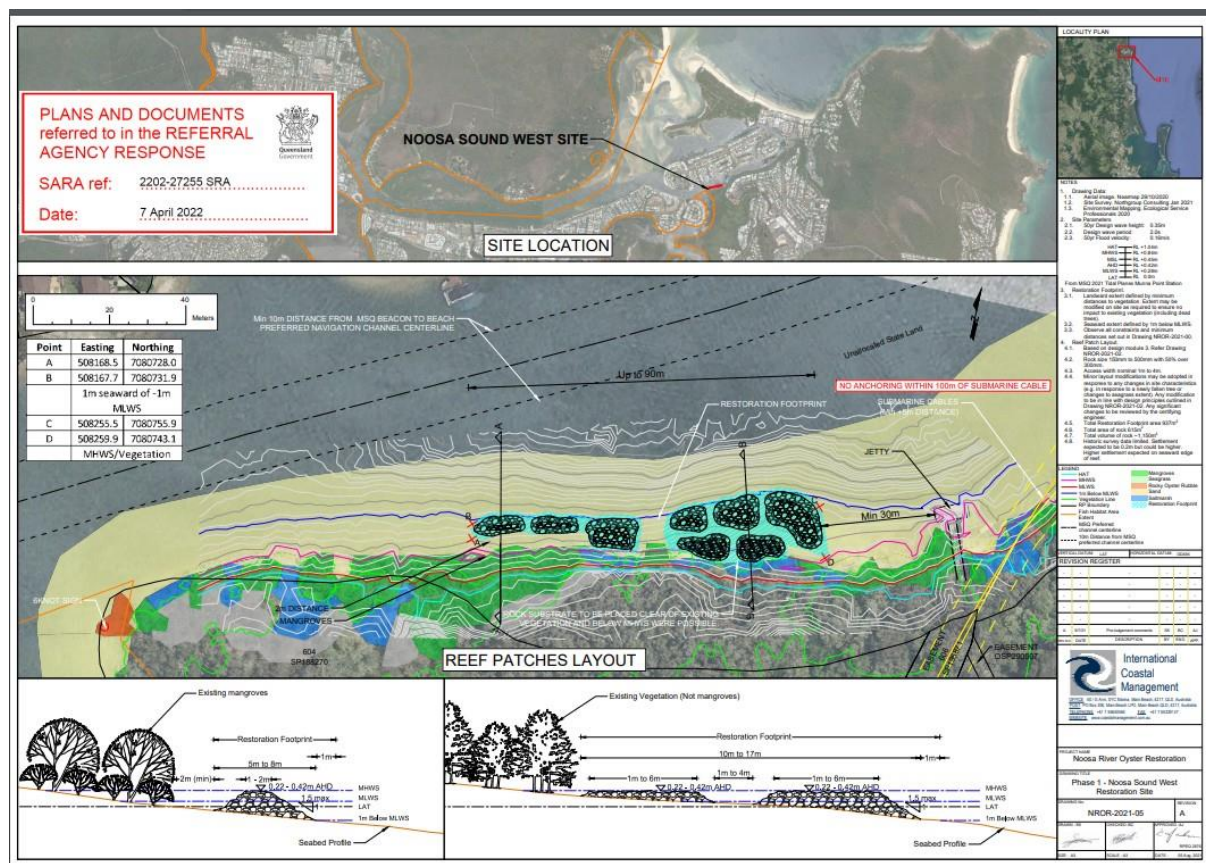


Figure 5: Noosa Sound West restoration site including approved reef patch configuration

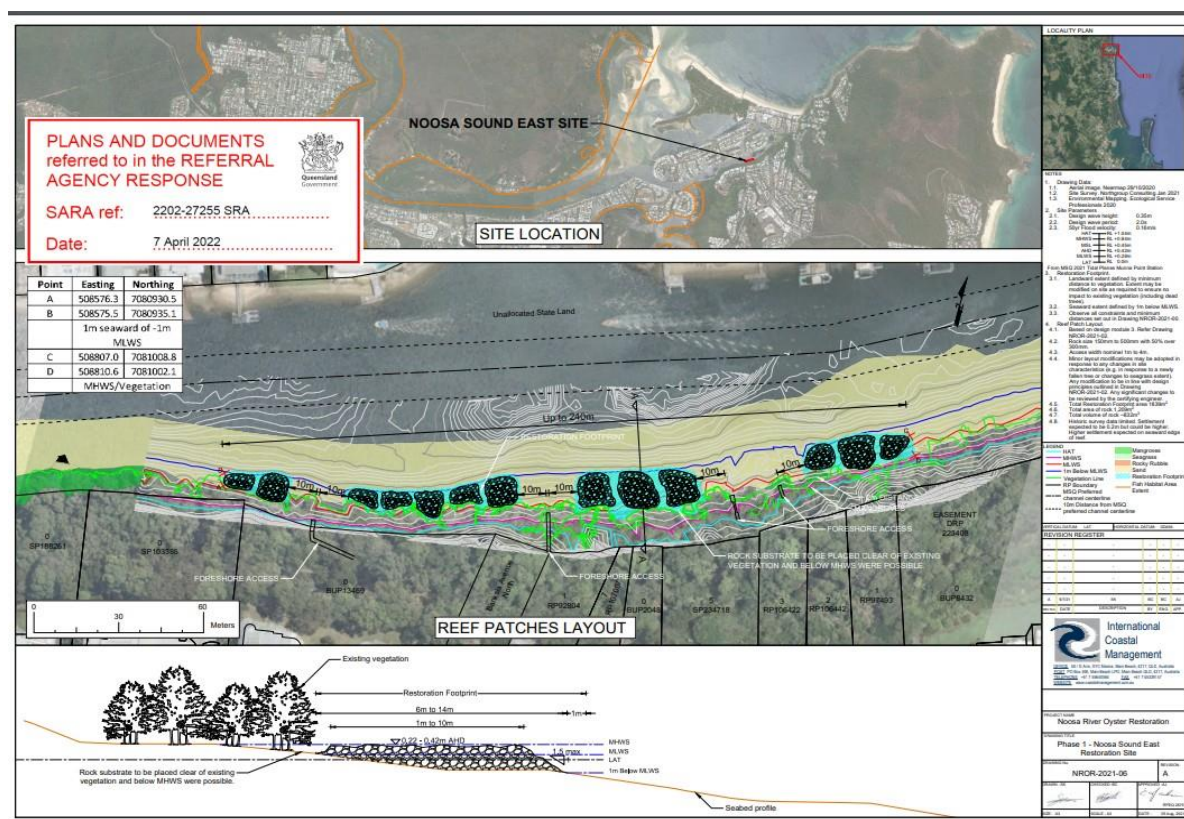


Figure 6: Noosa Sound East restoration site including approved reef patch configuration

4. Operational parameters

The load out site will be managed by M&J Marine Services.

A Roads and Reserves Permit (Ref: RRP22/0050 WO 0167230 has been secured from Noosa Council to occupy the site, which is located at the end of Hilton Esplanade, Noosaville.

Table 1 provides a summary of the key operational parameters.

Operational parameters (summary)

Parameter	Proposal
Permit	Permit to temporarily occupy road reserve for a work site to be setup at the end of Hilton Esplanade for material to be stored and moved in and out on to a barge for the oyster ecosystem restoration project.
Period:	25/7/2022 – 7/10/2022
Management:	Oversight – The Nature Conservancy (permit holder) Management – M&J Marine Services (construction contractor)
Contact	The Nature Conservancy (Megan Connell) – 0405 466 729 M&J Marine Services (Jay Maartensz) – 0457 425 260 Noosa Council (Nick Rocca) – 07 5229 6372
Site area:	Exclusive use of 540m ² of road reserve (350m ² at high tide) at the end of Hilton Esplanade (Figure 6.5b) Load out area A = 300m ² area (150m ² at high tide) Load out area B = 200m ² area Load out area connection = 40m ² Area A is primarily for rock storage and equipment loading/unloading operations in association with the barge. Area B is primarily for machinery storage and rockpile overflow from Area A. The load out area connection creates a safe corridor for the movement of the Posi-track loader between Areas A and B. When not in use, the corridor will be opened to allow boat ramp users improved access to the site.
Nature of uses:	Movement of up to 7 commercial trucks per day to deliver rock Storage of up to 90m ³ of rock (150mm to 500mm diameter) per day Loading of rock and dried oyster shell onto the barge using an excavator + Posi-track Storage of loading ramps, vehicle and heavy equipment No chemicals, fuels or liquids will be stored at the site.
Frequency of use:	12 hour/day operational. 6am to 6pm including site management. Expected up to 7 truck movements per day along Hilton Esplanade to deliver rock to the load out site per day. Barge will ferry rock to restoration sites as needed from the load out facility with expected 2- 5 loadings per day subject to tides.

Public access:	<p>A dual carriage way with a minimum of 8m width will be maintained to allow access to the boat ramp along Hilton Esplanade.</p> <p>A dual public boat launch area 12m wide will be maintained along the shoreline. Note that the formal dual boat ramp at Tewantin is 10m wide.</p> <p>Adequate vessel reversing area will be maintained between site areas A and B.</p> <p>Access to Hilton Esplanade from Hilton Terrace via the pathway leading from Hilton Terrace will be maintained.</p> <p>Commercial operators wishing to use the ramp may negotiate temporary access to the shoreline directly with the project's construction contractor.</p>
Public safety:	<p>Load out site areas A and B will be fenced using commercial fencing as will a 2.5m corridor joining areas A and B.</p> <p>Signage will be used on the fencing to inform the public about the site, its purpose and cautions.</p> <p>The barge will only come ashore within site area A.</p> <p>The construction company will use standard traffic control methods to ensure the public is separated from truck movements at the end of Hilton Esplanade and operations between site area A and B.</p>
Public notifications	<p>A public notification regarding the works will be printed in the Noosa News two weeks prior to commencement of activities.</p> <p>An announcement will be made in the Noosa Council's circular.</p> <p>Relevant authorities will be notified of works prior to commencement.</p> <p>Public notification signage will be posted at the site and will include a QR code which connects to online information about the construction process: Timeframe, purpose, activities, further information.</p> <p>Tourism facilities adjacent to the site will be specifically notified and met with to explain the work schedule.</p>
Noise management:	<p>Truck movements and barge loading will take place between 7am and 6pm weekdays, and between 8am and 5pm on weekends.</p>
Environmental management:	<p>Fencing will be placed at a distance from the tree line and visible tree roots will be avoided.</p> <p>Silt booms and sediment fences will be used as indicated on the site map.</p> <p>The site will be rehabilitated to its pre-use condition or better.</p> <p>All rubbish will be disposed of appropriately.</p>

5. Site management

The load out site management on a daily basis will be in conformity with the BPESC Field Guide ‘Maintenance Control Measures’ including:

- Regular site inspections by the site controller (Jayson Maatrtensz).
- Control of shifting earth – the site will be regularly graded to maintain a relatively smooth surface. Any sediment control fencing deployed will be cleared of soil.
- Rock stockpiles regularly inspected for rilling and erosion potential and covered or additional sediment management fencing or booms deployed, as required. Please note that any given rock pile will be deployed within 24 to 48 hours of arrival on site.
- Equipment stockpiles re-ordered at the end of each day and any waste disposed of appropriately.
- Prompt cleanup of any sediments.
- Re-ordering of the load out site, after storms including sediment management measures.
- Maintaining site signage and fencing in sound operating conditions

There will be no site shed.

Most small equipment will be stored offsite, on the vessels, or within fenced area A, as indicated on the site map.

