



# Kalbarri Coastal Works Package

## Construction Scope of Works

Shire of Northampton

08 April 2024

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# 1. General

The project Scope of Works includes all works required to undertake reinstatement of existing car parks, beach accesses and damaged structures at three sites in Kalbarri, affected by Severe Tropical Cyclone Seroja in April 2021. The reinstatement work will be carried out at Chinaman's Beach, Blue Holes, Jacques Point and Red Bluff Beach Access.

This Scope of Works shall be read in conjunction with the Technical Specifications, contract document and tender drawings.

The Contractor shall ensure that all work performed, and all materials specified, at a minimum, comply with all relevant and current:

- Regulations, Codes, or Standards.
- Requirements prescribed by relevant regulatory authorities.
- National Construction Code (NCC).
- Australian Standards, as applicable.

If any items in this Scope of Works conflicts with the contract documentation, the more stringent requirement will take precedence.

## 1.1 Background

STC Seroja, a category 3 cyclone, impacted the coastline of Western Australia which led to the declaration of disaster event AGRN965 in accordance with the Disaster Recovery Funding Arrangements of Western Australia (DRFAWA). This project is to be delivered in accordance with the DRFAWA requirements.

## 1.2 Definitions

The following definitions shall apply for interpreting the Scope of Works:

Table 1 Definitions

Item	Description
Principal	Shire of Northampton.
Contractor	Party awarded the Contract to complete the Works.
Superintendent	The Kalbarri Coastal Remediation Project Superintendent will be overseeing the Works for the Principle.
Works	All construction works required to deliver the project as defined by the Scope of Works, Specifications, drawings, and Contract documents.

## 1.3 Location of the Works

Kalbarri, or Wutumalu, as it is known to the Nanda people, is in the Mid-West Region of Western Australia approximately 150km north of Geraldton, in the Shire of Northampton. The townsite is situated on the southern banks of the Murchison River and is bordered by the coastline to the west and is surrounded by the Kalbarri National Park to the east and south.

The three work sites are shown in Figure 1.



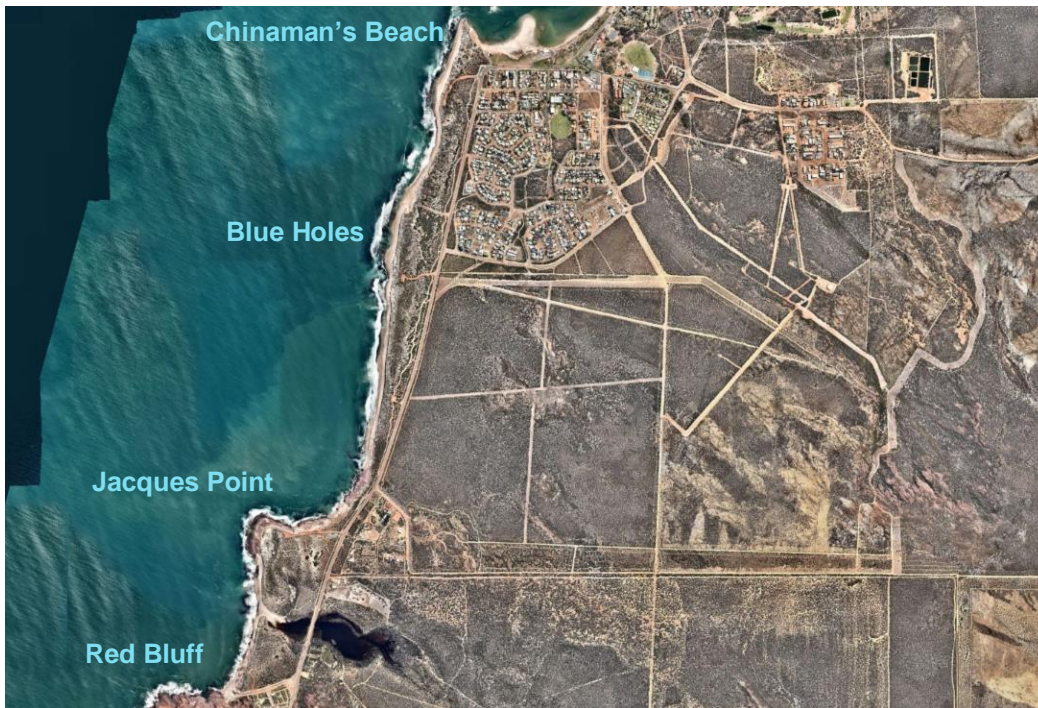


Figure 1 Site location for the coastal Works package

## 2. Site Information

### 2.1 Geotechnical Investigation and Survey

A geotechnical investigation was not undertaken at part of the design development phase.

