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*Hastings District Council*  
Clifton Revetment  
Assessment of Environmental Effects

August 2017

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## Clifton Revetment

# Assessment of Environmental Effects

August 2017

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# 1 Introduction

Hastings District Council (HDC) is seeking resource consents from Hastings District Council and Hawke’s Bay Regional Council to upgrade an existing 80 metre long limestone rock revetment (constructed in 2013) and to construct an additional 400 metre long limestone rock revetment (extending west, from the existing revetment) at Clifton Beach, to protect an existing access road that runs to the east from the end of Clifton Road, parallel to the beach, over private land (Clifton Station), to the Clifton No.1 Camp (“the Clifton Camp”), Clifton Marine Club and boat ramp which are located within the Clifton Domain. The proposed works include realigning the access road further inland (within Clifton Station) by up to 5 metres.

The Clifton Domain is public land and is a recreation reserve managed by HDC and leased to the Clifton Reserve Society. The Clifton Reserve Society subleases part of the reserve to the Clifton Marine Club.

The general location of the existing and additional revetments are shown in Figure 1.

The Clifton Domain has been subject to ongoing and significant shoreline retreat over many years and consequently, access to the Camp and Reserve has become particularly difficult and at risk. The access road was relocated three times between 2009 and 2013, and more recently (as the result of damage from a sea storm in late June 2017) the access has needed to be temporarily relocated further inland, within the Clifton Homestead property, to restore safe access to the Clifton Camp, Clifton Marine Club and boat ramp.

In 2013, a short section of seawall (80 metres long) was constructed by HDC at Clifton Beach from large limestone boulders supplied from a local Waimarama quarry, to provide temporary protection to part of the access road and a toilet block near the Clifton Camp. The resource consent for this seawall will expire on 31 August 2018.

It is proposed that the existing seawall will be upgraded and the new revetment constructed from the edge of the existing seawall, extending west to the front of the Clifton Café (at the end of Clifton Road). The revetment is intended to maintain and protect access to the Clifton Camp and boat ramp over the next 35 years.

## 1.1 Report Structure

The structure of this Assessment of Environmental Effects (AEE) is set out in Table 1.

Table 1: Assessment of Environmental Effects Outline

Section of Report	Assessment of Environmental Effects Content Outline
2	Describes the existing environment.
3	Provides a description of the proposed activities
4	Identifies the RMA status of the proposed activities under the Resource Management Act 1991 (RMA) as determined by the provisions of the relevant statutory instruments
5	Identifies the relevant sections of the RMA for assessing and determining the resource consent applications.
6	Assesses any actual and/or potential effects associated with the proposed activities, detailing mitigation measures where appropriate
7	Assesses the proposal against Part 2 of the RMA and against the relevant objectives and policies of the relevant statutory planning and policy documents

Section of Report	Assessment of Environmental Effects Content Outline
8	Refers to a proposed set of consent conditions for the consents sought
9	Outlines the consultation undertaken and the results of that consultation
10	Summarises the key outcomes of the AEE in a conclusion.

## 1.2 Technical Studies Undertaken

The following reports have been prepared to assess the environmental effects of the project and are appended to this AEE report:

- “*Clifton Beach: Engineering Assessment*”, prepared by Beca Limited, dated 17 July 2017 (attached as **Appendix A** to this report);
- “*Archaeological Assessment of Effects*”, prepared by Opus International Consultants Ltd, dated July 2017 (attached as **Appendix B** to this report);
- “*Clifton Beach Proposed Coastal Protection: Ecological Survey of Clifton Coastal Marine Area and Assessment of Environmental Effects*”, prepared by Triplefin Environmental Consulting, dated July 2017 (attached as **Appendix C** to this report);
- “*Clifton Beach Seawall: Landscape and Visual Assessment*”, prepared by Boffa Miskell Limited, dated 6 July 2017 (attached as **Appendix D** to this report);
- ‘*Proposed Clifton Revetment Recreation Implications and Opportunities*’, prepared by Sage Planning HB Limited, dated July 2017 (attached as **Appendix E** to this report); and

These environmental effects studies consider both district and regional council consenting issues and cannot sensibly be separated into entirely discrete “Regional” and “District” components for the purposes of the effects assessment. For this reason, a single AEE document has been produced covering both the district and regional related aspects of the proposed activities.

## 1.3 Alternatives Assessment

In addition to the above technical reports, an assessment of alternative options for maintaining access to Clifton Beach and Clifton Domain has been prepared and is set out in **Appendix F** to this report.

The report assesses the proposed revetment as one of the following six options to address the coastal erosion issues affecting access to Clifton Beach and the Domain:

- Option 1: Do Nothing / Managed Retreat;
- Option 2: Extend Existing Revetment Consent Duration;
- Option 3: Passive ‘Soft’ Protection (Nourishment & Planting);
- Option 4: Proposed Revetment Structure;
  - Option 4A: Low Crest Revetment Structure;
  - Option 4B: Reduced Length Revetment Structure;
- Option 5: Other ‘Hard’ Protection Structures (Groynes / Offshore Breakwaters / Sheet Pile Wall); and
- Option 6: Inland Access Route.

The report assesses each option (including the proposed revetment proposal under Option 4A) against a set of criteria developed from a review of relevant strategies and policies applying to this coastal location, and concludes that the proposed 400-metre long, RL 15.0m high crested revetment,

constructed with locally sourced limestone rock, is a practical and cost effective option which best meets the objective:

*“to provide and maintain safe, efficient, reliable, environmentally sustainable, and affordable public access to Clifton beach and reserve, that meets the current and future social, cultural and economic needs of beach users and the public generally, tangata whenua, Clifton Marine Club members, Clifton Reserve Society members and campground users, and local tourism providers, for the medium term (35 years)”*

whilst:

- having only low to moderate effects on the natural character and amenity values of the coast (confirmed through specific landscape and visual assessment);
- ensuring continued public access to and along the coast, and offering a level of security that supports further investment to enhance public access (through sensitive engineering design, and Council’s reserves management role);
- minimising adverse effects on cultural and historic heritage values, and potentially offering greater protection of remaining archaeological sites in close proximity and ability to increase public appreciation of heritage in this area – both tangata whenua and colonial (confirmed through specific archaeological assessment and consultation with tangata whenua to-date);
- minimising impacts on coastal processes (confirmed through robust coastal processes modelling, engineering design, and beach nourishment mitigation);
- presenting an opportunity to enhance and improve recreation opportunity, as well as contributing to ongoing social (recreational) needs of the community (confirmed through specific recreation assessment);
- having only low to moderate effects on landscape and visual amenity (confirmed through specific landscape and visual assessment); and
- having only low impact on marine ecological functioning (confirmed through specific ecological assessment).

## 2 Description of the Existing Environment

Clifton Beach is located at the southern end of Clifton Road at Te Awanga, approximately 17km east of Hastings and 22km south of Napier (refer to Figure 1).

The Clifton Domain consists of a long thin strip of shingle beach and foreshore and is the location of the Clifton No.2 Camp and Clifton carpark at the end of Clifton Road (an area known as ‘Scotsman’s Point’), and the Clifton Camp, Clifton Marine Club and boat ramp at the other end. There is also a small public picnic area and parking area at the southern end of the Clifton Camp. Clifton Domain provides public access to the coastal marine area in this location, and serves as the launching point for day trippers to and along the coast and to Cape Kidnappers and the gannet colonies.

The land immediately adjacent to Clifton Domain is part of Clifton Station, with the historic Clifton Homestead and Clifton Café, which are located in close proximity. Gannet Beach Adventures departure point for tours to the gannet colony is located inland of Camp No.2, and Clifton Station woolshed is located further inland, about 500 metres from the Clifton Road end. The woolshed houses ‘Woolworld’, a museum and venue for wool and shearing shows, and it is open to the public on request.

A Council managed public toilet facility and rubbish bins are located within the road reserve adjacent to Gannet Beach Adventures.



Figure 1: General Location of Proposed Revetment (Red line is the boundary of the Clifton Domain. Green line is the Hastings District Council boundary)

### 3 Description of the Proposed Activities

#### 3.1 Limestone Revetment

It is proposed to construct a new 400 metre limestone rock revetment along the shoreline at Clifton Beach, commencing at the western end of an existing 80 metre revetment, and ending in front of the Clifton Café (refer to Figures 2 and 3). The revetment will be generally parallel to the RL 11.0m contour at its toe, will have a top width of at least 3m with a total width of approximately 15m, and its crest height will be at the RL 15.0m contour (see Figure 4 below). The westernmost end of the revetment will be rounded, so that it ‘ties back’ into the beach area.





Figure 2: General Location of Proposed Revetment

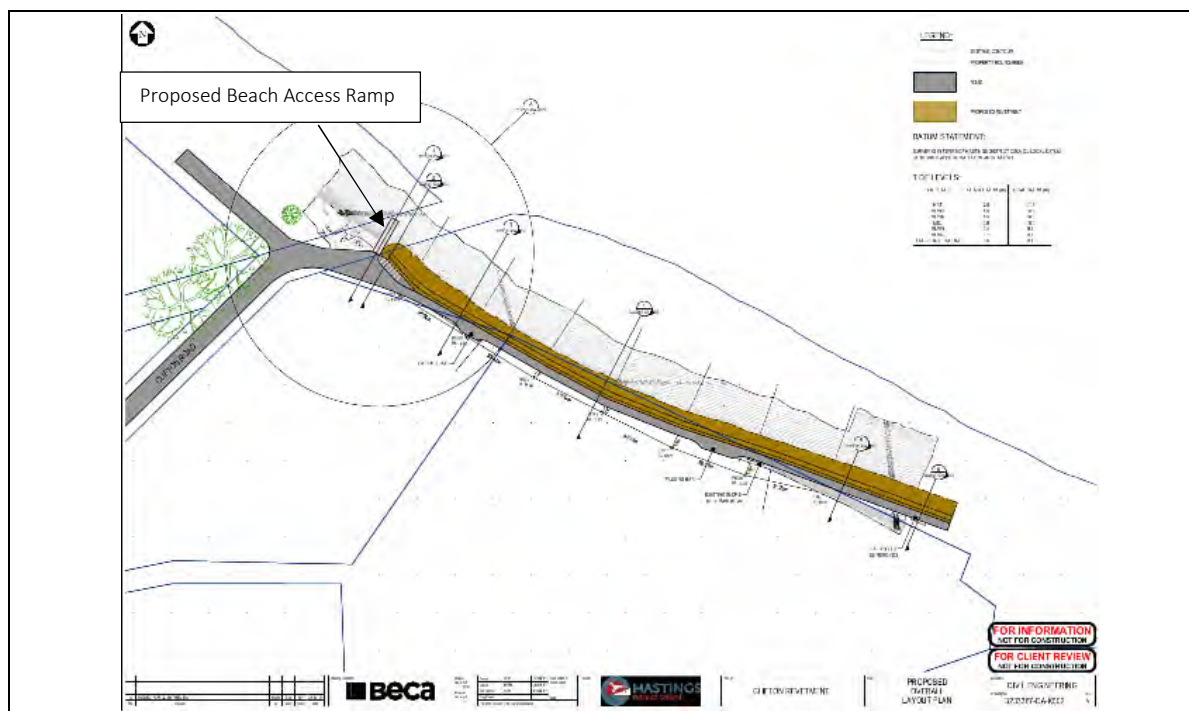


Figure 3: Proposed Revetment<sup>1</sup>

The toe of the revetment will be subject to scour, therefore, it is intended to minimise the loss of revetment rock by burying the toe of the revetment to approximately 2 metres below the surface of the beach down to a layer of papa rock located at around Mean High Water Springs, which is assumed to be present over 50% of the length of the revetment. The toe of the revetment will be tied-into the hard Papa rock.

To ensure that the wave environment will minimally dislodge the limestone rock armour, the average rock size used to construct the revetment will have a diameter of 1.0m. If a smaller rock size is used, displacement of the armour rock can be expected. Additionally, the rock will be angular to facilitate

<sup>1</sup> Source: 'Proposed Overall Layout Plan', Civil Engineering Drawing No.323367-CA-K002 Rev A in the Beca *Engineering Assessment* report attached as Appendix B to this report.

interlocking and discourage armour stone from being dislodged from the revetment. The revetment rock layer will be 1.8m thick.

For the existing revetment, it is proposed that another layer of 1.0m diameter rock will be placed on top of the revetment to improve its integrity for the proposed 35-year consent term applied for.

As recommended in the Landscape and Visual Assessment undertaken by the Boffa Miskell landscape architects (see report in Appendix D), it is proposed that the rock size (as detailed in the engineering drawings attached to the Engineering Assessment (in Appendix A) will be limited to ensure that the revetment retains a human scale to its formation and reflects the surrounding structures and scale of the beach environment. It is also proposed to vary the rock sizes used, where practicable, so they decrease at the top/crest and rear slope of the revetment to create an improved recreational interface between the revetment and the road, which will also be used by pedestrians.

The limestone rock armour will require ongoing monitoring and maintenance. Details relating to the construction and maintenance of the revetment are provided in Sections 3.1.1 and 3.1.2 below.

### 3.1.1 Revetment Construction

The construction of the new revetment is predicted to take approximately 4 months. Access to the site will be via Clifton Road. The project will require excavation of the foreshore and underlying papa rock layer to form a sound base upon which the revetment can be built, which is to take place as the tidal conditions allow. Sand may be used to form a compacted subgrade, if necessary. Geotextile fabric and filter layer will be placed on this subgrade and the rock armour will be laid on top. The limestone rock armour will be stacked to provide for adequate inter-locking and to dissuade displacement of the rocks. Rock armour placement will be done from the foreshore, however the upper portion of the rock armour may be completed from the access road.

The revetment construction will take place progressively, with foundations laid during low tide and upper portions completed at high tide. The revetment will be constructed in 5m-15m long segments to minimise the risk of foundation exposure.

Rock will be inspected for various factors including cleanliness, quality, size conformity, etc. at the local quarries from where it will be sourced, rather than at the construction site. The rock will then be transported by trucks to the construction site and used immediately. Overall, about 9000m<sup>3</sup> of rock will be required. Assuming an average truck load of 10m<sup>3</sup> per truck, the project will require 900 truckloads (about 15 trucks per day on average).

As there is a lack of space in the foreshore area for laydown areas for depositing the rock brought to site, small volumes of rock will need to be imported and used immediately, rather than forming significant stockpiles.

Lastly, the works will be undertaken outside the main summer holiday period and Easter to avoid high use periods. Works will be undertaken between the hours of 7:00am and 7:00pm, Monday to Friday, tide permitting. All construction will be undertaken to comply with the Construction Noise Standard NZS6803:1999 to avoid adversely affecting residents of neighbouring dwellings.

The main plant to be used on site will be a hydraulic excavator to form the subgrade and place the rock material.

All plant working on the foreshore will have an oil spill kit and operators will be trained in their use. Sediment and erosion control measures will be put in place to ensure that all works achieve the relevant principles and practices for 'Erosion and Sediment Control' and 'Works in Waterways' set out in the HBRC's "*Hawke's Bay Waterway Guidelines*" (dated April 2009).

All plant refuelling will take place on land away from the foreshore and any surface waterbodies. All construction equipment, machinery and any debris or excess construction materials will be removed from the construction sites at the completion of the works.

Refer to the *Clifton Beach: Engineering Assessment* report in Appendix A for details about the revetment design and construction methodology.

### 3.1.2 Revetment Maintenance

Although the revetment is expected to last 20 years before any significant maintenance would be necessary, the actual design life of the structure is dependent on the level of maintenance and the frequency of significant storms. With proper maintenance, a design life of 50 years or more is anticipated.

Regular annual inspections of the revetment, as well as inspections after significant storms occurring during high tide, are recommended by Beca. These inspections may find that periodic replacement of dislodged rocks may be necessary (refer to the *Clifton Beach: Engineering Assessment* report in Appendix A).

It is anticipated that the requirements for the maintenance of the rock revetments will be met through HBRC imposing resource consent conditions to this effect – refer to the proposed Resource Consent Conditions in Appendix G of this document.

### 3.1.3 Beach Renourishment

As mitigation for the potential local down-drift erosional effects at the western end of the proposed revetment, the beach may require periodic renourishment. It is proposed that an average of 600m<sup>3</sup>/year of gravel (measured over 5 years) will be deposited on the beach as mitigation for the predicted down-drift erosional effects, with an allowance for depositing more gravel (i.e. up to a total of 1000m<sup>3</sup>/year) if monitoring (as set out in the recommended consent conditions in Appendix G) identifies a need for it.<sup>2</sup>

The renourishment gravel will be sourced to have a similar sized material as the existing beach gravel. The gravel will be delivered to the site by truck and dumped on the beach. A small blade machine will be used to spread the material to make up the deficit caused by the downdrift erosion. Some overfilling of the deficit will be allowed for. The source of renourishment gravel is yet to be determined.

## 3.2 Access Road

As part of constructing the revetment, it is proposed to construct a new access road behind (landwards of) the revetment, between the carpark area at the end of Clifton Road and the Clifton Camp. The new road will be located up to 5 metres inland from its current, formed alignment.

The road will be 5 metres wide and will include two, 2m-wide vehicle passing bays: one bay will be located approximately 69 metres from the western end of the revetment; and the other bay will be approximately 140 metres eastwards from the first passing bay. It is proposed that the road will be wide enough to facilitate the movement of vehicles, pedestrians and cyclists<sup>3</sup> (Figure 4 that shows a cross-section of the revetment, road and passing bay).

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<sup>2</sup> Refer to Section 6.1 of this report.

<sup>3</sup> No separate pedestrian/cycle path will be provided within the access road corridor.



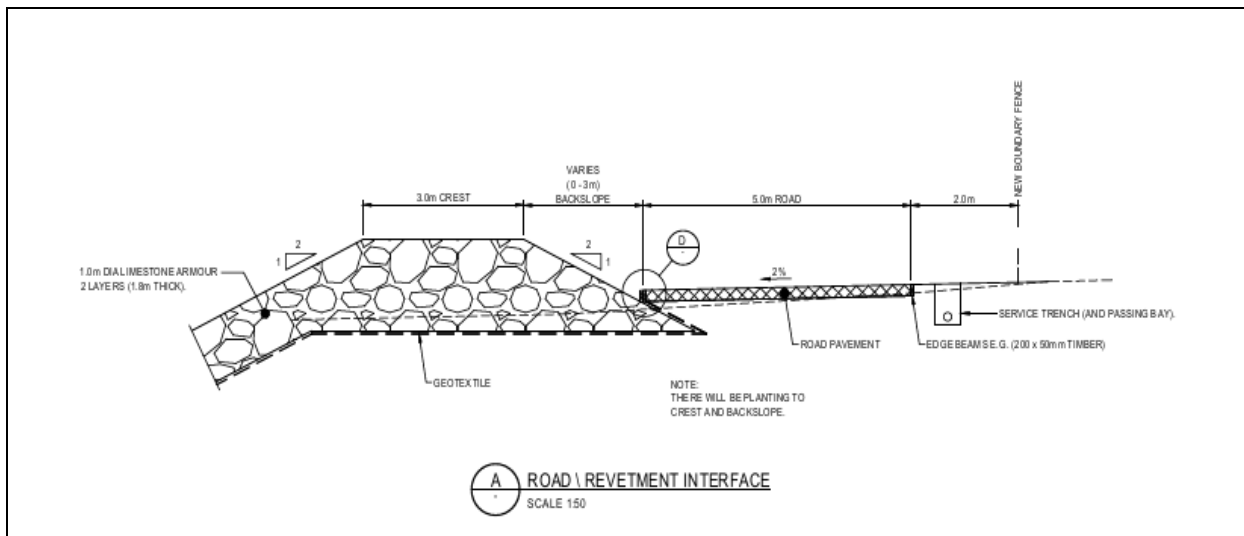


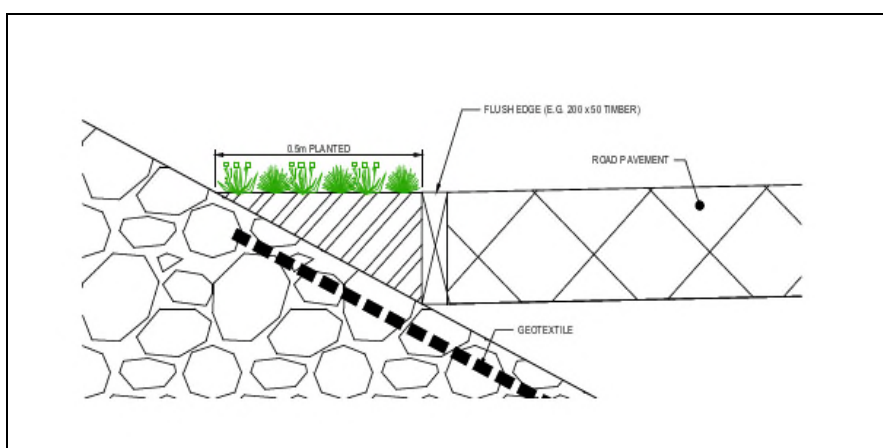
Figure 4: Cross-section of Revetment, Road and Passing Bay<sup>4</sup>

It is proposed to raise the level of the new access road (from the existing road/ground levels) so that it is level with the crest of the revetment for as long as possible, before gently sloping down towards the Clifton Camp. This is intended to enhance amenity values by retaining ocean views from the road. To construct the road (and elevate it) it will be necessary to place cleanfill material beneath the road surface.

It is also proposed to demolish the toilet block near the existing revetment close to the Clifton Camp.

Some existing small piped culverts that run under the existing access road will need to be replaced as part of constructing the new road.

It is proposed that a ‘flush edge’ will be created along the edge of the road seal (e.g. using 200mm x 50mm timber) and that a 0.5m planted area will be created between the road edge and the revetment slope by placing geotextile soil bags in the gap between the road side and the revetment and planting them with coastal creeper species, such as *Meuhlenbeckia complexa* (*Pohuehue*) and other species. The intention is to create a planted coverage of up to 50% of the landward face of the revetment (refer to Figure 5).



<sup>4</sup> Source: ‘Typical Details’, Civil Engineering Drawing No.323367-CA-K008 Rev A in the Beca *Engineering Assessment* report attached as Appendix B to this report.

Figure 5: Flush Edge Detail and Planting<sup>5</sup>

### 3.3 Beach Access Ramp

In addition to the revetment and access road, it is also proposed to construct a concrete beach access ramp (approximately 25 metres long and 5 metres wide) on the foreshore at the end of Clifton Road, which will be tied in to the existing seal at the end of Clifton Road, the western end of the revetment, and to the underlying papa rock on the foreshore. The ramp will slope at 1:7 to facilitate vehicle access to the beach, particularly for vehicles associated with Gannett Beach Adventures. The ramp will have a roughened surface and will sit below the beach surface for approximately half its length at its seaward end.

### 3.4 Other Potential Access and Amenity Improvements

The proposed revetment and associated new access road will provide an opportunity for the area to be made more attractive to visitors through the enhancement of the entrance to the access road with coordinated signage and messaging, the formalisation of access points to the beach at each end of the revetment, and other amenity improvements, such as the provision of seating and street furniture. These activities are not part of this application however.

Recently, Hastings District Council released a *Draft Cape Coast Reserves Management Plan (the Plan)* for public consultation pursuant to the Reserves Act 1977, which covers 10 reserves located in the Haumoana, Te Awanga and Clifton area. The purpose of the Plan is to provide the Council with a clear framework for the day-to-day management and decision making for the Cape Coast reserves for the duration of the Plan (10 years). For the Clifton Reserve, the Plan recognises that *'the end of Clifton Road is the closest point to Cape Kidnappers and for many people a stopping point. The location of the Clifton camps, the café and gannet tours would suggest that the road end/beach front would benefit from being enhanced for visitor enjoyment. Seating, walking, picnic and information areas would all enhance this reserve.'*

A draft concept development plan has been produced for the Clifton Domain as part of the Plan<sup>6</sup>. The concept focusses future development at the Clifton Road carpark end and notes potential for a long-term revetment along this section of coast (the subject of this assessment). The Plan has been publicly notified, with submissions closing on 28 July 2017, so it is likely that the concept may change as the Plan progresses. However, the Plan provides a potential opportunity for further works to be undertaken (in addition to the revetment, access road and beach access ramp) that would enhance the amenity and visitor enjoyment of the Clifton Domain.

In terms of the amenity features discussed above, it is noted that Rule 89 of the Hawke's Bay Regional Coastal Environment Plan (RCEP) permits minor land uses in the Coastal Hazard Zone 1 (where the revetment and proposed road will be located), including: the maintenance, repair, construction, upgrading, replacement, removal or demolition of cycleways, pathways, boardwalks, interpretive and directional signs, fencing, pedestrian stiles, gates, bollards, seating, picnic tables, barbeques, play equipment, public toilet and changing facilities, rubbish/recycling bins and public car parks. However, the construction of decks and other uncovered outdoor entertaining structures greater than 30m<sup>2</sup> in floor area would require Non-Complying Activity resource consent under Rule 102 of the RCEP.

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<sup>5</sup> Source: 'Typical Details', Civil Engineering Drawing No.323367-CA-K008 Rev A in the Beca *Engineering Assessment* report attached as Appendix B to this report.

<sup>6</sup> Refer to Section 3 of the *Reserves Assessment* report attached as Appendix E to this report for further information about the draft concept development plan for the Clifton Domain.

### 3.5 Duration of consents

For the land use consent application to Hastings District Council, an unlimited consent duration is requested (as per section 123(b) of the RMA).

For the applications to Hawke's Bay Regional Council, a consent duration of 35 years is requested (as per sections 123(c) and 123(d) of the RMA). This duration is considered appropriate as it is anticipated that the proposed rock revetment will, with proper maintenance, have a design life of at least 50 years.

## 4 RMA Status of the Proposed Activities

### 4.1 Hawke's Bay Regional Council (HBRC)

The proposed rock revetment will be located above and below Mean High Water Springs (MHWS). As such, it will be located within the Coastal Marine Area (CMA) and the Coastal Margin.

The RMA status of the activities associated with the revetment within HBRC's jurisdiction is therefore determined by reference to the following statutory planning document:

- Hawke's Bay Regional Coastal Environment Plan (made operative on 8 November 2014) (RCEP).

#### 4.1.1 Regional Coastal Environment Plan

The proposed revetment will be located above and below Mean Sea Level, and will therefore be within the CMA and the Coastal Margin. It will also be located within Coastal Hazard Zone 1 (CHZ1) (as shown on RCEP Planning Map 78).

The proposed revetment falls within the following definition of a 'Coastal Protection Structure' in the RCEP:

*“Coastal protection structure*

*means any structure(s) used to reduce risks posed by coastal erosion and/or inundation by the sea to human life, property or the environment and includes sea walls, groynes, rip-rap, bunds, breakwaters, revetments, gabions and reinforced fences.”*

The status of the proposed activities within the Coastal Margin and CMA under the relevant rules of the RCEP is set out in Table 2.

The rules in the RCEP relating to 'reclamation' are not relevant to this proposal as no infilling of material between the revetment and the existing foreshore will be undertaken that would result in the land behind the structures being extended further seawards. The purpose of the revetment is to retain the existing shoreline.

#### 4.1.1.1 Summary of RMA Status of Proposed Activities under the RCEP

Controlled, Restricted Discretionary, Discretionary and Non-Complying Activity resource consents are required from Hawke's Bay Regional Council in relation to the proposed activities under Rules 9, 98, 100, 104, 109, 125, 130, 147, 164 and 178 of the RCEP.

Under the 'bundling' principle, the overall activity status of the proposed works is therefore 'non-complying'. The relevant provisions of RMA section 104D (non-complying activity gateway tests) are considered in Sections 56 and 8 of this assessment report.

Table 2: Status of the Proposed Activities under the RCEP

Relevant Rule	Relevant Standards	Activity Status	Reasons
<b>In the Coastal Margin</b>			
<b>Rule 7:</b> Vegetation clearance or soil disturbance in the Coastal Margin	<ul style="list-style-type: none"> <li>a) All cleared vegetation, disturbed soil or debris shall be deposited or contained to reasonably prevent the transportation or deposition of disturbed matter into the coastal marine area or any water body.<sup>7</sup></li> <li>b) Vegetation clearance or soil disturbance shall not give rise to any significant change in the colour or clarity of any coastal water or any adjacent water body, after reasonable mixing.</li> <li>c) any vegetation clearance within a Vegetation Clearance Management Area<sup>8</sup> identified in this Plan's maps shall not occur within: <ul style="list-style-type: none"> <li>i) 5m of any permanently flowing river or;</li> <li>ii) any other river with a bed width in excess of 2m or</li> <li>iii) any other lake or wetland.</li> </ul> <p>Except that this condition shall not apply to:</p> <ul style="list-style-type: none"> <li>1) the clearance of plantation forestry established prior to the date of this Plan becoming operative</li> </ul> </li> <li>d) Vegetation clearance shall not occur within 20m of the coastal marine area.</li> <li>e) Deposition of soil or soil particles across a property boundary shall not be objectionable or offensive, cause property damage or exceed 10kg/m<sup>2</sup>.<sup>17</sup></li> <li>f) Where the clearance of vegetation or the disturbance of soil increases the risk of soil loss the land shall be: <ul style="list-style-type: none"> <li>i) re-vegetated as soon as practicable after completion of the activity, but in any event no later than 18 months after completion with species providing equivalent or better land stabilisation or</li> <li>ii) retained in a manner which inhibits soil loss.</li> </ul> </li> </ul>	Permitted	<p>The definition of 'vegetation clearance' in the RCEP does not include the clearance of grasses or the clearance of isolated or scattered regrowth on productive pasture. The proposal will require the removal of grasses and some isolated shrubs located on the grassed banks alongside the existing access road.</p> <p>The definition of 'soil disturbance' in the RCEP does not include the clearance of grasses or foundation works for structures. However, it will apply to earthworks for the access road.</p> <p>Sediment and erosion control measures will be put in place to meet the relevant standards under Rule 7, and ensure that all works achieve the relevant principles and practices for 'Erosion and Sediment Control' and 'Works in Waterways' set out in the HBRC's "Hawke's Bay Waterway Guidelines" (dated April 2009).</p> <p>Refer to the Proposed Consent Conditions in Appendix G to this report.</p>
<b>Rule 9:</b> Discharge of solid contaminants (including cleanfill)	N/A	Discretionary	Relevant given the need to deposit cleanfill behind some parts of the revetment to raise the level of the access road.

<sup>7</sup> In considering whether Condition (a) has been met, HBRC shall have regard to recognised industry codes of practice, best practice guidelines & environmental management plans relevant to, and adopted in, carrying out the activity.

<sup>8</sup> 'Vegetation Clearance Management Areas' on the planning maps relate to land that is not "flat to gently undulating" slopes (i.e. 00 to 30 slope) and not urbanised areas. The Clifton Revetment area is not located within a Vegetation Clearance Management Area.

Relevant Rule	Relevant Standards	Activity Status	Reasons
onto or into land in the Coastal Margin that may enter water			
<p><b>Rule 25:</b> Diversion and discharge of stormwater in the Coastal Margin</p>	<p>a) The activity shall not cause any permanent:</p> <ul style="list-style-type: none"> <li>i) reduction of the ability of the receiving channel to convey flood flows or</li> <li>ii) bed scouring or bank erosion of the receiving channel.</li> </ul> <p>b) The discharge shall not cause the production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials in any receiving water after reasonable mixing.</p>	Permitted	<p>All plant working on the foreshore will have an oil spill kit and operators will be trained in their use. Sediment and erosion control measures will be put in place to ensure that all works achieve the relevant principles and practices for ‘Erosion and Sediment Control’ and ‘Works in Waterways’ set out in the HBRC’s “Hawke’s Bay Waterway Guidelines” (dated April 2009).</p> <p>All plant refuelling will take place on land away from the foreshore. All construction equipment, machinery and any debris or excess construction materials will be removed from the construction site at the completion of the works.</p> <p>Refer to the Proposed Consent Conditions in Appendix G to this report.</p>
<p><b>Rule 98:</b> Maintenance and repair of coastal protection structures in CHZ1</p>	<ul style="list-style-type: none"> <li>a) There must not be any discharge of contaminants, other than sediment, into the coastal marine area.</li> <li>b) Any release of sediment must not cause any conspicuous changes in the colour or visual clarity of water after reasonable mixing.</li> <li>c) Materials used must not be toxic to aquatic ecosystems.</li> <li>d) Any materials removed from the structure and any excess construction materials must be removed from the property and foreshore and seabed upon completion of the activity.</li> </ul>	Restricted Discretionary	<p>All plant working on the foreshore will have an oil spill kit and operators will be trained in their use. Sediment and erosion control measures will be put in place to ensure that all works achieve the relevant principles and practices for ‘Erosion and Sediment Control’ and ‘Works in Waterways’ set out in the HBRC’s “Hawke’s Bay Waterway Guidelines” (dated April 2009).</p> <p>All plant refuelling will take place on land away from the foreshore. All construction equipment, machinery and any debris or excess construction materials will be removed from the construction site at the completion of the works.</p> <p>The use of limestone rock for the revetment will not be toxic to aquatic ecosystems.</p> <p>Refer to the Proposed Consent Conditions in Appendix G to this report.</p>
<p><b>Rule 100:</b> Coastal Protection Structures wholly or partly within</p>	N/A	Non-Complying	<p>The proposed revetment, including the replacement of the existing revetment, will be located within CHZ1.</p>

Relevant Rule	Relevant Standards	Activity Status	Reasons
CHZ1, including replacement, erection, placement, construction (including extension), demolition or removal of any coastal protection structure			
<b>Rule 104:</b> Deposition of sediment in volumes greater than 5m <sup>3</sup> per property in any six consecutive month period CHZ1	a) Any material deposited must not include any of the following: i) septic tank sludge ii) hazardous wastes iii) organic materials or iv) any other domestic or industrial waste, except cleanfill such as concrete, sand or gravel.	Restricted Discretionary	This rule is relevant to deposition of sediment to raise the level of the access road behind the revetment. Only cleanfill material will be used for this activity.
<b>Rule 109:</b> Earthworks within CHZ1 in volumes greater than 5m <sup>3</sup> per property in any six consecutive month period.	N/A	Non-Complying	This rule is relevant to deposition of sediment to raise the level of the access road behind the revetment. Only cleanfill material will be used for this activity.
<b>In the Coastal Marine Area</b>			
<b>Rule 125:</b> Erection of a Coastal Protection Structure in the CMA which:  1. Is solid (or presents a significant barrier to water or sediment movement) and  When established on the foreshore or seabed would extend 300m or more in length more or less parallel to the line of mean high water springs (including separate structures which total 300m or more contiguous)	N/A	Non-Complying	The proposed revetment will have a length of 400 metres.
<b>Rule 130:</b> Disturbances of the foreshore or seabed not regulated by, or not complying with, other rules	N/A	Discretionary	Relevant to the construction of the proposed beach access ramp.

Relevant Rule	Relevant Standards	Activity Status	Reasons
<b>Rule 147:</b> Depositions of 50,000m <sup>3</sup> or less per year not regulated by, or not complying with, other rules	N/A	Restricted Discretionary	This rule is relevant to the deposition of up to 1000m <sup>3</sup> /year of gravel for beach renourishment. Only clean gravel of a similar sized material to the existing beach gravel will be used.
<b>Rule 164:</b> Diversion and discharge of stormwater to the CMA	a) The discharge must not cause deterioration of receiving water quality beyond the water quality standards set out in Schedule E.	Controlled	<p>All plant working on the foreshore will have an oil spill kit and operators will be trained in their use. Sediment and erosion control measures will be put in place to ensure that all works achieve the relevant principles and practices for 'Erosion and Sediment Control' and 'Works in Waterways' set out in the HBRC's "Hawke's Bay Waterway Guidelines" (dated April 2009).</p> <p>All plant refuelling will take place on land away from the foreshore. All construction equipment, machinery and any debris or excess construction materials will be removed from the construction site at the completion of the works.</p> <p>Refer to the Proposed Consent Conditions in Appendix G to this report.</p> <p>The use of limestone rock for the revetment will not be toxic to aquatic ecosystems.</p>
<b>Rule 178:</b> Occupation of the CMA	N/A	Discretionary	Relevant to the revetment and the beach access ramp.

## 4.2 Hastings District Council

### 4.2.1 National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011 (NES)

The NES is triggered as the proposal involves earthworks. A check of the historical imagery on the HDC Online Maps has found no visual evidence of a 'HAIL' activity occurring on the site above MHWS. Therefore, the land use does not require consent under the NES.

### 4.2.2 Operative Hastings District Plan

The site is zoned Rural and it is located within the Coastal Environment and the Coastal Hazard RMU in the Operative Hastings District Plan (made operative on 10 June 2003) ("Operative District Plan").

Under section 86F of the RMA a rule in a proposed plan must be treated as operative (and any previous rule as inoperative) if the time for making submissions or lodging appeals on the rule has expired and, in relation to the rule:

- (a) no submissions in opposition have been made or appeals have been lodged; or
- (b) all submissions in opposition and appeals have been determined; or
- (c) all submissions in opposition have been withdrawn and all appeals withdrawn or dismissed.

Following the closing of the appeal period on 23 October 2015, a number of appeals were lodged on parts of the Proposed Hastings District Plan (As Amended by Decisions on Submissions, September 2015) (Proposed Plan). However, none of the appeals are specific to, or have resulted in any changes to, the rules and standards applicable to this application. The rules of the Proposed Plan in relation to this proposal are therefore beyond challenge and can be treated as Operative. On this basis, no further assessment of the rules of the Operative District Plan is made.

### 4.2.3 Proposed Hastings District Plan

The proposed revetment and associated access road are located partly within the Rural Zone and the Open Space Zone (OS5-01 Clifton Domain), and are wholly within the Coastal Character Landscape 1 area (CCL1) of the Proposed Hastings District Plan (as Amended by Decisions on Submissions, September 2015) ("Proposed District Plan"), as shown in Figure 6.

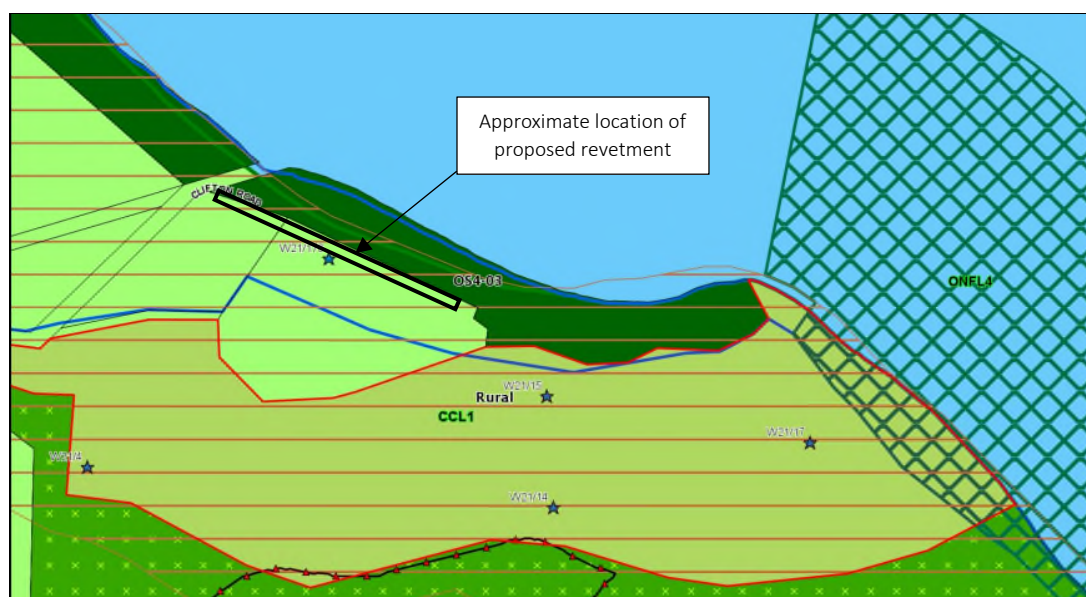


Figure 6: Proposed Plan Zoning Map



The management issues associated with CCL1 (as set out in the table in Appendix 46 of the Proposed District Plan) are *“Maintain and recognition of its built character and heritage. Maintain the sense of remoteness and small scale pattern of development”*.

The proposed revetment is associated with maintaining access to activities within the Clifton Domain. The Clifton Domain is classified as a recreation reserve under section 17 of the Reserves Act 1977 *‘for the purpose of providing areas for the recreation and sporting activities and the physical welfare and enjoyment of the public, and for the protection of the natural environment and beauty of the countryside, with emphasis on the retention of open spaces and on outdoor recreational activities, including recreational tracks in the countryside’*.<sup>9</sup>

A ‘Recreation Activity’ is defined in the Proposed District Plan as:

***Recreation Activity:*** means any activity whose primary aim is the passive or active enjoyment of leisure on a non-profit basis, whether competitive or non-competitive, casual or organised, including changing rooms, shelters, playgrounds, pathways, public toilets and other buildings or facilities accessory to recreation activities.

The proposed revetment falls within the definition of a ‘Building’ under the Proposed District Plan, as it is a wall that will be greater than 2 metres in height. The definition of ‘Recreation Activity’ includes buildings accessory to recreation activities, therefore, the proposed revetment falls within the definition of ‘Recreation Activity’.

#### 4.2.3.1 Rural Zone

Under Rule RZ12 in Table 5.2.4 Rural Zone, a Recreation Activity that occurs on reserves vested under the Reserves Act 1977 is a Permitted Activity. Within the Rural Zone, the proposed revetment is not located within the Clifton Domain, therefore, Rule RZ12 does not apply.

Rule RZ13 in Table 5.2.4 provides for an existing Recreation Activity including extensions and alterations not exceeding 15% of the gross floor area, or not exceeding 15% of the site area, as at 12/09/2015, as a Permitted Activity. Taking a conservative approach (without having calculated the total existing gross floor area of all buildings within Clifton Camp as at 12/09/2015) it is likely that the proposed revetment will exceed the 15% limit under Rule RZ13.

Rule RZ17 in Table 5.2.4 specifies that the alteration of an existing Recreation Activity exceeding 15% of the gross floor area, or exceeding 15% of the site area, as at 12/09/2015 is a Restricted Discretionary Activity, subject to complying with the relevant Standards and Terms in the Proposed Plan.

The only General Performance Standard relevant to a Recreation Activity in Section 5.2.5 of the Proposed Plan is Standard 5.2.5A(2) Building Height, which restricts ‘All other buildings and structures’ to a maximum height of 10 metres. The proposed revetment will comply with this standard.

There are no Specific Performance Standards and Terms in Section 5.2.6 of the Proposed Plan relevant to Recreation Activities.

The proposed revetment therefore falls to be considered as a Restricted Discretionary Activity under Rule RZ17 within the Rural Zone.

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<sup>9</sup> Refer to Section 3 of the report: *‘Proposed Clifton Revetment Recreation Implications and Opportunities’*, prepared by Sage Planning HB Limited, dated July 2017 (attached as Appendix E to this report).

#### 4.2.3.2 Open Space Zone

Rule 2 in Table 13.1.5.1 specifies that a Recreation Activity within OS5 is a Permitted Activity. However, Note 1 under Table 13.1.5.1 states that “Rules 7 and 8 of Table 13.1.5.1 apply to all buildings in the Open Space Zone (except Relocated Buildings where Rule 9 applies) irrespective of the status of the activity listed in Table 13.1.5.1”.

Rule 8 specifies that any building with a gross floor area greater than 50m<sup>2</sup> in OS5 is a RDNN activity (i.e. Restricted Discretionary Non-Notified Activity).

Rule 13 in Table 13.1.5.1 specifies that for all Open Space categories, any Restricted Discretionary Activity not meeting one or more of the General Performance Standards and Terms in Section 13.1.6 or relevant Specific Performance Standards and Terms in Section 13.1.7 is a Discretionary Activity.

The relevant Performance Standards and Terms applying to the proposed revetment area assessed in Table 3.

Table 3: Assessment of Proposed Revetment against relevant Performances Standards and Terms in Sections 13.1.6 and 13.1.7 of the Proposed District Plan Applying to OS 5

Relevant Performance Standards	Compliance?
<b>13.1.6A Yards</b>	No
Minimum Front Yard: 7.5 metres	
Minimum All Other Yards: 5 metres	
<b>13.1.6B Height of Buildings and Structures</b>	Yes
a) Height Limits – there are no limits applying to OS 5	
<b>13.1.6F Maximum Building Coverage</b>	Yes
Maximum Building Coverage – 30%	

As shown in Table 3, the proposed revetment will not comply with the minimum yard setback requirements under General Performance Standard 13.1.6A. The proposed activity therefore falls to be considered as a Discretionary Activity under Rule 13.

#### 4.2.3.3 Earthworks

Earthworks<sup>10</sup> are permitted under Rule EM1 in Table 27.1.5 where they comply with the relevant General Performance Standards and Terms in Section 27.1.6. The relevant Performance Standards and Terms applying to the proposed revetment area assessed in Table 4.

As shown in Table 4, earthworks associated with construction of the proposed revetment and access road are likely to exceed the maximum volume for earthworks permitted in the Open Space Zone.

The activity therefore falls to be considered as a Restricted Discretionary Activity under Rule EM6. The outcome associated with General Performance Standard 27.1.6A is:

“Outcome

<sup>10</sup> Defined in Section 33.1 – Definitions of the Proposed District Plan as “... means the disturbance of land by moving, placing or replacing earth, or by excavation or cutting; filling or backfilling and the removal or importation of earth (including topsoil) to or from any site ...”

*Any significant adverse effects of earthworks on people, property and the environment will be avoided, including effects on the character and visual amenity of the area.”*

Table 4: Assessment of Proposed Revetment against relevant Performances Standards and Terms in Section 27.1.6 of the Proposed District Plan

Relevant Performance Standards	Compliance?
<p><b>27.1.6A Extent of Earthworks</b></p> <p>Rural Zone: Maximum of 2000m<sup>3</sup> per hectare of site for any 12 month period</p> <p>Open Space Zone: Maximum of 200m<sup>3</sup> per site in any 12 month period</p>	No – in relation to earthworks within the Open Space Zone
<p><b>27.1.6B Vegetation</b></p> <p>1) Disturbed areas to be repastured or revegetated as soon as practicable within 18 months of the activity ceasing.</p>	Yes
<p><b>27.1.6C Slope</b></p> <p>Rural SMA: Earthworks shall not be undertaken on land with a slope of greater than 45 degrees above horizontal.</p>	Yes
<p><b>27.1.6D Excavation</b></p> <p>1. No earthworks shall have a cut/fill face of overall vertical extent greater than 5 metres in the Rural Zone and 2.5 metres in all other Zones.</p>	Yes
<p><b>27.1.6E Noise</b></p> <p>Earthworks activities must comply with the provisions of Section 25.1 of the Proposed District Plan on Noise. Rule NS1 permits any activity that meets the Performance Standards for the relevant Zone and the General and/or Specific Performance Standards and Terms in Sections 25.1.6 and 25.1.7. General Standard 25.1.6I Construction Noise specifies that</p> <p><i>“(a) Any noise arising from construction, maintenance and demolition work in any Zone shall comply with NZS6803:1999 Acoustics - Construction Noise.</i></p> <p><i>(b) Construction noise shall be measured and assessed in accordance with NZS6803:1999 Acoustics – Construction Noise.”</i></p>	Yes - the earthworks activities associated with the construction and maintenance of the proposed revetment will be managed to achieve the above construction noise standards.

#### 4.2.3.4 Summary of RMA Status of Proposed Activities under the Proposed Hastings District Plan

Restricted Discretionary Activity and Discretionary Activity resource consents are required from Hastings District Council in relation to the proposed activities under Rules RZ17, 13 and EM6 of the Proposed District Plan.

Under the ‘bundling’ principle, the overall activity status of the proposed works is therefore ‘Discretionary’.

## 5 Statutory Matters

Section 104(1) of the the Resource Management Act 1991 (“RMA”) specifies the matters that the consent authorities (in this case HBRC and HDC) must have regard to when considering the applications for resource consents, as follows:

*“104 Consideration of applications*

- (1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to—*
- (a) any actual and potential effects on the environment of allowing the activity; and*
  - (b) any relevant provisions of—*
    - (i) a national environmental standard;*
    - (ii) other regulations;*
    - (iii) a national policy statement;*
    - (iv) a New Zealand coastal policy statement;*
    - (v) a regional policy statement or proposed regional policy statement;*
    - (vi) a plan or proposed plan; and*
  - (c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.”*

The matters that are to be considered by the consent authorities under section 104 of the RMA include, subject to Part 2, any actual and potential effects on the environment and any relevant objectives, policies, rules or other provisions of a Plan or Proposed Plan.

With respect to Controlled Activities, section 104A of the RMA states that:

*“104A Determination of applications for controlled activities*

- After considering an application for a resource consent for a controlled activity, a consent authority—*
- (a) must grant the resource consent, unless it has insufficient information to determine whether or not the activity is a controlled activity; and*
  - (b) may impose conditions on the consent under section 108 only for those matters—*
    - (i) over which control is reserved in national environmental standards or other regulations; or*
    - (ii) over which it has reserved its control in its plan or proposed plan.”*

When considering Restricted Discretionary Activities, section 104C of the RMA states that:

*“104C Determination of applications for restricted discretionary activities*

- (1) When considering an application for a resource consent for a restricted discretionary activity, a consent authority must consider only those matters over which—*
- (a) a discretion is restricted in national environmental standards or other regulations;*
  - (b) it has restricted the exercise of its discretion in its plan or proposed plan.*
- (2) The consent authority may grant or refuse the application.*
- (3) However, if it grants the application, the consent authority may impose conditions under section 108 only for those matters over which—*
- (a) a discretion is restricted in national environmental standards or other regulations;*
  - (b) it has restricted the exercise of its discretion in its plan or proposed plan.”*

In determining applications for Discretionary and Non-Complying Activities, section 104B of the RMA states that:

*“104B Determination of applications for discretionary or non-complying activities*

- After considering an application for a resource consent for a discretionary activity or non-complying activity, a consent authority—*
- (a) may grant or refuse the application; and*
  - (b) if it grants the application, may impose conditions under section 108.”*

Under s104D of the RMA, a consent authority may only make a decision to grant resource consent to a Non-Complying Activity if it is satisfied that either:

- “(a) the adverse effects of the activity on the environment (other than any effect to which section 104(3)(a)(ii) applies) will be minor; or*
- (b) the application is for an activity that will not be contrary to the objectives and policies of—*

- (i) *the relevant plan, if there is a plan but no proposed plan in respect of the activity; or*
- (ii) *the relevant proposed plan, if there is a proposed plan but no relevant plan in respect of the activity; or*
- (iii) *both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity.”*

An assessment of the actual and potential effects of the proposed activities on the environment is provided in Section 6, and an assessment of the proposal against the relevant objectives and policies of the relevant statutory planning documents is provided in Section 8.

## 6 Assessment of Actual and Potential Effects on the Environment

The following presents an assessment of the actual and/or potential effects of the proposed activities on the environment in the detail that corresponds with the scale and significance of the effects that the proposed activities may have on the environment.

Where relevant, reference is made to consent conditions that are recommended for the Hastings District Council consent or the Hawke's Bay Regional Council consents, as a means of avoiding, remedying or mitigating adverse environmental effects. The proposed consent conditions are attached in Appendix G to this report.

### 6.1 Effects on Coastal Processes

The effects associated with the proposed revetments on coastal processes have been assessed by independent coastal experts, Beca Ltd (Beca) in their *Engineering Assessment* report attached in Appendix A to this report.

The coastal experts note that, in general, revetments hold the shoreline at a constant point and prevent future shoreline retreat. On the seaward side of the revetment, some scour and erosional effects could potentially be experienced. Scour effects are expected to be minimal for this project because the revetment toe will tie in with the hard Papa rock or be buried.

The coastal experts also note that the revetment armour slope is designed to dissipate wave energy and minimise reflection so the wave environment will be similar. Since the revetment runs along the shoreline, nearshore currents will also remain unchanged.

The coastal processes modelling of wave environment and longshore sediment movement completed by the coastal experts (provided in a report attached as Appendix D to the *Engineering Assessment* report) found that the revetment extension will have no effects up drift (to the east) due to it tying in with the existing revetment.

However, the coastal engineers have identified the potential for local down-drift erosional effects to occur at the western end of the revetment due to the hardening of the coastline by the revetment, which is expected to prevent approximately 600m<sup>3</sup>/year of gravel from eroding from the shoreline and being added as sediment to the littoral system (an effect referred to by the coastal engineers as an 'impoundment loss' of gravel). This impoundment loss will slightly increase over time due to sea level rise.

It is therefore proposed that an average of 600m<sup>3</sup>/year of gravel (measured over 5 years) will be deposited on the beach (as described in Section 3.1.3), as mitigation for the down-drift erosional effects, with an allowance for depositing more gravel (i.e. up to a total of 1000m<sup>3</sup>/year) if monitoring (as set out in the recommended consent conditions in Appendix G, prepared on the advice of the coastal engineers) identifies a need for it.

Downdrift effects on the western end are expected to vary over time. In the short term (less than 10 years), the adverse effects are expected to be moderate, having slightly more erosion at the western end of the revetment than would have occurred in the absence of the revetment. In the medium term (20 to 30 years), the erosion rate at the western end of the revetment is expected to be similar to the current rate of erosion that is occurring in the absence of the revetment. The coastal experts therefore consider that the medium to long term adverse effects will be minor.

## 6.2 Effects on Water Quality

The construction of the new revetment has the potential to release sediment and other contaminants (such as oil from machinery) into the nearshore waters. Accordingly, the following measures will be implemented to avoid any significant adverse effects on water quality within the CMA from contaminants, during and after construction of the revetments:

- The revetment construction and maintenance works will be restricted to periods when machinery can work above water level, when tidal conditions allow. No exposed areas will be worked in water;
- All plant working on the foreshore will have an oil spill kit and the operators will be trained to use it. All plant refuelling and washing of equipment and containers will take place away from the foreshore and any water courses;
- During excavation of the foreshore to form the revetment foundations, excavated sand will generally be placed on the foreshore for natural redistribution for beach nourishment. Any potential effects of this on water quality within the CMA will be localised and temporary in what is already a highly turbid environment;
- Geotextile fabric will be placed beneath a rock filter layer, under the rock armour, to retain beach sediment under the rock revetments and prevent it from being washed out by wave action; and
- At the completion of the construction works, any newly established surfaces landward of MHWS and any areas cleared will be revegetated to prevent sediment from entering water.

The above mitigation measures are incorporated in the recommended resource consent conditions set out in Appendix G of this report.

## 6.3 Historic Heritage Effects

An archaeological assessment of effects for the proposed Clifton Beach Revetment Project and associated works has been undertaken by an archaeologist from Opus International Consultants Ltd and documented in an April 2017 report attached in Appendix B.

The assessment identified several archeological sites in the vicinity of the proposed revetment that are indicative of an area of intense former Maori occupation. The current access road cuts through a recorded archaeological site (W21/176) comprising three borrow pits and several house-sites to the east of the borrow pits (NB: the house sites are no longer visible on the surface, although this does not preclude the survival of sub-surface features or materials of archaeological value).

There are an additional six recorded archaeological sites within approximately 800 metres of the proposed works. These include: pā site W21/ 15 (ca. 130 m); pit site W21/14 (ca. 215 m); open settlement W21/17 (ca. 320 m); pā W21/4 (ca. 540 m); pā W21/165 (ca. 770 m); historic settlement W21/21 (ca. 820 m) (refer to Figure 7).





Figure 7: Map Showing Location of Archaeological Sites in the Vicinity of the Proposed Revetment

The archaeologist considers that, given the limited corridor of proposed work and the presence of a recorded archaeological site within the proposed work corridor, it is unlikely that unrecorded archaeological sites will be encountered. However, it is likely that subsurface features and materials associated with W21/176 will be encountered and, given the coastal location, koiwi tangata might also be encountered.

On the basis of the findings of the assessment, the archaeologist recommends the following:

- That an application to Heritage New Zealand Pouhere Taonga be made for an archaeological authority (Type A General Authority);
- That consultation is undertaken with Iwi to support such an application; and
- That a Site Instruction be prepared to support the authority application as per HNZPT guidelines.

Therefore, an application for an Archaeological Authority will also be lodged with Heritage New Zealand Pouhere Taonga, in consultation with Matahiwi Marae, in addition to the applications to HDC and HBRC. As such, any potential effects of the proposed works on archaeological sites will be assessed as part of that application.

## 6.4 Ecological Effects

An assessment of the potential ecological effects of the proposal on the coastal marine environment of the Clifton Beach area has been undertaken by ecologists from TripleFin Environmental Consulting, as documented in their report attached in Appendix C.

The ecologists collated and analysed data from a field survey of coastal marine habitats within and surrounding the footprint of the proposed revetment structure and undertook a desktop assessment of marine resources and potential impacts using available information sources. They assessed the

relative importance of habitats and marine resources lost or potentially altered by the revetment and the potential spatial extent of probable impacts, describing the types of species inhabiting potentially affected habitats.

The ecologists identified and mapped three broad habitat types in the area (shown on Figures 8 and 9), being:

- Subtidal Reef Habitat;
- Gravel/Sand Field (Lower Mid Littoral); and
- Pebble/Gravel Field (Upper Mid Littoral – Supralittoral).<sup>11</sup>



Figure 8: Example of Different Habitats in the Affected Area and Encountered During Triplefin's Field Survey

<sup>11</sup> The habitat types are described in Section 3.2 of the Triplefin ecological assessment report.



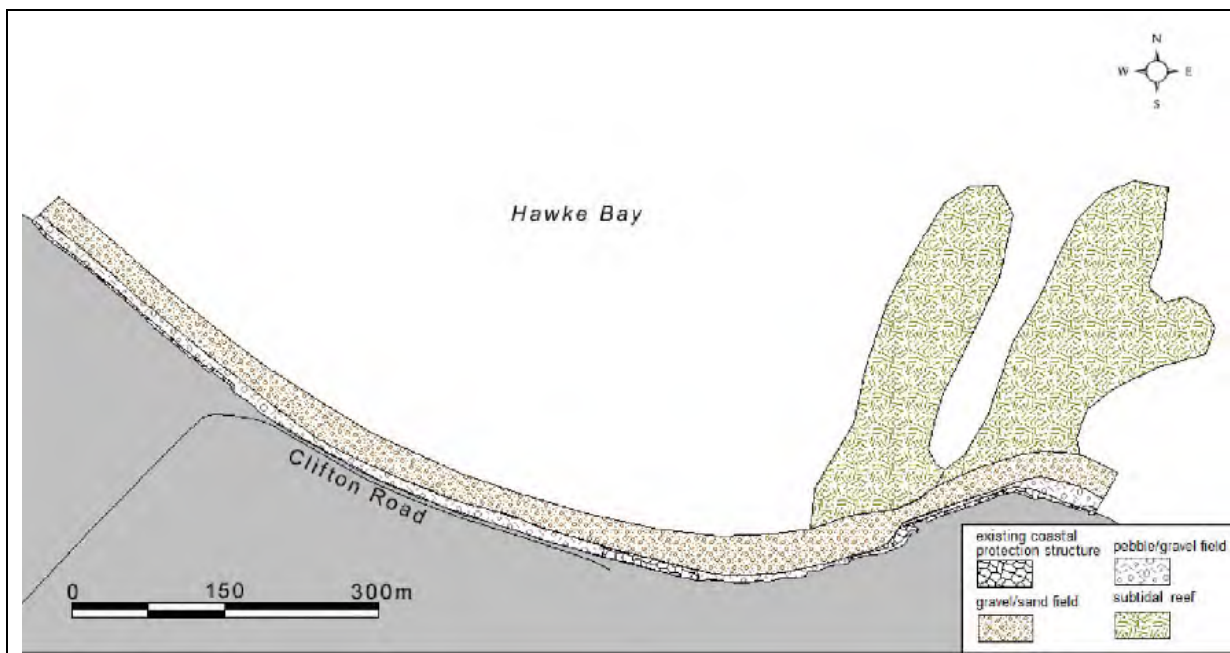


Figure 9: Broad-scale Map of Coastal Marine Habitat Types within the Clifton Survey Area

During construction of the revetment, there will be some disturbance of the gravel/sand beach due to excavations down to the papa rock and the general passage of heavy machinery. The ecologists note that this area is of low diversity and is likely inhabited by species tolerant to disturbance. The species present in the affected area of the gravel/sand beach are likely to be well represented in the adjacent gravel/sand habitat, which will facilitate the re-establishment of intertidal communities, post-construction. Therefore, the ecologists consider that the effects during construction will be short term, intermittent and temporary and will impact on non-sensitive habitat (e.g. the gravel/sand beach). These adverse effects are considered to be less than minor.

In terms of effects on nearshore water quality, given the highly dynamic nature of the area and potential for rapid remobilization of fine sediments generated by construction activities by wave action, the ecologists consider it is unlikely sedimentation will be a significant concern.

The ecologists consider that the occupation of land by the proposed revetment within the CMA is unlikely to result in a significant loss of coastal biodiversity. While pebble/gravel field habitat in subtidal or intertidal areas can be important for growth of flora and fauna that require more permanent sediment structures (e.g. macroalgae, chitons, mussels and barnacles), these species do not survive in the upper mid-littoral zone, where the revetment will be located, and where tidal immersion occurs for only short periods of the day.

The ecologists note that, typically, coastal structures can provide alternative habitat for marine flora and fauna, and can act as replacement habitats to be colonised. The ecologists do not expect new habitat to be created by the revetment due to the lack of intertidal hard rock habitats in the adjacent area that may act as source populations. Therefore, they consider that the revetment, which can be described as an artificial boulder field, will not act to improve marine biodiversity in the area, but may contribute towards lower levels of suspended sediment due to a stabilisation of the supralittoral sediments.

In terms of effects on habitat located downdrift of the proposed revetment, the ecologists advise that an examination of the area immediate downdrift of the existing revetment provides some indication of

the extent of effects likely in the short term (Figure 10). These effects on pebble/gravel habitat are likely to be limited in extent and, overall, the ecologists consider that the effects will be less than minor.



*Figure 10: Habitat Adjacent to Existing Revetment (Inset Showing Example Pebble/Gravel Field Habitat Affected by Downdrift Erosion and Likely to Occur Downdrift of the Proposed Revetment).*

The ecologists consider that, should renourishment downdrift or along the toe of the revetment be required as part of on-going maintenance of the revetment, it is unlikely that this will have any significant long term undue effects, as the material proposed to be used (i.e. gravel) will be of a similar composition as the eroded pebble/gravel substratum.

The ecologists recommend that during the construction phase of the project, sediment discharges to the coastal waters are minimised, as a mitigation measure. This is intended as discussed in section 6.2 above.

The ecologists conclude that the effects of the proposed activity on coastal marine biota and ecosystems is low, and is unlikely to result in any deterioration of the local coastal ecology. Therefore, the overall effects of the proposed activity on the local coastal ecology are less than minor.

## 6.5 Landscape and Visual Effects

An assessment of the potential landscape and visual effects of the proposed Clifton Beach Revetment Project and associated works has been undertaken by landscape architects from Boffa Miskell Ltd, as documented in their report attached in Appendix D.

Taking into account the existing landscape patterns, past erosion control measures and modifications to the natural patterns in the vicinity, the landscape architects have assessed that the overall landscape sensitivity of Clifton Beach is 'moderate to low'. They have also assessed that, as the key structure, use and character of the site will be retained, following the existing patterns of the coastal edge, the magnitude of landscape change, as a result of the proposed revetment and associated works, will be 'moderate to low'.

The landscape architects note that the proposal's landscape effects are couched against a history of human modification in the area, both new and historical in varying degrees of condition. Coastal processes will continue to take place, without the destructive effects of coastal erosion on the wider character area. As such, the landscape architects conclude that the overall characteristics of the site will be retained, therefore the overall significance of the effect of the proposal on the landscape will be 'moderate to low'.

The landscape architects consider that the introduction and formalisation of the coastal edge will create a uniform treatment of coastal patterns. They note that the natural processes are already managed in some form by ad hoc structures and revetments, therefore, the introduction of the proposed revetment will result in a low to moderate effect on the existing natural character of the area. In turn, the landscape architects consider that the overall natural character of the affected stretch of coastline will be reduced only slightly. The landscape architects therefore conclude that as the proposed revetment will retain the modified state of the coastal edge, it will result in 'less than minor' adverse effects on the natural character of the area.

With respect to visual effects, the landscape architects consider that the visual sensitivity of the site for the private and public viewing audience is 'moderate to low', and the magnitude of visual change will be 'low to moderate', given that the aesthetic coherence associated with the amenity value of the site is likely to improve as a result of the proposal, without changing the way in which it currently functions. As such, the landscape architects have concluded that the overall significance of adverse visual effects of the proposal will be 'low to moderate', which in their opinion can be translated to 'adverse visual effects that are minor'.

The landscape architects recommend the following mitigation measures to assist in integrating the revetment into the immediate visual catchment:

- Provision of geotextile soil bags interspersed into the rear face of the revetment (road side) to accommodate coastal creeper species such as *Meuhlenbeckia complexa* (Pohuehue) and other species, with a focus to create a planted coverage of up to 50% of the landward face of the revetment; and
- Limitations to rock size, as detailed in the engineering drawings, to ensure it retains a human scale to its formation and reflects the surrounding structures and scale of the beach environment.

Other non-mitigation design measures recommended by the landscape architects are:

- Provision of varied rock sizes to decrease at the top of the revetment and rear slope of the revetment towards the path. The purpose is to create an improved recreational interface with the pedestrian walkway; and
- Provision of outcomes recommended in the Recreation Assessment report, including:
  - Recreational facilities including seating, furniture, storytelling and signage; and
  - Provision of access points to the beach for public recreation.

These recommendations are reflected in the recommended conditions for the consents for the proposal set out in Appendix G.

The Landscape and Visual Assessment report concludes that, notwithstanding the 'moderate to low' sensitive nature of the receiving coastal landscape where the proposal will be introduced, the proposal offers an opportunity to mitigate a pattern of erosion currently having a high level of adverse impact on the immediate character of the area, and to return the local landscape to one of opportunity, regeneration and increased amenity value.

The landscape architects consider that, although the proposal will have an impact on the local landscape, it clearly future-proofs the site's character and amenity values with pedestrian/cycle paths (included within the access road way), appropriate native coastal planting and landscaping.

The overall combined adverse landscape and visual effects of the proposal are assessed by the landscape architects as being 'Moderate to Low', with low adverse effects on the natural character of the site. Overall, the potential adverse effects are assessed as being low to moderate, which in the opinion of the landscape architects can be translated as being 'minor adverse effects'.

## 6.6 Noise and Amenity Effects

Amenity values are defined in the RMA as follows:

"Amenity values means those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes."

The potential effects of the proposal on amenity values, including noise effects, during the construction phase and post-construction, are assessed below.

### 6.6.1 During Construction of the Revetment

The construction phase for the revetment is expected to take up to 4 months. During this time, some local disruption will be experienced by the immediate neighbouring property owner, being the Gordon Family (Clifton Station) who has land on either side of Clifton Road. The landowner has given written approval to the application (refer to signed HBRC application form submitted with the application), therefore, any adverse effects on that landowner must be disregarded (s 104(3)(a)(ii) RMA).

Works will be undertaken between the hours of 7.00am to 7.00pm Monday to Friday. No works will be carried out on weekends or public holidays, nor during the main summer holiday period and Easter, in order to avoid disturbance during high use periods. The works will be carried out so as to comply with the Construction Noise Standard NZS6803:1999. It is anticipated that these requirements will be imposed as conditions of consent (refer to Appendix G of this report).

The works will require materials to be transported to the site by truck. Overall, about 9000m<sup>3</sup> of rock will be required. Assuming an average truck load of 10m<sup>3</sup> per truck, the project will require 900 truckloads (about 15 trucks per day on average). If larger truck and trailer units are used the number of truck movements will be reduced.

Clifton Road is identified as being a Collector Road within the District Road Hierarchy on the map in Appendix 69 of the Proposed Plan. 'Table C1: Hastings District Road Hierarchy' in the *Hastings District Council Engineering Code of Practice 2011* (page 45) describes Collector Roads as "Locally preferred routes or within areas of population and activities. Links to arterials or state highways". A Collector Road is a road "giving connectivity between local populations areas and places of interest. The Typical Annual Daily Traffic (AADT) for Collector Roads in Rural Areas is 100 – 500 vehicles per day, and within rural areas Collector Roads are expected to accommodate Pedestrians, cyclists, and all motor vehicle types, including heavy vehicles. The use of Clifton Road for the transportation of limestone rock to construct the proposed revetment is within its anticipated use.

As there is a lack of space in the area for laydown areas for depositing the rock brought to site, small volumes of rock will be imported and used immediately, rather than forming significant stockpiles. Rock will also be inspected for cleanliness at the quarry before it is transported to the site. These measures will help to reduce visual disturbance and issues associated with dust.

### 6.6.2 Post-Construction

Once the rock revetment has been constructed, the potential effects on amenity values relate to visual amenity, public access, and cultural and recreational values. The effects on visual amenity and

landscape effects were discussed in Section 6.5 above. Potential effects on cultural and heritage values and on public access and recreational values are discussed in Sections 6.3 and 6.7 respectively.

## 6.7 Effects on Recreation Values (including Public Access)

The effects of the proposal on public access to the coast and any recreational effects (being social effects) on the neighbourhood or the wider community have been assessed by a recreational planning expert from Sage Planning HB Limited as documented in their July 2017 report attached in Appendix E.

### 6.7.1 Key Recreation Activities/Facilities and Public Access Values

The assessment identifies the key recreation activities/facilities and public access values at Clifton as follows:

- Coastal Recreation (informal) – Clifton Domain provides a range of informal coastal recreation opportunities including picnicking, beach walking/strolling, swimming, visiting the Clifton Café and cycling;
- Heritage/Cultural Recreation – Clifton Camp and Clifton Marine Club have been present in the Clifton landscape for 60 years and offer camping and family boat club opportunities. Such opportunities are valued across New Zealand, however, are increasingly at risk of coastal erosion or loss to urban development;
- Cultural/Recreational – A Maori traditional coastal walkway extends from Clifton to the Cape, part of a route from the south;
- Public Access – Clifton Domain has important coastal access values associated with accessing the Clifton Beach (local value) and beyond to Cape Kidnappers, an iconic coastal landscape of national significance (National value); and
- Tourism/recreation value – Clifton Beach is the access point for Gannet Adventure Tours who take visitors by tractor/trailers to the gannet colony; the annual Staples Rodway Adventure Race Challenge is also based out of Clifton; and the recent development of the Landscape Cycling trail has added further recreation opportunity to the Clifton Area.

### 6.7.2 Potential Construction & Long-term Effects

The assessment identifies potential construction and long-term effects, as set out below.

During Construction:

- Construction activities are likely to have only minor effects on existing access and recreation activities at Clifton provided good communication is in place. Both the Reserves Society and the Marine Club strongly support the revetment being constructed and have indicated they will work with contractors to manage public access during the construction phase;
- Campground No. 2 will generally be unaffected by the proposed construction activities, assuming access to their site is maintained;
- Gannet Beach Adventures will be generally unaffected provided they can continue to access the beach during construction; and
- Effects on other beach visitors during construction include temporary displacement of informal recreation activities (such as swimming, picnicking, shore fishing etc.) along the beach. However, such displacement will be temporary and similar experiences will continue to be available at similar nearby locations. Construction during the peak summer and public holiday periods is to be avoided, minimising effects during times of peak public usage.



### Long-term Effects

- The overall effect of the proposed revetment on recreation and public access at Clifton Beach is positive. It will provide for the continued existence of Clifton Camp and the Marine Club and preserve and secure stable access to Clifton Beach and Cape Kidnappers. Conversely, to not proceed will have adverse effects on recreation values at Clifton, particularly through the loss of the Clifton Camp and the boat club facilities. Public access will also be affected to a moderate degree under the status quo option as security of access will be unstable and may ultimately be lost altogether as the beach retreats inland;
- The proposed revetment will have a '*positive effect of local significance*' on Clifton's informal coastal recreation opportunities (swimming, picnicking, beach walking, fishing (on shore and boating), cycling and visiting the café);
- The proposed revetment will have a '*positive effect of regional significance*' for local camping because, if the revetment is not constructed, the ultimate loss of the Clifton Camp will reduce beach front camping opportunities across the region and potentially put more pressure on remaining campgrounds;
- The proposed revetment will have a '*positive effect of local/regional significance*' for recreation fishing values as it will retain the only public boat ramp between Napier and Waimarama, and one of only two coastal-based fishing clubs in Hawke's Bay;
- The proposed revetment will have a '*positive effect of regional significance*' for heritage and cultural recreational values, as the Clifton Camp and Marine Club both have intrinsic value associated with their almost 60-year presence in this location, and the type of recreation opportunity they provide is increasingly becoming a thing of the past; and
- The effect of the proposed revetment on coastal access (local) will be a '*positive effect of local significance*', while the effect on access to the nationally significant landscape of Cape Kidnappers will be a '*positive effect of regional/national significance*'.

### 6.7.3 Conclusions and Recommendations

The recreation planning expert considers that the proposed revetment will enable the preservation of, and future investment in, the regionally significant recreational opportunities associated with the Clifton Camp and Clifton Marine Club. It also presents an opportunity to enhance recreation/public amenity and attract more visitors to the area.

While public access to Clifton Beach and Cape Kidnappers would likely still be available if no revetment is constructed, the recreation planning expert considers that the revetment offers an opportunity for secure access to areas of local, regional and national significance.

The recreational planning expert recommends that, should the revetment proceed, that a communication process with the Clifton Reserves Society, Clifton Marine Club and Gannett Beach Adventures be put in place during the construction period, to provide mitigation for recreation activities during the construction period.

It is recommended that a consent condition be imposed to require HDC (the consent holder) to notify these parties of the date of the commencement of construction works and provide them with a known point of contact to raise any matters that may arise during construction (refer to the recommended conditions in Appendix G).

## 6.8 Positive Effects

It is appropriate to consider positive effects of the proposal, as the definition of 'effect' in section 3 of the RMA includes positive effects.

Constructing the revetment will enable the Clifton Camp, the boat ramp and Marine Club to remain within the Clifton Domain with safe and reliable access. It will provide an opportunity to enhance the visitor experience in this coastal location and improve public access facilities to the beach for the wider community, as a destination and gateway to the Cape and coastal marine area, by enhancing the entrance to the access road with coordinated signage and messaging, and undertaking other amenity improvements.

The proposed revetment will 'fix' the coastline in this location over the next 35 years and will effectively 'protect' archaeological sites /material on the landward side of it that would otherwise be lost to the sea through natural coastal processes.

As noted in section 6.4 above, the revetment may also contribute towards lower levels of suspended sediment potentially affecting local marine biodiversity in the area, due to a stabilisation of the supralittoral sediments.

## 6.9 Conclusions

On the basis of the above, it is considered that, with the imposition of the recommended consent conditions, adverse effects of the proposal on the environment will be avoided, remedied or mitigated, and will be no more than minor or less than minor.

The proposal will also have positive effects as outlined above.

Therefore, it is considered that the proposal passes the first 'gateway test' under section 104D(1)(a) of the RMA. Having concluded that the section 104D requirements are met, the proposal can be assessed under section 104 of the RMA.

# 7 Part 2 RMA

The matters to be considered under section 104 are subject to Part 2 of the RMA.

## 7.1 Section 5

The cornerstone of Part 2 is the purpose of the RMA, as set out in section 5.

Section 5(1) of the RMA states the purpose of the RMA is to promote the sustainable management of natural and physical resources. This means managing the use of natural and physical resources in a way that enables people and communities to provide for their social, cultural and economic wellbeing, while sustaining those resources for future generations, protecting the life-supporting capacity of ecosystems, and avoiding, remedying or mitigating adverse effects on the environment.

Sustainable management enables the use and development of resources while ensuring that the circumstances in section 5(2)(a)-(c) can be satisfied.

The purpose of the proposed revetment is to provide for the protection and ongoing maintenance of the access road to Clifton Camp, Clifton Marine Club and the boat ramp on the Clifton Domain. It will enable the preservation of, and future investment in, the regionally significant recreational opportunities associated with the Clifton Camp and Clifton Marine Club. It also presents an opportunity to enhance recreation/public amenity and attract more visitors to the area. The proposed works will, therefore, enable people and the local/regional community to provide for their social, economic, and

cultural well-being and for their health and safety over at least the next 35 years (being the duration of consent applied for) and potentially for up to 50 years (being the expected life of the revetment).

It is therefore considered that the proposal achieves sustainable management, being the purpose of the RMA.

## 7.2 Section 6

Section 6 of the RMA sets out matters of national importance that must be recognised and provided for in promoting the sustainable management of natural and physical resources. It is considered that the following matters in section 6 are relevant to this application:

- (a) *the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development;*
- (d) *the maintenance and enhancement of public access to and along the coastal marine area, lakes and rivers;*
- (e) *the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga; and*
- (f) *the protection of historic heritage from inappropriate subdivision, use and development.*

With respect to section 6(a) the landscape architects have concluded that the proposed revetment will retain the modified state of the coastal edge and will result in 'less than minor' adverse effects on the natural character of the area.

In terms of section 6(d), the revetment will provide for the protection and ongoing maintenance of the access road to the Clifton Camp, Clifton Marine Club and the boat ramp within the Clifton Domain. The effect of the proposed revetment on coastal access (local) will be a 'positive effect of local significance', while the effect on access to the nationally significant landscape of Cape Kidnappers will be a 'positive effect of regional/national significance'.

With respect to sections 6(e) and 6(f), the archaeological assessment (provided in Appendix B to this report) has identified several archeological sites in the vicinity of the proposed revetment that are indicative of an area of intense former Maori occupation. The current access road cuts through a recorded archaeological site (W21/176) comprising three borrow pits and several house-sites to the east of the borrow pits. The Archaeologist considers that it is unlikely that unrecorded archaeological sites will be encountered, but it is likely that subsurface features and materials associated with W21/176 will be encountered and, given the coastal location, koiwi tangata might also be encountered. Therefore, an application for an archaeological authority (Type A General Authority) will be lodged with Heritage New Zealand Pouhere Taonga, in consultation with Matahiwi Marae, in addition to the subject applications to HDC and HBRC. As such, any potential effects of the proposed works on archaeological sites will be assessed as part of that application process. The proposed revetment will also provide for protection of the area from further erosion, which may have benefits in preventing the potential loss of sites of significance to Tangata Whenua in the area from coastal erosion processes over the 35-year period.

It is therefore considered that the proposed works will recognise and provide for the relevant matters under section 6 of the RMA.

## 7.3 Section 7

Section 7 of the RMA sets out matters in relation to managing the use, development, and protection of natural and physical resources to which particular regard must be had. It is considered that the following matters are of relevance to this application:



- (b) *The efficient use and development of natural and physical resources*
- (c) *The maintenance and enhancement of amenity values*
- (d) *Intrinsic values of ecosystems*
- (f) *Maintenance and enhancement of the quality of the environment*
- (i) *The effects of climate change.*

In terms of section 7(b) the proposed works will provide for the ongoing and efficient use of the existing access road and infrastructure associated with the Clifton Camp and the Clifton Marine Club.

An assessment of alternative options to address the coastal erosion issues affecting the access road, undertaken by Sage Planning HB Limited in 2017 (refer to the report in Appendix F), concludes that the proposed 400-metre long, RL 15.0m high crested revetment, constructed with locally sourced limestone rock, is a practical and cost effective option to meet the objective *“to provide and maintain safe, efficient, reliable, environmentally sustainable, and affordable public access to Clifton beach and reserve, that meets the current and future social, cultural and economic needs of beach users and the public generally, tangata whenua, Clifton Marine Club members, Clifton Reserve Society members and campground users, and local tourism providers, for the medium term (up to 35 years)”*.

Sections 7(c) and 7(d) require regard to be had to the amenity values of the area and to the intrinsic values of ecosystems.

Section 7(f) requires regard to be had to maintaining and enhancing the quality of the environment.

The assessment of effects set out in section 6 of this report has determined that, with the proposed mitigation measures to be implemented by way of the recommended conditions of consent, the effects of the proposed works on amenity values and the quality of the environment will be no more than minor.

In terms of section 7(i), climate change will increase the risk of erosion and inundation of Clifton Beach with an increase in the height of sea levels and a likely increase in the intensity of storms affecting the coast. The Ministry for the Environment provides guidance on planning for future sea level rise. It recommends that any assessment of the potential consequences of sea level rise should consider the consequences of a mean sea level rise of at least 0.8 metres to 2099. The design of the proposed rock revetment has taken into account anticipated sea level rise<sup>12</sup> and it will (with proper maintenance) protect the area for at least the next 35 years, which is considered to be an acceptable duration for addressing the coastal hazard in this area.

## 7.4 Section 8

Section 8 of the RMA states:

*“In achieving the purpose of this Act, all persons exercising powers and functions under it, in relation to managing the use, development and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).”*

The Council must take into account the principles of the Treaty of Waitangi in exercising its powers and functions under the RMA.

The Marine and Coastal Area (Takutai Moana) Act 2011 (the Act) establishes a legislative framework for the recognition of customary interests in the common marine and coastal area between the line of mean high-water springs and the outer limits of the territorial sea. Under the Act, iwi, hapū and whānau

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<sup>12</sup> Refer to Section 4.2.3 of the Coastal Engineering Assessment Report in Appendix A.

can apply to the Crown to seek agreement to recognise customary marine title (CMT) and protected customary rights (PCRs).

Section 62 of that Act requires people applying for resource consents, permits or approvals in an area where an application for CMT has been made to notify and seek the views of the applicant group. These views must be sought prior to the application for resource consents, permits or approvals being lodged. It is expected that the views of the CMT applicant would be included in the material supplied to support any application relating to the area subject to the CMT application.

However, if the Minister of Justice decides not to commence formal engagement with applicants, the obligations under section 62 cease to exist.

A check of the Ministry of Justice website ([www.justice.govt.nz/maori-land-treaty/marine-and-coastal-area/applications/#hawkesbay](http://www.justice.govt.nz/maori-land-treaty/marine-and-coastal-area/applications/#hawkesbay)) at the time of preparing this report identified the following four Marine and Coastal Area (Takutai Moana) Act applications for Customary Marine Titles have been received by the Ministry of Justice that relate to the Clifton Beach area:

- Application from Te Aitanga a Puta, Ngati Kurupakia e Ngai Tauira (for an area stretching from Cape Kidnappers around to Waikokopu Stream, and extending out to Lachlan Banks and to the 12 Nautical Mile Limit between the two points);
- Application from Heretaunga Tamatea (for an area from just south of Napier to 4km north of Cape Turnagain);
- Application from Cletus Maanu Paul (on behalf of all Maori, for all coastal marine areas in New Zealand); and
- Application from Rihari Dargaville (on behalf of the New Zealand Maori Council, for all coastal marine areas in New Zealand).