6. Traffic and pedestrian control

- Traffic and pedestrian movements in the proximity of the load out site will be monitored and directed during loading and unloading operations by M&J Marine Service staff spotters, who will be on site at all times.
- Pedestrians will principally be directed, using fencing, around the load out site.
- Vehicles will generally share the access to the site and will be separated by fencing.
- Any additional pedestrian or traffic advice required will be compliant with the Manual of Uniform Traffic Control Devices (MUTCD) and consistent with the conditions of the Roads and Footpaths Permit issued by Noosa Council for the site.

7. Sediment Control

The load out site will be managed in accordance with the BPESC Field Guide – Sediment Control (pgs 30-38).

- The base of the load out site is sand, which has very low relief in the direction of the river. The site partially floods during spring tide and storm events.
- M&J Marine Services will maintain the site in good working order, with a low relief sand base being maintained.

- Rock will be stockpiled onto the sand in Area A and transported by posi-track to the barge. Area B is for machinery storage and stockpile overflow from Area A.
- The posi-track will not drive onto the barge, to reduce sediment contamination of the rock and tire treads used to further reduce rock contamination in transport. M&J have developed specific sediment reduction techniques to meet the high specifications of TNC oyster restoration project and applied these in Port Stephens and Narooma (NSW) oyster reef restoration projects.
- Between the shoreline and the loading barge, a sediment boom will be used to reduce overland runoff from the load out site (see Load Out Site diagram below). The boom will be maintained, whenever vessel loading is occurring.
- Please note that this is a shared site with other users, so the boomed area will be specific to the operations of this project on those of other commercial and recreational users.
- Sediment fencing is used to further contain sediment adjacent to Areas A and B as per the site plan.
- The area will store approximately 100 tonnes at a time, and this is roughly the daily use level.
- The stockpile will not generate dust due to the coarse particle nature (150-500mm diameter) and expected low level of fines.
- The stockpile will be covered, if the pile poses the risk of becoming a source of additional sediment to the river. This will be monitored daily by the construction team and a boom deployed around the stockpile, if sediment runoff is detected at any point.
- The fencing has been designed by TNC, M&J Marine and Noosa council staff and is part of the approved Roads and Footpath Permit for the management of this site.
- The stockpile will be monitored for rilling, and if it occurs, will be covered or a filter fence will be deployed around the stockpile to reduce runoff by reducing overland flow from the pile (in accordance with BPESC 'Filter Fence' specifications).
- Waste will be appropriately stored and removed from site on a regular basis.
- Clean water diversion will be created around areas A and B if site inspections show there to be an overland flow issue that needs managing. M&J will remain in close contact with TNC and Noosa Council staff on this issue during the site establishment phase.
- Stockpiling will occur along the fence line, at the road end of Area A
- M&J Marine Services uses the following checklist to help manage the load out site against the BPESC Field Guide check list (below).

Site check list

Location: Date:

- ☐ Site-generated dust and stormwater run-off are not causing nuisance or damage to adjoining properties.
- ☐ Up-slope stormwater run-off is managed to minimise soil erosion and site wetness.
- ☐ Stormwater run-off is not causing unacceptable levels of soil erosion.
- ☐ Roof water run-off is not causing unnecessarily soil wetness within active work areas.
- ☐ Site activities are being carried out in a manner that minimises the duration that disturbed areas are exposed to the erosive forces of wind, rain and flowing water.
- ☐ Soil erosion resulting from rainfall is being minimised.
- ☐ Soil erosion resulting from strong winds is being minimised.
- ☐ Sediment leaching from material stockpiles is not contaminating stormwater run-off.
- ☐ Exposed soil surfaces are being rehabilitated as soon as practicable to minimise soil erosion.
- ☐ Adequate precautions are being taken to minimise sediment leaving the work area as a result of site traffic.
- ☐ Site activities are not causing unacceptable levels of sediment to leave the work site.
- ☐ Sediment control measures are located fully within the property.
- ☐ Off-site material spills and sediment deposits have been cleared in a manner that minimises environmental harm, safety issues, and damage to public and private property.
- ☐ All reasonable and practicable measures are being taken to prevent concrete waste or wash-off entering gutters, drains and waterways.
- ☐ All reasonable and practicable measures are being taken to prevent contaminated water from cutting and cleaning activities entering gutters, drains and waterways.
- ☐ Drainage, erosion, and sediment control measures are being maintained in proper working order at all times.
- ☐ Safety risks associated with erosion and sediment control measures are being minimised, if not totally prevented.

8. Monitoring

M&J Marine Services will monitor and manage for optimal condition of the load out site on a daily basis.

9. Management and reporting

M&J Marine Services is responsible for:

- Managing the load out site on a day-to-day basis
- Ensuring the site is properly fenced and signed
- Managing interactions with the general public including other users of the load out site.
- Containing The Nature Conservancy and relevant authorities immediately, if a critical incident occurs.
- Recording issues and incidents and any resolutions to these
- Providing weekly reports to The Nature Conservancy

The Nature Conservancy is responsible for:

- Liaising with Noosa Council regarding the Roads and Reserve Permit
- Regularly (at least twice per week) visiting the load out site and inspecting operations, providing guidance where necessary
- Maintaining a complaints mechanism (as per the Project Management Plan, January 2022, Section 8)
- Coordinating public information and updates on construction and matters relevant to the load out site.

Environmental incidents

Jay Maatensz

Director

M&J Marine Services

Ph: 0457 425 260

E: jay@mjmarineservices.com.au

Coordinate construction and load out site activities, communication with The Nature Conservancy, ESP and ICM

Craig Bohm

Queensland Oceans Manager (Noosa)
Ph: 0410 872 435
E: craig.bohm@tnc.org

Coordinate incident communications with agencies (DES, DAF, MSQ, NFBP, Noosa Council)

Construction and load out site management

Jay Maatensz
Director
M&J Marine Services
Ph: 0457 425 260
E: jay@mjmarineservices.com.au

Coordinate construction and load out site activities, communication with The Nature Conservancy, ESP and ICM

Nick Rocca
Reserves Infrastructure Services Department
Noosa Shire Council
Ph: 07 5329 6372

Oversight of load out site integrity and reinstatement of site at end of works

Oyster reef project coordination

Craig Bohm
Queensland Oceans Manager (Noosa)
Ph: 0410 872 435
E: craig.bohm@tnc.org

For all general matters relating to the project, regular site inspections of works and management of permits

Oyster reef project communications

Megan Connell
Queensland Oceans Coordinator (Noosa)
Ph: 0405 466 729
E: megan.connell@tnc.org

Coordinates public communications and activities with agencies, stakeholders and partners. Maintains public information activities and public complaints mechanism

Engineering oversight

Bobbie Corbett
Principal Coastal Engineer
International Coastal Management
Ph: 07 5564 0564
E: icm@coastalmanagement.com.au

Ensures construction proceeds according to the engineering specifications, with appropriate practices and buffers to minimise environmental impacts. Certifies the final 'as built' reefs (RPEQ Certification)

Ecological monitoring and oversight

Simon Walker

Principal Ecologist
Ecological Service Professionals
Ph: 0428 118 496
E: swalker@ecosp.com.au

Undertakes pre-construction and periodic ecological monitoring of restoration sites, control sites and shoreline condition (erosion monitoring) and provides relevant data and analysis.

Marine biosecurity and marine plants

Stephen Wesche
Principle Scientist Department of Agriculture and Fisheries (Queensland)
Ph: 0410 872 435
E: stephen.wesche@daf.qld.gov.au

Advises on all biosecurity protocols and matters.

Rivers and Coast Officer
Noosa Shire Council
Ph: (07) 5329 6500

Oversees biosecurity matters on behalf of Noosa Council

Waterways operations and safety

Gary Patten
Noosa River Marine Officer, Waterways Operations
Maritime Safety Queensland
Ph: 0436 949 506
E: gary.m.patten@msq.qld.gov.au

Oversees maritime safety, installation of aids to navigation and notifications to mariners

Fishing and Boating Patrol

Matthew Albiez
District Officer
Queensland Boating and Fishing Patrol
Ph: 0408 455 987
E: Matthew.Albiez@daf.qld.gov.au

Advising fishing and boating communities about the works when inquiries are received.

Reporting

Resource Allocation Authority – RRA – 2020NA0011
planningassessment@daf.qld.gov.au
Period – Annually

Development Permit for Operational Works - (Prescribed Tidal Works – Noosa River Oyster Habitat Restoration) for Noosa River – OPW22/0029

Period - Development commencement – notifications@daf.qld.gov.au
Period - Development completion - notifications@daf.qld.gov.au
Liaison (optional) re: signage – planningassessment@daf.qld.gov.au

Roads and Reserves Permit
Liaison (Noosa Council) re: load out site management - Ph: 07 5329 6372

Erosion and Sediment Control Plan



Noosa Oyster Ecosystem Restoration Project:

**Supply of services to construct rock oyster reef foundations at select sites
in the Noosa River estuary**

2022

34 Ryan Road, Medowie, NSW 2318
ABN: 766 242 991 45

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1. Project overview

M&J Marine Services is providing services to The Nature Conservancy (TNC) to construct rock foundations of oyster reefs in the Noosa River Estuary.

The work includes the deployment of up to 3300 tonnes of igneous rock and 4 tonnes of oyster shell, which is mixed as a composite in one reef patch, onto 4 restoration sites.

For this purpose, M&J Marine will transport necessary barges, boats and heavy machinery, by land only, from New South Wales to Noosa, Queensland to delivery this service.

Other partners in this work are:

The Nature Conservancy – project coordination, public information, complaints management, construction notifications and public reporting.

International Coastal Management (ICM) – engineering oversight and certification including oversight of environmental safeguards specific to marine plants and the use of oyster shell and seeded oyster cultch in the formation of reef patches.

Ecological Service Professionals (ESP) – pre-works and post-works ecological monitoring and shoreline erosion monitoring.

The works will be undertaken in August and September 2022.

This document should be read in construction with the Project Management Plan, January 2022 and M&J Marine Services Construction and Environmental Management Plan (CEMP).

2. Purpose

Protecting Australia's estuaries from environmental harm is a responsibility shared by government, industry and the community. Sediment runoff and sediment plumes from construction works can be a major contributing source or environmental impact to marine ecosystems.

M&J Marine Services is committed to helping reduce the footprint of construction activities on Australia's estuaries, and, with its project partners, employs a raft of tools to control sediments and reduce impacts on the environment.