A drone survey was conducted at the start of the design phase and forms the basis of the reinstatement design. Rock levels in the vicinity of the proposed retaining walls were also estimated by excavating up to 2m deep in limited and taking measurements.

### 2.2 Damage Assessment

A visual damage assessment was carried out by GHD in November 2022. Representative photos are provided in Appendix A, Appendix B and Appendix C to demonstrate the extent and scale of the reinstatement works required.

## 3. Description of the Works

The Works include the provision of all labour, supervision, materials, tools, equipment, and plant necessary to complete the reinstatement works to the required standard. The work generally comprise the following:

### 3.1 General Items – All Sites

- Site setup and establishment
- Survey and setout
- Provision of all Management Plans and supervision to undertake the works
- Provision of all HSE and OHS requirements
- Obtaining approvals for undertaking works where required

- Locating and protecting services prior to commencing work
- Testing, Quality Control and Quality Assurance requirements
- As constructed plans on completion of the Works. All waste and debris shall be correctly disposed of at the Kalbarri Landfill facility
- Site cleanup and demobilisation

## 3.2 Chinaman's Beach

- Cut back and dispose of the damaged pavement and debris
- Stockpiling of rock recovered from the damaged rock wall and placement of the rock in front of the new limestone block wall upon completion
- Earthworks and pavement reconstruction for sealed car park
- Two coat seal (10/7) with cutback bitumen primer seal
- Kerb installation along sealed car park and access road
- Installation of sealed car park drainage
- Construction of a gravel footpath along the sealed car park and access road
- Construction of a reconstituted limestone block retaining wall with a staircase providing beach access and tying into an existing concrete footpath near the ablution facilities
- Installation of a handrail on top of the limestone block retaining wall
- Installation of a kerb ramp and concrete landing providing access to the disability accessible fishing platform
- Installation of tactile ground surface indicators on kerb ramp
- Pavement marking and signage for the sealed car park and access road
- Reinstatement gravel car park
- Installation of timber post and rail fencing with ringlock wire
- Installation of a Replas seat near the fishing platform
- Reinstatement of beach access west of the lookout (Provisional sum)
- Clearing the existing red asphalt footpath from sand and debris as well as repair of the existing fence leading up to the lookout
- Construction of two shade structures with concrete slabs located at the following locations:
  - In front of the Chinaman's Beach gravel car park
  - On the beach near the Sally's Tree car park
- Installation of Replas tables and benches located at the shade structures.

### 3.2.1 Works by others at Chinaman's Beach

- Disability accessible fishing platform works to be undertaken by others
- Bins will be provided by the Shire.

## 3.3 Blue Holes

- Cut back and dispose of the damaged pavement and debris
- Earthworks and pavement reconstruction
- Two coat seal (10/7) with bitumen cutback primer seal
- Kerb installation
- Storm water sump/drainage infiltration swale
- Construction of a concrete footpath
- Installation of tactile ground surface indicators at kerb ramps
- Construction of rock revetment at the front of the car park and footpath

- Installation of two Replas staircases over the proposed rock revetment
- Construction of a reconstituted limestone block retaining wall at the back of the carpark
- Pavement marking, including disability parking spaces and bollards
- Construction of a shade structure, including earthworks and concrete base slab with two Replas tables and benches
- Installation of pine log fence with ring lock wire

### **3.4 Jacques Point**

- Earthworks and construction of proposed unsealed car park and footpath adjacent to the existing access road
- Construction of rock revetment, tying in with the rocks in front of Mason’s shelter and terminating at the emergency vehicle access
- Pedestrian access from the proposed car park to the beach via a Replas staircase over the rock revetment with timber post and concrete footings
- 30mm red oxide asphalt disability parking space, including line marking and disability access ramp with tactile ground surface indicators
- 30mm red oxide asphalt footpath from the disabled parking to the shelter (part of which constitutes a disability access ramp)
- Installation of Weldlok handrails adjacent to disability access ramp
- Installation of concrete wheel stops in car park
- Installation of pine post and rail fencing between rock revetment and footpath.
- Installation of H4 treated timber edge board along edge of pavement
- Reinstatement of Mason’s shelter (Provisional sum)
- Reconstruction of damaged shelter (beach level - location and orientation to be confirmed on site as directed by the superintendent)
- Timber stairs and placement of flat rocks to provide access from Mason’s shelter onto the emergency vehicle access and down to the beach
- Reinstatement of the gravel emergency vehicle access to the beach (gravel resheet)
- Reinstatement of pedestrian gravel access from the upper car park down to the beach including repair of existing fencing
- Medium grade and tidy up of the gravel access road