The Ministry of Justice's website (<https://www.justice.govt.nz/maori-land-treaty/marine-and-coastal-area/applications/decisions-to-engage-with-applications/>) includes the application from Cletus Maanu Paul (on behalf of all Maori) in a list of the applicants that the Minister has decided not to engage with. Therefore, the obligations under section 62 of the Act do not apply to that applicant.

Hastings District Council sent letters to the other three applicants on 17 July 2017 to advise them of the revetment proposal and to seek their views. Copies of the letters are provided in Appendix H to this report.

At the time of writing this report, the only response received was from Te Aitanga a Puta, Ngati Kurupakia e Ngai Tauira on 23 July 2017 requesting that there is interaction with the hapu, that the proposal will not compromise the reef, and ensure that contamination prevention is in place (refer to the email received in Appendix H). These matters have been addressed by way of the consultation with Matahiwi Marae, the findings of the ecological assessment, and the recommended consent conditions in relation to avoiding or mitigating potential adverse effects of construction activities on coastal water quality.

There are no other known Treaty issues associated with this section of the coastal environment.

## 7.5 Part 2 Conclusions

The proposed construction of a rock revetment to protect access to the Clifton Camp and the Clifton Marine Club on the Clifton Reserve from current and potential coastal erosion over the next 35 years is considered to be a sustainable use of natural and physical resources that will provide for the social, cultural and economic wellbeing of the local community and their health and safety, while avoiding,

remedying or mitigating any adverse effects on the environment. It is therefore considered that the proposal is consistent with the purpose and principles of Part 2 of the RMA.

## 8 Assessment of Relevant Objectives and Policies

Objectives and policies relevant to the proposal are contained in the following statutory planning documents:

- New Zealand Coastal Policy Statement 2010 (“NZCPS”);
- Operative Regional Policy Statement (“RPS”);
- RCEP; and the
- Proposed District Plan.

The RPS is contained within the Hawke’s Bay Regional Resource Management Plan (operative 28 August 2006).

The relevant objectives and policies of the statutory planning documents are set out in Appendix I of this report, and are assessed below.

### 8.1 New Zealand Coastal Policy Statement (2010)

The purpose of the New Zealand Coastal Policy Statement (2010) (NZCPS) is to state policies to achieve the purpose of the RMA in relation to the coastal environment of New Zealand. In terms of the hierarchy of statutory planning documents, the Regional and District Plans must give effect to the NZCPS.

The NZCPS is relevant as the proposed revetment works will be largely located within the CMA.

#### 8.1.1 Objectives

The NZCPS includes 7 objectives, of which Objectives 1-6 are relevant to the application. The objectives seek to:

- Safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas, estuaries, dunes and land;
- Preserve the natural character of the coastal environment and protect natural features and landscape values;
- To take account of the principles of the Treaty of Waitangi, recognise the role of tangata whenua as kaitiaki and provide for tangata whenua involvement in management of the coastal environment;
- To maintain and enhance the public open space qualities and recreation opportunities of the coastal environment;
- To ensure that coastal hazard risks taking account of climate change, are managed; and
- To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use, and development.

As set out in Section 6.4, the ecologists have assessed that the effects of the proposed activity on coastal marine biota and ecosystems resources is low, and it is unlikely to result in any deterioration of the local coastal ecology. Therefore, the overall effects of the proposed activity on the local coastal ecology are considered to be less than minor.

The coastal experts have concluded that, in the short term (less than 10 years), the adverse effects of the proposed works on coastal processes will be moderate, causing only slightly more erosion at the

western end of the revetment than would have occurred in the absence of the revetment. In the medium to long term (i.e. 20-30 years) the adverse effects will be minor.

The landscape architects have assessed that the introduction and formalisation of the coastal edge (from the revetment) will create a uniform treatment of the coastal patterns. The natural processes are already managed in some form by ad-hoc structures and revetments. They consider that the introduction of the revetment will result in a low to moderate effect on the existing natural character levels of the area. The landscape architects consider that this can be translated as being less than minor.

Hastings District Council and its archaeologist from Opus (who prepared the archaeological assessment in Appendix B to this report) have consulted with representatives of Te Taiwhenua o Heretaunga and Matahiwi Marae, and will continue to consult with the Marae in relation to an application to be made to Heritage New Zealand Pouhere Taonga for an archaeological authority, prior to any works commencing. It is considered that this process is consistent with the principles of the Treaty of Waitangi.

The recreation planning expert considers that the development of the proposed revetment will enable the preservation of, and future investment in, the regionally significant recreational opportunities associated with the Clifton Camp and Clifton Marine Club. It also presents an opportunity to enhance recreation/public amenity and attract more visitors to the area.

While public access to Clifton Beach and Cape Kidnappers would likely still be available should the revetment not be constructed, the recreation planning expert considers that the revetment offers an opportunity for secure access to areas of local, regional and national significance (aside from the provision and maintenance of access to the Clifton Camp).

In terms of managing coastal hazard risks and taking account of climate change, a number of options, including managed retreat, have been considered as part of the Sage Planning (HB) Ltd Assessment of Alternatives report (attached in Appendix F). This report concludes that the proposed 400-metre long, RL 15.0m high crested revetment (Option 4), constructed with locally sourced limestone rock, is a practical and cost effective option to meet the objective *“to provide and maintain safe, efficient, reliable, environmentally sustainable, and affordable public access to Clifton beach and reserve, that meets the current and future social, cultural and economic needs of beach users and the public generally, tangata whenua, Clifton Marine Club members, Clifton Reserve Society members and campground users, and local tourism providers, for the medium term (up to 35 years)”*.

The proposal will enable people (being local residents and the community) to provide for their social, economic and cultural wellbeing and their health and safety. The proposal may also prevent the potential loss of historic heritage (i.e. archaeological sites) located along the coastline from coastal erosion processes.

The proposal is generally consistent with, and is not contrary to, the relevant objectives of the NZCPS (2010).

### 8.1.2 Policies

In addition to the above objectives, the NZCPS includes 29 policies. Policies 2, 6, 11, 13, 15, 17-19, 27 and 29 are considered relevant to this application. These policies are set out in detail in Appendix I of this report.

Policy 2 includes a number of matters that are to be considered in taking account of the principles of the Treaty of Waitangi (Te Tiriti o Waitangi), and kaitiakitanga, in relation to the coastal environment. These include recognising that tangata whenua have traditional and continuing cultural relationships

with areas of the coastal environment, including places where they have lived and fished for generations. It is considered that this will be provided for by way of the application to be made to Heritage New Zealand Pouhere Taonga for an archaeological authority.

In relation to the coastal environment, Policies 6(1)(a), 6(2)(a), 6(2)(b) and 6(2)(c) recognise the importance of the provision of infrastructure in contributing to the social and economic and cultural well-being of people and communities, the need to maintain and enhance public open space and recreation qualities and values in the CMA, and for activities with a functional need to be located within the CMA. The proposal is consistent with these policies as it will enable the Clifton Camp, the boat ramp and Marine Club to remain within the Clifton Domain with safe and reliable access. It will provide an opportunity to enhance the visitor experience in this coastal location and improve public access facilities to the beach for the wider community, as a destination and gateway to the Cape and coastal marine area, by enhancing the entrance to the access road with coordinated signage and messaging, and undertaking other amenity improvements. The revetment can only function if it is located in the CMA.

Policy 6(2)(e)(ii) seeks to promote the efficient use of occupied space by requiring the removal of any abandoned or redundant structure that has no heritage, amenity or reuse value. The proposal is consistent with this policy as it is recommended that a condition be imposed on the consent that would require the consent holder to remove any parts of the proposed revetment that may become redundant over time, in order to ensure that it does not unnecessarily occupy space within the CMA or have adverse amenity or public safety effects.

Policy 11 seeks to protect indigenous biodiversity in the coastal environment and avoid significant adverse effects, and avoid, remedy or mitigate other adverse effects of activities on areas of indigenous vegetation and habitats of indigenous species. The effects of the proposed activity on coastal marine biota and ecosystems resources will be less than minor<sup>13</sup>.

Policy 13 and Policy 15 seek to preserve and restore the natural character of the coastal environment and to protect the natural features and natural landscapes from inappropriate subdivision, use and development. The proposed revetment is not an inappropriate use or development. On the contrary, it is an appropriate means of addressing the ongoing coastal erosion in the area. The revetment will have adverse effects on natural character that are no more than minor<sup>14</sup>.

Policy 17 seeks to protect historic heritage in the coastal environment from inappropriate subdivision, use and development. The proposed revetment will minimise adverse effects on cultural and historic heritage values, and will potentially offer greater protection of remaining archaeological sites in close proximity and the ability to increase public appreciation of heritage in this area (both tangata whenua and colonial), as confirmed through the archaeological assessment and consultation with tangata whenua to-date<sup>15</sup>.

Policies 18 and 19 recognise the need to provide public open space within and adjacent to the CMA for public use and appreciation, including active and passive recreation, and to maintain and enhance public walking access to, along and adjacent to the CMA. Public open space within and adjacent to the CMA in the Clifton Beach area is currently compromised and threatened by coastal erosion. The construction of the proposed revetment will maintain the access adjacent to the CMA from further

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<sup>13</sup> Refer to section 6.4 of this report.

<sup>14</sup> Refer to Section 6.5 of this report.

<sup>15</sup> Refer to Section 6.3 of this report.

erosion over the next 35 years and it will provide an opportunity to improve public access facilities to the beach for the wider community.

Policy 25 relates to areas potentially affected by coastal hazards over at least the next 100 years. Policy 25(d) encourages the location of infrastructure away from areas of hazard risk, where practicable and Policy 25(e) discourages hard protection structures, and promote the use of alternatives to them, including natural defences. As previously discussed, alternative options, including managed retreat are considered as part of the Sage Planning Assessment of Alternatives report (attached in Appendix F). This report concludes that the proposed revetment is a practical and cost effective option to meet the objective *“to provide and maintain safe, efficient, reliable, environmentally sustainable, and affordable public access to Clifton beach and reserve, that meets the current and future social, cultural and economic needs of beach users and the public generally, tangata whenua, Clifton Marine Club members, Clifton Reserve Society members and campground users, and local tourism providers, for the medium term (up to 35 years)”*.

Policy 26 recognises the importance of natural defences, such as beaches, estuaries, wetlands, intertidal areas, coastal vegetation, and dunes, in protecting coastal land uses or sites of significant biodiversity, cultural or historic heritage or geological values from coastal hazards. The option of beach nourishment, instead of a revetment is considered as part of the Assessment of Alternatives report prepared by Sage Planning (attached as Appendix F to this report), under Option 3: Passive ‘Soft’ Protection. However, the report concludes that beach nourishment is not a practicable option due to likely difficulties sourcing enough material of suitable quality, the need (and associated costs) of maintenance, the volume and width of material that would need to be deposited on the beach, and its potential environmental effects (including recreational and ecological effects). The effectiveness of this option in providing long-term security of access is also questionable, given the likely ongoing vulnerability to overtopping during storm events.

Policy 27(1) outlines a range of options that should be assessed for reducing coastal hazard risk and Policy 27(2) provides guidance on evaluating options considered under Policy 27(1). The Assessment of Alternatives report prepared by Sage Planning has assessed options to address the issues relating to coastal erosion affecting the Clifton Beach area. In evaluating the options, regard has been given to the nature of the coastal hazard risk, including the expected life of the revetment structure. The proposed revetment is considered to be a practical and cost effective option in this case.

Where hard protection structures are considered necessary, Policies 27(3) and 27(4) seek to ensure that the form and location of any structures are designed to minimise adverse effects on the coastal environment and, where they are necessary to protect private assets, they are not located on public land. This AEE has assessed that any adverse effects on the coastal environment associated with the proposed rock revetment will be designed and located to minimise adverse effects on the coastal environment. The proposed revetment is intended to protect the assets of the Clifton Camp, boat ramp and Clifton Marine Club and part of the access road located on public land within the Clifton Domain, but it will also protect private land owned by Clifton Station. There will therefore be public and private benefits associated with constructing the revetment.

### 8.1.3 Summary

On the basis of the above assessment, the proposal is generally consistent with, and not contrary to, the relevant policies of the NZCPS (2010).

## 8.2 Hawke’s Bay Regional Policy Statement

Section 3.2 of the Hawke’s Bay Regional Policy Statement (RPS) includes objectives relating to the sustainable management of coastal resources.

Objective 4 of the RPS seeks to promote the preservation of the natural character of the coastal environment from inappropriate use and development, and Objective 5 seeks to maintain and enhance (where practicable) public access to and along the coast. While the proposal will not preserve the natural character of the coastal environment, the Landscape and Visual Assessment prepared by Boffa Miskell (Appendix D) has assessed that the proposed revetment will result in less than minor adverse effects on the existing natural character of the area.

With respect to public access, there will be some minor, short-term restrictions on existing public access to the area during construction and maintenance of the revetments. However, the overall effect of the proposed revetment on recreation and public access at Clifton Beach has been assessed in Sage Planning's Recreation Implications & Opportunities report (Appendix E) as being positive. It will also provide for the continued existence of Clifton Camp, the boat ramp and Clifton Marine Club and preserve and secure stable access to Clifton Beach and Cape Kidnappers. Alternatively, to not proceed will have adverse effects on recreation values at Clifton, particularly through the loss of the Clifton Camp and the boat club facilities. Public access will also be affected to a moderate degree under the status quo option as security of access will potentially be unstable as the beach retreats inland.

Objective 7 of the RPS is to promote the protection of coastal characteristics of special significance to iwi, including waahi tapu, tauranga waka, taonga raranga, mahinga kai and mahinga mataitai. The Archaeological Assessment (Appendix B) recommends that an archaeological authority (Type A General Authority) from Heritage New Zealand Pouhere Taonga, in consultation with Matahiwi Marae, be obtained prior to any works for the revetment and access road commencing. The proposed revetment will also provide for protection of the area from further erosion, which may have benefits in preventing the potential loss of sites of significance to Tangata Whenua in the area from coastal erosion processes over the 35-year period.

Within the region generally, the RPS recognises the need for the ongoing operation, maintenance and development of physical infrastructure that supports the economic, social and/or cultural wellbeing of the region's people and communities and for their health and safety (OBJ 32). It also seeks to protect, and where necessary, aid the preservation of waahi tapu and tauranga waka, and to recognise the importance of coastal environments and their associated resources to Maori (OBJ 34, OBJ 36, POL 64, POL 65 and POL 66). The proposal is consistent with these objectives.

#### 8.2.1 Summary

On the basis of the above assessment the proposal is generally consistent with, and not contrary to, the relevant objectives and policies of the operative RPS.

### 8.3 Hawke's Bay Regional Coastal Environment Plan

The following sections of the RCEP include objectives and policies relevant to the proposal:

- Section 2 Natural character;
- Section 4 Indigenous species and habitat;
- Section 5 Public access to and along the coast;
- Section 6 Relationship of Maori and the coast;
- Section 7 Historic heritage;
- Section 15 Coastal hazards;
- Section 17 Disturbances, depositions and extractions in CMA; and



- Section 18 Structures and occupation of space in CMA.

The relevant objectives and policies are set out in detail in Appendix I of this report, and are discussed in relation to the proposed revetment below.

### 8.3.1 Natural Character

Section 2 of the RCEP includes objectives and policies relating to natural character of the coastal environment, which are intended to give effect to the objectives and policies of the NZCPS set out above.

Objective 2.1 seeks to preserve the natural character of the coastal environment and protect the coastal environment from inappropriate subdivision, use and development. Policies 2.1 and 2.4 seek to ensure that adverse effects on the natural character of the coastal environment arising from inappropriate use and development within the CMA are avoided and to provide for appropriate use and development where any adverse effects on the coastal environment's natural character arising from such use and development are avoided, remedied or mitigated.

The proposal is inconsistent with Objective 2.1 insofar as it will not preserve the natural character of the coastal environment. However, it is consistent with Policies 2.1 and 2.4 as the use is considered appropriate and adverse effects of the revetment on the natural character of the coastal environment will be less than minor.

Policy 2.6 recognises that local authorities have statutory functions on behalf of their communities, including provision of services for wastewater, stormwater, water supply, parks and recreation, roads, and solid waste disposal within the coastal environment. The proposed revetment is consistent with this policy insofar as the revetment will enable safe and efficient vehicular access to be maintained to the Clifton Camp, boat ramp, Clifton Marine Club within the Clifton Domain and it will also protect part of the public carpark area at the end of Clifton Road, near the Clifton Café.

Policies 2.7 and 2.8 are for particular regard be had to the avoidance and mitigation of adverse effects of dynamic coastal processes on the physical environment and that provision is made for those effects where complete avoidance cannot be achieved. Regard has been given to options in the Assessment of Alternatives report (Appendix F) for providing and maintaining safe, efficient, reliable, environmentally sustainable and affordable public access to Clifton beach and Clifton Domain. The report has concluded that the proposed revetment is a practical and cost effective option for achieving this.

Policy 2.9 is for particular regard to be had to the maintenance or enhancement of the coastal environment's existing amenity values and cultural values. The assessment of effects in Section 6 of this report has concluded that with the proposed mitigation measures to be implemented by way of the proposed conditions of consent, the effects of the proposed works on amenity values and cultural values will be no more than minor and appropriate.

### 8.3.2 Indigenous species and habitat

Policies 4.1 and 4.2 seek to ensure adverse effects on ecological systems (including natural movement of biota, natural biodiversity, productivity and biotic patterns) are avoided, or are remedied or mitigated where complete avoidance is not practicable (except in relation to particular matters set out under Policy 4.2, where avoidance or remediation of adverse effects is required). In this case complete avoidance is not practicable as the revetment must be constructed in the CMA, however the effect of



the proposed activity on the coastal marine biota and ecosystems will be less than minor and is unlikely to result in any deterioration of the local coastal ecology.<sup>16</sup>

### 8.3.3 Public access to and along the coast

Objective 5.1 seeks the maintenance and enhancement of public access to and along the CMA while recognising the need to protect certain areas for ecological, cultural, historic heritage, health, safety, or security (including biosecurity) reasons.

Policy 5.1 is to promote appropriate public access to and along the CMA so that public access is only restricted where necessary. Policies 5.9 and 5.10 seek to ensure that activities and structures occupying space in the CMA are established and operated in a manner that maximises public use and access and do not unreasonably restrict or prevent other uses of space within the CMA.

There will be some short-term restriction on public access to the area during construction and maintenance of the revetment. The proposed revetment will provide for the continued existence of Clifton Camp, the boat ramp and Clifton Marine Club and preserve and secure stable access to Clifton Beach and Cape Kidnappers. Alternatively, to not proceed will have adverse effects on recreation values at Clifton, particularly through the loss of the Clifton Camp and the boat club facilities. As also noted several times previously, public access will also be affected to a moderate degree under the status quo option. It is recognised that for the consent duration the space occupied by the proposed structure within the CMA will not be available for other activities or structures to occupy, however that is an unavoidable outcome if the revetment is constructed as proposed.

### 8.3.4 Relationship of Maori and the coast

Objective 6.1 and Policies 6.2, 6.3 and 6.4 seek to recognise and provide for the protection of sites within the coastal environment and coastal margin of spiritual, heritage, historical and cultural significance to Maori identified in accordance with tikanga Maori, including waahi tapu, nga toka, tauranga waka, mahinga mataitai, taiapure and taonga raranga, and to ensure adverse effects on sites and areas of significant cultural value to tangata whenua are avoided, remedied or mitigated.

Policy 6.7 seeks to enable customary uses and management practices relating to natural and physical resources of the coastal marine area, including mahinga mataitai, waahi tapu, and taonga raranga, in accordance with tikanga Maori.

Hastings District Council and its archaeologist have consulted with representatives of Te Taiwhenua o Heretaunga and Matahiwi Marae, and will continue to consult with the Marae in relation to the application to Heritage New Zealand Pouhere Taonga for an Archaeological Authority. The proposed revetment will minimise adverse effects on cultural and historic heritage values, and will potentially offer greater protection of remaining archaeological sites in close proximity and the ability to increase public appreciation of heritage in this area (both tangata whenua and colonial).<sup>17</sup>

As noted in Section 10.1.7, Hastings District Council notified and sought the views of applicants for protected customary rights and customary marine title, as required by section 62 of the Marine and Coastal Area (Takutai Moana) Act 2011. At the time of writing this report, no additional matters had been raised by the applicants that were not already considered as part of this report.

### 8.3.5 Historic heritage

Objective 7.1 is to protect historic heritage within the coastal environment from inappropriate subdivision, use and development. Policy 7.1 is to have regard to the avoidance, remediation, or

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<sup>16</sup> Refer to Section 6.4 of this report.

<sup>17</sup> Refer to Section 6.3 of this report.

mitigation of adverse effects on historic heritage resources within the CMA, and Policy 7.3 seeks to ensure that any adverse effects on historic heritage resources within the CMA are avoided, remedied or mitigated. Policy 7.4 seeks to ensure that historic heritage of significance to coastal hapu are protected from inappropriate subdivision, use and development.

This matter was addressed in Section 6.3 above which notes that an application for an Archaeological Authority will be lodged with Heritage New Zealand Pouhere Taonga, in consultation with Matahiwi Marae, in addition to the applications to HDC and HBRC. As such, any potential effects of the proposed works on archaeological sites will be assessed as part of that application. As a positive effect, the proposed revetment will potentially offer greater protection of remaining archaeological sites in close proximity, and the ability to increase public appreciation of heritage in this area (both tangata whenua and colonial), as confirmed through the archaeological assessment and consultation with tangata whenua to date.

### 8.3.6 Coastal hazards

Objective 15.1 is to avoid or mitigate risks posed to people and property, and Objective 15.2 seeks to avoid new and further inappropriate development in areas identified as being currently at risk of coastal erosion or inundation (i.e. those within Coastal Hazard Zone 1). Policy 15.1 is to manage coastal erosion and inundation risks in accordance with the environmental guidelines set out in Table 15-1.

Guideline 1 (Management Approach) is for coastal hazards to be proactively managed in prioritised ways, including: evaluating, then implementing if appropriate, activities which mitigate coastal hazards (for example, beach nourishment); and then evaluating, then implementing if appropriate subject to Guideline 12 (in Table 15-1), permanent structures (for example, sea walls, groynes, artificial reefs) to mitigate coastal hazards.

Guideline 12 (Coastal Protection Structures) is for coastal protection structures to only be used to mitigate coastal hazards when they are the best practicable option, no other structural alternative is effective or feasible to reduce the coastal hazard risk, and the structures are located and designed to avoid adverse effects to the greatest extent practicable. The structures should also serve a use with a functional need in the CMA or protect areas of existing development and network utility operations from coastal erosion or inundation risks.

These matters were addressed in Sections 1.3 and 6.1, where it was concluded that the proposed revetment is a practical and cost effective option to meet the objective *“to provide and maintain safe, efficient, reliable, environmentally sustainable, and affordable public access to Clifton beach and reserve, that meets the current and future social, cultural and economic needs of beach users and the public generally, tangata whenua, Clifton Marine Club members, Clifton Reserve Society members and campground users, and local tourism providers, for the medium term (up to 35 years)”*. .... Downdrift effects on the western end are expected to vary over time. In the short term (less than 10 years), the adverse effects are expected to be moderate, having slightly more erosion at the western end of the revetment than would have occurred in the absence of the revetment. In the medium term (20 to 30 years), the erosion rate at the western end of the revetment will be similar to the current rate of erosion occurring in the absence of the revetment. Therefore, the medium to long term adverse effects will be minor.

### 8.3.7 Disturbances, depositions and extractions in CMA

Objective 17.2 is for adverse effects on the environment associated with the deposition of substances within the CMA to be avoided, remedied or mitigated. Policy 17.1 is to manage deposition and extraction of material within the CMA and disturbance of the foreshore and seabed in accordance with the environmental guidelines set out in Table 17-1.

Guideline 1 (Deposition of Material) recognises that deposition of substances on the foreshore or seabed not within a Significant Conservation Area may be appropriate where adverse effects on indigenous flora, fauna, benthic organisms and their habitats, are minimised.

Guideline 3 (Coastal Hazards) states that disturbance of the foreshore or seabed (in particular removal of sand, shell, gravel or other natural material from the coastal marine area) should not occur in, or adjacent to areas that are, or are likely to be, subject to coastal erosion, unless:

- it is for a temporary activity; and/or
- it protects or enhances natural buffers between existing development and the sea; and
- it presents less than a minor risk of exacerbating coastal erosion or inundation.

Guideline 11 (Historic Heritage) states that adverse effects on historic heritage from foreshore and seabed disturbances, and depositions or extractions in the CMA will be avoided, remedied or mitigated.

The construction of the revetment will require the removal of sand and beach material to form the structure foundations and the deposition of gravel and rock material on the foreshore cannot be avoided. However, as noted in Sections 6.2 and 6.4, with the recommended consent conditions, any adverse environmental effects of the proposal on water quality and ecology will be avoided or mitigated as far as is practicable.

The disturbance of the foreshore associated with the proposal will only be temporary and will provide for the construction of a rock revetment that will protect existing access to existing development from coastal erosion.

As noted in Section 6.3, the proposal will avoid or mitigate any potential adverse effects on historic heritage in the area.

#### 8.3.8 Structures and occupation of space in CMA

Objectives 18.1 and 18.2 are for adverse effects on the environment arising from the use and development of structures and the occupation of space in the CMA to be avoided, remedied or mitigated. Policy 18.1 seeks to manage structures and any associated occupation of space in the CMA in accordance with the environmental guidelines set out in Table 18-1.

Guideline 2 (Functional Need) states that structures that have a functional need to locate in the CMA may be appropriate where:

- they do not adversely affect navigation and mooring within navigation channels.
- they do not adversely affect coastal hydrological and geomorphic processes.
- they do not contribute to a proliferation of structures in the coastal marine area or do not promote the inefficient use of existing structures, facilities and network utility corridors.
- adverse effects on historic heritage, sites of cultural significance, indigenous flora, fauna, benthic organisms and their habitats, are avoided, or mitigated where avoidance is not practicable.

Guideline 2 also states that the erection, placement, use of, and occupation of space by structures that do not have a functional need to locate in the CMA is inappropriate and shall not be provided for.

The proposed revetment does have a functional need to be located within the CMA as it is designed to prevent further erosion of the foreshore.

The revetment will not adversely affect navigation and mooring within navigation channels, and will not have more than minor adverse effects on coastal hydrological and geomorphic processes, historic heritage, or indigenous flora, fauna, benthic organisms and their habitats. While the revetment will add to/extend an additional rock revetment in the area, it will provide for the efficient, ongoing use of the existing revetment, the access road, Clifton Camp, boat ramp and Clifton Marine Club facilities.

Guideline 4 (Public Access and Other Uses) states that structures and activities occupying space in the CMA shall be established and operated in a manner that maximises public use and access, except where public access is inappropriate. The assessment in Section 6.7 above has concluded that the overall effect of the proposed revetment on recreation and public access at Clifton Beach is positive. It will also provide for the continued existence of Clifton Camp and the Marine Club and preserve and secure stable access to Clifton Beach and Cape Kidnappers. Alternatively, to not proceed will have adverse effects on recreation values at Clifton, particularly through the loss of the Clifton Camp and the boat club facilities. As noted in Section 6.7, public access will also be affected to a moderate degree under the status quo option.

Guideline 6 (Coastal Hazards) states that structures in the CMA should not be located in, or adjacent to, areas that are, or are likely to be, subject to coastal erosion, unless:

- it is for a temporary activity and/or
- it protects or enhances natural buffers between existing development and the sea and
- it presents a less than minor risk of exacerbating coastal erosion or inundation.

Guideline 6 also states that structures should only be used to mitigate coastal hazards when:

- it is the best practicable option and
- no other non-structural alternative is effective or feasible to reduce coastal hazard risk and
- the structure is to serve a use with a functional need in the coastal marine area or is to protect existing development and network utility operations from current erosion or inundation risks and
- the structure is to be located and designed to avoid adverse environmental effects to the greatest extent practicable, particularly effects on coastal processes and natural character.

The revetment will enhance a natural buffer (the existing shoreline) between existing development and the sea. It will not exacerbate coastal erosion to a more than a minor degree in the medium to long term, and in the short term, will have only slightly more erosion at the western end of the revetment than would have occurred in the absence of the revetment. It is the best practicable option and it has a functional need to be situated in the coastal marine area in order to protect existing development from current erosion. The revetment has been designed to avoid adverse environmental effects to the greatest extent practicable.

The proposal complies with RCEP Guidelines 2, 4 and 6.

#### 8.3.9 Summary

On the basis of the above assessment the proposal is generally consistent with, and not contrary to, the relevant objectives and policies of the RCEP.

### 8.4 Proposed Hastings District Plan

The following sections of the Proposed District Plan includes objectives and policies relevant to the proposal:

- Section 2.7 – Coastal Environment Strategy;
- Section 2.8 – Rural Resource Strategy;
- Section 3.1 – Tangata Whenua and Mana Whenua;
- Section 5.1 – Rural Strategic Management Area;
- Section 5.2 – Rural Zone;
- Section 13.1 – Open Space Zone;
- Section 15.1 – Natural Hazards;
- Section 17.1 – Natural Landscapes and Features;
- Section 18.1 – Heritage Items and Notable Trees;
- Section 25.1 – Noise;
- Section 27.1 – Earthworks, Mineral, Aggregate and Hydrocarbon Extraction.

The relevant objectives and policies are set out in detail in Appendix I of this report, and are discussed in relation to the proposed revetment below.

All appeals to the relevant objectives and policies have been resolved. As such, there is no need to consider the objectives and policies of the Operative Hastings District Plan.

#### 8.4.1 Coastal Environment Strategy

Section 2.7 of the Proposed District Plan states that:

*“In managing this diverse coastal environment resource, the District Plan needs to give effect to the New Zealand Coastal Policy Statement which has set out clear directions for the management of the nation’s coastal resources. At a local level the Council will work with the Department of Conservation in its role in the management and protection of the coast’s ‘natural values’. The Hawke’s Bay Regional Council manages the Coastal Environment which includes the Coastal Marine Area through its Regional Coastal Environment Plan. The interaction of activities and processes within the wider coastal environment means that the two Plans must be consistent in promoting the integrated management of the District’s coastal resources.”*

Policy CEP4 is to encourage the provision of public access to the Coastal Environment unless it is in conflict with other cultural or natural values apparent on the coast. Policy CEP5 is to ensure the protection of the characteristics of significance to tangata whenua and the significant natural and cultural character, heritage and scenic features of the coastal margin identified in the Coastal Environment.

In addition to securing access to the Clifton Camp, boat ramp and Clifton Marine Club over the next 35 years, and the beach by way of the proposed beach access ramp, the proposal will also provide an opportunity to improve public access facilities to the beach for the wider community, as a destination and gateway to the Cape and coastal marine area, by enhancing the entrance to the access road with coordinated signage and messaging, and undertaking other amenity improvements.

In Section 6.5 it is concluded that any adverse effects of the proposal on the natural character of the area and coastal marine resources will be less than minor.

As noted in Section 6.3, an application for an Archaeological Authority will be lodged with Heritage New Zealand Pouhere Taonga, in consultation with Matahiwi Marae, in addition to the applications to HDC and HBRC. As such, any potential effects of the proposed works on archaeological sites will be assessed as part of that application. As a positive effect, the proposed revetment will potentially offer greater

protection of remaining archaeological sites in close proximity, and the ability to increase public appreciation of heritage in this area (both tangata whenua and colonial), as confirmed through the archaeological assessment and consultation with tangata whenua to-date. Rural Resource Strategy

Objective RRSO2 seeks to enable the efficient and innovative use and development of rural resources while ensuring that adverse effects associated with activities are avoided. Objective RRSO4 seeks to ensure that natural, physical and cultural resources of the rural area that are of significance to the Hastings District are protected and maintained.

While the proposed works will be partly located within the Rural Zone, a need for resource consent within that zone is triggered by a failure to comply with a minimum yard setback requirement and maximum volume of earthworks. It will not have any adverse effects on the efficient and innovative use and development of rural resources.

In Section 6.5 it is concluded that any adverse effects of the proposal on the natural character of the area and coastal marine resources will be less than minor.

#### 8.4.2 Tangata Whenua and Mana Whenua

Policy TW2 is to implement procedures for Tangata Whenua involvement in any development, proposed excavation or construction in and around historic sites of occupation or in the case of the discovery of any burial sites or Maori artefacts, to recognise the special Tangata Whenua relationship that exists.

As referred to in Section 6.3, the archaeological values of any archaeological material encountered during the proposed works will be protected as far as possible by mitigation investigation and recording, combined with sampling and analysis as appropriate, by way of a Site Instruction accompanying an application to be made by Hastings District Council to Heritage New Zealand Pouhere Taonga, in consultation with Iwi, prior to any works commencing.

#### 8.4.3 Rural Strategic Management Area

Policy RSMP2 is to require that activities and buildings in the Rural Strategic Management Area are of a scale that is compatible with that environment.

The proposed revetment (which falls within the definition of a 'building' in the Proposed District Plan) will achieve all of the bulk and location standards for accessory buildings in the Rural Zone, except the minimum yard setback from side/rear boundaries. As such, the proposed revetment will be generally of a scale compatible with the rural environment. The landscape and visual assessment (Appendix C) has also concluded that any adverse landscape and visual effects of the proposal will be less than minor.

#### 8.4.4 Rural Zone

Objective RZO2 seeks the retention of the natural and rural character and amenity values of the Rural Zone. Policy RZP4 is to require that any new development or activity is complementary to the amenity of the Zone which predominantly comprises open pastoral characteristics with low scale and sparsely located buildings.

The assessment of environmental effects in Section 6 of this report has concluded that any adverse effects of the proposal on the natural character, rural character and amenity values of the Rural Zone will be less than minor.

#### 8.4.5 Open Space Zone

Objective OSEO1 seeks to provide sufficient open space to meet the present and likely future recreational, conservation and visual amenity needs of the District. Objective OSEO2 seeks to ensure that open space is used and developed in a manner which is compatible with its function and character



and to ensure that any adverse effects on surrounding activities, particularly residential, are avoided or mitigated. Policy OSEP2 is to manage the scale, size, design and location of buildings so as to avoid, remedy or mitigate any adverse effects on the amenity of surrounding areas and the function and character of the open space.

The proposed activities within the Open Space Zone have been assessed as being Permitted under Rule 1 in Rule Table 13.1.5.1 of the Proposed District Plan, as the proposed revetment is provided for under the objectives and policies of the Hastings District Council's District Wide Reserve Management Plan for the Clifton Domain (refer to Section 4.2.3). As such, the proposed revetment is compatible with the function and character of the Clifton Domain. The Assessment of Effects in Section 6 of this report has assessed that any adverse visual effects associated with the proposal will be minor, and potential noise effects during construction will be mitigated by complying with Construction Noise Standard NZS6803:1999.

Constructing the revetment will also have positive effects as described in section 6.8. above.

#### 8.4.6 Natural Hazards

Objectives NHO1 and NHO2 seek to minimise the effects of natural hazards on the community and the built environment and avoid increasing the risk to people, property, infrastructure and the environment from the effects of natural hazards. Policy NHP3 is to adopt and promote the best practicable options (including mitigation or the 'do nothing' option) in the management of areas of existing development actually or potentially at risk from natural hazards.

The purpose of the proposal is to maintain safe access to the Clifton Camp, boat ramp and Clifton Marine Club by protecting it from coastal erosion processes over the next 35 years.

As discussed in Section 1.3, the assessment of alternatives undertaken by Sage Planning HB Ltd (Appendix F), concluded that the proposed revetment is the best practicable option for responding to coastal erosion in this area.

#### 8.4.7 Natural Landscapes and Features

Objective LSO3 is for the values that define the District's Rural and Coastal Landscape Character Areas to be identified and maintained. Policy LSP10 is to identify and maintain the District's Rural and Coastal Landscape Character Areas, where broad areas are highly valued for their cultural patterns of land use, including rural patterns, rather than their natural landscape values.

As described in Section 6.5, the landscape and visual assessment undertaken by Boffa Miskell Ltd (Appendix D) concluded that the overall combined adverse landscape and visual effects of the proposal are assessed by the landscape architects as being 'Moderate to Low', with low adverse effects on the natural character of the site. Overall, the potential adverse effects are assessed as being low to moderate, which in the opinion of the landscape architects can be translated as being 'minor adverse effects'.

#### 8.4.8 Heritage Items and Notable Trees

Objective HO5 is for archaeological sites to be protected from damage, modification and destruction that will adversely affect their archaeological value. Policy HP9 is to identify potential archaeological significance to ensure that the value of these sites continues to be protected.

Archaeological matters were fully discussed in Sections 6.3 above and the potential adverse effects on archaeological sites and values will be no more than minor and potentially positive as the revetment will effectively 'protect' archaeological sites /material on the landward side of it that would otherwise be lost to the sea through natural coastal processes.

#### 8.4.9 Noise

Objective NSO1 seeks to manage the emission and mitigate the adverse effects of noise so as to maintain or enhance the acoustic environment. Policy NSP5 is for noisy construction and demolition activities to be allowed subject to restrictions to ensure the protection of the community from unreasonable noise.

Any potential adverse noise effects associated with the proposal will only occur during construction of the revetment and access road. As discussed in Section 6.6, restricting the hours of operation of construction work and complying with Construction Noise Standard NZS6803:1999 will ensure that the community and surrounding land uses will be protected from unreasonable noise.

#### 8.4.10 Earthworks

Objective EMO1 seeks to enable earthworks within the Hastings District while ensuring that the life-supporting capacity of soils and ecosystems are safeguarded and adverse effects on landscapes and human health and safety are avoided, remedied or mitigated. Objective EMO5 seeks to ensure that earthworks do not compromise outstanding natural features, historic heritage and cultural heritage features (including archaeological sites). Policy EMP5 is to control earthworks to ensure that any adverse effects on the natural and physical environment, and the amenity of the community, adjoining land uses and culturally sensitive sites are avoided, remedied and mitigated. Policy EMP14 is for historic heritage features to be protected from the effects of earthworks.

The proposed earthworks relate to the deposition of cleanfill within the coastal environment to change the level of the access road on the landward side of the revetment and to construct the revetment. The matters addressed by Objective EMO1, Policy EMP5 and Policy EMP14 were respectively addressed in Sections 6.3 and 6.5 of this assessment report. In all cases it was concluded that adverse effects on those matters were either less than minor or would be appropriately avoided, mitigated or protected by recommended conditions of consent.

#### 8.4.11 Summary

On the basis of the above assessment the proposal is generally consistent with, and not contrary to, the relevant objectives and policies of the Proposed District Plan.

### 8.5 Conclusion

In terms of section 104(1)(b), on the basis of the above assessment, the proposal is generally consistent with, and is not contrary to, the relevant objectives and policies of the relevant statutory planning documents.

The proposal also consequently passes the second 'gateway' test under s104D(1)(b) of the RMA.

## 9 Recommended Consent Conditions

A suite of recommended resource consent conditions that Hawke's Bay Regional Council and Hastings District Council may wish to impose if consent is granted to the applications is attached in Appendix G to this report.

To avoid unnecessary duplication, and to facilitate efficient compliance with and enforcement of consent conditions, care has been taken to ensure that the recommended conditions fall squarely within the respective functions of each consent authority. For example, no conditions are recommended for the HDC consent that relate directly to activities within the CMA.

## 10 Consultation

In preparing the resource consent applications, the following key stakeholders were consulted:

- Hawke's Bay Regional Council;
- Department of Conservation;
- Te Taiwhenua o Heretaunga;
- Matahiwi Marae Committee;
- Clifton Reserve Society, Clifton Marine Club and Gordon Family;
- Gannet Beach Adventures;
- Heretaunga Tamatea;
- NZ Maori Council; and
- Te Aitanga a Puta and Ngati Kurupakia e Ngai Taurira.

The outcomes of the consultation with these parties is outlined below.

### 10.1 Hawke's Bay Regional Council (HBRC)

A meeting was held with HBRC staff and the Council's Planning Consultants (Rowena Macdonald and Janeen Kydd-Smith, Sage Planning) on 23 March 2017 to discuss the proposal and HBRC consent and associated information requirements.

### 10.2 Department of Conservation (DOC)

A meeting was held with the local DOC representative (Neil Grant) and the Council's Planning Consultants (Rowena Macdonald and Janeen Kydd-Smith, Sage Planning) on 24 March 2017. DOC referred to the need to consider the relevant objectives and policies of the New Zealand Coastal Policy Statement, including those relating to the maintenance of public access to and along the coast. It was also suggested that consideration be given in the Assessment of Environmental Effects to whether there would be any ecological gains associated with the proposed revetment (e.g. whether the revetment would provide marine and terrestrial habitat). DOC requested that they receive copies of the draft technical assessments for their review and comment prior to them being finalised.

Copies of the draft technical assessments were sent to DOC on 20 July 2017, and a copy of the final draft AEE report was sent on 31 July 2017.

Sage Planning also consulted with DOC in preparing the Recreation Assessment report accompanying this Assessment of Environmental Effects (refer to Appendix E). The outcome of that consultation is recorded in the Recreation Assessment report.

### 10.3 Te Taiwhenua o Heretaunga (TTOH)

A meeting was held with Marei Apatu from TTOH on 2 May 2017 and the Council's Planning Consultant (Janeen Kydd-Smith, Sage Planning) and Archaeologist (Gaylynne Carter, Opus International Consultants Ltd). Marei advised that the Council should consult with Matahiwi Marae, as the relevant hapu, and also suggested that Gaylynne contact Robert Hunter about the Authority application to Heritage New Zealand Pouhere Taonga, as Robert was involved in identifying the archaeological sites and knew the history of the area. Marei suggested that there could be an opportunity (as part of the design of the carpark area near the proposed revetment) to provide signage telling the story of the

area. He thought that this could be agreed as part of the Archaeological Authority (as possible mitigation).

#### 10.4 Matahiwi Marae

The Council's Planning Consultant (Janeen Kydd-Smith) and Archaeologist (Gaylynne Carter) attended a Matahiwi Marae Committee (the Committee) meeting on 7 May 2017.

Janeen provided an outline of the proposed revetment and associated road, the HDC and Hawke's Bay Regional Council resource consent requirements, and the technical reports being prepared as part of the Assessment of Environmental Effects for the resource consent applications.

Gaylynne provided an outline of her preliminary findings in relation to the archaeological assessment she was preparing, including the location of some recorded archaeological sites located under the existing road and within the area of the proposed road. She advised that, in addition to the resource consent applications, HDC would also need to apply to Heritage New Zealand Pouhere Taonga for an Archaeological Authority to modify or destroy archaeological material, as part of constructing the revetment and associated road. Gaylynne advised that, as part of obtaining an Authority, HDC needed to consult with the Marae. Preparation of an agreed Protocol with them, that was to be followed during the works, could be part of this process. The Protocol could include identifying who needed to be present during the works, notification processes, and protocols around koiwi tangata and taonga tūturu. It was noted that legislation including HNZPTA 2014 and Protected Objects Act 1975 were legally binding and would be required to be worked within.

The Committee advised that there used to be a marae located on the site of the Clifton homestead. It was therefore highly likely that material could be discovered during earthworks associated with construction of the road. They noted that the Marae had concerns about objects/taonga that had been lost from the site in the past, and which had ended up in places such as Te Papa.

The Committee advised that the Marae would like to have a protocol developed similar to the one they had with forestry companies for harvesting in the areas around Cape Kidnappers. They also asked to be involved and kept informed about the process.

A copy of the draft Archaeological Assessment report was sent to the Committee on 25 May 2017.

On 2 July 2017 the Consultant Planner, Archaeologist, and Council's Planning and Regulatory Services Manager (John O'Shaughnessy) and Iwi Liaison Officer (Marama Lawrenson) met again with the Committee to discuss and seek feedback from the Committee on the draft Archaeological Assessment and the proposal to apply to Heritage New Zealand Pouhere Taonga for an Archaeological Authority, and to answer any questions that the Committee had about the proposal.

#### 10.5 Clifton Reserve Society, Clifton Marine Club & Gordon Family

The Council has had a number of meetings with the Gordon Family (landowner), Linda Hogan (Clifton Reserve Society) and Russell Black (Clifton Marine Club), both on-site and at Council, as part of reaching agreement on the design of the proposed revetment design and access road and the contributions each party will make for the project.

Sage Planning also consulted with these parties in preparing the Recreation Assessment report accompanying this Assessment of Environmental Effects (refer to Appendix E). The outcomes of that consultation are recorded in the Recreation Assessment report.

## 10.6 Gannet Beach Adventures

Sage Planning consulted with Gannet Beach Adventures in preparing the Recreation Assessment report accompanying this Assessment of Environmental Effects (refer to Appendix E). The outcome of that consultation is recorded in the Recreation Assessment report.

## 10.7 Customary Marine Title (CMT) Applicants

Consultation with relevant Marine and Coastal Area (Takutai Moana) Act 2011 applicants was discussed in Section 7.4 of this assessment report. At the time of writing feedback had been received from one of those parties.

# 11 Conclusions

In summary, the overall conclusion of this Assessment of Environmental Effects is that any adverse effects on the environment from the proposal will be no more than minor and will be appropriately avoided or mitigated if the construction and maintenance of the revetment it is undertaken in accordance with the recommended consent conditions set out in Appendix G of this report.

The proposal will have positive effects by enabling the Clifton Camp, the boat ramp and Clifton Marine Club to remain within the Clifton Domain by providing safe and reliable access. It will provide an opportunity to improve public access facilities to the beach for the wider community as a destination and gateway to the Cape and coastal marine area, and 'fixing' the coastline in this location for the next 35 years will effectively protect archaeological sites/material on the landward side of the revetment that could otherwise be expected to be lost through natural coastal processes. It will have some benefits for marine biodiversity by lowering levels of sediment entering coastal water in the area.

The proposal is consistent with the purpose and principles of the RMA. It is also generally consistent with, and is not contrary to, the relevant objectives and policies of the NZCPS, RPS, RCEP and Proposed Hastings District Plan.

As such, it is considered that consent can be granted to the proposal under sections 104D, 104 and 104B of the RMA.

## APPENDIX A – Clifton Beach Engineering Assessment



Report

# Clifton Beach: Engineering Assessment

Prepared for Hastings District Council

Prepared by Beca Limited

11 July 2017



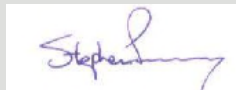


Fisherman on Clifton Beach, Looking North, 2007. Credit Google Earth

## Revision History

Revision N°	Prepared By	Description	Date
1	<b>Evan Walters</b>	Draft	30 June 2017
2	Evan Walters	For Resource Consent	11 July 2017

## Document Acceptance

Action	Name	Signed	Date
Prepared by	<b>Evan Walters</b>		11 July 2017
Reviewed by	Stephen Priestley		11 July 2017
Approved by	<b>Stephen Priestley</b>		11 July 2017
on behalf of	Beca Limited		

Beca 2017 (unless Beca has expressly agreed otherwise with the Client in writing).

This report has been prepared by Beca on the specific instructions of our Client. It is solely for our Client's use for the purpose for which it is intended in accordance with the agreed scope of work. Any use or reliance by any person contrary to the above, to which Beca has not given its prior written consent, is at that person's own risk.

## Executive Summary

Clifton beach, located in the southern end of New Zealand's Hawke Bay, has been subject to long term shoreline retreat. The shoreline retreat has encroached upon an access roadway which leads to a campground at the road's easternmost end. As this campsite and access road is valued by the local community, efforts to protect it have been undertaken.

Although a short section of revetment was constructed in 2013 to protect the campsite access, it does not protect the entire stretch of roadway. This has let the shoreline to continue eroding and threatening the access roadway.

This report evaluates the coastal processes at Clifton and reviews various options to protect the roadway. Hastings District Council preferred option is to extend the existing revetment by 400m to protect the coastal roadway.

This report also presents the preliminary engineering design of the revetment. The engineering design takes into consideration many environmental factors including a design water level, wave conditions, climate change, and wave overtopping. The revetment will comprise 2 layers of 1.0m diameter limestone rock at a slope of 1(vertical):2 (horizontal).

The report assesses the potential environmental effects of the revetment on the coastal processes. This is based on modelling the wave environment and longshore sediment movement (see Appendix D). No updrift adverse effects are likely. Although the revetment will impound approximately 600m<sup>3</sup>/year of gravel, any down drift effects on the western end will be similar to the historical shoreline in the medium to long term. In the short term (less than 10 years), however, the adverse effects are considered to be moderate, having slightly more erosion than with the historical shoreline. In the medium to long term the adverse effects are considered to be minor.

Local erosional cutting in of the downdrift coastline is likely be experienced and will potentially need to be managed.

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# 1 Introduction

## 1.1 Background

Clifton Beach, located in the southern end of New Zealand's Hawke's Bay, has been subject to long term shoreline retreat. This shoreline retreat has encroached upon an access roadway which leads to a campground at the road's easternmost end. Although a small portion of this roadway was protected in 2013 by a rock revetment, the road is still in jeopardy. Its resource consent expires August 31<sup>st</sup> 2018

Clifton is the southernmost township along Hawke Bay in New Zealand. Clifton road ends at a campground location at its easternmost point. To access the campground, an access road runs along the beach for a half kilometer. The exact project location can be found in Figure 1.3.

The Hastings District Council (HDC) is applying to the Hawkes Bay Regional Council (HBRC) for a longer section of permanent protection works. The existing resource consent expires August 31<sup>st</sup> 2018. These works, covering a reach length of 400m, will provide protection to the road. This report reviews the options and describes preliminary design of the proposed coastal protection works in order to accompany the resource consent application.

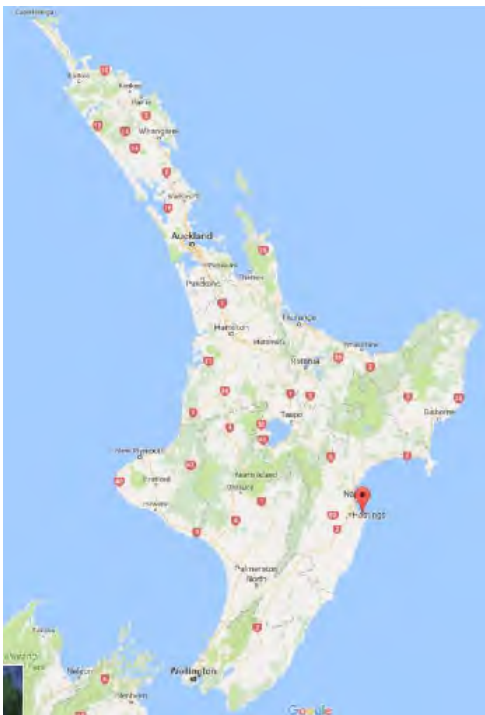


Figure 1.1: Clifton, New Zealand, demarked by the red maker

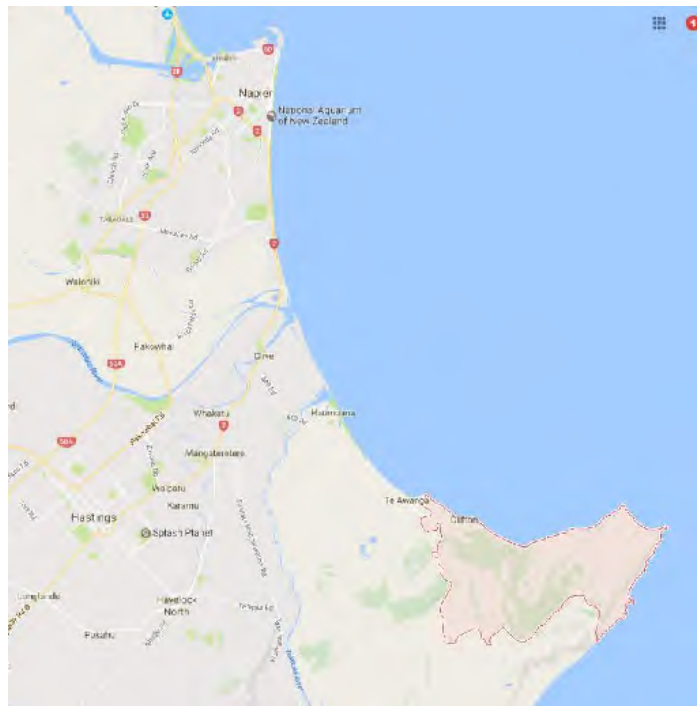


Figure 1.2: Closer up view of Clifton, red outline demarking the township limits



Figure 1.3: Exact Project Location demarked by red markings

## 1.2 Issues

The shoreline at Clifton is retreating such that the road is at risk. With little room left, options have been considered to protect the road which minimize adverse effects on the environment. Although studies have been done in the past for the Te Awanga and Haumoana area (Komar 2014, Environmental Management Services 2009), a study for Clifton beach has not been carried out in the past. This report represents a specific assessment for Clifton beach.

## 1.3 Purpose of the Report

The Hastings District Council (HDC) is preparing a resource consent application detailing a longer section of permanent protection works. This report considers and describes various options. From all the options considered, HDC chose a longer revetment as the preferred option. This report specifically addresses the coastal processes and engineering design issues and the potential adverse environmental effects on the surrounding area. It also presents a preliminary design for a 400m revetment extension.

# 2 Existing Environment

## 2.1 Topography and Bathymetry

The land levels and water depths at Clifton beach and the surrounding area has strong relief. Due to New Zealand's location near the interface of two tectonic plates, vertical cliff faces and large sediment deposits can be found throughout the region. Cape Kidnappers, a headland extending 8 kilometres eastwards, is part of this cliff system. West of Cape Kidnappers, where the cliff faces and hills stop, is a small flat area where Clifton was founded. Although this area is relatively flat, many reef systems extend offshore. These reef systems can influence the local wave climate by diffracting waves around the reefs and other underwater obstacles.



To better understand the area, bathymetric surveys were taken. This data was obtained from the Hawke's Bay Regional Council. Figure 2.1 below includes the results of the bathymetric survey which extended 1km offshore. Using SWAN (Simulating WAVes Nearshore) the offshore wave climate was transformed into the beach nearshore using the bathymetric data. This bathymetric grid is illustrated in figure 2.2.

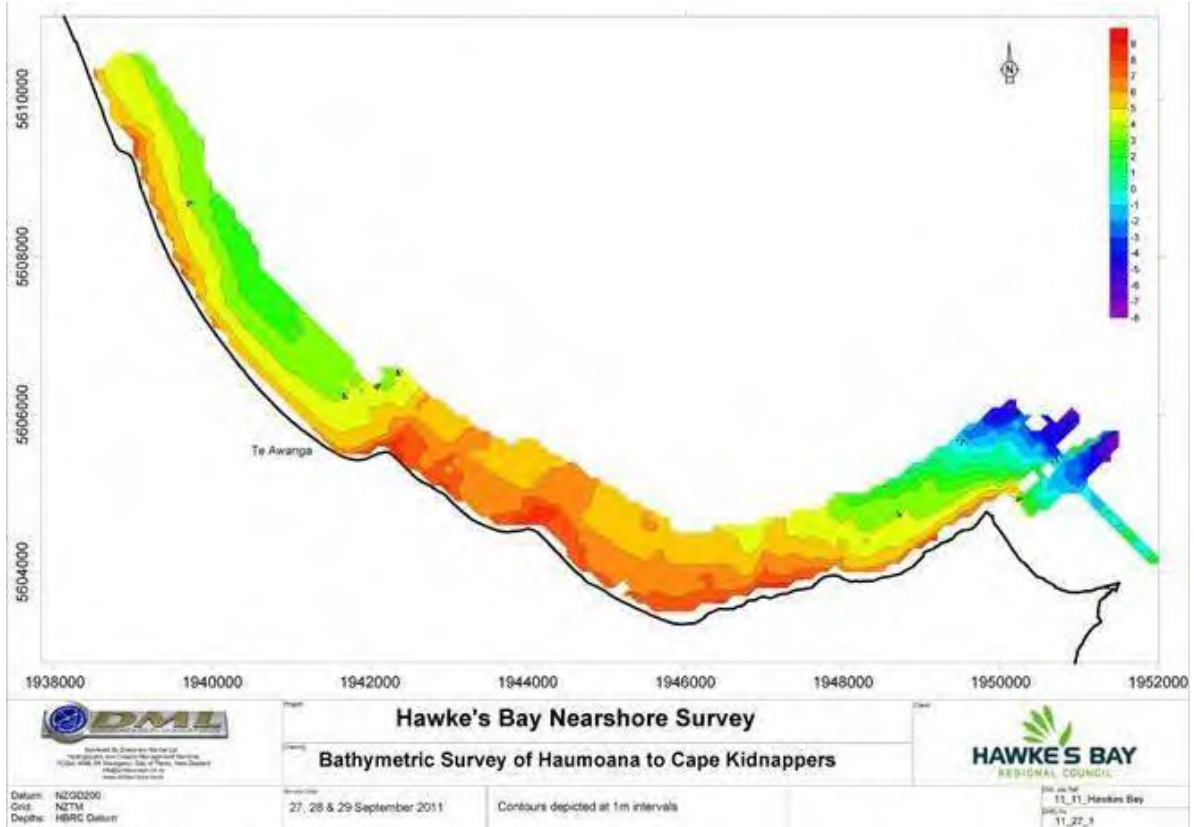


Figure 2.1: Sidescan sonar survey offshore of Clifton Beach, elevations in meters

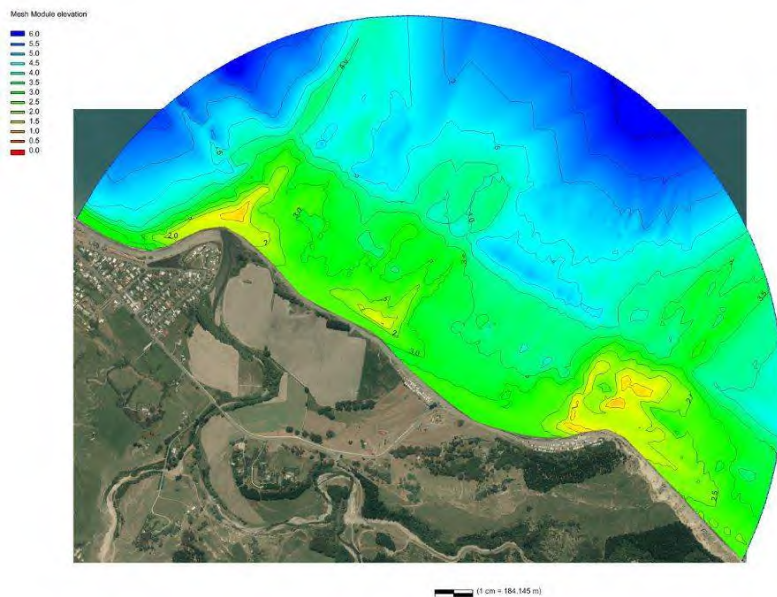


Figure 2.2: SWAN Model Bathymetry, showing reef systems

In addition to the bathymetric survey, beach profile surveys dating back to 1972 have been recorded, as discussed in section 2.6. These beach profile surveys show that the beach system has few bars with a beach face of 8% slope in places. This slope varies along the coastline depending on reefs and proximity to the cliff faces eastward of the project location.

## 2.2 Geology

The beach at Clifton is a gravel beach mainly derived from greywacke rock. Gradation curves of the sediment can be found appended to this report. Due to the steep beach slope, the beach is reflective and very little cross shore gravel movement is experienced. During fair weather sand accumulates on the beach, which later disappears during inclement weather. Similarly the beach flattens during fair weather and steepens during inclement weather.

In 1931 an earthquake caused the landform along the coast to lower by about 1.0m, however at the Clifton beach site itself the exact lowering amount is unknown. This lowering caused the coastal system to be out of equilibrium, probably contributing to the problems experienced today.

Below mean sea level (MSL), bedrock "Papa" rock is commonly found. This rock, forming the cliff formation, was deposited on the sea floor about 15 million years ago. At the cliff faces, this rock can erode and is highly susceptible to erosion and landslides during heavy rainfall (Komar, Harris, 2014).

## 2.3 Tides and Water Levels

Tidal levels in Hawke Bay are given in Table 1 (LINZ, 2015). Storm surges during low pressure events could raise the tide levels by some 0.2m. In extreme events, storm surges may increase tide levels by 0.8m. The local datum at RL 10.0m is at about mean sea level (MSL). Levels referred to in this report are in terms of the local datum.

Table 2.1: Tide Levels

Tide State	Chart Datum (m)	Local Datum (m)
HAT	2.0	11.1
MHWS	1.8	10.9
MHWN	1.5	10.6
MSL	0.9	10.0
MLWN	0.4	9.5
MLWS	0.1	9.2
LAT-Chart Datum	0.0	9.1

## 2.4 Wave Climate

The site is an open coast site which is exposed to swells which propagate across the Pacific Ocean as well as wind generated waves. Hindcast wave data (MetOcean Solutions, Ltd.) was used to produce the wave climate as illustrated in the wave roses below. The hindcast wave data covers a range of 37 years and encompasses significant events such as cyclones and major storms in addition to routine events. This hindcast wave data was calculated at the coordinate 177.005E, 39.630S which is 1km offshore at a depth of 4-5m relative to MSL. From the wave roses, it is evident that the majority of the waves propagate from a very tight range between 50 and 65 degrees clockwise from North.

For extreme wave conditions, MetOcean Solutions (2011) reported the 10 year return period significant wave in 10m of water depth as 4.6m and the 100 year return period significant wave as 5.4m. The mean wave period is about 10s. Although transformed from oceanic conditions, these waves represent high energy wave conditions.

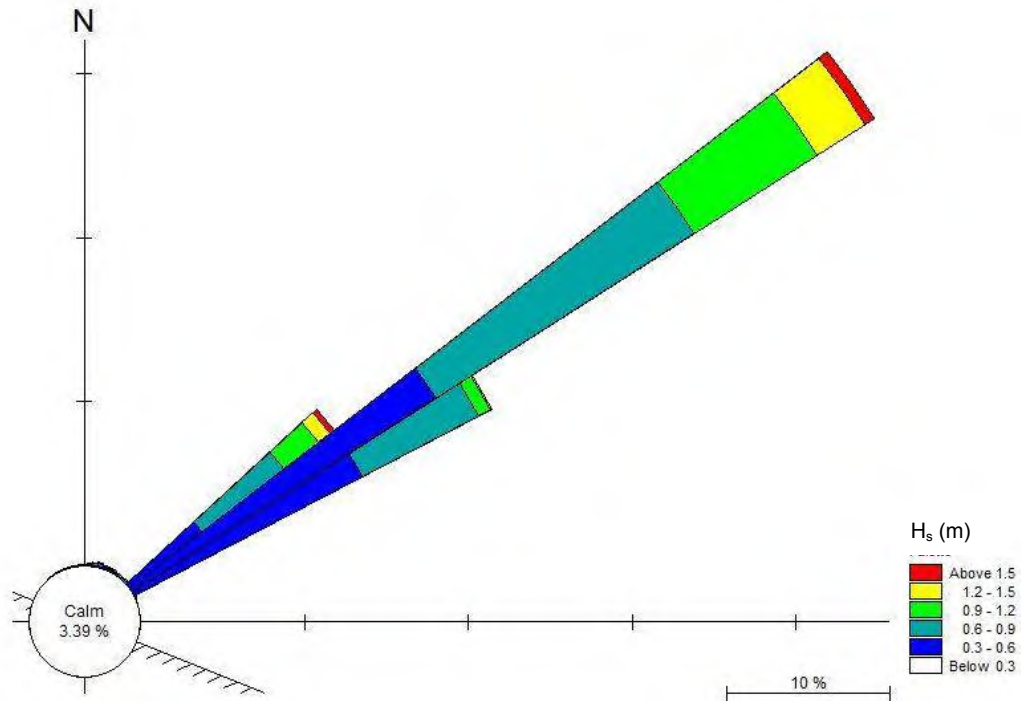


Figure 2.3: Wave Rose of Hindcast Wave Data at 177.005E, 39.630S, 5 degree bins, height in meters

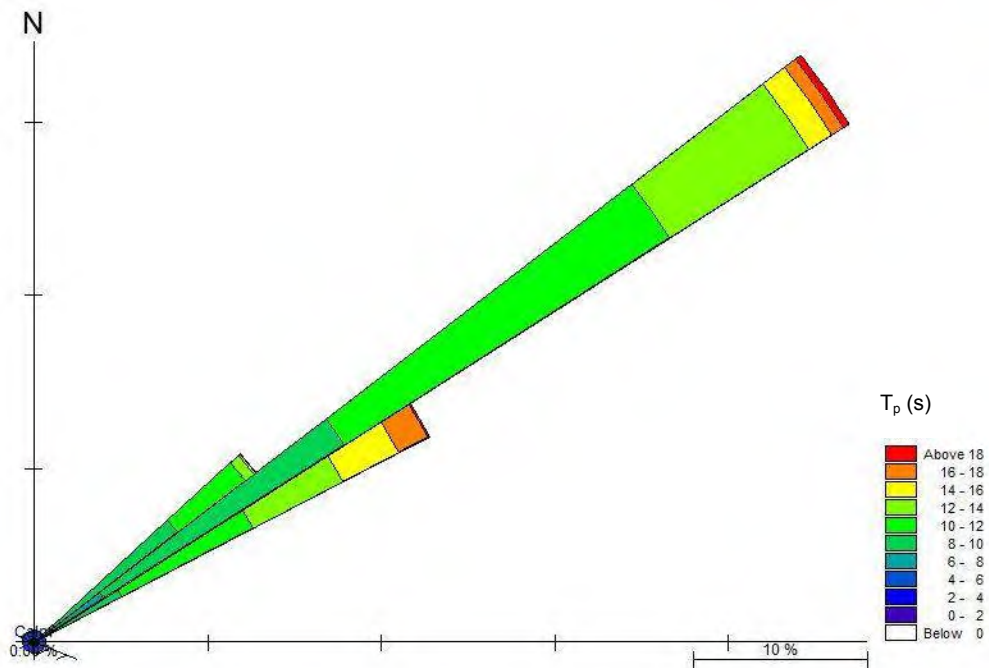


Figure 2.4: Wave Rose of Hindcast Wave Data at 177.005E, 39.630S, 5 degree bins, period in seconds





Although anecdotal knowledge is that during calm weather sand is deposited on the beach, whereas during storms it is transported offshore, there is very little information on the cross shore sediment transport rates at Clifton Beach.

Beach profile data at HB1 has been periodically taken at Clifton beach since 1972. The location of this profile, labelled below as BM1 Clifton, can be seen in Figure 2.6. Figures 2.7 and 2.8 show the results of the beach profile monitoring. Most notably from these results, the beach profile has retreated 32m since 1972 (i.e. 0.69m/year).



*Figure 2.6: HB1 (labeled BM1 Clifton) Cross section profile location, Clifton, New Zealand.  
Image obtained from the Hawke's Bay Regional Council*

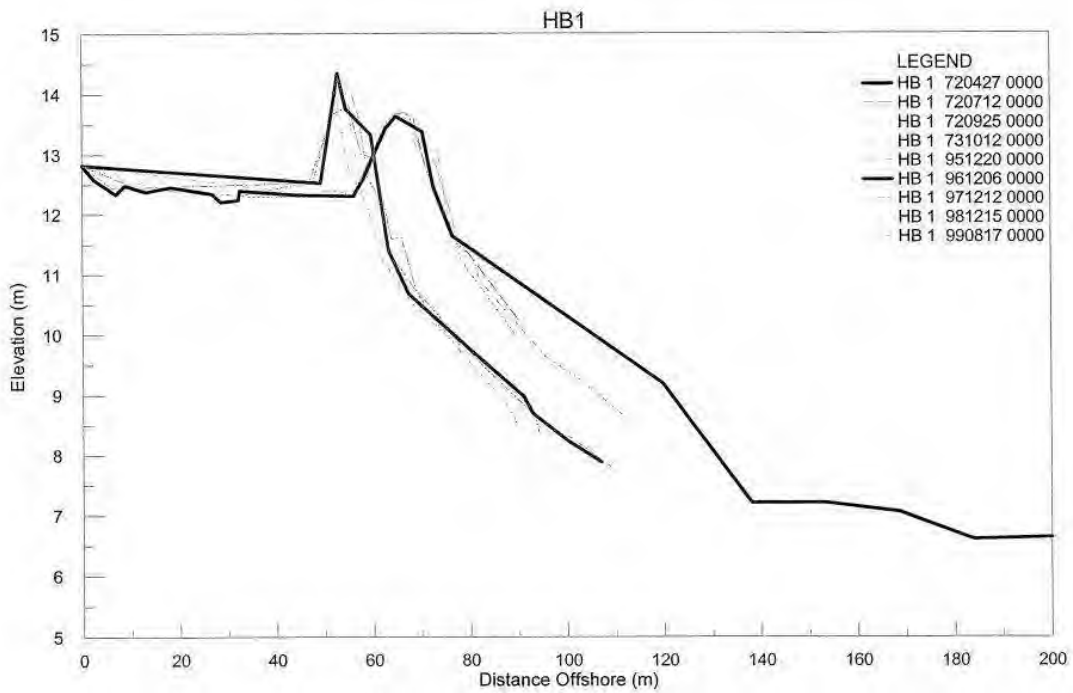


Figure 2.7: HB1 Profile Surveys, 1972-1999

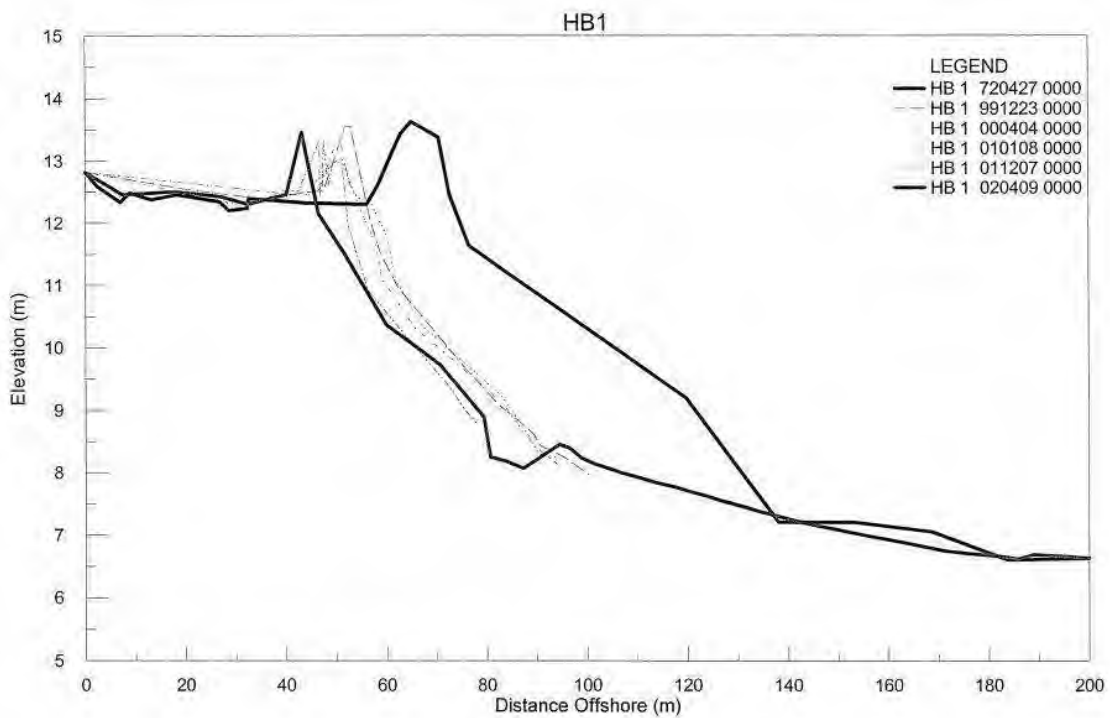


Figure 2.8: HB1 Profile Surveys, 1999-2002, and 1972



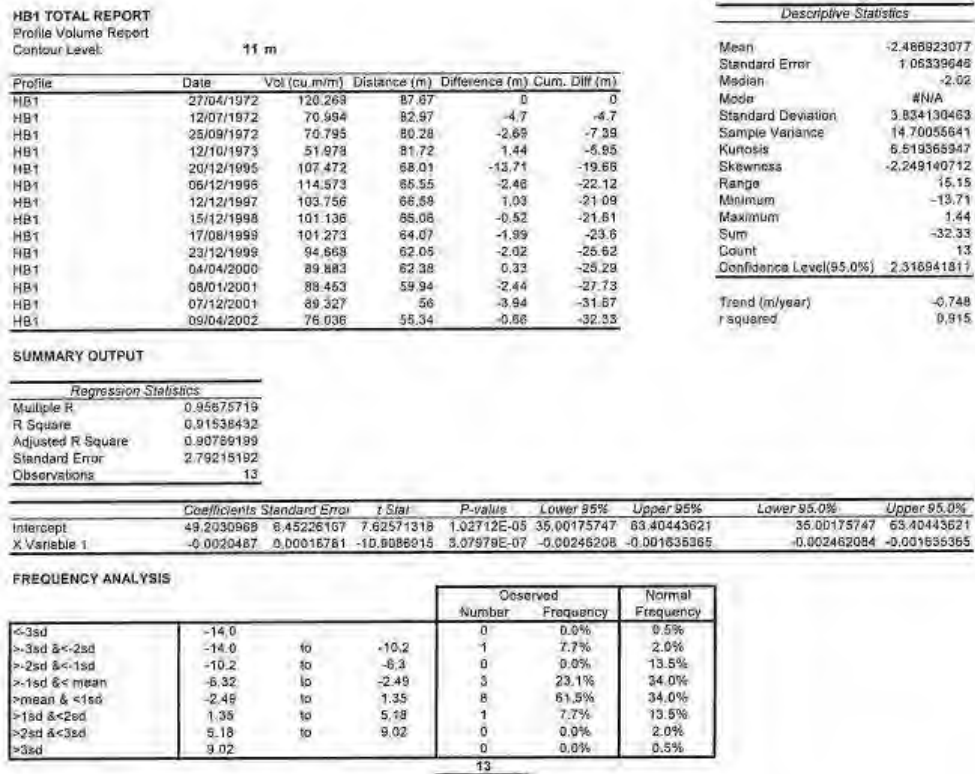


Figure 2.9: HB1 Profile Statistics

## 2.7 Natural hazards

Clifton Beach is subject to natural hazards including sea storms, tsunamis, earthquakes, cliff/ landslides, and flooding. Each of these natural hazards can change the physical environment. Sea storms can produce an increased water level as high as 0.8m and displace sediment in the cross shore direction. During these events waves overtop the coastal structures, disrupting access and vehicular traffic.

## 2.8 Existing Infrastructure

Over time the small settlement at Clifton has developed a carpark, beach access ramp at camp No. 1, access road, and campsite along the coast. The condition of each of these entities varies, but has overall fared well. A vertical wall protection structure exists to the east of the beach access ramp which produces a high level of wave reflection, with only minor dissipation from tyres in front of the wall. This wave reflection aids clearing of sediment from the boat ramp.

The beach between Camp No.1 and Camp No. 2 is in an erosional state. This erosion has resulted in the relocation of the access road three times between 2009 and 2013. To protect the road and access to the campsite, an 80m long revetment was installed in 2013. This revetment has stopped the retreating shoreline, but is insufficient for a long term result as continued erosion is experienced along the western end of the access road.

Camp No 1 has some existing protection from adverse sea condition due to the vertical wall at the boat ramp, the beach, and the 80m revetment.

## 3 Evaluation of Options

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### 3.1 Purpose of Coastal Protection Works

Since shoreline retreat continues to jeopardize the existing infrastructure at Clifton Beach, implementation of coastal protection or management options was considered necessary in order to maintain the integrity of existing assets. Although coastal protection works will protect assets, in some cases it is more beneficial to re-establish assets elsewhere. The following options were assessed as potential solutions to maintain access to Clifton Beach.

### 3.2 Option Descriptions

#### 3.2.1 Do nothing

In some cases, a recommendation of doing nothing can be reached on the basis of predicted future characteristics of the coastal ecosystem. Given this area's record of shoreline retreat dating back over more than 40 years, the characteristics of the area are not predicted to change in the near future, and the area will continue to erode over time. This also can be reinforced by the photos below, as well as the beach profile survey graphs in section 2.6.



Figure 3.1: Photo, circa 1912



*Figure 3.2: Clifton beach aerial photo, 2009*

The do nothing option would entail continued erosion of the beach to the road, and compliance with the existing consent for the revetment. This consent would result in the existing revetment being removed by August 31<sup>st</sup> 2018. According to the Coastal Processes report (2017), removal of the existing revetment would cause erosion at the campsite's entrance, which would later result in that beach access ramp and campground buildings being redundant.

### **3.2.2 Minimum Response with Extending Consent**

The Joint Coastal Strategy, initiated in 2014, is a cross-council approach to identifying and responding to coastal hazards along the Hawke Bay coast. It is being developed in four key stages:

1. Define the Problem
2. Framework for Decisions
3. Develop Responses
4. Respond

Although stages one and two are complete, stage three is underway. Stage three involves development of coastal hazard plans for specific coastal areas to respond to the identified risks. Stage three is expected to be complete by the end of 2017. Afterwards, stage four is anticipated to be ongoing for several years.

It is possible to apply for an extension of the existing revetment's resource consent duration beyond August 31<sup>st</sup>, 2018, until an agreed way forward in line with the Joint Coastal Strategy has been determined. Doing so would require maintenance of the existing revetment and likely allow the erosion to further encroach on private land where the road is unprotected.

### **3.2.3 Inland Road Relocation**

Although extending the resource consent of the existing revetment will protect the campsite entrance, the access roadway will soon be lost unless something is done to keep the access route open. One solution is to relocate the road further inland, as has been done before.

In 2003, Tonkin and Taylor released a report which included set back lines for various places along the Hawke Bay coast. These set back lines act as recommended lines where assets should be relocated behind to preserve their integrity. Specifically at Clifton beach, a setback of 60m was advised for the year 2060, and a setback of 100m by 2100. See Appendix C.

However, due to the location it is difficult to reposition the road inland on its eastern side. Although it is possible to tunnel through the cliffs to the campsite, this is a very risky and expensive option which will not be cost effective.

Since the beach and roadway are already very close to the private property lines, any further landward movement will breach these property lines. Figure 3.3 illustrates property lines overlain on an aerial image. Necessary coordination and approval from the landowners will be required if this solution is chosen. However, since the landowners have indicated to Council an unwillingness to provide further land for this purpose in the future, beyond the small encroachment already agreed, this option would be difficult to deploy.



*Figure 3.3: Aerial Image of property lines along Clifton Road, Existing road in white, Cliff line in Green*

### 3.2.4 Campground Relocation

Relocation of the camp No1 to an area near camp No 2 is a viable option. To have the same level of amenity, however, the boat ramp would need to be relocated. Relocating the ramp would introduce additional risk in Council owning and operating a boat ramp in an exposed location.

### 3.2.5 Managed Retreat

The 2009 report by Environmental Management Services Ltd studied the Te Awanga – Haumoana and Clifton area of coastline. The report details a cost analysis of staged retreat options as well as construction of a groyne field. Due to uncertainties in the performance of the groyne field along with its high costs, the report recommends staged retreat as the better option for the area.

It is important to note that the 2009 report studied a larger area than the campsite access road. With specific consideration of the road, if it were relocated inland there would be property issues and the difficulties of road relocation discussed in section 3.2.3.



### 3.2.6 Nourishment and Planting

This option, sometimes referred to “soft” or “passive” protection, would entail maintaining the existing beach front by importing sediment compatible with the existing beach sediment, and placing it on the beachfront. This sediment would increase the amount of beach width. As time goes on, the newly placed sediment would enter the littoral system and be lost. Options like this typically have high maintenance costs, but maintain the existing aesthetics of the area.

Dune planting is a very good option in many cases due to its aesthetics and use of natural resources to solve coastal problems. Planting can go hand-in-hand with nourishment. It uses the roots of the plants to hold sediment in place, potentially resisting natural erosion. This solution can extend the lifetime of a nourishment project. Solutions like these require dunes to be constructed if there are no existing dunes. Furthermore, dune planting requires room for the plants as well as time for the plants to establish themselves. Considering that there is little space between the road and the water line at Clifton, there is insufficient space for this option without acquiring private land.

Both nourishment and planting would be at risk of not providing protection during extreme sea storm conditions.

### 3.2.7 Groynes and Nourishment

In the 2009 Environmental Management Services report, groynes were assessed as an option for the Clifton to Te Awanga- Haumoana reach of coastline. Although the cost of the option over the project lifespan was \$18.5 million (2009 NPV), the analysis was for many more groynes than would be necessary to protect the roadway. An individual groyne would cost about \$1.8 million (2009 NPV) to construct, and have annual maintenance costs of about \$8,500 (2009 NPV) according to the report. It is predicted that 3-4 groynes would effectively protect the access roadway. It is uncertain how these groynes would affect the downdrift area.

Groyne fields, although a viable solution, do have potentially adverse aesthetic value and would reduce the amenity value of the beach. The local community and tourist companies may well oppose the construction of a groyne field due to the potential loss of access.

Groynes cause accumulation on the updrift side of the groyne, but encourage downdrift erosion. To minimize the downdrift erosive effects, they are used in series. Another way to remedy the downdrift effect is to nourish the beach between the groynes. With very little room left between the water line and the existing roadway, nourishment between the groynes would be required. This nourishment would increase the project costs.



*Figure 3.4: Groyne Field example, Australia*

### 3.2.8 Offshore Breakwaters

Offshore breakwaters function by dissipating the wave energy impacting a shoreline and reducing the longshore transport behind them. With slower transport rates, the beach sediment is able to accumulate behind the breakwaters and widen the beach. In some cases, the beach behind the breakwater can accrete so much that it touches the breakwater forming a tombolo. A tombolo significantly reduces the longshore sediment transport behind the breakwater thereby depleting downdrift sediment supply.





*Figure 3.5: Offshore breakwaters example*

Since breakwaters are in deeper water, they are substantial structures and costly to construct.

### 3.2.9 Sheet Pile Wall

Due to the space limitations at the site, a sheet pile wall could effectively protect the roadway. However, a vertical sheet pile wall will reflect waves, providing little energy dissipation. These reflected waves have the potential to cause adverse effects elsewhere.