3. Scope

This plan pertains specifically to the management of the project load out site at the end of Hilton Esplanade, Noosaville, and vessel-based construction operations at the 4 restoration sites in the lower Noosa River estuary - Tewantin, Goat Island, Noosa Sound East and Noosa Sound West - see Figures 1-6



Figure 2: Relative locations of reef restoration sites in the lower Noosa River estuary

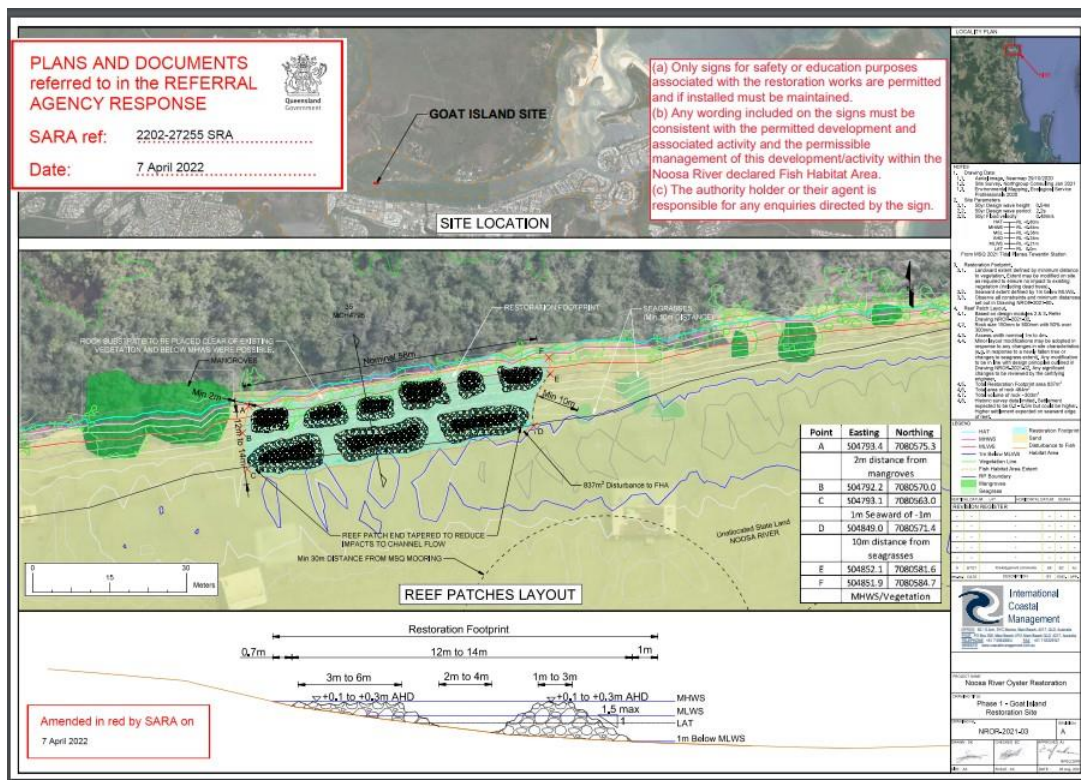


Figure 3: Goat Island restoration site including approved reef patch configuration

6. Sediment control

6.1 Sediment plumes

The following measures are taken to control sediment plumes that may be created by construction operations. See also Project Management Plan, January 2020, Section 6.4 (*Sediment Management*). These measures are in compliance with Referral Agency condition 17.

The protocol for sediment plume minimisation, monitoring and mainagement includes the following:

- Preferential selection of rock from the quarry with minimum fracking.
- Organising the transport of rock to minimise contamination from lose material.
- Washing the rock prior to use, at the quarry, if the rock is contaminated with loose material is greater than 50% by area.
- Managing the rock at the load out site to minimise significant fouling by ground sediments, if detected. This may include measures such as laying a bed of gravel on which the rock sits at the load out site, loading rock directly from the truck onto the barge, minimising the movement of barge equipment on and off the barge to avoid contamination from the tracks of the equipment.
- Washing oyster shells prior to mixing this into a composite substrate with rock. Washing will occur at the Doonan Solid Waste Facility.
- Deploying the rock on site by placing it on site carefully, rather than dumping it off the side of the barge, if plumes are caused.
- Inspection and physical marking of the seagrasses in closest proximity to the site is to be undertaken prior to commencement of works. During works visual monitoring of the sediment plume is to be undertaken. Where the visible plume extends to within 5m of seagrass beds, turbidity monitoring is to be undertaken.
- The extent and duration of the anticipated sediment plume is such that mangrove species are unlikely to be impacted and do not require monitoring unless significant sediment plumes are observed.

If seagrass remains at risk of sediment smothering (if turbidity monitoring indicates turbidity (NTU) is more than 10% above background), when measured with a secci disc after observing a plume, then employ a combination of the following:

- Deployment of silt curtains around the seagrass beds, or in close proximity to the restoration site and/or,
- Deploy substrate down current of the seagrass bed (e.g. on a falling tide for seagrasses located upstream of the works), or within an hour of high or low tide (slack water).
- Ensuring silt curtains do not interact with marine plants and are deployed for the absolute minimum possible soak time required to achieve the rock deployment at the site.

- Constant monitoring of the silt curtains to ensure they do not move and interact with marine plants, impede fish passage or impose unreasonable imposition on other waterway users.
- Review substrate handling protocols and enhance the substrate cleaning/preparation efforts until plumes are minimised.
- Review construction operations procedures and amend as required to minimise potential for impacts.
- Consider implementing additional operational measures.
- Inspect the seagrass beds to determine if there is evidence of sediment smothering compared to pre-works inspection.
- Report any impacts on seagrass or other marine habitats to the Department of Environment and Science (DES) and Department of Fisheries (DAF).

6.2 Load out site controls

The load out site will be managed by M&J Marine Services.

A Roads and Reserves Permit (Ref: RRP22/0050 WO 0167230) has been secured from Noosa Council to occupy the site, which is located at the end of Hilton Esplanade, Noosaville.

A map of the load out site is given in Figure 7 below:

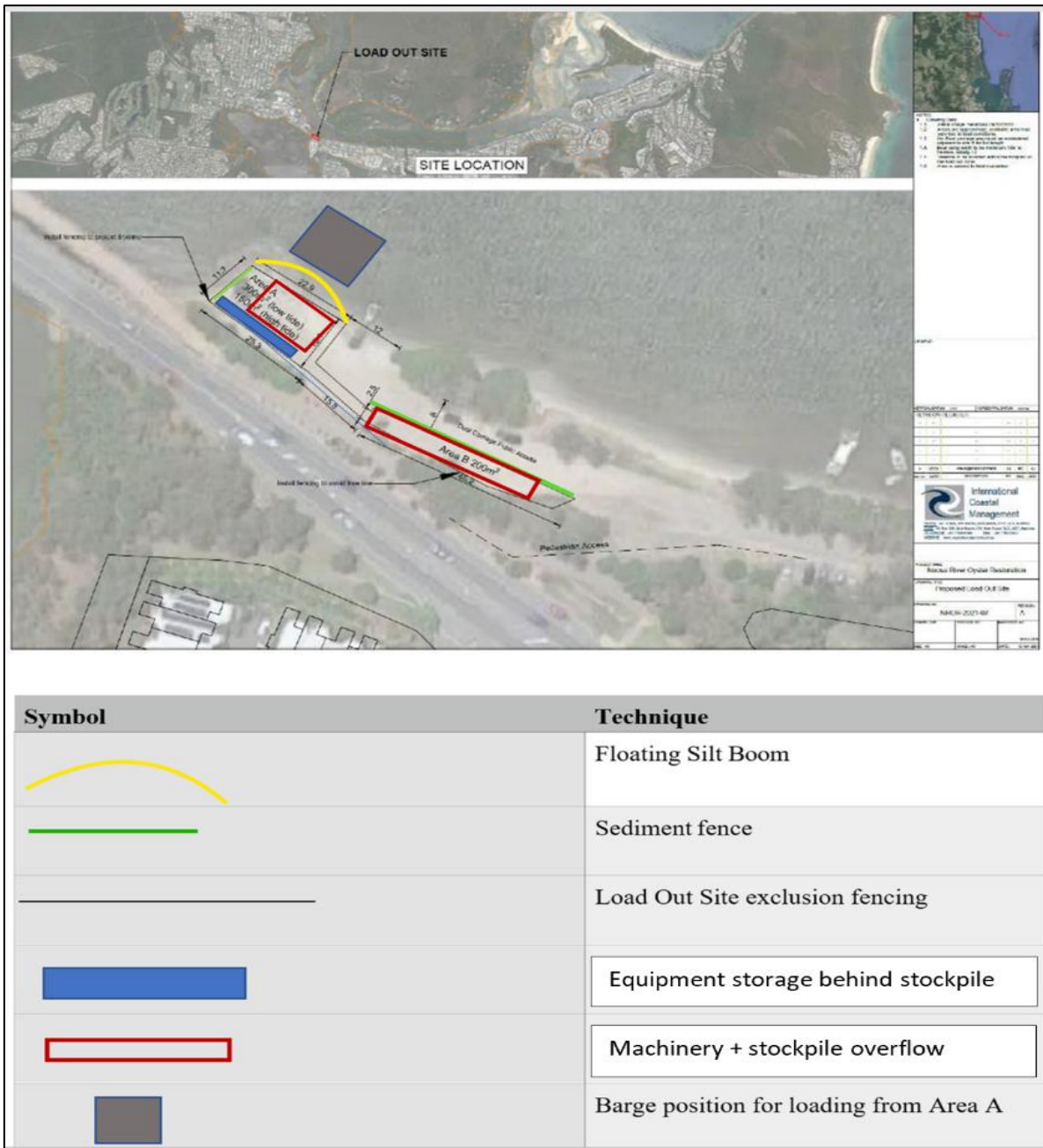


Figure 7: Load out site including site layout and sediment control barriers

Operational parameters (summary)

Parameter	Proposal
Permit	Permit to temporarily occupy road reserve for a work site to be setup at the end of Hilton Esplanade for material to be stored and moved in and out on to a barge for the oyster ecosystem restoration project.
Period:	25/7/2022 – 7/10/2022
Management:	Oversight – The Nature Conservancy (permit holder) Management – M&J Marine Services (construction contractor)
Contact	The Nature Conservancy (Megan Connell) – 0405 466 729 M&J Marine Services (Jay Maartensz) – 0457 425 260 Noosa Council (Nick Rocca) – 07 5229 6372
Site area:	Exclusive use of 540m ² of road reserve (350m ² at high tide) at the end of Hilton Esplanade (Figure 6.5b) Load out area A = 300m ² area (150m ² at high tide) Load out area B = 200m ² area Load out area connection = 40m ² Area A is primarily for rock storage and equipment loading/unloading operations in association with the barge. Area B is primarily for machinery storage and rockpile overflow from Area A. The load out area connection creates a safe corridor for the movement of the Posi-track loader between Areas A and B. When not in use, the corridor will be opened to allow boat ramp users improved access to the site.
Nature of uses:	Movement of up to 7 commercial trucks per day to deliver rock Storage of up to 90m ³ of rock (150mm to 500mm diameter) per day Loading of rock and dried oyster shell onto the barge using an excavator + Posi-track Storage of loading ramps, vehicle and heavy equipment No chemicals, fuels or liquids will be stored at the site.
Frequency of use:	12 hour/day operational. 6am to 6pm including site management. Expected up to 7 truck movements per day along Hilton Esplanade to deliver rock to the load out site per day. Barge will ferry rock to restoration sites as needed from the load out facility with expected 2- 5 loadings per day subject to tides.