### **3.5 Red Bluff Beach Access**

- Reinstatement of pedestrian gravel access from the car park and shelter down to the beach
- Reinstatement of posts and ring lock fencing

### **3.6 Site Establishment**

The Contractor’s site establishment shall include, but is not limited to the following:

- Mobilisation of all plant and equipment required to undertake the Works.
- Site establishment of site office, ablutions and consumables as required.
- Arrangements for suitable accommodation and messing facilities for staff.
- Positively locate, mark and protect all the services.
- Survey and get approvals from all the service providers prior to commencement of the Works.
- OHS Plan, Quality Plan, Environmental Management Plan, Traffic Management Plan, Inspection and Testing plans are to be approved prior to commencement of the Works.



### 3.6.1 Construction Water and Power

- Power is to be supplied by the Contractor.
- The Contractor is required to make their own enquiries with regards to water supply for construction purposes.

### 3.6.2 Construction Materials

Generally, materials are to be obtained from commercial sources.

Table 2 Construction Materials Sources

Material	Intended use	Source
Granite armour rock	Bottom rock armour layer – Jacques Point D50 640mm M50 650kg. Grading 300 – 1000kg	Example Kimberley Quarries, Chapman Valley or similar approved.
Tumblagooda Sandstone	Top rock armour layer – Jacques Point and Blue Holes D50 900mm M50 1500kg. Grading 700 – 2250kg	Lot 9505 George Grey Drive, Kalbarri. Liaison with the property owner is via the Shire in the first instance.
Rock wall core Granite or Sandstone	Core material for Jacques Point and Blue Holes Grading 700 – 2250kg	Example Kimberley Quarries, Chapman Valley or similar approved. Or (if available volumes permit) Lot 9505 George Grey Drive, Kalbarri. Liaison with the property owner is via the Shire in the first instance.
Gravel and water	Civil works	The Contractor is required to identify appropriate sources of gravel and water for construction. The Shire Works Manager can be contacted to discuss potential sources.
Other		Commercial sources

## 3.7 Site Management

### 3.7.1 Site Access

Site access, including construction traffic movements, shall be coordinated in consultation with the Superintendent and included in the Contractor’s Traffic Management Plan.

A Construction Risk Assessment Workshop (CRAW) shall be completed and submitted prior to commencement.

The Contractor shall be responsible for the establishment and maintenance of all temporary construction access roads required for the Works. The Contractor shall provide details on proposed construction access roads for approval by the Superintendent prior to commencement of the Works. The Contractor shall give preference to utilising existing access roads. Existing access tracks used by the Contractor through the Works shall be reinstated to their original condition at the completion of the Works by the Contractor.

### 3.7.2 Laydown Area

The Contractor shall be allocated laydown areas within 1km from the work sites.

The Contractor shall confine their work area to the locations agreed. No other area will be permitted for use by the Contractor unless approved by the Superintendent .

### 3.7.3 Management, HSE and supervision

The Contractor Management and Supervision shall include, but not limited to the following:

- All requirements set out in the approved Plans (Quality, HSE, TMP, Environmental etc)
- Undertake all necessary project management and obtain any necessary approvals required for the Works including traffic management plans, permits, reporting requirements and meetings (internal and external).
- Supervise construction activities.
- Supply of all safety, environmental and communication equipment required to undertake work, including PPE, and installation of appropriate temporary signage.
- Provide survey and equipment where required for the purposes of setting out, conformance checks and quantity measurement.
- Ensure plant operators have completed competency training and hold all required working certifications required for this contract in accordance with Contractor's safety management policy. This should include but not limited to the following:
  - All personnel on site to be inducted to the Contractor's safety management system.
  - All personnel on site must be trained and assessed to be competent by Contractor prior to working on site.
- Provide barricading, signage, warning lights, et necessary to provide a safe working area for both the Contractor's workers and the pedestrians.
- All security measures required for the Works.

### 3.7.4 Hours of work

The hours of work shall be restricted to 06.00 am to 18.00 pm depending on daylight conditions. A roster is to be agreed with the Principal. Should any changes to the agreed roster be required, approval is to be sought from the Principal.

## 3.8 Workmanship

The Contractor shall ensure that all Works are carried out by competent supervisors, operators, tradesmen and labourers experienced in this type of Works.