### 3.2.10 Revetment

Revetments have been implemented in the past at Clifton to protect the roadway. The existing revetment installed in 2013 covers a length of 80m and protects the campsite entrance and toilet block structure. This revetment, made from local limestone, has successfully held the coastline in position. However, the revetment's extent has been insufficient to cover the entire reach of shoreline which is eroding to the roadway, so a longer revetment has been considered.

There are various revetment options available. These include a short length which would minimally protect the roadway, a long length revetment to protect the entire roadway, a buried revetment, a low crested revetment, and a high crested revetment.

A short length revetment would only protect part of the road access way.

Buried revetments are typically covered with compatible beach sediment. The advantage of a buried revetment is that it would preserve the aesthetic value of the beach and protect the road. However, to be effective, the road would need to be located behind the buried wall to offer proper protection.

Low crested revetments are commonly used in benign wave climates. A crest height of at least RL 15.0m is necessary to prevent the revetment from being damaged during storms. Furthermore, a crest height at RL 15.0m matches the existing ground level and would help key into the roadway on the landward side. A low crested revetment, however, is subject to more overtopping and probable damage to the structure due to its low amount of freeboard.

It is considered that a 400m long, RL 15.0m high crested revetment is required to protect the remaining access roadway.

## 3.3 Preferred Option

Of all the above options, Council looked at two of the options in some detail. Option 1 was to move Camp No1 to Camp No 2 and Option 2 was to extend the revetment. Council eventually selected the 400m long revetment option because:

- Camp No 2 is in a flood zone and land would need to be purchased.
- A new boat ramp would need to be built at Camp No 2. This had a number of issues. Council would be taking on extra health and safety risk for the ramp (which it doesn't have now) and may need to build a breakwater around it to make it safe. That would potentially affect the coast processes more than the revetment.
- The revetment was more cost effective, overall.

## 4 Revetment Design

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### 4.1 Description

The revetment design detailed in this section would extend from the existing revetment's western end 400m to the west until the road turns away from the shoreline. There is a beach access ramp where the road turns away from the shoreline. Preliminary design drawings can be found in Appendix B.

### 4.2 Design Considerations

#### 4.2.1 Design Water Levels

Taking the water levels in section 2.3 into consideration and knowing that the proposed revetment structure will experience depth limited wave conditions. The design still water level of RL 12.0m is based on:

- MHWS                      RL 10.9m
- Storm surge              0.8m
- Sea level rise (SLR)      0.3m

#### 4.2.2 Design Wave Conditions

The base of the wall will extend from RL 11.0m. This results in a depth of water of 1.0m and a design wave height of 1.2m. A design mean wave period of 10s was adopted, although wave periods up to 16s were considered.

Local limestone boulders are proposed to be used to form the revetment works. The ability of limestone boulders to resist the design wave will depend on many factors. The main factors are the rock integrity and its density, the level of acceptable damage, the revetment slope and level of permeability. Assuming a limestone boulder density of 2.2 t/m<sup>3</sup> and a slope of 1:2 (which would be the maximum slope) it was found that:

- For a 2 layer system with an underlayer and minimal damage, the  $D_{50}$  would need to be about 1000mm. The underlayer would have a  $D_{50}$  of 400mm. With a geotextile between the native and rock material, an impermeable barrier was assumed.
- Using the Van der Meer equation for rock armour design in shallow water, the following parameters were assumed:  $S_d=2$ ,  $P=0.1$ ,  $N=3000$ .
- The crest level of the revetment should be set at RL 15.0m and be at least 3  $D_{50}$  wide. (i.e. about 3m wide). Overtopping is discussed in Section 4.2.4. Some scouring of the road and grass areas could be expected during extreme sea storms.
- The toe of the revetment will be subject to scour and should have a buried toe with a width of twice the design wave height (i.e. about 2m). It is known that there is "papa" rock at around MSL and this has been assumed over 50% of its length. This will require a key toe detail to minimise loss of revetment rock.
- For the 80m length of rock wall in place, it is recommended that another layer of 1.0m rock be placed over the sloping revetment to improve its integrity for long term application.
- The limestone rock armour will require on-going monitoring and maintenance.

#### 4.2.3 Climate Change Considerations

Considering the design life of the structure, an appropriate allowance for sea level rise is the 0.3m which would cover about 30-50 years of structure life. The New Zealand Coastal Policy Statement requires

consideration of SLR over 100 years which approximately equates to about 1.0m. The approach here is to monitor SLR and if it exceeds 0.3m then the revetment would have another layer of rock to protect it for a more elevated design water level and wave run-up.

#### 4.2.4 Overtopping

The maximum allowable overtopping rate for no revetment damage is approximately 50 litres/s per metre of revetment or 200 litres/s per metre if the crest is protected according to the UK Environment Agency (1999) and CIRIA/CUR (2007). Given the design wave height of 1.2m, the design wave period of 10s, and the dimensions of the proposed revetment the overtopping rate was calculated to be 44 litres/s per metre on the seaward side of the revetment crest. For design wave period of 16s, and the dimensions of the proposed revetment the overtopping rate was calculated to be 200 litres/s per metre. At these overtopping rates the revetment would not be damaged.

The overtopping rate on the landward crest side would range from 4 to 15 L/s/m. CIRIA/CUR (2007) states that this rate of overtopping would produce dangerous conditions for vehicles travelling on the road behind the revetment. It is advised that appropriate signage be installed to advise road users about dangerous road conditions during storms.

#### 4.2.5 Tsunami

Power (2013) gives the 100 year and 500 year return period tsunami with wave heights of 4.2 and 7.0m respectively. The revetment is not designed as a protection structure to guard against such tsunami. Revetment damage can be expected in an extreme tsunami events.

Clifton is in a tsunami evacuation zone, and extreme tsunami events will be a serious civil defence issue.

### 4.3 Revetment Geometry

#### 4.3.1 Spatial Extent

The spatial extent of the revetment stretches 400m from the western end of the existing revetment to where the road turns away from the coastline in front of the Clifton Café. The revetment will roughly be parallel to the RL 11.0m contour at its toe, and be roughly 15m wide at its typical cross section. It will key in with the beach access ramp and road at its westernmost end.

#### 4.3.2 Levels

To allow for the overtopping rates above, the revetment crest elevation was set to RL 15.0m. This elevation is low enough to allow for overtopping during storms without damaging the revetment. Towards the western end of the revetment, the crest elevation is RL 14.4m to aid the transition with the adjacent beach area.

From the crest towards the coastline, the revetment side slopes down to the toe at RL 11.0m and the existing road lowers at a slope of 1:2. This toe is at the same approximate level as MHWS. Thus, the revetment toe will be visible. Since the toe of the revetment will tie in with the hard Papa rock or have a buried toe, scour effects are not anticipated.

The new concrete beach access ramp will tie into the hard papa rock at a level of RL 9.8m. It is designed so that some beach material will wash up onto the base area of the ramp. The top of the ramp will tie in with the road at a level of RL 13.2m. The ramp slope at 1:7 is to facilitate vehicle access.

Refer to the drawings in Appendix B for revetment and road levels which tie into existing ground levels.

### 4.3.3 Rock

Limestone is readily available from nearby quarries and so it will be used to construct the revetment. Limestone is not a durable material but has been used to construct revetments in the past. To ensure that the wave environment will minimally dislodge the armour stone, the average rock size has been determined to be 1m diameter. If a smaller rock size were used, displacement of the armour stone can be expected. Additionally, the rock will be angular to facilitate interlocking and discourage armour stone from being dislodged from the revetment. A typical armour thickness is twice the equivalent cubic diameter (CEM 2008), hence the revetment will be 1.8m thick.

## 4.4 Revetment Construction

The revetment's construction is expected to take approximately 4 months. Access to the site will be via Clifton road. The project will require excavation of the foreshore and mudstone to form a sound base upon which the revetment can be built. As necessary, sand may be used to form a compacted subgrade. The excavation will take place as the tidal conditions allow.

Geotextile fabric and filter layer rock armour will then be laid on top. The rock armour will be stacked to provide for adequate inter-locking. Rock armour placement will be done from the foreshore, however the upper portion of the rock armour may be completed from the access road.

The revetment construction will take place progressively. The revetment will be constructed in 5-15m long segments to minimise risk of foundation exposure.

Rock will be inspected for various factors including cleanliness, quality, size conformity, etc. at the quarry rather than the construction site to reduce disturbances. The materials will then be transported by trucks to the construction site and used immediately. Overall about 9000 m<sup>3</sup> of rock required. Assuming an average truck load of 10m<sup>3</sup> per truck, the project will require 900 truckloads (about 15 trucks per day on average).

Lastly, it is best for the works to be completed outside of the main summer holiday period and Easter to avoid high use periods. Works will be undertaken between the hours of 7:00am and 7:00pm, Monday to Friday, tide permitting. All construction will be undertaken to comply with the Construction Noise Standard NZS6803:1999 to avoid adversely affecting residents of neighbouring dwellings.

## 4.5 Revetment Maintenance

Although the revetment is expected to last 20 years before any significant maintenance would be necessary, the actual design life of the structure is dependent on the level of maintenance and the frequency of significant storms. With proper maintenance, a design life of 50 may be achievable.

Regular annual inspections as well as inspections after significant storms occurring during high tide are recommended for the structure. These inspections may find that periodic replacement of dislodged rocks may be necessary.

The beach may require periodic renourishment. This is due to the impoundment of about 850m<sup>3</sup>/year of sediment which will probably be evidenced as a local down drift erosional lee effect. Of the 850m<sup>3</sup>/year impoundment, it is estimated that 600m<sup>3</sup>/year will be impounded gravel. It is recommended that an allowance of up to 1000m<sup>3</sup>/year be made with the actual amount determined through site monitoring.

The timing of the replenishment will be determined by 6 monthly monitoring (or after sea storms) with the aim of placing it within two months of exceeding a threshold level. It would be preferable for replenishment to take place in winter. This replenishment provision is mitigation for the wall and not for long term erosion.

The renourishment material will be sourced to have a similar sized material as the existing beach gravel. It will be delivered to site by truck and dumped on the beach. A small blade machine will then be used to spread the material to make up the deficient caused by the downdrift erosion. Some overfilling of the deficient should be allowed for.

## 5 Environmental Effects of Revetment

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In general, revetments hold the shoreline at a constant point and prevent future shoreline retreat. On the seaward side of the revetment, some scour and erosional effects could potentially be experienced. Scour effects are expected to be minimal for this project because the revetment toe will generally tie in with the hard Papa rock or be buried.

The revetment armour slope is designed to dissipate wave energy and minimize reflection so the wave environment will be similar. Since the revetment runs along the shoreline, nearshore currents will also remain unchanged.

According to the results of the coastal process modelling (Appendix D), the revetment extension will have no effects up drift to the east due to it tying in with the existing revetment.

Due to the hardening of the coastline, the revetment will impound approximately 600m<sup>3</sup>/year of gravel, not making it available to the littoral system. This impoundment loss will slightly increase over time due to sea level rise.

Down drift effects on the western end will vary over time. In the short term (less than 10 years), the adverse effects will be moderate, having slightly more erosion than the historical shoreline retreat. In the medium term (20-30 years), the erosion rate will be similar to the historical shoreline retreat. Therefore the medium to long term adverse effects are considered to be minor.

Although the model results don't show an increase in the shoreline retreat, a local erosional cutting in of the coastline will likely be experienced and potentially need to be managed.

Construction of the proposed revetment will provide a much larger level of protection for the existing infrastructure. The revetment will locally hold the coastline stable

## 6 Conclusions

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The environment at Clifton beach is complex due to a variety of factors including waves, tides, currents, wind and its local geology. Over time, that environment has become conducive to an eroding shoreline which over the years has become to a hazard to infrastructure along the beach.

Although a short revetment has been put in place to protect Camp No 1 access, its influence is insufficient to protect the entire roadway. There are various options which can protect the rest of the roadway. Extending the revetment is considered by Council as the best way forward.

The report assesses the potential environmental effects of the revetment on the coastal processes. This is based on modelling the wave environment and longshore sediment movement (see Appendix D). No updrift adverse effects are likely. Although the revetment will impound approximately 600m<sup>3</sup>/year of gravel, any down drift effects on the western end will be similar to the historical shoreline in the medium to long term. In

the short term (less than 10 years), however, the adverse effects are considered to be moderate, having slightly more erosion than with the historical shoreline. In the medium to long term the adverse effects are considered to be minor.

Local erosional cutting in of the downdrift coastline is likely be experienced and will probably need to be managed.



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# Appendices

## **Appendix A**

Gradation Curves

## **Appendix B**

Engineering Drawings

## **Appendix C**

Setback Lines

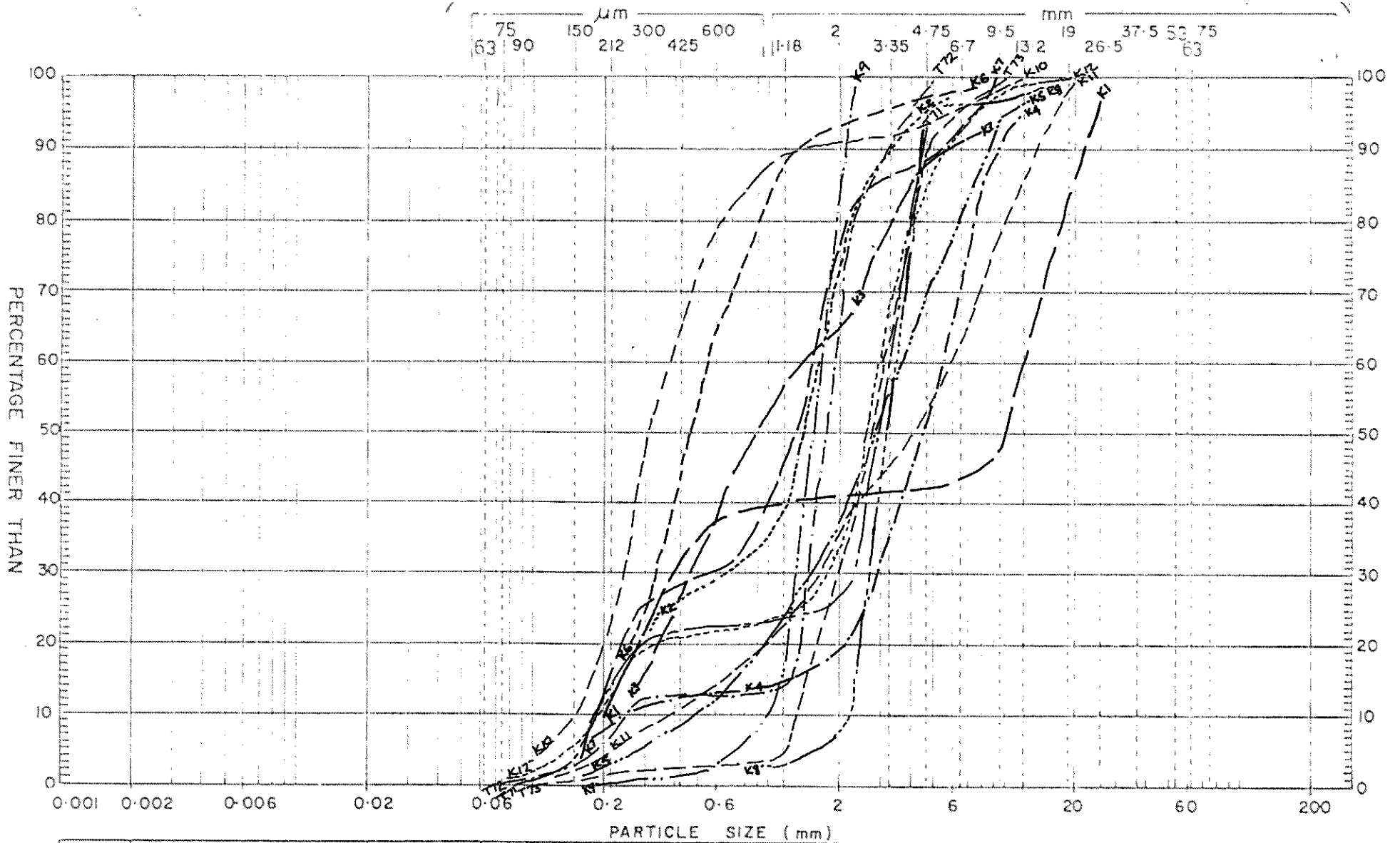
## **Appendix D**

Coastal Processes Assessment

Appendix A

## Gradation Curves





	CLAY			SILT			SAND			GRAVEL		
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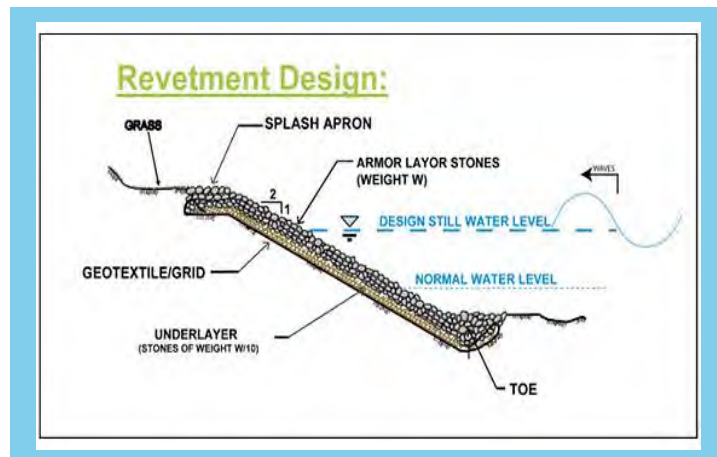
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	DEPTH: R.L. 11.00m.	REMARKS	CHECKED BY:
			DATE:

Fig. 14 CHART FOR RECORDING PARTICLE SIZE DISTRIBUTION

Part 1 : 1980

## Appendix B

# Engineering Drawings





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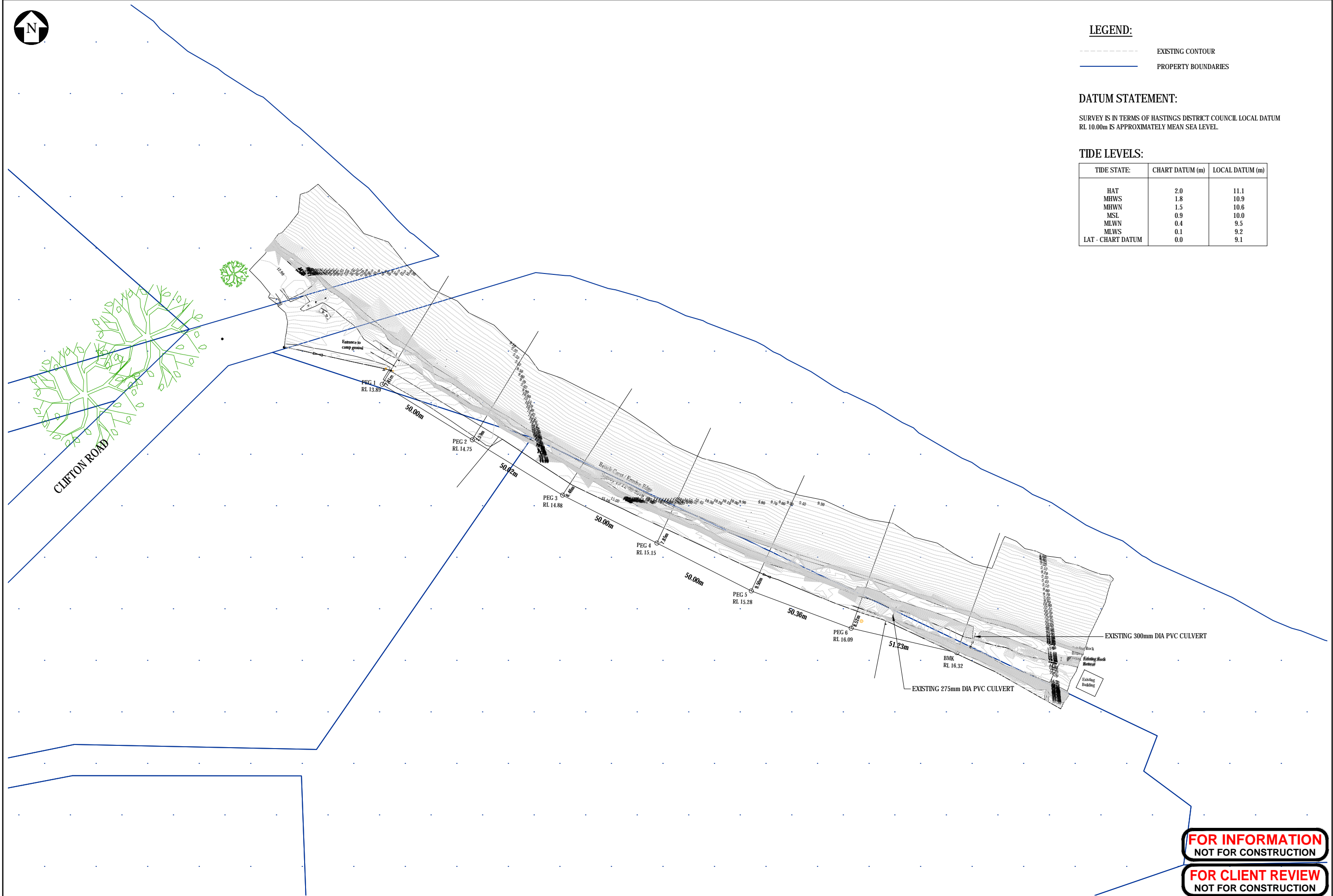
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- PROPERTY BOUNDARIES

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RL 10.00m IS APPROXIMATELY MEAN SEA LEVEL.

**TIDE LEVELS:**

TIDE STATE:	CHART DATUM (m)	LOCAL DATUM (m)
HAT	2.0	11.1
MHWS	1.8	10.9
MHWN	1.5	10.6
MSL	0.9	10.0
MLWN	0.4	9.5
MLWS	0.1	9.2
LAT - CHART DATUM	0.0	9.1



**FOR INFORMATION  
NOT FOR CONSTRUCTION**

**FOR CLIENT REVIEW  
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd.	Date
A	ISSUED FOR CLIENT REVIEW	KWN	EW	SP	21.04.17



Original Scale (A1)	Design	Approved For Construction*
Reduced Scale (A3)	Drawn	Date
	Dwg. Verifier	
	Dwg. Check	
* Refer to Revision 1 for Original Signature		



Client: **HASTINGS DISTRICT COUNCIL**  
Project: **CLIFTON REVETMENT**





Title: **EXISTING LAYOUT PLAN (CONTOURS)**

Discipline: <b>CIVIL ENGINEERING</b>	Rev.:
Drawing No.: <b>3233367-CA-K001</b>	<b>A</b>





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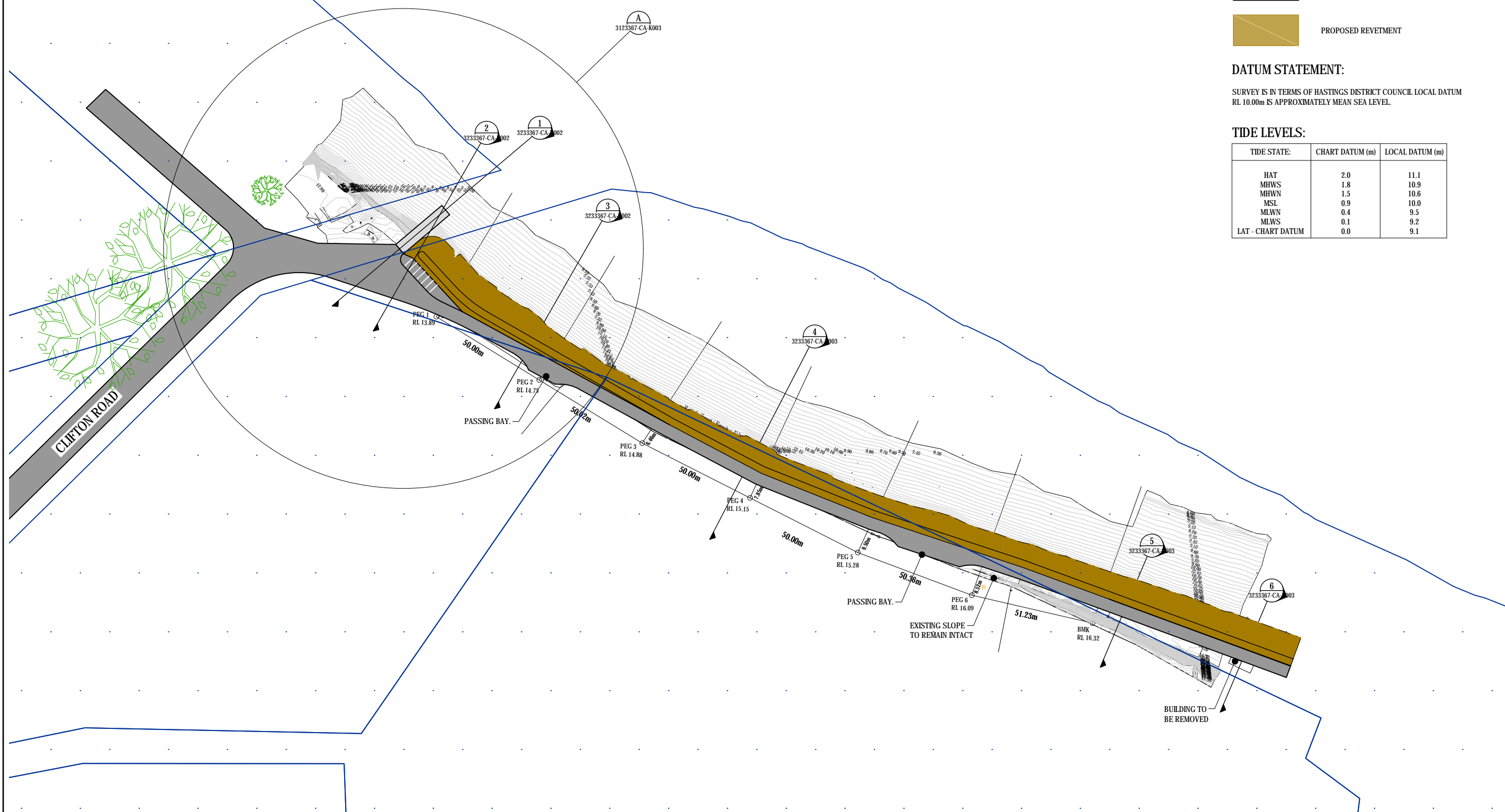
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-  PROPERTY BOUNDARIES
-  ROAD
-  PROPOSED REVETMENT

**DATUM STATEMENT:**

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**TIDE LEVELS:**

TIDE STATE:	CHART DATUM (m)	LOCAL DATUM (m)
HAT	2.0	11.1
MHWS	1.8	10.9
MHWN	1.5	10.6
MSL	0.9	10.0
MLWN	0.4	9.5
MLWS	0.1	9.2
LAT - CHART DATUM	0.0	9.1



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**FOR CLIENT REVIEW  
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
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A	ISSUED FOR CLIENT REVIEW	KWN	EW	SP	21.04.17



Original Scale (A1)	1:800
Reduced Scale (A3)	-
Design	SJP 04.04.17
Drawn	KWN 06.04.17
Dwg Checker	SJP 13.04.17
Date	



Client: **HASTINGS DISTRICT COUNCIL**

Project: **CLIFTON REVETMENT**

Title: **PROPOSED OVERALL LAYOUT PLAN**

Discipline:	<b>CIVIL ENGINEERING</b>
Drawing No.:	<b>3233367-CA-K002</b>
Rev.:	<b>B</b>



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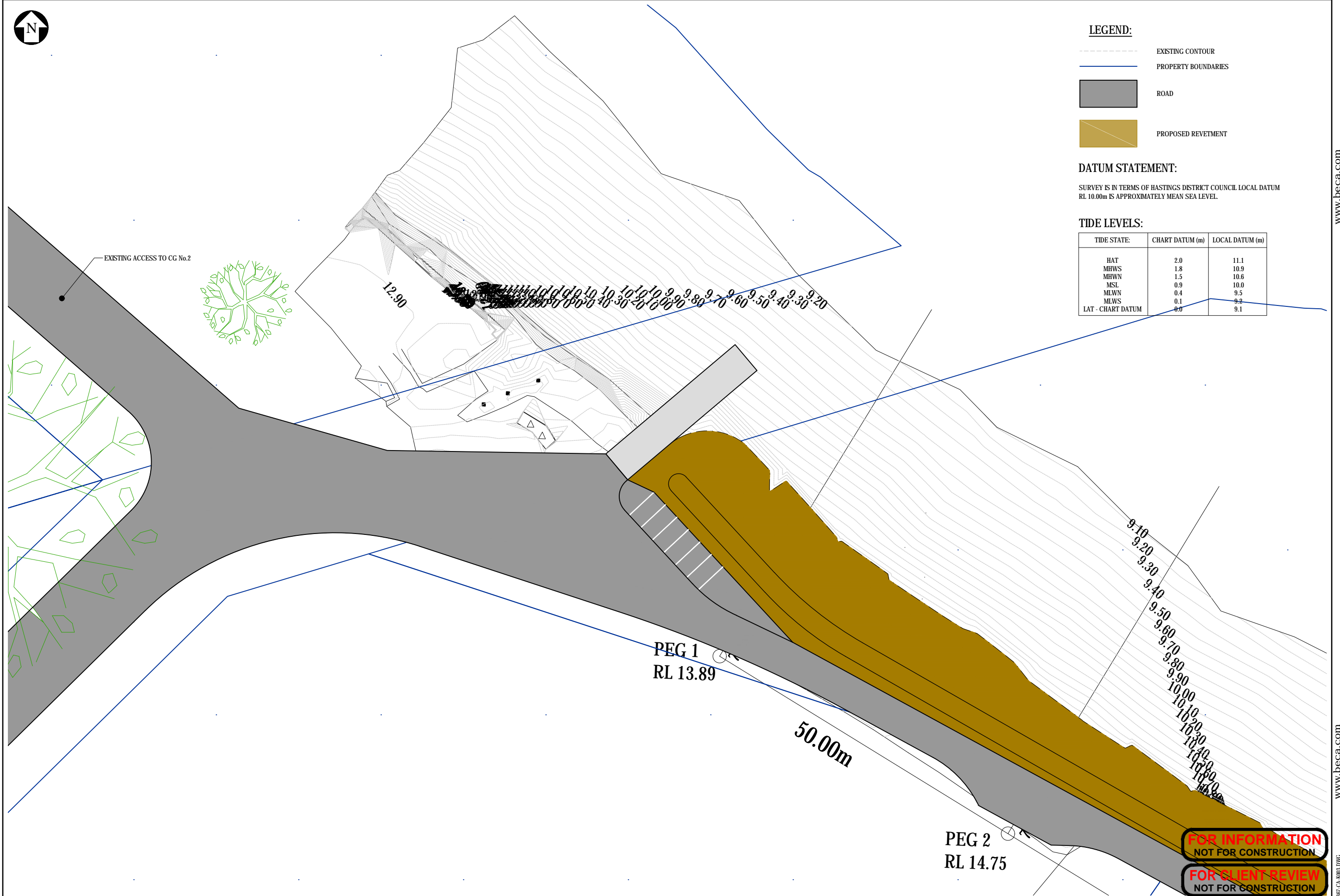
- EXISTING CONTOUR
- PROPERTY BOUNDARIES
- ROAD
- PROPOSED REVETMENT

**DATUM STATEMENT:**

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RL 10.00m IS APPROXIMATELY MEAN SEA LEVEL.

**TIDE LEVELS:**

TIDE STATE:	CHART DATUM (m)	LOCAL DATUM (m)
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**FOR INFORMATION  
NOT FOR CONSTRUCTION**

**FOR CLIENT REVIEW  
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
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A	ISSUED FOR CLIENT REVIEW	KWN	EW	SP	21.04.17

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1:500	Dwg Check			

\* Refer to Revision 1 for Original Signature

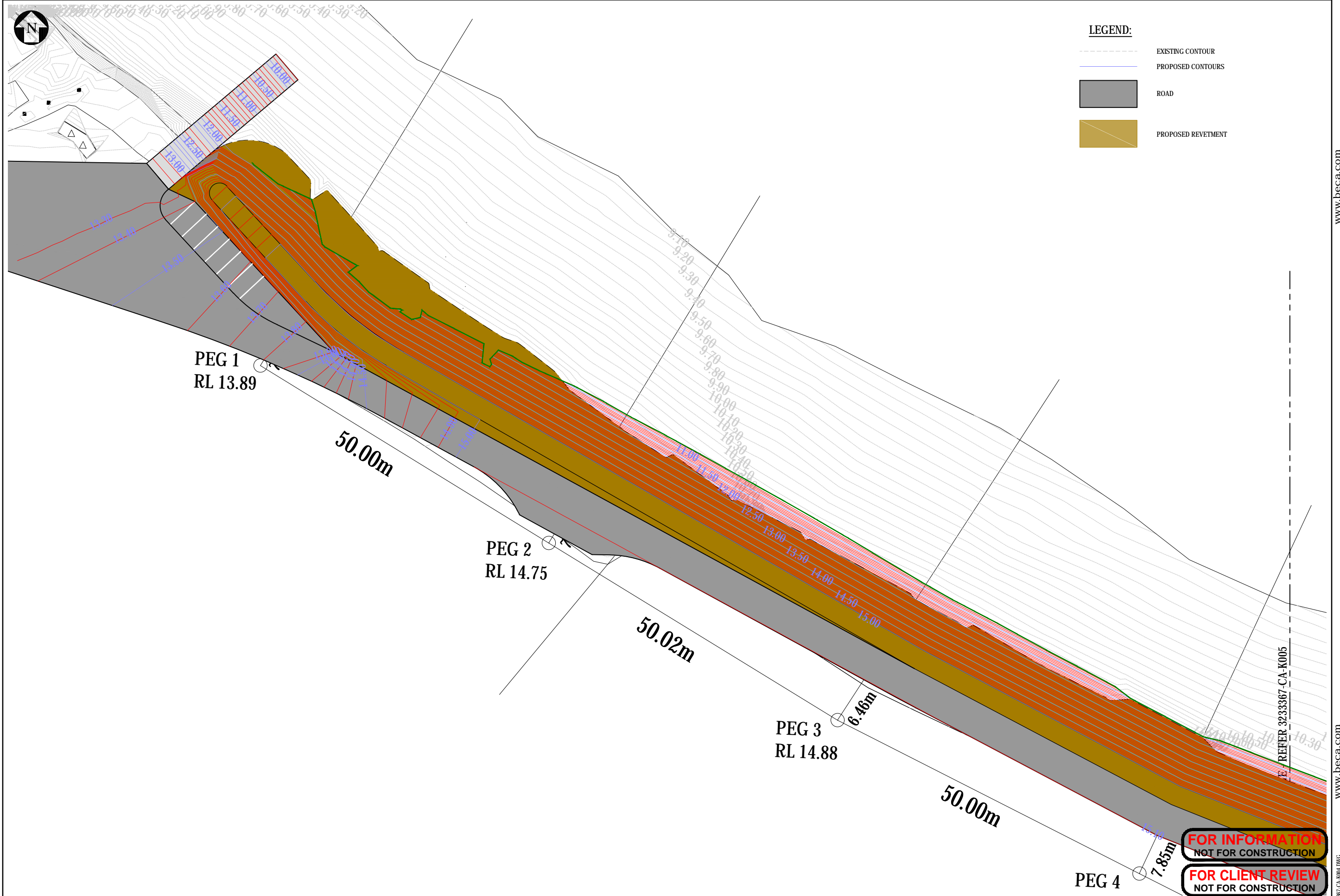
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Project: **CLIFTON REVETMENT**

Title: **PROPOSED LAYOUT PLAN**

Discipline	CIVIL ENGINEERING
Drawing No.	3233367-CA-K003
Rev.	B





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	ROAD
	PROPOSED REVETMENT

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PEG 2  
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50.02m

PEG 3  
RL 14.88

6.46m

50.00m

PEG 4

7.85m

**FOR INFORMATION  
NOT FOR CONSTRUCTION**

**FOR CLIENT REVIEW  
NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
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Dwg Check					
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Client:





Project: CLIFTON REVETMENT

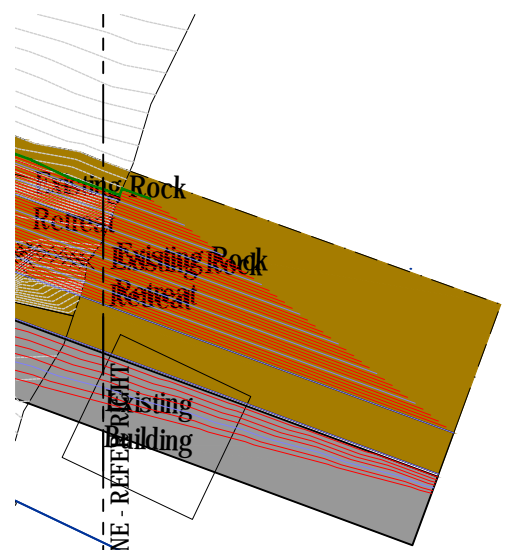
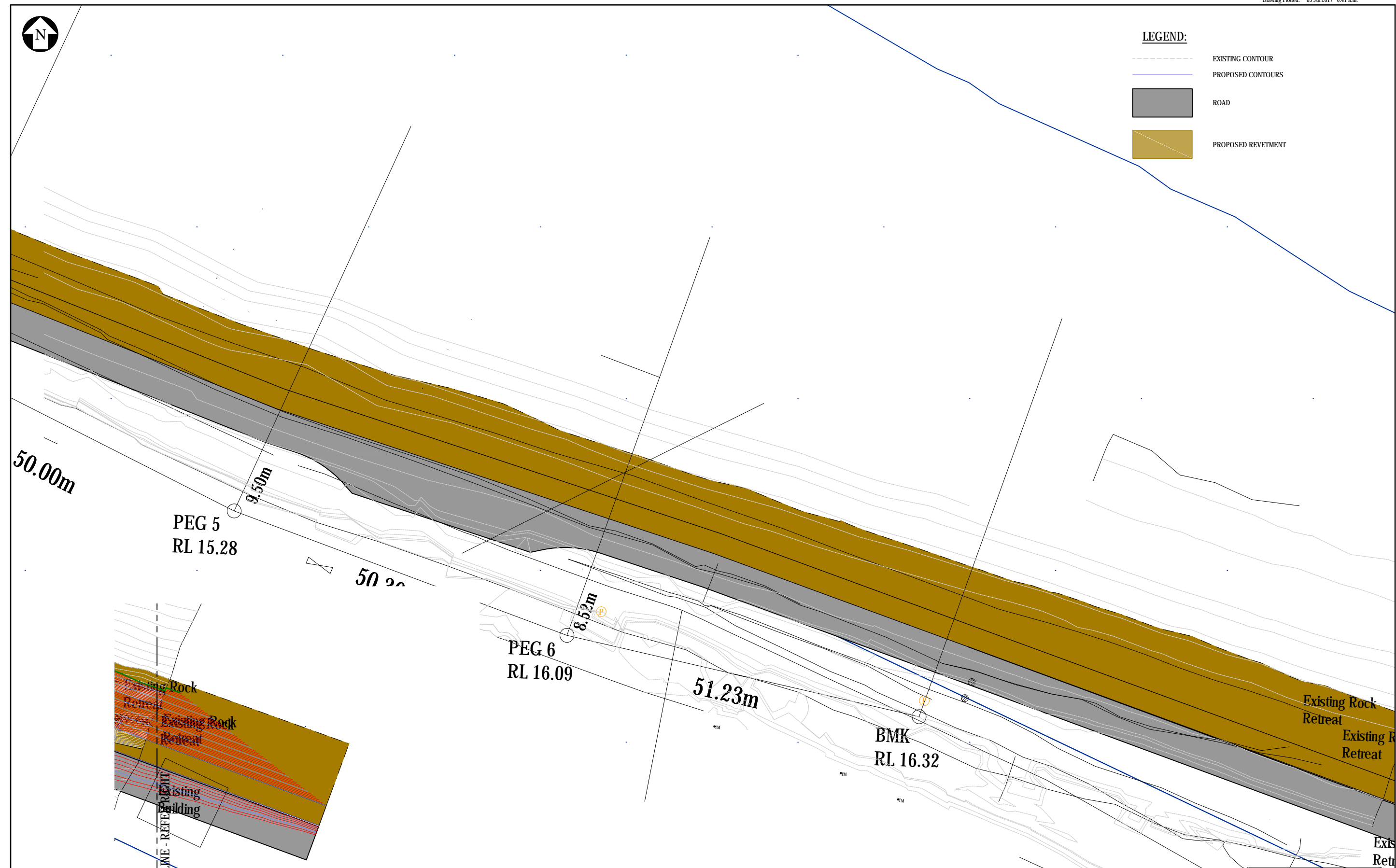
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Drawing No.:	3233367-CA-K004
Rev.:	A



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-  ROAD
-  PROPOSED REVETMENT



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SCALE 1:250

**FOR INFORMATION**  
NOT FOR CONSTRUCTION

**FOR CLIENT REVIEW**  
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
A	ISSUED FOR CLIENT REVIEW	KWN	EW	SP	21.04.17

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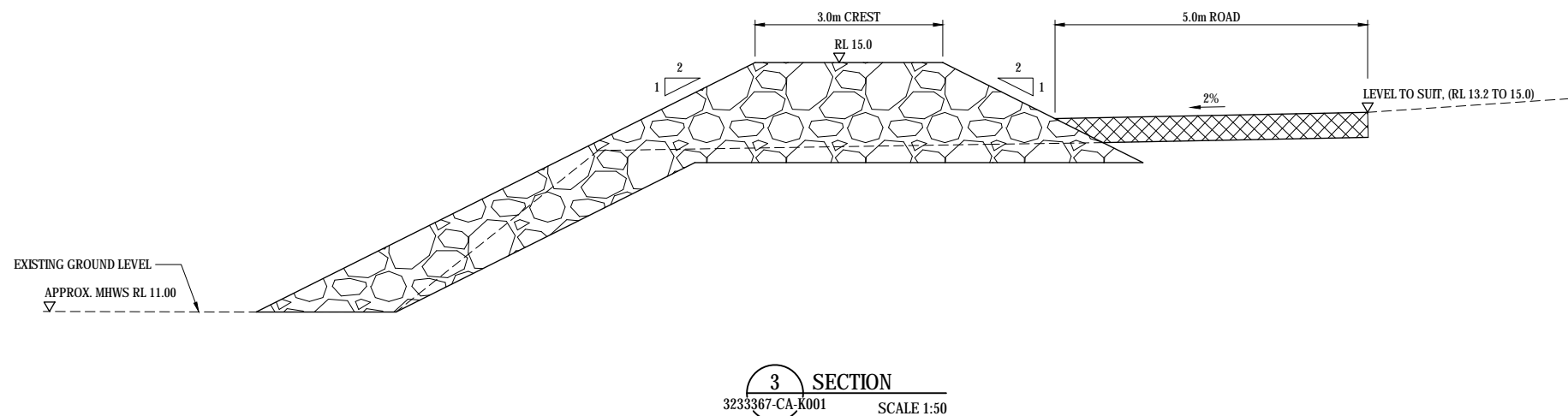
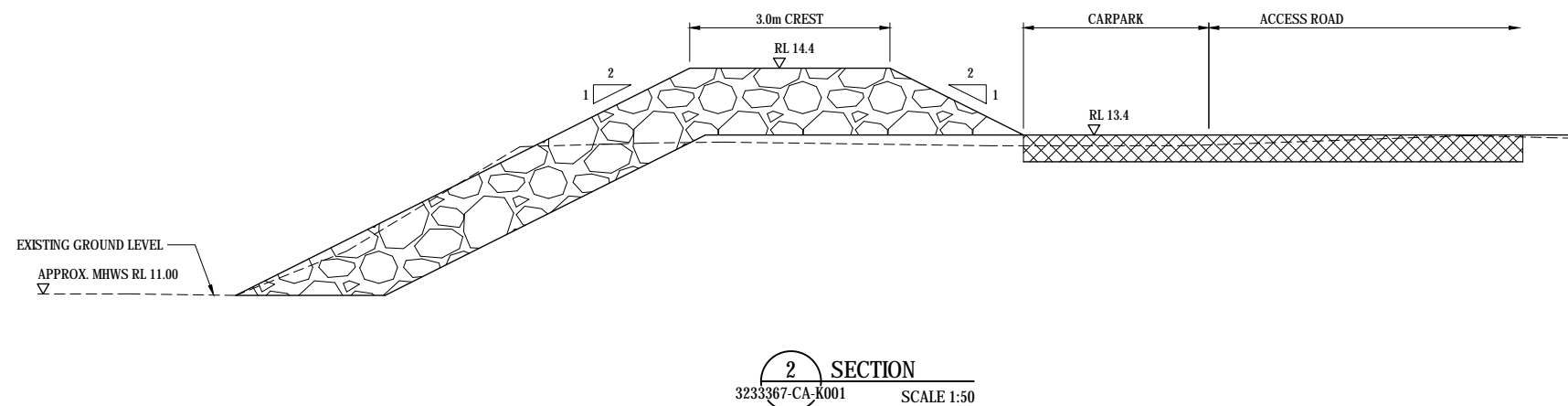
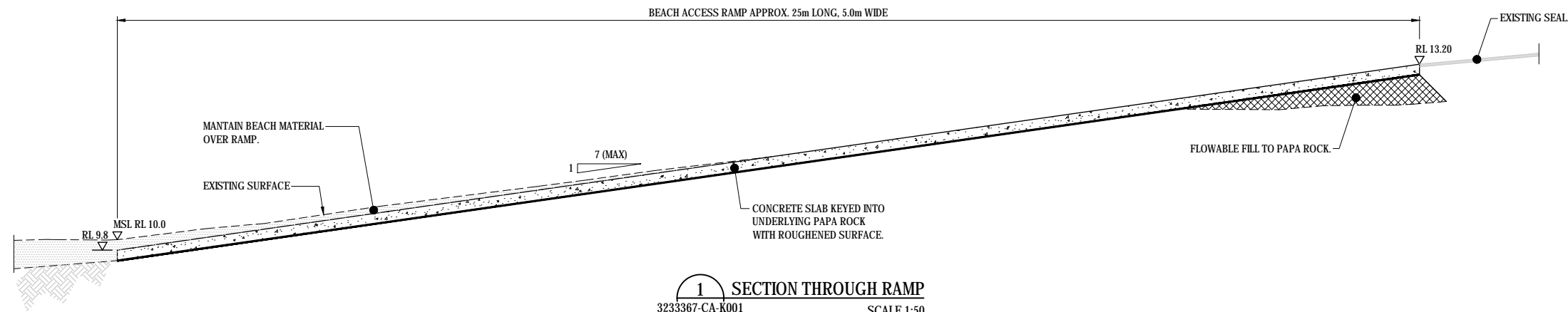
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Project:  
**CLIFTON REVETMENT**

Title:  
**EXISTING AND PROPOSED CONTOUR PLAN SHEET 2 OF 2**

Discipline:	CIVIL ENGINEERING
Drawing No.:	3233367-CA-K005
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A	ISSUED FOR CLIENT REVIEW	KWN	EW	SP	21.04.17



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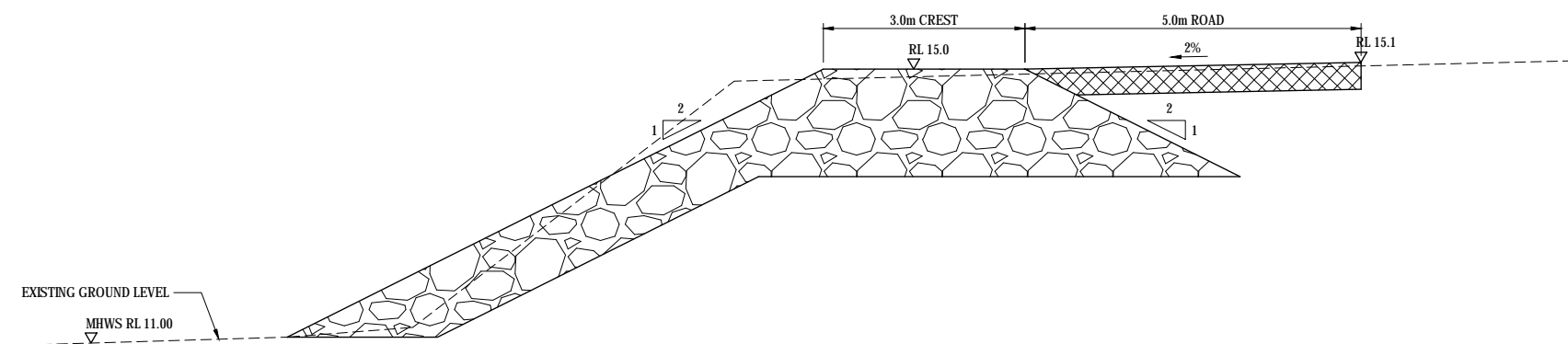


Client: **HASTINGS DISTRICT COUNCIL**  
Project: **CLIFTON REVETMENT**

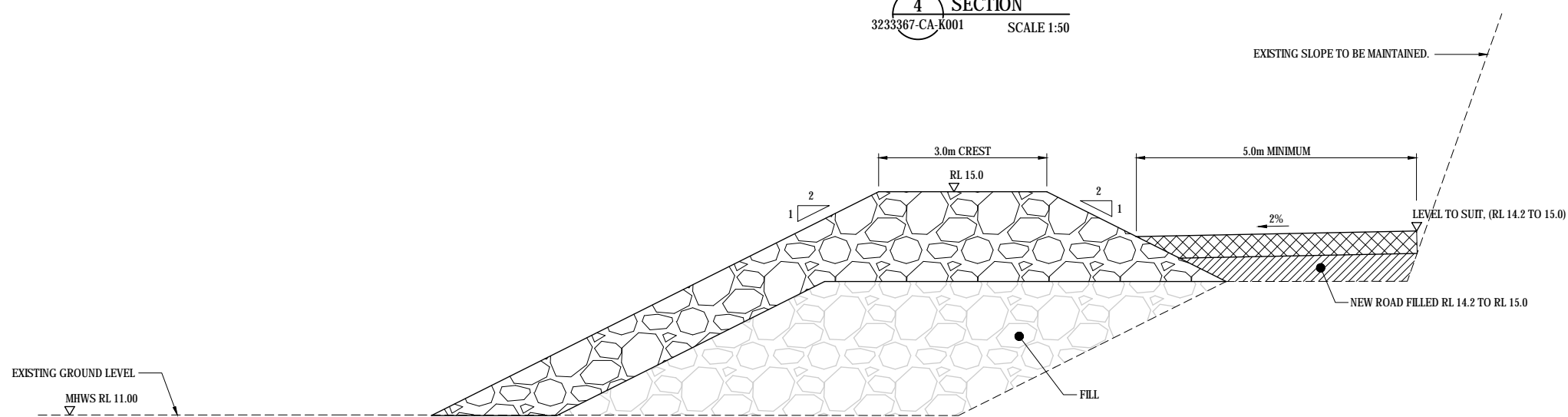
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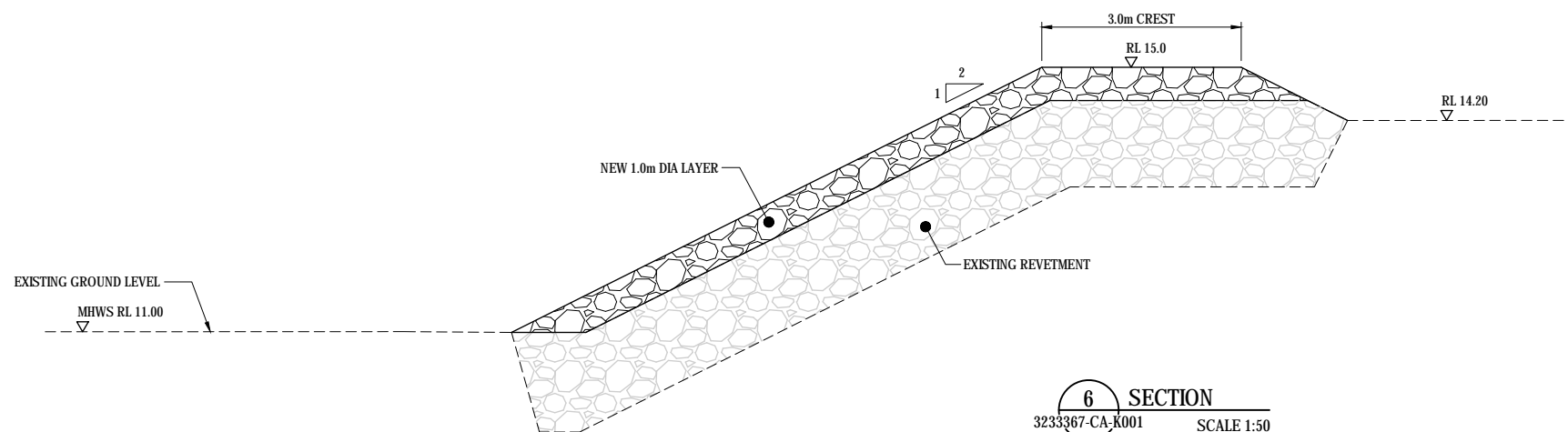




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**5 SECTION**  
3233367-CA-K001 SCALE 1:50



**6 SECTION**  
3233367-CA-K001 SCALE 1:50

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No.	Revision	By	Chk	Appd.	Date
A	ISSUED FOR CLIENT REVIEW	KWN	EW	SP	21.04.17



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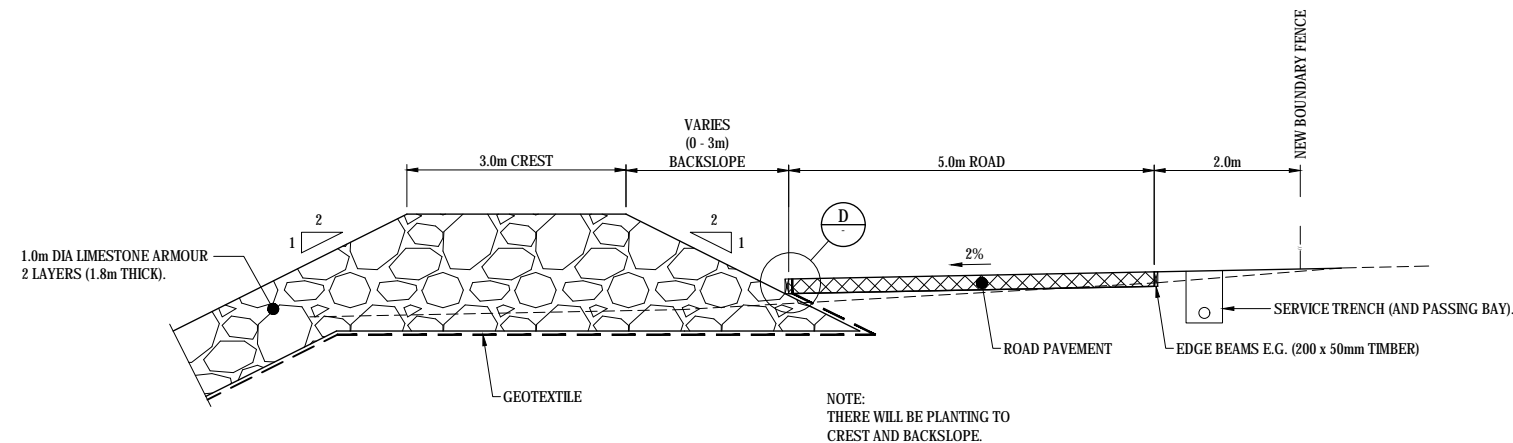
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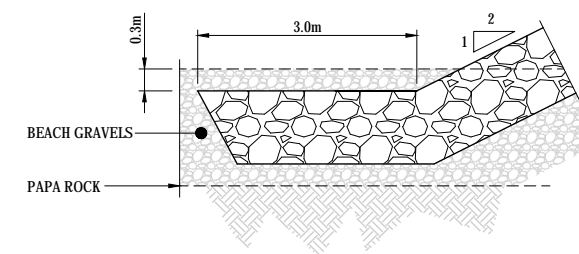
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Project: **CLIFTON REVETMENT**

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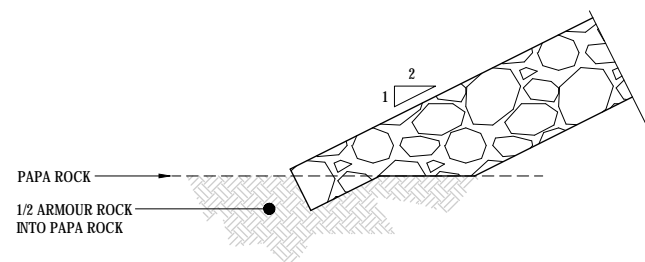
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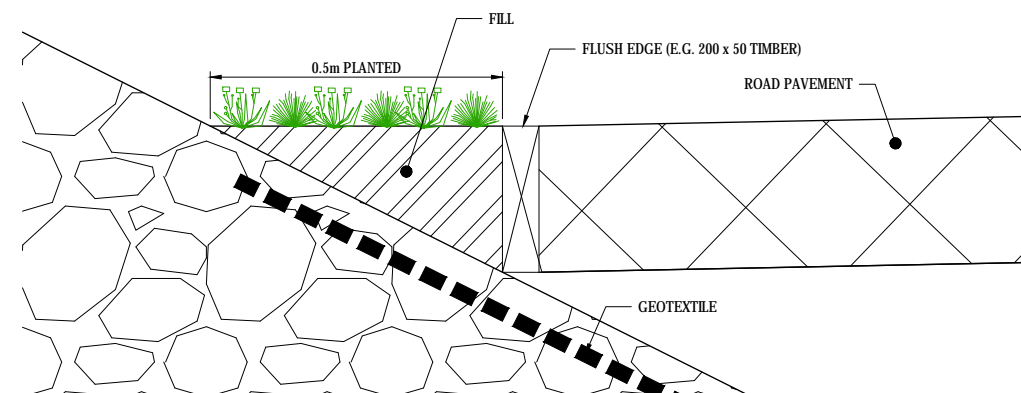
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SCALE 1:50



**B** REVETMENT TOE DETAIL  
PAPA ROCK BELOW REVETMENT  
SCALE 1:50



**C** REVETMENT TOE DETAIL INTO PAPA ROCK  
SCALE 1:50



**D** FLUSH EDGE DETAIL  
SCALE 1:5

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**FOR CLIENT REVIEW**  
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SECTIONS UPDATED	KWN	EW	SP	03.07.17
A	ISSUED FOR CLIENT REVIEW	KWN	EW	SP	21.04.17



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Project: **CLIFTON REVETMENT**

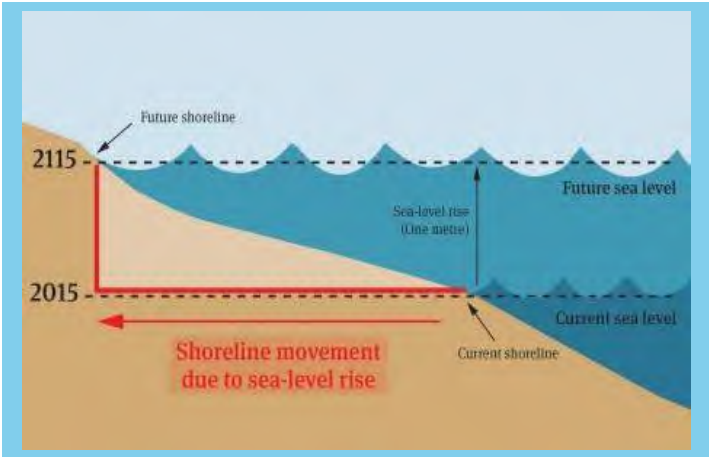
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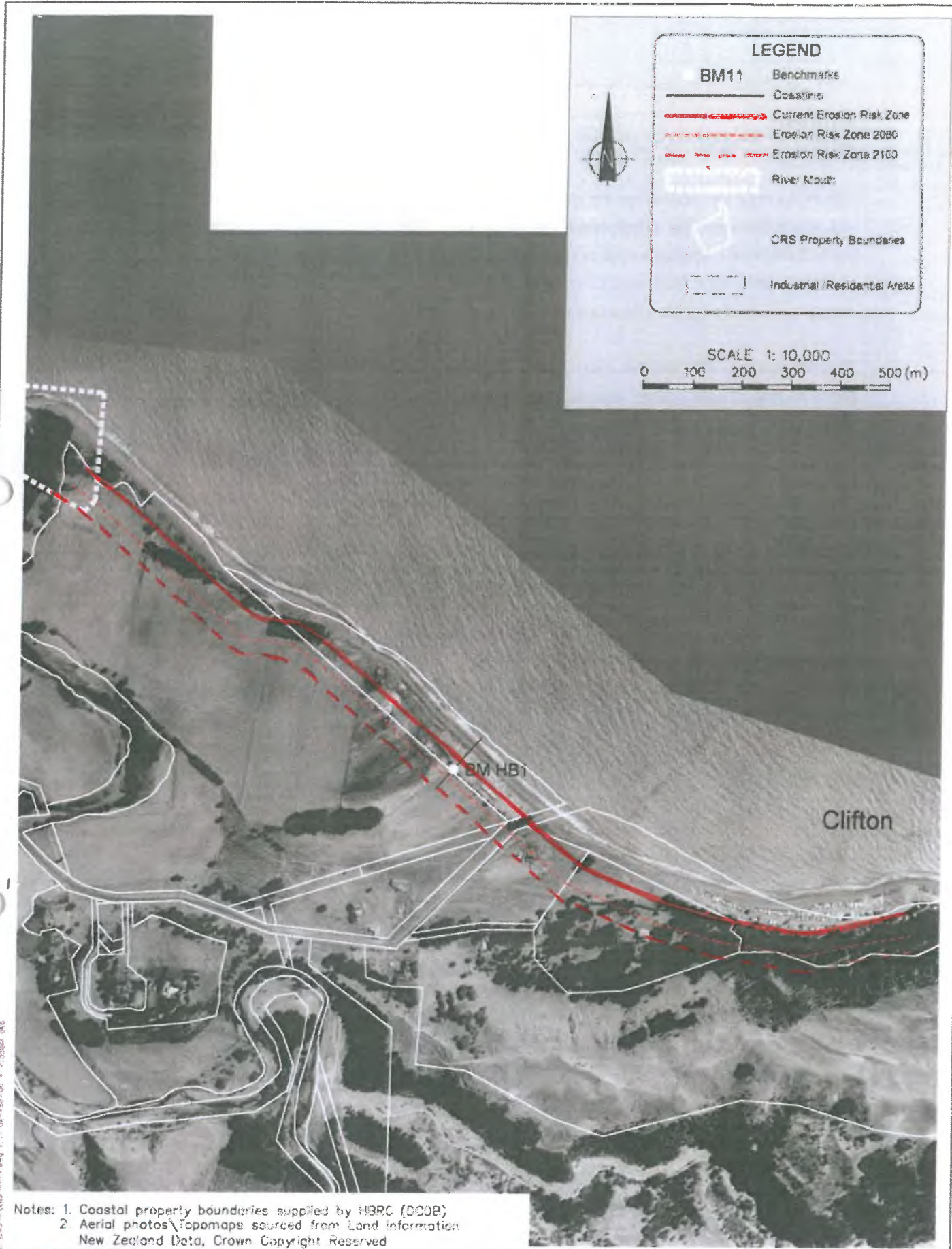
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Appendix C

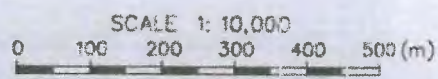
# Setback Lines





**LEGEND**

- BM11    Benchmarks
- Coastlines
- Current Erosion Risk Zone
- - -    Erosion Risk Zone 2080
- · ·    Erosion Risk Zone 2100
- River Mouth
- CRS Property Boundaries
- Industrial/Residential Areas



Notes: 1. Coastal property boundaries supplied by HBRC (DCDB)  
 2. Aerial photos/topomaps sourced from Land Information New Zealand Data, Crown Copyright Reserved

DESIGN	RKD	09/03
DRAWING CHECKED		
APPROVED		
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PROJECT NO.	205 14	

**Tonkin & Taylor**  
 Environmental & Engineering Consultants

Auckland     Christchurch  
 Hamilton     Whangarei  
 Nelson     Wellington

**HAWKES BAY REGIONAL COUNCIL**  
 REGIONAL COASTAL HAZARD ASSESSMENT  
 HAZARD ZONE DEFINITIONS  
 Clifton

FIG. NO. **Figure 7.11**

REV. **1**

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## Clifton

### Setting

Clifton is a small area of development bound by the coast and steep hill country. The shingle beach is at the southern end of the bay and is subject to large rates of erosion based on historic survey data. Main assets at risk include the camp ground, access road and the motor camp.

Shoreline trends are inferred from HB1. A range of ad-hoc protection measures can be seen along the coast including tipped rubble and construction debris.



### Hazard Description

### Potential Risk

Hazard Description		Potential Risk		
		Likelihood	Consequence	Risk
CERZ	30.0 m	Unlikely	Catastrophic	Extreme
ERZ 2060	45 m			
ERZ 2100	31 m	Possible	Catastrophic	Extreme
Total Erosion Zone width	107 m			
Sea Inundation level (CERZ)	14.9 m	Likely	Catastrophic	Extreme
Sea Inundation level landward of CERZ	13.5 m			
		Certain	Major	Extreme

### Uncertainties

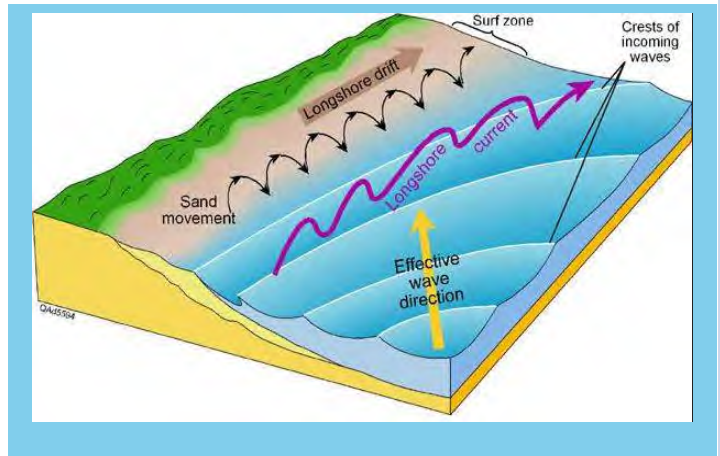
Uncertainties over future climate change impacts

### Recommendations

- No new council infrastructure or new private development to be located within the CERZ
- Consider removal/relocation of camp ground and replacement of failing coastal protection structures with beach replenishment or managed retreat
- All new private development within remaining Erosion Hazard Zone to be relocatable and above inundation levels or be provided with flood protection bund subject to confirmation of no adverse effect on catchment flooding.
- No further modification of land designation permitted in currently non-residential zoned land within hazard zones
- Monitor shoreline change

Appendix D

# Coastal Processes Assessment



Proposal

# Clifton Beach: Coastal Processes Assessment

Prepared for Hastings District Council

Prepared by Beca Limited




May 2017



## Revision History

Revision N°	Prepared By	Description	Date
0	<b>Evan Walters</b>	Preliminary Draft	15/05/2017
1	<b>Evan Walters</b>	For Resource Consent	11/07/2017

## Document Acceptance

Action	Name	Signed	Date
Prepared by	<b>Evan Walters</b>		11/07/2017
Reviewed by	<b>Connon Andrews</b>		11/07/2017
Approved by	<b>Stephen Priestley</b>		11/07/2017
on behalf of	Beca Limited		

Beca 2017 (unless Beca has expressly agreed otherwise with the Client in writing).

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# 1 Introduction

## 1.1 Background

The southern extent of Clifton Beach has been experiencing ongoing coastal erosion that is threatening Clifton Road and a camp No. 1 near Cape Kidnappers. Historically, Clifton Road been relocated landward on several occasions in response to coastal erosion to maintain access.

To afford coastal protection Hastings District Council (HDC) constructed an 80m revetment in 2013 to protect the campsite entrance and toilet block (refer to Figure 1.1). The revetment resource consent expires on August 31<sup>st</sup> 2018. Despite these efforts, the shoreline has continued to retreat and threatens other areas of the access road.

To address the coastal erosion HDC is preparing a resource consent application to retain the existing revetment and to extend it further westward by 400m along the access road. This report provides an assessment of the potential effects on coastal processes from the proposed revetment.

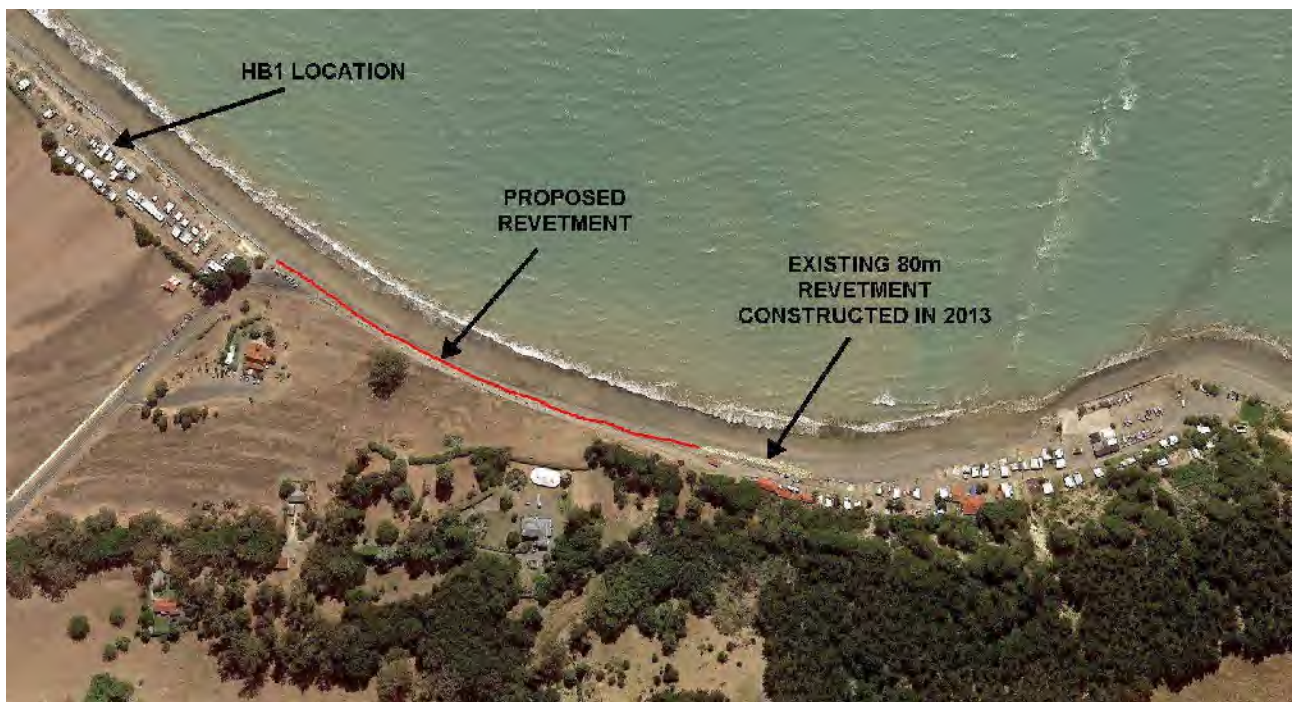


Figure 1.1: Project Location

## 1.2 Methods

The most noticeable potential effects of revetment structures is a change to the coastline planform, either by erosion or accretion. Therefore, the focus of this coastal process assessment has been on longshore sediment transport. This requires a sound understanding of the wave climate at the beach and the characteristics of the sediment such as sediment size and supply rates.

To investigate the proposed revetment's effects on the local environment; it is first necessary to compile all existing information on the local environment. This information includes geotechnical information, wind, wave and current data, aerial graphics, and bathymetric survey data. Available information is summarized in Section 2.0 of this report.

The offshore bathymetry along the Clifton Beach shoreline is complex comprising of reefs and rock outcrops which have a significant effect on wave transformation and the shoreline morphology. To resolve the nearshore wave climate SWAN (Simulating WAVes Nearshore) was employed to provide time series wave data at 32 locations along the shoreline. Next, this data was used in Littoral Processes FM a DHI coastal longshore transport model to simulate longshore transport and shoreline evolution. The potential effects from the proposed engineering works are assessed within Littoral Processes FM and are presented in Section 3 of this report.

## 2 Project Information and Simulation Inputs

---

### 2.1 Previous Studies

#### 2.1.1 Komar Report (March 2014)

This comprehensive report summarizes environmental information along the entire Hawke's Bay coast. It covers topics such as sea level rise, past earthquakes, wave climate, and extreme water levels. Most importantly for this report, it also includes sediment budget calculations.

Information from this report was used as input to the Littoral Processes FM model. The report states that "In this budget it is seen that the Tukituki River and the erosion of Cape Kidnappers combine to contribute an estimated 46,000 m<sup>3</sup>/year of gravel to this cell, while losses amount to a total of -91,000 m<sup>3</sup>/year, the result being that the budget's balance is significantly "in the red" with a net annual loss of -45,000 m<sup>3</sup>/year, indicating that on average the Haumoana Cell's shoreline has experienced erosion over the decades". For this study, Komar reports that 18,000 m<sup>3</sup>/year of littoral supply is available at Clifton.

#### 2.1.2 T&T Report (April 2008)

The Tonkin and Taylor report details the erosion risk at the various beaches along Hawke's Bay. Most relevant to this report, it discusses historical trends for Clifton beach. It states that although historical erosion rates for the HB1 cross shore profile are higher between 1973 to 1995 than the rates after 1995, the overall average erosion rate is 0.69m/year (1973 to 2008).

#### 2.1.3 Environmental Management Services Ltd. (April 2009)

This report evaluates the advantages and disadvantages of several options to solve the erosion problems at Te Awanga, Haumoana, and Clifton Beaches. Within its sediment budget section, it states that the net 'loss' of gravel from Te Awanga – Haumoana and Clifton beaches is estimated to be 48,800 cubic metres per year, 11,600 cubic metres being at Clifton Beach. It then goes on to evaluate various options to solve the beach erosion. Specifically, it dismisses a seawall revetment as a solution calling it too expensive, and proposes constructing a groyne field in the area. It rules out a beach nourishment solution due to the availability of gravel in the area.

The recommendation provided in the report is a staged retreat approach due to the high cost of a groyne field (\$17.4 million net present value in the first 20 years, \$18.5 million over 60 years) and uncertainty of constructing groynes in the area. Although expensive, it must be noted that the extent of the 2009 study is for a larger area than this assessment. A groyne project at Clifton beach would be less expensive than the cited numbers above.

### 2.2 Existing Information

#### 2.2.1 Tides and Water Levels

Astronomical tide levels for the Port of Napier, which are considered applicable for Clifton Beach are presented in Table 2.1. Levels are presented in both Chart Datum (CD) and relative to the local Hawkes Bay MSL datum (RL).

Table 2.1: Tide and Water Levels for Napier, New Zealand

	Level (m CD)	Level (m RL)
MHWS	1.89	10.97
MHWN	1.49	10.57
MSL	0.95	10.03
MLWN	0.39	9.47
MLWS	0.04	9.12

Source: LINZ Standard Ports

### 2.2.2 Geotechnical Information

The backshore comprises of alluvial deposits (silt, sand and gravel) which is underlain by papa basement rock. The papa basement rock is exposed at various locations along the shoreline in the form of hard headlands, exposed outcrops in the intertidal beach area and as submerged reefs. The papa rock is generally located at an elevation of RL 10.0m and is considered hard and does not erode at any noticeable rate.

The beach material comprises of mixed sand gravel with coarser sediment at the upper beach levels. Sediment gradation curve for this location (labelled K1) is presented in Appendix A of the Engineering Assessment Report. Based on the gradation data and anecdotal information, the average sediment size used in the model is 20mm.

### 2.2.3 Bathymetric Information

#### 2.2.3.1 Sidescan Data

Sidescan sonar data was provided by the HBRC (refer to Figure 2.2). The data extends approximately 1km offshore to a depth of RL 8.0 at the nearshore.

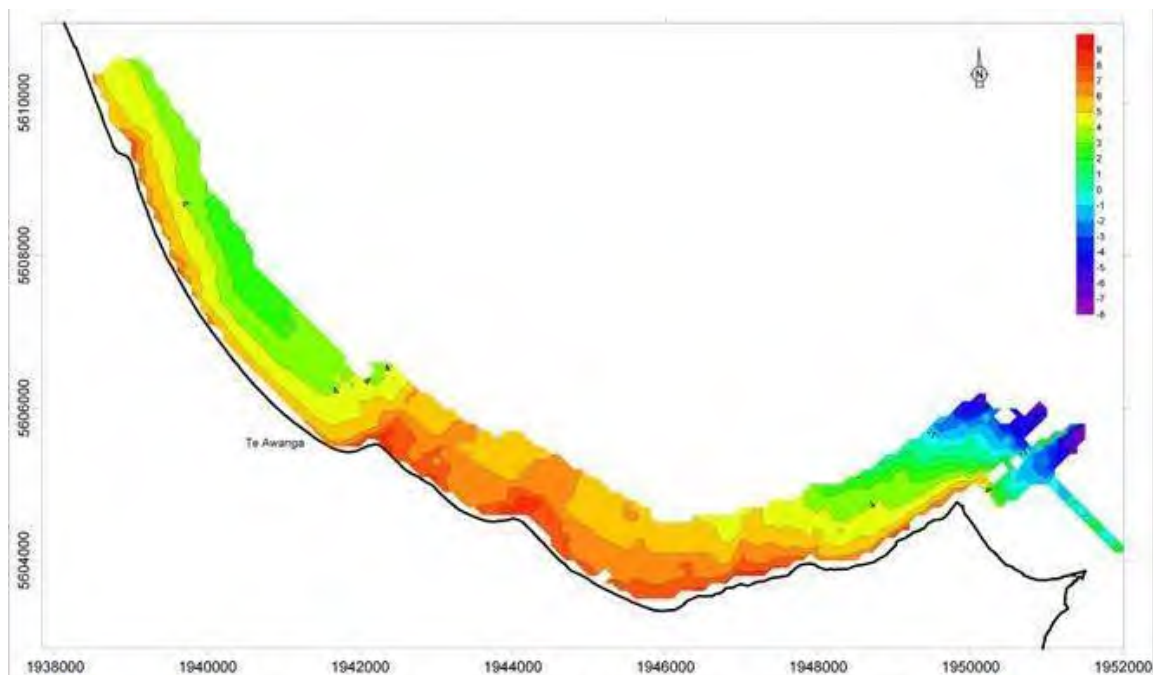


Figure 2.1: Sidescan sonar survey offshore of Clifton Beach, elevations in metres

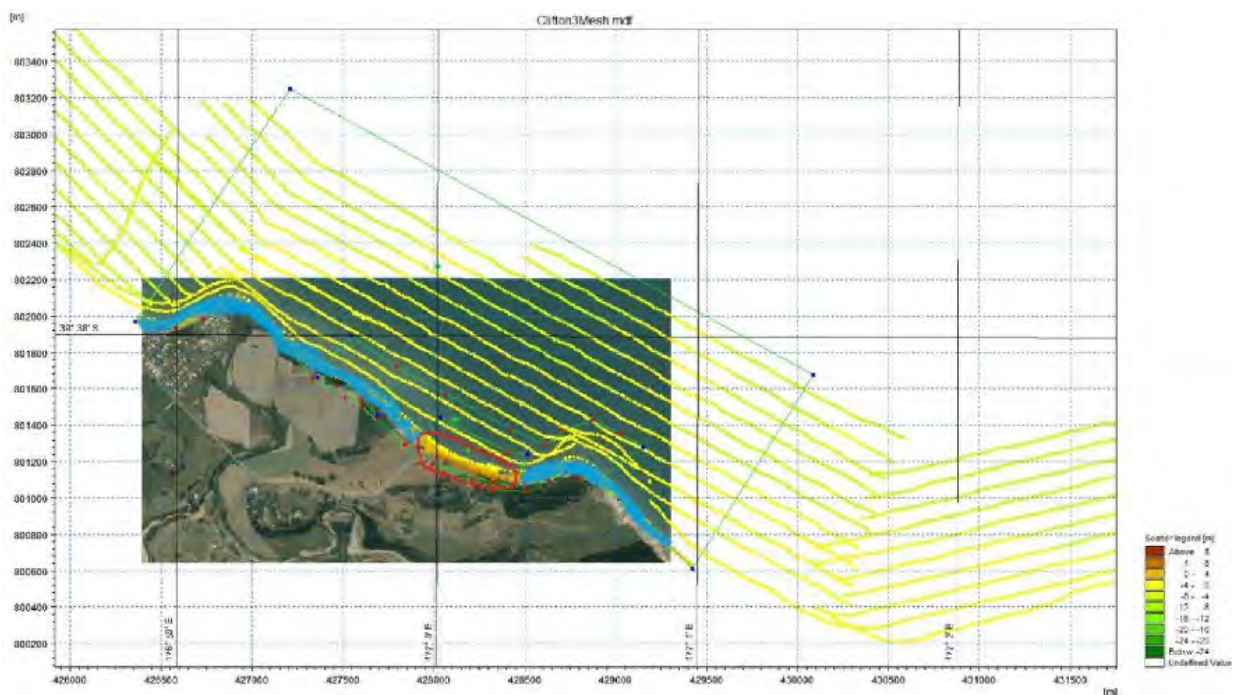


### 2.2.3.2 Beach Profile Survey, HB1

HBRC has been keeping records of beach profiles since 1972. The closest monitoring location to the project is called HB1 (refer to Figure 1.1). The data of these records were used in the 2008 Tonkin and Taylor report which produced a shoreline retreat rate of 0.69m/year. Beach profile data is presented in Figures 2.7 and 2.8 of the Engineering Assessment Report.

### 2.2.3.3 Zorn Surveying Survey

A survey of the backshore and intertidal area was provided by Zorn Surveying for the project area. This data was combined with the sidescan sonar data and some extrapolation allowed for an accurate portrayal of the beach and nearshore area. Figure 2.2 presents the various bathymetric data scatter sets. The red circled area represents the nearshore extents of the Zorn Survey, the blue highlighted area is the extrapolated data set, and the other scatter data represents the sidescan sonar data.