Public access:	<p>A dual carriage way with a minimum of 8m width will be maintained to allow access to the boat ramp along Hilton Esplanade.</p> <p>A dual public boat launch area 12m wide will be maintained along the shoreline. Note that the formal dual boat ramp at Tewantin is 10m wide.</p> <p>Adequate vessel reversing area will be maintained between site areas A and B.</p> <p>Access to Hilton Esplanade from Hilton Terrace via the pathway leading from Hilton Terrace will be maintained.</p> <p>Commercial operators wishing to use the ramp may negotiate temporary access to the shoreline directly with the project's construction contractor.</p>
Public safety:	<p>Load out site areas A and B will be fenced using commercial fencing as will a 2.5m corridor joining areas A and B.</p> <p>Signage will be used on the fencing to inform the public about the site, its purpose and cautions.</p> <p>The barge will only come ashore within site area A.</p> <p>The construction company will use standard traffic control methods to ensure the public is separated from truck movements at the end of Hilton Esplanade and operations between site area A and B.</p>
Public notifications	<p>A public notification regarding the works will be printed in the Noosa News two weeks prior to commencement of activities.</p> <p>An announcement will be made in the Noosa Council's circular.</p> <p>Relevant authorities will be notified of works prior to commencement.</p> <p>Public notification signage will be posted at the site and will include a QR code which connects to online information about the construction process: Timeframe, purpose, activities, further information.</p> <p>Tourism facilities adjacent to the site will be specifically notified and met with to explain the work schedule.</p>
Noise management:	<p>Truck movements and barge loading will take place between 7am and 6pm weekdays, and between 8am and 5pm on weekends.</p>
Environmental management:	<p>Fencing will be placed at a distance from the tree line and visible tree roots will be avoided.</p> <p>Silt booms and sediment fences will be used as indicated on the site map.</p> <p>The site will be rehabilitated to its pre-use condition or better.</p> <p>All rubbish will be disposed of appropriately.</p>

Load out site management on a daily basis will be in conformity with the BPESC Field Guide 'Maintenance Control Measures' including:

- Regular site inspections by the site controller (Jayson Maatrtensz).
- Control of shifting earth – the site will be regularly graded to maintain a relatively smooth surface. Any sediment control fencing deployed will be cleared of soil.
- Rock stockpiles regularly inspected for rilling and erosion potential and covered or additional sediment management fencing or booms deployed, as required. Please note that any given rock pile will be deployed within 24 to 48 hours of arrival on site.
- Equipment stockpiles re-ordered at the end of each day and any waste disposed of appropriately.
- Prompt cleanup of any sediments.
- Re-ordering of the load out site, after storms including sediment management measures.
- Maintaining site signage and fencing in sound operating conditions

There will be no site shed.

Most small equipment will be stored offsite, on the vessels, or within fenced area A, as indicated on the site map.

Traffic and pedestrian control

- Traffic and pedestrian movements in the proximity of the load out site will be monitored and directed during loading and unloading operations by M&J Marine Service staff spotters, who will be on site at all times.
- Pedestrians will principally be directed, using fencing, around the load out site.
- Vehicles will generally share the access to the site and will be separated by fencing.
- Any additional pedestrian or traffic advice required will be compliant with the Manual of Uniform Traffic Control Devices (MUTCD) and consistent with the conditions of the Roads and Footpaths Permit issued by Noosa Council for the site.

Sediment Control

The load out site will be managed in accordance with the BPESC Field Guide – Sediment Control (pgs 30-38).

- The base of the load out site is sand, which has very low relief in the direction of the river. The site partially floods during spring tide and storm events.
- M&J Marine Services will maintain the site in good working order, with a low relief sand base being maintained.
- Rock will be stockpiled onto the sand in Area B and transported by posi-track to the barge for transport in Area A.
- The posi-track will not drive onto the barge, to reduce sediment contamination of the rock and tire treads used to further reduce rock contamination in transport. M&J have developed specific sediment

reduction techniques to meet the high specifications of TNC oyster restoration project and applied these in Port Stephens and Narooma (NSW) oyster reef restoration projects.

- Between the shoreline and the loading barge, a sediment boom will be used to reduce overland runoff from the load out site (see Load Out Site diagram below). The boom will be maintained, whenever vessel loading is occurring.
- Please note that this is a shared site with other users, so the boomed area will be specific to the operations of this project on those of other commercial and recreational users.
- Sediment fencing is used to further contain sediment adjacent to Areas A and B as per the site plan.
- The area will store approximately 100 tonnes at a time, and this is roughly the daily use level.
- The stockpile will not generate dust due to the coarse particle nature (150-500mm diameter) and expected low level of fines.
- The stockpile will be covered, if the pile poses the risk of becoming a source of additional sediment to the river. This will be monitored daily by the construction team and a boom deployed around the stockpile, if sediment runoff is detected at any point.
- The fencing has been designed by TNC, M&J Marine and Noosa council staff and is part of the approved Roads and Footpath Permit for the management of this site.
- The stockpile will be monitored for rilling, and if it occurs, will be covered or a filter fence will be deployed around the stockpile to reduce runoff by reducing overland flow from the pile (in accordance with BPESC 'Filter Fence' specifications).
- Waste will be appropriately stored and removed from site on a regular basis.
- Clean water diversion will be created around areas A and B if site inspections show there to be an overland flow issue that needs managing. M&J will remain in close contact with TNC and Noosa Council staff on this issue during the site establishment phase.
- Stockpiling will occur along the fence line, at the road end of Area A
- M&J Marine Services uses the following checklist to help manage the load out site against the BPESC Field Guide check list (below).

Site check list

Location: Date:

- ☐ Site-generated dust and stormwater run-off are not causing nuisance or damage to adjoining properties.
- ☐ Up-slope stormwater run-off is managed to minimise soil erosion and site wetness.
- ☐ Stormwater run-off is not causing unacceptable levels of soil erosion.
- ☐ Roof water run-off is not causing unnecessarily soil wetness within active work areas.
- ☐ Site activities are being carried out in a manner that minimises the duration that disturbed areas are exposed to the erosive forces of wind, rain and flowing water.
- ☐ Soil erosion resulting from rainfall is being minimised.
- ☐ Soil erosion resulting from strong winds is being minimised.
- ☐ Sediment leaching from material stockpiles is not contaminating stormwater run-off.
- ☐ Exposed soil surfaces are being rehabilitated as soon as practicable to minimise soil erosion.
- ☐ Adequate precautions are being taken to minimise sediment leaving the work area as a result of site traffic.
- ☐ Site activities are not causing unacceptable levels of sediment to leave the work site.
- ☐ Sediment control measures are located fully within the property.
- ☐ Off-site material spills and sediment deposits have been cleared in a manner that minimises environmental harm, safety issues, and damage to public and private property.
- ☐ All reasonable and practicable measures are being taken to prevent concrete waste or wash-off entering gutters, drains and waterways.
- ☐ All reasonable and practicable measures are being taken to prevent contaminated water from cutting and cleaning activities entering gutters, drains and waterways.
- ☐ Drainage, erosion, and sediment control measures are being maintained in proper working order at all times.
- ☐ Safety risks associated with erosion and sediment control measures are being minimised, if not totally prevented.

6.3 Shoreline erosion monitoring and control

Shoreline monitoring adjacent to the oyster reefs, once constructed will also be undertaken.

- Ecological Service Professionals (ESP) is responsible for shoreline erosion monitoring, assessment and reporting.
- ESP will be undertaken baseline shoreline monitoring just prior to commencement of construction works.
- ESP will establish photo points and use high resolution GPS and RTK survey methods (<0.1 metres accuracy) to create baseline create plan-view map (GIS shape files) of the shoreline adjacent to each restoration site (including 100m upstream and downstream of each site).
- ESP will include a photo reference log for each site.
- ESP will note any areas that appear to be highly erosional, if relevant.
- ESP will then repeat shoreline monitoring and assessment 6 then 12 months post construction then annually, reporting the results and analysis to The Nature Conservancy.
- The Nature Conservancy will include ESP reports with reports to agencies (Noosa Council condition 15 and Referral Agency condition 21).
- Where ESP detects significant shoreline erosion (> 1metres), The Nature Conservancy will be immediately notified.
- The Nature Conservancy will immediately contact authorities and determine the contribution the reefs have made to the erosion and will decide collaboratively on the solutions.
- If reefs are a contributing factor to shoreline erosion, The Nature Conservancy will arrange appropriate rectification actions to be undertaken in consultation with agencies.
- Rectifications may include making changes to reef profiles, if this action is deemed appropriate.
- Remediation actions and responsibilities will be decided between The Nature Conservancy and agencies.
- All post construction activities will be conformity with the Environmental Protection Act EPA (1994) and the Environmental Protection (Water) Policy 2009 (as per Noosa Council condition 19)

7. Excavation and ASS

Please note that there will be no excavation as part of the works.

- Rock is placed on top of sand substrates, which have been mapped by bathymetric survey and samples lab tested for particle size during the engineering design phase of this project.
- ICM does not expect subsidence to be an issue but will monitor with M&J Marine Services using standard survey techniques.
- Rectifications will be agreed on and undertaken, as required and in accordance with the engineering drawings (NROR-2021).
- In the design process, Acid Sulphate Soils (ASS) were considered by ICM and excluded from the potential restoration footprint. The construction method conforms with development approval condition 9).
- Where sediments are disturbed, M&J Marine Services will notify The Nature Conservancy and ICM immediately and undertake site management and any required remedial action in accordance with the Queensland Acid Sulfate Soil Technical Manual: Soil management guidelines, as per Noosa Council and Referral Agency condition 9.

8. Management and reporting

M&J Marine Services is responsible for:

- Delivering sediment management awareness information and material for project personnel (e.g., induction training, toolbox and pre-start meetings),
- Ensuring all construction operations minimise the risk of sedimentation of the Noosa River
- Ensuring rock is clean to the standard required under the specifications
- Managing load out site to a high standard to minimise the sedimentation potential
- Reporting possible biosecurity threats from related works to The Nature Conservancy and authorities including to Noosa Council's Rivers and Coast Officer.
- Reporting incursions and treatments undertaken, in writing, to The Nature Conservancy

The Nature Conservancy is responsible for:

- Ensuring oyster shells are cured and cleaned so as not to contribute significant sediment loads.
- Transported in compliance with Queensland's Waste Code,
- Regularly liaising with DAF Biosecurity officers to ensure all operations are not just compliant with biosecurity regulations but meet the best possible standard.

- Reporting on sedimentation incidents and management formally to authorities through reporting.

Environmental incidents

Jay Maatensz
Director
M&J Marine Services
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E: jay@mjmarineservices.com.au

Coordinate construction and load out site activities, communication with The Nature Conservancy, ESP and ICM

Craig Bohm
Queensland Oceans Manager (Noosa)
Ph: 0410 872 435
E: craig.bohm@tnc.org

Coordinate incident communications with agencies (DES, DAF, MSQ, NFBP, Noosa Council)

Construction and load out site management

Jay Maatensz
Director
M&J Marine Services
Ph: 0457 425 260
E: jay@mjmarineservices.com.au

Coordinate construction and load out site activities, communication with The Nature Conservancy, ESP and ICM

Nick Rocca
Reserves Infrastructure Services Department
Noosa Shire Council
Ph: 07 5329 6372

Oversight of load out site integrity and reinstatement of site at end of works

Oyster reef project coordination

Craig Bohm
Queensland Oceans Manager (Noosa)
Ph: 0410 872 435
E: craig.bohm@tnc.org

For all general matters relating to the project, regular site inspections of works and management of permits

Oyster reef project communications

Megan Connell
Queensland Oceans Coordinator (Noosa)
Ph: 0405 466 729
E: megan.connell@tnc.org

Coordinates public communications and activities with agencies, stakeholders and partners. Maintains public information activities and public complaints mechanism

Engineering oversight

Bobbie Corbett
Principal Coastal Engineer
International Coastal Management
Ph: 07 5564 0564
E: icm@coastalmanagement.com.au

Ensures construction proceeds according to the engineering specifications, with appropriate practices and buffers to minimise environmental impacts. Certifies the final 'as built' reefs (RPEQ Certification)

Ecological monitoring and oversight

Simon Walker
Principal Ecologist
Ecological Service Professionals
Ph: 0428 118 496
E: swalker@ecosp.com.au

Undertakes pre-construction and periodic ecological monitoring of restoration sites, control sites and shoreline condition (erosion monitoring) and provides relevant data and analysis.

Marine biosecurity and marine plants

Stephen Wesche
Principle Scientist Department of Agriculture and Fisheries (Queensland)
Ph: 0410 872 435
E: stephen.wesche@daf.qld.gov.au

Advises on all biosecurity protocols and matters.