The Contractor shall ensure that any material used in the Works and standard of workmanship conforms to the express requirements of the Contract or, in the absence of any such express requirements, shall be of a kind which is suitable for its intended purpose and consistent with the nature and character of the Works. This includes that the workmanship or materials meet the manufacturer's recommendations for application or installation, workmanship or materials abides by the warranty requirements, and that the warranties are supplied to the Principal.

## 3.9 Environmental Protection

- The Contractor shall minimise damage to the environment as detailed within this Scope of Works. The Contractor shall:
- Comply with all the applicable Environmental Laws and shall adopt methods in the performance of the Works that shall reduce to the greatest possible extent practicable, disruption or damage to the environment caused by or during the performance of the Works.
- Effect and maintain all approvals, licences, permits and other authorisations required under State and Commonwealth Laws, safeguards and standards, to conduct the Works.
- Take such measures as may be necessary to prevent contamination, destruction or impairment of the environment.
- Where the Contractor does not take effective action to minimise damage to the environment, the Superintendent may direct the Contractor to undertake specific measures within such time as may be deemed as necessary to ensure compliance with the provisions of the Scope of Works. Where the Contractor

fails to take action within the time specified by any direction, the PM may take such actions as may be necessary to minimise damage to the environment.

### 3.10 Traffic Management

The Contractor shall undertake all necessary traffic management requirements including:

- Submit a TMP in accordance with the Shire of Northampton’s traffic management requirements for review and approval prior to mobilisation. All worksites are to be considered in the TMP.
- The intent is that public access to work sites will be restricted during the Works, but where this may not be possible, the TMP is to provide a safe working environment for both construction workers and the public.
- Note that closure of all coastal sites at the same time will not be permitted. The contractor is to provide a comprehensive staging and closure schedule for review and approval.
- Provide traffic management as per the approved TMP.

### 3.11 Vegetation clearing

All clearing shall be in accordance with Shire of Northampton’s requirements and as directed by the Superintendent . The Contractor shall clear what is reasonable to undertake the Scope of Works. Clearing permits and requirements to be confirmed with Shire of Northampton prior to commencement of any clearing activities.

### 3.12 Services

The Contractor shall submit a Before You Dig Australia inquiry to cover the actual period of the Works, locate any services on site, liaise with necessary service providers and protect services as necessary to undertake the Works.

The Contractor shall confirm levels of services where it may interfere or be affected by the proposed Works. The levels of the services and survey of existing services shall be submitted to Superintendent prior to commencing Works in order that any potential clashes or interference are identified early to prevent from asset strikes.

### 3.13 Quality Assurance and Quality Control

The Contractor shall undertake all testing, Quality Control (QC) and Quality Assurance (QA) requirements as per the Technical Specifications and this Scope of Works.

### 3.14 Construction Drawings

The below list of drawings set out the construction works. These are to be read in conjunction with this Scope of Work document, the Technical Specifications and contract documents.

*Table 3 Construction Drawings for Chinaman’s Beach*

Drawing number	Description/Title
12596020-GHD-00-01-DRG-CI-00001	LOCALITY PLAN AND DRAWING LIST
12596020-GHD-00-01-DRG-CI-00100	GENERAL ARRANGEMENT PLAN
12596020-GHD-00-01-DRG-CI-00200	TYPICAL ROAD CROSS SECTION AND DETAILS
12596020-GHD-00-01-DRG-CI-00300	KERB LONGITUDINAL SECTION
12596020-GHD-00-01-DRG-CI-00400	KERB ALIGNMENT CROSS SECTIONS SHEET 1 OF 4
12596020-GHD-00-01-DRG-CI-00401	KERB ALIGNMENT CROSS SECTIONS SHEET 2 OF 4
12596020-GHD-00-01-DRG-CI-00402	KERB ALIGNMENT CROSS SECTIONS SHEET 3 OF 4
12596020-GHD-00-01-DRG-CI-00403	KERB ALIGNMENT CROSS SECTIONS SHEET 4 OF 4
12596020-GHD-00-01-DRG-CI-00500	TYPICAL GRATED GULLY AND GRATED SOAKWELL DETAILS

Drawing number	Description/Title
12596020-GHD-00-01-DRG-ST-00001	STRUCTURAL NOTES
12596020-GHD-00-01-DRG-ST-00200	TYPICAL RETAINING WALL DETAILS
12596020-GHD-00-01-DRG-ST-00300	RETAINING WALL PROFILE SHEET 1 OF 3
12596020-GHD-00-01-DRG-ST-00301	RETAINING WALL PROFILE SHEET 2 OF 3
12596020-GHD-00-01-DRG-ST-00302	RETAINING WALL PROFILE SHEET 3 OF 3