Significant Wave Height ( $H_s$ ) and Peak Wave Period ( $T_p$ ) wave roses for the 37 year dataset are presented in Figures 2.3 and 2.4 respectively. From the wave rose, it is evident that the majority of the waves come from the North Easterly direction in a very tight range between 50 and 65 degrees. The average  $H_s$  and  $T_p$  over the data set is 0.67m and 10.4s respectively.

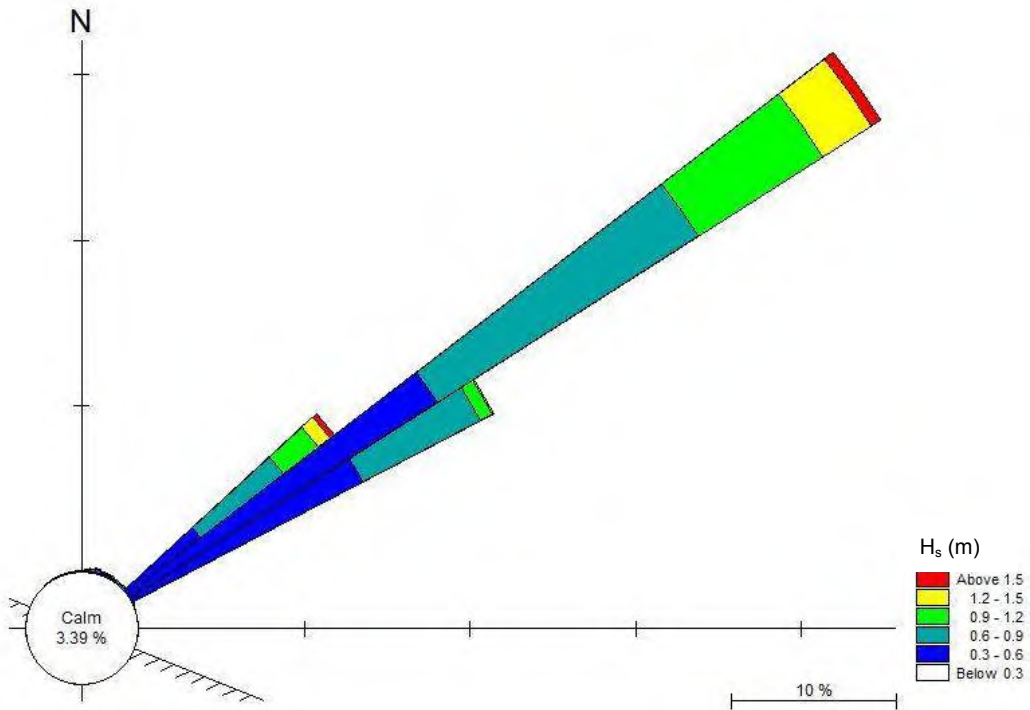


Figure 2.3: Wave Rose of Hindcast Wave Data at 177.005E, 39.630S, 5 degree bins, height in metres

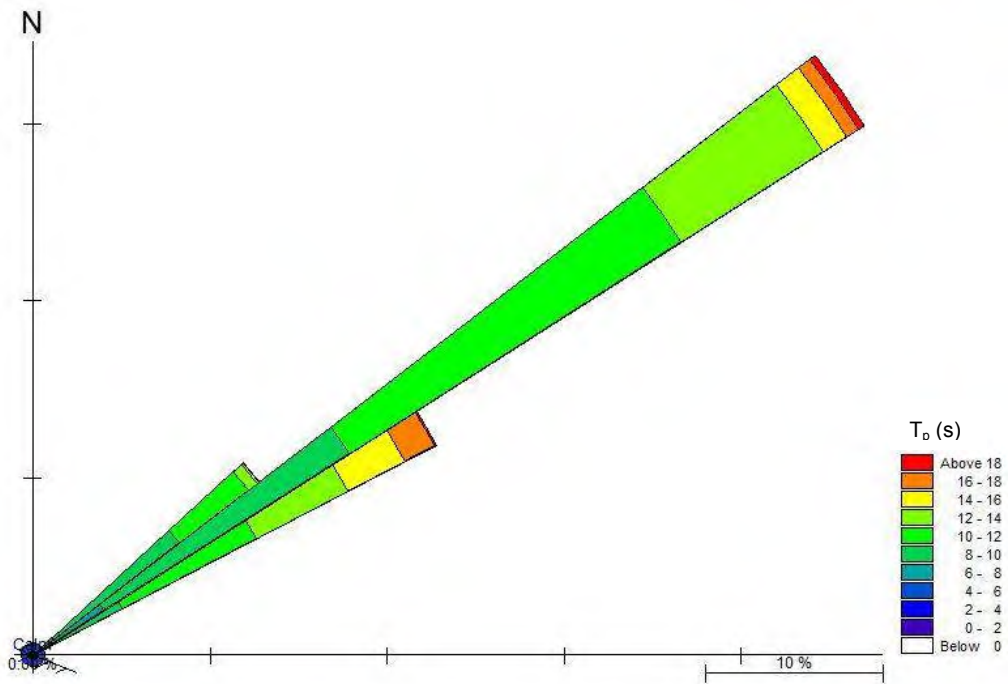


Figure 2.4: Wave Rose of Hindcast Wave Data at 177.005E, 39.630S, 5 degree bins, period in seconds

### 2.3.2 Depth of Closure

Depth of closure is an important concept used in coastal engineering. It is a theoretical depth along a cross shore beach profile where sediment transport is very small or non-existent. This depth varies dependent on wave height wave period, and sediment grain size. Beaches with larger sediment sizes have smaller depths of closure because larger sediment isn't as easily influenced by wave action than smaller sediment. Since Clifton beach is a gravel beach, its depth of closure is small due to the large sediment size. After calibration, the depth of closure varied along the coastline, but in general the depth of closure used was RL 8.3 (1.7m below MSL).

## 3 Modelling

### 3.1 Wave Modelling

The offshore bathymetry along the Clifton Beach shoreline is complex comprising of reefs and rock outcrops which have a significant effect on wave transformation and the shoreline morphology. To resolve the nearshore wave climate SWAN (Simulating WAVes Nearshore) was employed to provide time series wave data along the shoreline.

#### 3.1.1 SWAN Wave Model Brief Description

SWAN (Simulating WAVes Nearshore) is a 3<sup>rd</sup> generation spectral wave model for obtaining realistic estimates of wave parameters in coastal areas, lakes, and estuaries from given wind, bottom, and current conditions. The model is developed at Delft University of Technology.

For this project, SWAN was used to transform the wave data provided by MetOcean Solutions Ltd to the closure depth (RL 8.3m).

#### 3.1.2 SWAN Wave Modelling

The model domain and bathymetry is presented in Figure 3.1. A flexible mesh was compiled utilizing the composite bathymetric dataset (refer to Figure 2.3). The Metocean Ltd time series dataset which consisted of 3 hourly data from January 1<sup>st</sup> 1979 to December 31<sup>st</sup> 2015 was adopted on the seaward boundary.

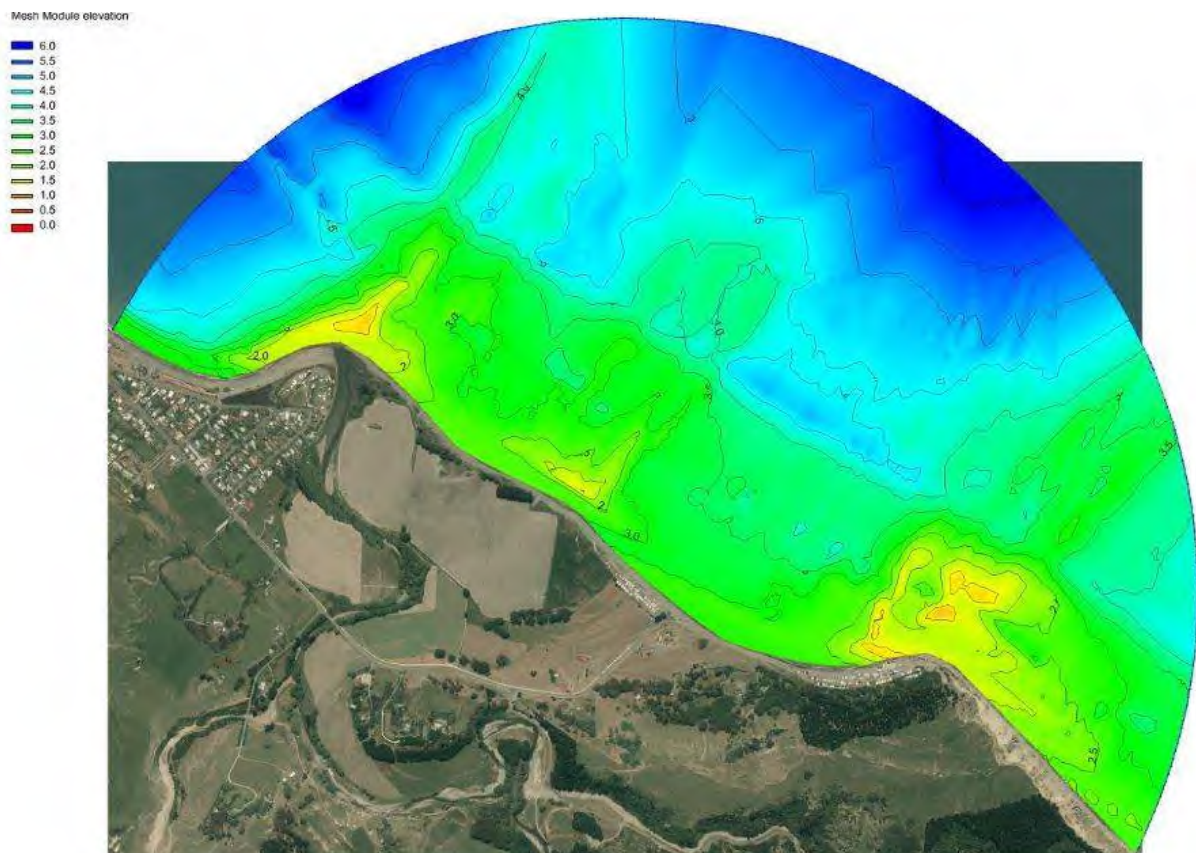


Figure 3.1: SWAN Model Bathymetry, showing reef systems

The model was simulated in third generation non-stationary mode at a 3-hourly time steps allowing for the following processes:

- Exponential wind growth (Komen, 1984)
- Quadruplets (Hasselmann *et al.*, 1985)
- Whitcapping (Komen, 1984)
- Triads (Eldeberky, 1996)
- Bottom friction (JONSWAP, 1973)
- Water level generated from Port of Napier tidal constituents

Time series data at approximately RL 8.0 was generated along the coastline for the full dataset (refer to Figure 3.2 locations). The data was subsequently converted to a profile series for the use in Littoral Processes FM.



Figure 3.2 SWAN Wave model output locations

## 3.2 Longshore Sediment Transport

### 3.2.1 Littoral Processes FM Brief Model Description

Littoral Processes FM (Flexible Mesh) was chosen for this study because of its ability to simulate non-cohesive sediment transport, particularly for gravel beaches.

Littoral Processes FM is a modelling system published by the Danish Hydraulics Institute (DHI) that simulates non-cohesive sediment transport along a quasi-stationary coastline. It is a powerful tool for sediment budgets and simulating long term shoreline evolution.



Within Littoral Processes FM are four models. The transport in point model calculates non-cohesive sediment transport in one or several points. The littoral drift model calculates the longshore transport for one or several cross-shore profiles. The littoral drift table generation model uses similar methods to the littoral drift model, but produces outputs which can be used in the coastline evolution model. Lastly, the coastline evolution model calculates coastline movements with respect to a straight baseline. It has the ability to have simulate various coastal structures such as revetments, offshore breakwaters, jetties, and groynes.

### 3.2.2 Littoral Processes FM Simulation Domain

For longshore sediment transport modelling it is important to extend the model past geomorphic features that can affect or control the movement of sediment. Accordingly, a model was developed that extended 3.5 km from the west of the Maraetotara River to east of the headland that accommodates Camp No. 1 (refer to Figure 3.2). Figure 3.2 not only represents the model domain, but also depicts the model baseline in Red, along with the cross shore profile.

For the model domain a grid resolution of 20 m was adopted, which was required to resolve the key geomorphic controls and structures.

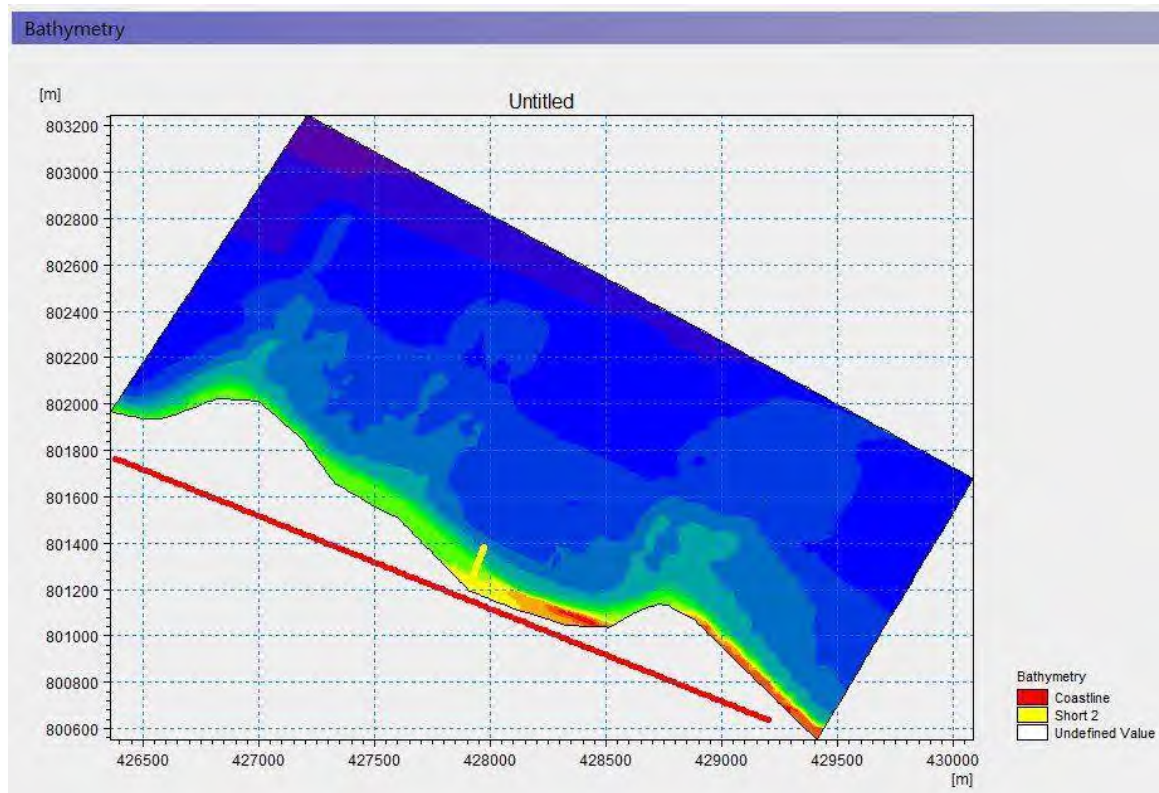


Figure 3.2: Simulation Domain with project Baseline and 5 Cross sections

### 3.2.3 Simulation Time Range

To provide for the most accurate results over time and most efficient use of the wave data set, the time settings of the model were set to run from January 1<sup>st</sup>, 1979 through December 31<sup>st</sup>, 2015 in three hour time step intervals.

### 3.2.4 Coastal Structure Locations

Figure 3.3 presents the extent and location of the existing (red) and proposed (cyan) revetments.



Figure 3.3: Hard point and Revetment Positions (red) and proposed revetment (cyan)

### 3.2.5 Sources and Sinks

#### 3.2.5.1 Cape Kidnappers Erosion Source

Following Komar (2014) which estimated that erosion from Cape Kidnappers to the south of the project area represents a sediment source coming from the east. In the Littoral Processes FM model, this sediment source was included as 18,000 m<sup>3</sup>/year.

#### 3.2.5.2 Maraetotara River

*Te Awanga – Haumoana Coastal Erosion: Review and Recommendations* is a report released in 2009 by Environmental Management Services Ltd. which is available on the HBRC's website. This report details the various sediment inputs including the Maraetotara River. The report states that “[although] some gravel deposits [exist] in deep water off the mouth of the Maraetotara River... their contribution to the beach, if any, is unknown and assumed to be negligible.”. This statement is also reinforced in *The Hawke's Bay Littoral Cells: Processes, Erosion Problems and Management Strategies* which states that “with its small watershed and discharges, the Maraetotara River reaching the shore at Te Awanga is considered to be insignificant”. Hence, in the Littoral Processes FM model the Maraetotara River was not included as a sediment source.

## 3.3 Calibration and Simulations

### 3.3.1 Methods

The simulation set up discussed in Section 3.2 was run through the Littoral Processes FM model. The model was initially set up to simulate what would happen if the revetment constructed in 2013 was not there. This case was called the “no protection case” and was used to calibrate the model. After the model was calibrated, two more cases were developed to compare the environmental effects of the proposed revetment to the existing situation. These cases are discussed in more detail in Section 3.4.



### 3.3.2 Historical Retreat

Historical shoreline movement was assessed by comparison of historic aerial photography. Aerial photographs from 1963, 1980 and 2009 were sourced and rectified to enable comparison. Vegetation lines were digitized and used for comparison to obtain erosion/accretion rates. Figures 3.4 and 3.5 represent the vegetation lines with different base photographs.

Measured shoreline movement and annual rates were calculated for simulation cells 39, 64, 76, 83, and 99 as shown in Figures 3.4 and 3.5 and are presented in Table 3.1.

Table 3.1: Shoreline Retreat Calibration Rates

Cell	Measured 29 year Shoreline Retreat (m)	Retreat Rate (m/year)	Cell Description
39	4	0.13	About ½ km East from Maraetotara River
64	15	0.51	Outcrop point
76	20	0.69	HB1
83	15	0.51	Road Turnoff
99	15	0.51	Inside the Project Area

### 3.3.3 Scenarios

As part of the calibration and production process the following scenarios were simulated:

- Scenario 1 - No Protection Scenario: A simulation which *excludes* the existing 80m revetment installed in 2013, but includes a hard point to the east of Camp No.1 to simulate the existing protection and the cliff line.
- Scenario 2 - Existing Condition Scenario: Same as Scenario 1 but includes the 80m revetment installed in 2013.
- Scenario 3 – Proposed Revetment Scenario: Same as Scenario 2 but includes the proposed revetment.

With these three runs, an accurate depiction of the coastal environment was modeled, and the results are presented in Section 3.4.

### 3.3.4 Calibration

Shoreline retreat rates were calculated and compared to the target values as presented in Table 3.2. Unless protected by a revetment, all of the measured cells exhibited shoreline retreat except for Cell 39 which showed minor accretion. The model describes the annual rates well and replicates the larger scale morphodynamics, particular with the salient feature adjacent cell 64.

Table 3.2: Shoreline Retreat and Target Shoreline Retreat Comparison

Case	Cell 39	Cell 64	Cell 76	Cell 83	Cell 99
37 Year Shoreline Retreat Target Value	0.0m	-19.1m	-25.5m	-19.1m	-19.1m
No Protection Case	+0.6m	-21.1m	-26.1m	-21.4m	-28.2m
Existing Conditions Case	+0.6m	-21.2m	-25.7m	-18.4m	-7.2m
Proposed Case	+0.6m	-21.5m	-24.5m	0m*	0m *

\*Revetment holds shoreline in place



Figure 3.4: Historical shoreline movement – Base photograph 1963, 1980 vegetation line (green) and 2009 vegetation line (red)



Figure 3.5: Historical shoreline movement – Base photograph 2009, 1980 vegetation line (red) and 2009 vegetation line (green)



## 3.4 Results

### 3.4.1 Longshore Transport Statistics

The longshore transport rates in the study area vary depending on the location along the study area. With each different location, the transport rates are influenced by the angle of the shoreline and the incident wave angle. Annual gravel transport rates varied from 2000m<sup>3</sup>/year to 14,000m<sup>3</sup>/year in the westerly direction. Particularly, the area where the proposed revetment is to be situated transport rates are higher (11,000m<sup>3</sup>/year) compared to other areas. This is expected due to the local shoreline orientation making the waves break at a more oblique angle than in other areas, which causes more longshore sediment transport. This makes it an area which is particularly prone to erosion.

### 3.4.2 Scenario 1: No Protection Case

The shoreline retreat rates for this case were consistent with the measured aerial photo values with negligible change west of the central salient and erosion rates of 0.70 m/year at HB1 (refer to Figure 3.6). However, cell 99 (area of the proposed revetment) experienced approximately 9m of erosion more than the observed. This translates to an enhanced retreat rate of 0.76m/year compared to a target retreat rate of 0.52m/year.

The rate of erosion adjacent to cell 99 is a function of the position of the eastern geomorphic control point. In this simulation the control point is the hard lined tip of the Camp No.1 headland. It was assumed that no coastal protection structures were implemented fronting Camp No. 1 and that the back shore area was fully erodible. The results show that without the ad hoc erosion protection measures fronting Camp No.1 the camp ground is particularly susceptible to erosion. Furthermore, the downstream effects of an eroding shoreline are likely to result in increased erosion rates through to the central salient as the shoreline continues to establish equilibrium.

### 3.4.3 Scenario 2: Existing Conditions Case

The shoreline retreat rates for this case were consistent with the measured aerial photos with negligible change west of the central salient and erosion rates of 0.68 m/year at HB1 (refer to Figure 3.7). The results show that the erosion rates down drift of the revetment constructed in 2013 have decreased compared to Scenario 1. The decreased erosion rate is attributed to the revetment providing a fixed control point which terminates at a point where the shoreline angle relative to the incident wave angle is less oblique than that directly to its east, leading to lower transport rates.

Typically, revetments cause a local downdrift erosional effect, however simulating revetment's effects were beyond the capabilities of the model. It is expected that the shoreline retreat rates would be higher if local downdrift effects were included in the model.

### 3.4.4 Scenario 3: Proposed Case

This simulation includes the proposed 400m revetment extension. The revetment extension holds the shoreline in place at cells 83 and 99, so no shoreline retreat was simulated at these locations. Cell 76, representing HB1, approximately 200m down drift of the proposed revetment has similar retreat rates to the existing Scenario 1 and 2 with shoreline retreat of 0.67m/year. Decadal changes to erosion rates are presented in Table 3.3 for HB1. The results show that while the proposed revetment protects Clifton Road the shoreline adjacent to Camp No. 2 is likely to continue to erode. While the rate of change is low, the introduction of the revetment is expected to increase erosion at the northern end of the revetment in the short term and revert to erosion rates consistent with the historical observations in the medium term (20 to 30 years).

Table 3.3 – Decadal changes to average erosion rates at HB1

	Existing Conditions (m/year)	Proposed Case (m/year)
10 years	0.67	0.97
20 years	0.71	0.79
30 years	0.68	0.67

### 3.5 Discussion

The longshore sediment transport modelling has demonstrated that the erosion potential of the Camp No.1 headland is high and the erosion potential decreases to the west as the shore normal becomes more perpendicular to the incident wave direction.

The geomorphic controls of the Camp No.1 headland, the central offshore reef west of Camp No.2 and the Maraetotara River are the main features that control shoreline evolution. The results show that the central salient feature in the lee of the offshore reef acts as the western control for the shoreline to the east extending to the Camp No.1. Accordingly, the headland and the 2013 revetment acts as the western control.

The modelling has shown that the implementation of the 2013 revetment transferred the control point eastwards to a location where the sediment transport potential is lower. Accordingly, this reduced the erosion potential in the area of the proposed revetment. The results have shown that the do nothing scenario will result in continued erosion of the shoreline fronting Clifton Road, albeit at a slightly lower rate (0.2m/year compared to 0.5m/year).

Extending the revetment eastwards further moves the eastern shoreline control point to a location on the shoreline where the shore normal is more aligned to the incident wave direction. Accordingly, the shoreline in this location adopts a crenulate shape with the downdrift control being the central salient. As shown in the modelling the shoreline immediately west of the revetment has an initial higher erosion rate compared to existing in the first decade as the shoreline attempts to establish equilibrium and reverts to erosion rates consistent with historical measurements thereafter. The increased erosion rate is expected to decrease over time as the shoreline approaches equilibrium. Furthermore, local lee side erosion effects from the revetment, which are not resolved in the modelling, are likely to locally exacerbate erosion at the terminal end of the revetment.

Observed long term erosion rates have included effects from sea level rise. Potential future shoreline retreat has been assessed by T&T (2004) to be 6.4m and 9.6m by 2060 and 2100 respectively. This translates to an erosion rate of approximately 0.1m/year. The implementation of the revetment is not expected to modify the expected trends of shoreline retreat apart from holding the line in the vicinity of the revetment. It is noted that the revetment will reduce the amount of sediment that can be utilized for the surrounding shoreline to establish equilibrium as sea levels increase. It is estimated that the likely reduction is in the order of 500 to 1000m<sup>3</sup> per year which is approximately 5% of the net regional input to the Clifton sediment cell.





Figure 3.6: Coastline Evolution, No Protection Case (Scenario 1)



Figure 3.7: Coastline Evolution, Existing Conditions Case (Scenario 2)





Figure 3.8: Coastline Evolution, Proposed Conditions Case (Scenario 3)



Figure 3.9: Shoreline evolution - Existing and Proposed Revetment Cases at Campground 1

## 4 Conclusions

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The results of the numerical modelling have shown the following:

- The wave climate along the Clifton Beach is complex due to offshore reefs which result in varying incident wave angles which in turn dictates longshore sediment transport rates.
- Shoreline evolution is strongly dependent on reefs and outcrops at the mouth of the Maraetoetara River, north of Camp No. 2 (Cell 64) and the hard edged headland that includes Camp No. 1.
- The shoreline fronting Clifton Road has high erosion potential as the shoreline continues to adjust to the incident wave climate. The existing revetments have formed control points which has compartmentalised the shoreline erosion and resulted in down drift erosion.
- While the proposed revetment protects Clifton Road the shoreline adjacent to Camp No. 2 is likely to continue to erode. While the rate of change is low, the introduction of the revetment is expected to increase erosion at the northern end of the revetment in the short term and revert to erosion rates consistent with the historical observations in the medium term (20 to 30 years).
- The modelling indicates that the proposed revetment is not likely to influence the shoreline north of Cell 64, which is controlled by an offshore reef.
- Modelling is not capable of depicting any local down drift erosion, a regular feature on the leeward side of the revetment. However, it must be assumed that this feature will occur.



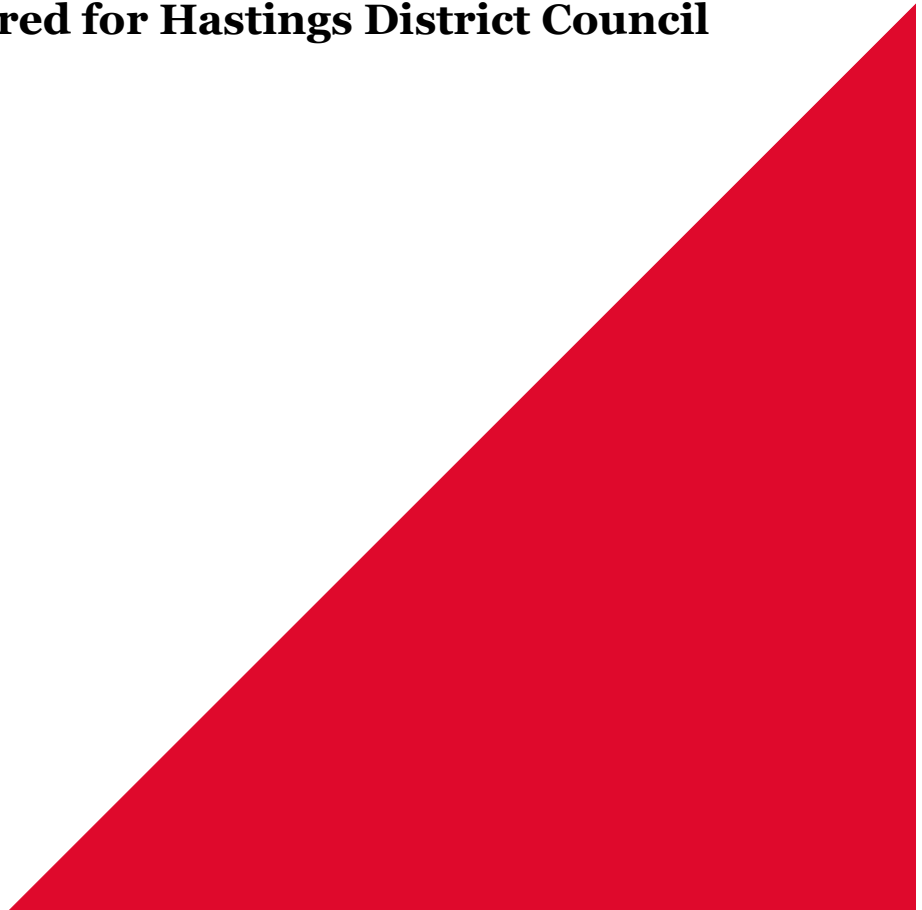
## APPENDIX B – Archaeological Assessment of Effects



*Clifton Beach Revetment: Assessment of  
Archaeological Effects*

# **Clifton Beach Revetment Archaeological Assessment of Effects**

**Prepared for Hastings District Council**





*Clifton Beach Revetment: Assessment of Archaeological Effects*

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# Clifton Beach Revetment Archaeological Assessment of Effects

**Prepared for Hastings District Council**

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# 1 Executive Summary

Opus International Consultants Limited (Opus) were commissioned by Hastings District Council to provide an archaeological assessment of effects for the proposed Clifton Beach Revetment Project and associated works, Clifton, Hawke's Bay.

The proposed work affects the land within the property boundary of Section 7 Blk II Kidnapper SD (Hastings District Council); Pt Lot 1 DP6872 (Gordon family and trustees); Lot 7 DP27414 (Gordon family and trustees).

This assessment of archaeological effects has identified that the current access road cuts through a recorded archaeological site (W21/176), a series of borrow pits, and that the proposed work will affect this site and any associated subsurface features. It is also understood that there may have been other structures and activities in this locale associated with an un-documented, but traditionally recorded, marae.

On the basis of the findings of this assessment of archaeological effects the following recommendations are made:

- That an application to Heritage New Zealand Pouhere Taonga be made for an archaeological authority (Type A General Authority).
- That consultation is undertaken with Iwi to support such an application.
- That a Site Instruction be prepared to support the authority application as per HNZPT guidelines.

## 2 Introduction

### 2.1 Purpose of this Report

Opus International Consultants Limited (Opus) were commissioned by Hastings District Council to provide an archaeological assessment of effects for the proposed Clifton Beach Revetment Project and associated works, Clifton, Hawke's Bay. The purpose of the report is to guide and support a Resource Consent application in the first instance, and to support an archaeological authority application to HNZPT. It is possible that a revised version of this document will be released in support of the archaeological authority application in light of any new information and the results of on-going iwi consultation processes.

The proposed work has two primary components of archaeological concern:

- the construction of a limestone revetment and associated pedestrian / cycle path along an approximately 400 m stretch of Clifton Road between the café and the Clifton Camp No. 1 ;
- Re-alignment of the existing access road between the Clifton Cafe and the Clifton Camp No. 1.

## 2.2 Scope of Commission

This assessment considers only the areas indicated in the following sections as being affected by the proposed Project, and only within the scope of works provided at the time of writing. It is not intended to be applied to any areas outside of those expressly indicated for the purposes of applying for an archaeological authority without further input from a suitably qualified archaeologist.

## 2.3 Scope of Proposed Work

### 2.3.1 Location

The proposed work affects the land within the property boundary of Section 7 Blk II Kidnapper SD (Hastings District Council); Pt Lot 1 DP6872 (Gordon family and trustees); Lot 7 DP27414 (Gordon family and trustees) (Figures 1, 2 & 3).

The proposed beach revetment project consists of two primary activities:

- 1/ the construction of a limestone revetment and associated pedestrian / cycle path along an approximately 400 m stretch of Clifton Road between the café and the Clifton Camp No. 1 (Figure 4);
- 2/ Re-alignment of the existing access road between the Clifton Cafe and the Clifton Camp No. 1 (Figure 4).

This assessment of effects has been prepared for the purposes of applying to Heritage New Zealand Pouhere Taonga (HNZPT) for an archaeological authority to destroy or modify archaeological sites.

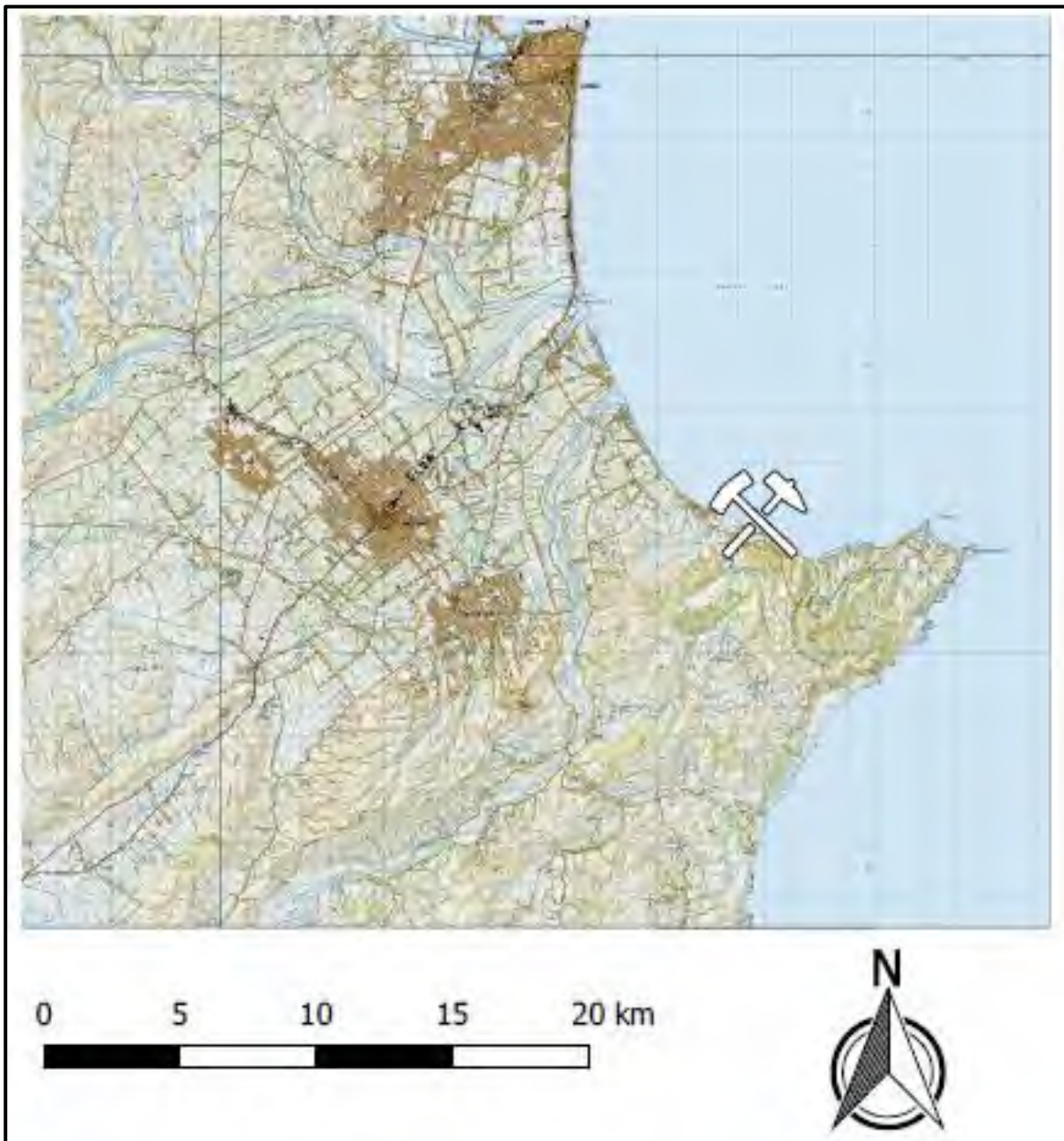


Figure 1 Area of proposed work within the wider regional context (Image created in QGIS 2.1.8 using LINZ sourced data).



Figure 2 Area of proposed work within the local context (Image created in QGIS 2.1.8 using LINZ sourced data).

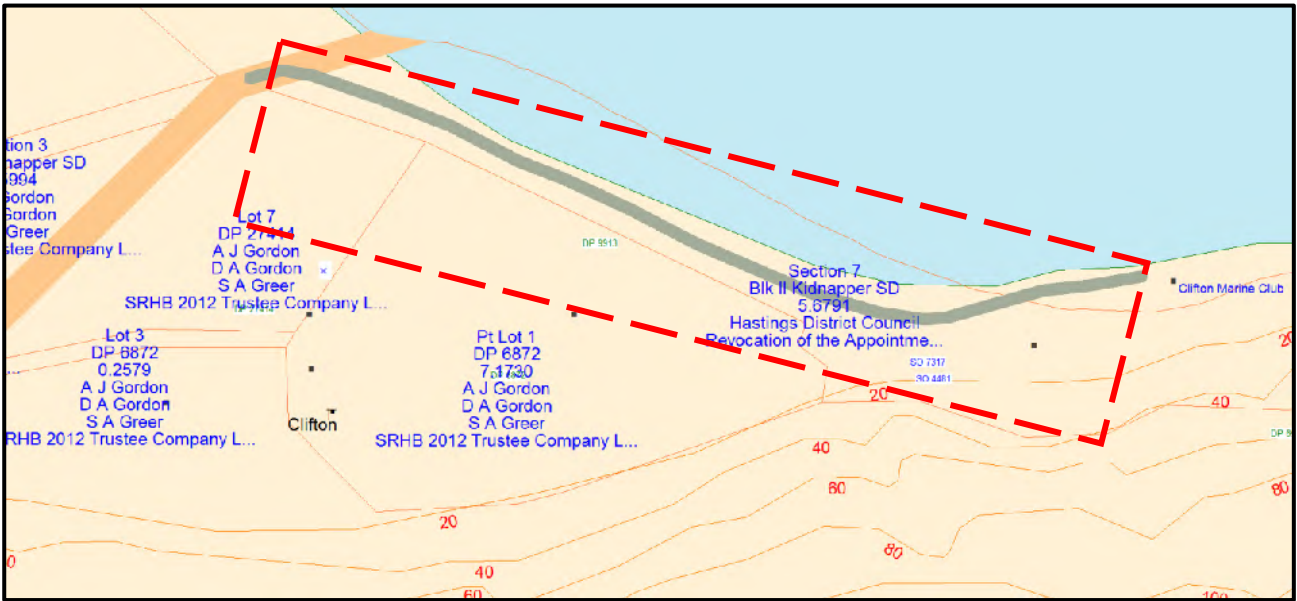


Figure 3 Legal descriptions of the land affected by the proposed work (within indicative red dash outline) (Source: QuickMaps).





Figure 4 Plan of works (Supplied by Becca) overlaid onto aerial imagery, borrow pits immediately threatened are arrowed (Image prepared in QGIS using LINZ source data).

### 2.3.2 Description of proposed work

The proposed work involves:

- the construction of the proposed beach revetment along a ca. 400 m stretch of Clifton beach between Clifton Cafe & Clifton Camp No. 1 for the purpose of preventing on-going erosional effects threatening the access road to the Clifton Camp No 1. This work will involve the benching and re-shaping of the extant beach bank prior to the installation of the limestone block 'rip-rock-wrap' revetment. A limestone cycleway / pedestrian access is also proposed along the extent of work between coast and road;
- the re-alignment of the existing, currently significantly eroded, beach access road between Clifton Cafe & Clifton Camp No. 1. This will involve moving the road approximately 3 m landward into the adjoining paddock for approximately 400 m (see Figure 4) and the additional construction of two passing bays, one at either end of the re-aligned road (See Figure 4).

### 2.3.3 Legal Descriptions

The affected property is known as Section 7 Blk II Kidnapper SD (Hastings District Council); Pt Lot 1 DP6872 (Gordon family and trustees); Lot 7 DP27414 (Gordon family and trustees) (Figures 1, 2 & 3).

## 2.4 Background

This assessment has been commissioned in response to a request by Hastings District Council (HDC) for a preliminary archaeological risk scoping of the project. This risk scoping (Carter 2017) identified that the current access road cuts through a recorded archaeological site (W21/176). Although the site records for this site indicate that there is no indication of function or provenance for the large depressions interpreted as borrow pits, early records from the Gordon family suggest that these depressions were evident and worthy of note in the mid-1860s when the original Gordon Homestead was being established (Gordon 2004: 29).

Work on the road in the past has effectively been undertaken in breach of the *Heritage New Zealand Pouhere Taonga Act* (HNZPTA) 2014 and preceding legislation. The proposed work, the road realignment in particular, will further damage or destroy this recorded archaeological site and associated features, and as such an archaeological authority from HNZPT to damage or destroy archaeological sites must be sought.

## 3 Statutory Requirements

There are two main pieces of legislation in New Zealand that control work affecting archaeological sites. These are the *Heritage New Zealand Pouhere Taonga Act* 2014 (HNZPTA) and the *Resource Management Act* 1991 (RMA).

### 3.1 Heritage New Zealand Pouhere Taonga Act 2014

Heritage New Zealand administers the HNZPTA. It contains a consent (authority) process for any work affecting archaeological sites, where an archaeological site is defined as:

- a. Any place in New Zealand, including any building or structure (or part of a building or structure), that ;
- b. Was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and
- c. Provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and
- d. Includes a site for which a declaration is made under section 43(1)

Any person who intends carrying out work that may modify or destroy an archaeological site, must first obtain an authority from Heritage New Zealand. The process applies to sites on land of all tenure including public, private and designated land. The HNZPTA contains penalties for unauthorised site damage or destruction.

The archaeological authority process applies to all archaeological sites, regardless of whether:

- The site is recorded in the NZ Archaeological Association Site Recording Scheme or included in the Heritage New Zealand List,
- The site only becomes known about as a result of ground disturbance, and/ or
- The activity is permitted under a district or regional plan, or a resource or building consent has been granted.

Heritage New Zealand also maintains the New Zealand Heritage List/ Rarangi Korero of Historic Places, Historic Areas, Wahi Tupuna, Wahi Tapu and Wahi Tapu Areas. The List can include archaeological sites. Its purpose is to inform members of the public about such places.

### 3.2 The Resource Management Act 1991

The Resource Management Act 1991 (RMA) provides guidelines and regulations for the sustainable management and protection of the natural and cultural environment. Section 6(f) of the RMA recognises 'historic heritage' as a matter of national significance, and identifies the need for protection of historic heritage from inappropriate subdivision, development and use.

The definition of 'historic heritage' (RMA s2) refers to those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, and includes historic sites, structures, places and areas, archaeological sites, and sites of significance to Māori.

### 3.3 Hastings District Council District Plan<sup>1</sup>

The operative Hastings District Council District Plan (HDCDP) recognises that heritage can be expressed through inherited assets that include, amongst others: archaeological sites and sites of

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<sup>1</sup> <https://www.hastingsdc.govt.nz/files/all/documents/districtplan/12-5.pdf>



special significance to Tangata Whenua (s.12.5.1). It further recognizes that specific legislation (HPA 1993, now HNZPT 2014 and RMA 1991) impact on the way Council deals with heritage matters:

Legislation impacts on the way the Council deals with heritage issues. Specific legislation includes the Historic Places Act 1993 and the Resource Management Act 1991. The Historic Places Act provides a framework for the identification and listing of historic buildings, historic areas, Waahi Tapu and Waahi Tapu areas. Registration of buildings or land does not, however, offer direct protection under the Historic Places Act. Registration is primarily a means of identifying the significant heritage items for the purposes of information and advocacy, with items registered by the Trust, notified to Territorial Authorities. Territorial Authorities are required to give the Trust notice of any development or building consents which are issued on registered items.

There are legal responsibilities that relate to all archaeological sites, where they are identified, unknown, registered or recorded. Section 10 of the Historic Places Act 1993 makes it an offence for anyone to destroy, damage or modify the whole, or any part of any archaeological site, if it is known or suspected to be an archaeological site. Section 11 of the Act, however, allows an application to destroy, damage or modify an archaeological site to be made to the New Zealand Historic Places Trust in Wellington.

### 3.4 Heritage Considerations

This assessment report is restricted to the heritage considerations of archaeological sites as defined by the HNZPTA 2014, and other heritage places as defined by the New Zealand Heritage List/Rarangi Korero of Historic Places or under the Hastings District Council District Plan.

## 4 Methodology

### 4.1 Research

This assessment is based on the results of desk-based research and field survey. Research was undertaken of both published and unpublished sources including:

- ArchSite (New Zealand Archaeological Association (NZAA) national archaeological site recording database);
- The New Zealand Heritage List/Rārangi Kōrero;
- Review of relevant District Plans and associated schedules;
- Published literature;
- Archaeological consultants' reports for the wider locality;
- Historic photographs;
- Historic survey plans

This report is an archaeological assessment of the impacts of earthworks within the footprint of the proposed works. Statements are made as to the location and nature of recorded archaeological sites and their archaeological values. The archaeological information is derived from both published and unpublished material (i.e. HNZPT Digital Archaeological Report Library and New Zealand Archaeological Association (NZAA) ArchSite Database).

## 4.2 Fieldwork

A site visit was undertaken by Gaylynn Carter on 14 March 2017, as part of a wider Project team briefing. The site visit was limited to the road corridor and beach. There was no access on the day to the private land that will be acquired for the purposes of re-establishing a viable road corridor. A visual assessment was made of the exposed beach bank, exposed road cuts and observable features within the adjoining paddock. No invasive augering or test-pit investigations were undertaken.

# 5 Physical Environment

## 5.1 Geology & Topography

Clifton is located on the east coast of the North Island, approximately 20 km south of Napier and 10 km south east of Clive. The Maraetotara River exits to the sea at nearby Te Awanga (ca. 2 km northwest), with numerous associated streams exiting the coastal hills along the Clifton / Te Awanga coastal zone. Immediately to the east and south of the area of proposed work are the steep hills and ridgelines of Cape Kidnappers, whilst to the north and east are the coastal and river plains of the wider Heretaunga region. The geological formations of the area are sedimentary rocks of the Castlecliffian series, superimposed on the Waitotaran (Fox 1978: 2). The hills of Cape Kidnappers are overlain by 'Central yellow-grey earths'. These soils develop in locations with a well-defined dry season and annual rainfall of less than 45 inches across 150 or fewer days (Soils of NZ: 57).

## 5.2 Vegetation & Climate

The wider environment is one of coastal pasture and rural settlement on the plains, with farming and commercial pine plantation in the surrounding hills. The Cape Kidnappers landscape in the late 1850s and early 1860s was described, presumably based on family documents, as comprising 'miles of cliffs... sand dunes... a rugged little river... endless gorges... full of the most mysterious trees... hills covered with... a type of bracken... interspersed with... native grasses...' (Gordon 2003: 10). According to Gordon family reports, the landscape in the early 1860s bore witness to the presence of 'Captain Cooker' pigs, released during the 1770s (ibid: 20).

The Hawkes Bay climate is typically hot dry summers with moderate winter rainfall and temperatures. The coastal area at the foot of the hills in which the proposed work sits is well sheltered from cool winds from the south and west but exposed to the warmer northerlies and easterlies.



## 6 Historical Background

### 6.1 Māori Occupation of Heretaunga and Ahuriri

This section relies largely upon secondary sources and is not intended to supplant any information in the custodianship of local iwi or hapū, but is rather an overview of available sources to assist in an understanding of archaeological formation processes affecting the landscape. The focus of this discussion will be upon the archaeological information. Discussion of Māori tradition and whakapapa will be left to those holding this knowledge.

The wider coastal Hawke's Bay area, including the vicinity of Te Matau-a-Māui (Cape Kidnappers) and Clifton was heavily occupied by Māori prior to and after European contact. Known in part as Heretaunga-hauku-nui (Heretaunga of the heavy dew), it was renowned as a place richly laden with resources (Salmond 1993: 139). The resource potential of the coastal zone, fertile coastal plains and bush clad hill country featuring freshwater lakes and rivers would have provided a solid basis for such intensity of occupation.

The almost contiguous distribution of pā, cultivation, storage and shell midden sites recorded in ArchSite (NZAA Site Record Database) along the coastal hills from north of Waipatiki, to Fernhill to the south west offers archaeological evidence of these dense populations in this area. This is particularly evident in the Cape Kidnappers environs with several pā and open settlement sites currently recorded within NZAA ArchSite and an unquantified number that remain unrecorded in terms of easily accessible documentation.

### 6.2 European Settlement of Clifton and Cape Kidnappers<sup>2</sup>

#### 6.2.1 First Contact

On the morning of 15 October 1769, Captain James Cook and his Endeavour crew arrived at Te Matau-a-Māui whereupon they were approached by a number of fishing canoes. Following several attempts at trade with these fishermen and later arrivals an incident occurred in which Taiata, the Tahitian servant of Tupia, Cook's translator was seized. Fortunately he managed to escape by jumping into the sea when the canoe was fired on. The incident resulted in the reference by Cook of 'Cape Kidnappers' towards Te Matau-a-Māui (Salmond 1993).

#### 6.2.2 Early European Influences

Across the Hawke's Bay whalers were becoming established throughout the 1830s to 1850s. Amongst these were two operated by William Morris, Ranga Ika and 'Kidnappers' which was operational in 1849 and boasted 3 boats and 20 men (McKay 1939: 136). Gordon (2004) notes that Māori and the whalers got on well and some of the men married Māori women. Presumably this is indicative of cultural interchange that might be evidenced through the material cultures of both the local Māori populations and the European whalers.

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<sup>2</sup> Largely taken directly from Clifford, E. 2014. Archaeological Assessment of Effects: Cape Kidnappers Station Forest Stands 1 and 2.

### 6.2.3 Clifton Station & Homestead

Clifton Station originally stretched from Clifton to Cape Kidnappers and down to Ocean Beach. It was purchased from the Crown by James Gillespie Gordon for £3375 in 1859. The original Clifton homestead was constructed in the early 1860s, featuring roof shingles brought out from Scotland with James Gordon. To the rear of the homestead ran three long buildings perpendicular to the main house, these served as among other things, servant's quarters, kitchen, scullery, laundry, office and extra guest bedrooms. Between the early 1860s and the late 1890s a number of additional structures were erected in the vicinity the Clifton homestead including a woolshed, several stables buildings, labourer's quarters, swagman's hut, and a cookhouse and killing shed (Gordon 2004).

In October 1899 the original homestead was destroyed by an accidental fire. Fortunately, as it was shearing time there were some 40 men to hand and 'every single item of furniture' including 'All the original Indian pieces' were saved (Gordon 2004: 61). The 'new' homestead was rebuilt on the original site and completed in 1901.

## 7 Previous Archaeological Work

There has been no previous archaeological work undertaken within the footprint of the proposed work, this despite the roads in the immediate area cutting directly through two recorded archaeological sites (W21/176 & W21/21). It is likely that these roads were originally formed prior to protective legislation, although more recent repairs and modifications would have been subject to HNZPTA 2014 and its predecessors.

### 7.1 Previous Archaeological Visits

The only archaeological visits in the immediate area known to have been undertaken recently were commissioned as part of pre-harvest planning for nearby forestry blocks. These surveys visited and updated information pertaining to recorded archaeological sites, predominantly originally recorded by Robert Hunter (ca. 1993). To date no previously unrecorded archaeological sites have been identified and reported through forestry harvest activities.

### 7.2 Recorded Archaeological Sites

There is one recorded archaeological site within the immediate area of works, W21/176 recorded as three borrow pits of indeterminate origins. When originally recorded by R. Hunter (1993) several house-sites were noted to the east of the borrow pits. It would appear from the site record that these house platforms are no longer visible on the surface, although this does not preclude the survival of sub-surface features or materials of archaeological value. The presence of 'several curious hollows' in the 'stoney paddock' in front of the homestead had been noted by Janet Gordon ca. 1862 (Gordon 2004: 29).

There are an additional six recorded archaeological sites within approximately 800 m of the proposed works. These include: pā site W21/ 15 (ca. 130 m); pit site W21/14 (ca. 215 m); open settlement W21/17 (ca. 320 m); pā W21/4 (ca. 540 m); pā W21/165 (ca. 770 m); historic settlement W21/21 (ca. 820 m) (Figure 5).

Whilst the condition of these sites ranges from essentially destroyed, to Registered Category 2 items with HNZPT, they are all indicative of an area of intense Māori occupation.



Figure 5 ArchSite map showing the recorded archaeological sites within the immediate and wider areas of proposed works: note the proximity of W21/176 to the proposed work, and W21/21 straddling the existing Clifton Road.

## 8 Research Results

### 8.1 Site Visit

A site visit was undertaken by Gaylyne Carter on 14 March 2017 as part of a wider project briefing. Whilst it was not possible to access the privately owned land adjacent to the existing road that will ultimately form the new road corridor, it was possible to visually assess the area.

It was immediately apparent that there were several large surface depressions in the paddock adjacent to the existing road, consistent with those recorded by R. Hunter as W21/176 (Figure 6). During a visual assessment of the ground surface along the current fence line it was noted that a drainage ditch had been opened relatively recently (Figure 7), and that a length of bund had also been established at some point (Figure 8). Several fragments of fire affected (hangi) stone were noted exposed at the surface along the roadside bank (Figure 9).





**Figure 6** Large surface depressions forming NZAA Recorded Site W21/176 in immediate proximity to the road and any realignment thereof (Source: G. Carter).



**Figure 7** Drain cut through paddock adjacent to the road and in the vicinity of W21/176 (Source: G. Carter).





**Figure 8 Bund along the road side bank (Source: G. Carter).**



**Figure 9 Fragments of heat affected (hangi) stone noted with frequency along the exposed bank surfaces (Source: G. Carter).**



The beach bank has for much of the length of the proposed revetment been cut down by the road, and any archaeological features or materials will already have been removed (Figure 10). The archaeological risks associated with the revetment wall will therefore be much reduced in these areas, although the risks associated with any road re-alignment are unaffected. Towards the north-east (café) end of the proposed works, the road surface and beach level are contiguous. In these areas it remains possible that archaeological features or remnants thereof may survive beneath the current road surface. The revetment works will involve a degree of cutting and re-shaping of the existing beach bank, and in this more north-east (café) area of the project, archaeological features or materials could be encountered during both revetment wall and road realignment works (Figure 11).



**Figure 10** Extent of road cut rendering the archaeological risk in some areas of the revetment low to zero, although risks associated with the road re-alignment remain high (Source: G. Carter).



**Figure 11 Road and proposed revetment wall level in relation to the existing ground surface in the vicinity of the café end of works (Source: G. Carter).**

Further site visits were undertaken on 29 June (G. Carter) and 2 July (G. Carter and J. O'Shaughnessy (HDC)) in response to a severe high sea event that had caused further erosion and instability to the road. This event has added to the urgency for stabilization and repairs to be undertaken, and will likely mean a greater encroachment into the adjoining paddock and archaeological features than originally anticipated.

## **8.2 Historic Documents**

### **8.2.1 Survey Plans**

A search of historic survey maps of the area returned no results for the pre-1900 era in the specific area of proposed work. A number of post-1900 plans were identified but these did not contain information of immediate relevance to the current assessment.

### **8.2.2 Historic Aerial Photographs**

Historic aerial photographs from 1948 and 1963 were examined for evidence of archaeological features and modification to the area that might affect the surface visibility or survival potential of archaeological features within the corridor of works. The 1948 image clearly shows the borrow pits (W21/176), it also clearly shows several pits and what appear to be earthwork enclosures within what is recorded as pā W21/4 (Figure 12).

The later images still show the pits associated with W21/176, however the pits associated with the pā, along with the apparent enclosures within it are no longer evident. Whilst this in part may be



due to the quality of the different images, it also likely reflects a degree of damage caused by farming or natural events that has obscured the surface evidence of the archaeological features in the area.



**Figure 12** An excerpt from a 1948 aerial image showing W21/176 (red outline) and other nearby sites and features (W21/4) (source: Retrolens<sup>3</sup>).

### 8.2.3 Historic Photographs

A search of the Napier MTG on-line archive returned no pre-1900 images of use in this assessment, however this is likely because these images remain in the possession of the Gordon family. This is demonstrated by the images contained within Gordon 2004 including photographs of the original homestead ca 1880s (Gordon 2004: 14), sheep droving along the beach ca. 1890s (ibid: 21), the Bachelors' cottage built 1870 but moved early 1900s (ibid: 37), the 'new' single men's quarters ca. 1893 (ibid: 49), sheep in yards ca. 1890s (ibid: 50), and line up of buildings including stables, Single Men's Quarters, swagmen's hut (ibid: 51).

<sup>3</sup>

<http://retrolens.nz/map/#/1943249.411094001/5603845.132642139/1944839.062416485/5604948.692237914/2193/12>

### 8.2.4 Historic Newspaper Reports

Historic newspaper reports relating to events that might have archaeological significance have been identified, and for the most part these reiterate information derived from Gordon 2004. For example, further evidence of the extent of the wild pig problem identified by James and William Gordon in the early 1860s was the report of some 900 wild pigs being killed on Clifton Station in 1884/5<sup>4</sup>. These pigs doubtless provided a useful resource for Māori during the later 18<sup>th</sup> and mid-19<sup>th</sup> centuries. Newspaper reports indicate that tenders were out for the construction of a wool shed in March 1884<sup>5</sup>. By April 1898 swaggers were no longer being accommodated at Clifton Station<sup>6</sup>. This might suggest that the old swagger hut had either been removed or re-purposed. In 1900 tenders went out for the construction of the new homestead to replace the original that had been destroyed by fire in 1899<sup>7</sup>.

## 8.3 Other Sources

### 8.3.1 The List (Rārangi Korero)

There are no Heritage New Zealand Pouhere Taonga Listed sites, nor HDC District Plan registered sites within the footprint or immediate Project environs.

### 8.3.2 Personal Communications

Opus Archaeologist Gaylynn Carter and Planning Consultant Janine Kydd-Smith (Sage Planning) were invited by the Matahiwi Marae Committee to attend their monthly meeting (7 May 2017) to discuss the proposed work. During that conversation it was indicated that the area of proposed work might also impact upon the site of a traditionally recorded marae. It is intended that further information will be sought from tangata whenua as to the location of this marae and any other areas or activities that might have left physical remains identifiable through archaeological investigations.

## 8.4 Potential for Unrecorded Archaeological Sites

Despite the limited corridor of proposed work, the presence of a recorded archaeological site within the proposed work corridor makes it likely that subsurface features and materials associated with W21/176 will be encountered. Further, discussions with Matahiwi Marae committee members has indicated that there may be archaeological remains associated with a traditionally recorded marae in the immediate area. Should post holes or other features be encountered, whether they relate to this marae rather than the borrow pits will require careful consideration.

It is also possible that unrecorded features such as structures, fences and rubbish pits associated with the pre-1900 occupation of Clifton Station homestead and farming activities might also be encountered.

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<sup>4</sup> DAILY TELEGRAPH, ISSUE 4467, 23 NOVEMBER 1885

<sup>5</sup> DAILY TELEGRAPH, ISSUE 3941, 7 MARCH 1884

<sup>6</sup> DAILY TELEGRAPH, ISSUE 9148, 26 APRIL 1898

<sup>7</sup> DAILY TELEGRAPH, ISSUE 4562, 28 OCTOBER 1899; DAILY TELEGRAPH, ISSUE 9710, 9 MARCH 1900

### 8.4.1 Māori occupation & land-use

It is likely that subsurface features associated with the borrow pits and house platforms identified by Robert Hunter when first recorded might be encountered. These features potentially include postholes, oven scoops, hearths, midden, cultivation soils and storage pits. Such features have been identified in immediate proximity to borrow pits in other regions nationally (e.g. Landon Park Development, Potts in prep).

Postholes and other structural or activity evidence associated with the traditionally recorded marae might also be encountered in this area.

Given the coastal location it is also possible that koiwi tangata might be encountered.

### 8.4.2 Pre-1900 European occupation & land-use

It is also possible that pre-1900 features associated with the Gordon family homestead established 1862 might be encountered during the course of works. Such features or materials are likely to include postholes from fences and structures associated with the homestead and the farm workings, and rubbish pits associated with the occupancy of the homestead. It is possible that the borrow pits will contain layers of pre-1900 European associated 'rubbish' as they potentially offered convenient dumping areas in the broad vicinity of the homestead.

### 8.4.3 Potential for survival

Whilst at least one borrow pit feature associated with W21/176 has been modified by the access road already, the wider paddock appears to have been minimally disturbed. There are areas where drains and swale banks have been constructed, but these appear to be relatively shallow. The paddock in front of the Gordon family homestead does not appear to have undergone significant modification through ploughing. Therefore the survival potential for subsurface features is high, as is the likely intactness of the borrow pits themselves.

## 8.5 Wider significance of archaeology encountered

Whilst there is a high density of recorded archaeological sites around the coastal margins of Hawke's Bay, and in particular on the ridges and high ground surrounding Clifton and across Cape Kidnappers, there are far fewer recorded archaeological sites that survive along the coastal low lying margins. This is in large part due to coastal development and settlement throughout the 20<sup>th</sup> century whereby similar places such as Waimarama and Haumoana have increasingly been developed for residential or holiday occupancy. No doubt many archaeological sites were destroyed, unrecorded, as a result of these processes.

Borrow pits, while common in other parts of the country such as the Waikato, are relatively rare in the Hawke's Bay. Understanding the form and function of this site would add significantly to our understanding of the Māori occupancy and land-use of these low lying and immediately coastal areas. Should associated features be encountered these might usefully inform our on-going understanding of this environment and how it relates to the higher ground recorded archaeological sites.

The Gordon family were one of the earliest settler run-holder families to be established in Hawke's Bay. The material culture associated with the homestead could offer fascinating insights into the lives of these pioneer families and their employees beyond that recorded in diaries and



photographs. Structural evidence associated with the infrastructure of the farm buildings and activities (boat landings etc) could offer great insight into the everyday farming activities.

## 9 Constraints & Limitations

Archaeological site location data should be regarded as a guide only. The locational accuracy of archaeological sites recorded in ArchSite is variable. The full extent of recorded sites is often not known and the single point coordinate provided by ArchSite is often based on the visible surface expression only. This does not necessarily represent the true subsurface extent of archaeological sites as defined in the HNZPTA.

There are no statements on the cultural significance of the project area nor are the views of tangata whenua represented in this report. A statement of cultural values can be provided separately to accompany an authority application to HNZPT.

Due to the presence of the recorded archaeological site and no access permission to the adjoining paddock no invasive tests were undertaken.

## 10 Archaeological & Other Values

### 10.1 Criteria for Assessing Archaeological Values

The primary purpose of an archaeological assessment is to determine whether or not there are direct impacts on archaeological sites. HNZPT provides a series of guidelines to assist in the compilation of reports for assessments of impacts on archaeological sites. In considering authority applications to modify or damage archaeological sites, HNZPT requires statements on the following values to assist in determining the significance of the archaeological site, the level of impact and whether an archaeological authority can be granted, or what mitigation conditions should be attached to an authority decision.

**Table 1 Assessment of the archaeological values of borrow pit site W21/176.**

Site	Value	Assessment
W21/176 Borrow pits with associated house platforms	Condition	Fair to good. The pit depressions are clearly evident and aside from damage caused by the road cutting appear to be little modified. That the house platforms originally recorded could not be seen when last examined suggests that there may have been some damage to the site over more recent years.
	Rarity / Uniqueness	Whilst borrow pits are relatively common in other areas nationally such as the Waikato, they are relatively rare in Hawke's Bay. There are no other recorded borrow pits in the wider vicinity of Clifton.
	Contextual Value	There are a number of recorded pā, pit and kainga sites in the Clifton environs, understanding the form and function of these features would add to our contextual understanding of the wider coastal Hawke's Bay region.

Information Potential	There is potential for information to be recovered by archaeological means relating to both the borrow pits and any associated features that might be encountered within the area of works.
Amenity Value	This site lies immediately adjacent to and within the proposed area of work. There is high potential for the addition of interpretative signage as part of the wider project to enhance public awareness and understanding of the local archaeological landscape.
Cultural Associations	Māori albeit with possible European re-use.

## 11 Assessment of Effects

### 11.1 Proposed Work

There are two main components of work being considered in this Archaeological Assessment of Effects. These are the construction of a limestone revetment and associated pedestrian / cycle path along an approximately 400 m stretch of Clifton Road between the café and the Clifton Camp No. 1 (Figure 4); and the re-alignment of the existing access road between the Clifton Cafe and the Clifton Camp No. 1 (Figure 4).

**Revetment and Footpath:** This component of work will largely occur within an area of previously disturbed ground, the existing road corridor. In places the road corridor has cut down the ground level such that the proposed work is markedly (several metres) below the original ground surface and thus at low risk of encountering intact archaeological features. However, towards the Clifton Café end of works in particular, the road cutting is almost nil. Thus any archaeological features or materials present, including one of the W21/176 borrow pits, will be affected by any benching work associated with the construction of the revetment and footpath.

**Re-alignment of access road:** This component of works will involve the formation of a new single lane road plus two passing bays between the Clifton Café and the No. 1 Camp. Construction of the new road is expected to require removal of topsoil and excavation to a depth in the order of 300 mm to form the hard-course road base. Any surface or shallow features such as scoops or hearths will likely be significantly damaged or destroyed by this process. At least one of the borrow pits forming W21/176 will be further damaged by this process. Subject to engineering requirements for the integrity of the road, 'soft-spots' as formed by deep archaeological features (pits, borrow pits) may need to be excavated and replaced with hard-course material.

It is possible that services such as drains and sumps may also require re-directing or reinstating as a part of the proposed work.

#### 11.1.1 Archaeological Risk

There is significant archaeological risk to the borrow pit components of recorded archaeological site W21/176. In addition there is risk to unrecorded archaeological features that might lie subsurface relating either to W21/176 or the Gordon family occupation of Clifton Homestead.

The number of recorded archaeological sites in the wider Clifton area demonstrates that this was an intensively occupied area. It would likely have been relatively sheltered and the flat plains potentially offered good cultivation opportunities. Whilst the evidence of occupation survives archaeologically, evidence of other associated activities is less well represented in the archaeological record of the region.

## 11.2 Archaeological Effects

The primary threat considered in this assessment of archaeological effects is to recorded site W21/176, borrow pits and house platforms, and to unrecorded archaeological features and materials across the entirety of the proposed works corridor.

The wider Heretaunga region archaeological record indicates that Māori occupation and resource use was intense, and although currently not well reported on in the Clifton and immediate works locale, it is highly likely that archaeological materials associated with this known occupation and activity lies within the immediate area of proposed work.

The archaeological effects of this proposal are the damage to at least one borrow pit associated with W21/176, and the damage or destruction of unrecorded features that may be encountered.

However, it should also be noted that the ongoing status quo situation is causing uncontrolled, unmitigated and unrecorded damage to the recorded and unrecorded archaeological sites. It would appear from the earliest aerial photographs that at least one borrow pit has been lost to the sea. By undertaking this work, under archaeological supervision and with appropriate levels of recording and in-situ preservation where possible, the surviving features will it is hoped remain stable and not subject to further damage for at least 35 years.

## 11.3 Likely Archaeological Materials & Features

Given the location of the works and the proximity to W21/176 and the coastline, the most likely archaeological features and materials to be encountered are:

- Borrow pit
- Māori shell midden
- Māori pits / umu
- Māori cultural layers
- Māori garden soils
- Koiwi tangata
- Postholes of any era
- Structural features associated with European buildings
- Rubbish pits associated with the Clifton homestead

## 11.4 Avoidance & Mitigation of Effects

There is limited scope for avoidance and mitigation of archaeological material within the proposed works. There is a high risk of encountering unrecorded archaeological features and materials associated with W21/176, along with the borrow pit feature already identified as being within the footprint of works.

Mitigation for the removal of archaeological material can be achieved through the archaeological recording of any material encountered, combined with thorough analysis and reporting to place the former location of any affected archaeological material and its interpretation on permanent record. Where appropriate interpretative materials might be considered.

Options to preserve the larger features such as the extant pits in-situ as far as possible should be explored, such as the use of geotextile and suitable substrate in-fill over which to direct the road.

Further, there is a strong case that whilst the works as proposed will result in a degree of damage and destruction to features within the immediate works corridor, that if successful, the ongoing survival of the majority of the site will be ensured in the immediate future (ca. 35 years according to engineering expectations).

#### **11.4.1 HNZPT Research Agenda**

In order to further mitigate for the loss of archaeological features and materials as a result of this development five themes as outlined by HNZPT (2007) have been identified as having potential for pursuit through the archaeological investigation of this site.

##### **Theme 1: Constructing regional histories.**

Research Questions: When was this location occupied by Māori? How does this relate to other areas of Heretaunga?

##### **Theme 2: People and the Environment.**

Research Questions: What was the function of the 'borrow pits'? Is there any evidence of gardening? Can we gain any insight into coastal Māori horticulture.

##### **Theme 3: Sense of Place.**

Research Questions: How might this 'borrow pit' site relate to the wider occupation evidence around both the Clifton plains and the surrounding high ground pā? How might the arrival of the Gordon family and establishment of the homestead affected Māori activity in the immediate area? How might the Gordon family and their staff have viewed the physical evidence of prior Māori occupation (e.g. through re-use of pits for rubbish disposal?)

##### **Theme 4: The archaeology of identity.**

Research Question: Is there evidence of early Māori and European contact in this part of Heretaunga, perhaps via the nearby whaling station? What can the European material culture tell us about the Gordon family and their staff beyond the written record?

##### **Theme 5: Archaeology in New Zealand today.**

Research Questions: Can the results of any investigation or monitoring undertaken during this project be used to further public, and in particular Clifton / Te Awanga residents, awareness of the archaeological landscape and human history of this area?

## 12 Further Considerations

### 12.1 Site Management

An archaeological Site Instruction (SI) will be prepared in support of the recommended application to HNZPT for an archaeological authority for the proposed work. This document will serve to guide both the applicant and their contractors with respect to the appropriate actions for the protection (where practicable) and mitigation for destruction (where unavoidable) of any archaeological sites or materials encountered whether or not currently recorded.

Any and all works carried out will be subject to a recommendation that any archaeological sites and materials encountered will be appropriately archaeologically recorded to current standards prior to in-situ preservation if practicable, or damage / destruction / modification under a valid archaeological authority if in-situ preservation cannot be achieved.

### 12.2 Analysis, Collections Management and Report Writing

Any archaeological materials identified and recovered during the proposed work, under an archaeological authority, will be stored in a secure location by the attending archaeologist. All materials will be appropriately labelled, and where specialist storage or removal from site is required this will be undertaken. An agreement between the applicant and tangata whenua should be made for the storage of materials prior to works commencing. Ordinarily, materials would be returned to Opus for safe-keeping whilst awaiting analyses and reporting procedures. If this is not considered appropriate, secure arrangements for the medium term storage (6 – 12 months) for materials will need to be in place prior to works commencing.

Any materials requiring specialist analyses will be appropriately packaged and all reasonable care taken to ensure their safe delivery and return. At the completion of the analyses, materials of Māori cultural association will be offered to the relevant iwi or hapū, materials of European cultural association will be returned to the applicant.

Taonga tuturu will be managed according to the provisions of the *Protected Objects Act* (POA) 1975.

Analyses of recovered material where practical will be undertaken by the approved archaeologist in consultation with experts in the specific fields. Where external specialist or scientific analyses are required, materials will be provided to the relevant specialist or laboratory. Where appropriate tikanga Māori will be observed and iwi consulted prior to any analyses that may be invasive or damaging, or otherwise subject to tikanga Māori concerns. Koiwi tangata and any associated artefacts or objects will be treated in accordance with agreed protocols, within the bounds of the HNZPTA 2014 and POA 1975.

A final report will be prepared within the timeframes indicated in the authority conditions.



## 13 Conclusion & Recommendations

### 13.1 Concluding Statement

The proposed Clifton Revetment project will impact on recorded archaeological site W21/176 (borrow pits and house platforms) and will potentially impact on currently unrecorded archaeological features and deposits related to the pre-European Māori occupation and resource use; contact era occupation and resource use; and the establishment of the Clifton homestead.

Any archaeological features or materials encountered during the works would likely form part of a wider, semi-intact archaeological landscape in this area of Clifton and Te Awanga.

### 13.2 Recommendations

It should be noted that all archaeological sites are protected by the Heritage New Zealand Pouhere Taonga Act 2014, whether recorded or not. It is illegal to modify or destroy an archaeological site without an authority being granted under section 42 of the HNZPTA. On this basis it is recommended that the designated corridor required for works be sufficiently generous in legal description to allow for coastal erosion events that might affect the area between application of authority and start of works. Thus allowing works to proceed if the corridor is required to extend a nominal additional 5 – 10 m into the adjoining paddock and archaeological features if required.

It is recommended to HNZPT that appropriate archaeological conditions of any authority would be that the works are monitored at the discretion of an appropriately qualified archaeologist and that provision is made to allow for the investigation and recording of any other archaeological sites that are encountered during the course of works.

## 14 References

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Fox, A. 1982. "Hawke's Bay". In *The First Thousand Years* (N. Prickett, Ed). The Dunmore Press, Palmerston North: New Zealand.

Salmond, A 1993. *Two Worlds*. Viking, Auckland: NZ

N.Z Soil Bureau. 1968. *Soils of New Zealand*. Part 1. N.Z. Soil Bureau Bulletin: 26(1).

### Software

QGIS Development Team, 2016. QGIS Geographic Information System. Open Source Geospatial Foundation Project. <http://www.qgis.org/>

## Internet

New Zealand Archaeological Association. *ArchSite: Archaeological Site Recording Scheme*.  
<http://www.archsite.org.nz>



PapersPast. <https://paperspast.natlib.govt.nz/>

Retrolens. <http://retrolens.nz/map>

## **15 Appendices**

### **15.1 Site Record Form W21/176**

## NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 <h2 style="margin: 0;">Site Record Form</h2>	<p><b>NZAA SITE NUMBER:</b> W21/176</p> <p><b>SITE TYPE:</b> Maori horticulture</p> <p><b>SITE NAME(s):</b></p> <p><b>DATE RECORDED:</b></p>
<p><b>SITE COORDINATES (NZTM) Easting:</b> 1943402      <b>Northing:</b> 5604550      <b>Source:</b> Handheld GPS</p>	
<p><b>IMPERIAL SITE NUMBER:</b>      <b>METRIC SITE NUMBER:</b> W21/176</p>	
 <p>Scale 1:2,500</p> <p>Land Information New Zealand, Eagle Technology</p>	
<p><b>Finding aids to the location of the site</b> Directly in front of Clifton Station homestead in paddock next to Clifton Camp road.</p>	
<p><b>Brief description</b> Borrow pits. 3 main large gravel pits with house sites recorded on east side.</p>	
<p><b>Recorded features</b> Borrow pit</p>	
<p><b>Other sites associated with this site</b></p>	

## NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

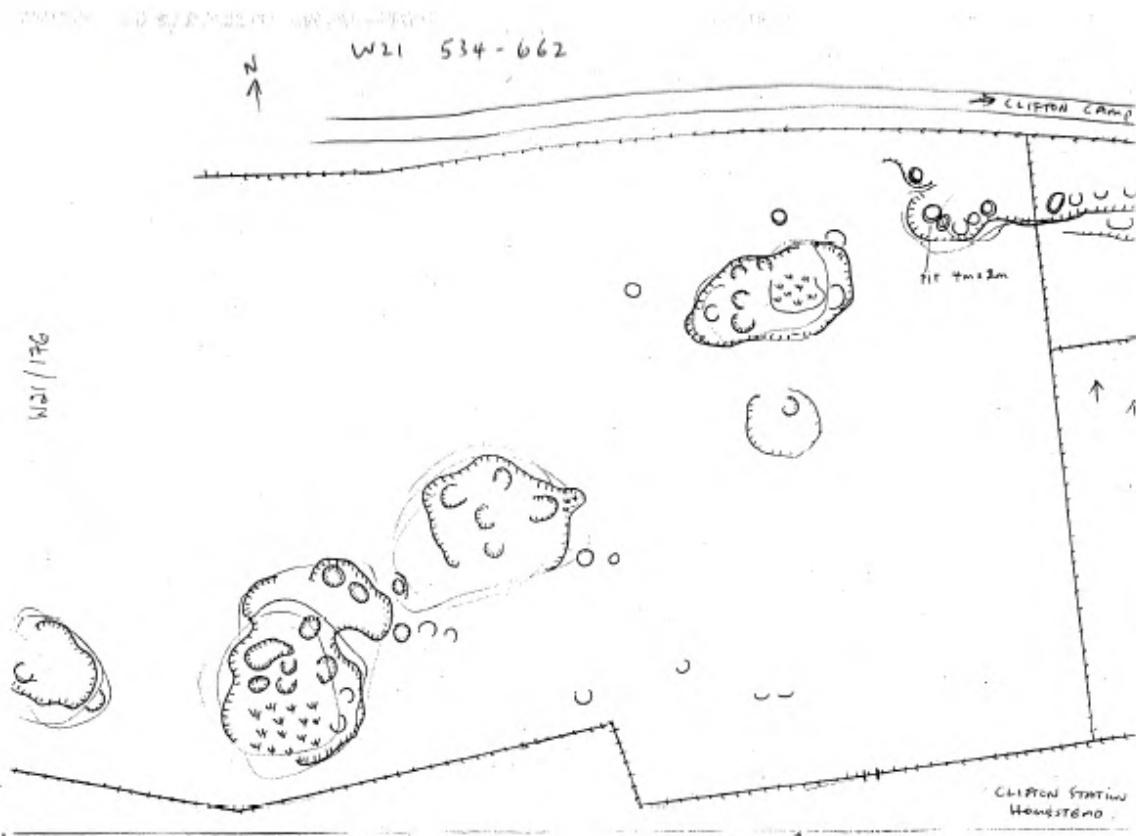
SITE RECORD HISTORY	NZAA SITE NUMBER: W21/176
<p><b>Site description</b></p> <p><b>Condition of the site</b> No definite house sites located. Nothing to indicate that gravel pits are prehistoric.</p> <p><b>Statement of condition</b></p> <p><b>Current land use:</b></p> <p><b>Threats:</b></p>	



NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: W21/176
-----------------------	---------------------------

Supporting documentation held in ArchSite



NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION <b>SITE RECORD FORM (METRIC)</b>		NZAA METRIC SITE NUMBER W21/176 DATE VISITED 1793 SITE TYPE Gravel pits/housesites SITE NAME: MAORI OTHER	
Metric map number W21 Metric map name Kidnappers Metric map edition 1			
Grid Reference Easting <u>28584</u>		Northing <u>616671</u>	
1. Aids to relocation of site (attach a sketch map) Directly in front (north) of Clifton Station homestead in paddock next to Clifton Camp road.			
2. State of site and possible future damage OK - in pasture.			
3. Description of site (Supply full details, history, local environment, references, sketches, etc. If extra sheets are attached, include a summary here) 3 main large gravel pits with house sites on east side of.			
4. Owner Address Angus Gordon Clifton Station.		Tenant/Manager Address	
5. Nature of information (hearsay, brief or extended visit, etc.) visit Photographs (reference numbers, and where they are held) Aerial photographs (reference numbers, and clarity of site)			
6. Reported by Address R Hunter Clifton Station		Filekeeper Date <i>[Signature]</i> 6/9/93.	
7. New Zealand Historic Places Trust (for office use)			
<input type="checkbox"/> Type of site	<input type="checkbox"/> Present condition and future danger of destruction		
<input checked="" type="checkbox"/> Local environment today HC	<input checked="" type="checkbox"/> Local body Haringey Dairi		
<input type="checkbox"/> Land classification			

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION



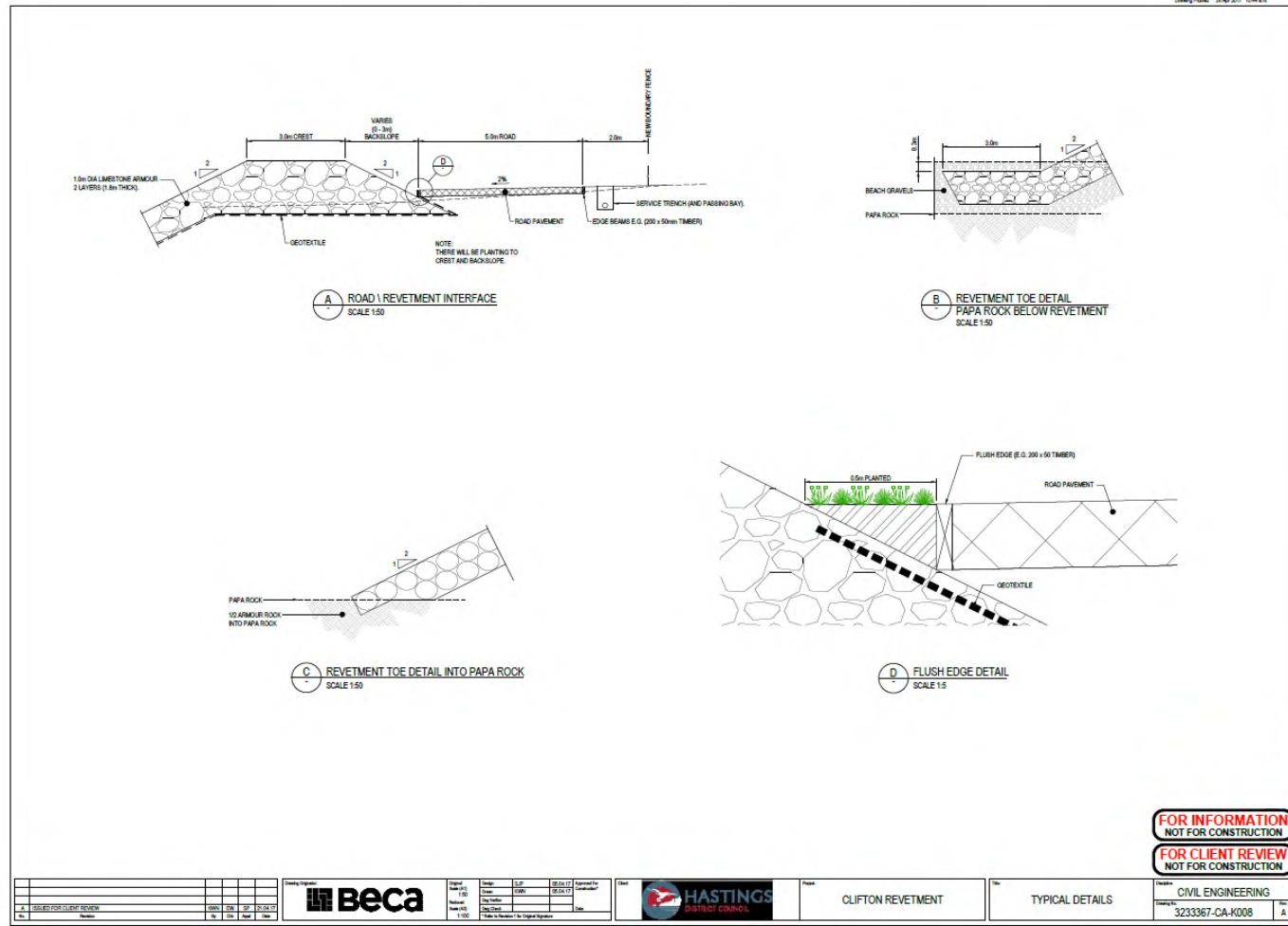
Printed by: gaylynnecarter

16/03/2017

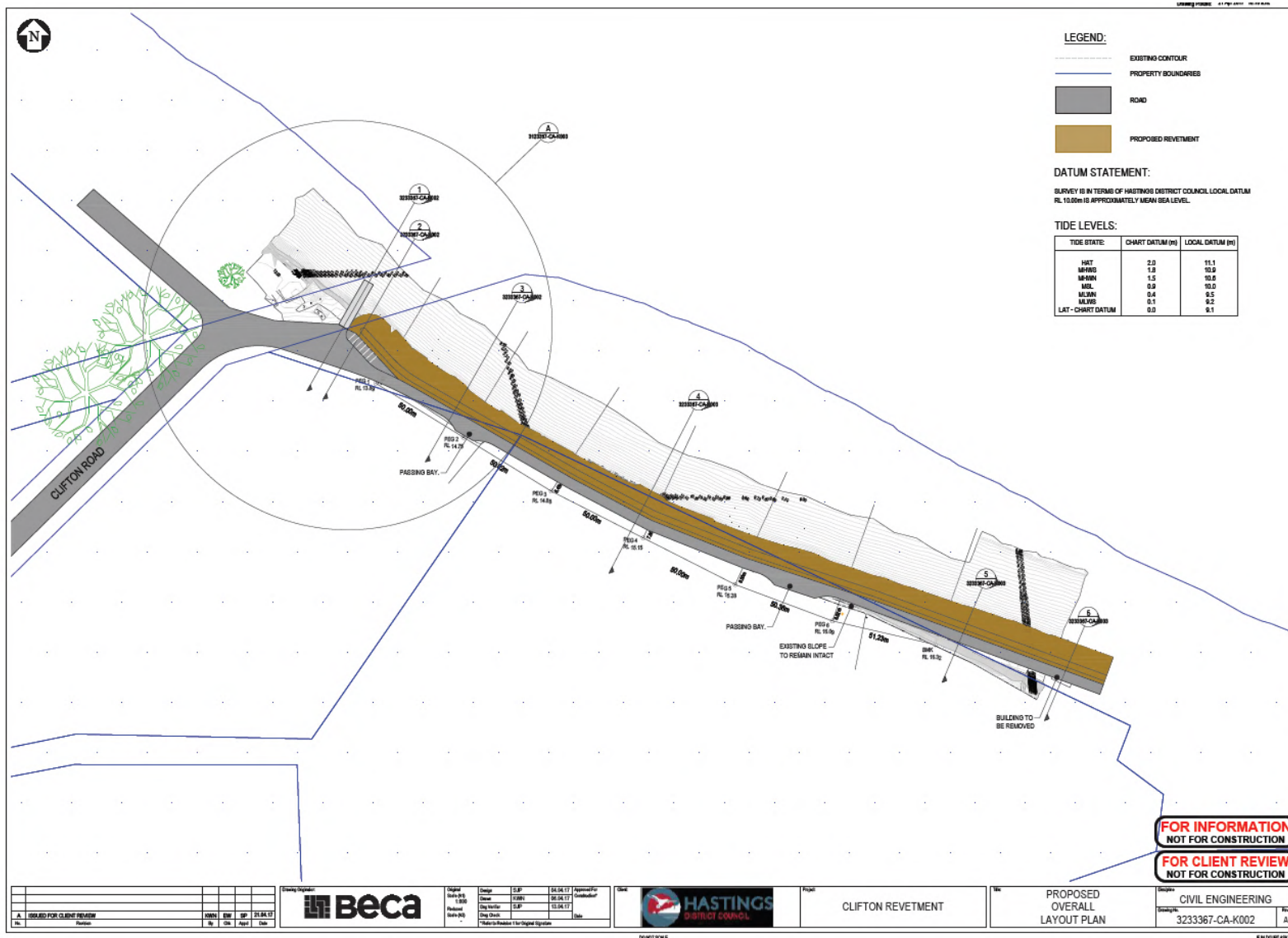
5 of 5

## 15.2 Work Plans

### 15.2.1 Clifton Revetment Typical Details



15.2.2 Overview of works







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## APPENDIX C – Ecological Assessment



# **CLIFTON BEACH**

## **PROPOSED COASTAL PROTECTION;**

ECOLOGICAL SURVEY OF CLIFTON  
COASTAL MARINE AREA AND ASSESSMENT  
OF ENVIRONMENTAL EFFECTS



JULY 2017  
REPORT No: 17005  
PROJECT No: TFN17004



# **Clifton Beach proposed coastal protection structure; ecological survey of Clifton coastal marine area and assessment of environmental effects.**

Report prepared by:  
**Shade Smith**

Prepared for:  
**Hastings District Council.**

**July 2017**

Triplefin report no. 17005  
Triplefin Project No. TFN17004

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# 1. INTRODUCTION

## 1.1 BACKGROUND

The Hastings District Council (HDC) has responsibility for maintenance of Clifton Road, with the final 400m of the road following the contour of the coast, and perched above the Clifton beach face to its terminus at the Clifton Motor Camp (camp #1). Coastal erosive processes along this 400m stretch of coast have resulted in consecutive inland retreats of the road, to the point now where there is no longer any space within the road corridor to retreat any further. A number of remedial measures have been carried out in the past in this area with varying degrees of success. These have included both consented and unconsented works with evidence of vertical concrete block seawalls, haphazardly placed filled 'phage' bags, unconsolidated fill, and retaining walls currently present in the area. A recently constructed approximately 90m long revetment of rock boulders at the camp #1 end of the affected area, which was consented and constructed in 2013, is the sole remaining effective coastal protection structure within the affected area. To preserve the remaining stretch of carriageway at extreme risk of coastal erosion HDC are considering an additional 400m long revetment be constructed to link with the existing revetment providing for a contiguous 490m long coastal protection structure.