Rivers and Coast Officer
Noosa Shire Council
Ph: (07) 5329 6500

Oversees biosecurity matters on behalf of Noosa Council

Waterways operations and safety

Gary Patten
Noosa River Marine Officer, Waterways Operations
Maritime Safety Queensland
Ph: 0436 949 506
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Oversees maritime safety, installation of aids to navigation and notifications to mariners

Fishing and Boating Patrol

Matthew Albiez
District Officer
Queensland Boating and Fishing Patrol
Ph: 0408 455 987
E: Matthew.Albiez@daf.qld.gov.au

Advising fishing and boating communities about the works when inquiries are received.

Reporting

Resource Allocation Authority – RRA – 2020NA0011

planningassessment@daf.qld.gov.au

Period – Annually

Development Permit for Operational Works - (Prescribed Tidal Works – Noosa River Oyster Habitat Restoration) for Noosa River – OPW22/0029

Period - Development commencement – notifications@daf.qld.gov.au

Period - Development completion - notifications@daf.qld.gov.au

Liaison (optional) re: signage – planningassessment@daf.qld.gov.au

Roads and Reserves Permit

Liaison (Noosa Council) re: load out site management - Ph: 07 5329 6372

Marine Plant and Water Quality Monitoring Plan



Noosa Oyster Ecosystem Restoration Project:

**Supply of services to construct rock oyster reef foundations at select sites
in the Noosa River estuary**

2022

34 Ryan Road, Medowie, NSW 2318
ABN: 766 242 991 45

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1. Project overview

M&J Marine Services is providing services to The Nature Conservancy (TNC) to construct rock foundations of oyster reefs in the Noosa River Estuary.

The work includes the deployment of up to 3300 tonnes of igneous rock and 4 tonnes of oyster shell, which is mixed as a composite in one reef patch, onto 4 restoration sites.

Other partners in this work are:

The Nature Conservancy – project coordination, public information, complaints management, construction notifications and public reporting.

International Coastal Management (ICM) – engineering oversight and certification including oversight of environmental safeguards specific to marine plants and the use of oyster shell and seeded oyster cultch in the formation of reef patches.

Ecological Service Professionals (ESP) – pre-works and post-works ecological monitoring and shoreline erosion monitoring.

The works will be undertaken in August and September 2022.

This document should be read in construction with the Project Management Plan, January 2022 and M&J Marine Services Construction and Environmental Management Plan (CEMP).

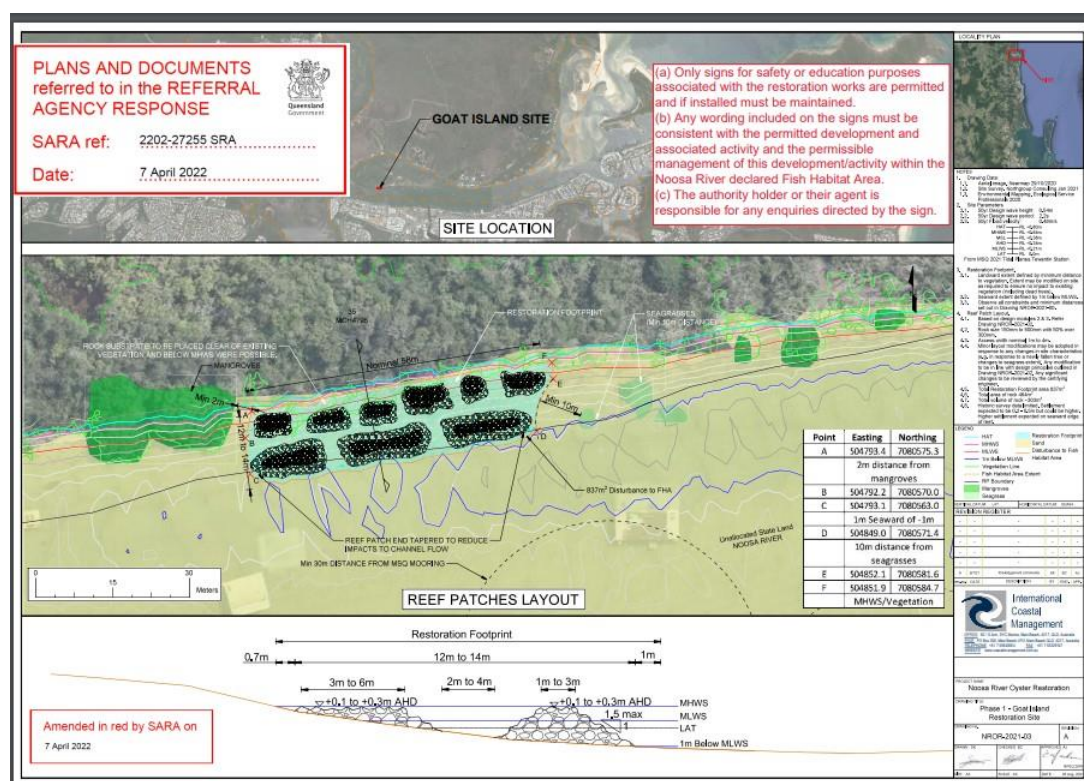
2. Purpose

Protecting marine plants in Australia's estuaries from environmental harm is a responsibility shared by government, industry and the community. Construction works can be a major contributing source or impact to marine plants, particularly through physical interaction of equipment or generation of sediment plumes, which can smother marine plants.

M&J Marine Services is committed to reducing the footprint of its marine operations on marine plants and actively strives to specialize its operations, so that the risk of its operations on marine plants is minimised.

3. Scope

This plan pertains specifically to the management of construction operations so as to avoid impacts on marine plants at the 4 oyster ecosystem restoration sites in the Noosa River estuary, those being Tewantin, Goat Island, Noosa Sound East and Noosa Sound West - see Figures 1-5



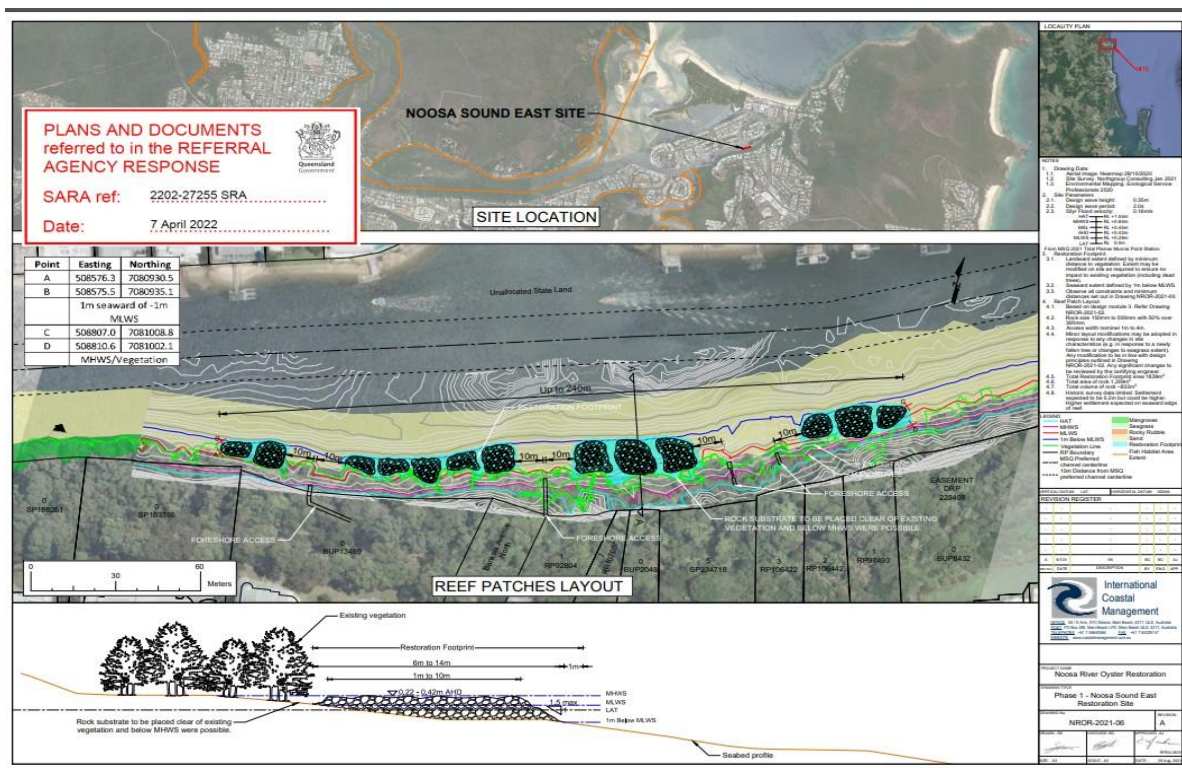


Figure 5: Noosa Sound East restoration site including approved reef patch configuration

4. Potential impacts on marine plants

Construction operations have the generation to impacts on marine plants at, adjacent to and up and downstream of the restoration sites through:

- Operations impacting marine plants that have colonized the area since ecological mapping was undertaken in the design phase of the project.
- Operations generating sediment plumes, which smother marine plants.
- Inadequate buffering and marking of relevant marine habitats.
- Reef patches affecting current flow and impacting on shoreline integrity.

5. Marine plant monitoring and marking

In the design phase of this project, marine habitats at, and adjacent to the restoration sites were mapped by ecological consultants, ESP.

This information was provided to engineering design consultants, ESP, who specified the location and configuration of oyster reef patches, in consultation with The Nature Conservancy, so as to minimise impact on marine plants and avoid seagrass beds and mangrove roots, with buffering.

The engineering drawings (NROR-2021-02) provides detail.

- Prior to works commencing, independent consultants, ESP, re-surveys and confirms the position of marine plants within and 50 metres upstream and downstream of each restoration site.
- ESP provides this information to M&J Marine Services as well as to consultant engineers, ICM, for checking against the site drawings.
- If seagrass or other marine plants have changed position or extended their range or have colonized new areas within a restoration site or within 50 metres upstream and downstream of a restoration site, then ICM advises on how to adjust the reef patch configuration (within the scope of the approved engineering drawings (NROR-2021-02).
- At the start up meeting, M&J Marine Services meets with The Nature Conservancy and ICM to review and, if necessary, revise the construction drawings, including in relation to marine plants and to agree on work methods.
- Prior to works commencing, M&J Marine Services marks the position of any marine plants within each restoration site and 50 metres upstream and downstream of the site using GPS coordinates and star pickets and uses these to create a 2m buffer from works undertaken (as per DAF requirement 17), which cannot be impacted, and as reference points for sediment plume monitoring.
- In shallow areas, a “Channel” will be marked where it is suitable to allow the barge to transit to a given restoration site and to avoid marine plants. The number of star pickets will be optimized, and carefully monitored, so as not to provide a navigational hazard.
- Prior to construction, The Nature Conservancy inspects all markers to ensure adequately of buffering of marine plants provided (minimum 2m), prior to works commencement at each restoration site.
- Where damage to marine plants occurs, the extent of the damage will be quantified by ESP by visual census and appropriate rectification actions decided and implemented by The Nature Conservancy in direct consultation with DAF and DES.

6. Sediment plume protocols

The following measures are taken to control sediment plumes that may be created by construction operations and impact on marine plants at the restoration sites. See also Project Management Plan, January 2020, Section 6.4 (*Sediment Management*). These measures are in compliance with Referral Agency condition 17.