**Table 4** Construction Drawings for Blue Holes

Drawing number	Description/Title
12596020-GHD-00-03-DRG-CI-00001	LOCALITY PLAN AND DRAWING LIST
12596020-GHD-00-03-DRG-CI-00100	GENERAL ARRANGEMENT PLAN
12596020-GHD-00-03-DRG-CI-00200	TYPICAL CROSS SECTIONS
12596020-GHD-00-03-DRG-CI-00300	REVTMENT DETAILS
12596020-GHD-00-03-DRG-ST-00001	STRUCTURAL NOTES
12596020-GHD-00-03-DRG-ST-00200	TYPICAL RETAINING WALL DETAILS
12596020-GHD-00-03-DRG-ST-00300	RETAINING WALL PROFILE

**Table 5** Construction Drawings for Jacques Point

Drawing number	Description/Title
12596020-GHD-00-04-DRG-CI-00001	LOCALITY PLAN AND DRAWING LIST
12596020-GHD-00-04-DRG-CI-00100	GENERAL ARRANGEMENT PLAN
12596020-GHD-00-04-DRG-CI-00200	CAR PARK AND REVTMENT LAYOUT PLAN
12596020-GHD-00-04-DRG-CI-00300	TYPICAL CAR PARK AND REVTMENT LAYOUT PLAN
12596020-GHD-00-04-DRG-CI-00400	TYPICAL DETAILS
12596020-GHD-00-04-DRG-CI-00500	GENERAL REVTMENT NOTES

**Table 6** Construction Drawings for Red Bluff Beach Access

Drawing number	Description/Title
12596020-GHD-00-05-DRG-CI-00001	LOCALITY PLAN AND DRAWING LIST
12596020-GHD-00-05-DRG-CI-00100	GENERAL ARRANGEMENT PLAN

## 3.15 Technical Specification

The Works shall be undertaken in accordance with the Technical Specification (*GHD Technical Specifications, April 2024*).

# Appendices

# **Appendix A**

**Damage Assessment Photos: Chinaman's Beach**



## Chinaman's Beach, Kalbarri, WA

Damage sustained as a direct result of AGRN965 Severe Tropical Cyclone Seroja, April 2021.



Photo 1 Aerial image before the AGRN965 event (Google Earth, March 2021)