A detailed engineering assessment by Beca (2017) describes the characteristics of the site, alternative options evaluation and proposed design and together provides an indication of the size of the footprint of the proposed structure.

## 1.2 THIS STUDY

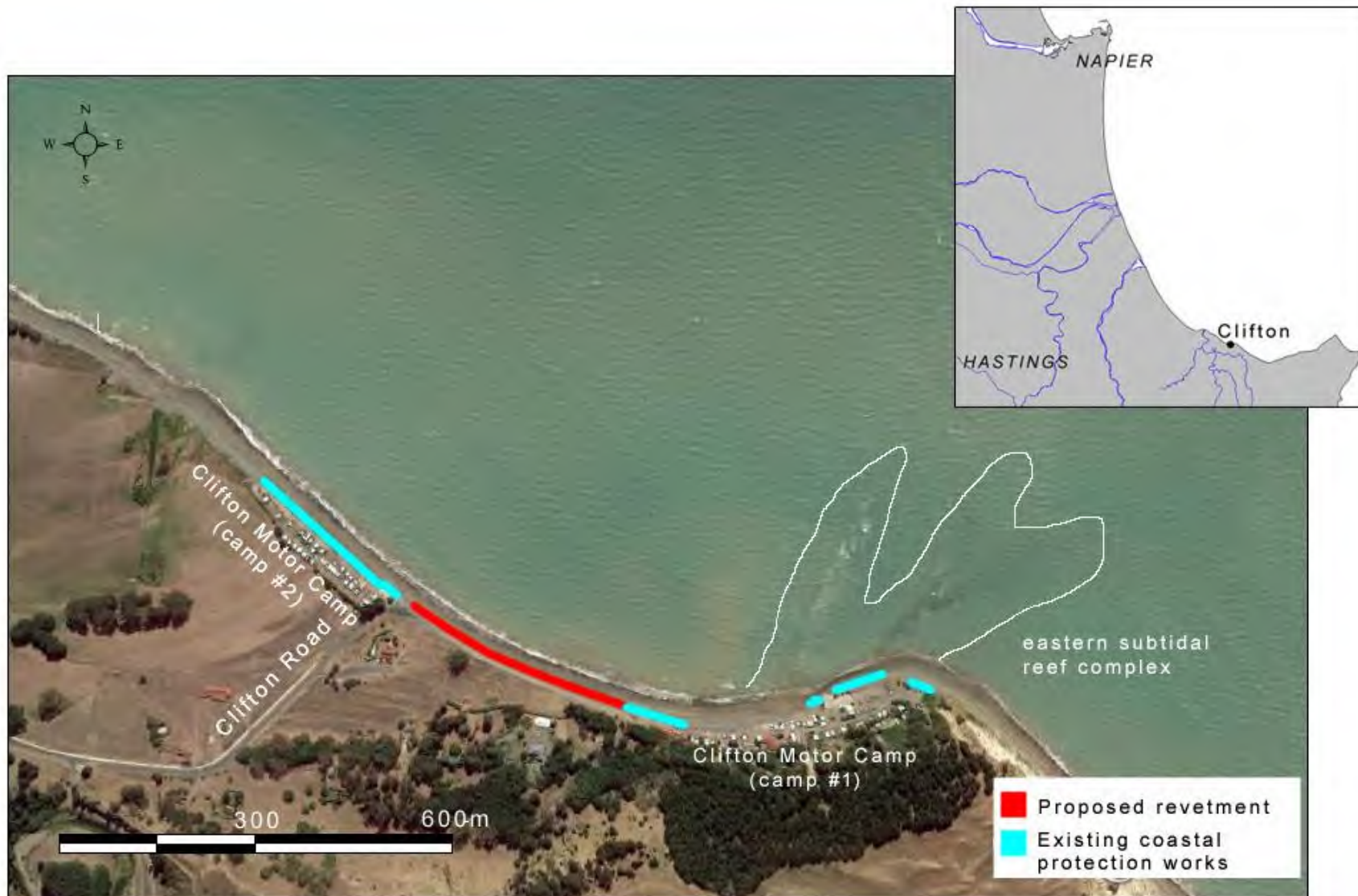
This report was prepared in accordance with the general requirements as outlined in Schedule 4 of the Resource Management Act (RMA 1991). The scope of the assessment is limited to effects on benthic, intertidal and other marine ecological resources.

HDC engaged Triplefin Environmental Consulting (Triplefin) to provide a detailed assessment of potential impacts from the construction and operation of a proposed revetment on the coastal marine environment of the area. This was conducted by characterising existing resources, establishing their relative importance and assessing to what extent each could be affected by the proposed revetment. A combination of approaches was used, including;

- Collation and analysis of data from field survey of coastal marine habitats within and surrounding the footprint of the proposed revetment structure.
- Desktop assessment of marine resources and potential impacts using available information sources.
- Assessment of the relative importance of habitats and marine resources lost or potentially altered by the revetment.
- Assessment of the potential spatial extent of probable impacts. Describe the types of species inhabiting potentially affected habitats.

## 1.3 PROJECT DESCRIPTION

The location of the proposed revetment within the survey area, along with other existing coastal protection structures is shown in Figure 1 and represents an extension of the existing revetment to the west. The footprint of the proposed revetment is 3593m<sup>2</sup>. The existing revetment is approximately 915m<sup>2</sup>. The method of construction would involve excavation of the foreshore to form a base upon which the revetment can be built. Excavation would proceed as tidal conditions allowed. Geotextile fabric and filter layer rock armour would then be laid atop. Approximately 1.5m diameter limestone boulders would be used as the rock armour, and stacked to ensure adequate inter-locking. Placement of boulders will predominantly occur from the foreshore. It is intended that revetment construction occur progressively in 5-15m long segments.



**FIGURE 1:** CLIFTON SURVEY AREA INCLUDING PROPOSED REVETMENT STRUCTURE (AFFECTED AREA), AREAS WITH SOME FORM OF COASTAL PROTECTION STRUCTURE AND AREAL EXTENT OF TWO OBSERVED SUBTIDAL REEF SYSTEMS.



## 2. STUDY SITES AND METHODOLOGY

### 2.1 SITE DESCRIPTIONS

Clifton occupies an area between the steep erodible hillslope-coastal cliffs to the east and grades into an area of flat land comprised of stony gravel soils stretching away to the west. It is also the area where sandy beaches, predominant to the east and south (i.e. towards Cape Kidnappers and in Southern Hawke's Bay), give way to mixed gravel/sand beaches to the east and north (i.e. from Clifton to Te Uruti-Blacks Beach, Mahia). The area affected by erosion and the subject of this study is characterised as a mixed sand-gravel beach (Figure 2).



**FIGURE 2:** MIXED SAND/GRAVEL BEACH OF THE AFFECTED AREA IMMEDIATELY SEAWARD OF THE SITE OF THE PROPOSED REVETMENT.

The marine aspect of the study area could be divided into two areas, the intertidal and the nearshore subtidal. The intertidal beach area is described as reflective with a steep narrow beach face with pebble/gravel in the upper mid littoral, medium-coarse sand/gravel in the lower mid littoral and a constrained narrow swash zone. This type of beach typically forms in locations sheltered by rocks, reefs and headlands (Short and Wright 1984). Historical beach profiles of the affected area and sediment textural data that confirm these observations are included in the Beca (2017) engineering report. The wave climate typically sees the beach influenced most frequently by waves/swell from the north easterly quarter, with waves larger than 0.9m occurring approximately 15% of the time (Beca 2017). Hence although average wave/swell conditions are moderate, large waves reaching the site intermittently result in an overall physically dominated environment.

Cape Kidnappers provides the primary sheltering effect to the area from oceanic generated swell, however numerous smaller subtidal reefs in the area also influence wave refraction and thus coastal erosion dynamics (Beca 2017). Two of these subtidal reefs were evident in the wider area (Figure 1). These subtidal reef complexes are described as exposed 'papa' rock i.e. mudstone/siltstone shelves of low relief partially overlaid by sand, and cobble/pebble transitioning to rubble at the margins. These reefs provide attachment substrate for 'biogenic





clumps' (diverse clumps of sessile invertebrates, including mussels), sponge species, macroalgal beds, and anemones.

The nearshore subtidal soft sediment environment is similar to that found off other Hawke Bay mixed gravel sand beaches, with sediments comprised of muddy fine-very fine sand. These areas are mostly a featureless expanse of rippled muddy sand indicative of a high energy coastal setting, with complex habitat limited to tubes and burrows of shellfish and polychaete worms. Given the very fine/fine muddy sand nature of the substratum, there is often a near-bed layer of highly turbid water which resident benthic communities must therefore be adapted to, i.e. conditions of high suspended sediment loadings, including the increased deposition rates which this produces. This is consistent with the assemblages of sediment dwelling infauna identified from subtidal surveys in similarly comprised soft sediments of Southern Hawke Bay (Smith 2015; Smith 2017), including polychaete worms, various burrowing and surface dwelling shellfish species, small crustacea, holothurians and echinoderms.

The other feature of note in the wider area is the Clive Hard, an offshore area (nearest boundary to Clifton approximately 1.5km offshore in 7m depth) between the Tukituki River and Cape Kidnappers where the seabed is comprised of cobble and pebble habitat providing complex habitat in an otherwise featureless rippled muddy sand environment. Thrush et al (1997) found in a survey of the Clive Hard that cobble/pebble habitat was dominant within the nearshore regions of Te Awanga and Clifton and typically co-occurred with sand across the entire survey area. Rock ridges interspersed with sand ('papa' shelves) was a dominant feature of the eastern part of the survey area between Clifton and Cape Kidnappers; whereas, sand and gravel dominated at the entrance of the Tukituki River off Haumoana. This complex habitat is reputedly an important habitat for juvenile fish, and particularly snapper, and indeed the area supports a popular recreational fishery. Species that are targeted in the area and that forage over the expanse of muddy sand seafloor and cobbly/pebble substrates include various flatfish species, e.g. yellow bellied flounder (*Rhombosolea leporina*), sole (*Peltorhamphus novaezelandiae*), red gurnard (*Chelidonichthys kumu*), kahawai (*Arripis trutta*), snapper (*Pagrus auratus*), trevally (*Pseudocaranx dentex*), tarakihi (*Nemadactylus macropterus*) and red Cod (*Pseudophycis bachus*).

The terrestrial aspect of the study area does not include any recognized high biodiversity areas, though Fromont (1988) noted that the beach fronts and hinterlands of Haumoana, Te Awanga and Clifton retain considerable value to native insects, especially among native scrub remnants. Within the affected area there was no vegetation evident on the beach face, or indeed between the road and scarp. The only vegetation in the affected area was on the landward side of Clifton Road in the privately owned paddock, with pasture grasses and an extensive infestation of feathertop (*Cenchrus longisetus*) evident.

## 2.2 METHODOLOGY

Habitats represent the product of physical and biological variables influencing a site. Therefore habitats were assessed by field survey on the 3<sup>rd</sup> May while a dive survey of subtidal habitats was conducted on the 4<sup>th</sup> May 2017. The survey of above tide habitats was limited to an area from the beginning of the vertical concrete block seawall at the western end of camp #2 to the Clifton headland at the eastern end of camp #1 (shoreline length of approximately 1.2km), while subtidal survey was limited to the known reef complex offshore of the headland at the eastern end of camp #1 (projecting approximately 300m offshore).

Initially, broad ecological or habitat zones in the study area were identified, and with the aid of a handheld Garmin eTrex GPS unit (accuracy  $\pm$  3m) broadly delineated. Each habitat was subjectively classified into one of 3 different qualitative habitat type descriptors according to unique features identified and listed in Table 1. An inspection of habitats was then conducted to note key flora and fauna species for each zone.

Mapping of the two subtidal reef areas was determined by the GPS track of a diver, with attached float and GPS unit, swimming around the discernible edge of the reef. Difficulties were



encountered in trying to delineate the reef boundary because of limited visibility. Therefore the areal extent of the reef is best viewed as a generalized boundary and indicative only.

Upon completion of field work the broad habitat zones were then imported into a geo-referenced aerial photo of the area using MapInfo (MapInfo 2006) Geographical Information System (GIS) software. Using an aerial photo (pixel width 0.4m) delineated habitat zones were adjusted accordingly, to more accurately reflect the likely tonal gradations of respective habitats, and a map of different habitats was produced.

Macroinfaunal sampling of the mixed sand-gravel beach was attempted at various points in the lower mid littoral sandy area of the beach however a quick scan of these samples did not reveal any resident infauna.

### 3. RESULTS

#### 3.1 HABITAT MAPPING

A total of three broad habitat types were mapped and these are detailed in Table 1. An example, looking west from the entrance of camp #1, of how habitat margins were delineated is provided in Figure 3. A habitat map of the study area is provided in Figure 3. Photographs are included in Appendix 1 and detail key species comprising representative habitats.

Table 1: Broad habitat types and spatial extent

Main Habitats	Features	Area (Ha)	Area %
<b>Pebble/gravel field</b>	Upper intertidal (upper mid littoral) where unconsolidated pebbles and gravel are the dominant substratum type (size 2-64mm diam.).	<b>0.91</b>	<b>9.0</b>
<b>Gravel/sand field</b>	Mid intertidal (lower mid littoral) where medium-coarse grained sand and gravel are the dominant substratum type (0.25 – 2mm diam.).	<b>3.23</b>	<b>31.8</b>
<b>Subtidal reef</b>	Large subtidal papa shelf/cobble/sand reef complex	<b>6.0</b>	<b>59.2</b>
	<b>Total</b>	<b>10.14</b>	<b>100</b>



FIGURE 3: EXAMPLE OF THE DIFFERENT HABITATS IN THE AFFECTED AREA AND ENCOUNTERED DURING THE FIELD SURVEY.



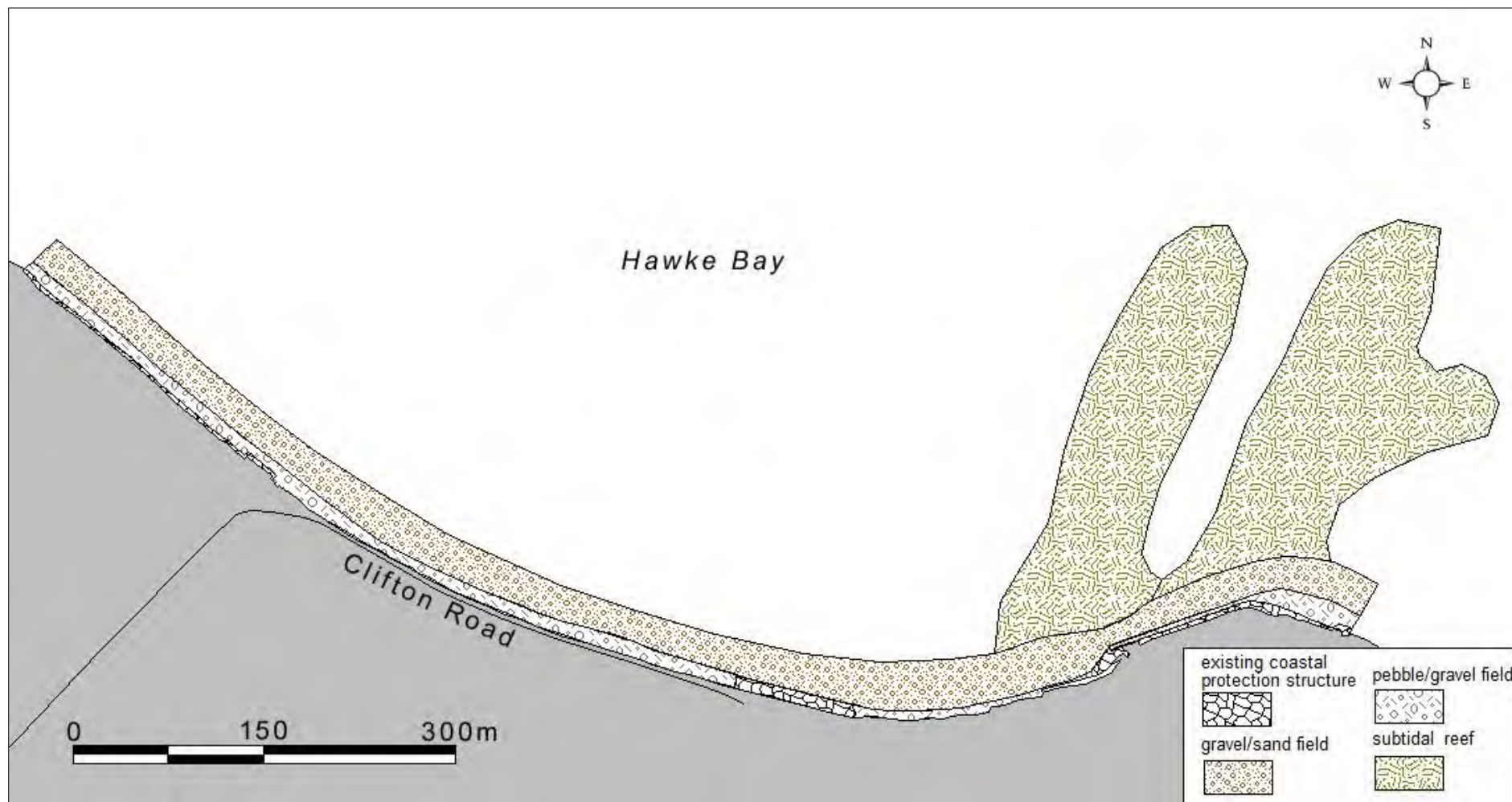


FIGURE 4: BROADSCALE MAP OF COASTAL MARINE HABITAT TYPES WITHIN THE CLIFTON SURVEY AREA.



## 3.2 HABITAT DESCRIPTIONS

### 2.3.1 SUBTIDAL REEF HABITAT

The area is bounded to the south by a papa reef which extends out approximately 300m from the intertidal zone. At low tide, the reef is shallow, with a maximum depth of approximately 5m. This reef is part of a larger reef system which begins at Te Awanga and extends to Cape Kidnappers. During the field assessment visibility was very poor, which inhibited overall classification of the reef habitats, however the papa bedrock ridge was evident, with mixed sand/gravel pockets in ridges within the reef. Encrusting algae, sponges and large brown seaweeds such as the sea wrack, *Carpophyllum maschalocarpum* were observed. An additional sign as to the macroalgal assemblage in deeper water was the presence of reef kelp, *Ecklonia radiata* which was evident among beach cast seaweed.

### 2.3.2 GRAVEL/SAND FIELD (LOWER MID LITTORAL)

Downshore of the pebble/gravel habitat is the gravel/sand field habitat (sediment grain size ranging 250µm – 4mm). This habitat is subject to twice daily tidal inundation and though the beach gradient is less steep (approximately 1 in 8) than the pebble and gravel field habitat bed shear velocities remain high with a short, fast swash climate. Few infaunal inhabitants are able to tolerate such extreme conditions.

The gravel/sand habitat was approximately 30m at its widest point and around 15m at its narrowest i.e. immediately in front of existing coastal protection structures. There was a high level of along shore variability in sediment texture with some areas more sandy and others more gravelly. In the across shore direction sand content increased with distance downshore. It is likely that in sand dominated zones there is a higher probability of encountering infauna such as microgastropods, polychaete worms, or small bivalves, especially at the extreme low tide level. The overall abundance of fauna however is likely to be very low given the highly abrasive nature, and swash climate of this site. Indeed there were no infauna encountered during exploratory sampling.

### 2.3.3 PEBBLE/GRAVEL FIELD (UPPER MID LITTORAL - SUPRALITTORAL)

At the base of the scarp leading down from the road to the beach proper lies pebble/gravel field (size range 2-64mm) habitat. It is this habitat that will majorly accommodate the proposed revetment. This area of the beach is relatively narrow (1 – 8m wide) and steep (approximately 1 in 1.7 – 1 in 6), compared to further down the shore, and accounts for a small proportion of the study area. Under calm to moderate sea conditions this area is rarely submerged by the tide, and accumulates beach cast seaweed and other flotsam. Typically this organic material supports detrital specialists such as the common beach hopper (*Talorchestia quoyana*) and the sand beetle (*Chaerodes trachyscelides*). However a search of the few aggregations of beach cast organic material did not reveal the presence of either of these species. During periods of heavy seas, such as during major erosion events, the deposited organic material is mobilised, along with the pebble and gravel substratum, resulting in a highly disturbed, ephemeral habitat for resident species.

### 2.3.4 NEARSHORE SUBTIDAL BENTHIC HABITAT

Although the nearshore soft sediment subtidal benthic environment was not quantified in terms of extent, from what could be observed with limited underwater visibility, it was predominantly comprised of fine to very fine mobile sands interspersed with pebble/gravel patches of varying sizes. The relative stability of the subtidal environment means that this habitat is likely to support infaunal species such as polychaete worms, bivalves, and small custaceans. Epifaunal species likely to reside in the area include various crab species and the gastropod (*Struthiolaria papulosa*) as evidenced by numerous shell wash ups in the upper mid littoral zone. These species are indicative of high energy coastal settings.



## 4. DISCUSSION

Habitat classification of coastal marine areas at a broad scale as described in this study provides a map of ecologically meaningful units (habitat type), that can be used to detect changes in spatial extent over time, or as a result of a proposed activity.

In terms of the current study area, the most extensive habitat was the subtidal reef that formed part of the extensive reef system along this shoreline. This habitat makes up around 58% of the study area. The reef habitat, especially in deeper areas supports a macroalgal and faunal community typical of high disturbance, highly turbid areas. Considering the moderately large area of this habitat type and provision of complex habitat by the reef structure, these habitats hold high biodiversity value in the area.

Considering now the intertidal (littoral) and splash zone (supralittoral) habitats of the study area (i.e. gravel/sand field; 32% by area, and pebble/gravel field; 9% by area), it is important to firstly consider the morphodynamics of the Clifton shoreline, and in particular in the area where the proposed revetment might be sited. Beach morphodynamic type refers to the depositional form of a particular beach and the hydrodynamic processes influencing it (Short and Wright 1984). All beaches possess three dynamic zones: a zone of wave shoaling seaward of the breaker point, a surf zone of breaking waves, and a swash zone of final wave dissipation in the intertidal zone. The nature and extent of each of these zones will ultimately determine the beach morphodynamics (Short 1996). The gravel/sand field and pebble/gravel field habitats are comprised predominantly of particles of highly erodible greywacke, with a subsidiary sand fraction and can be broadly categorised as a reflective beach type. In this case the relatively steep, narrow, swash dominated beach face gives rise to deep water close inshore and provides for strong swash, backwash and dumping waves during heavy seas. There are no bar or surf zone features and waves surge or collapse over the low tide step with much of the incident wave-energy being reflected.

Although beach morphodynamic type itself is important for determining the types and abundance of macrofauna present, the associated swash climate is equally important. Hence, there is a consistent relationship between beach morphodynamic state and swash climate features (McArdle and McLachlan 1991; McArdle and McLachlan 1992). Among reflective beaches swash periods tend to be short (circa the period of incident waves), therefore swash speeds are fast and tend to remain high throughout the tidal cycle. Physical stress in the swash zone of reflective beaches is therefore maximal (compared to dissipative beaches) and excludes more and more species until, in the fully reflective situation, only biota living outside of the swash zone (supralittoral) remain (e.g. talitrid amphipods, insects).

The results of the survey of these littoral and supralittoral habitats confirm this theory, with no fauna observed during sampling or within accumulations of beach cast organic material. It is suggested that the exposed, reflective nature of the beach and frequent disturbance of these habitats from large waves and consequent erosion results in a largely depauperate faunal community among these two habitat types.

Finally, an examination of the existing revetment was also undertaken in order to predict if any reestablishment/colonisation might occur on new revetment areas. However, no fauna or flora was observed to have occupied the existing revetment boulders or interstices, which would indicate that positive affects provided by new structures, were likely to be minimal.



## 5. ASSESSMENT OF ENVIRONMENTAL EFFECTS

### 5.1 ECOLOGICAL CHANGES

An estimate of habitat change resulting from the proposed revetment structures can be undertaken by importing the proposed design into a GIS environment. This allows a quantitative estimate to be made of the habitat likely to be replaced, as well as how much artificial substrate might be available for habitat provision, post construction. The footprint of the revetment structures overlaid on a map of habitat types is shown in Figure 5. Construction of the proposed revetment would largely result in the loss of pebble/gravel habitat. It is unlikely that those remaining habitats adjacent to the revetments would be altered by the proposal. Given that the size of the survey area was selected based on the scale of proposed revetments, these figures suggest that approximately 38.5% of the pebble/gravel habitat, and less than 1% of existing gravel/sand habitat in the study area will be replaced by the proposed revetments.

Table 2: Summary of approximate areal extent of proposed revetment relative to the amount of respective habitat lost to the protection structure.

revetment	Area (Ha)	% area of pebble/gravel habitat lost	% area of gravel/sand habitat lost
proposed	0.3593	38.5%	0.8%

Although the proposed revetment would replace a high percentage of the pebble/gravel field in the area, the depauperate nature of the habitat means that it is unlikely that significant changes to ecology or indeed any resident biota will occur. Indirectly, ecology in more distant habitats from the proposed revetment, e.g. gravel/sand field, or nearshore subtidal habitats be they reef or soft sediments are also unlikely to be affected by the development given the distance from the development (reef), large extent (subtidal soft sediments) and equally depauperate nature (gravel/sand field) of these habitats.

### 5.2 ENVIRONMENTAL EFFECTS

#### 5.2.1 ASSESSMENT CRITERIA

The significance of impacts were assessed against the following criteria:

- Type of impact (adverse/beneficial);
- Extent and magnitude of the impact;
- Nature of the impact (permanent, long-term, short-term);
- Sensitivity of the receptor / receiving environment;

The scale of likely ecological impacts (severity and temporal magnitude) arising from the proposed revetments were categorised according to the following criteria:

- High – There is a large-scale permanent change in the ecological receptor and changes in its overall integrity
- Moderate – There is a permanent change in the ecological receptor but no permanent change in its overall integrity
- Low – There is a small-scale permanent change or mid-term temporary change in the ecological receptor but its overall integrity is not permanently affected
- Neutral – There is no change in the ecological receptor.
- Permanent – Impacts continuing indefinitely beyond the span of one human generation (taken as approximately 25 years).
- Temporary – Long term (15-25 years), medium term (5-15 years) or short term (up to 5 years)



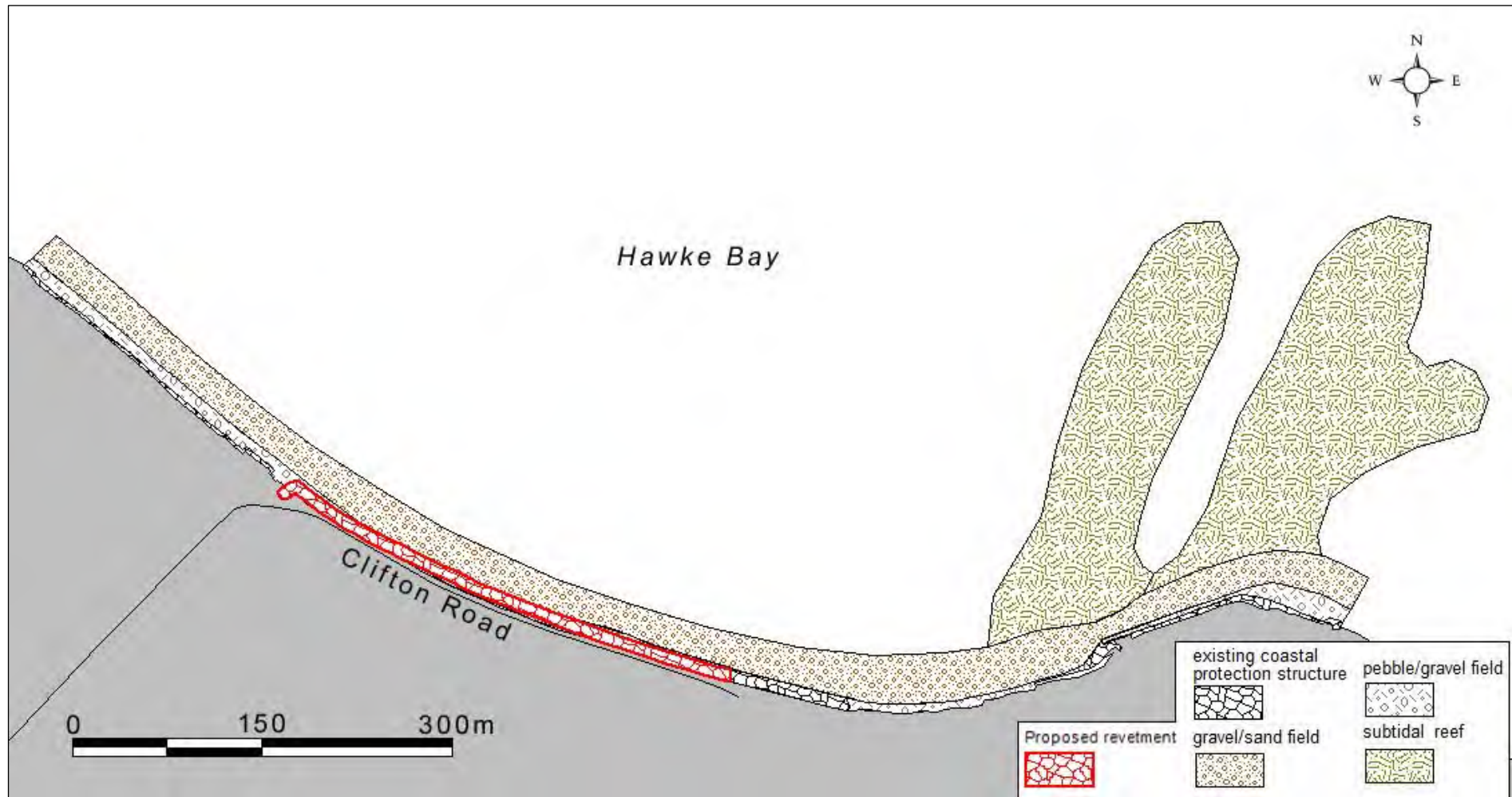


FIGURE 5: PROPOSED COASTAL PROTECTION REVETMENT SUPERIMPOSED ON HABITAT MAP.





### 5.2.2 CONSTRUCTION PHASE

The construction of the revetment will require some disturbance of the gravel/sand beach due to heavy machinery, however as described in section 2.3.6, this area is of low diversity, and is likely inhabited by species tolerant to disturbance. These species present in the affected area of gravel/sand beach are likely to be well represented in the adjacent gravel/sand habitat, which will facilitate the re-establishment of intertidal communities post construction. Therefore, effects will largely be short term, intermittent and temporary and will impact non-sensitive habitat (e.g. the gravel/sand beach). These adverse effects are described as less than minor in terms of scale.

Overall the ecology will be affected at different times during the construction programme, with potential effects on the ecology of the surrounding habitats, from the input of fine sediment during rock placement likely to be minor. However given the highly dynamic nature of this area and potential for rapid remobilisation of fine sediments by wave action it is unlikely sedimentation will be a significant concern.

### 5.2.3 OPERATIONAL PHASE

The primary effect in the operational phase, is the permanent replacement of 38.5% of the pebble/gravel, and <1% of the gravel/sand habitats by the proposed revetment.

The most significant area-wise habitat loss will be in the pebble/gravel area where 38.5% of the existing area will be replaced by the proposed revetment. However, when consideration is given to the quality of this habitat, it is unlikely that this will constitute a significant loss of coastal diversity.



**FIGURE 6:** HABITAT ADJACENT TO EXISTING REVETMENT; INSET SHOWING EXAMPLE PEBBLE/GRAVEL FIELD HABITAT AFFECTED BY DOWNDRIFT EROSION AND LIKELY TO OCCUR DOWNDRIFT OF A PROPOSED REVETMENT.

While pebble/gravel field habitat in subtidal or intertidal areas can be important for growth of flora and fauna that require more permanent sediment structures (such as macroalgae, chitons, mussels and barnacles), these species do not survive in the upper mid littoral zone where tidal immersion occurs for only short periods of the day. More likely, the pebble/gravel substratum here contributes more in the physical processes of the shoreline of the beach, rather than the biological processes. In that way, the proposed revetment is likely to produce redundancy in this function.



Typically coastal structures can provide alternative habitat for marine flora and fauna, and can act as replacement habitats to be colonised. A brief survey of the existing revetment which has now been in place for 4 years, revealed no colonisation on the limestone rock. This would indicate that the proposed revetment will not offer a positive environmental effect, being an increase in colonisable area.

In terms of effects on habitat located down drift of a proposed revetment, examination of the area immediately down drift of the existing revetment provides some indication of the extent of effects likely in the short term (Figure 6). These effects on pebble/gravel habitat are likely to be limited in extent and overall are considered as being less than minor. Similarly should renourishment downdrift or along the toe of the revetment be required as part of on-going maintenance, it is unlikely this will have any significant long term undue effects as the material used will be of a similar composition as the eroded pebble/gravel substratum.

#### 5.2.4 MITIGATION

Given the limited loss of coastal diversity as detailed above, mitigation measures are recommended only during the construction phase of the proposed activity. Minimising sediment discharges to the coastal waters should be considered during the construction phase.

## 6. SUMMARY AND CONCLUSIONS

The study site is comprised of pebble/gravel field habitat, gravel/sand field habitat, nearshore subtidal benthic habitat and subtidal reef habitat. With the exception of the reef, these habitats are highly mobile and prone to disturbance, limiting the animals and plants that are able to live here.

The assessment of effects identified revetment footprints totalling 0.36ha of coastal marine habitats that would be replaced by the revetment structure. The footprint of the proposed revetment primarily occupies the pebble/gravel field and gravel/sand field habitats. In the local context (i.e. at the scale of 100's of meters) the potential loss of habitat with the construction of the revetments equates to an estimated 38.5% of pebble/gravel field and <1% of the gravel/sand field.

New habitat created by the revetments is not expected to be colonised due to the lack of intertidal hard rock habitats in the adjacent area that may act as source populations. Therefore, the artificial boulder field will not act to improve marine biodiversity in the area, but may contribute towards lower levels of suspended sediment due to a stabilisation of the supralittoral sediments.

The scale of the reduction in pebble/gravel habitat could be considered substantial, however when consideration is given to the quality of this habitat, it is unlikely that this will constitute a significant loss of coastal diversity.

The loss of gravel/sand field is insignificant.

It is considered that the effect of the proposed activity on coastal marine resources is low, and is unlikely to result in any deterioration of the local coastal ecology. Therefore the overall effects of the proposed activity are considered to be less than minor.



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## APPENDIX ONE

### REPORT LIMITATIONS

Triplefin Consulting Ltd (Triplefin) has provided this Document, and is subject to the following limitations:

I. This Document has been prepared for the particular purpose outlined in Triplefin's proposal and no responsibility is accepted for the use of this Document, in whole or in part, in other contexts or for any other purpose.

II. The scope and the period of Triplefin's Services are as described in Triplefin's proposal, and are subject to restrictions and limitations. Triplefin did not perform a complete assessment of all possible conditions or circumstances that may exist at the site referenced in the Document. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Triplefin in regards to it.

III. Conditions may exist which were undetectable given the limited nature of the enquiry Triplefin was retained to undertake with respect to the site. Variations in conditions may occur between investigatory locations, and there may be special conditions pertaining to the site which have not been revealed by the investigation and which have not therefore been taken into account in the Document. Accordingly, additional studies and actions may be required.

IV. In addition, it is recognized that the passage of time affects the information and assessment provided in this Document. Triplefin's opinions are based upon information that existed at the time of the production of the Document. It is understood that the services provided allowed Triplefin to form no more than an opinion of the actual conditions of the site at the time the site was visited and cannot be used to assess the effect of any subsequent changes in the quality of the site, or its surroundings, or any laws or regulations.

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## APPENDIX D – Landscape and Visual Assessment



# Clifton Beach Seawall



Landscape and Visual Assessment  
Prepared for Hastings District Council

6 August 2017



Boffa Miskell

## Document Quality Assurance

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## Appendices

Appendix 1: BML Landscape & Visual Effects Methodology

Appendix 2: Engineering and Landscape Drawings

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# 1.0 Introduction

Boffa Miskell Ltd (BML) have been requested to undertake this Landscape and Visual Impact Assessment (LVIA) for Hastings District Council (The Client) in applying to Hawke's Bay Regional Council for resource consent to extend the existing revetment/seawall (The Proposal) at Clifton Beach Te Awanga (The site). The existing revetment's resource consent is set to expire in Q3 2018, after which the conditions of consent require that the temporary revetment be removed.

A site visit was undertaken on 14<sup>th</sup> March 2017 where an analysis of existing site conditions, visual amenity and potentially affected viewing audiences were identified for the purpose of assessment by Boffa Miskell Ltd.

This assessment has been undertaken by a professional landscape architect with reference to the Quality Planning Landscape Guidance Note<sup>1</sup> and its signposts to examples of best practice<sup>2</sup>. The effects rating and description of effects used for this assessment is located in **Appendix 1**.

Although landscape and visual effects assessments consider the effect of the proposed development on a landscape, they form separate procedures. The assessment of the potential effect on the landscape forms the first step in this process and is carried out as an effect on an environmental resource (i.e. landscape elements, features and/or character).

The assessment of visual effects considers how changes to the physical landscape affect the viewing audience.

The types of effects can be summarised as follows:

**Landscape effects:**

*Change in the physical landscape, which may change its character or value.*

**Visual effects:**

*Change to specific views which may change the visual amenity experienced by people.*

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<sup>1</sup> <http://www.qualityplanning.org.nz/index.php/planning-tools/land/landscape>

<sup>2</sup> Including: Guidelines for Landscape and Visual Impact Assessment ("GLVIA") 3rd Edition, Landscape Institute (UK) and IEMA (2013); and, Best Practice Note 10.1, Landscape Assessment and Sustainable Management, NZILA

## 2.0 Background

A revetment was built at the site in 2013 to alleviate the effects of coastal erosion on a section of Clifton Beach between the access road and parking area (where Clifton Road meets the beach) and the Clifton Motor Camp at the eastern edge of the beach (Camp No.1). This revetment is still in place and can be seen in Figures 11 & 12 Appendix 3.

The existing revetment has been largely successful; however, it occupies only one section (approximately 80-90 metres) of the beach. Due to this limitation the effects of erosion along from, and in the general vicinity of, the revetment has continued and has resulted in significant damage to the coastal edge, particularly after storms and significant/King tides.

Erosion has developed to the point where ingress has been made into the access road alongside Clifton Beach (see Fig. 4 Appendix 3) which now threatens the viability of the road and consequently access to Camp No.1.

Between 2009 and 2013 this access road has been relocated three times resulting in the loss of circa 25m of land <sup>3</sup>. The effects of this erosion on land further along the coast is as yet undocumented but if no additional tidal defences are put in place it is observable that current levels of tidal motion with inevitably result in further erosion along this stretch of coastline. As detailed below, lowering of the land in this area as a result of a historic earthquake has exacerbated this situation. As a result of this process several residential and commercial premises within the immediate vicinity may potentially be affected by further erosion as well as issues affecting access and safety to visitors to the beach and adjacent campground.

The existing revetment is approximately 80-90m in length and constructed from large limestone boulders supplied from the local Waimarama quarry which act as a physical barrier between road and the coastal edge. As mentioned above, the existing revetment's resource consent is set to expire in Quarter 3 of 2018, after which the conditions of consent require that the temporary revetment be removed. This existing revetment has been successful to some extent in arresting the rate of erosion as per its original intention, therefore the intention is to seek both an extension to its lifespan and simultaneously upgrade and expand its scale.

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<sup>3</sup> Clifton Beach – Long Term Coastal Protection Works, Beca Ltd Feb 2017.

## 3.0 Proposal

*Refer to Appendix 2*

The Proposal is twofold. Firstly, and primarily, is for the existing revetment to be repaired, reinforced and for an additional circa 380m of revetment of the same size, materiality and type, to be constructed westwards towards the Clifton Road parking area (See Appendix 3). This is to arrest the rate of erosion, to prevent the loss of further coastline and to preserve access to the eastern campground (Camp One) and the Marine Club boat ramp.

In addition to the revetment and access road, it is also proposed to construct a concrete beach access ramp (approximately 25 metres long and 5 metres wide) on the foreshore at the end of Clifton Road, which will be tied in to the existing seal at the end of Clifton Road, the western end of the revetment, and to the underlying papa rock on the foreshore. The ramp will slope at 1:7 to facilitate vehicle access to the beach, particularly for vehicles associated with Gannett Beach Adventures. The ramp will have a roughened surface and will sit below the beach surface for approximately half its length at its seaward end.

As mitigation for the potential local down-drift erosional effects at the western end of the proposed revetment the proposal includes a beach nourishment program. It is proposed that an average of 600m<sup>3</sup>/year of gravel (measured over 5 years) will be deposited on the beach as mitigation for the predicted down-drift erosional effects, with an allowance for depositing more gravel (i.e. up to a total of 1000m<sup>3</sup>/year) if monitoring (as set out in the recommended consent conditions in Appendix G of the Assessment of Environmental Effects report) identifies a need for it.

The re-nourishment gravel will be sourced to have a similar sized material as the existing beach gravel. The gravel will be delivered to the site by truck and dumped on the beach. A small blade machine will be used to spread the material to make up the deficit caused by the down drift erosion. Some overfilling of the deficit will be allowed for. The source of re-nourishment gravel is yet to be determined but will be of similar coastal gravel found naturally on the shoreline.

The appearance of this will be respondent to coastal erosion and could be an area of up to 100m<sup>2</sup> behind MHWS. The impoundment loss is likely to be about 600m<sup>3</sup>/year and potentially up to 1000m<sup>3</sup>/year. The importation of approx. 600m<sup>3</sup> to site would infill the cut in with 3x100=300m<sup>3</sup> and the remainder (300m<sup>3</sup>) would be mounded on top (by approx. 1m) with the remaining material in front of the new wall, at the downdrift end. It is advised<sup>4</sup> that the potential loss due to local downdrift erosion is likely to be less than any replenishment amount from the impoundment loss. The intention would be to place the impoundment loss material on the beach 1 or perhaps 2 times per year. This material will infill the local downdrift erosion with some mounding as well as placing it at the base of the new wall towards the downdrift end.

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<sup>4</sup> Advice received from Stephen Priestley (18/07/2017\_Email to Boffa Miskell)

Secondly, in order to future-proof an area popular with tourists, residents and visitors it is proposed that the opportunity is taken to add a series of amenity enhancements around the revetment at the time of construction. These are:

- Planting along the crest of the seawall to tie into natural surrounds.
- Shared Road and Walkway/cycleway connecting to Campground No.1.
- Raise existing road to level of revetment and create gentle slope down towards Campground No.1 entrance. Amenity value is enhanced by retaining ocean views from road. Focus on maintaining the top of the seawall in line with the road for as long as possible.
- Remove existing toilet block.
- Formalise beach access area with landscaping, paving and addition of street furniture.
- Wrap the end of the revetment to tie back into beach area.
- Potential for turning/parking area before main campground entrance area and access to boat ramp.

Other potential access and amenity improvements not included in the consent, but provided with opportunities for include:

- Create a meeting point node atop of the seawall opposite camp facility to create an amenity area for locals and tourists. A logical end point for visitors.
- Potential for extending amenity walking/cycleway planting past Campground No. 1 to improve access.
- Strong nodal point with camp facilities and a replacement beach entry/exit point.

A landscape concept plan, prepared by Hasting District Council as part of the Draft Cape Coast Reserves Management Plan<sup>5</sup>, has been considered within the engineering design (Refer Appendix 2). The Plan has yet to be publicly notified, so it is likely that the concept may change as the Plan progresses.

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<sup>5</sup> Draft Cape Coast Reserves Management Plan, HDC, Draft for Public Submissions. Submissions Close 28 July 2017



## 4.0 Site Location & Context

Clifton Beach is located at the end of Clifton Road at Te Awanga, an area approximately 17kms to the east Hastings and approximately 22kms south of Napier in Hawke's Bay.

A coastal environment with a high emphasis on recreation and tourism, the wider landscape is a combination of viticulture, coastal hills and extensive dunes with rugged slopes down to the sea edge around the headland at Cape Kidnappers. Cape Kidnappers is also home to a well-known gannet colony and tourist attraction while The Cape Kidnappers International Golf course is located at 446 Clifton Road, less than 1km from The Site.

Sitting at the base of steep, vegetated slopes immediately to the west of the Cape Kidnappers headland, the popular Clifton Beach is a gravel and sand beach with stones and rock evident along its length.

The site is a highly modified landscape from both natural and man-made interventions. The 1931 earthquake lowered the surrounding land by around 1 metre<sup>3</sup>, interrupted the coastal ecosystem and possibly contributed to the erosion evident on site. Over many years the beach area has also seen significant modification with establishment of 2 adjacent campgrounds, (Camp No. 1 and Camp No. 2 – associated with the Clifton Reserves Society), an access road, tourism day trips to the gannet colony and some small scale reclamation efforts.

The Clifton Motor Camp (Camp No. 1), to the eastern end of the beach is holiday accommodation consisting of 110 powered sites, 4 cabins, associated kitchen/ablution facilities as well as outdoor recreation areas. A separate toilet block is situated near the camp entrance and it is anticipated that this will be removed as part of The Proposal. The campground also has a boat ramp which is functional but sea defences on its north and west are in a poor state of repair and visual amenity (See Figure 16 Appendix 3). This ramp also leads to a car park and meeting point for boat users which is operational and busy in summer months. Where the campground meets the beach is again in a poor state of repair and consists of gravel slopes, mounded earth and sandbags (See Figure 14, Appendix 3).

The effects of coastal erosion mean that this section of beach and that immediately to the west of it towards the Clifton Road entrance has retreated to the point that the access road is in danger of losing its functionality very soon.

At the western end of The site is another campground (Camp No. 2). This is positioned near the Clifton Road beach access and car park and is slightly smaller than the other campground. In an exposed location, it faces directly out onto the beach and is separated from the beach by a series of imposing concrete reinforcements (See Figure 2, Appendix 3) which are of poor amenity value.

Across Clifton Road from this campground is the Clifton Café (468 Clifton Road), a popular café destination with further tourist buildings associated with Gannet Beach Adventures in the paddock opposite the cafe. Further inland, between the café and the eastern-most campground (Camp No. 1), is the landscaped grounds of the historic Gordon homestead, part of the 812ha Clifton Station farm.

## 5.0 Statutory Context

### 5.1 New Zealand Coastal Policy Statement 2010 and Hawke's Bay Regional Coastal Environment Plan 2014

The NZCPS 2010 provides matters to be considered for the assessment of Natural Character under Policy 13. The Hawkes Bay Regional Coastal Environment Plan (2014) details policies in Part B, Chapter 2 with regard to natural character. These matters are addressed in this assessment report.

### 5.2 Operative Hastings District Plan 2003 and Hastings Coastal Environment Strategy 2000

The operative Hastings District Plan details objectives and rules in Section 12 of the Plan. Primarily this focuses on the rural landscape and provides some direction on coastal landscape treatments and associated character areas. Assessment criteria details in 12.2.7.7 provides detail on the criteria for buildings and earthworks which apply this activity. Appendix 12.2.2 details Significant Landscape Character Area 8 – Clifton with a focus on the rural character and built activities. Assessment of the proposal addresses these through the landscape and visual assessment approach further within the report.

In 2000 Hastings District Council released a Coastal Environment Strategy that identifies key natural character features of the District. The Technical Report (Beca Carter Hollings and Ferner Ltd, 2000), identifies Clifton as being a natural character area. The identification is prior to the NZCPS 2010 Policy 13 matters identified and is largely associated with its gateway feature. An assessment of the existing natural character and effects is undertaken in section 6.2 of this report.

### 5.3 Proposed Hastings District Plan 2015

The Proposed District Plan (as amended by Decisions 12 September 2015 and Decisions Reports) is now predominantly operative, and supersedes the 2003 Hastings District Plan above. Section 2.7.2 of the Proposed District Plan provides guidance to managing effects on the coastal environment through the following sections:

- 2.7 – Coastal Environment Strategy, in particularly 2.7.2.2 Preserving the Natural Character of the Coastal Environment. 2.7.2.7 Recognising the modified coastal environment is a key consideration through this assessment.
- Section 17 – Natural Features and Landscapes
- Appendix 46 – Coastal Character Landscapes – CCL1 Clifton Beach
- Technical Report - Review of Landscape Areas and Implications for Plan Review. Boffa Miskell Ltd, April 2013

## 6.0 Landscape Effects

The purpose of this section is to provide a description and analysis of relevant landscape character and/or values attached to it, and what, if any, effects the proposal may have on the receiving landscape's character.

Landscape effects derive from the changes in the physical landscape, which may give rise to changes in its character and how this is experienced. The coastal environment of New Zealand is one of its most dynamic and sensitive landscape types and is associated with values considered of paramount importance. In general, the coastal environment of Hawke's Bay is one of ecological, scientific, archaeological and cultural value and has been subject to varying degrees of modification over the period of human settlement.

Not identified as a Significant Amenity Landscape or Outstanding Natural Landscape or Feature, the site and Clifton Beach is considered part of a Coastal Landscape Character area with unique characteristics, including:

- Located at the point where the Heretaunga Plains, South Eastern Coastal hills and coast intersect
- As a 'gateway' to Cape Kidnappers cliffs
- Picturesque qualities of motor-camp deriving from discrete and compact extent.
- Picturesque qualities of landscape around Clifton Homestead.

### 6.1.1 Landscape Sensitivity

Clifton Beach (The site) has been the subject of several uses and processes over previous years, namely on-site tourism recreation, farming and grazing of livestock, vehicle movements and road and ad-hoc coastal defence construction.

The site's ecological balance has been altered several decades ago and, although the result of a natural process (earthquake), the result of this has seen a fracturing and disruption of natural processes within it. The result of this is far from a pristine coastal environment.

Storm surges and tides mean that significant amounts of natural beach material are often removed and redeposited elsewhere along the stretch of coast by wave motion, leading to regular changes in beach character and alterations to sand and debris levels. The beach can be difficult to traverse by foot when areas of material have shifted significantly.

The access road between the campground and the Clifton Road beach access is narrow and in very poor and rapidly deteriorating condition and is in a state of disrepair. Weathered street furniture, crumbling berms and marine debris along this road add to the sense of disrepair (See Figures 3 & 4, Appendix 3).

Similarly, the car park area and Clifton Road access way are in a similar state of disrepair (See Figure 2, Appendix 3) with worn and incomplete amenities providing difficult and unpredictable pedestrian access to Clifton Beach.

The section of beach in front of the Clifton Motor Camp (Camp No. 1) is dominated by a steep gravel slope topped with sandbags, with accumulated marine debris along the high tide line, providing poor access to and from the beach from the adjoining land (See Figure 14, Appendix 3).

Generally, access to Clifton Beach from the road or either of the two campgrounds is difficult and unpredictable. The site lacks significant biophysical, sensory or associative aspects, however, as a coastal landscape has an enhanced level of sensitivity to landscape change particularly in regard to coastal processes and the broader pattern of the beach and its embayment.

Taking into account the existing landscape patterns, erosion control measures and modifications to the natural patterns the overall landscape sensitivity is considered to be **Moderate to Low**.

### 6.1.2 Magnitude of Change

By its very nature, in terms of imposition on the receiving landscape the proposal is intended to have a demonstrable effect on its receiving landscape. Current tidal processes are having what has been generally agreed as a detrimental effect on the cultural landscape values of the area.

The proposal involves the deposit of several tons of additional rock and supporting structures, construction of roads and amenity landscaping. Additional to this is the inclusion of coastal beach gravel material on the coastal edge. This material will mimic the patterns of coastal gravels found along the coast as detailed in Section 3.0. This will have a visible effect on the receiving landscape in terms of altering it from its present state of a vertical eroded coastal edge to a sloped engineered retaining structural edge with coastal gravels at its base.

However, it does not signal a change in use or fundamental layout, nor a considerable change in broader landscape patterns, over and above the desired change in tidal erosion process.

The Proposal is designed to use locally sourced rock and will, over time, weather and create its own micro-ecosystem as vegetation and sediment build up around its base and interior cavities.

The key structure, use and character of the site are to be retained to the embayment and following the existing patterns of the coastal edge, therefore the magnitude of landscape change is **Moderate to Low**.

### 6.1.3 Overall Significance of Landscape Effect

The Proposal's landscape effects are couched against a history of human modification, both new and historical in varying degrees of condition. Coastal processes will continue to take place, only without the destructive effects of coastal erosion on the wider character area.

The overall characteristics of The site are to be retained, therefore the overall significance of landscape effect is **Moderate to Low**.

## 6.2 Natural Character

Natural character is the term used to describe the natural elements of all coastal environments. The degree or level of natural character within an environment depends on;

1. The extent to which the natural elements, patterns and processes occur, and;
2. The nature and extent of modification to the ecosystems and landscape / seascape.

The degree of natural character is highest where there is least modification. The effect of different types of modification upon natural character varies with context and may be perceived differently by different parts of the community.

Clifton has been identified as having natural character values that recognise its modified state but that it provides an entrance to Cape Kidnappers (Beca Carter Hollings and Ferner Ltd, 2000)<sup>6</sup>. With natural character existing on a spectrum and changing continually, this site demonstrates **moderate levels of natural character** with the dominant attribute being the abiotic marine processes occurring along the coastal edge.

Policy 13 of the New Zealand Coastal Policy Statement (NZCPS) 2010 details the matters considered for natural character evaluation and identification. The following assesses the grouping of these matters under biophysical and perceptual groupings.

#### Biophysical - Abiotic Attributes

The site has been significantly modified along its margins to the extent that the natural patterns of the coastal edge and its margins are managed by human intervention. This includes coastal erosion protection measures (retaining walls, concrete abutments, roading and access). The natural processes whilst dominant on the seaward edge are largely modified along the landward edge with very little remnant abiotic or biotic elements remaining.

The inclusion of a seawall and boat ramp will arrest the natural coastal erosion processes but in turn support the retention of the remaining natural elements along this coastal edge and margin. The exposure of the beach through intertidal processes will remain intact and the revetment will retain the natural alignment of the coastal edge. The natural movement of water and sediment will change, in particular sediment movement associated with erosion will be restricted as intended. However natural downdrift processes will continue to occur and the proposed beach replenishment gravels will continue to move with this process. The inclusion of gravels into the beach as a replenishment is to mimic the natural gravels further along the coast's gravel beaches.

#### Biophysical - Biotic Attributes

Little information is available about the biotic attributes for the site, from an ecological perspective, particularly in regard to the intertidal zone. The foreshore and coastal edge is relatively void of indigenous native vegetation cover particularly as a result of the significant coastal erosion processes. The proposed revetment will provide opportunity for establishment of windblown vegetation cover along with planted native coastal species interwoven into the top of the revetment.

The proposed boat ramp will extend into the intertidal zone and be covered with existing beach material (Sands and gravels) for the lower, intertidal, extent of the ramp. This has the potential to disrupt some of the biotic values this beach area provides, noting that half of this structure will be recovered in beach sands and gravels.

#### Perceptual / Experiential Attributes

Perceptual / Experiential attributes address NZCPS Policy 13.2. d to h and comprise the interpretation of human experience of the coastal environment. The natural movement of water will remain largely intact with a change to the natural movement of sediment associated with

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<sup>6</sup> Refer Hastings Coastal Environment Strategy, Technical Paper #1, Part II Matters, Page 44.



coastal erosion. The natural darkness of the night sky and the experience of the sounds and smells and setting of the coastal edge will remain unchanged with the proposed design. The area remains static in terms of modification and human intervention to the coastal edge. The sense and experience of the area being scenic are largely associated with the views of Cape Kidnappers and less so with the beach area itself as a result of the settlement and human modifications to the coastal edge.

The inclusion of the boat ramp extending some 10-15m beyond the toe of the revetment introduces additional modification to the intertidal zone of the beach. The additional structure on an already modified beach environment has potential adverse effects on the natural character of the coastal edge. On the whole within this modified area of the Hastings coastline the ramp is integrated into the overall revetment structure.

### 6.2.1 Natural Character Effects

The significance of effects upon the already low to moderate natural character effects are largely associated with the biophysical abiotic attributes and perceptual / experiential attributes. The introduction and formalisation of the coastal edge will create a uniform treatment of the coastal patterns. The natural processes are already managed in some form by adhoc structures and revetments. The introduction of the revetment and coastal gravels replenishment will result in a low to moderate effect on the existing natural character levels of the area.

In turn the overall natural character of this stretch of the coastline will be reduced to a low level. However, considering the spectrum of natural character ranges from modified to pristine the proposed revetment retains the modified state of the coastal edge and is considered to **result in effects upon the attributes natural character that are low**. This can be translated as being less than minor.

## 7.0 Visual Effects

The purpose of this section is to document and provide analysis of key visual amenity baselines and to identify potential viewing audiences. Viewing audiences can consist of different individuals or groups with very different priorities and experiences.

Visual effects relate to the amenity values of a landscape including “those natural and physical qualities and characteristics of an area that contribute to people’s appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes.”

Forming part of this visual assessment the proposal’s scale, bulk, form and placement contribute to the evaluation of the level of visual impact. The visual effects are largely associated with activities on the landscape and perceptions the viewer holds regarding the activity’s contribution to the visual amenity values. Levels of visual effects are considered with reference to NZILA best practice<sup>7</sup>.

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<sup>7</sup> NZILA Best Practice Note: Landscape Assessment and Sustainable Management 10.1

## 7.1 Visual Context and Viewing Audiences

The main areas relevant to viewing The Proposal are from Clifton Beach, from the access road and from the sea.

Viewing audiences are split into two categories, private (i.e. residential properties), and public (i.e. people engaged in public activities, employment, recreation, travel etc.).

### 7.1.1 Private Viewing Audiences

- Residents of the Gordon family residence. Access to this private residence was not undertaken as part of this assessment; however, it is assumed that views from the upper story in particular look out to the coast and this audience will therefore be able to see part of the revetment, namely the topmost edge along the access road to the campground (Camp No.1). The view of coastline afforded these residents has been enduring, is fixed, and is in close proximity to The Site. The Proposal represents an alteration of this view, with the addition of a line of built mass and vegetation along the majority of coastal edge visible from the upper levels of the property.
- Long-term campers at Clifton Motor Camp (Camp No.1). Long-term campers will be able to see The Proposal in part. However, the view is not foremost in their line of vision and will not represent a detrimental change in amenity quality.
- Long-term campers at the campground at Clifton Beach's western end (Camp No. 2). Campers at this campground will have limited views of The Proposal although their view is not direct or enduring in terms of length or intensity. This must be regarded against the current view of disintegrating coastal margin and roads and would not represent a significant deterioration in viewing amenity.

### 7.1.2 Public Viewing Audiences

- Recreational beach users along Clifton Beach. The sensitivity of this audience is potentially high given their purpose and intention.
- Motorists and pedestrians along the access road to the Clifton Motor Camp. The current road is disintegrating and this, coupled with the enhanced amenity value of The Proposal, this audience, although sensitive to change, is likely to welcome change.
- Patrons of Clifton Motor Camp.
- Patrons and visitors to Clifton Café.
- Recreational boat users.
- Tourists and visitors to the beach area including the proposed parking/amenity area at the eastern access point and Cape Kidnappers Gannet Colony (currently accessed via Clifton Beach).

All of the above public audiences share a common characteristic. They are all likely to be at the site for recreational purposes, be that as locals or tourists. Although their sensitivity to change is potentially high given the nature of their presence, the enhancement in recreational amenity

value offered by the proposal means that the impact on these audiences is likely to be generally positive.

## 7.2 Visual Sensitivity

The area is recognised for its visual amenity associated with the colonial settlement of the area and is recognised as a character area. Forming part of the embayment the coastal edge is a key element contributing to the amenity values of the area. Being in an overall state of disrepair, visual amenity of the site itself is low in comparison to other elements within the area.

Marine debris and shifting beach material mean visual cohesion is lacking throughout the site. In particular, both Clifton Motor Camp (Camp No. 1) and the western campground (Camp No. 2) contain sea defences of very low amenity value.

Located on the coastal edge with open views along and to the site, within a limited visual catchment, create a heightened level of visual sensitivity. The visual sensitivity of the site for the private and public viewing audience is considered to be **Moderate to Low**.

## 7.3 Magnitude of Visual Change

The assessment of visual effects also considers the potential magnitude of change which will result from the nature of a proposed development and its potential visibility. This takes account of the size or scale of the effect, any mitigation measures and their impact over time and the geographical extent of views.

The proposed revetment introduces a strongly formed and uniform coastal edge and is coupled with the proposed boat ramp creating a northern terminus to the modifications. The alignment is similar to the existing embayment and retains the natural landform levels immediately adjacent. The key element of visual change is the introduction of limestone rock along the foreshore, inherently a natural element not generally found in the immediate area. However, the wider visual context includes Cape Kidnappers and the visually striking limestone cliffs.

The inclusion of the limestone rock revetment increases the visibility of the structure due to the reflectance values associated with the colour of the rock. However, the viewing catchment is relatively limited due to the orientation of the bay and the oblique viewing angle from distant viewpoints in the nearby settlement of Haumoana. Additional to the inclusion of the limestone revetment is the beach replenishment gravels which will assist in the settling of the toe of the revetment into the beach interface.

The views along the coastal intertidal zone with the proposed boat ramp buried under the coastal sands and gravels. The boat ramp will tie into the surrounding coastal revetment and gravels to visually obscure its sides and lower half of its surface from view.

For nearby viewing audiences at Clifton Beach the views of the revetment will be apparent from the beach area in the main. From the landward views, looking northward / seaward the top of the revetment will be associated with a formal road corridor, footpath and carpark. Similarly, landscape planting treatments will be lined along the back of the revetment to soften the hard landscape treatments.

The aesthetic coherence associated with the amenity value of the site is likely to improve from its existing condition without changing the way in which it currently functions. Therefore, the magnitude of visual change is considered to be **Low to Moderate**.

## 7.4 Significance of Visual Effect

The visual sensitivity for the identified viewing audience varies on location and distance, however as a whole it is recognised that the sensitivity varies between low to moderate. Considering the magnitude of change to the beach environment and the visibility of this, the moderate change is largely associated with the scale and decreased visibility, of the most visible element of the revetment, from more distant viewing audiences identified. **Overall the significance of adverse visual effect will be low to moderate.** This can be translated (Refer Appendix 1) to adverse visual effects that are minor.

## 8.0 Mitigation

At a broader level the visual mitigation of the structure is limited by the engineering requirements and function for its primary purpose as an erosion control device. The locally sourced limestone provides an economic but visually prominent material that has potential to generate some adverse visual effects.

The following mitigation measures are recommended to assist in the integration of the revetment into the immediate visual catchment:

- Provision of geotextile soil bags interspersed into the rear face of the revetment (road side) to accommodate coastal creeper species such as *Meuhlenbeckia complexa* (*Pohuehue*) and other species. With a focus to create a planted coverage of up to 50% of the landward face of the revetment.
- Limitations to rock size, as detailed in the engineering drawings, to ensure it retains a human scale to its formation and reflects the surrounding structures and scale of the beach environment.
- Placement of coastal gravels and sand materials above the lower half of the boat ramp, as shown in Appendix 2. Placement of coastal gravels should be placed around the sides of the ramp to visually obscure its sides and integrate into the surrounding coastal gravels and revetment structure.

Other non-mitigation, but design measures to include are:

- Provision of varied rock sizes to decrease at the top of the revetment and rear slope of the revetment toward the path. The purpose is to create an improved recreational interface with the pedestrian walkway.
- Provision of outcomes recommended in the Recreation Assessment<sup>8</sup> including:
  - Recreational facilities including seating, furniture, storytelling, signage
  - Provision of access points to the beach for public recreation.

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<sup>8</sup> Refer Proposed Clifton Revetment Recreation Implication and Opportunities, Sage Planning. April 2017.

## 9.0 Conclusion

Notwithstanding the sensitive nature of the receiving coastal landscape into which The Proposal is to be introduced, The Proposal offers an opportunity not only to mitigate a pattern of erosion currently having a high level of adverse impact of the immediate character area, but also to return the landscape to one of opportunity, regeneration and increased amenity value.

Although the proposal is not without impact upon the receiving landscape, it clearly future-proofs the site's character and amenity values with foot/cycle paths, appropriate native coastal planting and landscaping. The main implications of doing so are:

- Increased ecological stability of the site.
- Decrease in movement of coastal material and further low-land erosion.
- Reduction of potential for storm damage.
- Improved amenity value, both local and visitor.
- Maintenance of both camp grounds in situ. This enables the area immediately around The Site to continue offering tourist accommodation in its present form.

The overall combined adverse landscape & visual effect is **Moderate to Low** with low adverse effects upon the natural character of the site. Overall the potential adverse effects are low to moderate and in turn can be translated as being **minor adverse effects**.

## 10.0 References

1. Clifton Beach – Long Term Coastal Protection Works, Beca Ltd Feb 2017.
2. Guidelines for Landscape and Visual Impact Assessment (“GLVIA”) 3rd Edition, Landscape Institute (UK) and IEMA (2013); and, Best Practice Note 10.1, Landscape Assessment and Sustainable Management, NZILA.
3. <http://www.qualityplanning.org.nz/index.php/planning-tools/land/landscape>
4. NZILA Best Practice Note: Landscape Assessment and Sustainable Management 10.1
5. Hastings Coastal Environment Strategy, Technical Paper #1, Part II Matters. Beca Carter Hollings and Ferner Ltd, July 2000.
6. New Zealand Coastal Policy Statement 2010.
7. Review of Landscape Areas and Implications for Plan Review. Boffa Miskell Ltd, April 2013.
8. Cape Coast Reserves Draft Management Plan. Hastings District Council, May 2017 (Note: public submissions on the Draft close 28 July 2017).



# Appendix 1: BML Landscape & Visual Effects Methodology



# Landscape and Visual Effects Assessment Methodology

10 October 2016

## Introduction

The landscape and visual effects assessment process provides a framework for assessing and identifying the nature and significance of potential landscape and visual effects that may result from a proposed development. Such effects can occur in relation to changes to physical elements and the existing character of the landscape and impacts on viewing audiences and visual amenity. This process should include an iterative design development approach which seeks to avoid, remedy or mitigate adverse effects and where appropriate include stakeholder engagement (see Figure 1).

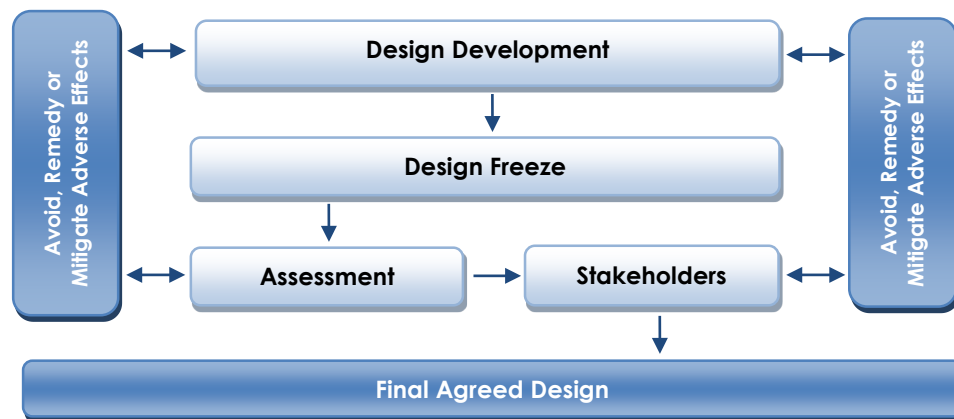


Figure 1: Design feedback loop (Adapted from GLVIA3)

When undertaking landscape and visual effects assessments, it is important that a structured and consistent approach is used to ensure that findings are clear and as objective as possible. Judgement should always be based on training and experience, and be supported by explicit evidence and reasoned argument.

The existing landscape and its visual context form the 'baseline' for landscape and visual effects assessments. In order to assess such effects, the landscape must first be described, including an understanding of the key characteristics that make an area distinctive. This process, known as landscape characterisation, is the basic tool for understanding landscape character and may involve subdividing the landscape into distinct character areas or types and describing the characteristics of each area. The condition of the landscape (i.e. the state of an individual area of landscape or landscape feature) should also be described alongside a judgement made on the value or importance of the potentially affected landscape.

Although landscape and visual effects assessments consider the effect of the proposed development on a landscape, they form separate procedures. The assessment of the potential effect on the landscape forms the first step in this process and is carried out as an effect on an environmental resource (i.e. landscape elements, features and character).

The assessment of visual effects considers how changes to the physical landscape affect the viewing audience.

The types of effects can be summarised as follows:

**Landscape effects:**

*Change in the physical landscape, which may change its character or value.*

**Visual effects:**

*Change to specific views which may change the visual amenity experienced by people.*

This outline of the landscape and visual effects assessment methodology has been undertaken with reference to the Quality Planning Landscape Guidance Note<sup>1</sup> and its signposts to examples of best practice which include the UK guidelines for landscape and visual impact assessment<sup>2</sup> and the New Zealand Landscape Institute Guidelines for Landscape Assessment<sup>3</sup>.

A separate assessment is required to assess changes in natural character in coastal areas and other waterbodies.

## Landscape Effects

Assessing landscape effects requires a thorough understanding of the landscape character and importance or value of the landscape. Using this baseline, a *determination* of landscape sensitivity and the magnitude of change which results from a proposed development can be made to determine the overall significance of landscape effects.

### Landscape Sensitivity

The determination of the sensitivity of the landscape resource is described in terms of both the susceptibility of an area of landscape to change and the value of the landscape.

The sensitivity of the landscape depends upon the degree that a particular landscape or feature can accommodate change. This will vary upon the following factors:

- Physical elements such as topography / hydrology / soils / vegetation;
- Existing land use;
- The pattern and scale of the landscape;
- Visual enclosure / openness of views and distribution of the viewing audience;
- The value or importance placed on the landscape; and
- The scope for mitigation, which would be in character with the existing landscape.

The susceptibility to change takes account of both the attributes of the receiving environment and the characteristics of the proposed development. It considers the ability of a specific type of change occurring without generating adverse effects and/or achievement of landscape planning policies and strategies.

Landscape value derives from the importance that people and communities, including tangata whenua, attach to particular landscapes and landscape attributes. This may include the classification of Outstanding Natural Landscape (RMA s.6(b)) based on important biophysical, sensory/ aesthetic and associative landscape attributes which have potential to be affected by a proposed development.

### Magnitude of Landscape Change

The magnitude of landscape change judges the amount of change that is likely to occur to existing areas of landscape, landscape features, or key landscape attributes. In undertaking this assessment, it is important that the size or scale of the change is considered within the geographical extent of the area influenced and the duration of change, including whether the change is reversible. In some situations, the loss /change or enhancement to existing landscape elements such as vegetation or earthworks should also be quantified.

When assessing the significance of landscape effects, it is important to be clear about what factors have been considered when making professional judgements. This can include consideration of any benefits which result from a proposed development. **Table 1** below has been compiled to help guide this process.

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<sup>1</sup> <http://www.qualityplanning.org.nz/index.php/planning-tools/land/landscape>

<sup>2</sup> Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3)

<sup>3</sup> Best Practice Note Landscape Assessment and Sustainable Management 10.1, NZILA  
L:\Landscape Planning\Assessment Methodologies\Landscape And Visual Effects\Landscape And Visual Effects Methodology\BML\_Landscape\_And\_Visual\_Effects\_Methodology\_October\_2016.Docx

Contributing Factors		Higher	Lower
Sensitivity	<b>Susceptibility to change</b>	The landscape is strongly distinctive with important biophysical, sensory and associative aspects. There is an absence of landscape detractors which make it highly vulnerable to the type of change which would result from the proposed development.	The landscape lacks any distinctive biophysical, sensory or associative aspects. It has many detractors and has the ability to accommodate the proposed development without undue consequences to landscape character.
	<b>The value of the landscape</b>	The landscape requires protection as a matter of national importance (ONF/L).	The landscape is of low or local importance.
Magnitude of Change	<b>Size or scale</b>	Total loss or addition of key features or elements. Major changes in the key characteristics of the landscape, including significant aesthetic or perceptual elements.	The majority of key features or elements are retained. Key characteristics of the landscape remain intact with limited aesthetic or perceptual change apparent.
	<b>Geographical extent</b>	Landscape character area scale.	Site scale, immediate setting.
	<b>Duration and reversibility</b>	Permanent. Long term (over 10 years).	Reversible. Short Term (0-5 years).

Table 1: Determining the significance of landscape effects

## Visual Effects

To assess the visual effects of a proposed development on a landscape, a visual baseline must first be defined. The visual baseline identifies the area where the development may be visible, the potential viewing audience, and the key representative public viewpoints from which visual effects are assessed.

The viewing audience comprises the individuals or groups of people occupying or using the properties, roads, footpaths and public open spaces that lie within the visual envelope or zone of visual influence of the site and proposal. Where possible, computer modelling can assist to determine the actual extent of visibility together with field work which should be undertaken to confirm this. Where appropriate, key representative viewpoints should be agreed with the relevant local authority.

### Visual Sensitivity

Visual sensitivity is dependent upon the susceptibility of the viewing audience to change and the value attached to views. The susceptibility of the viewing audience is determined by assessing the occupation or activity of people experiencing the view at particular locations and the extent to which their interest or activity may be focussed on views of the surrounding landscape. This relies on a landscape architect's judgement in respect of visual amenity and reaction of people who may be affected by a proposal. This should also recognise that people more susceptible to change generally include: residents at home, people engaged in outdoor recreation whose attention or interest is likely to be focussed on the landscape and on particular views; visitors to heritage assets or other important visitor attractions; and communities where views contribute to the landscape setting.

The value or importance attached to particular views may be determined with respect to its popularity or numbers of people affected or reference to planning instruments such as viewshafts or view corridors. Important viewpoints are also likely to appear in guide books or tourist maps and may include facilities provided for its enjoyment. There may also be references to this in literature or art, which also acknowledge a level of recognition and importance.

### Magnitude of Visual Change

The assessment of visual effects also considers the potential magnitude of change which will result from the nature of a proposed development and its potential visibility. This takes account of the size or scale of the effect, any mitigation measures and their impact over time and the geographical extent of views. Preparation of any simulations of visual change should be guided by best practice as identified by the NZILA<sup>4</sup>.

<sup>4</sup> Best Practice Guide: Visual Simulations BPG 10.2, NZILA

The assessment of visual effects should also distinguish between temporary (often associated with construction) and permanent effects where relevant. The duration of the temporary effects may also be a consideration when evaluating the magnitude of visual change.

The magnitude of change resulting from the proposed development is combined with the sensitivity of the viewing audience to determine the overall significance of visual effects.

It should also be noted that a change in view is not always negative and does not automatically generate adverse effects. **Table 2** below has been prepared to help guide this process:

Contributing Factors		Higher	Lower
Sensitivity	<b>Susceptibility to change</b>	Views from dwellings and recreation areas where attention is typically focussed on the landscape.	Views from places of employment and other places where the focus is typically incidental to its landscape context. Views from transport corridors.
	<b>Value attached to views</b>	Viewpoint is recognised by the community such as an important view shaft, identification on tourist maps or in art and literature. High visitor numbers.	Viewpoint is not typically recognised or valued by the community.  Infrequent visitor numbers.
Magnitude of Change	<b>Size or scale</b>	Loss or addition of key features in the view. High degree of contrast with existing landscape elements (i.e. in terms of form scale, mass, line, height, colour and texture). Full view of the proposed development.	Most key features of view retained. Low degree of contrast with existing landscape elements (i.e. in terms of form scale, mass, line, height, colour and texture). Glimpse / no view of the proposed development.
	<b>Geographical extent</b>	Front on views. Near distance views; Change visible across a wide area.	Oblique views. Long distance views. Small portion of change visible.
	<b>Duration and reversibility</b>	Permanent. Long term (over 15 years).	Transient / temporary. Short Term (0-5 years).