The protocol for sediment plume minimisation, monitoring and management includes the following:

- Preferential selection of rock from the quarry with minimum fracking.
- Organising the transport of rock to minimise contamination from loose material.
- Washing the rock prior to use, at the quarry, if the rock is contaminated with loose material is greater than 50% by area.
- Managing the rock at the load out site to minimise significant fouling by ground sediments, if detected. This may include measures such as laying a bed of gravel on which the rock sits at the

load out site, loading rock directly from the truck onto the barge, minimising the movement of barge equipment on and off the barge to avoid contamination from the tracks of the equipment.

- Washing oyster shells prior to mixing this into a composite substrate with rock. Washing will occur at the Doonan Solid Waste Facility.
- Deploying the rock on site by placing it on site carefully, rather than dumping it off the side of the barge, if plumes are caused.
- Inspection and physical marking of the seagrasses in closest proximity to the site is to be undertaken prior to commencement of works. During works visual monitoring of the sediment plume is to be undertaken. Where the visible plume extends to within 5m of seagrass beds, turbidity monitoring is to be undertaken.
- The extent and duration of the anticipated sediment plume is such that mangrove species are unlikely to be impacted and do not require monitoring unless significant sediment plumes are observed.

If seagrass remains at risk of sediment smothering (if turbidity monitoring indicates turbidity (NTU) is more than 10% above background), when measured with a secci disc, then employ a combination of the following:

- Deployment of silt curtains around the seagrass beds, or in close proximity to the restoration site and/or,
- Deploy substrate down current of the seagrass bed (e.g. on a falling tide for seagrasses located upstream of the works), or within an hour of high or low tide (slack water).
- Ensuring silt curtains do not interact with marine plants and are deployed for the absolute minimum possible soak time required to achieve the rock deployment at the site.
- Constant monitoring of the silt curtains to ensure they do not move and interact with marine plants, impede fish passage or impose unreasonable imposition on other waterway users.
- Review substrate handling protocols and enhance the substrate cleaning/preparation efforts until plumes are minimised.
- Review construction operations procedures and amend as required to minimise potential for impacts.
- Consider implementing additional operational measures.
- Inspect the seagrass beds to determine if there is evidence of sediment smothering compared to pre-works inspection.
- Report any impacts on seagrass or other marine habitats to the Department of Environment and Science (DES) and Department of Fisheries (DAF).

7. Shoreline erosion monitoring and control

Shoreline monitoring adjacent to the oyster reefs, once constructed will also be undertaken.

- Ecological Service Professionals (ESP) is responsible for shoreline erosion monitoring, assessment and reporting.
- ESP will be undertaken baseline shoreline monitoring just prior to commencement of construction works.
- ESP will establish photo points and use high resolution GPS and RTK survey methods (<0.1 metres accuracy) to create baseline create plan-view map (GIS shape files) of the shoreline adjacent to each restoration site (including 100m upstream and downstream of each site).
- ESP will include a photo reference log for each site.
- ESP will note any areas that appear to be highly erosional, if relevant.
- ESP will then repeat shoreline monitoring and assessment 6 then 12 months post construction then annually, reporting the results and analysis to The Nature Conservancy.
- The Nature Conservancy will include ESP reports with reports to agencies (Noosa Council condition 15 and Referral Agency condition 21).
- Where ESP detects significant shoreline erosion (> 1metres), The Nature Conservancy will be immediately notified.
- The Nature Conservancy will immediately contact authorities and determine the contribution the reefs have made to the erosion and will decide collaboratively on the solutions.
- If reefs are a contributing factor to shoreline erosion, The Nature Conservancy will arrange appropriate rectification actions to be undertaken in consultation with agencies.
- Rectifications may include making changes to reef profiles, if this action is deemed appropriate.
- Remediation actions and responsibilities will be decided between The Nature Conservancy and agencies.
- All post construction activities will be conformity with the Environmental Protection Act EPA (1994) and the Environmental Protection (Water) Policy 2009 (as per Noosa Council condition 19)

8. Excavation and ASS

Please note that there will be no excavation as part of the works.

- Rock is placed on top of sand substrates, which have been mapped by bathymetric survey and samples lab tested for particle size during the engineering design phase of this project.
- ICM does not expect subsidence to be an issue but will monitor with M&J Marine Services using standard survey techniques.
- Rectifications will be agreed on and undertaken, as required and in accordance with the engineering drawings (NROR-2021).
- In the design process, Acid Sulphate Soils (ASS) were considered by ICM and excluded from the potential restoration footprint. The construction method conforms with development approval condition 9).
- Where sediments are disturbed, M&J Marine Services will notify The Nature Conservancy and ICM immediately and undertake site management and any required remedial action in accordance with the Queensland Acid Sulfate Soil Technical Manual: Soil management guidelines, as per Noosa Council and Referral Agency condition 9.

9. Management and reporting

M&J Marine Services is responsible for:

- Delivering sediment management awareness information and material for project personnel (e.g., induction training, toolbox and pre-start meetings),
- Ensuring all construction operations minimise the risk of sedimentation of the Noosa River
- Ensuring rock is clean to the standard required under the specifications
- Managing load out site to a high standard to minimise the sedimentation potential
- Reporting possible biosecurity threats from related works to The Nature Conservancy and authorities including to Noosa Council's Rivers and Coast Officer.
- Reporting incursions and treatments undertaken, in writing, to The Nature Conservancy

The Nature Conservancy is responsible for:

- Ensuring oyster shells are cured and cleaned so as not to contribute significant sediment loads.
- Transported in compliance with Queensland's Waste Code,

- Regularly liaising with DAF Biosecurity officers to ensure all operations are not just compliant with biosecurity regulations but meet the best possible standard.
- Reporting on sedimentation incidents and management formally to authorities through reporting.

Environmental incidents

Jay Maatensz
 Director
 M&J Marine Services
 Ph: 0457 425 260
 E: jay@mjmarineservices.com.au

Coordinate construction and load out site activities, communication with The Nature Conservancy, ESP and ICM

Craig Bohm
 Queensland Oceans Manager (Noosa)
 Ph: 0410 872 435
 E: craig.bohm@tnc.org

Coordinate incident communications with agencies (DES, DAF, MSQ, NFBP, Noosa Council)

Construction and load out site management

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 Director
 M&J Marine Services
 Ph: 0457 425 260
 E: jay@mjmarineservices.com.au

Coordinate construction and load out site activities, communication with The Nature Conservancy, ESP and ICM

Nick Rocca
 Reserves Infrastructure Services Department
 Noosa Shire Council
 Ph: 07 5329 6372

Oversight of load out site integrity and reinstatement of site at end of works

Oyster reef project coordination

Craig Bohm
 Queensland Oceans Manager (Noosa)
 Ph: 0410 872 435
 E: craig.bohm@tnc.org

For all general matters relating to the project, regular site inspections of works and management of permits

Oyster reef project communications

Megan Connell
 Queensland Oceans Coordinator (Noosa)
 Ph: 0405 466 729

E: megan.connell@tnc.org

Coordinates public communications and activities with agencies, stakeholders and partners. Maintains public information activities and public complaints mechanism

Engineering oversight

Bobbie Corbett
Principal Coastal Engineer
International Coastal Management
Ph: 07 5564 0564
E: icm@coastalmanagement.com.au

Ensures construction proceeds according to the engineering specifications, with appropriate practices and buffers to minimise environmental impacts. Certifies the final 'as built' reefs (RPEQ Certification)

Ecological monitoring and oversight

Simon Walker
Principal Ecologist
Ecological Service Professionals
Ph: 0428 118 496
E: swalker@ecosp.com.au

Undertakes pre-construction and periodic ecological monitoring of restoration sites, control sites and shoreline condition (erosion monitoring) and provides relevant data and analysis.

Marine biosecurity and marine plants

Stephen Wesche
Principle Scientist Department of Agriculture and Fisheries (Queensland)
Ph: 0410 872 435
E: stephen.wesche@daf.qld.gov.au

Advises on all biosecurity protocols and matters.

Rivers and Coast Officer
Noosa Shire Council
Ph: (07) 5329 6500

Oversees biosecurity matters on behalf of Noosa Council

Waterways operations and safety

Gary Patten
Noosa River Marine Officer, Waterways Operations
Maritime Safety Queensland
Ph: 0436 949 506
E: gary.m.patten@msq.qld.gov.au

Oversees maritime safety, installation of aids to navigation and notifications to mariners

Fishing and Boating Patrol

Matthew Albiez
District Officer
Queensland Boating and Fishing Patrol
Ph: 0408 455 987
E: Matthew.Albiez@daf.qld.gov.au

Advising fishing and boating communities about the works when inquiries are received.

Reporting

Resource Allocation Authority – RRA – 2020NA0011

planningassessment@daf.qld.gov.au

Period – Annually

Development Permit for Operational Works - (Prescribed Tidal Works – Noosa River Oyster Habitat Restoration) for Noosa River – OPW22/0029

Period - Development commencement – notifications@daf.qld.gov.au

Period - Development completion - notifications@daf.qld.gov.au

Liaison (optional) re: signage – planningassessment@daf.qld.gov.au

Roads and Reserves Permit

Liaison (Noosa Council) re: load out site management - Ph: 07 5329 6372

Marine Biosecurity Plan for Construction Vessels



Noosa Oyster Ecosystem Restoration Project:

Supply of services to construct rock oyster reef foundations at select sites in the Noosa River estuary

2022

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ABN: 766 242 991 45

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1. Project overview

M&J Marine Services is providing services to The Nature Conservancy (TNC) to construct rock foundations of oyster reefs in the Noosa River Estuary.

The work includes the deployment of up to 3300 tonnes of igneous rock and 4 tonnes of oyster shell, which is mixed as a composite in one reef patch, onto 4 restoration sites.

For this purpose, M&J Marine will transport necessary barges, boats and heavy machinery, by land only, from New South Wales to Noosa, Queensland to delivery this service.

Other partners in this work are:

The Nature Conservancy – project coordination, public information, complaints management, construction notifications and public reporting.

International Coastal Management (ICM) – engineering oversight and certification including oversight of environmental safeguards specific to marine plants and the use of oyster shell and seeded oyster cultch in the formation of reef patches.

Ecological Service Professionals (ESP) – pre-works and post-works ecological monitoring and shoreline erosion monitoring.

The works will be undertaken in August and September 2022.

This document should be read in construction with the Project Management Plan, January 2022 and M&J Marine Services Construction and Environmental Management Plan (CEMP).

2. Purpose

Protecting Australia's biosecurity is a responsibility shared by government, industry and the community. Biosecurity risk management practices implemented by industry can assist in maintaining Australia's pest and disease biosecurity status and significantly reduce contamination that leads to schedule slippage and increased project costs.

M&J Marine Services Pty Ltd is committed to maintaining Australia's strict biosecurity status and takes all necessary precautions when moving vessels between Australian estuaries.

3. Scope

The scope of this document involves the proponent complying with Australia's biosecurity requirements by developing and implementation processes and procedures to mitigate biosecurity risks during its operations.

The area of operation is the lower Noosa River estuary. Specifically, operations will be undertaken between the Boral Quarry, at Moy Pocket, the project load out site at the end of Hilton Esplanade, Noosaville, and 4 restoration sites in the lower Noosa River estuary - Tewantin, Goat Island, Noosa Sound East and Noosa Sound West - see Figures 1-6



Figure 1: Construction load-out site located on Hilton Esplanade, Noosaville.