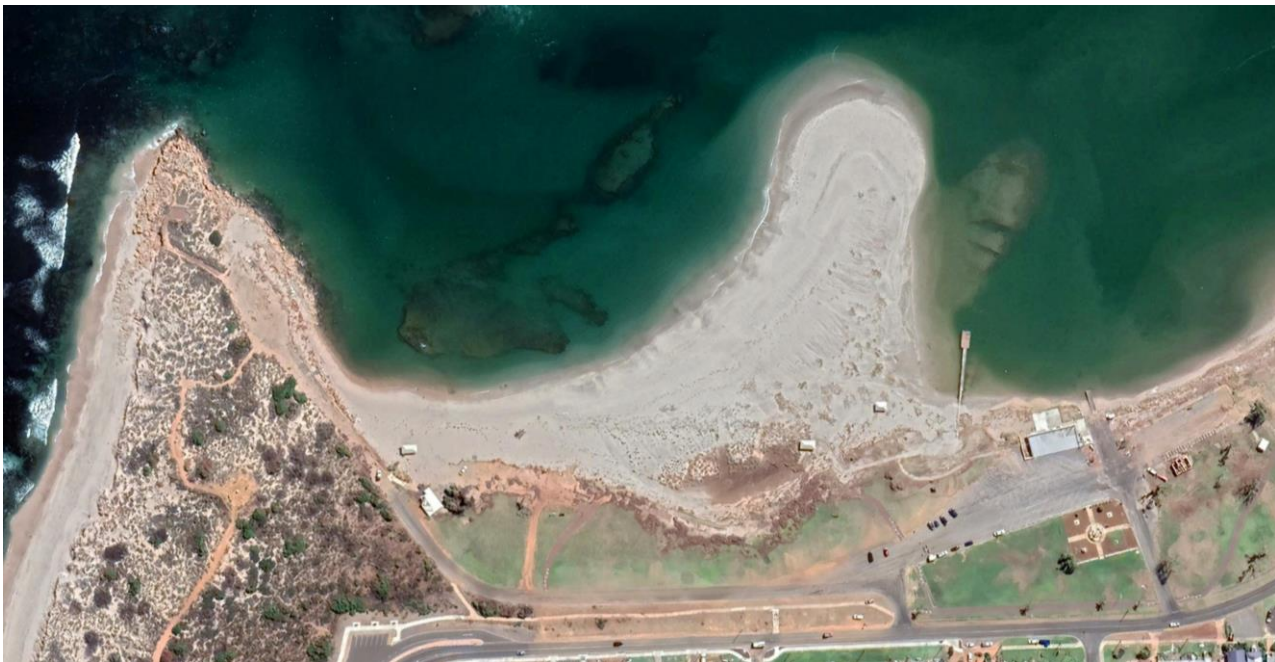
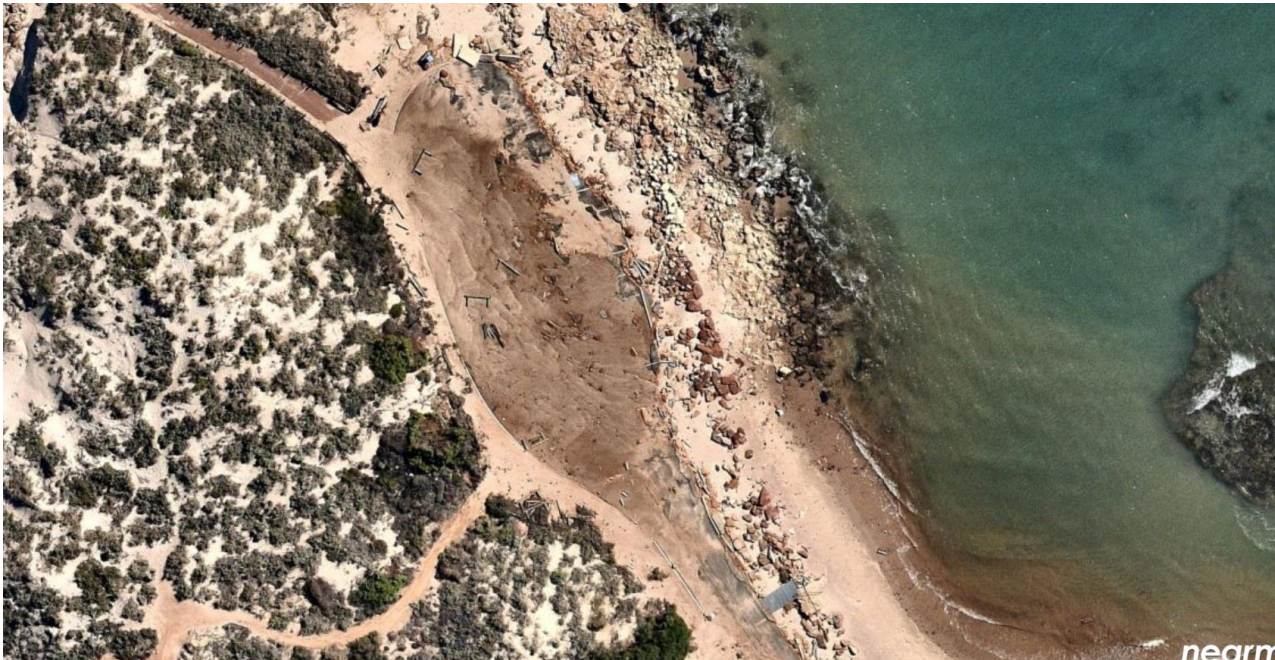


Photo 2 Aerial image after the AGRN965 event (Google Earth, April 2021)





**Photo 3** Sealed car park before the impact of STC Seroja



**Photo 4** Destroyed rock wall, fishing jetty, pavement, footpath, kerbs and fencing





**Photo 5**      *Disability accessible fishing platform before the impact of STC Seroja*



**Photo 6**      *Disability accessible fishing platform after the impact of STC Seroja*





**Photo 7** *Sand to be cleared off the footpath and fencing to be reinstated*



**Photo 8** *Damaged pavement to be cut back. Rock wall to be replaced with a limestone block retaining wall*





**Photo 9**      ***Damaged gravel car park***



**Photo 10**      ***Damaged/destroyed fencing, gravel car park and beach access.***





**Photo 11** *Damaged log fences and beach access to be reinstated.*



**Photo 12** *Damaged pavement, rock wall and beach access.*



# **Appendix B**

**Damage Assessment Photos: Blue Holes**

## Blue Holes, Kalbarri, WA

Damage sustained as a direct result of AGRN965 Severe Tropical Cyclone Seroja, April 2021.



Photo 1 *Aerial image before the AGRN965 event (Google Earth, March 2021)*



Photo 2 *Aerial image after the AGRN965 event (Google Earth, April 2021)*





**Photo 3** *Damaged pavement edge to be cut back, reinstatement of concrete footpath and kerb required*



**Photo 4** *Debris and sand to be cleared off the pavement and dune reinstatement required*





**Photo 5** Shelter previously located in front of car park completely destroyed. To be reconstructed in different location.