Table 2: Determining the significance of visual effects

## Nature of Effects

In combination with assessing the significance of effects, the landscape and visual effects assessment also considers the nature of effects in terms of whether this will be positive (beneficial) or negative (adverse) in the context within which it occurs. Neutral effects can also occur where landscape or visual change is considered to be benign in the context of where it occurs.

This assessment of the nature effects can be further guided by **Table 3** set out below:

Nature of effect	Use and Definition
<b>Adverse (negative):</b>	The proposed development would be out of scale with the landscape or at odds with the local pattern and landform which results in a reduction in landscape and / or visual amenity values
<b>Neutral (benign):</b>	The proposed development would complement (or blend in with) the scale, landform and pattern of the landscape maintaining existing landscape and / or visual amenity values
<b>Beneficial (positive):</b>	The proposed development would enhance the landscape and / or visual amenity through removal of restoration of existing degraded landscapes uses and / or addition of positive elements or features

Table 3: Determining the Nature of Effects





## Cumulative Effects

During the scoping of an assessment, where appropriate agreement should be reached with the relevant local authority as to the nature of cumulative effects to be assessed. This can include effects of the same type of development (e.g. wind farms) or the combined effect of all past, present and approved future development<sup>5</sup> of varying types, taking account of both the permitted baseline and receiving environment. Cumulative effects can be positive or negative.

### Cumulative Landscape Effects

Cumulative landscape effects can include additional or combined changes in components of the landscape and changes in the overall landscape character. The extent within which cumulative landscape effects are assessed can cover the entire landscape character area within which the proposal is located, or alternatively, the zone of visual influence from which the proposal can be observed.

### Cumulative Visual Effects

Cumulative visual effects can occur in combination (seen together in the same view), in succession (where the observer needs to turn their head) or sequentially (with a time lapse between instances where proposals are visible when moving through a landscape). Further visualisations may be required to indicate the change in view compared with the appearance of the project on its own.

Determining the nature and significance of cumulative landscape and visual effects should adopt the same approach as the project assessment in describing both the sensitivity and magnitude of change leading to a final judgement. Mitigation may require broader consideration which may extend beyond the geographical extent of the project being assessed.

## Determining the Overall Significance of Landscape and Visual Effects

The landscape and visual effects assessment concludes with an overall assessment of the likely significance of landscape and visual effects. This step also takes account of the nature of effects and the effectiveness of any proposed mitigation.

This step informs an overall judgement identifying what level of effects are likely to be generated as indicated in **Table 4** below. This table which can be used to guide the significance of landscape and visual effects uses an adapted seven-point scale derived from NZILA's Best Practice Note.

Effect Rating	Use and Definition
<b>Very High:</b>	Total loss to the characteristics or key attributes of the receiving environment and /or visual context amounting to a complete change of landscape character.
<b>High:</b>	Major change to the characteristics or key attributes of the receiving environment and /or the visual context within which it is seen; and/or a major effect on the perceived amenity derived from it. <i>Oxford English Dictionary Definition</i> <i>High: adjective- 1. Extending above the normal level. 2. Great in amount, value, size, or intensity.</i>
<b>Moderate- High:</b>	A moderate - high level of effect on the character or key attributes of the receiving environment and/or the visual context within which it is seen; and/or have a moderate - high level of effect on the perceived amenity derived from it.
<b>Moderate:</b>	A moderate level of effect on the character or key attributes of the receiving environment and/or the visual context within which it is seen; and/or have a moderate level of effect on the perceived amenity derived from it. <i>Oxford English Dictionary Definition</i> <i>Moderate: adjective- average in amount, intensity, or degree</i>
<b>Moderate - Low:</b>	A moderate - low level of effect on the character or key attributes of the receiving environment and/or the visual context within which it is seen; and/or have moderate - low level of effect on the perceived amenity derived from it.
<b>Low:</b>	A low level of effect on the character or key attributes of the receiving environment and/or the visual context within which it is seen; and/or have a low effect on the perceived amenity derived from it. <i>Oxford English Dictionary Definition</i> <i>Low: adjective- 1. Below average in amount, extent, or intensity.</i>
<b>Very Low:</b>	Very low or no modification to key elements/ features/ characteristics of the baseline or available views, i.e. approximating a 'no change' situation.

Table 4: Determining the overall significance of landscape and visual effects

<sup>5</sup> The life of the statutory planning document or unimplemented resource consents.

### Determination of “minor”

Decision makers in assessing whether an application should be notified must assess whether the adverse effects of the activity on the environment will be more than minor. Likewise, when assessing a non-complying activity, consent can only be granted if the s104D ‘gateway test’ is satisfied. This test requires the decision maker to be assured that the adverse effects of the activity on the environment will be minor or not be contrary to the objectives and policies of the relevant planning documents.

These assessments will generally involve a broader consideration of the effects of the activity, beyond the landscape and visual effects. Through this broader consideration guidance may be sought on whether the landscape and visual effects are considered minor. In relation to this assessment of moderate-low significance would generally equate to ‘minor’

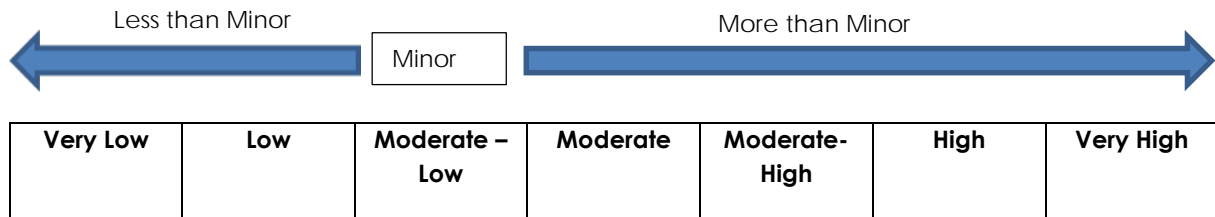






Table 5: Determining minor effects for the purpose of notification determination and non-complying activities

# Appendix 2: Engineering Drawings





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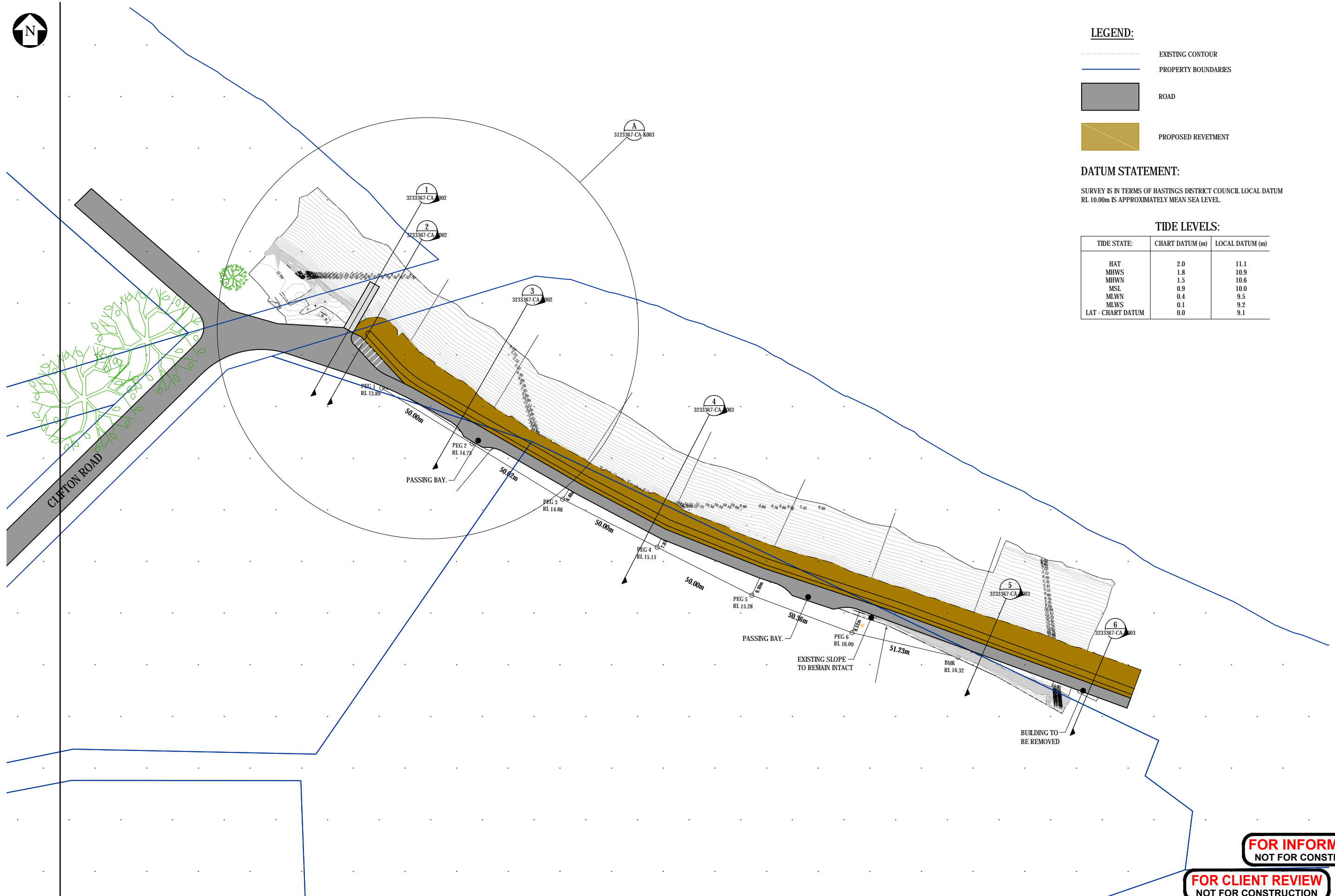
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MHWN	1.5	10.6
MSL	0.9	10.0
MLWN	0.4	9.5
MLWS	0.1	9.2
LAT - CHART DATUM	0.0	9.1



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 SJP 13.04.17



CLIFTON REVETMENT

PROPOSED  
OVERALL  
LAYOUT PLAN





CIVIL ENGINEERING  
 3233367-CA-K002

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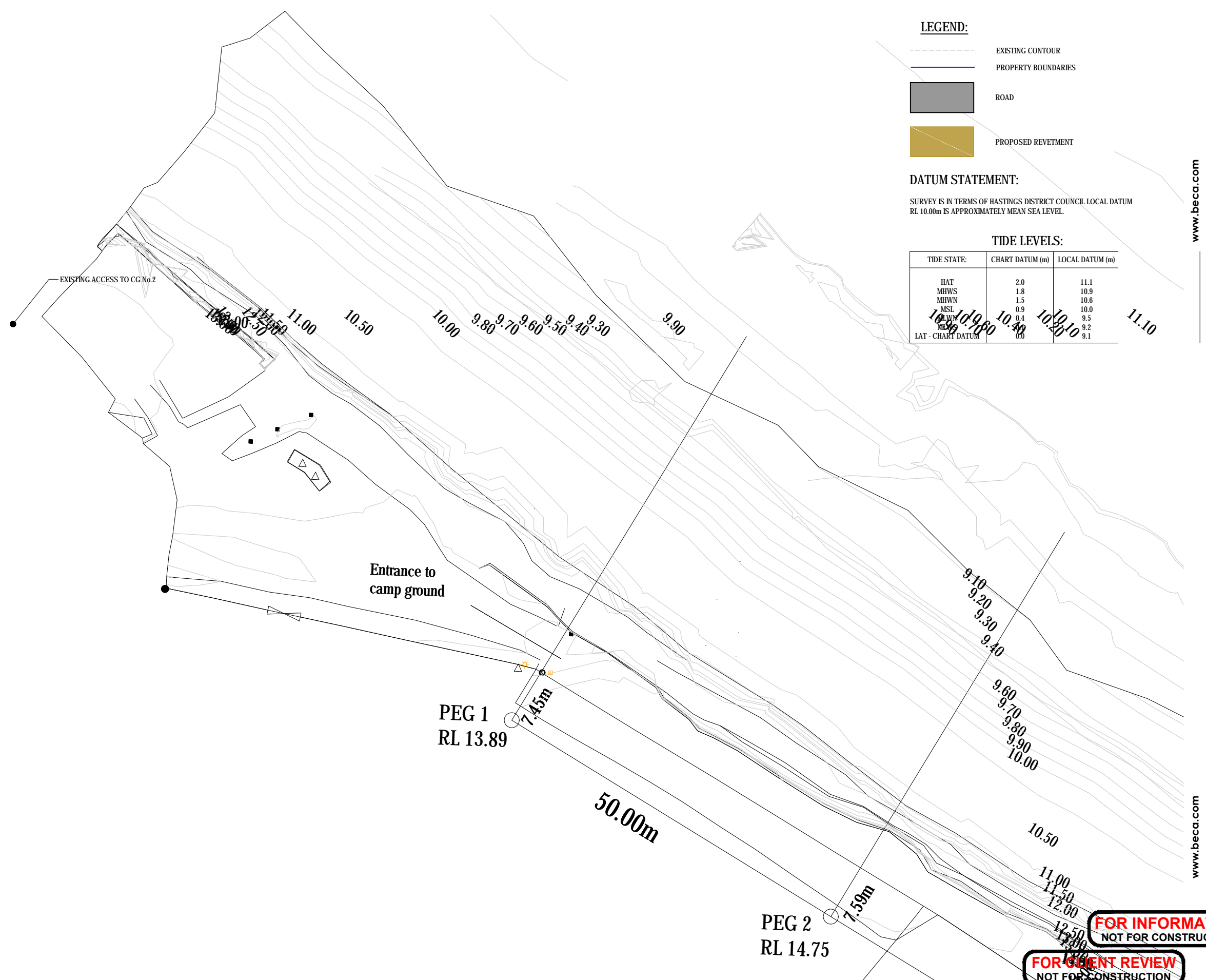
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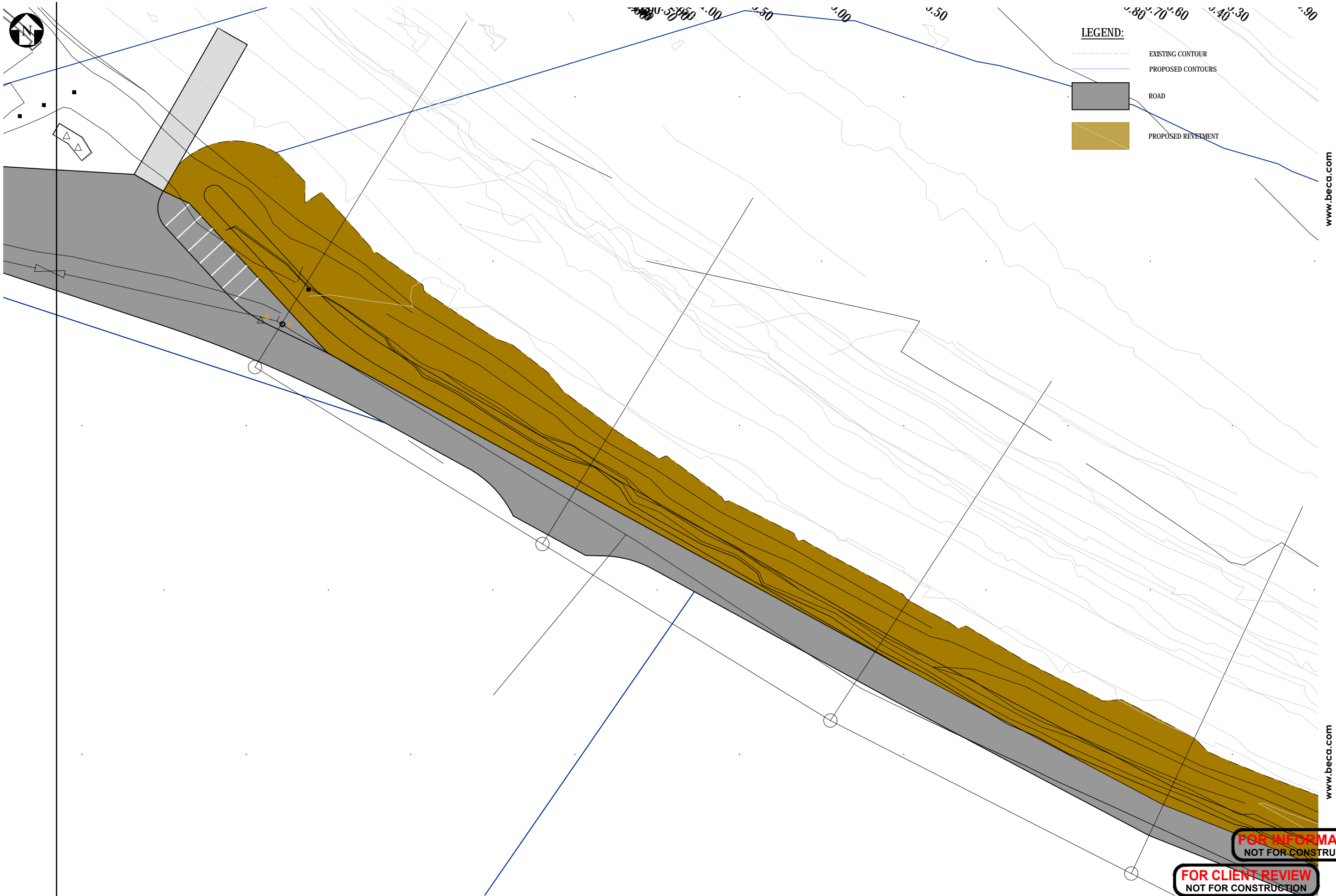


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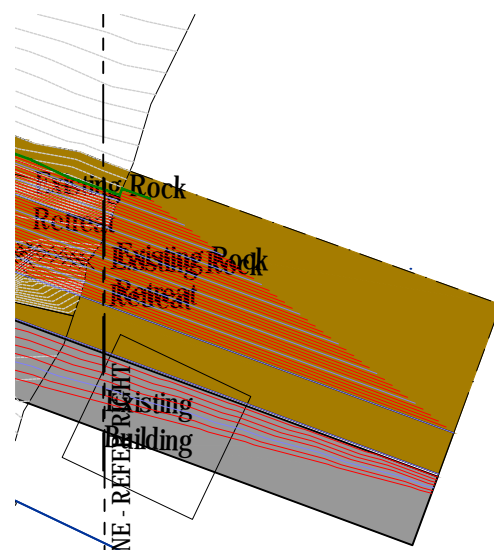
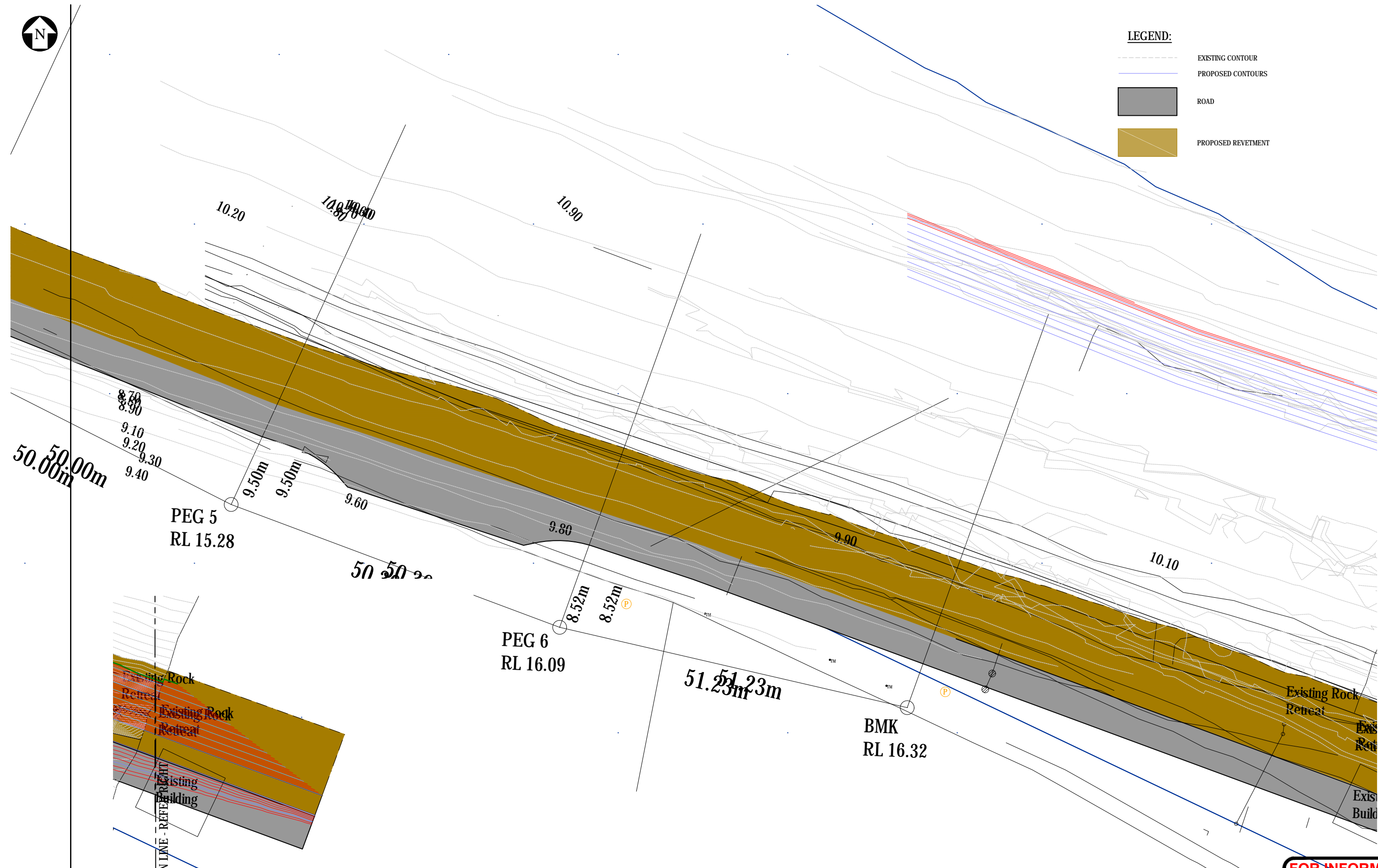
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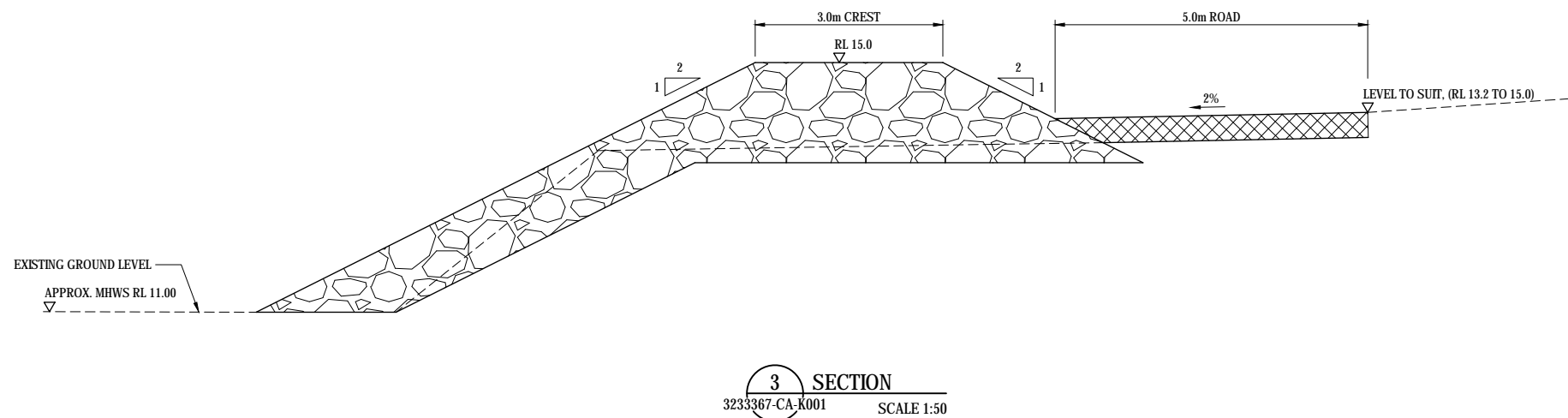
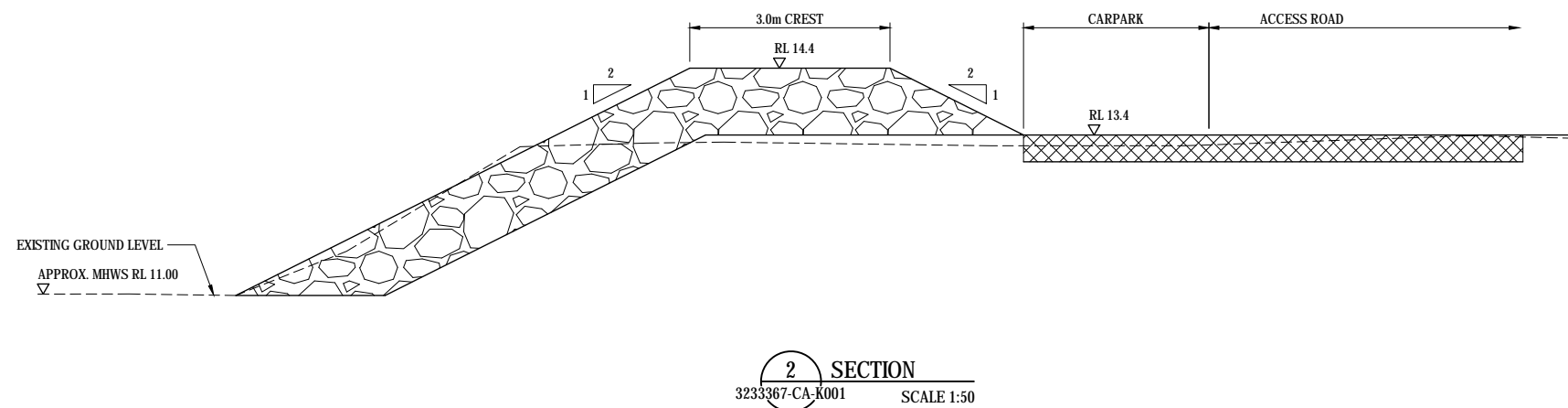
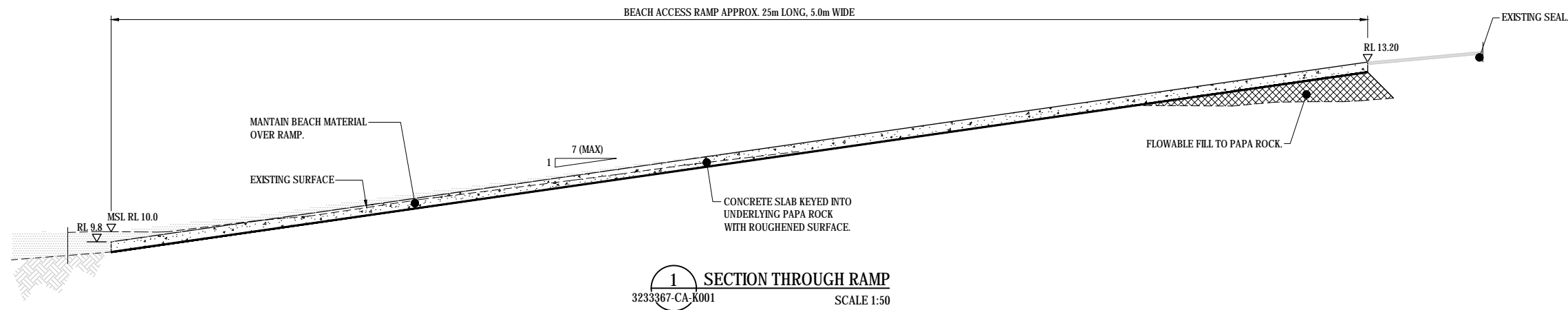
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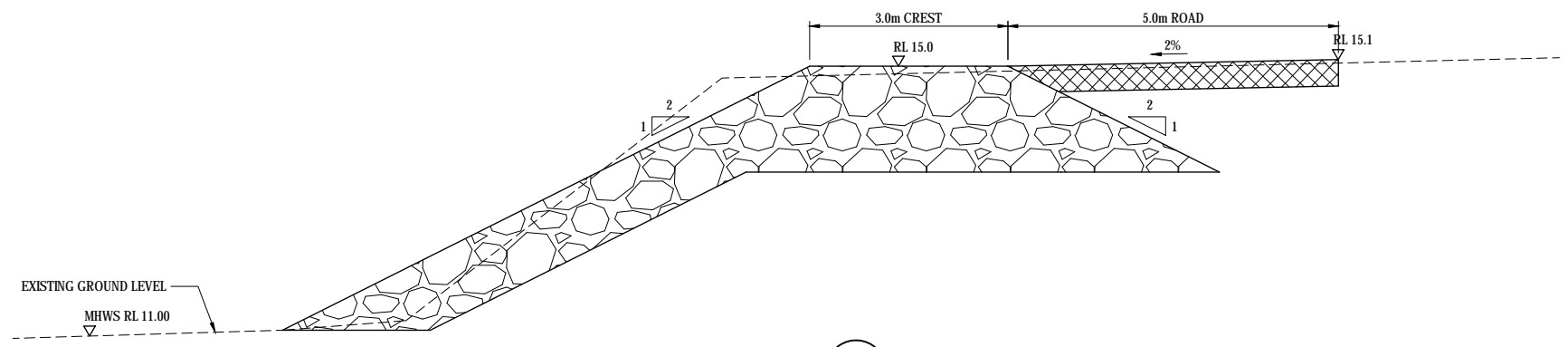
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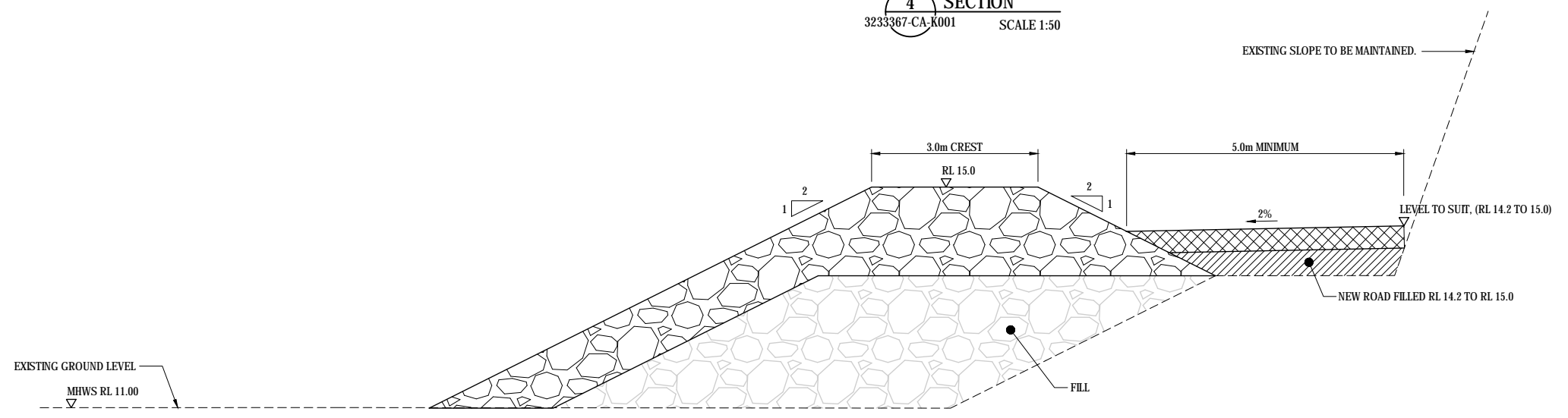
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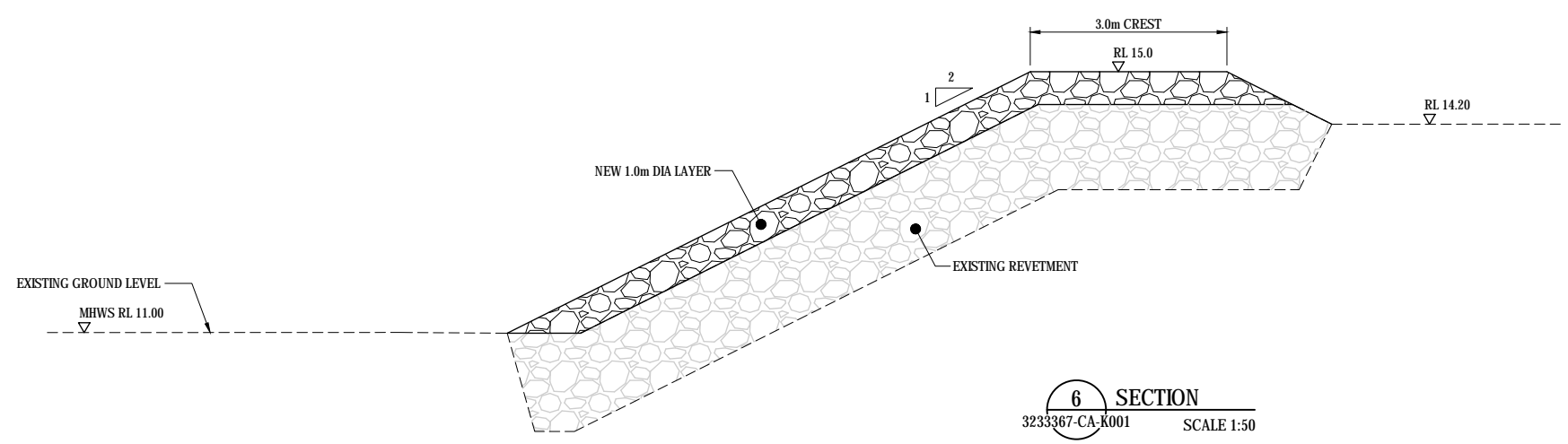




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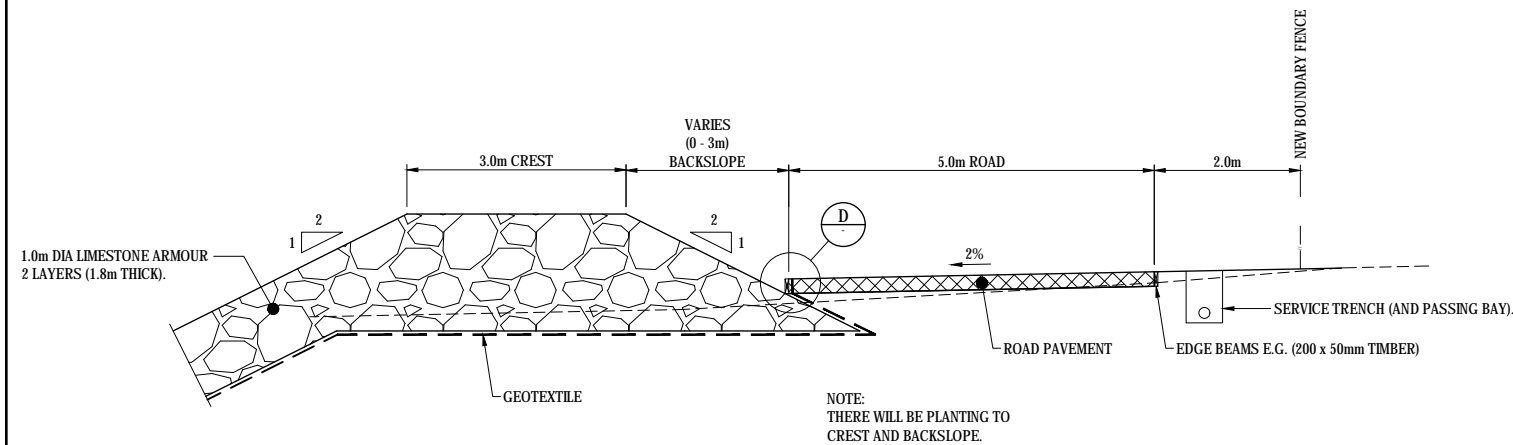


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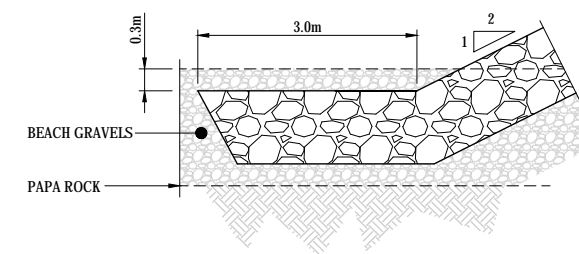
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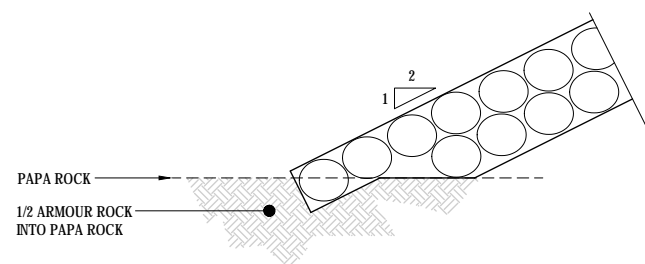




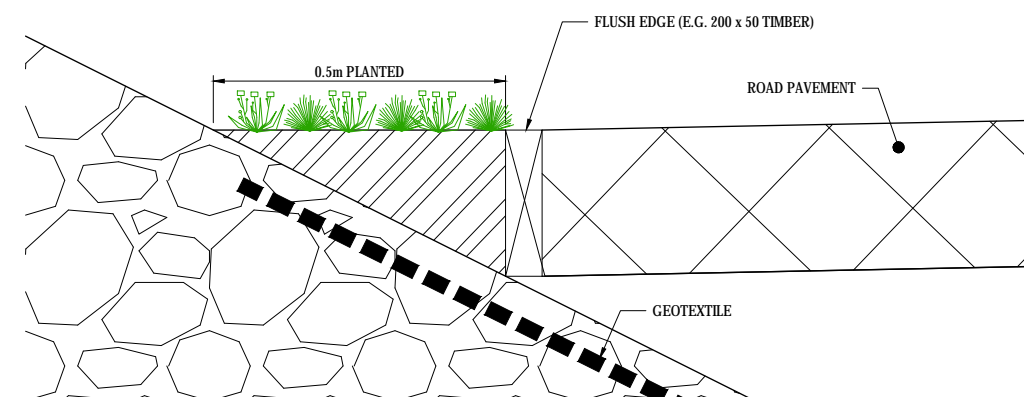
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SCALE 1:50



**B** REVETMENT TOE DETAIL  
PAPA ROCK BELOW REVETMENT  
SCALE 1:50



**C** REVETMENT TOE DETAIL INTO PAPA ROCK  
SCALE 1:50



**D** FLUSH EDGE DETAIL  
SCALE 1:5

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# Appendix 3: Visual Analysis









Clifton Road Beach Access, facing West.





Clifton Beach facing East





Clifton Beach facing East





Clifton Road facing Northwest towards existing parking/amenity area



Clifton Beach facing Southeast towards Clifton road and existing amenity/parking area.





Clifton Beach facing Southwest towards Camp Ground and Clifton Road Access.





Clifton Beach facing East





Clifton Beach facing Southeast towards Clifton Road and existing parking/amenity area.





Clifton Beach facing East towards existing revetment



Existing Revetment



Clifton Beach facing East towards Clifton Road and existing revetment.





Clifton Beach facing West towards existing revetment and Clifton Motor Camp.





Clifton Beach facing West towards Clifton Motor Camp entrance and existing revetment.





Clifton Motor Camp facing West towards existing sea defences and revetment.





Clifton Motor Camp facing West towards existing revetment.





Clifton Motor Camp facing West towards existing boat ramp and sea defences.

## APPENDIX E – Revetment Recreation Implications and Opportunities

# Sage | Planning

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*Recreation Assessment for Hastings District Council*  
**Proposed Clifton Revetment  
Recreation Implications & Opportunities**  
to support Resource Consent Applications

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*Recreation Assessment for Hastings District Council*

# Proposed Clifton Revetment Recreation Implications & Opportunities

to support Resource Consent Applications

---



**Prepared by:** Stella Morgan  
Consultant Planner

**Date:** July 2017  
**File Ref:** HDC17001  
**Status:** FINAL



**Reviewed by:** Rowena Macdonald  
Consultant Planner

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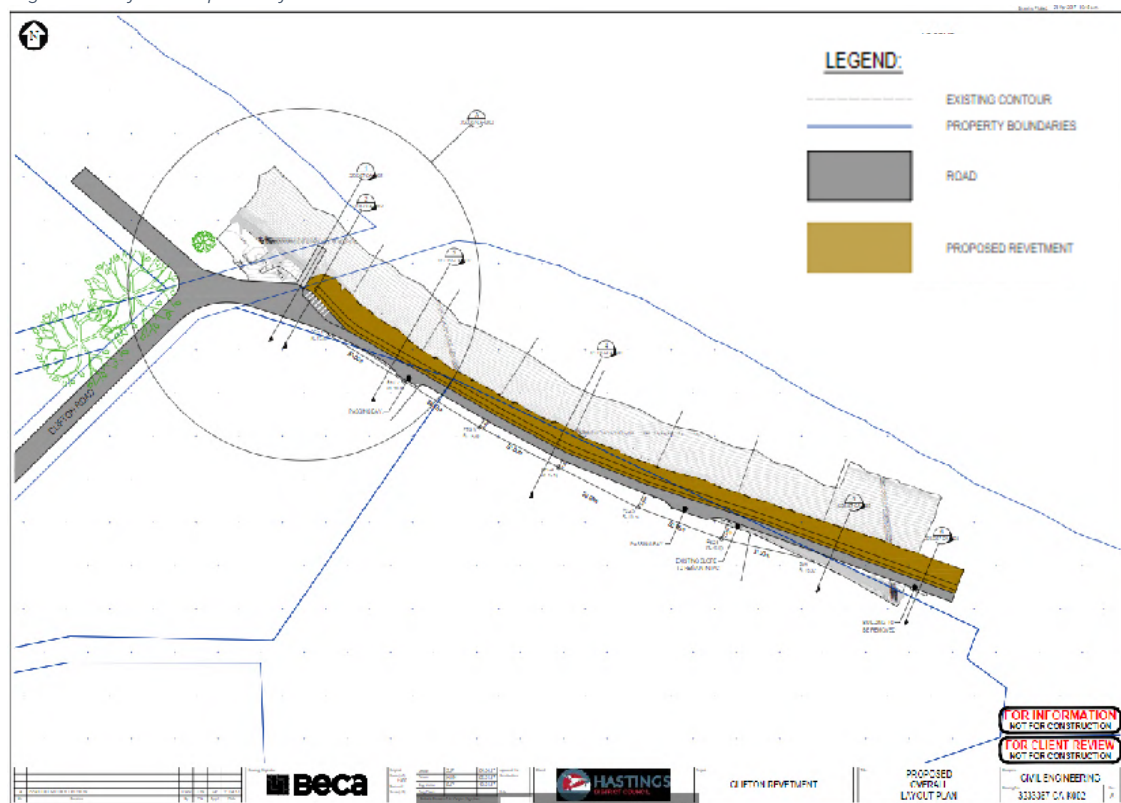
# 1. Introduction

## 1.1 The Proposal

Hastings District Council are seeking resource consents to establish a revetment wall along a section of coastal foreshore at Clifton Reserve (Clifton Domain) in accordance with the plans supplied in Clifton Beach: Engineering Assessment prepared for Hastings District Council by Beca Limited.<sup>1</sup>

The proposed revetment will formalise relocated vehicular access linking the various aspects of the Reserve, which has been subject to considerable ongoing erosion. The access will connect Campground No. 1 from the Clifton boat ramp, along the front of the Gordon property, though to an area in front of Clifton Café. It includes strengthening and extending the current temporary Clifton erosion protection wall and seeks to provide a long term coastal protection work to preserve public access along this section of Clifton beach from ongoing coastal erosion loss. The proposed access strip will provide for a 5.0-metre-wide multimodal access road (vehicle, walking and cycling) and includes an amenity planting strip, two vehicle passing bays and a formed beach access ramp at the northern end of the revetment as detailed in figure 1-3 below.

Figure 1 Draft Concept Plan for Revetment Wall<sup>2</sup>



<sup>1</sup> 17 July 2017

<sup>2</sup> Clifton Beach Engineering Assessment, Beca Limited (June 2017)

Figure 2 Road /Revetment Interface

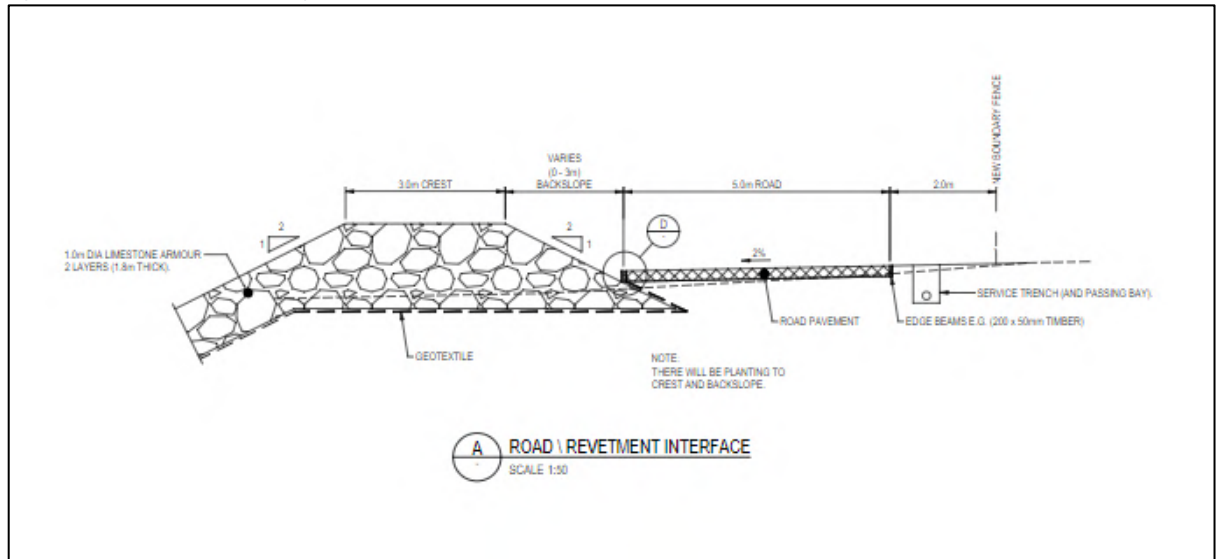
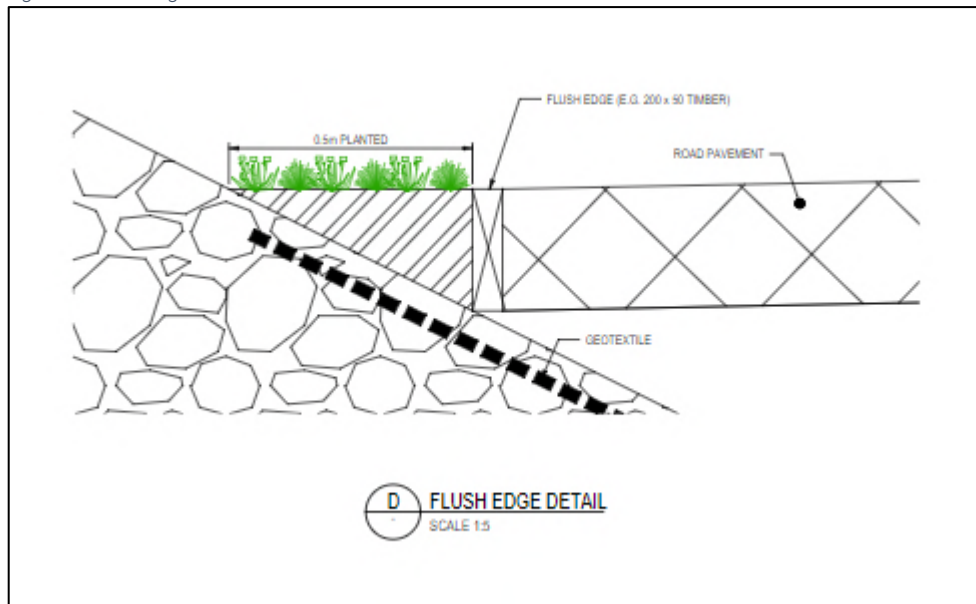


Figure 3 Flush Edge Detail



## 1.2 Purpose of Recreation Assessment

This Report will inform and accompany the resource consent applications for the proposed revetment structure.

Clause 6 of Schedule 4 to the RMA provides that an assessment of the activity's effects on the environment must include the following information:

- (b) an assessment of the actual or potential effect on the environment of the activity:
- (e) a description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect:
- (f) identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted:

Clause 7(1) provides that an assessment of the activity's effects on the environment must address the following matters:

*(a) any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects:*

*(b) any physical effect on the locality, including any landscape and visual effects:*

*(d) any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations:*

In addition, the RMA recognises and provides for the maintenance and enhancement of public access to and along the coastal marine area as a matter of national importance (section 7) and the New Zealand Coastal Policy Statement further refines this through explicitly confining public access to areas where such access will not compromise other values and resources, particularly natural character, ecological resources etc.

The purpose of this report is to evaluate public access and recreation in this context, to provide an assessment of any effects on public access to the coast and any recreational effect, being a social effect, on those in the neighbourhood or wider community, as a result of the proposal. Where any actual and potential adverse effects are identified, mitigation measures are also recommended. It includes consideration of potential adverse effects as well as positive effects that may arise.

### 1.3 Site Description

Clifton Domain, legally described as Secs Clifton Reserve Secs 7, 10 BLK II Kidnapper SD CLIFTON REC RES CT RES/5955, is Crown owned land comprising an area of 11.5722 hectares. The Domain consists of a long thin strip of shingle beach and foreshore and is the location of Clifton Motor Camp (Campgrounds No. 1 and No. 2), Clifton Marine Club and boat ramp, and Clifton carpark at Clifton Road end. There is also a small public picnic area and parking area at the south end of Campground No. 1. Clifton Domain provides public access to the coastal marine area in this location, and serves as the launching point for day visitors to and along the coast and to Cape Kidnappers and the gannet colonies.

Figure 4 below shows the general location and project area.

The Domain, vested in Hastings District Council, is leased to the Clifton Reserve Society, who run the Campground at each end (Campgrounds No. 1 and No. 2) and sublease land to the Clifton Marine Club Inc, who manage and maintain clubrooms, a slipway and boat storage in the area of Campground No. 1.

The Domain also provides public access to Clifton Beach and Cape Kidnappers. Access from the road end to the beach is via the gravel tracks created by Gannet Beach adventure vehicles or across the shingle bank at various points along the foreshore. Access is impeded or difficult in places due to the presence of a range of existing informal seawall structures. Wooden steps across the shingle bank assist with pedestrian access in a number of places in front of the campgrounds. The boat ramp is the only ramp with access to Hawke Bay between Waimarama and Napier.

Department of Conservation (DoC) signage for the Gannet Colony is located in the carpark at the Clifton Road end, and the Coastal Wine Cycle Trail, part of the Hawke's Bay Trail Network, also terminates at this point. Additional multiple signage is located at the beginning of the camp access road.

The Domain, and its access along Clifton foreshore, have been subject to significant erosion activity over the years, and as a consequence access to the boat ramp and Campground No. 1 has become particularly difficult and at risk of becoming impassable. In the early 2000's Campground No.2 was established in part to compensate for the sites being lost at Campground No.1.

In 2013, a resource consent was approved for a period of 5 years for a temporary revetment adjacent to the boat club. The purpose of that consent was to provide time for a more permanent solution to be found. Figure 4 below contains various photographs of the Clifton Marine Club, Campgrounds and carparking area.



Figure 45 Project Location

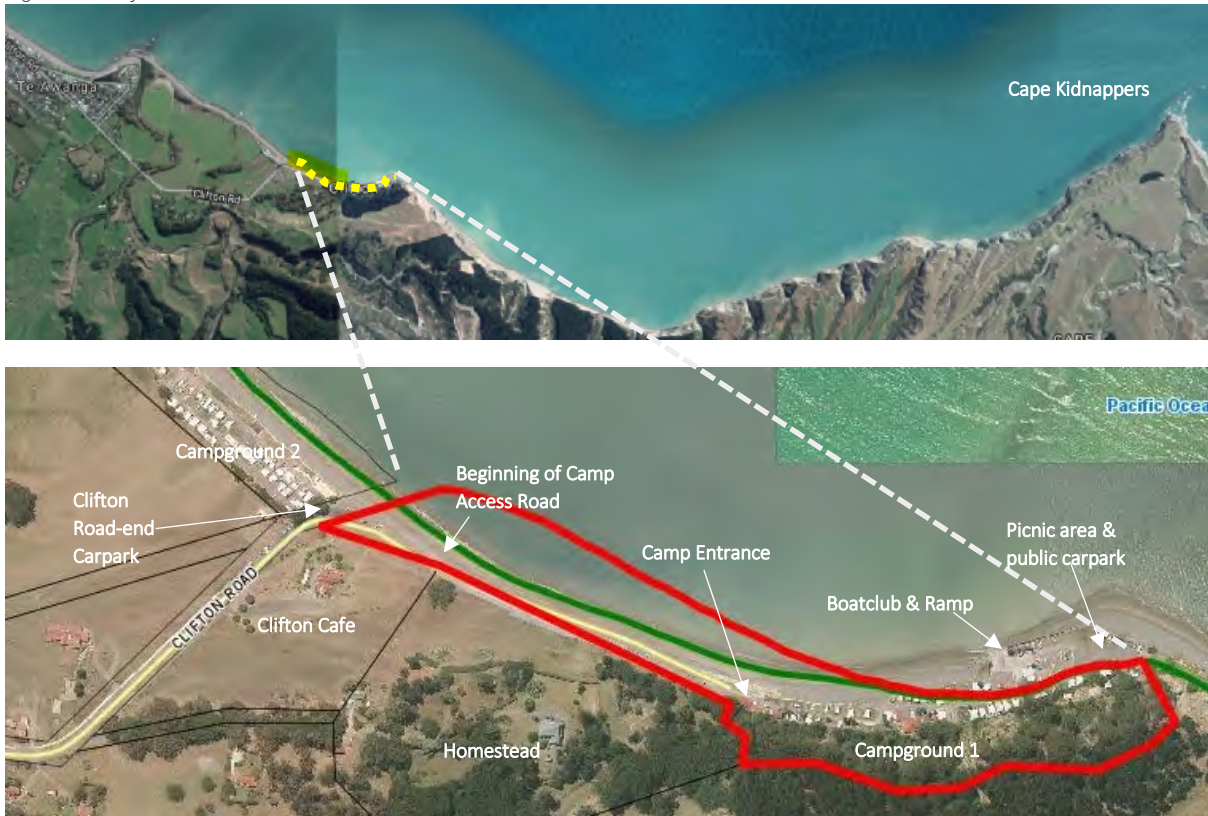


Figure 5 Clifton Domain, Campgrounds & Marine Club









## 1.4 Surrounding Recreation Environment

While located within easy travelling distance of Hastings and Napier, the wider beach area at Clifton beach has a sense of remoteness and ruggedness, due to its stony beach, and changing shore line. The land immediately adjacent to Clifton Domain is part of Clifton Station, with the historic Clifton Homestead and Clifton Café in close proximity. Gannet Beach Adventures departure point for tours to the gannet colony is located inland of Campground No. 2, and Clifton Station woolshed is located further inland, about 500 metres from the road end. It houses 'Woolworld' a museum and venue for wool and shearing shows, and is open to the public on request. A Council managed public toilet facility and rubbish bins are located within the road reserve adjacent to Gannet Beach Adventures departure point.

Cape Kidnappers, a distinctive Hawke's Bay landmark, and the Gannet Colony, is located to the south of Clifton Beach. Clifton Domain provides the primary launching point for day-visitors to and along the beach to this area. Access to the Cape also occurs overland through Cape Kidnappers Station, or via helicopter. The Cape Kidnappers Golf Course and luxury Lodge are located on the headlands towards Cape Kidnappers with access from Clifton Road.

The nearby coastal settlements of Te Awanga and Haumoana are located 1.5 and 5 kilometres respectively to the north, and have similar shingle beach front to Clifton. A small privately-owned beach front camping ground is located at Te Awanga, as well as a community playground and hall located on the beach domain. A designated area for certified self-contained vehicles is provided on Clifton Road between Te Awanga and Haumoana.

## 2. Report Methodology

This report uses existing available information and knowledge to form conclusions about impacts on existing recreation values and activities and public access in the vicinity of the proposed revetment. Consultation with key stakeholders, has also contributed to this assessment. The research for this assessment has included:

- Site visit (14<sup>th</sup> March & 21<sup>st</sup> April 2017);
- Review of Reserves Act and Statutory Plans (Reserves Act 1977, Cape Coast Community Plan 2014, Draft Cape Coast Reserve Management Plan 2017 and Hastings District Plan 2015)
- Review of other relevant information: Hastings Coastal Environment Strategy (2000); Hawke's Bay Rural Open Spaces Study (2007); Cape Kidnappers Visitor's Survey (1996); and search of relevant websites.
- Interviews with key stakeholders including: Clifton Reserve Society, Clifton Marine Club, Gannet Beach Adventures, Clifton Café, Hastings District Council Parks and Property Services Manager, Hawke's Bay Regional Council Open Spaces Manager, and relevant Department of Conservation staff. A copy of Information from the interviews is provided in Appendix A.

Findings from this research is detailed in sections 3 -5 below, followed by analysis in section 6.

### 3. Reserves Act 1977 and Statutory Plans

As a recreation reserve, section 17 of the Reserves Act 1977 applies to Clifton Domain as follows:

#### *17 Recreation reserves*

- (1) It is hereby declared that the appropriate provisions of this Act shall have effect, in relation to reserves classified as recreation reserves, for the purpose of providing areas for the recreation and sporting activities and the physical welfare and enjoyment of the public, and for the protection of the natural environment and beauty of the countryside, with emphasis on the retention of open spaces and on outdoor recreational activities, including recreational tracks in the countryside.*
- (2) It is hereby further declared that, having regard to the general purposes specified in subsection (1), every recreation reserve shall be so administered under the appropriate provisions of this Act that—*
  - (a) the public shall have freedom of entry and access to the reserve, subject to the specific powers conferred on the administering body by sections 53 and 54, to any bylaws under this Act applying to the reserve, and to such conditions and restrictions as the administering body considers to be necessary for the protection and general well-being of the reserve and for the protection and control of the public using it:*
  - (b) where scenic, historic, archaeological, biological, geological, or other scientific features or indigenous flora or fauna or wildlife are present on the reserve, those features or that flora or fauna or wildlife shall be managed and protected to the extent compatible with the principal or primary purpose of the reserve:*
- (3) provided that nothing in this subsection shall authorise the doing of anything with respect to fauna that would contravene any provision of the Wildlife Act 1953 or any regulations or Proclamation or notification under that Act, or the doing of anything with respect to archaeological features in any reserve that would contravene any provision of the Heritage New Zealand Pouhere Taonga Act 2014:*
  - (a) those qualities of the reserve which contribute to the pleasantness, harmony, and cohesion of the natural environment and to the better use and enjoyment of the reserve shall be conserved:*
  - (b) to the extent compatible with the principal or primary purpose of the reserve, its value as a soil, water, and forest conservation area shall be maintained.*

The Clifton Domain has historically operated in accordance with these principles.

#### 3.1 Draft Cape Coast Reserves Management Plan (2017)

A Draft Cape Coast Reserves Management Plan<sup>3</sup>, currently being prepared by Hastings District Council pursuant to the Reserves Act 1977, covers 10 reserves located in the Haumoana, Te Awanga and Clifton area. The purpose of this plan is to provide Council with a clear framework for the day-to-day management and decision making for the Cape Coast reserves for the duration of the Plan (10 years).

In terms of Clifton Domain, the Draft Plan recognises that *'the end of Clifton Road is the closest point to Cape Kidnappers and for many people a stopping point. The location of the Clifton camps, the café and gannet tours would suggest that the road end/beach front would benefit from being enhanced for visitor enjoyment. Seating, walking, picnic and information areas would all enhance this reserve.'*

It is noted that in recent years, Council has installed public toilets at the road end, and DoC have erected signage /story boards about Cape Kidnappers. In addition to this the Draft Reserves Management Plan also recognises the opportunity for improved public access (vehicle, cycling and walking) and parking, native biodiversity and ecology and recreational opportunities for the Cape Coast Reserves with the following specific objectives /policies being relevant to Clifton Domain:

- Policy 2.9.3 To provide additional reserve furniture within the reserve to enhance the use and enjoyment of them.  
  
Action 3 – Create rest areas at Clifton Reserve at the end of Clifton Road with seats and a picnic table.

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<sup>3</sup>As submitted to HDC's Economic Development & Urban Affairs Committee Meeting, 2 May 2017



- Policy 2.12.6 Create a walking route alongside the access road from the end of Clifton Road to Clifton Camp 1, which has good views of the beach and Cape Kidnappers.

Key themes from the objectives and policies of the draft RMP of relevance to any works at Clifton beach and recreation reserve, can be summarised as follows:

- Realise the unique opportunity to enhance the ‘Cape Coast’ reserves for the local communities of Clifton, Te Awanga, Haumoana and as a gateway to Cape Kidnappers;
- Improve access to and enhance parking areas on the coast;
- Ensure that any new development respects and protects safety, key landscape features, promotes linkages, improves accessibility;
- Create a walking route alongside the access road from the end of Clifton Road to Clifton Camp 1, which has good views of the beach and Cape Kidnappers;
- Ensure that the development or use of any reserve does not exacerbate the adverse effects of natural hazards;
- Ensure that any identified sites of heritage and cultural significance are protected and maintained;
- To provide interpretation of local history in reserves with signs and art;
- To ensure that the reserves cater for the needs and values of the community;
- The reestablishment of local native plants with a high tolerance to salt water and adapted to grow on shingle ridges are vital to help mitigate coastal erosion and climate change.
- Community partnerships with iwi and the community are identified as important for the development of these reserves, in terms of creating identity, a sense of place, and local ownership.

A draft concept development plan has been provided for each of the Reserves, with the draft Clifton Domain concept and artistic illustrations reproduced in Figures 6 & 7 below. This concept focusses future development at the Clifton Road carpark end and notes potential for a long-term revetment along this section of coast (the subject of this assessment) providing walking and vehicle access to Campground No. 1. This Draft Management Plan has been publicly notified with the date for submissions closing on 28 July 2017, and it is likely that the concept may change as the Plan progresses.

Figure 6 Draft Concept Plan for Clifton Road Carpark



Figure 7 Draft Cape Coast Reserve Management Plan- Artistic Impressions for Road End Treatment - Clifton Road



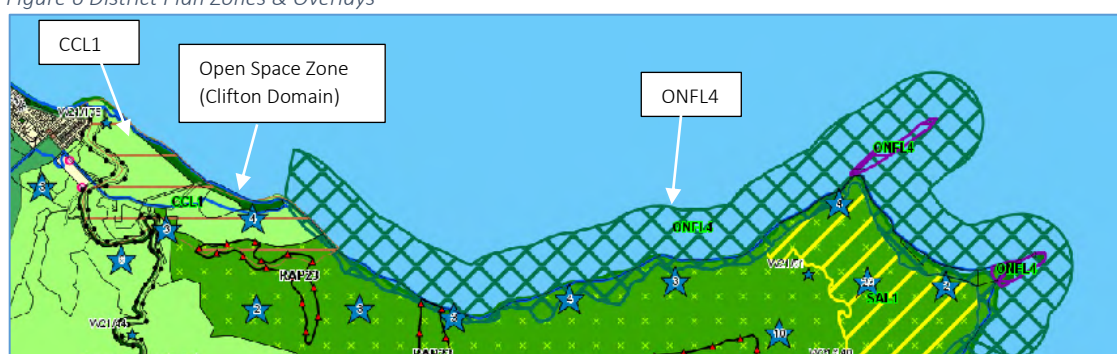
## 3.2 District Plan Zoning & Overlays

### 3.2.1 Clifton Domain

Clifton Reserve is zoned 'Open Space) S-5-01' category 'Coastal'<sup>4</sup> under the Proposed Hastings District Plan (as amended by decisions, 12 September 2015). Open Space zones cover all reserves and open spaces either owned or managed by Hastings District Council, Department of Conservation or the Hawke's Bay Regional Council. The purpose of this zone is to ensure that the effects of activities, established on public open spaces, on adjoining activities, are mitigated, while enabling the reserve to meet the need of the community.

The Plan provides that Zoning should be read in conjunction with the relevant Reserve Management Plan, which provides management details for individual reserves.

Figure 6 District Plan Zones & Overlays



### 3.2.2 Coastal Character Landscape Area

Coastal Character Landscapes (CCL) are not considered significant natural landscapes at a district wide level, but acknowledged as having some local significance. The Clifton area lies within overlay CCL1 - Coastal Character Landscape with its unique characteristics including:

- Located at the point where the Heretaunga Plains, South Eastern Coastal hills and coast intersect
- As a 'gateway' to Cape Kidnappers cliffs
- Picturesque qualities of motor-camp deriving from discrete and compact extent
- Picturesque qualities of landscape around Clifton Homestead.<sup>5</sup>

Identified management issues for the Clifton area include maintaining and recognising its built character and heritage, sense of remoteness and small-scale pattern of development.<sup>6</sup>

The current recreational opportunities provided at Clifton Reserve Campgrounds No. 1 & No. 2 and the boat club/ ramp are therefore an integral part of the existing coastal character in this location.

### 3.2.3 Cape Kidnappers Outstanding Natural Feature & Landscape

In addition to the existing recreation opportunities provided at Clifton, the Domain and wider is also an important gateway to Cape Kidnappers, which has significant cultural and natural values. This is reflected in the Outstanding Natural Feature and Landscapes (ONFL4)<sup>7</sup> overlay applied to the coastal area south of Clifton Domain to Cape Kidnappers and Rangaiika Coast. ONFL's are required by s6(b) of the RMA to be recognised and provided for as a matter of national importance.

<sup>4</sup> Appendix 63, reference number OS5 -01

<sup>5</sup> Clifton Beach Seawall Landscape and Visual Assessment, Boffa Miskell, July 2017, p6.

<sup>6</sup> Proposed Hastings District Plan Appendix 46, LS Report ref 4.3.1 (Maps 18,59)

<sup>7</sup> Proposed Hastings District Plan Appendix 43, LS Report ref 4.2.8 (Maps 18,19)

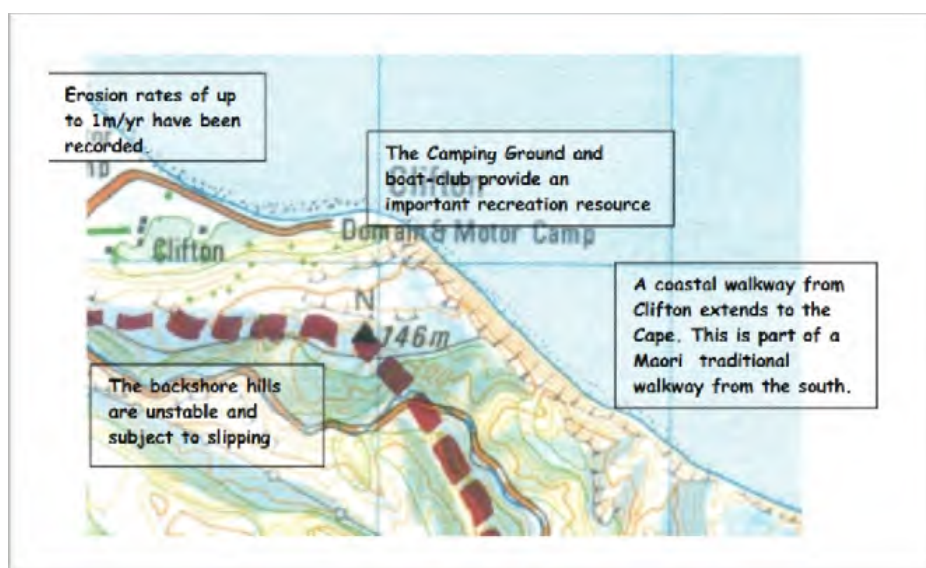


## 4. Relevant Strategies & Information

### 4.1 Hastings Coastal Environment Strategy (2000)

This strategy provided HDC with an approach to the integrated protection, management and development of the Hastings coastal environment for the period of the strategy (10 years). In terms of Clifton Beach, this report identified the key issues of beach erosion and hill instability, as well as acknowledging the recreation values associated with this area as summarised in figure 4 below:

Figure 7 Clifton Beach - Coastal Environment Strategy



#### Key Findings

- Clifton is an important recreation area, particularly for the local community, with recreation activities including: walking /relaxing, swimming surfing and fishing;
- Clifton is an important 'holiday' area in the Hastings coastal environment, with a number of residents of Hastings associating with the camping ground;
- A Maori traditional coastal walkway extends from Clifton to the Cape, part of a route from the south<sup>8</sup>;
- Due to its close proximity to the urban centre of Hastings, the coastal environment is considered important for public access. The area is valued for fishing and swimming. Clifton is also the key entrance point to the Cape Kidnappers coastal environment. Current public access is gained through the camping ground and parking is available within the camping ground for those people walking through to the Cape;
- Public access to and along the coastal marine areas is potentially constrained by landuse and development, including the existing camping ground and coastal protection works. (i.e. the current layout of the camping ground, including restricted access through the grounds, is considered a potential constraint to recreation activities both at Clifton and Cape Kidnappers);
- The amenity values of the coastal environment are being adversely affected by the existing coastal protection works along the foreshore;
- The loss of the camp ground to semi-permanent occupation;

<sup>8</sup> Hastings Coastal Environment Strategy 2-30



- Coastal processes are adversely impacting on the motor camp;
- The camp ground is perceived as a physical barrier to accessing Cape Kidnappers;
- Road access is threatened by physical processes; and
- Protection works for the road is poor and adversely impacts on amenity.

#### Visitors to the Cape

The Strategy identified the numbers of visitors to the Cape as recorded by Department of Conservation in 1996<sup>9</sup> estimated for the 1995/96 season as approximately 16,000 people, with an average of 154 visitors per day between January -March 1996, peaking at 282 visitors per day on 8 January 1996. Access to the Cape at that point was primarily via adventure tours (Gannet Beach Adventurers, Unimog, Quadadventures and Overland Safari's), from Clifton Beach or through private property.

It was estimated that approximately 20% (3,200) of visitors access the Cape by walking/cycling (via Clifton).

### 4.2 Hastings District Reserves Strategy (2006)

The Council Reserves Strategy was adopted by Council in 2006 as a high-level document to guide provision of reserve land in the District to meet future community need. It also adopted a reserves category system and guidelines for each of these categories, analysed current provision and future demand, deficiencies and need for each type of reserve by community and reserve contribution requirements.

In this strategy, Clifton Domain is categorised as 'Coastal' Reserve. Coastal reserves are provided to protect the coastal margin for both environmental and public access purposes. Generally, these reserves are of District significance and the developed areas may be used by residents from throughout the district and beyond.

### 4.3 Hawke's Bay Rural Open Spaces Study (HBRC, 2007)

This report reviewed the supply of public open space in the Hawke's Bay region for the purpose of defining the nature and diversity of open space and to identify any shortfalls. It noted the lack of 'near urban' public open space<sup>10</sup> and the significant work that has been done in addressing this through provision of cycleways and trails that have opened up public access to the river and coast.

This report also found that coastal access was 'patchy' and that coastal space was highly sought after for recreational camping and there was a shortage of such camping opportunities.

Since this report, HBRC and HDC have purchased the camping ground at Waipatiki Beach and the final huts at Tangoio beach have been removed.

### 4.4 Cape Coast Community Plan (2014)

The Cape Coast Community Plan, completed in 2014, was developed with the communities of Haumoana, Te Awanga, Clifton and surrounding areas. Its purpose is to clearly express the aspirations of those living within the Cape Coast and to state how these aspirations will be achieved to enhance the social, economic, environmental and cultural well-being of the Cape Coast community.

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<sup>9</sup> Cape Kidnappers Gannet Reserve: Visitor Survey 1996 Department of Conservation, 1996

<sup>10</sup> The report defined 'near urban' as being within 15-20 minutes' drive of an urban centre and providing opportunity for outings of typically 1-3 hours' duration.

The Cape Coast Plan identifies Clifton as ‘*the nearest settlement to Cape Kidnappers which has the world-renowned gannet bird colony*<sup>11</sup>. Objectives in the Cape Coast Plan identified as being relevant to any works at Clifton beach and recreation reserve, are<sup>12</sup>:

*Objective 3: To have sustainable responses to coastal erosion and inundation.*

*Objective 6: To support and enhance the social and economic requirements of the community.*

#### 4.5 Clifton to Tangoio Coastal Hazards Strategy (2120)

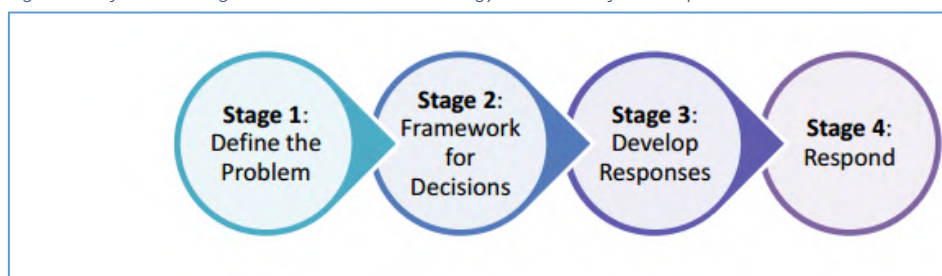
In response to coastal hazard risks, and expectations around the effects of climate change and sea level rise, the Hawke’s Bay Regional Council, Hastings District Council and Napier City Council are taking a cross-Council approach to identifying and responding to these hazards for the stretch of coastline from Clifton to Tangoio, in the development of a joint Strategy.

The Clifton to Tangoio Coastal Hazards Strategy 2120 (Joint Coastal Strategy) is part way through development, and involves assessing coastal hazard risks (coastal erosion, storm surge inundation and tsunami) over the period 2016 to 2120, with the aim to ultimately:

- *Provide a decision-making framework to identify, evaluate, consult on and select practicable adaptation options that report to those risks; and*
- *Implement the selected adaptation option(s) in a coordinated and planned manner that will provide the best overall outcome for the Hawke’s Bay community.*<sup>13</sup>

The Strategy was initiated in 2014 and is being developed in four key stages:

Figure 8 Clifton to Tangoio Coastal Hazard Strategy – Process of Development



Stages 1 and 2 are complete, with Stage 3 currently underway. Stage 3 is anticipated to involve development of coastal hazard plans for specified coastal areas (cells) to respond to the identified risks, which are expected to be completed by the end of 2017. Stage 4 is yet to commence and is anticipated to be ongoing for several years. There is acknowledgment that the timeline to complete cell plans could vary significantly between cells. Where some cell plans may be able to progress fairly quickly from development to implementation (Stage 3 to Stage 4), others are likely to take longer.<sup>14</sup>

Relevant principles underpinning development of the Joint Coastal Strategy are:

- *To take a long-term approach to coastal hazards impact management in order to develop resilient communities out to 2120;*

<sup>11</sup> Hastings District Council, Cape Coast Plan 2014, p8.

<sup>12</sup> Hastings District Council, Cape Coast Plan 2014, p11.

<sup>13</sup> Clifton to Tangoio Coastal Hazards Strategy 2120 Preamble – Vision, Principles and Scope, August 2016, p6.

<sup>14</sup> Clifton to Tangoio Coastal Hazards Strategy 2120 Preamble – Vision, Principles and Scope, August 2016, p20.

- *That the best long-term Strategy will be the choice or series of choices that provide the most cost-effective outcome for the Hawkes Bay community, while addressing economic, environmental, cultural and social issues;*
- *To ensure cultural concerns are considered prior to options being progressed;*
- *To ensure that coastal hazards responses are developed in an integrated way that considers risk, cost, impacts and indirect effects;*
- *To ensure that coastal hazard responses are assessed on the basis of adaptability and the site-specific nature of the particular coastal hazard; and not preclude or unnecessarily constrain choices to adopt different options into the medium and longer term horizons;*
- *Make evidence-based decisions founded on best practice coastal science and good data.*<sup>15</sup>

Key themes in the above-mentioned principles of relevance to any works at Clifton beach and recreation reserve, can be summarised as follows:

- Take a long-term approach to coastal hazards impact management;
- Ensure cultural concerns are considered;
- Take an informed, consistent, integrated, coordinated and shared approach;
- Provide adaptable and site-specific responses, that provide the most cost-effective outcome for the Hawke's Bay community, while addressing economic, environmental, cultural and social issues.

#### 4.6 Websearch

[https://www.tripadvisor.co.nz/Attraction\\_Review-g9798790-d1594850-Reviews-Gannet\\_Beach\\_Adventures-Clifton\\_Hawke\\_s\\_Bay\\_Region\\_North\\_Island.html](https://www.tripadvisor.co.nz/Attraction_Review-g9798790-d1594850-Reviews-Gannet_Beach_Adventures-Clifton_Hawke_s_Bay_Region_North_Island.html)

This page had 303 reviews completed between 22 April 2009 and 6 April 2017. Information from these reviews is summarised as follows:

- 263 respondents gave it an 'excellent' rating, 19 'very good', one 'average' and one 'terrible';
- Traveller types include 76 families, 96 couples, 16 solo visitors, 1 business group and 50 'friends' groups.
- Most visitors visited in Dec -Feb (178), followed by 61 March to May, 42 September - November and 3 June- August.
- Of these visitors, 284 were English speaking, 10 German speaking and 3 French speaking.

[https://www.tripadvisor.co.nz/Attraction\\_Review-g9798790-d8643486-Reviews-Gannet\\_Bikes-Clifton\\_Hawke\\_s\\_Bay\\_Region\\_North\\_Island.html](https://www.tripadvisor.co.nz/Attraction_Review-g9798790-d8643486-Reviews-Gannet_Bikes-Clifton_Hawke_s_Bay_Region_North_Island.html)

- Gannet Bikes provide 'fat bikes' to explore Cape Kidnappers. This page had 9 reviews completed between 14 October 2015 and 12 January 2017. All reviewers scored the experience as 'excellent'.
- Traveller types included 2 family groups, 32 couples, 1 solo and 2 friends. The majority were English speaking (8) with 1 Chinese speaking respondent. Clifton Motor Camp website feedback

<https://happycamping.co.nz/camping-grounds/clifton-beach-reserve-motor-camp>

This website provided 19 reviews and gives the Campground an overall 4/5-star rating. Reviews covered the period from April 2008 – October 2014. Some negative reviews occurred around 2011, but with new management since 2012, reviews improved.

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<sup>15</sup> Clifton to Tangoio Coastal Hazards Strategy 2120 Preamble – Vision, Principles and Scope, August 2016, pp 5-6.

[https://www.tripadvisor.co.nz/Hotel\\_Review-g982740-d12004898-Reviews-Clifton\\_Motor\\_Camp-Te\\_Awanga\\_Hawke\\_s\\_Bay\\_Region\\_North\\_Island.html](https://www.tripadvisor.co.nz/Hotel_Review-g982740-d12004898-Reviews-Clifton_Motor_Camp-Te_Awanga_Hawke_s_Bay_Region_North_Island.html)

This website provided 4 reviews from the summer 2016 (Jan – March). All but one reviews provided positive feedback.

[https://www.rankers.co.nz/experiences/2403-Clifton\\_Beach\\_Reserve\\_Motor\\_Camp](https://www.rankers.co.nz/experiences/2403-Clifton_Beach_Reserve_Motor_Camp)

- 9 reviews, no dates provided. All but one reviewee gave an 8 or 9/10 ranking.
- Positive things identified included: great setting, nice place, friendly staff, fair prices, great café nearby, quiet with sounds of the seashore, great spot with awesome views, a small camp with all you need, setting 'brilliant'.
- Negative feedback included concern that regular visitors were getting preferential treatment over first-time visitors.

## 4.7 Adventure Racing

<http://www.staplesrodwaychallenge.nz/event-info>

The annual Staples Rodway Challenge, held annually in October, is based at Clifton and starts from the café carpark, heads along the beach, up and over farmland, back to the café. This event fronts a field of approximately 400-500 people and includes individual and team events.

## 4.8 Summary

The above literature review and information indicates that Clifton Domain has important coastal recreation values for day visitors and holiday makers associated with its accessible location. It is also has recreation and tourism values associated with it being the main access point / 'gateway' to the Cape Kidnappers coastline and the Gannet Colony.

Key recreational activities include: swimming, relaxing, walking and fishing (from land), as well as recreational boating and boat fishing. The Campgrounds and Marine Club are also recognised as a significant part of the Clifton Beach identity that have provided recreational opportunities to generations of locals and visitors to the area. Website feedback on the Campground is generally positive, reflecting an appreciation of the small scale and low-key nature of the Campground.

# 5. Stakeholder Interviews

The following people have provided information via email or interviews. A full copy of information is attached in Appendix A.

- Clifton Reserves Society – Linda Hogan, Society Representative;
- Gannet Beach Adventures – Kim and Colin Lindsay, Owners;
- Clifton Marine Club – Russell Black, Committee Member;
- Department of Conservation – Malcolm Lock, Ranger;
- Hastings District Council, Colin Hosford, Parks Manager; and
- Hawkes Bay Regional Council, Vicki Butterworth, Cycle Network Coordinator.

## 5.1 Clifton Reserves Society

Campground User profile:

- The Campgrounds are well patronised by fruit pickers during the season, with up to 20 vanloads at any one time;



- The Campground is busy during events such as the recent Matatini event and Mission Concert weekend, and provides accommodation for wine tours of local wineries;
- The Campground provided free accommodation for the fire-fighting volunteers that came to assist with the Havelock North Fires;
- The Campground also regularly hosts school groups, sporting groups and service groups (e.g. girl guides and scouts);
- During summer, they can have up to 500 people camping /using the facilities at the Campground at any one time (this includes those accessing the boating ramp and Hawkes Bay Coast guard on occasions);
- A lot of day visitors who come to enjoy the picnic area at the north end of Campground No. 1, especially older folk who bring their flasks and lunch and enjoy the fresh air.
- November -March is the busy season as can be seen from the information provided in Table 1 below.