Figure 2: Relative locations of reef restoration sites in the lower Noosa River estuary

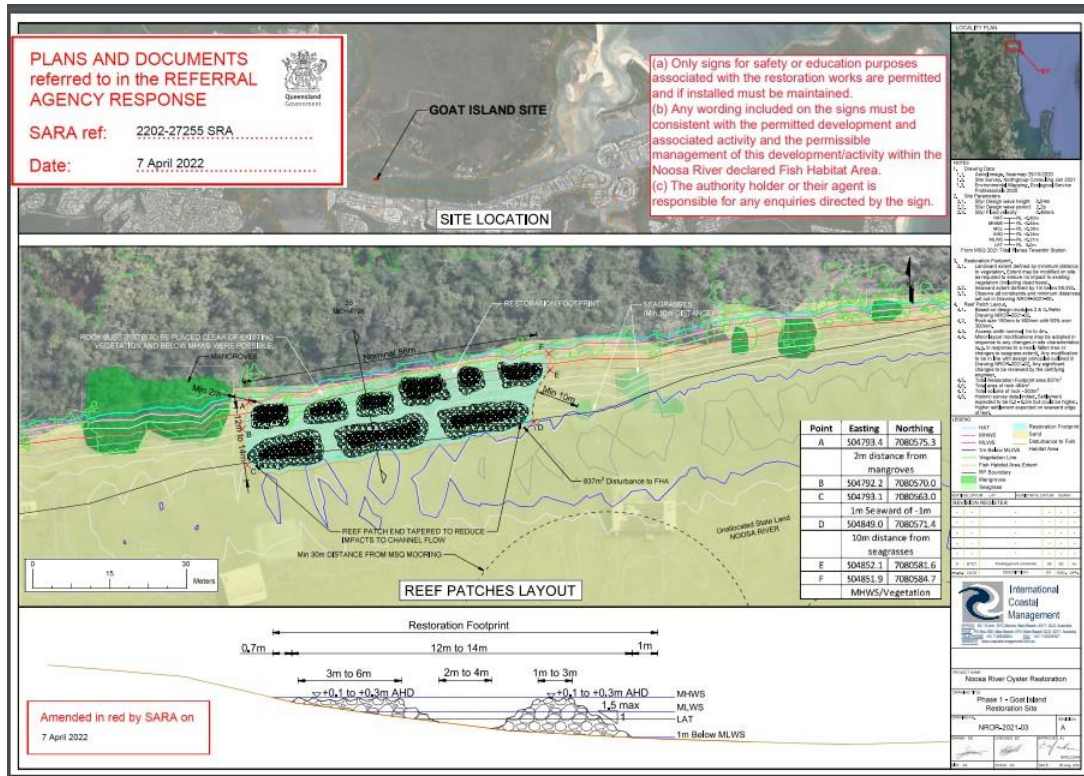


Figure 3: Goat Island restoration site including approved reef patch configuration

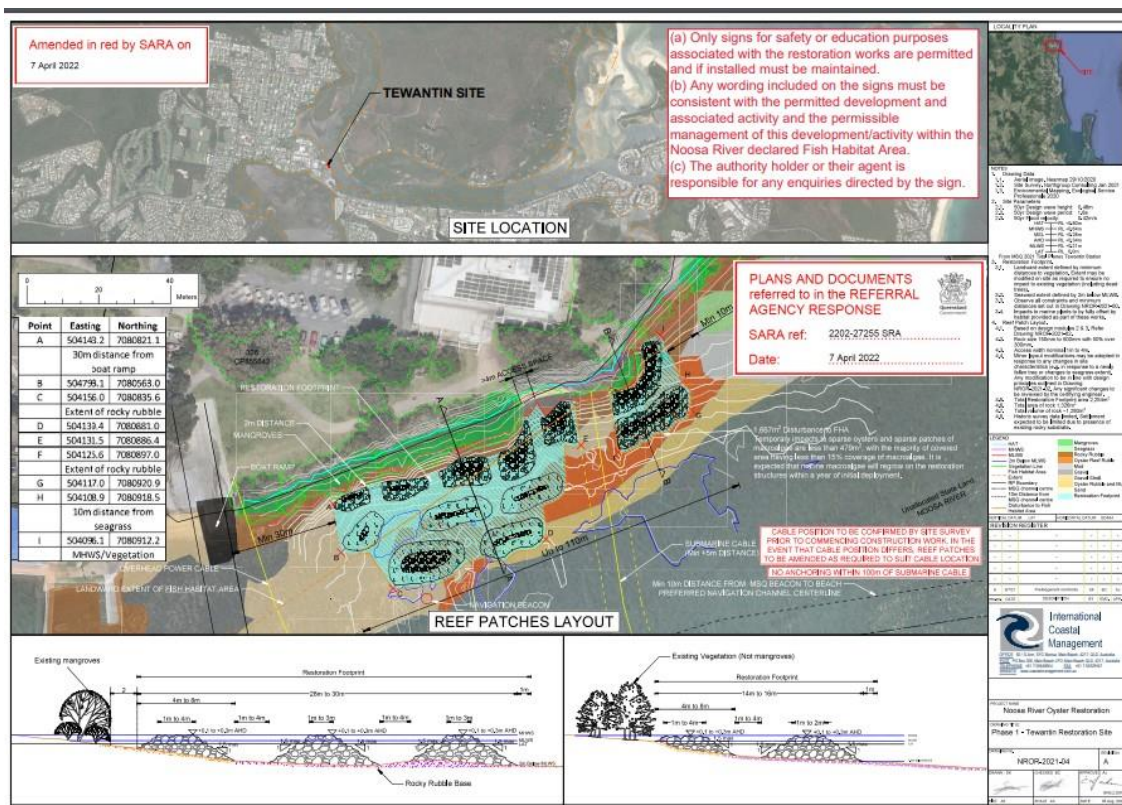


Figure 4: Tewantin restoration site including approved reef patch configuration

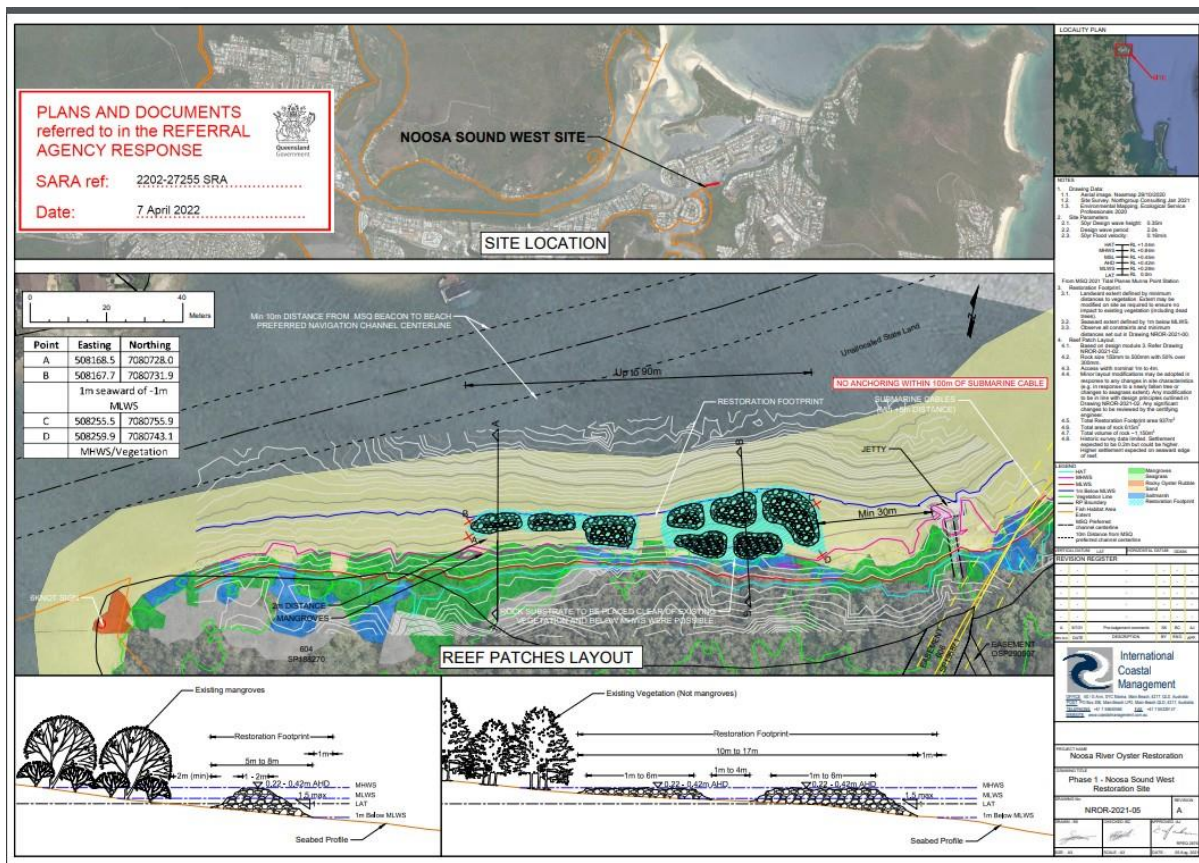


Figure 5: Noosa Sound West restoration site including approved reef patch configuration

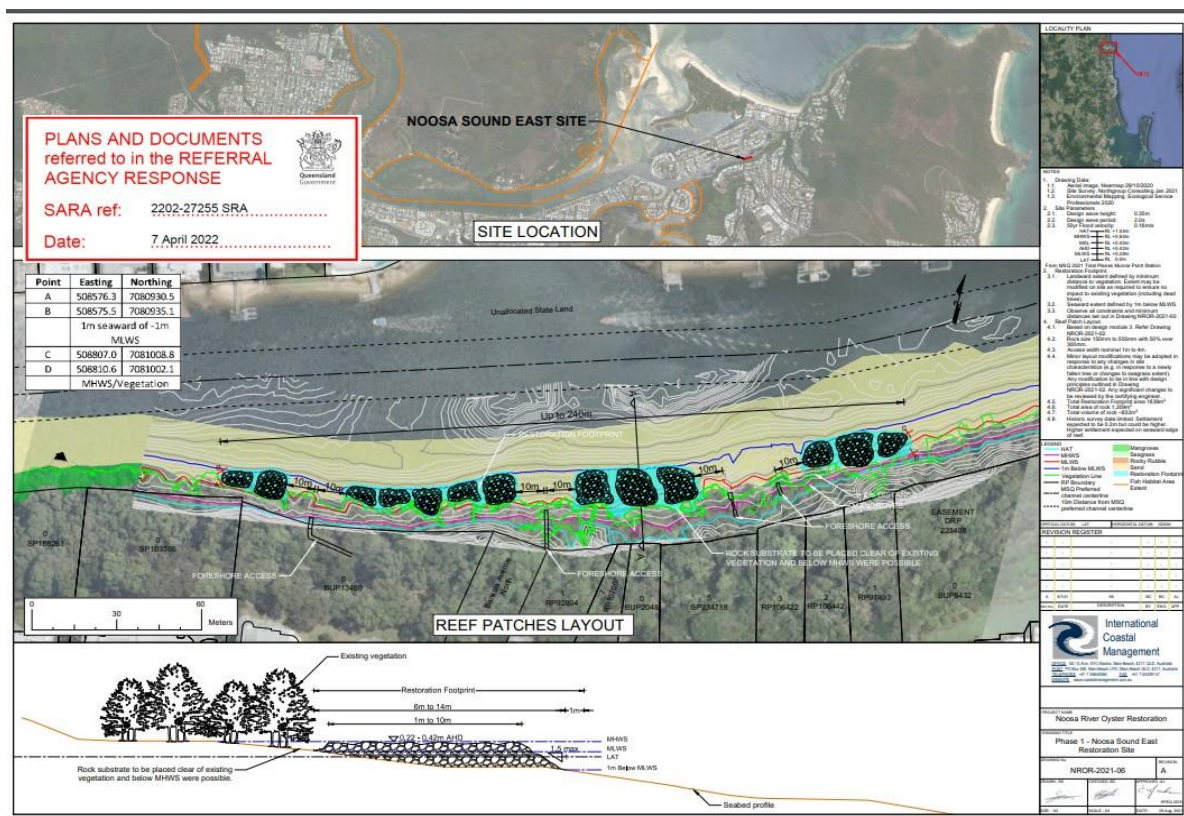


Figure 6: Noosa Sound East restoration site including approved reef patch configuration

5. Biosecurity hazards

The main potential biosecurity hazards associated with the construction works involve:

- a. Biofouling of the construction barge or push vessels, which have been mobilized to the Noosa River from New South Wales, with foreign or invasive marine species.
- b. Biofouling of the rock substrate with soil or sediment from the quarry.
- c. Biofouling of oyster shells, used as a composite (with rock) in reef construction
- d. Biofouling seeded oyster cultch, used for the ecological re-seeding of the oyster reef patches, once constructed
- e. Translocation of invasive fire ants from a fire ant quarantine zone

6. Biosecurity treatment – operational procedures

Each of these potential hazards is treated in detail below.