**Photo 6** Pavement, gravel and kerb reinstatement required

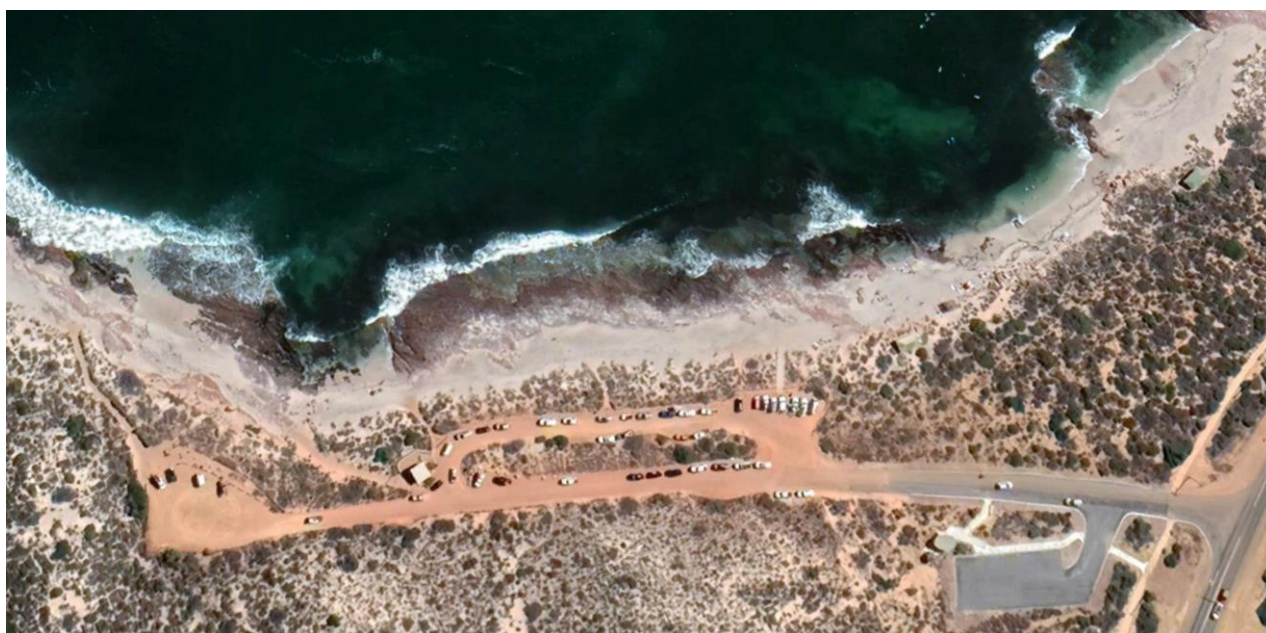
# **Appendix C**

**Damage Assessment Photos: Jacques  
Point**

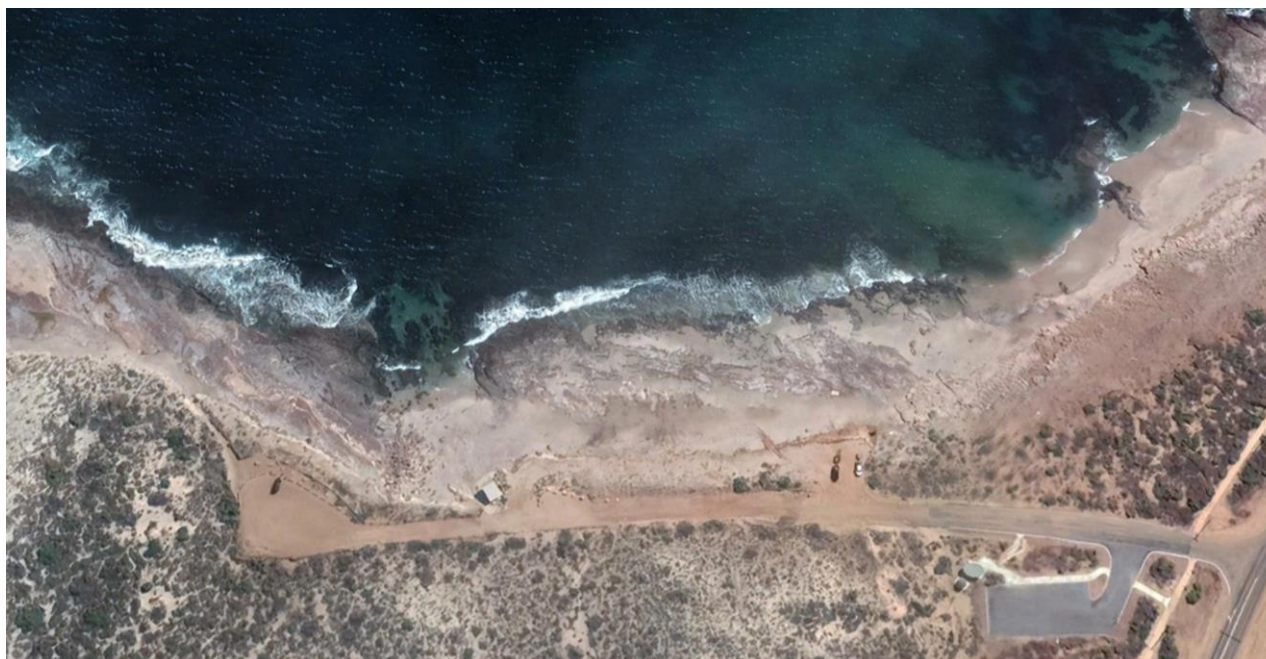


## Jacques Point, Kalbarri, WA

Damage sustained as a direct result of AGRN965 Severe Tropical Cyclone Seroja, April 2021.



*Photo 1 Aerial image before the AGRN965 event (Google Earth, March 2021)*



*Photo 2 Aerial image after the AGRN965 event (Google Earth, April 2021)*





**Photo 3** *Damaged structure, emergency vehicle beach access and pedestrian beach access*



**Photo 4** *Lower carpark damaged and washed away. New car park proposed to be adjacent to access road*





**Photo 5**      *Emergency vehicle beach access damaged. Shelter damaged. Lower car park washed away*



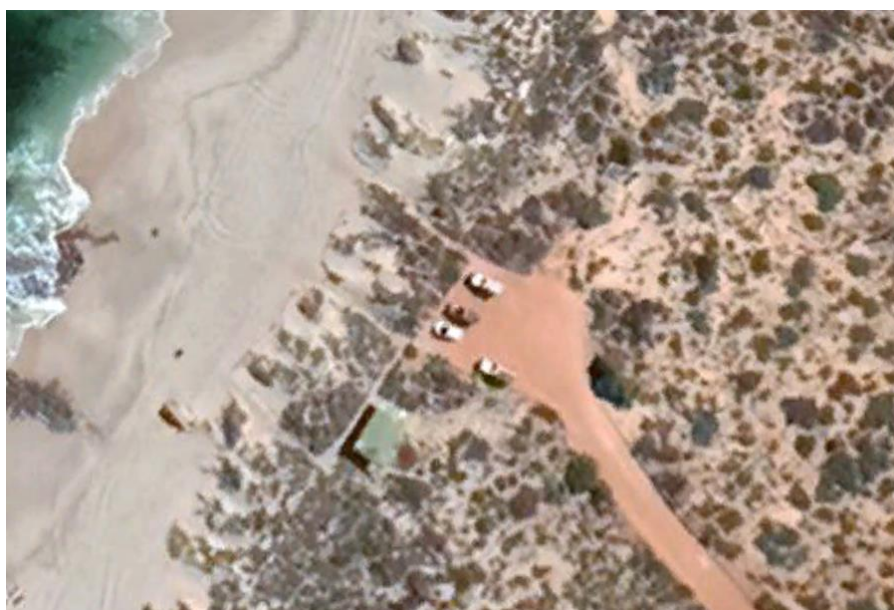
**Photo 6**      *Emergency beach access and shelter damaged*

# **Appendix D**

**Damage Assessment Photos: Red Bluff  
Beach Access**

## Red Bluff Beach Access, Kalbarri, WA

Damage sustained as a direct result of AGRN965 Severe Tropical Cyclone Seroja, April 2021.



*Photo 1 Aerial image before the AGRN965 event (Google Earth, March 2021)*



*Photo 2 Aerial image after the AGRN965 event (Google Earth, April 2021)*





**Photo 3** Pathway to shelter and connection between beach accesses



**Photo 4** Beach access – temporary works undertaken. Damaged fence and posts to be reinstated



**Photo 5** Beach access – temporary works undertaken. Damaged fence and posts to be reinstated



**Photo 6** Damaged fence and posts to be reinstated





**Photo 7**      **Damaged fence post**



**Photo 8**      **Damaged steel wire mesh fencing**



**Photo 9**      **Damaged steel wire mesh fencing and path**



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