Table 1 Clifton Domain Camp Ground Visitor Numbers

2016/17	Local/ NZ Visitors	Overseas Visitors	Total 2017
Jan	3,645		
Feb	1,344		
March	2,032		
April	814		
May	467		
June	641		
July	488		
August	418		
September	473		
October	455		
November	1,096	570	
December	3,753	688	
Jan (2017)		(298*)	
<b>Total</b>	<b>15,616</b>	<b>1,556</b>	<b>16,874</b>

\*figures not included in total but provided to show pattern of international visitors

#### Potential Construction Effects

Clifton Reserves Society would hope to negotiate extra access temporarily through Mr Angus Gordon’s property during construction. Provided this is available and hours of work are reasonable (i.e. not during evenings and weekends) they do not see any issues.

#### Long Term Benefits

Clifton Reserve Society see any amenity improvements as of huge benefit to visitors to the area, both to enjoy the view, and as access to the Cape. With improvements, it will enhance the visitor experience and attract more people to the area.

They do get feedback from tourists who ‘cannot believe how dowdy, ugly and untidy the entrance to the ‘Gannet Gateway’ is.

#### Clifton Reserve Society Investment

- Recent \$50k investment into upgrading the ablutions block (used by campers as well as members of the public visiting the area) – this had been on hold until the future is more certain, but couldn't put it off any longer;
- Have upgraded crockery and linen in the bunkhouses, but replacement of furniture on hold until the future is more certain;
- One of the accommodation units is badly in need of upgrading but currently on hold until the future is more certain;
- Currently investigating replacing the roof in the ablution block (estimate \$30k);
- Need to upgrade care-takers accommodation, but currently on hold pending outcome of decision about the revetment;
- Improvements to the public picnic and carparking area (north end of Campground No. 1) is in the Society's long-term plan.

## 5.2 Clifton Marine Club

#### Member Profile & Activities

- 150 paid up members, approximately 100 of these are senior males, the others are women and juniors;
- Club membership has been steady in recent years despite increasing challenges and concerns about security of access;
- Anyone is welcome to join the club. They have an annual membership fee but no joining fee;
- Non-member visitors can use the ramp at any time for a casual fee of \$15 per launching;
- The Club runs approximately 8 fishing tournaments over the summer season. These are a key fundraiser, and help to attract new members and introduce both young and old to the sport of fishing. They are always well attended and are a great community event;
- The Club rooms are available for hire for private functions, to members for "koha", and are used by the Clifton Reserve Society for holiday activities for campers. The clubrooms are available for emergency management and have been used for such training exercises;
- CMC members have often been involved in rescues of non-members in smaller craft (dinghies and kayakers) who have gotten into trouble off the coast in this area.

#### Potential Construction Effects

- No specific issues identified.

#### Clifton Marine Club Investment

- The Club has, over the years, invested in significant infrastructure including the club rooms, with full kitchen and bar, freezer room for holding fish frames then available to other members for crayfish bait, boat storage area, fish fileting area, boat wash area, the concrete ramp, two boat winches, outdoor gathering area with multiple picnic tables covered with shade sails, etc. All this has been achieved through fundraising by the members;
- The Club has placed a hold on any expenditure on major maintenance or capital renewal, specifically to save funds to contribute to the revetment wall and its ongoing maintenance, and also due to their uncertain future.

### General Comments

- *“The Club, established in 1960, has a proud history of supporting recreation fishing in Hawke’s Bay. It has provided generations of families with recreational boating and fishing opportunities, camaraderie and enjoyment, learning of important skills and respect for the environment;*
- *The floating trailer launching technique is unique to Clifton Marine Club. This method works well in what is often a rough sea environment on the open coast. The boat ramp in its current position works well here, due to the presence of two offshore reefs just off from the Marine Club. This provides some protection for launching and retrieving boats. Should this ramp be abandoned, it would be difficult to find a location that would work as well, without a significant amount of investment;*
- *It is sad that so much of the reserve has been allowed to erode, and it is essential to save what is left. Kiwi camping and fishing clubs such as these ones are becoming rarer and rarer. Beach side recreation of this nature is being replaced by million-dollar housing that is out of the reach of the average kiwi. We need to be thinking about what opportunities we are providing for the next generations and Clifton Marine Club wants to provide a legacy for our children and grandchildren;*
- *If this reserve is left to erode, these facilities won’t be replaced. There is nowhere else along the coast that it could be replicated without a huge expense. If the road goes, there is a lot of infrastructure that would have to be removed at substantial cost, and the loss of a kiwi way of life.”*

### 5.3 Gannet Beach Adventures

The following is a summary of information provided from an interview with Kim and Colin Lindsay, owners of Gannet Beach Adventures:

#### User Profile

- Around 11,5000 visitors per season, on a busy day can have up to 6 tractors (over 200 people operating (translates to about 40 vehicles parked at Clifton for 5-6 hours, on really busy days they get permission from Angus Gordon to park in his paddocks);
- Over the summer holidays it is mainly families, other time it is couples;
- Time spent at Clifton is short, we are in an out. Or office operates at start and end of trips.

#### Visitor numbers:

- 2016-17 Season, as at end of March = 11,500 pax
- 2015-16 Season = approx 10,500 pax
- 2014-15 Season = approx 10,600 pax
- 2013-14 = approx 10,300 pax

#### Potential Construction Effects

- There were no issues when the temporary wall was constructed. A lot of the work tended to happen from above the beach. However, they felt good communication during the construction phase would be helpful to ensure that business won’t be affected.

#### Potential Long-Term Effects

- If the revetment wall does proceed there needs to be some thought about the end of the revetment wall, and its flow on effects. Maybe an access way (concrete slipway) could be

provided before it ends, so that locals can still get down there with small boats / quadbikes etc. Also, walkers, sightseers, bikers etc will still need to be able to access the beach;

- Will Council replenish around the end if it gets eroded?

#### General Comments

- The current revetment wall works really well;
- Carparking is an issue. Especially with some of the larger / longer campervans that visit. With angle parking and on busy days, parking on both sides of the road doesn't leave much room for anyone else. Also, it is a 100km speedzone. The whole area would benefit from a strategic overview;
- There are often a lot of campers and campervans parked there. Although not many stay overnight, they get moved on by the caretaker from the Campground;
- The Camping Ground provides an affordable beach holiday. It also provides a 'set of eyes' on the beach. Clifton does not tend to get the rubbish and vandalism that other public access spots get (e.g. Haumoana) – without the Campground this would change. It would become more of a dead end than a gateway or destination;
- Clifton to the Cape is like Te Mata Peak. It is loved by locals and visitors and gets a lot of informal use in addition to the people who use Gannet Beach Adventures.

### 5.4 Department of Conservation (DoC)

- DoC provided uncalibrated data<sup>16</sup> from their counter sensor located at Cape Kidnappers, on the beach below the gannet colony. This data, collected between 2014 and 2016 reflects that visitor numbers to the Cape / Gannett Colony via the beach, peak during Dec/January. From this data, DoC have estimated there has been an increase in visitors over time. The DoC ranger advises that the 2014/2015 and 2015/2016 seasons are likely to be closer to actual visitor numbers. Numbers recorded for these seasons were:
  - 2014/2105                      13,945
  - 2015/2016                      8,759 (noting that the figures for 2015/16 are incomplete and do not include figures for Jan-Jun)
- DoC operates a concession to Gannet Beach Adventures to transport visitors to the Cape via the beach, and supports continued access to the beach at Clifton for this purpose. The concession season runs from the Wednesday before Labour Weekend to the end of April. Other transport operators access the colony via land;
- DoC signage about Cape Kidnappers is provided at the Clifton Road end. This signage was relocated from an eroding area on the beachfront to its current location in the carpark area.

### 5.5 Hastings District Council

- Council's Parks Planners have indicated a strong desire to improve the intersection at the Clifton Road end and to develop it with additional parking facilities to provide for day visitors to the Cape. The community will have an opportunity to consider this as a part of the Draft Cape Coast Reserves Management Plan that is currently under development;
- Developing the road end of the revetment as the 'gateway' or launching area for tours to the gannets will assist with improved provision of parking, a turning area, and create an improved

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<sup>16</sup> The counter, triggered by a person, bicycle or motor vehicle date, is considered uncalibrated data. Converting counter data into visits and visitors requires calibration of the data, and should be undertaken with guidance from a DOC Technical Advisor



sense of arrival for visitors to the gannets, (both tours and independent travellers). The Council draft concept includes a proposed revetment incorporating a road access to Camp 1 and public walkway. This would probably provide modest use by the general public /community, but would lead to Campground No. 1;

- Council have invested in public toilets and rubbish bins at the Clifton road end, in recognition of this area as the ‘Gateway’ to Cape Kidnappers and the ‘launching’ point for tours and visitors to the gannet colony;
- Motorised vehicles have created a lot of damage on the gravel crest between Haumoana and Te Awanga, however are less of a concern at Clifton where there is no gravel crest and less room to manoeuvre on the beach.

### 5.6 Hawke’s Bay Regional Council

- Clifton is the ‘end of the road’ for the ‘Landscapes Ride’, one of a network of Hawke’s Bay cycling trails. This ride connects from Napier through Haumoana and Te Awanga, and ending at Clifton.

Figure 9 Hawkes Bay Cycle Trail Network



- A trail counter placed just past the entrance to Clearview between 1 Dec 2016 and 31 March 2017, recorded the figures outlined in Table 2 below:

Table 2 Cycling / Pedestrian Data

Activity	Average workday traffic	Average weekend day traffic	Weekly average	Monthly average
Cycling	110	186	919	3,994
Pedestrians	53	84	431	1,875
Total	163	270	1350	4,859

While not all of those who triggered the counter would be going all the way to Clifton Road end, and a number of triggers would be from return trips, the trip counter indicates a steady stream of cyclists and walkers in the vicinity.

## 5.7 Summary of Desktop Research & Stakeholder Interviews

Discussion with key stakeholders at Clifton Beach supports the conclusions in section 4 that Clifton has **coastal recreation value** associated with its close proximity to Hastings and Napier. The recent development of the Landscape Cycling Trail has further enhanced its recreational value as evidence in the data provided by Hawkes Bay Regional Council.

Clifton Domain has **heritage / cultural recreation value** associated with the Campground and Marine Club that have both operated in the area for almost 60 years. This value is reflected in the traditional small-scale camping opportunities and family atmosphere recreational fishing club, located on the Domain. Such opportunities are increasingly coming under competition from coastal urban development or through being lost to coastal erosion. The boat ramp with its rare method of launching is also recognised as unique to this location.

Clifton Domain provides valuable **public access value** both as a local beach within close proximity of Napier and Hastings and as the closest public access point to Cape Kidnappers. In addition, the boat ramp provides access for recreational fisherman, and is the only public boat ramp between Napier and Waimarama.

Visitor numbers, as provided by the different stakeholders and summarised in table 3 below, indicate that Clifton is a popular summer destination for day visitors, campers and tourists. The summer season includes November – February, peaking over the Christmas/New Year period

Table 3 Visitor Data

Data Source / Year	2014/2015	2015/2016	2016/2017
DoC (trip counter at DoC shelter, Cape Kidnappers)	13,945	8,759 (part year)	-
HBRC (walking & cycling data, north of Clearview winery entrance)	-	-	23,476 <sup>17</sup>
Gannet Adventures (visitor numbers)	10,600	10,500	11,500
Clifton Domain Campgrounds (visitor numbers)			16,874

## 6. Recreation / Public Access Impact & Opportunity Analysis

The proposed revetment seems to maintain access along Clifton Domain to Campground No.1 and the Fishing Club. Without any intervention, access to the southern part of the domain will be lost and the

<sup>17</sup> Pedestrians & cyclists for 4 months 1 Dec - 31 March.

associated recreation values of this part of the Domain will also be adversely affected through ongoing erosion and loss of access.

The following assessment therefore considers the effects of developing a revetment wall as proposed and the effects of maintaining the status quo. Key values that will be affected include:

- Coastal recreation values;
- Heritage / cultural recreation values; and
- Public access values.

## 6.1 Recreation Setting, Activities and Values

### 6.1.1 Recreation Setting

As described in section 1, the setting of Clifton Beach and in particular Clifton Domain is characterised by the rugged and stony shoreline, part of the wider southern Hawke Bay, sitting at the base of steep, vegetated slopes immediately to the west of Cape Kidnappers headland. The site is a highly-modified landscape from both manmade and natural interventions. The camping ground, and fishing club are an historic key part of this setting, with the café, Gannet Beach Adventures office, and public toilets being more recent developments.

The public reserve provides direct access to the beach and is the closest public access point to the beach route to Cape Kidnappers.

### 6.1.2 Recreation Activities and Values

Key recreation activities / facilities and public access values at Clifton are summarised as follows:

- Coastal Recreation (informal) – Clifton Domain provides a range of informal coastal recreation opportunities including picnicking, beach walking/strolling; swimming, visiting the café & cycling
- Heritage / Cultural Recreation – Clifton Campground No. 1 and Clifton Marine Club having been present in Clifton landscape for 60 years offer traditional camping and family boat club opportunities. Such opportunities are valued across New Zealand, however are increasingly at risk of coastal erosion or loss to urban redevelopment;
- Cultural Recreational – A Maori traditional coastal walkway extends from Clifton to the Cape, part of a route from the south<sup>18</sup>;
- Public Access – Clifton Domain has important coastal access values associated with accessing the Clifton Beach (local value) and beyond to Cape Kidnappers, an iconic coastal landscape of national significance (National value).
- Tourism / recreation value – Clifton Beach is the access point for Gannet Adventure Tours who take visitors by tractor/trailers to the gannet colony; the annual Staples Rodway Adventure Race Challenge is also based out of Clifton; and the recent development of the Landscape Cycling trail has added further recreation opportunity to the Clifton area.

## 6.2 Implication of Proposed Revetment for Recreation

The proposed revetment will have potential construction effects and long-term effects. These are discussed as follows:

### 6.2.1 Construction Effects

Construction activities are likely to have only minor effects on existing access and recreation activities at Clifton provided good communication is in place. Both the Reserve Society and the

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<sup>18</sup> Hastings Coastal Environment Strategy 2-30

Marine Club strongly support the revetment being developed and have indicated they will work with contractors to manage access during the construction phase.

Campground No.2 will generally be unaffected by the proposed construction activities, assuming access to their site is maintained.

Similarly, Gannet Beach Adventures will also be generally unaffected provided they can continue to access the beach during construction.

Consultation with recreation operators during the construction phase about timing of works is recommended.

Effects on other beach visitors include temporary displacement of informal recreation activities (such as swimming, picnicking, shore fishing etc.) along the beach. However, such displacement will be temporary, and similar experiences will continue to be available at similar nearby locations.

#### 6.2.2 Long-Term Effects

The following table assesses the implications of the proposed revetment and maintaining the status quo on recreation opportunity at Clifton Domain.

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Table 4 Implication of Proposal on Recreation Activities / Values

Location	Recreation Value	Recreation Activity	Commentary 1: Potential Effects of Proposed Revetment on Recreation Value /Activity	Commentary 2: Potential Effects on no revetment (status quo) on Recreation Value/ Activity
Clifton Domain	Coastal Recreation (Informal)	Swimming, picnicking, beach walking, fishing (on shore and boating), cycling and visiting the cafe.	A revetment will provide defined and safe access point at the northern end to access the beach for these activities. It will deter access along its length potentially encouraging greater public access through Campground No. 1. <b>Moderate positive effect</b>	Access to the beach for informal coastal recreation activities will continue to deteriorate. As the retreating beach settles, informal access to the beach will likely still be possible but intervention may be required to secure ongoing access. This may make it less attractive for local users. <b>Moderate adverse effect</b>
	Coastal Recreation (Camping) Heritage / Cultural Recreation	Camping - Clifton Campground No. 1	Will enable Campground No. 1 to remain & further investment in facilities to take place. <b>Significant positive effect</b>  Heritage / cultural recreation value will be retained. <b>Significant positive effect</b>	Campground No. 1 will be removed, as access to it becomes untenable. <b>Significant adverse effect</b>  Heritage /cultural value will be lost. <b>Significant adverse effect</b>
	Coastal Recreation (informal). Public Access to the Coast (Clifton).	Public Picnic Area & Public Carpark (north end of Campground 1).	Will enable continued use and potentially improved enjoyment of this area through retaining secure access to the southern area of the Domain. <b>Moderate positive effect</b>  Public access will be secured. <b>Moderate positive effect</b>	This site would not continue as a formal carpark /picnic area as access becomes untenable. <b>Moderate adverse effect</b>  Public access will be lost. <b>Moderate adverse effect</b>
	Coastal Recreation (Camping)	Clifton Campground No.2	No change. <b>Nil effect</b>	Will become the primary campground. <b>Nil effect</b>
	Coastal Recreation (Fishing)	Clifton Marine Club	Will enable Marine Club to continue at this site & further investment in	Marine Club will cease in this location, as access to it becomes

Location	Recreation Value	Recreation Activity	Commentary 1: Potential Effects of Proposed Revetment on Recreation Value /Activity	Commentary 2: Potential Effects on no revetment (status quo) on Recreation Value/ Activity
	Heritage / Cultural Recreation		<p>facilities to take place. <b>Significant positive effect</b></p> <p>Heritage /cultural recreation value will be retained. <b>Significant positive effect</b></p>	<p>untenable. <b>Significant adverse effect</b></p> <p>Heritage / cultural value will be lost. <b>Significant adverse effect</b></p>
Clifton Road End	Public Access	<p>Coastal access - local</p> <p>Coastal access – to nationally significant area.</p> <p>Tourism/ recreation value</p>	<p>A revetment will provide defined and safe access point at the northern end which will benefit those visiting Clifton for coastal recreation. <b>Moderate positive effect</b></p> <p>A revetment will provide defined and safe access point at the northern end which will benefit those visiting Cape Kidnappers and the Gannet Colony. <b>Moderate positive effect</b></p>	<p>Access to the beach for informal coastal recreation activities will continue to deteriorate. As the retreating beach settles, informal access to the beach will likely still be possible but intervention may be required to secure ongoing access.</p> <p>This will potentially also make it more difficult for independent visitors to Cape Kidnappers. <b>Moderate adverse effect.</b></p> <p>Gannet Beach Adventures have advised that they will still be able to access the beach by informal means without a revetment, however access will be less secure. Tours would still be able to operate therefore tourism value would be retained. <b>Minor adverse effect</b></p>
	Public Access values (ancillary)	Public toilets & Carparking	Will allow existing levels of service to continue. <b>Moderate positive effect</b>	Location of public toilets may be affected ongoing erosion.

Location	Recreation Value	Recreation Activity	Commentary 1: Potential Effects of Proposed Revetment on Recreation Value /Activity	Commentary 2: Potential Effects on no revetment (status quo) on Recreation Value/ Activity
				<p><b><i>Moderate adverse effect</i></b></p> <p>Carparking will likely retreat back along Clifton Road; beach experience would likely be similar, although amenity of the area will have altered and access to the beach will be less secure; and access to gannets and Cape Kidnappers would still occur in this location (or its proximity).</p> <p><b><i>Moderate adverse effect</i></b></p>
Clifton Environs	Tourism / Recreation Value	End of Landscapes Cycle Trail Staple Rodway Adventure Race	<p>The revetment will enable the southern section of Clifton Domain (including Campground No.1) to be retained, which provides a point of interest for cyclists and a logical stopping / turn around point and/ or accommodation option.</p> <p><b><i>Moderate positive effect</i></b></p> <p>Adventure Racing in its current format will continue.</p> <p><b><i>Nil effect</i></b></p>	<p>Cyclist may be discouraged from cycling to Clifton and may stop earlier at Te Awanga or Clear View Winery.</p> <p>Adventure racing in this location is unlikely to be affected unless erosion forces relocation of the café.</p> <p><b><i>Moderate adverse effect</i></b></p>

## 6.3 Level of Effect

The overall effect of the proposed revetment on recreation and public access at Clifton Beach is positive. It will allow for the continued existence of Campground No. 1 and the Marine Club, and preserve and secure stable access to Clifton Beach and Cape Kidnappers.

Alternatively, to not proceed will have adverse negative effects on recreation values at Clifton, particularly through the loss of Campground No. 1 and the boat club facilities. Public access will also be affected to a moderate degree under the status quo option as security of access will potentially be unstable, as the beach retreats inland.

The level of these effects is further discussed below.

### 6.3.1 Coastal Recreation (Informal)

The above assessment identifies a *moderate positive effect* on informal coastal recreation activities (Swimming, picnicking, beach walking, fishing (on shore and boating), cycling and visiting the café) as a result of the proposed revetment. There are a wide range of similar coastal recreation opportunities provided at various coastal locations between Napier and Clifton, including at Clive, Haumoana, and Te Awanga. While these activities are less popular than the sandy beaches further south (Ocean Beach and Waimarama) and north of Napier (Waipatiki) they nevertheless still have important local value.

The proposed revetment will provide secure access to Clifton's informal coastal recreation opportunities and is therefore regarded as **a positive effect of local significance**.

### 6.3.2 Coastal Recreation (Camping)

Coastal camping opportunities in Hawke's Bay include:

- Te Awanga;
- Bay View;
- Waipatiki;
- Waimarama Beach; and
- Mahia.

In 2007, the HBRC Rural Open Spaces study Hawkes Bay identified that Hawkes Bay suffered from a lack of 'near urban' public open space<sup>19</sup> with coastal access being 'patchy' and coastal space being highly sought after for recreational camping. Since that time a significant amount of work has been done in terms of developing cycle trails and this has opened up access to and along the rivers and coastal access, however coastal camping opportunities in recent years have remained stable.

While it is outside the scope of this assessment, the value of Clifton Campground to the range of wider camping opportunities in Hawke's Bay is worthy of some consideration. The ultimate loss of Campground No. 1, if the revetment does not go ahead, will reduce beach front camping opportunities across the regional and potentially put more pressure on remaining campgrounds. Thus, the proposed revetment is regarded as **a positive effect of regional significance** for coastal camping.

### 6.3.3 Coastal Recreation (Fishing)

Shore fishing occurs at many locations along the coast in Hawkes Bay including at Clifton. Clifton Marine Club is one of five marine fishing clubs in Hawke's Bay<sup>20</sup> and provides the only other public boat ramp between Napier and Waimarama. While the nature of its launching limits the number

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<sup>19</sup> The report defined 'near urban' as being within 15-20 minutes' drive of an urban centre and providing opportunity for outings of typically 1-3 hours duration.

<sup>20</sup> Other clubs include Mahia Boat and Fishing Club, Hawke's Bay Sport Fishing Club (Napier), Waimarama Fishing Club and Porongahau Fishing Club, sourced from internet search 7 July, 2017.



of people who can use this site, the loss of this boat ramp and club facilities would be a loss to the local and regional fishing fraternity. Thus, the proposed revetment is regarded as a **positive effect** of **local /regional significance** for recreation fishing values.

#### 6.3.4 Heritage /Cultural Recreation Value

Campground No. 1 and the Marine Club both have intrinsic value associated with their almost 60-year presence in this location. Little has changed in the way they have done things over the years, and this type of recreation opportunity is becoming increasingly a thing of the past. These types of ‘back to nature’ activities are likely to become increasingly sought after and valued as an escape from our increasingly ‘digitally connected’ and busy world. The Marine Club has the added factor of its unique trailer mooring, which is ‘kiwi ingenuity’ in practise.

While the importance of this value is difficult to estimate without surveying both users of these facilities and the wider community, it is a recreation value that will unlikely be replaced or replicated, should it be lost. Thus, the proposed revetment is regarded as a **positive effect** of **regional significance** for heritage and cultural recreation values.

#### 6.3.5 Public Access

There are numerous public access points to the coast in between Napier and Clifton as noted in figure 11 below. As already noted, Clifton Domain is also the main public access to Cape Kidnappers and the gannet colony, both regionally significant natural features.

Figure 10 Indicative Public Access Points



The effect of the proposed revetment on coastal access (local) is regarded as a **positive effect** of **local significance** and while the effect on access to the nationally significant landscape of Cape Kidnappers is regarded as a **positive effect** of **regional /national significance**. It is noted that while coastal access, both locally and to Cape Kidnappers and beyond, will be more secure as a result of the revetment, should it not proceed, public access at this location may still be achievable.

## 7. Conclusions and Recommendations

The development of a revetment wall at Clifton Beach will enable the preservation of, and future investment in, the regionally significant recreational opportunities associated with Clifton Campground No. 1 and Clifton Marine Club. It also presents an opportunity to enhance recreation / public amenity and attract more visitors to the area.

While public access to Clifton Beach and Cape Kidnappers would likely still be available should the beach retreat option be implemented, such access will potentially be less secure and more risky. The revetment offers an opportunity for secure access, to areas of local, regional and national significance.

The following recommendations seek to provide mitigation for recreation activities during the construction period and identify opportunities to address potential barriers to future recreation use.

### Construction Activities

1. A communication process with key recreation stakeholders be put in place for the construction period. Key recreation stakeholders should include (but are not limited to):
  - a. Clifton Reserves Society
  - b. Clifton Marine Club;
  - c. Gannet Beach Adventures.

### Opportunities

2. Seek to maximise community recreation opportunities associated with Clifton Domain through
  - a. Identifying and addressing perceived barriers to public use of the Campgrounds;
  - b. Providing coordinated signage and messaging at the access road entrance to Campground No. 1, including making the public aware of the public carpark and picnic area at the northern end of this campground;
  - c. Shared use of the access road to encourage cycling and walking; this can be done through appropriate messaging, road markings, speed limits etc.;
  - d. Progressively upgrading Domain amenity to invite the public into the area e.g. with use of seating, viewing platforms etc. and
  - e. Telling the story of this area, including the significance of Cape Kidnappers and its cultural importance to Maori.



## APPENDIX A – Record of Stakeholder Interviews



*Copy of email received 26 April 2017*

Good Afternoon Stella

Further to your e.mail of 10th April, I wish to advise the following. Sorry that I have not been in touch previously but has been very full on.

Existing recreation/tourism activities:

- Gannet Tours provide a huge portion of tourism for the area with the tractors going along the beach, also hundreds of people walk this track themselves during the summer period.
- Backpackers/fruit pickers stay at the camping ground during the season - at any one time we can have up to 20 van loads of backpackers/fruit pickers staying in the camp.
- During the recent Matatini Festival the camp hosted several teams in our cabins/bunk houses, these people did quite a few wine tours and walks within the vicinity.
- During the Mission Concert the camp was also full with tourists that came to attend the concert.
- Recently we were able to provide and offer 'free' accommodation for the Fire Fighting Volunteers that came to assist with the Havelock North Fires.
- Host various schools/girl guides/scouts groups with our cabin/tenting options for their weekend retreats.
- Host several sporting groups ie basket ball, cycling for various sporting/recreation events that are taking place through out Hawkes Bay.
- Providing access to boating ramp for Clifton Marine Club and HB Coastguards as necessary.
- During the summer period we can have at any one time up to 500 people camping/using facilities at the camp.
- Provide accommodation for wine tours for local wineries.

Construction effects:

- During the construction phase, if necessary, we can negotiate some extra access through Mr Angus Gordon's property but previously when the first part of the trial revetment wall was constructed it was no major problem, people entering and leaving the camp were totally aware of the situation and did not provide excessive problems at all. The company constructing mainly worked during normal working hours during the day, and evenings and weekends were left for access for campers or personnel.

Long Term effects/benefits:

- The landscape architect has tabled some of his suggestions associated with the revetment planting and seating for this area and his ideas are just brilliant. In fact anything would almost be an improvement on the eyesore that people walking/taking tractors to cape see at present. The camp has tried, and the campers, to beautify this area with plants etc but because of the erosion from the road area it is almost impossible to maintain. The camp itself has provided and still does, barbecue tables and seats along the sea front for people to enjoy a picnic, ice cream, or just to enjoy the view. This will also provide better access for people going for a walk along the beach front. Hopefully it will encourage more people to come to this beautiful region for a picnic or just to enjoy the view.
- The Reserve society has just invested \$50,000.00 in upgrading the ablution blocks in both camps to ensure nicer facilities, this has been met with lots of positivity from not only campers but also the general public - who use these facilities when walking thru the camp to the cape or driving thru to the picnic area at the end of the camp. This work was put on hold for the last five years but felt it could be put off no longer. We are hoping to paint all the facilities over the winter months. We have just been collating quotes for replacing the roof in the ablution block, but this will probably be in the region of \$30,000.00 so this will be on hold until the revetment wall is started. We also need to upgrade the Managers/Caretakers accommodation - again this work will be put on hold until we have a much brighter future. We have upgraded all the crockery and linen in the cabins and bunk house facilities,

which are widely used by tourists coming into the area but have also put on hold replacing of furniture, once again until the future is brighter. One of our accommodation units is badly in need of carpet replacing etc but also on hold.

- Improvements to the public car parking area and picnic area are also in our long term plans, this would ensure a nicer area for the public to enjoy their picnics. During the year this public picnic and parking area is widely used by members of the community and wider Hawkes Bay, especially some of our older folk who bring their flasks and lunch (lunch often purchased from the shops at Te Awanga) and enjoy the fresh air - will be lovely to be able to enhance this area.
- Many tourists to this area cannot believe how dowdy, ugly and untidy the entrance to the 'Gannet Gateway' is and are just horrified that such a tourist attraction has so little importance on our tourism and has been allowed to denigrate to this state.

Stella, hope this helps, please do not hesitate to contact me if I can be of any further assistance.

Kind regards

Linda Hogan

CLIFTON RESERVE SOCIETY

*Copy of further email received 26 April, 2017*

You are most welcome Stella, life seems to be so crazy and full on at the moment. So glad you were able to meet Russ on site to get the feel of what we are working towards.

One thing I did omit to add was that we have also spent \$10,000.00 upgrading kitchen facilities in camp two with the addition of a shade area for the public to sit.

Thank you

Linda

*Copy of Email received 7 July 2017*

Good afternoon Stella

Thank you for your e.mail re the Clifton Revetment resource consent applications.

Our peak visitor times are November, December and Jan

Some statistics that might be of use to you with regards to visitors numbers are as follows:

Overseas visitors actually staying in the camp during November 2016 were 570

" " " December 2016 were 688

" " " January 2017 were 298

General local and visitors from around NZ staying in the camp for the following months during 2016

January 3,645

February 1,344

March 2,032

April 814

May 467

June 641

July 478

August 418

September 473

October 455

November 1,096

December 3,753 Total of 15,616 local and visitors from NZ

During the summer months there are also hundreds of locals and overseas visitors that walk out to the gannets and we have no actual numbers for these.

Not sure if this is too much information for you but thought I would let you choose the information you require.

Many thanks Stella and trust you have a lovely weekend

Kind regards

Linda

#### Clifton Marine Club

Meeting with committee member, Russell Black (21 April 2017)

- Clifton Marine Club (CMC) has been around since 1960 (57 years old). It has 150 paid up members: approximately 100 of these are senior males, the others are women and juniors. Club membership has been steady in recent years despite increasing challenges and concerns about access. The Club has a proud history of being self- funding and independent and has provided generations of families recreational boating and fishing opportunities as well as, camaraderie and enjoyment, learning of important skills and respect for the environment.
- Anyone is welcome to join the club, they have an annual membership fee but no joining fee.
- Non member visitors can use the ramp at any time for a casual fee of \$15 per launching.
- The floating trailer launching technique is unique to CMC. Boats and trailers are launched from the ramp, and driven out sea where the trailers are anchored; and boats go off fishing. This method works well in what is often a rough sea environment on the open coast. The boat ramp in its current position works well here due to the presence of two offshore reefs just off from the Marine Club. This provides some protection for launching and retrieving boats. Should this ramp be abandoned, it would be difficult to find a location that would work as well without a significant amount of investment.
- The Club has, over the years, invested in significant infrastructure including the club rooms, with full kitchen and bar, freezer room for holding fish frames then available to other members for crayfish bait, boat storage area, fish filleting area, boat wash area, the concrete ramp, two boat winches, outdoor gathering area with multiple picnic tables covered with shade sails, etc. All this has been achieved through fundraising by the members.
- The Club runs approximately 8 fishing tournaments over the summer season. These are a key fundraiser, and help to attract new members and introduce both young and old to the sport of fishing. They are always well attended and are a great community event.
- The Club sublease their site from the Clifton Reserve Society, and they have a very good working relationship with them.
- CMC has placed a hold on any expenditure on major maintenance or capital renewal, specifically to save funds to contribute to the revetment wall and its ongoing maintenance, and also due to their uncertain future. They have identified to Council how much they can contribute and to both the revetment and its maintenance. CMC have no debts and have some cash reserves set aside from prudent management over the years.
- The Club rooms are available to hire for private functions, to members for "koha", and are used by the Clifton Reserve Society for holiday activities for campers. The clubrooms are available for emergency management and have been used for such training exercises.
- Much of their activities are outdoors at the Club area, ie getting boats ready, filleting their catch, washing boats down etc. A lot of passers-by (visitors to the area or visitors on route to Cape Kidnappers) get involved watching what they are doing and making comments.
- CMC members have often been involved in rescues of non members in smaller craft (dinghies and kayakers) who have got into trouble off the coast in this area.
- Russell estimates there is on average 40- 50 visitors a day to this beach area. Sometimes during the height of summer the numbers would be in excess of 200 per day. These are a mix of locals, domestic and overseas tourists.
- The signage to the campground at the Clifton Road end is confusing, but visitors are welcome, and they would like to improve this.
- CMC have submitted a number of times to Council via annual plan.
- It is sad that so much of the reserve has been allowed to erode, and it's essential to save what is left. Kiwi camping and fishing clubs such as these ones are becoming rarer and rarer. Beach side recreation of this nature is being replaced by million-dollar housing that is out of the reach of the average kiwi. We need to be thinking about what opportunities we are providing for the next generations and CMC wants to provide a legacy for our children and grandchildren.

- **If this reserve is left to erode, these facilities won't be replaced. There is nowhere else along the coast that it could be replicated without a huge expense. If the road goes, there's a lot of infrastructure that would have to be removed at substantial cost, and the loss of a kiwi way of life.**
- **Look at it, it's beautiful, not a pristine golden sand beach, but an adventure beach, an interesting beach, with good fishing, safe swimming and a great camping destination.**
- **There is still a real opportunity to save this iconic reserve, enabling the campground and Marine Club to be preserved, and to enhance this gateway to Cape Kidnappers.**
- **Check out the video on <http://cliftonmarineclub.co.nz/> it shows early morning launching of boats at Clifton.**

## Gannett Beach Adventures

Meeting with owners, Kim and Colin Lindsay (18 April 2017)

### Gannett Beach Adventures

- Gannett Beach Adventures (GBA) have been operating for 65 years and is the only DoC approved operator visiting the gannet colony.
- We are in and out of Clifton, with visits lasting about 4 hours. People tend to arrive half an hour to an hour prior to a trip departing. Our trips don't tend to generate a huge amount of additional business for the café operator and the Woolworld business (now only open by booking).
- We get around 11,500 clients per season. Our business is pretty stable. At least 10,000 of these will go from the beach up to the gannets. On a busy day, we can have up to 6 tractors operating (just over 200 hundred people). That might mean about 40 vehicles. On occasion, we get permission from Angus Gordon to park in his paddock. On our quieter days, we get say 40 people usually couples so could be about 20 vehicles.
- Over the holidays it is mainly families, other times it is usually couples.
- Our ticket and departure office (located on the paddock adjacent to Camp Ground 2), is where we load people up and depart from. We might sell a few ice-creams at the end of a hot day. We only occupy the site for about an hour a day.
- We have a resource consent with the Regional Council to keep our access to the beach open for our business. It expires in 31/05/2042. We are required to advise Council when we are doing work to the access, and provide photo documentation of what we have done. It allows us to grade an access down to the beach or open it up.
- At the end of the day, if the revetment wall doesn't go in, the general day to day operation of our business won't be affected. What it will do, is provide improved amenity in this area which does have significant use by locals and visitors, and is a main gateway to the Cape. This (beautification) has been the focus of our submission to Council in the past.

GBA – numbers:

2016-17 Season= as at end of March 11,500

2015-16 Season - Approx 10,500 pax

2014-15 season - Approx 10,600 pax

2013-14 - Approx 10,300 pax

### Clifton Beach Use

- Clifton is the Gateway to Cape Kidnappers.
- The Gannets are an iconic Hawke's Bay attraction (as recognised by DoC).
- GBA get attributed as a 'high user' but in reality, we are in and out of Clifton. There are a lot of other visitors to the beach as well. For example, this weekend, we weren't operating due to the weather, but went down to our base to do some tidying up and the beach was really busy with people out walking and just enjoying the beach. It's not uncommon to see 40 plus people wandering around on the beach. This weekend we spoke with a group of people who had arrived on 5 motorbikes, visiting from Taranaki.
- A lot of independent visitors also walk to the Gannets or along the Cape. Locals also use Clifton as a departure point to drive out to the Cape on Quadbikes.
- Locals also launch small boats (not the large ones that use the Marine Club) into the water at Clifton Road end.
- Clifton to the Cape is like Te Mata Peak. It is loved by locals and visitors and gets a lot of informal use in addition to the people who use GBA.
- Issues



- Carparking is an issue. Especially with some of the larger /longer campervans that visit. With angle parking and on busy days parking on both sides of the road, doesn't leave much room for anyone else. Also, it is a 100km speedzone. The whole area would benefit from a strategic overview.
- There is often a lot of campers and campervans parked here. Although not many stay overnight, they get moved on by the caretaker from the Campground.
- The Camping Ground provides an affordable beach holiday. It also provides a 'set of eyes' on the beach. Clifton doesn't tend to get the rubbish and vandalism that other public access spots get (e.g. Haumonana), without the campground this would change. It would become more of a dead end than a gateway or destination.
- Mitigation
- If the revetment wall does proceed there needs to be some thought about the end of the revetment wall, and its flow on effects. Maybe an access way (concrete slipway) could be provided before it ends, so that locals can still get down there with small boats / quadbikes etc. Also walkers, sightseers, bikers etc will still need to be able to access the beach.
- Will Council replenish around the end if it gets eroded?
- There weren't any issues when the temporary wall was constructed. A lot of the work tended to happen from above the beach. However, good communication during the construction phase would be helpful to ensure that our business won't be affected.
- The current revetment wall works really well

**Department of Conservation,  
Meeting with Malcom Lock, Ranger (10 April 2017)**

- Gannet Beach Adventures have a DoC concession to access Cape Kidnappers via Clifton Beach.
- DoC have had a counter stationed at the beach below the gannets for some time (data provided), although it has not been too reliable.
- Visitor numbers to the Cape / Gannett Colony via the beach peak during Dec/January.
- The season runs from the Wednesday before Labour weekend until the end of April.
- Visitors come from all over New Zealand and the world. (check out comments on trip advisor).
- The cruise ships also offer tours to the gannets.
- DoC signage at Clifton Road end has been moved once along the beach front in response to erosion of the road along this point.
- DoC would require access to the beach to enable their concessionaire to continue operating tractor tours to the gannets.
- The proposed revetment will not have any impact on wildlife.

**Hastings District Council,  
Meeting with Colin Hosford, Parks Manager (4 April 2017)**

**Notes**

- Council recognises Clifton as the gateway to Cape Kidnappers and the Gannet sightseeing.
- Council have invested in public infrastructure at the Clifton Road end- public toilets and rubbish bins. This is where the gannet tours launch from.
- The signage was erected independently by Department of Conservation and has already been moved once due to the eroding beach. (Confirmed by DoC).
- HDC reserves planning for Clifton beach area is included in the Draft Coastal Area Reserves Management Plan;
- Council recognises the road end needs tidying up and recommends developing the road end of the revetment as the 'gateway' or launching area for tours to the gannets. This will assist with provision of parking, a turning area, and create an arrival area for visitors to the gannets, (both tours and independent travellers).
- The Council draft concept for the revetment, includes a walkway, which would provide a safe walking access to camp No 1. This would probably provide modest use by the general public /community but would lead to the Camp No 1.
- Clifton Beach is more of a stop-over point, rather than a recreation destination.
- It does also serve campers and members of the boat club.

- Motorised vehicles have created a lot of damage on the gravel crest between Haumoana and Te Awanga, however are less of a concern at Clifton where there is no gravel crest and less room to manoeuvre on the beach.

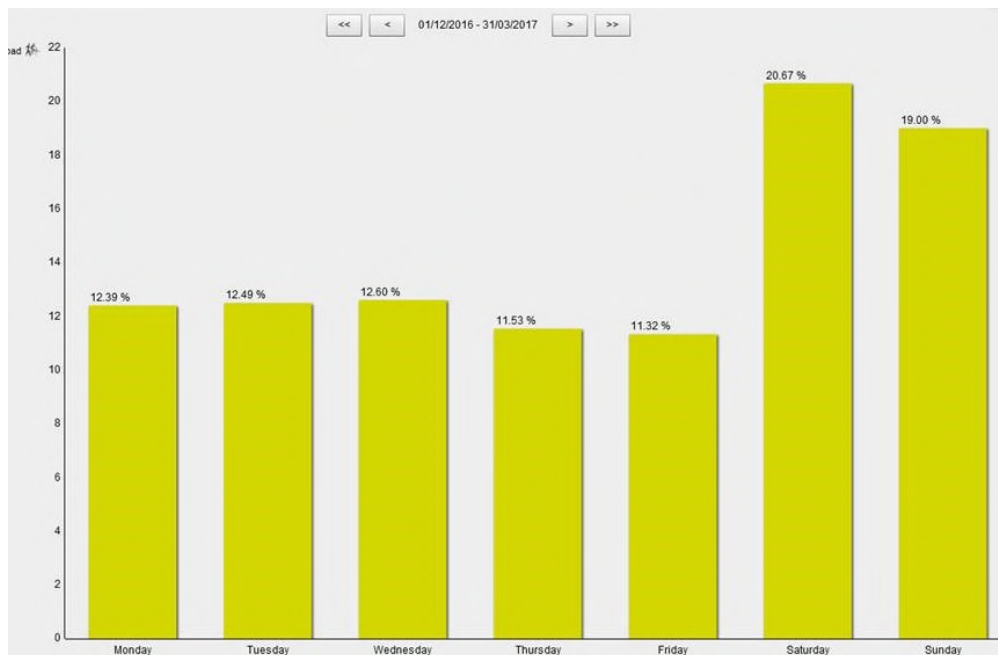
## Hawkes Bay Regional Council

Email correspondence from Vicki Butterworth, Cycle Network Coordinator (13 April 2017)

Hi Stella,

Apologies for delay, it's been a busy week. This route is popular and key attractions I believe are: being able to ride beside the ocean, iconic views of Cape Kidnappers, plenty of attractions to visit and a good range of winery cellar door and restaurants/cafe/coffee stops. I've included info that maybe useful for you is as follows. Any questions please ask.

	Clifton Road	Clifton Road Pedestrians	Clifton Road Cyclists
Total	22,175	7,088	15,087
Peak Day	Wed 28 Dec 2016 (548)	Sat 17 Dec 2016 (426)	Sat 31 Dec 2016 (388)
Minimum Day	Wed 8 Feb 2017 (24)	Wed 7 Dec 2016 (9)	Wed 8 Feb 2017 (12)
Max Day of the Week	Saturday	Sunday	Saturday
Hourly Average	8	3	8
Daily Average	194	52	131
Average Weekday Traffic	183	53	130
Average Weekend Traffic	213	64	186
Weekly Average	1,550	431	1,119
Monthly Average	5,880	1,576	4,304



Note regarding margin of error: the counter position is located just after entrance to Clearview Winery so potentially some cyclists/vistors only go as far as Elephant Hill or Clearview for example.

Kind regards,

Vicki

Vicki Butterworth

Cycle Network Coordinator

Hawke's Bay Regional Council

159 Dalton Street | Private Bag 6006 | Napier 4142

06 833 8089 | 027 541 0660

[www.hbrc.govt.nz](http://www.hbrc.govt.nz) | Fb [HBRegionalCouncil](https://www.facebook.com/HBRegionalCouncil)



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Ride the **Hawke's Bay Trails** this Easter  
**THE BIG EASY** Saturday April 15th [www.thebigeasy.co.nz](http://www.thebigeasy.co.nz)  
**REGISTER NOW** 



## APPENDIX F— Alternatives Assessment



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*Hastings District Council*

Clifton Revetment  
Assessment of Alternatives Report

to accompany Resource Consent Application(s)

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*Hastings District Council*

## Clifton Revetment

# Assessment of Alternatives Report

to accompany Resource Consent Application(s)

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**Prepared by:** Rowena Macdonald  
**Principal Planner**

**and:**



Janeen Kydd-Smith  
**Principal Planner**

**Date:** 28 July 2017  
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## Executive Summary

Damage from coastal erosion at Clifton beach has resulted in progressive retreats and repairs along the foreshore at Clifton Domain, and in particular the access road to Clifton Camp No.1, over a number of years. The extent of coastal erosion has already reached a point where little or no space is left for the access road to retreat further inland and, in order to enable continued access, an arrangement is in place between the Clifton Reserve Society and the adjoining landowner (Gordon Family – Clifton Station) to maintain single-lane access by encroaching into the Clifton Station property.

Coastal erosion at this location is ongoing, and Hastings District Council continue to examine the long-term solutions that are available to address this issue, to provide for continued public access to the area. A temporary 80m-long revetment was installed alongside Camp No.1 in 2013, and Hastings District Council is now applying for a 35-year consent for a permanent revetment to extend to Clifton Cafe.

The purpose of this report is to assess the proposed revetment against other alternatives to address the coastal erosion issues affecting access to Clifton Beach and the Domain.

It specifically identifies and assesses alternatives (including the proposed revetment proposal) against a set of criteria developed from a review of relevant strategies and policies applying to this coastal location, and concludes that the proposed 400-metre long, RL 15.0m high crested revetment, constructed with locally sourced limestone rock, is a practical and cost effective option which best meets the objective:

*“to provide and maintain safe, efficient, reliable, environmentally sustainable, and affordable public access to Clifton beach and reserve, that meets the current and future social, cultural and economic needs of beach users and the public generally, tangata whenua, Clifton Marine Club members, Clifton Reserve Society members and campground users, and local tourism providers, for the medium term (35 years)”*

whilst:

- having only low to moderate effects on the natural character and amenity values of the coast (confirmed through specific landscape and visual assessment);
- ensuring continued public access to and along the coast, and offering a level of security that supports further investment to enhance public access (through sensitive engineering design, and Council’s reserves management role);
- minimising adverse effects on cultural and historic heritage values, and potentially offering greater protection of remaining archaeological sites in close proximity and ability to increase public appreciation of heritage in this area – both tangata whenua and colonial (confirmed through specific archaeological assessment and consultation with tangata whenua to-date);
- minimising impacts on coastal processes (confirmed through robust coastal processes modelling, engineering design, and beach nourishment mitigation);
- presenting an opportunity to enhance and improve recreation opportunity, as well as contributing to ongoing social (recreational) needs of the community (confirmed through specific recreation assessment);
- having only low to moderate effects on landscape and visual amenity (confirmed through specific landscape and visual assessment); and
- having only low impact on marine ecological functioning (confirmed through specific ecological assessment).



# 1 Introduction

Damage from coastal erosion at Clifton beach has resulted in progressive retreats and repairs along the foreshore at Clifton Domain, and in particular the access road to Clifton Camp No.1, over a number of years.

The extent of coastal erosion has already reached a point where little or no space is left for the access road to retreat further inland and, in order to enable continued access, an arrangement is in place between the Clifton Reserve Society and the adjoining landowner (Gordon Family – Clifton Station) to maintain single-lane access by encroaching into the Clifton Station property.

In 2013, Hawke’s Bay Regional Council granted consent to Hastings District Council for an 80m long revetment to protect road access to the Clifton Camp No.1 for a 5-year term. This short timeframe was considered adequate to enable the relocation of Camp No.1 and the Clifton Marine Club, with a corresponding acceptance of a lower level of engineering design durability for the revetment. However, the consent expires 31 August 2018 and Hastings District Council is required to remove the revetment at the end of the period.

Hastings District Council looked at relocation of Camp No.1 to Camp No.2 but eventually selected the revetment option because:

- Camp No.2 is in a flood zone and land would need to be purchased to accommodate the Camp No.1 buildings; and
- A new boat ramp would need to be built at Camp No.2.

A boat ramp in this location had a number of issues, including high cost (\$2m), additional health and safety risk for Council, and likely additional hard engineering requirements to make it safe that would potentially affect coastal processes more than the revetment option.

The revetment option was determined to be more cost effective overall, which prompted the Council to initiate development of a revetment design that runs from Camp No.1 to the Clifton Café, and ultimately to apply for this 35-year consent to extend the revetment.

Coastal erosion at this location is ongoing, and Hastings District Council continues to examine the long-term solutions that are available to address this issue, to provide for continued public access to the area.

## 1.1 Purpose and Scope of Report

The purpose of this report is to assess the proposed revetment against other alternatives to address the coastal erosion issues affecting access to Clifton Beach and the Domain.

The report specifically:

- Describes the coastal erosion issues affecting the Clifton/Te Awanga coastline;
- Outlines relevant strategies and policies to be considered;
- Identifies the broad objective to be achieved;
- Identifies alternatives for consideration;
- Develops a set of criteria for assessing the alternatives; and
- Assesses each alternative (including the proposed revetment) against the identified criteria.

## 1.2 Coastal Erosion Issues affecting Clifton Beach

The section of coast affected by coastal erosion in this locality runs from Haumoana to Clifton, and is generally identified in Figure 1 below. A recent aerial photograph shows that the Clifton Domain land title has been largely eroded away, to the point where the access road to Clifton Camp No.1 has already had to retreat onto adjoining land.

Figure 1 Coastal Erosion along the Clifton/Te Awanga/Haumoana Coastline (Source: HDC Imagery 2014 Rural)

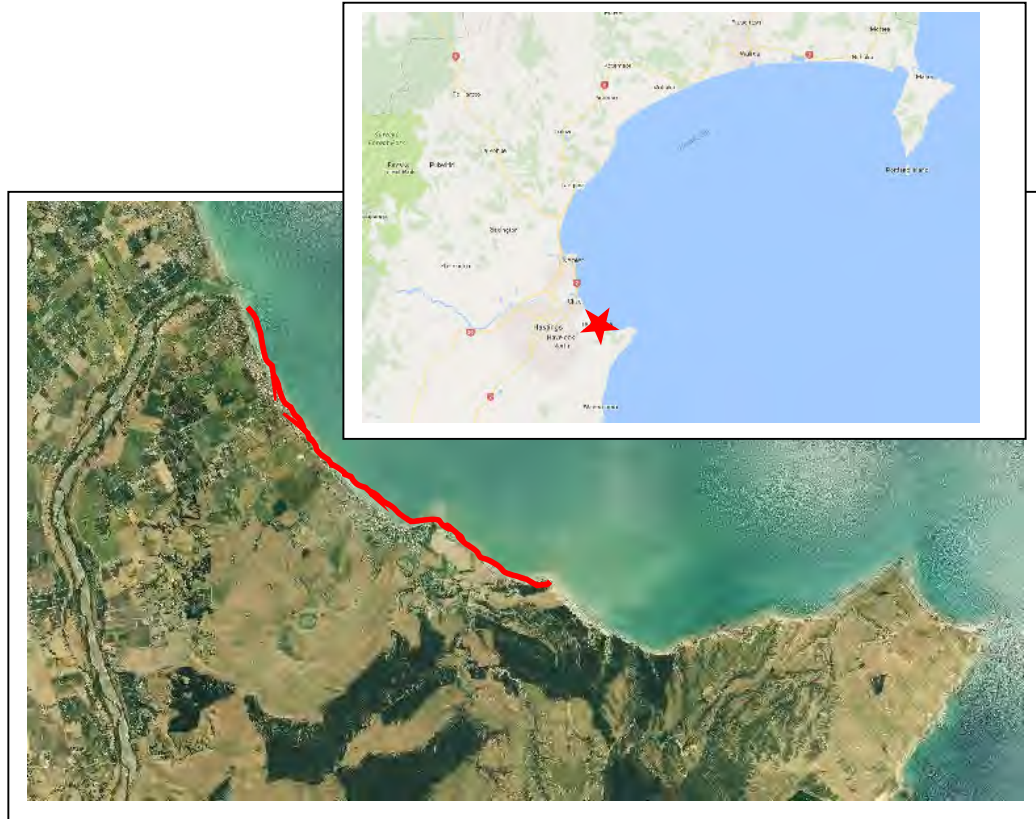


Figure 2 Coastal Erosion at Clifton Domain (Source: HDC Imagery 2014 Rural)



The following summarises information from a 2016 Beca Report<sup>1</sup> and the recent Engineering Assessment report prepared by Beca to accompany the current resource consent application<sup>2</sup>, describing the existing environment and coastal processes in action.

### 1.2.1 History of Erosion at Clifton Beach

Clifton Beach has been modified significantly over many years. Early photos of the area indicate the beach was used for droving stock and the back-shore area being farmed.

In 1931 an earthquake caused the landform along the coast to lower by about 1.0m, however at the Clifton beach site itself the exact lowering amount is unknown. This lowering caused the coastal system to be out of equilibrium, likely contributing to the problems experienced today.

Nowadays the eastern end of the beach has a carpark and boat ramp and a reduced size camping ground area. The existing boat ramp is in the lee of two reef systems (both of which provide a level of wave protection to the ramp). It is the only ramp with access to Hawke Bay between Waimarama and Napier, and serves in search and rescue operations in this locality.

The beach between the boat ramp and the promontory to the west is in an erosional state, as evidenced by the access road needing to be relocated 3 times between 2009 to 2013 (about 25m loss of land), and again recently in June of this year (2017) which is now the subject of emergency works to reinstate the access road.

To protect the road and access to the campsite and boat ramp, an 80m long revetment was installed in 2013. This revetment has stopped the retreating shoreline along that short stretch, but is considered insufficient for a long term result, as continued erosion is experienced along the full length of the access road. Camp No.1 has some existing protection from adverse sea conditions due to the vertical wall at the boat ramp, the beach, and the 80m revetment.

### 1.2.2 Geology and Coastal Processes

The beach at Clifton is a gravel beach mainly derived from greywacke rock. Due to the steep beach slope, the beach is reflective and very little cross shore gravel movement is experienced. During fair weather sand accumulates on the beach, which later disappears during inclement weather. Similarly, the beach flattens during fair weather and steepens during inclement weather.

Below mean sea level (MSL), bedrock “Papa” rock is commonly found. At the cliff faces, this rock can erode and is highly susceptible to erosion and landslides during heavy rainfall. In addition, storm surges during low pressure events can raise the tide levels by some 0.2 to 0.8m (in extreme events).

The site is an open coast site which is exposed to swells which propagate across the Pacific Ocean as well as wind generated waves. For the wave environment, a complicating factor is the approach of incident waves to the beach. The presence of Cape Kidnappers and off shore reefs cause significant diffraction in addition to the refraction processes associated with the bathymetry.

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<sup>1</sup> “Clifton Beach: Long Term Coastal Protection Works” prepared for Hastings District Council, Beca, February 2016.

<sup>2</sup> “Clifton Beach: Engineering Assessment” prepared for Hastings District Council, Beca, 30 June 2017.

## 2 Relevant Strategies and Policies

The following summarises the relevant strategic and policy documents that pertain to this area of coastline at Clifton.

<b>New Zealand Coastal Policy Statement (2010)</b>	Relevant provisions in these documents are summarised in the planning assessment within the resource consent application
<b>Hawke’s Bay Regional Policy Statement (2006)</b>	
<b>Hawke’s Bay Regional Coastal Environment Plan (2014)</b>	
<b>Proposed Hastings District Plan (2015)</b>	Relevant provisions in this document are summarised in the planning assessment <u>and</u> in the recreation assessment accompanying the resource consent application
<b>Hawke’s Bay Regional Council’s ‘Rural Open Space Study’ (2007)</b>	Relevant provisions in these documents are summarised in the recreation assessment accompanying the resource consent application
<b>Hastings District Council’s ‘Reserves Strategy’ (2006)</b>	
<b>Hastings Coastal Environment Strategy (2000)</b>	
<b>Hastings District Council’s ‘Cape Coast Community Plan’ (2014)</b>	
<b>Hastings District Council’s ‘Cape Coast Draft Reserves Management Plan’ (2017)</b>	
<b>Hastings District Council’s Long Term Plan</b>	These documents are summarised below
<b>Joint ‘Clifton to Tangoio Coastal Hazards Strategy 2120’ (in development)</b>	

### 2.1 Hastings District Council’s Long-Term Plan (2015-25)

Hastings District Council’s Long-Term Plan 2015-2025 (LTP) identifies the strategic framework (outcomes and objectives) to be achieved for the Hastings District community. The outcomes and objectives in the LTP identified as being relevant to any works at Clifton beach and recreation reserve (Clifton Domain), are:

- *Outcome Statement – Local infrastructure which contributes to public health and safety, supports growth, connects communities, activates communities and helps to protect the natural environment.*  
*Council Objectives:*
  - ...
  - *Places and spaces for recreation;*
  - *Appealing visitor destination;*
  - *Buildings and public spaces enhance district identity;*
  - *Sustainable use of land and water resources;*
  - ...
- *Outcome Statement – Local public services which help meet the needs of young and old, people in need, visitors and locals, businesses and households.*  
*Relevant Council Objectives:*
  - ...
  - *Fostering recreational participation;*
  - *Appealing visitor destination;*
  - *District heritage is conserved for future generations;*



- *Outcome Statement – Regulatory functions which help to prevent harm and help create a safe and healthy environment for people, which promote the best use of natural resources and which are responsive to community needs.*

*Relevant Council Objectives:*

- ...
- *Sites and places of significance to mana whenua are protected.*<sup>3</sup>

Key themes in the above-mentioned outcomes and objectives of relevance to any works at Clifton beach and the Domain, can be summarised as follows:

- Local infrastructure which activates communities and helps to protect the natural environment;
- Provide places and spaces for recreation, and appealing destinations for visitors;
- Protect sites and places of significance to mana whenua.

## 2.2 Joint ‘Clifton to Tangoio Coastal Hazards Strategy 2120’

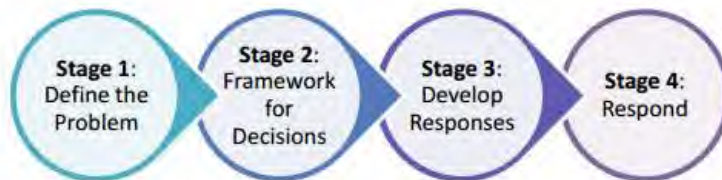
### 2.2.1 Joint ‘Clifton to Tangoio Coastal Hazards Strategy 2120’

In response to coastal hazard risks, and expectations around the effects of climate change and sea level rise, the Hawke’s Bay Regional Council, Hastings District Council and Napier City Council are taking a cross-Council approach to identifying and responding to these hazards for the stretch of coastline from Clifton to Tangoio, in the development of a joint Strategy.

The Clifton to Tangoio Coastal Hazards Strategy 2120 (Joint Coastal Strategy) is part way through development, and involves assessing coastal hazard risks (coastal erosion, storm surge inundation and tsunami) over the period 2016 to 2120, with the aim to ultimately:

- *Provide a decision-making framework to identify, evaluate, consult on and select practicable adaptation options that report to those risks; and*
- *Implement the selected adaptation option(s) in a coordinated and planned manner that will provide the best overall outcome for the Hawke’s Bay community.*<sup>4</sup>

The Strategy was initiated in 2014 and is being developed in four key stages:



**Figure 1:** Clifton to Tangoio Coastal Hazard Strategy – Process of Development

Stages 1 and 2 are complete, with Stage 3 underway. Stage 3 involves development of coastal hazard plans for specified coastal areas (cells) to respond to the identified risks, and are expected to be completed by the end of 2017. Stage 4 is yet to commence and is anticipated to be ongoing for several years. There is acknowledgment that the timeline to complete cell plans could vary significantly between cells. Where some cell plans may be able to progress fairly quickly from development to implementation (Stage 3 to Stage 4), others are likely to take longer.<sup>5</sup>

<sup>3</sup> Hastings District Council, Long Term Plan 2015-25, pg 5.

<sup>4</sup> Clifton to Tangoio Coastal Hazards Strategy 2120 Preamble – Vision, Principles and Scope, 2 August 2016, pg 6.

<sup>5</sup> Clifton to Tangoio Coastal Hazards Strategy 2120 Preamble – Vision, Principles and Scope, 2 August 2016, pg 20.

Relevant principles underpinning development of the Joint Coastal Strategy are:

- *To take a long-term approach to coastal hazards impact management in order to develop resilient communities out to 2120;*
- *That the best long-term Strategy will be the choice or series of choices that provide the most cost-effective outcome for the Hawkes Bay community, while addressing economic, environmental, cultural and social issues;*
- *To ensure cultural concerns are considered prior to options being progressed;*
- *To take a consistent, coordinated and shared approach between Hastings District Council, Napier City Council and Hawke's Bay Regional Council;*
- *To take an informed, consultative and coordinated approach with stakeholders and interest groups;*
- *To make decisions that align with national-level directions and policies, including the New Zealand Coastal Policy Statement and findings of the PCE;*
- *To ensure that coastal hazards responses are developed in an integrated way that considers risk, cost, impacts and indirect effects;*
- *To ensure that coastal hazard responses are assessed on the basis of adaptability and the site-specific nature of the particular coastal hazard; and not preclude or unnecessarily constrain choices to adopt different options into the medium and longer term horizons;*
- *An understanding that any activities undertaken that impact on the natural coastal processes will result in impacts on other parts of the coast;*
- *Make evidence-based decisions founded on best practice coastal science and good data.*<sup>6</sup>

Key themes in the above-mentioned principles of relevance to any works at Clifton beach and Domain, can be summarised as follows:

- Take a long-term approach to coastal hazards impact management;
- Ensure cultural concerns are considered;
- Take an informed, consistent, integrated, coordinated and shared approach;
- Consider risk, cost, impacts and indirect effects;
- Provide adaptable and site-specific responses, that provide the most cost-effective outcome for the Hawke's Bay community, while addressing economic, environmental, cultural and social issues.

Notably, in addressing interim hazard management, the Joint Coastal Strategy preamble states the following:

***Interim Hazard Management Solutions***

*The coast is a dynamic environment and there are a number of current and proposed responses to coastal hazards within the Strategy area, including beach nourishment and protection works at Westshore, and cessation of gravel extraction on Marine Parade.*

*It is not the intention of the partner Councils engaged in this Strategy that a moratorium on coastal works be imposed while the outcomes of the Strategy are being developed. However, the Councils wish to note that a coordinated effort to respond to coastal hazards is preferred, and as such any proposed activities are encouraged to be advanced within the framework of this Strategy.*<sup>7</sup>

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<sup>6</sup> Clifton to Tangoio Coastal Hazards Strategy 2120 Preamble – Vision, Principles and Scope, 2 August 2016, pgs 5 & 6.

<sup>7</sup> Clifton to Tangoio Coastal Hazards Strategy 2120 Preamble – Vision, Principles and Scope, 2 August 2016, pg 8.

## 2.3 Summary of Key Policy Themes

Key policy themes from all the relevant documents above, are summarised as follows:

### 2.3.1 RMA Policy Statements and Plans

- Preservation of the natural character of the coastal environment.
- Maintenance, and where practicable enhancement, of public access to and along the coast.
- Protection of coastal characteristics of special significance to iwi, including waahi tapu, Tauranga waka, taonga raranga, mahinga kai and mahinga mataitai.
- Providing for the ongoing operation, maintenance and development of physical infrastructure that supports the economic, social and/or cultural wellbeing of the region's people and communities and provides for their health and safety.
- Recognising that local authorities have statutory functions on behalf of their communities including provision of services and roads.
- Only use coastal protection structures to mitigate coastal hazards when:
  - (i) it is the best practicable option and
  - (ii) no other non-structural alternative is effective or feasible to reduce coastal hazard risk and
  - (iii) the structure is to be located and designed so as to avoid adverse environmental effects to the greatest extent practicable, particularly effects on coastal processes, landscape values and the existing natural character of the coastline and
  - (iv) The structure is to:
    - serve a use with a functional need to locate in the coastal marine area or
    - protect areas of existing development and network utility operations from coastal erosion or inundation risks.
- Structures that have a functional need to locate in the coastal marine area may be appropriate where:
  - (i) they do not adversely affect navigation and mooring within navigation channels
  - (ii) they do not adversely affect coastal hydrological and geomorphic processes.
  - (iii) they do not contribute to a proliferation of structures in the coastal marine area or do not promote the inefficient use of existing structures, facilities and network utility corridors
  - (iv) adverse effects on historic heritage, sites of cultural significance, indigenous flora, fauna, benthic organisms and their habitats, are avoided, or mitigated where avoidance is not practicable.

### 2.3.2 Long Term Plan & Cape Coast Plans:

- Local infrastructure which activates communities and helps to protect the natural environment;
- Provide places and spaces for recreation, and appealing destinations for visitors;
- Protect sites and places of significance to mana whenua.
- Realise the unique opportunity to enhance the 'Cape Coast' reserves for the local communities of Clifton, Te Awanga, Haumoana and as a gateway to Cape Kidnappers;
- Ensure that any new development respects and protects safety, key landscape features, promotes linkages, improves accessibility;

- Ensure that the development or use of any reserve does not exacerbate the adverse effects of natural hazards;
- Ensure that any identified sites of heritage and cultural significance are protected and maintained;
- To ensure that the reserves cater for the needs and values of the community.

### 2.3.3 Joint Coastal Hazards Strategy

- Consider risk, cost, impacts and indirect effects;
- Provide adaptable and site-specific responses, that provide the most cost-effective outcome for the Hawke's Bay community, while addressing economic, environmental, cultural and social issues.



### 3 Broad Objective to be Achieved

On the basis of the relevant policy matters identified above, it is considered that an appropriate broad objective to be achieved to address the coastal erosion issues at Clifton is:

- *To provide and maintain safe, efficient, reliable, environmentally sustainable, and affordable public access to Clifton beach and reserve (Clifton Domain), that meets the current and future social, cultural and economic needs of beach users and the public generally, tangata whenua, Clifton Marine Club members, Clifton Reserve Society members and campground users, and local tourism providers, for the medium term (35 years).*

### 4 Identification of Alternatives to Address Broad Objective

The following alternatives have been identified:

- Option 1:** Do Nothing / Managed Retreat;
- Option 2:** Extend Existing Revetment Consent Duration;
- Option 3:** Passive ‘Soft’ Protection (Nourishment & Planting);
- Option 4:** Proposed Revetment Structure;
  - **Option 4A:** Low Crest Revetment Structure;
  - **Option 4B:** Reduced Length Revetment Structure;
- Option 5:** Other ‘Hard’ Protection Structures (Groynes / Offshore Breakwaters / Sheet Pile Wall); and
- Option 6:** Inland Access Route.

These options are described in more detail below.

#### 4.1 Option 1: Do Nothing / Retreat

This option would essentially allow access to the beach and Domain to continue to erode, and compliance with the consent duration and conditions applying to the existing temporary revetment. Conditions include removal of the revetment by 31 August 2018 (‘retreat’). Retreat would involve relocation of all campground and Marine Club buildings and infrastructure at Camp No.1 to Camp No.2, and construction of a replacement boat ramp (if possible and able to be consented), which would require acquisition of adjacent private land if agreement is able to be reached.

#### 4.2 Option 2: Extend Consent Duration

This option would involve applying for an extension to the temporary revetment consent duration beyond 31 August 2018, to maintain the existing revetment until such time as the Joint Coastal Strategy is complete, and an agreed way forward in line with the Joint Coastal Strategy has been determined.

This would include ongoing maintenance and repair of the temporary revetment, and likely further encroachment onto adjacent private land in order to maintain access to the beach and Domain (or loss of access if agreement is unable to be reached to allow the road to encroach onto private land).

### 4.3 Option 3: Passive ‘Soft’ Protection

Passive protection in this setting would involve maintaining the existing beachfront access by undertaking ongoing beach nourishment, and possibly some bank stabilization planting.

This would require deposition of material onto the beach, and regular replacement planting following significant storm events in order to maintain access to the beach and Domain. This option would likely involve significant further encroachment onto adjacent private land in order to maintain an access road in behind the beach nourishment material and any planting.

### 4.4 Option 4: Permanent Revetment Structure

This is the option being progressed, and involves maintaining a minimum level of access to the beach and Domain by installing a new 400m-long permanent revetment wall of similar materials, design and construction (and tying in to) the existing 80m-long revetment. This would also likely entail some upgrading of the existing revetment.

This requires a final minor encroachment onto adjacent private land (for which there is agreement with the landowner), and also requires a level of regular maintenance, including ongoing gravel replenishment to address impoundment loss.

#### 4.4.1 Option 4A (low crest height)

This is a variation of Option 4, involving a lower crest height.

#### 4.4.2 Option 4B (reduced length)

This is a variation of Option 4, involving a shorter revetment length – to the minimum length necessary to maintain access to the Domain (Camp No.1). It would likely necessitate ongoing encroachment onto adjacent private land (perhaps also retreat of the public carpark over time), and regular maintenance.

### 4.5 Option 5: Other ‘Hard’ Protection Structure Options

This option is to retain beach frontage and access in its current location by installing other types of ‘hard’ coastal protection structures along the shoreline to prevent further erosion of the existing road. In this type of environment, other ‘hard’ options are deemed to be either a series of groynes or a sheet pile wall.

### 4.6 Option 6: Inland Access Route

This option maintains access to the Domain (Camp No.1 and boat ramp) by constructing an inland route. To provide any permanency, such an inland route would likely have to traverse directly in front of, or to the rear of, Clifton Station homestead. It is assumed the current coastal access road would become unusable for access to Camp No.1 over time, as per Option 1.

## 5 Criteria for Assessing Options

On the basis of the assessment of the relevant policy documents above, the following criteria have been used in this report to assess options identified to address the coastal erosion issues at Clifton – and some priority assigned to those criteria, with Part 2 section 6 ‘Matters of National Importance’ given highest priority:

### Highest Priority

- Preservation of natural character and amenity values of the coast;
- Impacts on public access to and along the coast;
- Impacts on cultural and historic heritage values;

### High Priority

- Coastal dynamic processes impacts;
- Affordability/cost effectiveness for the community;

### Medium / High Priority

- Access to Camp No.1 and boat ramp;
- Recreation and tourism impacts;
- Landscape and visual impacts;
- Ecological impacts;
- Degree of engineering difficulty;
- Long-term security of access from natural hazards;

### Lowest Priority

- Other service infrastructure impacts; and
- Resource consent requirements.

## 6 Assessment of Options

An assessment of the six options against the criteria identified above is provided in the table below.

*NB. this incorporates relevant aspects of the alternatives assessment contained in section 3 of the Engineering Assessment report<sup>8</sup>, as well as drawing on the conclusions of other supporting technical assessments accompanying the resource consent application.*

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<sup>8</sup> “Clifton Beach: Engineering Assessment” prepared for Hastings District Council, Beca, 30 June 2017.

Figure 3 Evaluation of Options

	OPTION 1 Do Nothing / Retreat	OPTION 2 Extend Consent Duration	OPTION 3 Passive 'Soft' Protection	OPTION 4 Proposed Revetment Structure	OPTION 5 Other 'Hard' Protection Structure Options	OPTION 6 Inland Access Route
<b>Preservation of Natural Character of the Coast</b>	The existing effects of coastal erosion on natural character and amenity values would continue.  However, if a new boat ramp was to be constructed, options investigated for a new boat ramp in 2013 <sup>9</sup> indicate requirement for a groyne, or a breakwater, to provide some protection from the harsh wave climate and shingle beach wave attack. This would have similar impacts on the natural character of the coast as for Option 5.	The existing effects of coastal erosion on natural character and amenity values would continue for that area not protected by the current revetment wall.	While gravel or sand would be in keeping with natural coastal materials, the large volume and extent of material necessary to be deposited on the beach to off-set coastal erosion processes and ensure continued access to Camp No.1 and the boat ramp, would appear out of character with the surrounding area. This option would also increase the beach width initially (until deposited sediment is lost to the littoral system over time) <sup>[10]</sup> .	The Landscape Assessment report <sup>[11]</sup> assesses the site as demonstrating only low to moderate levels of natural character, and concludes that the revetment retains the modified state of the coastal edge, and effects of the revetment on natural character attributes are considered low.	Groynes or sheet pile walls would not be in keeping with the natural character and amenity of the coastal environment in this location. A series of groynes would have a significant adverse effect on the natural character of the coast.	The existing effects of coastal erosion on natural character and amenity values of the shoreline would continue, and it would result in further modification of the inland coastal environment (within the Clifton Station area).
<b>Public Access to the Coast</b>	The effects of coastal erosion on public access to the beach and Domain would worsen with the removal of the current revetment.  Public access to and along the coast in this locality would become difficult, would be restricted to that area of Clifton Domain at the end of Clifton Road. and would eventually necessitate relocation of existing physical infrastructure, such as the public car park.	The existing effects of coastal erosion on public access to the beach and Domain would continue for that area not protected by the current revetment wall.  Public access to and along the coast in this locality may become difficult, would be restricted to that area of Clifton Domain at the end of Clifton Road. and may necessitate relocation of existing physical infrastructure such as the public car park.	Public access to the beach would continue, however a large volume of loose gravel material deposited on the beach could adversely affect ease of public access.	<u>Option 4/4A:</u> Public access to and along the beach and full length of the Domain would be retained.  <u>Option 4B:</u> Public access to the Domain would be retained, but may become compromised with a shorter length revetment. The access road to Camp No.1 may become further compromised and access to the beach may ultimately become restricted to that area of Clifton Domain at the end of Clifton Road (which may also necessitate relocation of the carpark infrastructure inland).	Public access to and along the beach and full length of the Domain would be retained.	This option would provide a replacement public access point to the area of Clifton Domain containing Camp No.1 and boat ramp.
<b>Cultural / Historic Heritage</b>	The effects of coastal erosion on cultural and historic heritage values would continue.	The effects of coastal erosion on cultural and historic heritage values would continue.	Archaeological and cultural sites would be unlikely to be affected, however there could be adverse effects on the cultural values of the beach from deposition of material which would need to be checked with tangata whenua.	An archaeological assessment of the area and consultation with Matahiwi Marae have identified the potential presence of archaeological and culturally significant sites along the shoreline (i.e. midden etc) which may be affected by installing a revetment wall and the associated access road to Camp No.1 and the boat ramp which requires small additional encroachment onto adjacent land.  However, the area is already subject to actual and anticipated damage from coastal erosion, the existing access road is located over an archaeological site, and the presence of a revetment may ultimately enable better protection of other nearby sites through arresting erosion in this location.	As for Option 4.	The existing effects of coastal erosion on cultural and historic heritage values would continue.  An inland route would have potentially significant effects on other cultural or historic heritage values, including impacts on other archaeological features and on the heritage associations for Clifton Station and homestead if the property were further fragmented.  (Note: consultation with Matahiwi Marae identified that other significant activity and occupation areas are understood to have been located in the immediate vicinity of the Clifton Station homestead, therefore, there is high potential for the discovery of archaeological material in the area).

<sup>9</sup> "Clifton Beach: Alternative Boat Ramp Study", prepared for Hastings District Council, Beca, 13 November 2013.

<sup>10</sup> "Clifton Beach: Engineering Assessment" prepared for Hastings District Council, Beca, 30 June 2017.

<sup>11</sup> "Clifton Beach Seawall: Landscape & Visual Assessment", Boffa Miskell, 6 July 2017.



	OPTION 1 Do Nothing / Retreat	OPTION 2 Extend Consent Duration	OPTION 3 Passive ‘Soft’ Protection	OPTION 4 Proposed Revetment Structure	OPTION 5 Other ‘Hard’ Protection Structure Options	OPTION 6 Inland Access Route
<b>Coastal Dynamic Processes</b>	<p>The effects of coastal erosion processes would continue. According to the Coastal Processes report [12], removal of the existing revetment would no longer halt erosion at the entrance to Camp No.1, which would later result in the boat ramp and Camp No.1 buildings being redundant.</p> <p>In addition, if a new boat ramp was to be constructed along this coast, indications are that it would likely require a groyne or a breakwater, with similar impacts on natural coastal processes as for Option 5.</p>	<p>The effects of coastal erosion with the existing revetment in place would continue.</p>	<p>The effects of this option on coastal dynamic processes have not been assessed in detail, however this option would add additional material into the system and it is anticipated that it would provide some benefit in mitigating natural coastal erosion effects.</p>	<p>Option 4: The Engineering Assessment report<sup>13</sup> concludes: <i>“No updrift adverse effects are likely. Although the revetment will impound approximately 600m<sup>3</sup>/year of gravel, any down drift effects on the western end will be similar to the historical shoreline in the medium to long term (less than 10 years), however, the adverse effects are considered to be moderate, having slightly more erosion than with the historical shoreline. In the medium to long term the adverse effects are considered to be minor. Local erosional cutting in of the downdrift coastline is likely be experienced and will potentially need to be managed.”</i></p> <p>Option 4A: As above, however a lower crest height is subject to more wave overtopping due to its low amount of freeboard, which would have its own additional erosional effects, and significantly higher maintenance costs.</p> <p>Option 4B: As above, however a shorter length of revetment would lead to a smaller volume of impoundment loss.</p>	<p>The effects of other hard protection structure options on coastal dynamic processes have not been assessed in detail.</p> <p>However, the Engineering Assessment report [14] provides some commentary, which is summarised as follows: <u>Groynes</u> cause accumulation on the updrift side of the groynes, but encourage downdrift erosion. With little room left between the water line and the existing roadway, nourishment between the groynes would be required – which would increase the project costs.</p> <p>A <u>sheet pile wall</u> would reflect waves, providing little energy dissipation, and these reflected waves have the potential to cause adverse effects elsewhere.</p> <p>The beach behind <u>offshore breakwaters</u> can accrete so much that it forms a tombolo – which significantly reduces the longshore sediment transport behind the breakwater thereby depleting downdrift sediment supply.</p>	<p>The existing effects of natural coastal erosion processes would continue.</p>
<b>Affordability / Cost-Effectiveness for the Community</b>	<p>Cost has been factored into the temporary consent, and the Reserve Society and Marine Club have been putting money aside to remove the revetment, and to move Camp No.1 and associated infrastructure.</p> <p>The study looking at provision of an alternative boat ramp in 2013 [15] which identified the ‘promontory’ at the western end of Clifton Beach as a relatively stable location for a boat ramp, indicates that the costs associated with a new boat ramp are significant - considerably more than several \$100,000 (possibly in the order of \$1m - \$3m).</p>	<p>Costs as for Option 1.</p> <p>There is also the cost of delay...in terms of ongoing erosion events (as evident as recently as June 2017), and costs associated with temporary reinstatement of the access road etc.</p>	<p>This option has not been formally costed, but given the quantity of ongoing gravel renourishment that would likely be required over at least a 35-year period, in a high energy wave environment, this is expected to involve substantial initial and ongoing costs.</p>	<p>The cost of the revetment has been estimated at @\$1.35m (to be loan-funded). Council has funding approved in the 2017/18 Annual Plan based on an agreed funding model, which has been subjected to the special consultative procedure under the Local Government Act and received strong community support.</p> <p>Option 4A/4B: Cost would likely be the same or similar. A shorter revetment or low crested revetment may cost less initially, but have higher ongoing maintenance costs associated with regular overtopping and probable damage to the structure (4A) or additional gravel renourishment requirements (4B).</p>	<p>These options have not been formally costed, however a sheet pile wall option may be lower cost than Option 4, and offshore breakwaters and groynes (with nourishment) are costly to construct and maintain.</p> <p>A 2009 EMS Ltd report estimated the cost of an individual groyne at \$1.8m to construct and have annual maintenance costs of about \$8,500<sup>16</sup>. Beca predict that 3-4 groynes would be needed to protect access to Camp No.1 and the boat ramp, and beach nourishment between the groynes would likely be needed and would increase costs<sup>17</sup>.</p>	<p>This option has not been formally costed, but average \$\$ per metre of access road suggests the construction of the road would be a significant cost, and it would also require the purchase of additional land from the Gordon family, who have indicated an unwillingness to provide further land for this purpose in the future, beyond the small encroachment already agreed. This may mean a compulsory acquisition process would be required, the cost and outcome of which is uncertain.</p> <p>Costs of relocating infrastructure are also expected to be significant.</p>

<sup>12</sup> “Clifton Beach: Coastal Processes Assessment” prepared for Hastings District Council, Beca, May 2017.

<sup>13</sup> “Clifton Beach: Engineering Assessment” prepared for Hastings District Council, Beca, 30 June 2017.

<sup>14</sup> “Clifton Beach: Engineering Assessment” prepared for Hastings District Council, Beca, 30 June 2017.

<sup>15</sup> “Clifton Beach: Alternative Boat Ramp Study”, prepared for Hastings District Council, Beca, 13 November 2013.

<sup>16</sup> “Te Awanga-Haumoana Coastal Erosion Review and Recommendations”, prepared for Hastings District Council, Environmental Management Services Ltd, 2009.

<sup>17</sup> “Clifton Beach: Engineering Assessment” prepared for Hastings District Council, Beca, 30 June 2017.