6.1 Biofouling of construction barge or push vessels

M&J Marine Services is responsible for vessel relocation.

M&J Marine Services will transport two barges and two motorized vessels from New South Wales to Noosa, Queensland for use in oyster reef restoration.

The barges will be loaded onto trucks in New South Wales and transported to Noosa by road.

During loading, each barge will be pressure washed and sprayed with Virkon.

Virkon is a premier broad spectrum virucidal veterinary disinfectant that is recognised by industry and governments worldwide as a disinfectant of choice for livestock disease prevention and control.

Each barge will then be transported to Noosa and air dried for 72 hours.

Virkon will then be reapplied to the barges on arrival in Noosa as an additional precaution.

As M&J Marine Services understands it, there is no specific requirements regarding the disinfecting of vessels that transit between New South Wales and Queensland estuaries by road. However, M&J Marine Services has adopted the above biosecurity management measure as a precaution to help minimise biosecurity risks to Australia's coastal waterways.

6.2 Biofouling of the rock substrate

- The rock is sourced from Boral Quarries, Moy Pocket.
- Boral Quarries, Moy Pocket, is outside of South-East Queensland Fire Ant Eradication Area / biosecurity zones (Reference: <https://www.fireants.org.au/stop-the-spread/fire-ant-biosecurity-zones>).
- The quarry cuts the required rock from the quarry wall. The rock is then graded to meet the engineering specifications (see Project Management Plan, January 2020, Annex 14: Engineering Drawings (NROR-2021-00)).
- The rock is inspected at the quarry by TNC and M&J Marine Services and checked visually for conformity with the specifications and to ensure the preparation methods minimise contamination of the rock.
- The quarry then provides technical rock specifications to engineers, International Coastal Management (ICM), who are contracted to The Nature Conservancy to provide independent construction oversight of the works, for checking against the engineering requirements of the rock.

ICM has final say on the appropriateness and cleanliness of the rock.

6.3 Biofouling of oyster shells

- The oyster shell used has been cured and then thoroughly washed and bagged by The Nature Conservancy in accordance with the Queensland End of Waste Code - Oyster shells (ENEW07278317) and Waste Reduction and Recycling Act 2011 (See Project Management Plan, January 2020, Section 5.3 for detail of the shell preparation protocols).
- The Nature Conservancy is a registered waste provider under the Code.
- In one reef patch only, up to 4 tonnes of desiccated (cured) and washed shell is mixed with the rock to form one reef patch to form a composite reef, consistent with the engineering drawing (NROR-2021-02).
- All other reef patches will comprise only of rock.
- The specific reef patch will be selected by TNC in consultation with ICM and M&J Marine Services during construction.

6.4 Biofouling of seeded oyster cultch

- Seeded oyster cultch will not be used by M&J Marine Services during construction but will be added to the oyster reef patches later in spring of 2022, as an ecological 'kick starting mechanism for oyster ecosystem rehabilitation.
- The oyster shell that provides the settling cultch for oyster 'spat' has also been cured and then thoroughly washed and bagged by The Nature Conservancy in accordance with the Queensland End of Waste Code - Oyster shells (ENEW07278317) and Waste Reduction and Recycling Act 2011 (See Project Management Plan, January 2020, Section 5.3 for detail of the shell preparation protocols).
- The Nature Conservancy is a registered waste provider under the Code.
- Oysters used as broodstock for oyster reseeded will be collected only from the Noosa River in

accordance with

- The Nature Conservancy is partnering with the Queensland Government owned Bribie Island Research Centre (BIRC) to facilitate reseedling of the oyster reefs with seeded oyster cultch.
- A Brood Stock Collection Permit and General Fisheries Permit, secured by The Nature Conservancy from Department of Fisheries (DAF) will guide this activity.
- The activity will be undertaken from September to October and will be reported on to Noosa Council.
- For a description of the role of seeded oyster cultch in oyster ecosystem recovery, please refer to the Marine Restoration Plan, January 2020, Sections 5.5 and 5.6.
- The intended protocol for the release of the seeded oyster cultch onto the rock reef patches includes:
 - Use of up to 2 tonnes of seeded oyster cultch in one 'set' – spawning and settling event.
 - Transport of the seeded oyster cultch from BIRC to the Noosa River in 5kg mesh bags.
 - The transport is likely to be staggered with only a small number of bags being handled in any singular release event (estimated 50 to 100 bags).
 - Transport of the oysters in bags to each restoration site by foot and/or boat.
 - Opening the bags and hand placing cultch into the voids of the rock reef.

THE BAGS WILL BE REMOVED AND NOT PUT IN THE RIVER

- Placing the cultch towards the middle of individual reef patches to minimise potential of displacement from the structure.
- Ensuring no oysters sit on the surface of rocks but are inserted into the voids.
- Storing the empty mesh bags appropriately, recycle these or disposed of them in an appropriate receptacle.
- Providing ICM with photographic record of reseeded oysters to ensure compliance with the specifications.
- Report on this activity to authorities in a formal report within 2 months of completion of the activity.
- Reseeding will be undertaken by a select few staff from The Nature Conservancy, BIRC and its contracted local partners to minimise the footprint of the activity on the Noosa River habitats and to ensure full compliance.
- The Nature Conservancy will liaise closely with ESP prior to and during the activity to identify and create buffers between participants and marine plants and thus ensure that the reseedling activity does not interact with marine plants. ESP may participate directly in the activity.

6.5 Translocation of invasive fire ants

- Rock substrate used in this project is sourced from Boral Quarries, Moy Pocket, is outside of South-East Queensland Fire Ant Eradication Area / biosecurity zones (Reference: <https://www.fireants.org.au/stop-the-spread/fire-ant-biosecurity-zones>).
- Oyster shells have been collected from Mooloolaba River Fisheries and local Noosa restaurants and have been cured and washed at the Doonan Waste Recovery Centre. All these locations are outside of South-East Queensland Fire Ant Eradication Area / biosecurity zones (Reference: <https://www.fireants.org.au/stop-the-spread/fire-ant-biosecurity-zones>).

7. Monitoring

During operations, M&J Marine Services will invite biosecurity officers from DAF to inspect the vessels. The construction team will also inspect the vessels on a daily basis.

8. Management and reporting

M&J Marine Services is responsible for:

- Delivering biosecurity awareness information and material for project personnel (e.g., induction training, toolbox and pre-start meetings),
- Ensuring all vessels (barges) are cleaned and inspected before deployment
- Ensuring rock is clean to the standard required under the specifications
- Reporting possible biosecurity threats from related works to The Nature Conservancy and authorities including to Noosa Council's Rivers and Coast Officer.
- Reporting incursions and treatments undertaken, in writing, to The Nature Conservancy

The Nature Conservancy is responsible for:

- Ensuring oyster shells are cured and transported in compliance with Queensland's Waste Code,
- Regularly liaising with DAF Biosecurity officers to ensure all operations are not just compliant with biosecurity regulations but meet the best possible standard.
- Reporting on biosecurity matters formally to authorities through reporting.

Environmental incidents

Jay Maatensz
Director
M&J Marine Services
Ph: 0457 425 260
E: jay@mjmarineservices.com.au

Coordinate construction and load out site activities, communication with The Nature Conservancy, ESP and ICM

Craig Bohm
Queensland Oceans Manager (Noosa)
Ph: 0410 872 435
E: craig.bohm@tnc.org

Coordinate incident communications with agencies (DES, DAF, MSQ, NFBP, Noosa Council)

Construction and load out site management

Jay Maatensz
Director
M&J Marine Services
Ph: 0457 425 260
E: jay@mjmarineservices.com.au

Coordinate construction and load out site activities, communication with The Nature Conservancy, ESP and ICM

Nick Rocca
Reserves Infrastructure Services Department
Noosa Shire Council
Ph: 07 5329 6372

Oversight of load out site integrity and reinstatement of site at end of works

Oyster reef project coordination

Craig Bohm
Queensland Oceans Manager (Noosa)
Ph: 0410 872 435
E: craig.bohm@tnc.org

For all general matters relating to the project, regular site inspections of works and management of permits

Oyster reef project communications

Megan Connell
Queensland Oceans Coordinator (Noosa)
Ph: 0405 466 729
E: megan.connell@tnc.org

Coordinates public communications and activities with agencies, stakeholders and partners. Maintains public information activities and public complaints mechanism

Engineering oversight

Bobbie Corbett
Principal Coastal Engineer
International Coastal Management
Ph: 07 5564 0564

E: icm@coastalmanagement.com.au

Ensures construction proceeds according to the engineering specifications, with appropriate practices and buffers to minimise environmental impacts. Certifies the final 'as built' reefs (RPEQ Certification)

Ecological monitoring and oversight

Simon Walker
Principal Ecologist
Ecological Service Professionals
Ph: 0428 118 496
E: swalker@ecosp.com.au

Undertakes pre-construction and periodic ecological monitoring of restoration sites, control sites and shoreline condition (erosion monitoring) and provides relevant data and analysis.

Marine biosecurity and marine plants

Stephen Wesche
Principle Scientist Department of Agriculture and Fisheries (Queensland)
Ph: 0410 872 435
E: stephen.wesche@daf.qld.gov.au

Advises on all biosecurity protocols and matters.

Rivers and Coast Officer
Noosa Shire Council
Ph: (07) 5329 6500

Oversees biosecurity matters on behalf of Noosa Council

Waterways operations and safety

Gary Patten
Noosa River Marine Officer, Waterways Operations
Maritime Safety Queensland
Ph: 0436 949 506
E: gary.m.patten@msq.qld.gov.au

Oversees maritime safety, installation of aids to navigation and notifications to mariners

Fishing and Boating Patrol

Matthew Albiez
District Officer
Queensland Boating and Fishing Patrol
Ph: 0408 455 987
E: Matthew.Albiez@daf.qld.gov.au

Advising fishing and boating communities about the works when inquiries are received.

Reporting

Resource Allocation Authority – RRA – 2020NA0011
planningassessment@daf.qld.gov.au
Period – Annually

Development Permit for Operational Works - (Prescribed Tidal Works – Noosa River Oyster Habitat Restoration) for Noosa River – OPW22/0029

Period - Development commencement – notifications@daf.qld.gov.au

Period - Development completion - notifications@daf.qld.gov.au
Liaison (optional) re: signage – planningassessment@daf.qld.gov.au

Roads and Reserves Permit

Liaison (Noosa Council) re: load out site management - Ph: 07 5329 6372