	OPTION 1 Do Nothing / Retreat	OPTION 2 Extend Consent Duration	OPTION 3 Passive 'Soft' Protection	OPTION 4 Proposed Revetment Structure	OPTION 5 Other 'Hard' Protection Structure Options	OPTION 6 Inland Access Route
<b>Access to Camp No.1 and Boat Ramp</b>	Access to Camp No.1 and the boat ramp is expected to be lost over time as coastal erosion makes the access road impassable, if there is no further land available for inland retreat.	Access to Camp No.1 and the boat ramp is likely to be lost over time as coastal erosion makes the access road impassable, if there is no further land available for inland retreat.	Would provide more certainty of access than Options 1 and 2, however, it would be vulnerable to significant storm events which could cause significant damage to the access road.	A revetment structure would enable continued access to Camp No.1 and boat ramp.	Other hard protection structures would provide for continued access to the camp and boat ramp, similar to Option 4.	An inland route would enable continued access to Camp No.1 and the boat ramp, however given there is very little space between the road and the water line at the entrance point to Camp No.1, access could remain vulnerable as there is little land area available for the access road to retreat at that point.
<b>Recreation and Tourism</b>	Over time, the current 'Gateway' <sup>[18]</sup> to the Cape would be affected and ultimately, this option would see the partial loss of access to a valued public reserve (Clifton Domain), and access to local coastal recreation opportunities.  In addition, access to the Cape for independent visitors and tourism operators would be impacted. Informal access may still be available, however would be less secure and subject to ongoing erosion.  If Camp No.1 is not relocated, this option would mean a loss of beach front camping opportunities across the region and potentially put more pressure on remaining campgrounds, and the loss of a Marine Club and unique boat ramp facility (the floating trailer launching technique is considered unique to Clifton Marine Club).	The existing effects of coastal erosion would continue, and in the meantime the current 'Gateway' to the Cape could be affected and an alternative departure point to the Cape may need to be found (including location of beach access for local recreation and tourism providers).	Passive protection would generally support retention of existing recreation and tourism associated with this location as the 'Gateway' to the Cape, although the area would remain vulnerable to erosion from significant storm events.  The deposit of large volumes of sand or gravel on the beach may periodically affect ease of access to the beach for recreation and tourism purposes for short periods.	Construction of a revetment structure would support existing recreation and tourism activities associated with this location, as the 'Gateway' / departure point to the Cape, and presents opportunity to enhance recreation opportunity (including potential to reference historical occupancy, land use and associations with the area).  This option will also facilitate achievement of aspirations for this area in the Draft Cape Coast Reserve Management Plan.	Similar to Option 4.	The existing effects of coastal erosion would continue, and ultimately the current 'Gateway' to the Cape could be affected. The inland route option however could provide an alternative departure point to the Cape (including location of beach access for local recreation and tourism providers).
<b>Landscape and Visual Effects</b>	The landscape and visual effects of coastal erosion would continue, potentially affecting the visual amenity values of this popular departure point to the Cape.	The landscape and visual effects of coastal erosion would continue in the meantime, potentially affecting the landscape and visual amenity of this popular departure point to the Cape.	This option would likely maintain the existing visual character of the beach and immediate area by mitigating coastal erosion effects.  However, the large volume and extent of beach renourishment that would be required (and on an ongoing basis) to be effective in ensuring continued access, may result in temporary adverse visual effects.	The locally sourced limestone provides visually prominent material that has potential to generate some adverse visual effects.  However, the Landscape Assessment report <sup>[19]</sup> assesses the visual sensitivity of the site as moderate to low, and concludes that the revetment will have low to moderate adverse visual effects.  Constructing the revetment from locally sourced limestone would be relatively in keeping with the wider visual context of limestone cliffs of Cape Kidnappers. Planting vegetation along the edge of the revetment will further help to mitigate the visual effects of the structure.  This option will also facilitate achievement of aspirations for this area in the Draft Cape Coast Reserve Management Plan., for what is the primary departure point to the Cape, with associated improvements to visual amenity.	Other coastal protection structure options would change the existing visual character of the beach, and could have adverse effects, particularly if concrete or other manufactured materials are used.  However, arresting erosion in this location could also facilitate enhancements to public infrastructure for what is the primary departure point to the Cape, with associated improvements to landscape and visual amenity.	The landscape and visual effects of coastal erosion would continue, potentially affecting the landscape and visual amenity of the 'Gateway' to the Cape.  However, the inland route option could facilitate establishment of a new 'Gateway' to the Cape.  While not assessed, there is potential for adverse landscape and visual effects associated with earthworks required to construct a new road. May also adversely affect the existing landscape and visual amenity values associated with Clifton Station.

<sup>18</sup> 'Gateway' is used in this context, in terms of being the launching / departure point to the Cape.

<sup>19</sup> "Clifton Beach Seawall: Landscape & Visual Assessment", Boffa Miskell, 6 July 2017.

	OPTION 1 Do Nothing / Retreat	OPTION 2 Extend Consent Duration	OPTION 3 Passive ‘Soft’ Protection	OPTION 4 Proposed Revetment Structure	OPTION 5 Other ‘Hard’ Protection Structure Options	OPTION 6 Inland Access Route
<b>Ecological Effects</b>	Any existing ecological effects of coastal erosion and the dynamic sea environment in this location would continue.	Any existing ecological effects of coastal erosion and the dynamic sea environment in this location would continue.	The ecological effects of this option have not been assessed, but the deposit of a large volume of sand or gravel on the beach could potentially adversely affect aquatic water quality and ecology.	The Ecological Assessment [20] has found no evidence of sensitive or threatened species in the area and concludes that the scale of the proposal does not suggest any significant adverse effects on marine ecological functioning. There may be some potential ecological effects associated with gravel / sand replenishment to mitigate impoundment loss associated with this option.	Similar to Option 4.	Any existing ecological effects of coastal erosion and the dynamic sea environment in this location would continue. Potential ecological effects of constructing a new inland road have not been assessed.
<b>Engineering Difficulty</b>	The study around an alternative boat ramp completed in 2013 [21] indicated few suitable alternative locations exist for a safe accessible boat ramp in this high energy wave environment, and significant engineering difficulties associated with its construction and ongoing maintenance (similar to Option 5).  In addition, ability to relocate buildings and other assets from Camp No.1 and the Marine Club would prove logistically difficult if the road access became impassable before managed retreat could take place.	Initially, this option would present few engineering difficulties, as it does not involve any engineering intervention.  However, ability to relocate buildings and other assets from Camp No.1 and the Marine Club would prove logistically difficult if the road access became impassable in the meantime, and there are engineering difficulties around constructing a replacement boat ramp as for Option 1.	This option presents challenges in terms of obtaining sufficient, suitable, and reliable source of sand or gravel for ongoing beach nourishment, and in terms of the already challenging dynamic sea environment in this location.	The Engineering Assessment report [22] confirms that the installation of a revetment is a viable engineering solution for the area, and presents a workable preliminary design.	The engineering difficulty associated with other hard protection options has not been fully assessed, but the Engineering Assessment report [23] identifies that options such as groynes and offshore breakwaters would require substantially larger rock for protection as the design waves would be considerably higher.	This option would have potential engineering challenges in terms of constructing a new inland access route to the camp and boat ramp, depending on its location.
<b>Security of Public Access from Effects of Natural Hazards / Climate Change</b>	This option provides no security of access to the beach, camp and boat ramp at this location, leaving Clifton beach and Clifton Domain vulnerable to ongoing erosion and inundation.	This option is not considered to achieve security of access to the beach, camp and boat ramp at this location, as it leaves Clifton beach and reserve vulnerable to ongoing erosion and inundation.  Further, ability to maintain access to buildings and other assets at Camp No.1 and the Marine Club in the meantime, would prove logistically difficult if the road access became impassable.	This option could improve security of access to the beach, camp and boat ramp at this location, and provide some protection from ongoing erosion and inundation. However, the effectiveness of this option is questionable given the likely ongoing vulnerability to frequent overtopping.	This option would improve security of access to the beach and Domain from ongoing erosion and inundation, subject to periodic maintenance (particularly after storm events).  <u>Option 4A:</u> A lower crested revetment would be subject to more overtopping and probably damage to the structure due to its low amount of freeboard, which would introduce ongoing vulnerability in terms of security of access.  <u>Option 4B:</u> A shorter length revetment would only protect part of the access road, leaving the remainder (including the public carpark end) vulnerable to erosion and inundation.	Similar to Option 4, other hard structure options would improve security of access to the beach and Domain from ongoing erosion and inundation, but periodic maintenance would be required.	A new inland route option would generally provide a higher level of security of access to the beach and Domain from ongoing erosion and inundation. Given there is very little space between the road and the water line at the entrance point to Camp No.1, access could remain vulnerable as there is little land area available for the access road to retreat at that point.
<b>Other Services Infrastructure</b>	This option is unlikely to have any adverse effects on other service infrastructure, as the camp and boat ramp facilities would be either relocated or become unusable in this location and associated service infrastructure would be no longer required.	This option is unlikely to have any adverse effects on other service infrastructure in the short term. However, electricity services could be threatened by ongoing coastal erosion, and may need to be relocated.	This option may require relocation of service infrastructure, with encroachment onto adjacent land required in order to maintain the access road to the camp and boat ramp.	This option would require relocation of service infrastructure, with encroachment onto adjacent land required in order to maintain the access road to the camp and boat ramp.	This option would be unlikely to require relocation of service infrastructure, as it would require minimal encroachment in order to maintain the access road to the camp and boat ramp.	This option would likely require significant relocation of service infrastructure to the new inland route.
<b>Resource Consent Requirements</b>	This option would not require any further resource consents from the Hawke’s Bay Regional Council or Hastings District Council.  However, construction of an alternative boat ramp with associated groyne or breakwater would require resource consents similar to Option 5.	This option would require application to Hawke’s Bay Regional Council to extend the duration of the existing consent, and may also require new resource consents to facilitate a long-term solution, once decided on.	This option would likely require resource consent from the Hawke’s Bay Regional Council for ongoing deposition of beach nourishment material in the coastal marine area.	This option requires resource consents from Hawke’s Bay Regional Council and Hastings District Council to construct a coastal protection structure within the coastal marine area and coastal environment.	This option would require resource consents from Hawke’s Bay Regional Council and Hastings District Council to construct coastal protection structures within the coastal marine area and coastal environment.	This option would likely require resource consent from Hastings District Council for earthworks.

<sup>20</sup> “Clifton Beach Proposed Coastal Protection: Ecological Survey of Clifton Coastal Marine Area and Assessment of Environmental Effects”, Triplefin, July 2017.

<sup>21</sup> “Clifton Beach: Alternative Boat Ramp Study”, prepared for Hastings District Council, Beca, 13 November 2013.

<sup>22</sup> “Clifton Beach: Engineering Assessment” prepared for Hastings District Council, Beca, 30 June 2017.

<sup>23</sup> “Clifton Beach: Engineering Assessment” prepared for Hastings District Council, Beca, 30 June 2017.

## 7 Summary and Conclusion

The above assessment considers each of the options identified (including the proposed revetment for which resource consent is being sought), against a comprehensive set of criteria derived from the key policy themes in the statutory planning documents applying to Clifton Beach and Domain, as well as other strategic documents of relevance.

The following is a summary of that assessment for each option:

### 7.1 Option 1: Do Nothing / Retreat

The 'do nothing/retreat' option would not provide for ongoing security of public access to the beach and Clifton Domain, and the existing adverse effects of coastal erosion processes on the natural character values of the coast in this locality would continue.

Public access to and along the coast in this locality would become increasingly difficult, particularly with removal of the existing revetment and public frontage to the coast.

Ultimately, this option would see the complete loss of access to a public reserve of significance (Clifton Domain), and an alternative departure point to the Cape would need to be found (including location of beach access for local recreation and tourism providers).

Continued land loss also means ongoing potential adverse effects on cultural and heritage values, evident given the presence of recorded archaeological sites and cultural associations (both Maori and post-European) in the immediate locality and all along this coastline.

The costs associated with securing an alternative public access and departure point to the Cape elsewhere along this stretch of coastline, and the costs associated with relocating the camp and constructing and operating a new boat ramp, are significant. Consideration of alternative sites for a boat ramp indicate there are few suitable locations, and significant engineering difficulties associated with construction and ongoing maintenance.

Ability to relocate buildings and other assets from Camp No.1 and the Marine Club would also prove logistically difficult if the road access became impassable before managed retreat could take place.

*On that basis, doing nothing and relocating Camp No.1 and the boat ramp is less preferred as continued erosion and inundation would ultimately lead to complete loss of access to this valuable public coastal reserve (Clifton Domain) which provides the primary departure point to Cape Kidnappers for recreation and tourism providers, and would involve considerable relocation costs (albeit some of these costs are anticipated).*

*If not relocated, this option would result in the loss of beach front camping opportunities across the region and potentially put more pressure on remaining campgrounds, as well as the loss of a unique boat launching facility and the only boat ramp between Napier and Waimarama that is not easily replicated elsewhere.*

### 7.2 Option 2: Extend Consent Duration

Extending the consent duration to await completion of the Clifton to Tangoio Coastal Hazards Strategy, is effectively a 'delay' option. Further delay would not provide any security of public access to the beach and Clifton Domain, and the existing adverse effects of coastal erosion processes on the natural character values of the coast in this locality would continue in the meantime.



Public access to and along the coast in this locality would become increasingly difficult for that area not protected by the current revetment wall, and further loss of public frontage to the coast is likely, with ongoing potential adverse effects on cultural and heritage values as a result.

There will be significant cost as for Option 1, as well as the cost of delay, in terms of ongoing erosion events (as evident as recently as June 2017), and costs associated with temporary reinstatement of the access road etc.

This option delays any ability to achieve any security of access to the beach, camp and boat ramp at this location, leaving Clifton beach and Domain vulnerable to ongoing erosion and inundation.

Further, ability to maintain access to buildings and other assets at Camp No.1 and the Marine Club in the meantime, would prove logistically difficult if the road access became impassable whilst awaiting the outcome of the Coastal Hazards Strategy process. This may also threaten some infrastructure servicing the camp etc.

This option would require application to Hawke's Bay Regional Council to extend the duration of the existing consent, and may also require new resource consents to facilitate a long-term solution, once decided on.

*On that basis, extending the consent duration presents the most affordable option in the short term, but it would provide no security of access to Camp No. 1 and the boat ramp, as is evident with the recent erosion event in June 2017 which has necessitated moving the access road inland at the Clifton Café end.*

*Delay may severely limit the ability to successfully activate other options through continued erosion – particularly any options that would require the purchase of additional land from the Gordon family, who have indicated an unwillingness to provide further land for this purpose in the future, beyond the small encroachment already agreed.*

### 7.3 Option 3: Passive 'Soft' Protection

Public access to the beach would be secured under this option, and it may provide some benefit in mitigating natural coastal erosion effects.

However, passive protection would mean the access would still be vulnerable to significant storm events and frequent overtopping. Also, there is also little space between the road and water line for this option without purchase of additional land from the Gordon family, which may not be forthcoming.

This option presents challenges in terms of obtaining sufficient, suitable, and reliable source of sand or gravel for ongoing beach nourishment, and this is expected to be involve substantial initial and ongoing costs if such a source was able to be located.

In addition, a large volume of loose gravel material deposited on the beach could adversely affect the ease of access for recreation and tourism purposes (at least temporarily), and while gravel or sand would be in keeping with natural coastal materials, from a natural character perspective, the large volume and extent of material necessary would appear out of character with the surrounding area, and may have potential adverse effects on aquatic water quality and ecology.

This option would require resource consent from the Hawke's Bay Regional Council for ongoing deposition of beach nourishment material in the coastal marine area.

*On that basis, beach nourishment is not considered a practicable option due to likely difficulties sourcing enough material of suitable quality, the need for (and associated costs of) maintenance, the volume and width of material that would need to be deposited on the beach, and its potential environmental effects (including recreational and ecological effects).*

*There is also uncertainty around whether this option is feasible due to the need to acquire additional private land beyond that already agreed, to accommodate the access road. The effectiveness of this option in providing long-term security of access is also questionable, given the likely ongoing vulnerability to overtopping during storm events.*

#### 7.4 Option 4: Permanent Revetment Structure

The revetment will ensure continued public access to and along the beach and Clifton Domain, including Camp No.1 and the boat ramp.

Effects of the revetment option on natural character attributes have been assessed as low, and the revetment has been assessed as having low to moderate adverse visual effects.

Coastal modelling has shown that this option does present some moderate short term (less than 10 years) downdrift adverse effects, but that in the medium to long term the adverse effects are considered minor, and that there are no updrift adverse effects resulting from the revetment. Local erosional cutting in of the downdrift coastline is likely to be experienced and will potentially need to be managed.

Some archaeological features will likely be modified or destroyed as a result of constructing the revetment and relocating the access road accordingly. However, these effects will occur with ongoing erosion, and the revetment may ultimately enable better protection of other nearby sites.

Construction of a revetment structure would support existing recreation and tourism activities associated with this location, as the 'Gateway' / departure point to the Cape, and presents opportunity to enhance recreation opportunity.

Installation of a revetment has been confirmed as a viable engineering solution for the area, and a workable preliminary engineering design has been developed.

The cost of the revetment option has been estimated at @\$1.35m. Council has funding approved for this project in its 2017/18 Annual Plan based on an agreed funding model (loan-funded), which has been subjected to the special consultative procedure under the Local Government Act and received strong community support.

##### 7.4.1 Option 4/4A (low crest height)

As above, however whilst initially cheaper to construct, a lower crest height is subject to more wave overtopping due to its low amount of freeboard, and would likely have higher ongoing maintenance costs associated with regular overtopping and probably damage to the structure. This would also introduce ongoing vulnerability in terms of security of the access road.

##### 7.4.2 Option 4B (reduced length)

A shorter length revetment would only protect part of the access road, leaving the remainder (including the public carpark end) vulnerable to continued erosion and inundation.

A shorter length would be cheaper to construct initially, and potentially less intrusive in terms of visual amenity, but it would likely have much higher ongoing costs associated with higher

gravel renourishment requirements, and ultimately security of access may still be compromised.

*On the basis of the above, the construction of a permanent revetment structure under Option 4, particularly a 400 metre extension to the existing revetment with RL 15.0m crest height, is a practicable option, and is Hastings District Council's preferred option.*

## 7.5 Option 5: Other 'Hard' Protection Structure Options

Whilst continued access to Camp No.1 etc and public access benefits in general would be similar in many ways to the revetment option, groynes or sheet pile walls would be more visually intrusive and less in keeping with the natural character and amenity of the coastal environment in this location, particularly if concrete or other manufactured materials are used.

In addition, in terms of coastal processes, groynes cause accumulation on the updrift side of the groynes, but encourage downdrift erosion. With little room left between the water line and the existing roadway, nourishment between the groynes would be required – which would increase the project costs.

A sheet pile wall would reflect waves, providing little energy dissipation, and these reflected waves have the potential to cause adverse effects elsewhere.

The beach behind offshore breakwaters can accrete so much that it forms a tombolo – which significantly reduces the longshore sediment transport behind the breakwater thereby depleting downdrift sediment supply.

These options have not been formally costed. A sheet pile wall option may be lower cost than the revetment option, but it is likely that offshore breakwaters and groynes (with nourishment) would be more costly to construct and maintain.

The engineering difficulty associated with these hard protection options has not been fully assessed, but options such as groynes and offshore breakwaters would require substantially larger rock for protection as the design waves would be considerably higher.

This option would require similar resource consents from Hawke's Bay Regional Council and Hastings District Council as for the revetment option.

*From the evaluation of the six options in the above table, it is considered that other 'Hard' protection structure options are the least favourable option, particularly the construction of a series of groynes, given their potential adverse effects on the natural character of the coast, on coastal processes, landscape and visual effects, and ecological effects on the coastal marine environment. Groynes would also likely be the least affordable option for the community.*

## 7.6 Option 6: Inland Access Route

The inland route option would provide a replacement public access point to the area of Clifton Domain containing Camp No.1 and boat ramp and could facilitate establishment of a new 'Gateway' / departure point to the Cape. However, given there is very little space between the road and the water line at the entrance to Camp No.1, access could remain vulnerable as there is little room to retreat further inland at that point.

The existing effects of coastal erosion on natural character and amenity values of the shoreline would continue, and this option would result in further modification of the inland coastal environment (within the Clifton Station area), and potential for adverse landscape and visual

effects associated with earthworks required to construct a new road and impact on visual amenity for Clifton Station and homestead.

An inland route would potentially have significant adverse effects on other cultural or historic heritage values, including impacts on other archaeological features and on the heritage associations for Clifton Station and homestead if the property were further fragmented.

This option has not been formally costed, but average \$ per metre of access road suggests the construction of the road would be a significant cost, and it would also require the purchase of additional land from the Gordon family, who have indicated an unwillingness to provide further land for this purpose in the future, beyond the small encroachment already agreed.

This option would also have potential engineering challenges in terms of constructing a new inland access route to the camp and boat ramp, depending on its location, and would likely require significant relocation of service infrastructure to the new inland route.

*On that basis, while the inland access route option would potentially provide a greater level of security of access to Camp No. 1 and the boat ramp (for as long as they remain), it would not prevent modification of the existing natural character of the inland coastal environment and could potentially have significant adverse effects on cultural and heritage values associated with an old marae site and the Clifton Homestead.*

*Constructing a new inland route would also be subject to a sale and purchase agreement with the Gordon family (which may not be forthcoming) and construction costs are expected to be significant, depending on the location and length of the access route.*

## 7.7 Conclusion

Hastings District Council is satisfied that the proposed 400-metre long, RL 15.0m high crested revetment (Option 4), constructed with locally sourced limestone rock, is a practical and cost effective option which best meets the objective *“to provide and maintain safe, efficient, reliable, environmentally sustainable, and affordable public access to Clifton beach and reserve, that meets the current and future social, cultural and economic needs of beach users and the public generally, tangata whenua, Clifton Marine Club members, Clifton Reserve Society members and campground users, and local tourism providers, for the medium term (up to 35 years)”*, whilst:

- having only low to moderate effects on the natural character and amenity values of the coast (confirmed through specific landscape and visual assessment);
- ensuring continued public access to and along the coast, and offering a level of security that supports further investment to enhance public access (through sensitive engineering design, and Council’s reserves management role);
- minimising adverse effects on cultural and historic heritage values, and potentially offering greater protection of remaining archaeological sites in close proximity and ability to increase public appreciation of heritage in this area – both tangata whenua and colonial (confirmed through specific archaeological assessment and consultation with tangata whenua to-date);
- minimising impacts on coastal processes (confirmed through robust coastal processes modelling, engineering design, and beach nourishment mitigation);
- presenting an opportunity to enhance and improve recreation opportunity, as well as contributing to ongoing social (recreational) needs of the community (confirmed through specific recreation assessment);



- having only low to moderate effects on landscape and visual amenity (confirmed through specific landscape and visual assessment); and
- having only low impact on marine ecological functioning (confirmed through specific ecological assessment).

## APPENDIX G – Proposed Resource Consent Conditions

**HASTINGS DISTRICT COUNCIL – CLIFTON REVETMENT**  
**RECOMMENDED CONSENT CONDITIONS**

CONDITIONS

General

1. Unless modified by the conditions of this consent, the consent holder shall undertake all operations in general accordance with the plans and information supplied as part of the application for this resource consent, including the following:
  - a) “Proposed Overall Layout Plan (Drawing No. 3233367-CA-K002 Rev.A);
  - b) “Proposed Layout Plan” (Drawing No. 3233367-CA-K003 Rev.A);
  - c) “Existing and Proposed Contour Plan Sheet 1 of 2” (Drawing No. 3233367-CA-K004 Rev.A);
  - d) “Existing and Proposed Contour Plan Sheet 2 of 2” (Drawing No. 3233367-CA-K005 Rev.A);
  - e) “Typical Cross Sections Sheet 1 of 2” (Drawing No. 3233367-CA-K006 Rev.A);
  - f) “Typical Cross Sections Sheet 2 of 2” (Drawing No. 3233367-CA-K007 Rev.A); and
  - g) “Typical Details” (Drawing No. 3233367-CA-K008 Rev.A).
2. The material used for the rock revetment structure shall be natural rock material, which includes limestone, that is generally consistent (blends in) with the existing rock revetment material.
3. The consent holder shall ensure that any consultants and/or contractors engaged to undertake work authorised by this consent abide by the conditions of this consent. The person responsible for the work on site shall be familiar with the consent conditions and a copy of this consent shall be present on all work sites at all times while the work is being undertaken.

Pre-Construction Notification

4. The consent holder shall, at least 10 working days prior to commencing construction works:
  - a) Place a public notice in a newspaper with a circulation area that includes Clifton, Te Awanga and Haumoana; and
  - b) Erect and maintain in place for the duration of the construction works a sign near the end of Clifton Road, before the public car park area.
  - c) The public notice and sign required by Condition 5 a) and b) shall include, but not be limited to, the following information:
    - i. A description of the works that will occur pursuant to this resource consent;
    - ii. An estimation of the duration of works, including when works are likely to commence, the expected completion date, and the hours of works.
    - iii. Contact details to allow community members to place feedback and to gain updates of work status.
    - iv. Advice that public pedestrian access around the area of works, and around the structure once it is completed, is freely available through the Clifton Reserve.

5. The consent holder shall give the Council (Manager Resource Use) at least two working days' notice of the intention to commence any works authorised by this consent, and shall advise the Council (Manager Resource Use) in writing of having finished the works as soon as practicable following their completion.

#### Construction

6. The consent holder shall ensure that the site of works is managed to ensure the safety of the public, while ensuring that where practicable, public access is maintained along the beach and past the site of works.
7. The consent holder shall ensure that all reasonable measures are taken at the end of each working day to ensure that the work site does not present a safety risk to the public.
8. All vehicles used for the works shall follow the same tracked path as far as practicable to minimise the disturbance of the foreshore and seabed in the vicinity of the activities authorised by this consent.
9. All rocks used to construct the revetment shall be in a clean condition. If not already clean they shall be cleaned off-site, prior to being transported to the construction site.
10. All works shall occur on dry seabed and foreshore where practicable.
11. The consent holder shall construct the revetment using methods and materials non-toxic to aquatic life.
12. The consent holder shall take all practicable measures to limit the amount of sediment and prevent contaminants from entering the coastal marine area during the construction and maintenance works. Such measures include, but are not limited to:
  - a) The wash water from containers and tools shall not be discharged into the coastal marine area and the washing of equipment shall not occur in the coastal marine area or any other water body.
  - b) Refuelling and carrying out machinery maintenance shall not occur within the coastal marine area.
  - c) The bunding and containment of all refuelling and fuel storage areas so as to prevent the accidental spill of any such contaminants from entering the coastal marine area, any water bodies, or any stormwater drainage system.
13. If, for any cause (accidental or otherwise), contaminants associated with the consent holder's operations escape to water other than in conformity with the consent, the consent holder shall:
  - a) Immediately take all practicable steps to contain and then remove the contamination from the environment; and
  - b) Immediately notify the Council of the escape; and
  - c) Report to the Council, in writing and within 7 days, describing the manner and cause of the escape and steps taken to control it and prevent its reoccurrence.
14. The consent holder shall ensure that the natural profile of the beach embankment at each end of the revetment is reinstated as far as practicable at the completion of any construction works. This includes the repair of any tracks, holes, or spoils left by any machinery or other aspects of construction.
15. The consent holder shall ensure that the beach and foreshore is reinstated as far as is practical at the completion of any construction works.



16. The consent holder shall ensure that the construction and maintenance works are only undertaken between the hours of 7.00 am and 7.00 pm, Monday to Friday inclusive. No works shall be carried out on Saturdays, Sundays, public holidays or between 27 December and 15 January in any year.
17. In the event of any archaeological site, waahi tapu, taonga or koiwi being uncovered during the exercise of this consent, activities in the vicinity of the discovery shall cease. The consent holder shall contact the Council (Manager Resource Use) to obtain contact details of the relevant tangata whenua. The consent holder shall then consult with the relevant local hapu or marae and Heritage New Zealand Pouhere Taonga, and shall not recommence works in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga and tangata whenua approvals to damage, destroy or modify such sites have been obtained (see Advice Note 2).

#### Post-Construction Certification

18. Within 1 month of completion of works, the consent holder shall provide the Council (Manager Resource Use) with an accurate, to scale, 'as built' plan of the revetment structure, prepared by a registered professional surveyor.
19. Within 1 month of completion of works, a suitably qualified engineer who is experienced in coastal protection structure design and construction shall certify that the completed revetment structure has been constructed in accordance with the design requirements of Conditions 1, and a copy of this certification shall be provided to the Council (Manager Resource Use).

#### Erosion Monitoring and Reporting

20. Prior to construction commencing, the consent holder shall determine the position of the beach crest / erosive edge over a distance of at least 50 m west (down-drift) of where the western end of the structure will be located. The position of the beach crest / erosive edge position shall be determined by a registered professional surveyor, and shall be established relative to at least 10 surveyed reference points. These reference points shall be located so as to enable accurate determination of the beach crest / erosive edge position along the 50 m length.
21. The consent holder shall provide to the Council (Manager Resource Use) a plan (to scale) indicating the location of the beach crest / erosive edge and surveyed reference points, as required by Condition 20 prior to construction commencing.
22. The consent holder shall measure and determine the position of the beach crest / erosive edge relative to the established reference points within 50 m of the western end (down-drift) of the structure at least once during each of the months of March, June, September and December each year for the duration of consent. The frequency of the surveys shall be reviewed after 5 years.
23. The consent holder shall provide the Council (Manager Resource Use) a plan (to scale) indicating the location of the beach crest / erosive edge, determined in accordance with Condition 22, in comparison to the pre-construction beach crest / erosive edge location determined in accordance with Condition 20. This plan shall be provided to the Council (Manager Resource Use) within 7-days of the end of each of the months of March, June, September, and December each year.
24. The consent holder shall visually inspect the area 50 m west of the western end (down-drift) of the structure as soon as practicable after any significant swell events occur, and where it is reasonably evident that erosion has occurred within this area, the consent holder shall measure and determine the beach crest / erosive edge position relative to reference points established in accordance with Condition 20 and compared to the pre-construction beach crest / erosive edge position. This information shall be provided to the Council (Manager Resource Use) within 7-days of the end of the month in which the swell event occurred, or within 15 working days of the swell event occurring, whichever is later.

25. When monitoring undertaken in accordance with Conditions 22, 23 or 24 indicates that the western end (down-drift) beach crest / erosion edge has retreated landward by 5 metres or more (being the 'erosion trigger') from the position established in accordance with Condition 20, the consent holder shall:
- a) Notify the Council (Manager Resource Use) that the 'erosion trigger' has been reached, and state which of the options listed in i) below will be taken. This notice shall be provided to the Council (Manager Resource Use) within 5 working days of monitoring establishing that the erosion trigger has occurred; and shall:
    - i. Deposit gravel (that is similar sized material to the existing beach gravel) into the eroded area as necessary to mitigate erosion to the beach crest / erosive edge and continue to undertake this deposition as necessary to reduce the rate of any further erosion as far as practicable. Repair shall occur as soon as is reasonably practicable, and within 20 working days of the provision of notice in accordance with Condition 25 (a) and Condition 31; or
  - b) If erosion continues after actions undertaken in accordance with Condition 26(a)(i) so that it exceeds 10 metres inland from the position determined by Condition 20, the consent holder shall provide to the Council (Manager Resource Use), within two months of the erosion occurring, a report prepared by a suitably qualified registered professional coastal engineer detailing the cause of the erosion effects and recommending actions to be taken to mitigate or remedy those effects.
26. The 'erosion trigger' in Condition 25 may be reviewed two years after the commencement of this consent, taking into account the survey data collected from monitoring undertaken in accordance with Conditions 22, 23 and 24, and the volume of gravel deposited on the beach in accordance with Condition 25 a) i) over that time.
27. The consent holder shall engage a suitably qualified registered professional surveyor, experienced in beach profiling, to undertake a beach profile survey at the survey point 'HB1', as used by the Regional Council's coastal cross-section monitoring programme (see Advice Note 4). This profiling shall be undertaken once within one month of completion of construction, and then once every three months thereafter for 12 months (i.e. four occasions after the first post-construction survey and five occasions in total). The data shall be in a format that is compatible with the Council's coastal cross-section monitoring programme data, and shall be provided to the Council (Manager Resource Use) within 10 working days of the profile having been surveyed.

#### Repair and Maintenance of Revetment

28. The consent holder shall monitor the integrity of the structure and ensure that it is maintained. Any debris or displacement of rocks shall be removed or put back in place within the structure as soon as practicable.
29. Any repair and maintenance of the structure shall not alter the length, height or footprint of the structure, and shall be in accordance with the original design specifications of the structure, as specified in the documents specified in Condition 1 and the Civil Engineering Plans in Appendix 1.
30. The consent holder shall ensure that the foreshore is regularly inspected for any debris emanating from the structure (e.g. limestone rock litter), and ensure that this debris is removed from the foreshore as soon as reasonably practicable.
31. The consent holder shall deposit at least 600m<sup>3</sup>/year, and no more than 1000m<sup>3</sup>/year, of gravel (that is similar sized material to the existing beach gravel) on the beach near the structure to avoid, remedy or mitigate down-drift coastal erosion effects, provided that:
- a) Prior to the works being undertaken:

- i. The consent holder notifies the Council (Manager Resource Use) at least two working days prior to the works commencing to advise of the intention to undertake the works and the nature of these works; and
  - ii. The position of the beach crest / erosive edge is determined in accordance with Condition 20; and
- b) Within 10 working days of completion of the works, the consent holder shall provide the Council (Manager Resource Use) with:
- i. Confirmation of the amount of material deposited.
  - ii. Identification of the area in which the material was deposited.
  - iii. Confirmation of the source location of the deposited material.
  - iv. A plan (to scale) showing the location of the beach crest / erosive edge prior to the works being undertaken relative to established reference points.

#### **ADVICE NOTES**

1. A building consent for the structure will be required from Hastings District Council.
2. No archaeological sites, waahi tapu, taonga or koiwi may be damaged, destroyed or modified unless the necessary authorities pursuant to the New Zealand Pouhere Taonga Act 2014 have been obtained first.
3. The removal of structures must comply with the conditions of Rule 105 of the Regional Coastal Environment Plan to be a permitted activity, otherwise separate resource consents may be required to authorise this activity.
4. The Council currently undertakes an annual cross-section survey at 'HB1', usually in December – January. The Council uses Zorn Surveying Limited to undertake its coastal cross-section survey work, and the Council would recommend the use of this provider to ensure that the data derived from the surveying required by Condition 27 is compatible with the cross-sectional survey data generated as part of the Council's ongoing survey programme.

## HASTINGS DISTRICT COUNCIL – CLIFTON REVETMENT

### RECOMMENDED CONSENT CONDITIONS

#### GENERAL

1. Unless modified by conditions of this consent, the work shall proceed in accordance with the plans and information submitted in the application and assessment of environmental effects prepared by Sage Planning HB Limited, dated 7 August 2017 (Ref: Resource Consent RMA2017XXXX (TRIM XXXXX#XXXX), and in particular in accordance with the Civil Engineering Plans drawn by Beca Limited, dated 21 April 2017:
  - a) “Proposed Overall Layout Plan (Drawing No. 3233367-CA-K002 Rev.A);
  - b) “Proposed Layout Plan” (Drawing No. 3233367-CA-K003 Rev.A);
  - c) “Existing and Proposed Contour Plan Sheet 1 of 2” (Drawing No. 3233367-CA-K004 Rev.A);
  - d) “Existing and Proposed Contour Plan Sheet 2 of 2” (Drawing No. 3233367-CA-K005 Rev.A);
  - e) “Typical Cross Sections Sheet 1 of 2” (Drawing No. 3233367-CA-K006 Rev.A);
  - f) “Typical Cross Sections Sheet 2 of 2” (Drawing No. 3233367-CA-K007 Rev.A); and
  - g) “Typical Details” (Drawing No. 3233367-CA-K008 Rev.A).
2. The material used for the rock revetment structure shall be natural rock material, which includes limestone, that is generally consistent (blends in) with the existing rock revetment material.
3. The consent holder shall ensure that any consultants and/or contractors engaged to undertake work authorised by this consent abide by the conditions of this consent. A copy of this consent shall be present on all work sites at all times while the work is being undertaken.
4. The consent holder shall give the Environmental Consents Manager, Hastings District Council at least two working days' notice of the intention to commence any works authorised by this consent, and shall advise the Environmental Consents Manager, Hastings District Council of having finished the works within two working days following their completion.
5. One month after completion of the revetment authorised by this consent, the consent holder shall provide the Environmental Consents Manager, Hastings District Council with an as-built plan of the revetment that clearly shows the location and layout of the structure with specific dimensions, and a producer statement signed by a suitably qualified and experienced engineer stating the installation is in accordance with the as-built plan provided.
6. If a conflict arises between any conditions of this consent and the application documents, the conditions of this consent will prevail.

#### NOISE

7. All works shall be carried out to comply with the NZS6803: 1999 Acoustics Construction Noise or any superseding codes of practice or standards.



#### HOURS OR WORK

8. All works authorised by this consent shall only occur between the hours of 7.00am and 7.00pm, Monday to Friday inclusive. No works shall be carried out on Saturdays, Sundays, public holidays, Easter or between 27 December and 15 January in any year.

#### DUST

9. The consent holder shall ensure that measures are taken to suppress dust and particulate matter by the use of a water cart or similar at all times during construction and maintenance works.

#### LANDSCAPE PLANTING AND REVEGETATION

10. The consent holder shall ensure that at the completion of the works, any newly established surfaces and grassed slopes or vegetated areas above the line of MHWS that were cleared or damaged as a result of the activity, are revegetated as soon as practicable. Geotextile soil bags shall be interspersed between the rear face of the revetment and the access road edge and shall be planted with coastal creeper species, such as *Meuhlenbeckia complexa* (*Pohuehue*) and other species, to create a planted coverage of up to 50% of the landward face of the revetment.

#### ARCHAEOLOGICAL SITES AND DISCOVERY

11. In the event of any archaeological site, waahi tapu, taonga or koiwi being discovered during the works authorised by this consent, the consent holder shall immediately cease work at the affected site and secure the area. The consent holder shall then consult with the relevant local hapu or marae and Heritage New Zealand Pouhere Taonga, and shall not recommence works in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga archaeological authorities under the New Zealand Pouhere Taonga Act 2014 to damage, destroy or modify such sites have been obtained. See Advice Note 2.

#### ADVICE NOTES

1. A building consent for the revetment will be required from Hastings District Council.
2. No archaeological sites, waahi tapu, taonga or koiwi may be damaged, destroyed or modified unless the necessary authorities pursuant to the New Zealand Pouhere Taonga Act 2014 have been obtained first.

## APPENDIX H – Correspondence with Customary Marine Title Applicants

17 July 2017

Sent via email to: [evmunroe@gmail.com](mailto:evmunroe@gmail.com)

Our File Ref:HDC17001

Heretaunga Tamatea

Attention: Liz Munroe

Dear Liz,

**Hastings District Council Applications for Resource Consents - Clifton Beach Revetment, Hawke’s Bay**

I am a planning consultant engaged by Hastings District Council to prepare and lodge resource consent applications to Hastings District Council and Hawke’s Bay Regional Council for a proposed limestone revetment (seawall) and associated works at Clifton Beach in Hawke’s Bay. A description of the proposed activities for which consents are sought is attached to this letter.

In accordance with section 62 of the Marine and Coastal Area (Takutai Moana) Act 2011 (the Act), the purpose of this letter is to notify you, as an applicant for protected customary rights and customary marine title under the Act, of Hastings District Council’s intention to lodge the resource consent applications for the revetment, and to seek your views on the proposal.

A summary of resource consents required from Hastings District Council and Hawke’s Bay Regional Council for this proposal is provided in the following table:

SUMMARY OF RMA STATUS FOR ACTIVITIES REQUIRING CONSENT		
CONSENT AUTHORITY	ACTIVITY	RMA STATUS
Hastings District Council	Land use consent for the revetment that will not achieve the minimum setback distances for accessory buildings from boundaries in the Rural Zone. Land use consent for earthworks associated with constructing the revetment that will exceed the maximum volume for earthworks permitted in the Open Space Zone.	<b>Restricted Discretionary</b> Under Rules RZ15 and EM6 of the Proposed Hastings District Plan ((As Amended by Decisions on Submissions, dated September 2015)
Hawke’s Bay Regional Council	Discharge of solid contaminants (including cleanfill) onto or into land in the Coastal Margin that may enter water	<b>Restricted Discretionary</b> Under Rule 9 of the Hawke’s Bay Regional Coastal Environment Plan (made operative on 8 November 2014) (RCEP)
	Maintenance and repair of coastal protection structures in Coastal Hazard Zone 1 (CHZ1)	<b>Restricted Discretionary</b> Under Rules RZ15 and EM6 of the Proposed Hastings District Plan ((As

SUMMARY OF RMA STATUS FOR ACTIVITIES REQUIRING CONSENT	
	Amended by Decisions on Submissions, dated September 2015)
Coastal Protection Structures wholly or partly within CHZ1, including replacement, erection, placement, construction (including extension), demolition or removal of any coastal protection structure	<b>Non-Complying</b> Under Rule 100 of the RCEP
Deposition of sediment in volumes greater than 5m <sup>3</sup> per property in any six-consecutive month period CHZ1	<b>Restricted Discretionary</b> Under Rule 104 of the RCEP
Earthworks within CHZ1 in volumes greater than 5m <sup>3</sup> per property in any six-consecutive month period.	<b>Non-Complying</b> Under Rule 109 of the RCEP
Erection of a Coastal Protection Structure in the Coastal Marine Area (CMA) which is solid (or presents a significant barrier to water or sediment movement) and when established on the foreshore or seabed would extend 300m or more in length more or less parallel to the line of mean high water springs (including separate structures which total 300m or more contiguous).	<b>Non-Complying</b> Under Rule 125 of the RCEP
Disturbances of the foreshore or seabed not regulated by, or not complying with, other rules	<b>Discretionary</b> Under Rule 130 of the RCEP
Diversion and discharge of stormwater to the CMA	<b>Controlled</b> Under Rule 164 of the RCEP
Occupation of the CMA	<b>Discretionary</b> Under Rule 178 of the RCEP

In addition to the above resource consents, Hastings District Council is aware of a requirement for an archaeological authority (Type A General Authority) from Heritage New Zealand Pouhere Taonga which will need to be obtained, prior to the commencement of works associated with realigning an existing access road located behind the proposed revetment commence.

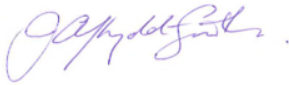
It is the Council's intention to lodge the applications in early August 2017. We would therefore appreciate receiving your views on the proposal by **Friday, 4 August 2017**. If we do not hear from you, we will assume that you do not wish to express any views.

We have been advised by Hastings District Council and Hawke's Bay Regional Council that it is most likely that the applications will be publicly notified. If so, there would likely be further opportunity for you to express any views through making a formal submission on the applications.



Please contact me if you have any questions relating to the proposal.

Yours sincerely



Janeen Kydd-Smith

**Director and Principal Planner**

Cc: John O'Shaughnessy, Group Manager Planning & Regulatory, Hastings District Council

ENC: Description of Proposed Activities

17 July 2017

Sent via email to: [gsharrock@rightlaw.nz](mailto:gsharrock@rightlaw.nz)

Our File Ref:HDC17001

Rihari Dargaville (for NZ Maori Council)  
C/- G Sharrock  
Rightlaw Limited  
11 Kaihu Street  
Northcote  
AUCKLAND 0627

Dear Sir,

**Hastings District Council Applications for Resource Consents - Clifton Beach Revetment, Hawke’s Bay**

I am a planning consultant engaged by Hastings District Council to prepare and lodge resource consent applications to Hastings District Council and Hawke’s Bay Regional Council for a proposed limestone revetment (seawall) and associated works at Clifton Beach in Hawke’s Bay. A description of the proposed activities for which consents are sought is attached to this letter.

In accordance with section 62 of the Marine and Coastal Area (Takutai Moana) Act 2011 (the Act), the purpose of this letter is to notify you, as an applicant for protected customary rights and customary marine title under the Act, of Hastings District Council’s intention to lodge the resource consent applications for the revetment, and to seek your views on the proposal.

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Hawke’s Bay Regional Council	Discharge of solid contaminants (including cleanfill) onto or into land in the Coastal Margin that may enter water	<b>Restricted Discretionary</b> Under Rule 9 of the Hawke’s Bay Regional Coastal Environment Plan (made operative on 8 November 2014) (RCEP)

**SUMMARY OF RMA STATUS FOR ACTIVITIES REQUIRING CONSENT**

Maintenance and repair of coastal protection structures in Coastal Hazard Zone 1 (CHZ1)	<b>Restricted Discretionary</b> Under Rules RZ15 and EM6 of the Proposed Hastings District Plan ((As Amended by Decisions on Submissions, dated September 2015)
Coastal Protection Structures wholly or partly within CHZ1, including replacement, erection, placement, construction (including extension), demolition or removal of any coastal protection structure	<b>Non-Complying</b> Under Rule 100 of the RCEP
Deposition of sediment in volumes greater than 5m <sup>3</sup> per property in any six-consecutive month period CHZ1	<b>Restricted Discretionary</b> Under Rule 104 of the RCEP
Earthworks within CHZ1 in volumes greater than 5m <sup>3</sup> per property in any six-consecutive month period.	<b>Non-Complying</b> Under Rule 109 of the RCEP
Erection of a Coastal Protection Structure in the Coastal Marine Area (CMA) which is solid (or presents a significant barrier to water or sediment movement) and when established on the foreshore or seabed would extend 300m or more in length more or less parallel to the line of mean high water springs (including separate structures which total 300m or more contiguous).	<b>Non-Complying</b> Under Rule 125 of the RCEP
Disturbances of the foreshore or seabed not regulated by, or not complying with, other rules	<b>Discretionary</b> Under Rule 130 of the RCEP
Diversion and discharge of stormwater to the CMA	<b>Controlled</b> Under Rule 164 of the RCEP
Occupation of the CMA	<b>Discretionary</b> Under Rule 178 of the RCEP

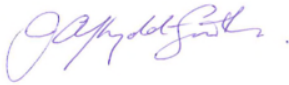
In addition to the above resource consents, Hastings District Council is aware of a requirement for an archaeological authority (Type A General Authority) from Heritage New Zealand Pouhere Taonga which will need to be obtained, prior to the commencement of works associated with realigning an existing access road located behind the proposed revetment commence.

It is the Council's intention to lodge the applications in early August 2017. We would therefore appreciate receiving your views on the proposal by **Friday, 4 August 2017**. If we do not hear from you, we will assume that you do not wish to express any views.

We have been advised by Hastings District Council and Hawke's Bay Regional Council that it is most likely that the applications will be publicly notified. If so, there would likely be further opportunity for you to express any views through making a formal submission on the applications.

Please contact me if you have any questions relating to the proposal.

Yours sincerely



Janeen Kydd-Smith

**Director and Principal Planner**

Cc: John O'Shaughnessy, Group Manager Planning & Regulatory, Hastings District Council

ENC: Description of Proposed Activities



## Janeen Kydd-Smith

---

**From:** Peter Mihaere <pr.mihaere@gmail.com>  
**Sent:** Sunday, 23 July 2017 11:49 p.m.  
**To:** Janeen Kydd-Smith  
**Subject:** Re: Hastings District Council Applications for Resource Cons Clifton Beach Revetment, Hawke's Bay

Kia ora Janeen,

Thank you for including me into your conversation, so don't take it personally when I support the hapu-iwi 100%. You need on going interaction with the hapu, make sure that they are always included. What is the walls main function?, will it compromise the reef, is the wall compatible to the reef?, what contamination prevention is in place? What responsibility & liability does the Hastings District Council & other groups involved have if a disaster occurred? I'm sure these questions & more would have circulated to all interested parties.

Our river when in flood pushes out to Tangaroa 250 nautical miles over the trench, fault line. Within this area that borders from Pahuwera boundary, Potutu stream to Mahia - Waikokopu stream have been a main manamoana resource, well before the act. What was a normal fishing right has been compromised, limited etc. The rest of our customary waters have now been turned to commercial interest, enforced by the act 2011. Those are a few key issues that disadvantage Maori but empowers over seas commercial investors. Yes we have major concerns & issues about the process.

Good luck to your process. Kia kaha for the journey. I hope this helps you guys.

Nga mihi

Peter Mihaere, ( interim, chairman for, [tewairoatapokoracluster1@yahoo.com](mailto:tewairoatapokoracluster1@yahoo.com)).

Hi Peter,

Please find attached, a letter notifying and seeking the views of Te Aitanga a Puta and Ngati Kurupakia e Ngai Tauria (as an applicant for protected customary rights and customary marine title) on Hastings District Council's proposal to lodge resource consent applications for a revetment (seawall) at Clifton Beach in Hawke's Bay, in accordance with section 62 of the Marine and Coastal Area (Takutai Moana) Act 2011 (the Act).

Kind regards,

Janeen Kydd-Smith



*Janeen Kydd-Smith BA, MRRP, Accredited Commissioner (Chair Endorsement) MfE 'Making Good Decisions Programme'*

*Principal Planner/Director, Sage Planning*

*Ph: (021) 511 833*

*68 Dickens Street, Civic Court, Napier 4110*

Visit us online [www.sageplanning.co.nz](http://www.sageplanning.co.nz)

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17 July 2017

Sent via email to: [Pr.mihaere@gmail.com](mailto:Pr.mihaere@gmail.com)

Our File Ref:HDC17001

Te Aitanga a Puta & Ngati Kurupakia e Ngai Taurira

Attention: Peter Riki Mihaere

Dear Peter,

**Hastings District Council Applications for Resource Consents - Clifton Beach Revetment, Hawke's Bay**

I am a planning consultant engaged by Hastings District Council to prepare and lodge resource consent applications to Hastings District Council and Hawke's Bay Regional Council for a proposed limestone revetment (seawall) and associated works at Clifton Beach in Hawke's Bay. A description of the proposed activities for which consents are sought is attached to this letter.

In accordance with section 62 of the Marine and Coastal Area (Takutai Moana) Act 2011 (the Act), the purpose of this letter is to notify you, as an applicant for protected customary rights and customary marine title under the Act, of Hastings District Council's intention to lodge the resource consent applications for the revetment, and to seek your views on the proposal.

A summary of resource consents required from Hastings District Council and Hawke's Bay Regional Council for this proposal is provided in the following table:

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Disturbances of the foreshore or seabed not regulated by, or not complying with, other rules	<b>Discretionary</b> Under Rule 130 of the RCEP
Diversion and discharge of stormwater to the CMA	<b>Controlled</b> Under Rule 164 of the RCEP
Occupation of the CMA	<b>Discretionary</b> Under Rule 178 of the RCEP

In addition to the above resource consents, Hastings District Council is aware of a requirement for an archaeological authority (Type A General Authority) from Heritage New Zealand Pouhere Taonga which will need to be obtained, prior to the commencement of works associated with realigning an existing access road located behind the proposed revetment commence.


It is the Council's intention to lodge the applications in early August 2017. We would therefore appreciate receiving your views on the proposal by **Friday, 4 August 2017**. If we do not hear from you, we will assume that you do not wish to express any views.

We have been advised by Hastings District Council and Hawke's Bay Regional Council that it is most likely that the applications will be publicly notified. If so, there would likely be further opportunity for you to express any views through making a formal submission on the applications.



Please contact me if you have any questions relating to the proposal.

Yours sincerely



Janeen Kydd-Smith

**Director and Principal Planner**

Cc: John O'Shaughnessy, Group Manager Planning & Regulatory, Hastings District Council

ENC: Description of Proposed Activities

Hastings District Council  
Clifton Revetment (Seawall)  
Description of Proposed Activities

Introduction

Hastings District Council is seeking resource consents from Hastings District Council and Hawke’s Bay Regional Council to upgrade an existing 80 metre limestone rock revetment (constructed in 2013) and to construct a new 400 metre limestone rock revetment (extending west, from the existing revetment) at Clifton Beach, to protect an existing access road that runs to the east from the end of Clifton Road, parallel to the beach, over private land (Clifton Station), to the Clifton No.1 Camp (“the Clifton Camp”), Clifton Marine Club and boat ramp which are located within the Clifton Domain. The proposed works include realigning the access road further inland (within Clifton Station) by up to 5 metres.

The Clifton Domain is public land and is a recreation reserve managed by Hastings District Council (HDC) and leased to the Clifton Reserve Society. The Clifton Reserve Society subleases part of the reserve to the Clifton Marine Club.

The general location of the proposed revetment is shown in Figure 1.



Figure 1: General Location of Proposed Revetment

The Clifton Domain has been subject to ongoing and significant shoreline retreat over many years and consequently, access to the Camp and Reserve has become particularly difficult and at risk. The access road was relocated three times between 2009 and 2013, and more recently (as the result of damage from a sea storm in late June 2017) the access has needed to be temporarily relocated further inland, within the historic Clifton Homestead property, to restore safe access to the Clifton Camp, Clifton Marine Club and boat ramp.

In 2013, a short section of seawall (80 metres long) was constructed by HDC at Clifton Beach from large limestone boulders supplied from the local Waimarama quarry, to provide temporary protection to part of the access road and a toilet block near the Clifton Camp. The resource consent for the seawall will expire on 31 August 2018.

It is proposed that the existing seawall will be upgraded and the new revetment constructed from the edge of the existing seawall, extending west to the front of the Clifton Café (at the end of Clifton Road). The revetment is intended to maintain and protect access to the Clifton Camp and boat ramp over the next 35 years.

## Description of the Proposed Activities

### Limestone Revetment

It is proposed to construct a new 400 metre limestone rock revetment along the shoreline at Clifton Beach, commencing at the western end of an existing 80 metre revetment, and ending in front of the Clifton Café (refer to Figures 2 and 3 and the attached Engineering Drawings). The revetment will be generally parallel to the RL 11.0m contour at its toe, will be at least 3m wide at its crest and approximately 15m wide at its typical cross section, and it will be RL 15.0m high. The westernmost end of the revetment will be rounded, so that it 'ties back' into the beach area.

The toe of the revetment will be subject to scour, therefore, it is intended to minimise the loss of revetment rock by burying the toe of the revetment to approximately 2 metres below the surface of the beach to a layer of papa rock located at around Mean High Water Springs, which is assumed to be present over 50% of the length of the revetment.

For the existing revetment, it is proposed that another layer of 1.0m rock will be placed on top of the revetment to improve its integrity for the proposed 35-year consent term applied for.

To ensure that the wave environment will minimally dislodge the limestone rock armour, the average rock size used to construct the revetment will be 1m thick. If a smaller rock size is used, displacement of the armour rock can be expected. Additionally, the rock will be angular to facilitate interlocking and discourage armour stone from being dislodged from the revetment. The revetment will be 1.8m thick.

It is proposed that the rock size (as detailed in the engineering drawings attached) will be limited to ensure that the revetment retains a human scale to its formation and reflects the surrounding structures and scale of the beach environment. It is also proposed to vary the rock sizes used, where practicable, so they decrease at the top/crest and rear slope of the revetment to create an improved recreational interface between the revetment and the road, which will also be used by pedestrians.

The limestone rock armour will require ongoing monitoring and maintenance. Details relating to the construction and maintenance of the revetment are provided further below.





## Revetment Construction

The construction of the revetment is predicted to take approximately 4 months. Access to the site will be via Clifton Road. The project will require excavation of the foreshore and underlying papa rock layer to form a sound base upon which the revetment can be built, which is take place as the tidal conditions allow. Sand may be used to form a compacted subgrade, if necessary. Geotextile fabric and filter layer rock armour will be laid on top. The limestone rock armour will be stacked to provide for adequate inter-locking and to dissuade displacement of the rocks. Rock armour placement will be done from the foreshore, however the upper portion of the rock armour may be completed from the access road.

The revetment construction will take place progressively, with foundations laid during low tide and upper portions completed at high tide. The revetment will be constructed in 5m-15m long segments to minimise the risk of foundation exposure.

Rock will be inspected for various factors including cleanliness, quality, size conformity, etc. at the local quarries where it will be sourced, rather than at the construction site, to reduce disturbances. The materials will then be transported by trucks to the construction site and used immediately. Overall, about 9000m<sup>3</sup> of rock will be required. Assuming an average truck load of 10m<sup>3</sup> per truck, the project will require 900 truckloads (about 15 trucks per day on average).

As there is a lack of space in the area for laydown areas for depositing the rock brought to site, small volumes of rock will need to be imported and used immediately, rather than forming significant stockpiles.

Lastly, the works will be undertaken outside the main summer holiday period and Easter to avoid high use periods. Works will be undertaken between the hours of 7:00am and 7:00pm, Monday to Friday, tide permitting. All construction will be undertaken to comply with the Construction Noise Standard NZS6803:1999 to avoid adversely affecting residents of neighbouring dwellings.

The main plant to be used on site will be a hydraulic excavator to form the subgrade and place the rock material.

All plant working on the foreshore will have an oil spill kit and operators will be trained in their use. Sediment and erosion control measures will be put in place to ensure that all works achieve the relevant principles and practices for 'Erosion and Sediment Control' and 'Works in Waterways' set out in the HBRC's "Hawke's Bay Waterway Guidelines" (dated April 2009).

All plant refuelling will take place on land away from the foreshore and any surface waterbodies. All construction equipment, machinery and any debris or excess construction materials will be removed from the construction sites at the completion of the works.

## Revetment Maintenance

Although the revetment is expected to last 20 years before any significant maintenance would be necessary, the actual design life of the structure is dependent on the level of maintenance and the frequency of significant storms. With proper maintenance, a design life of 50 years or more is anticipated.

Regular annual inspections, as well as inspections after significant storms occurring during high tide, are proposed. These inspections may find that periodic replacement of dislodged rocks may be necessary.

It is anticipated that the requirements for the maintenance of the rock revetments will be met through HBRC imposing resource consent conditions to this effect.

## Beach Renourishment

As mitigation for the proposed revetment, the beach may require periodic renourishment, due to the impoundment of an estimated 600m<sup>3</sup>/year of beach gravel associated with the proposed revetment. It is proposed that an

allowance of up to 1000m<sup>3</sup>/year of gravel will be made available for beach renourishment, with the actual amount to be determined through site monitoring.

It is proposed that the timing of the replenishment will be determined through 6 monthly monitoring (or after sea storms) with the aim of placing the gravel on the beach within 2 months of exceeding a threshold limit. It would be preferable for renourishment to take place in winter.

The renourishment gravel will be sourced to have a similar sized material as the existing beach gravel. The gravel will be delivered to the site by truck and dumped on the beach. A small blade machine will be used to spread the material to make up the deficient caused by the downdrift erosion. Some overfilling of the deficient will be allowed for.

### Access Road

As part of constructing the revetment, it is proposed to construct a new access road behind (landwards of) the revetment, between the carpark area at the end of Clifton Road and the Clifton Camp. The new road will be located up to 5 metres inland from its current, formed alignment.

The road will be 5 metres wide and will include two, 2m-wide vehicle passing bays: one bay will be located approximately 69 metres from the western end of the revetment; and the other bay will be approximately 140 metres eastwards from the first passing bay. It is proposed that the road will be wide enough to facilitate the movement of vehicles, pedestrians and cyclists<sup>2</sup> (Figure 4 that shows a cross-section of the revetment, road and passing bay).

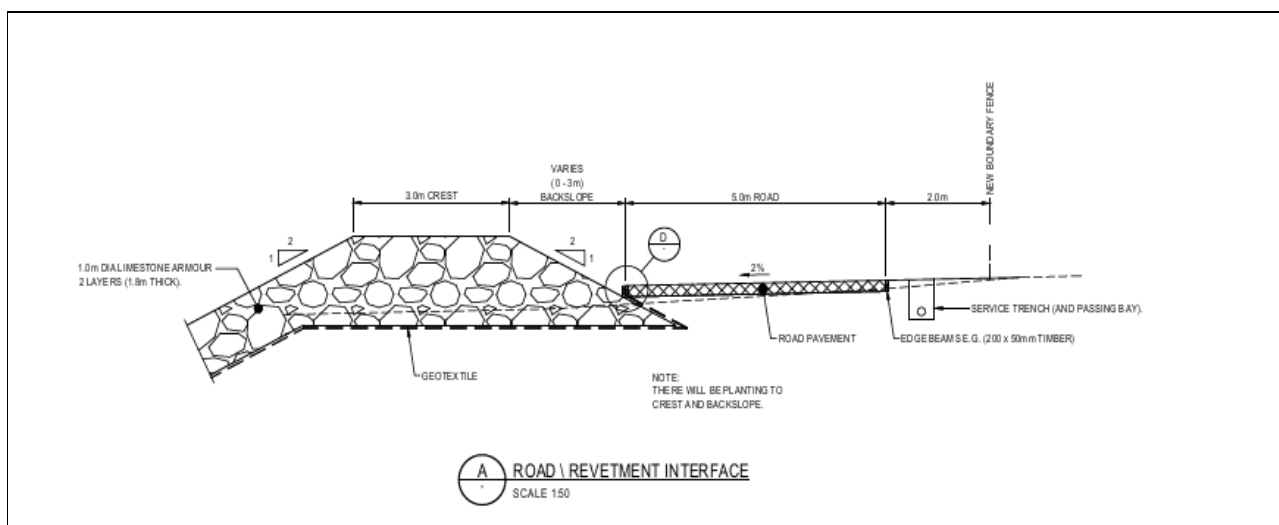


Figure 4: Cross-section of Revetment, Road and Passing Bay<sup>3</sup>

It is proposed to raise the level of the road (from the existing road/ground levels) so that it is level with the crest of the revetment for as long as possible, before gently sloping down towards the Clifton Camp. This is intended to enhance amenity values by retaining ocean views from the road. To construct the road (and elevate it) it will be necessary to place cleanfill material beneath the road surface.

It is also proposed to demolish the toilet block near the existing revetment close to the Clifton Camp.

<sup>2</sup> No separate pedestrian/cycle path will be provided within the access road corridor.

<sup>3</sup> Source: 'Typical Details', Civil Engineering Drawing No.323367-CA-K008 Rev A attached to this letter.

Some existing small piped culverts that run under the existing access road will need to be replaced as part of constructing the new road.

It is proposed that a 'flush edge' will be created along the edge of the road seal (e.g. using 200mm x 50mm timber) and that a 0.5m planted area will be created between the road edge and the revetment slope by placing geotextile soil bags in the gap between the road side and the revetment and planting them with coastal creeper species, such as *Meuhlenbeckia complexa* (Pohuehue) and other species. The intention is to create a planted coverage of up to 50% of the landward face of the revetment (refer to Figure 5).

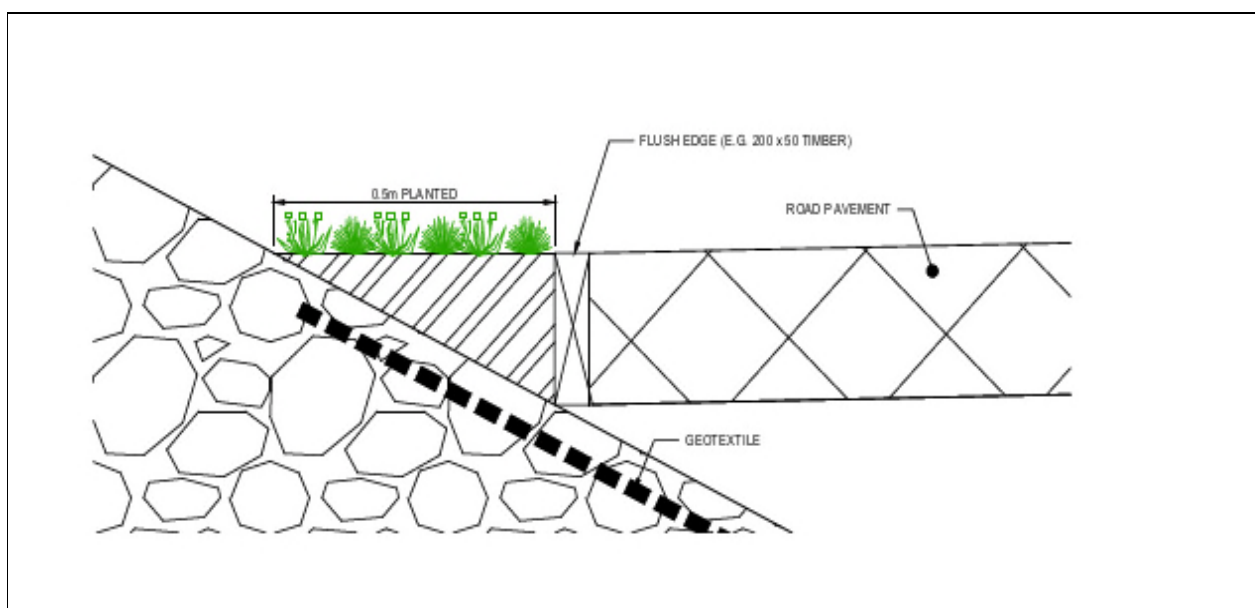


Figure 5: Flush Edge Detail and Planting<sup>4</sup>

## Beach Access Ramp

In addition to the revetment and access road, it is also proposed to construct a concrete beach access ramp (approximately 25 metres long and 5 metres wide) on the foreshore at the end of Clifton Road, which will be tied in to the existing seal at the end of Clifton Road, the western end of the revetment, and to the underlying papa rock on the foreshore. The ramp will slope at 1:7 to facilitate vehicle access to the beach, particularly for vehicles travelling to/from Cape Kidnappers associated with Gannett Beach Adventures. The ramp will have a roughened surface and will fall below the beach surface for approximately half its length at its seaward end.

## Other Potential Access and Amenity Improvements

While not forming part of the activities for which resource consent is sought, the proposed revetment and associated new access road will provide an opportunity for the area to be made more attractive to visitors through the enhancement of the entrance to the access road with coordinated signage and messaging, the formalisation of access points to the beach at each end of the revetment, and other amenity improvements, such as the provision of seating and street furniture.

Recently, Hastings District Council released a Draft Cape Coast Reserves Management Plan (the Plan) for public consultation pursuant to the Reserves Act 1977, which covers 10 reserves located in the Haumoana, Te Awanga and Clifton area. The purpose of the Plan is to provide the Council with a clear framework for the day-to-day management and decision making for the Cape Coast reserves for the duration of the Plan (10 years). For the Clifton

<sup>4</sup> Source: 'Typical Details', Civil Engineering Drawing No.323367-CA-K008 Rev A attached to this letter.

Reserve, the Plan recognises that *'the end of Clifton Road is the closest point to Cape Kidnappers and for many people a stopping point. The location of the Clifton camps, the café and gannet tours would suggest that the road end/beach front would benefit from being enhanced for visitor enjoyment. Seating, walking, picnic and information areas would all enhance this reserve.'*

A draft concept development plan has been produced for the Clifton Domain as part of the Plan. The concept focusses future development at the Clifton Road carpark end and notes potential for a long-term revetment along this section of coast (the subject of this assessment). The Plan has been publicly notified, with submissions closing on 28 July 2017, so it is likely that the concept may change as the Plan progresses. However, the Plan provides a potential opportunity for further works to be undertaken (in addition to the revetment, access road and beach access ramp) that would enhance the amenity and visitor enjoyment of the Clifton Domain.

It is noted that Rule 89 of the Hawke's Bay Regional Coastal Environment Plan (RCEP) permits minor land uses in the Coastal Hazard Zone 1 (where the revetment and proposed road will be located), including: the maintenance, repair, construction, upgrading, replacement, removal or demolition of cycleways, pathways, boardwalks, interpretive and directional signs, fencing, pedestrian stiles, gates, bollards, seating, picnic tables, barbeques, play equipment, public toilet and changing facilities, rubbish/recycling bins and public car parks. However, the construction of decks and other uncovered outdoor entertaining structures greater than 30m<sup>2</sup> in floor area would require Non-Complying Activity resource consent under Rule 102 of the RCEP.

### Duration of Resource Consents

For the land use consent application to Hastings District Council, an unlimited consent duration will be requested (as per section 123(b) of the RMA).

For the applications to Hawke's Bay Regional Council, a consent duration of 35 years will be requested (as per sections 123(c) and 123(d) of the RMA). This duration is considered appropriate as it is anticipated that the proposed rock revetment will, with proper maintenance, have a design life of 50 years.

### Archaeological Authority

An archaeological assessment undertaken for the project (by Opus International Consultants Ltd) has identified several archeological sites in the vicinity of the proposed revetment that are indicative of an area of intense Maori occupation. The current access road cuts through a recorded archaeological site (W21/176) comprising three borrow pits and several house-sites to the east of the borrow pits (NB: the house sites are no longer visible on the surface, although this does not preclude the survival of sub-surface features or materials of archaeological value).

There are an additional six recorded archaeological sites within approximately 800 metres of the proposed works. These include: pā site W21/ 15 (ca. 130 m); pit site W21/14 (ca. 215 m); open settlement W21/17 (ca. 320 m); pā W21/4 (ca. 540 m); pā W21/165 (ca. 770 m); historic settlement W21/21 (ca. 820 m) (refer to Figure 6).

The Archaeologist considers that, given the limited corridor of proposed work and the presence of a recorded archaeological site within the proposed work corridor, it is unlikely that unrecorded archaeological sites will be encountered. However, it is likely that subsurface features and materials associated with W21/176 will be encountered and, given the coastal location, koiwi tangata might also be encountered.

On the basis of the findings of the assessment, the Archaeologist recommends the following:

- That an application to Heritage New Zealand Pouhere Taonga be made for an archaeological authority (Type A General Authority);
- That consultation is undertaken with Iwi to support such an application; and
- That a Site Instruction be prepared to support the authority application as per HNZPT guidelines.





Figure 7: Map Showing Location of Archaeological Sites in the Vicinity of the Proposed Revetment

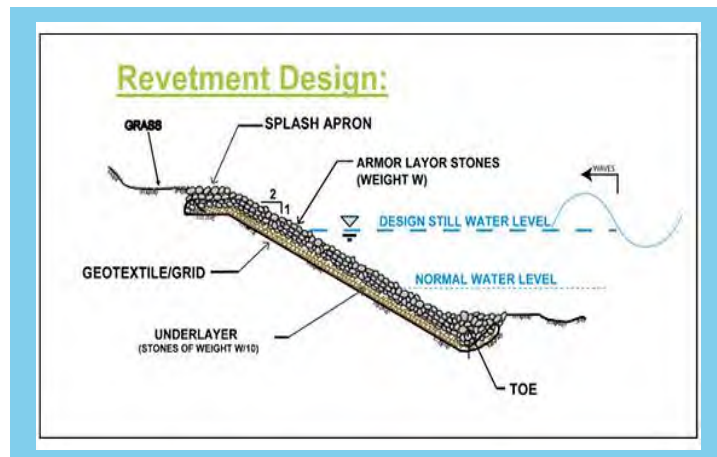
## Consultation with Iwi and Hapu

Hastings District Council’s planning consultant and archaeologist met with Marei Apatu from Te Taiwhenua o Heretaunga on 2 May 2017, to discuss the proposal and the archaeological authority application. Marei advised that HDC should consult with Matahiwi Marae, as the relevant hapu.

Hastings District Council officers and the Council’s planning consultant and archaeologist met with the Matahiwi Marae Committee on 7 May 2017 and 2 July 2017, to inform the Committee and seek their feedback on the proposed resource consent and archaeological authority applications. The Committee requested that a protocol be developed for the archaeological authority, similar to the one the Marae had with forestry companies for harvesting in the areas around Cape Kidnappers. The Committee advised that they were more interested in the archeological authority process than the resource consent applications.

## Appendix B

# Engineering Drawings



## APPENDIX I – Relevant Objectives and Policies of Statutory Planning Documents

## HDC CLIFTON REVETMENT

### OVERVIEW OF RELEVANT NEW ZEALAND COASTAL POLICY STATEMENT 2010 (NZCPS)

#### OBJECTIVES AND POLICIES

The specific objectives and policies in the NZCPS that are relevant to the Clifton Revetment are set out below.

#### **Objectives**

The NZCPS includes seven objectives. It is considered that Objectives 1-6 are relevant to the proposed revetment.

##### **Objective 1**

*To safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas, estuaries, dunes and land, by:*

- *maintaining or enhancing natural biological and physical processes in the coastal environment and recognising their dynamic, complex and interdependent nature;*
- *protecting representative or significant natural ecosystems and sites of biological importance and maintaining the diversity of New Zealand's indigenous coastal flora and fauna; and*
- *maintaining coastal water quality, and enhancing it where it has deteriorated from what would otherwise be its natural condition, with significant adverse effects on ecology and habitat, because of discharges associated with human activity.*

##### **Objective 2**

*To preserve the natural character of the coastal environment and protect natural features and landscape values through:*

- *recognising the characteristics and qualities that contribute to natural character, natural features and landscape values and their location and distribution;*
- *identifying those areas where various forms of subdivision, use, and development would be inappropriate and protecting them from such activities; and*
- *encouraging restoration of the coastal environment.*

##### **Objective 3**

*To take account of the principles of the Treaty of Waitangi, recognise the role of tangata whenua as kaitiaki and provide for tangata whenua involvement in management of the coastal environment by:*

- *recognising the ongoing and enduring relationship of tangata whenua over their lands, rohe and resources;*
- *promoting meaningful relationships and interactions between tangata whenua and persons exercising functions and powers under the Act;*
- *incorporating mātauranga Māori into sustainable management practices; and*
- *recognising and protecting characteristics of the coastal environment that are of special value to tangata whenua.*

##### **Objective 4**

*To maintain and enhance the public open space qualities and recreation opportunities of the coastal environment by:*

- *recognising that the coastal marine area is an extensive area of public space for the public to use and enjoy;*

- *maintaining and enhancing public walking access to and along the coastal marine area without charge, and where there are exceptional reasons that mean this is not practicable providing alternative linking access close to the coastal marine area; and*
- *recognising the potential for coastal processes, including those likely to be affected by climate change, to restrict access to the coastal environment and the need to ensure that public access is maintained even when the coastal marine area advances inland.*

#### **Objective 5**

*To ensure that coastal hazard risks taking account of climate change, are managed by:*

- *locating new development away from areas prone to such risks;*
- *considering responses, including managed retreat, for existing development in this situation; and*
- *protecting or restoring natural defences to coastal hazards.*

#### **Objective 6**

*To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use, and development, recognising that:*

- *the protection of the values of the coastal environment does not preclude use and development in appropriate places and forms, and within appropriate limits;*
- *some uses and developments which depend upon the use of natural and physical resources in the coastal environment are important to the social, economic and cultural wellbeing of people and communities;*
- *functionally some uses and developments can only be located on the coast or in the coastal marine area;*
- *the coastal environment contains renewable energy resources of significant value;*
- *the protection of habitats of living marine resources contributes to the social, economic and cultural wellbeing of people and communities;*
- *the potential to protect, use, and develop natural and physical resources in the coastal marine area should not be compromised by activities on land;*
- *the proportion of the coastal marine area under any formal protection is small and therefore management under the Act is an important means by which the natural resources of the coastal marine area can be protected; and*
- *historic heritage in the coastal environment is extensive but not fully known, and vulnerable to loss or damage from inappropriate subdivision, use, and development.*

## **Policies**

The NZCPS includes 29 policies. Policies 2, 6, 11, 13, 15, 17-19, 27 and 29 are considered relevant to this application.

#### **Policy 2 The Treaty of Waitangi, tangata whenua and Māori heritage**

*In taking account of the principles of the Treaty of Waitangi (Te Tiriti o Waitangi), and kaitiakitanga, in relation to the coastal environment:*

- recognise that tangata whenua have traditional and continuing cultural relationships with areas of the coastal environment, including places where they have lived and fished for generations;*
- involve iwi authorities or hapū on behalf of tangata whenua in the preparation of regional policy statements, and plans, by undertaking effective consultation with tangata whenua; with such consultation to be early, meaningful, and as far as practicable in accordance with tikanga Māori;*
- with the consent of tangata whenua and as far as practicable in accordance with tikanga Māori, incorporate mātauranga Māori<sup>1</sup> in regional policy statements, in plans, and in the consideration of applications for resource consents, notices of requirement for designation and private plan changes;*
- provide opportunities in appropriate circumstances for Māori involvement in decision making, for example when a consent application or notice of requirement is dealing with cultural localities or*



- issues of cultural significance, and Māori experts, including pūkenga<sup>2</sup>, may have knowledge not otherwise available;
- (e) take into account any relevant iwi resource management plan and any other relevant planning document recognised by the appropriate iwi authority or hapū and lodged with the council, to the extent that its content has a bearing on resource management issues in the region or district; and
    - (i) where appropriate incorporate references to, or material from, iwi resource management plans in regional policy statements and in plans; and
    - (ii) consider providing practical assistance to iwi or hapū who have indicated a wish to develop iwi resource management plans;
  - (f) provide for opportunities for tangata whenua to exercise kaitiakitanga over waters, forests, lands, and fisheries in the coastal environment through such measures as:
    - (i) bringing cultural understanding to monitoring of natural resources;
    - (ii) providing appropriate methods for the management, maintenance and protection of the taonga of tangata whenua;
    - (iii) having regard to regulations, rules or bylaws relating to ensuring sustainability of fisheries resources such as taiāpure, mahinga mātaītai or other non commercial Māori customary fishing; and
  - (g) in consultation and collaboration with tangata whenua, working as far as practicable in accordance with tikanga Māori, and recognising that tangata whenua have the right to choose not to identify places or values of historic, cultural or spiritual significance or special value:
    - (i) recognise the importance of Māori cultural and heritage values through such methods as historic heritage, landscape and cultural impact assessments; and
    - (ii) provide for the identification, assessment, protection and management of areas or sites of significance or special value to Māori, including by historic analysis and archaeological survey and the development of methods such as alert layers and predictive methodologies for identifying areas of high potential for undiscovered Māori heritage, for example coastal pā or fishing villages.

**Policy 6 Activities in the coastal environment**

- (1) In relation to the coastal environment:
  - (a) recognise that the provision of infrastructure, the supply and transport of energy including the generation and transmission of electricity, and the extraction of minerals are activities important to the social, economic and cultural well-being of people and communities;
  - (b) consider the rate at which built development and the associated public infrastructure should be enabled to provide for the reasonably foreseeable needs of population growth without compromising the other values of the coastal environment;
  - (c) encourage the consolidation of existing coastal settlements and urban areas where this will contribute to the avoidance or mitigation of sprawling or sporadic patterns of settlement and urban growth;
  - (d) recognise tangata whenua needs for papakāinga<sup>3</sup>, marae and associated developments and make appropriate provision for them;
  - (e) consider where and how built development on land should be controlled so that it does not compromise activities of national or regional importance that have a functional need to locate and operate in the coastal marine area;
  - (f) consider where development that maintains the character of the existing built environment should be encouraged, and where development resulting in a change in character would be acceptable;
  - (g) take into account the potential of renewable resources in the coastal environment, such as energy from wind, waves, currents and tides, to meet the reasonably foreseeable needs of future generations;
  - (h) consider how adverse visual impacts of development can be avoided in areas sensitive to such effects, such as headlands and prominent ridgelines, and as far as practicable and reasonable apply controls or conditions to avoid those effects;

- (i) *set back development from the coastal marine area and other water bodies, where practicable and reasonable, to protect the natural character, open space, public access and amenity values of the coastal environment; and*
  - (j) *where appropriate, buffer areas and sites of significant indigenous biological diversity, or historic heritage value.*
- (2) *Additionally, in relation to the coastal marine area:*
- (a) *recognise potential contributions to the social, economic and cultural wellbeing of people and communities from use and development of the coastal marine area, including the potential for renewable marine energy to contribute to meeting the energy needs of future generations;*
  - (b) *recognise the need to maintain and enhance the public open space and recreation qualities and values of the coastal marine area;*
  - (c) *recognise that there are activities that have a functional need to be located in the coastal marine area, and provide for those activities in appropriate places;*
  - (d) *recognise that activities that do not have a functional need for location in the coastal marine area generally should not be located there; and*
  - (e) *promote the efficient use of occupied space, including by:*
    - (i) *requiring that structures be made available for public or multiple use wherever reasonable and practicable;*
    - (ii) *requiring the removal of any abandoned or redundant structure that has no heritage, amenity or reuse value; and*
    - (iii) *considering whether consent conditions should be applied to ensure that space occupied for an activity is used for that purpose effectively and without unreasonable delay.*

**Policy 11 Indigenous biological diversity (biodiversity)**

*To protect indigenous biological diversity in the coastal environment:*

- (a) *avoid adverse effects of activities on:*
  - (i) *indigenous taxa<sup>4</sup> that are listed as threatened<sup>5</sup> or at risk in the New Zealand Threat Classification System lists;*
  - (ii) *taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened;*
  - (iii) *indigenous ecosystems and vegetation types that are threatened in the coastal environment, or are naturally rare<sup>6</sup> ;*
  - (iv) *habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare;*
  - (v) *areas containing nationally significant examples of indigenous community types; and*
  - (vi) *areas set aside for full or partial protection of indigenous biological diversity under other legislation; and*
- (b) *avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on:*
  - (i) *areas of predominantly indigenous vegetation in the coastal environment;*
  - (ii) *habitats in the coastal environment that are important during the vulnerable life stages of indigenous species;*
  - (iii) *indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass and saltmarsh;*
  - (iv) *habitats of indigenous species in the coastal environment that are important for recreational, commercial, traditional or cultural purposes;*
  - (v) *habitats, including areas and routes, important to migratory species; and*
  - (vi) *ecological corridors, and areas important for linking or maintaining biological values identified under this policy.*

**Policy 13 Preservation of natural character**

(1) *To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development:*

- (a) *avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and*

- (b) *avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment; including by:*
  - (c) *assessing the natural character of the coastal environment of the region or district, by mapping or otherwise identifying at least areas of high natural character; and*
  - (d) *ensuring that regional policy statements, and plans, identify areas where preserving natural character requires objectives, policies and rules, and include those provisions.*
- (2) *Recognise that natural character is not the same as natural features and landscapes or amenity values and may include matters such as:*
- (a) *natural elements, processes and patterns;*
  - (b) *biophysical, ecological, geological and geomorphological aspects;*
  - (c) *natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks;*
  - (d) *the natural movement of water and sediment;*
  - (e) *the natural darkness of the night sky;*
  - (f) *places or areas that are wild or scenic;*
  - (g) *a range of natural character from pristine to modified; and*
  - (h) *experiential attributes, including the sounds and smell of the sea; and their context or setting.*

**Policy 15 Natural features and natural landscapes**

*To protect the natural features and natural landscapes (including seascapes) of the coastal environment from inappropriate subdivision, use, and development:*

- (a) *avoid adverse effects of activities on outstanding natural features and outstanding natural landscapes in the coastal environment; and*
- (b) *avoid significant adverse effects and avoid, remedy, or mitigate other adverse effects of activities on other natural features and natural landscapes in the coastal environment; including by:*
- (c) *identifying and assessing the natural features and natural landscapes of the coastal environment of the region or district, at minimum by land typing, soil characterisation and landscape characterisation and having regard to:*
  - (i) *natural science factors, including geological, topographical, ecological and dynamic components;*
  - (ii) *the presence of water including in seas, lakes, rivers and streams;*
  - (iii) *legibility or expressiveness—how obviously the feature or landscape demonstrates its formative processes;*
  - (iv) *aesthetic values including memorability and naturalness;*
  - (v) *vegetation (native and exotic);*
  - (vi) *transient values, including presence of wildlife or other values at certain times of the day or year;*
  - (vii) *whether the values are shared and recognised;*
  - (viii) *cultural and spiritual values for tangata whenua, identified by working, as far as practicable, in accordance with tikanga Māori; including their expression as cultural landscapes and features;*
  - (ix) *historical and heritage associations; and*
  - (x) *wild or scenic values;*
- (d) *ensuring that regional policy statements, and plans, map or otherwise identify areas where the protection of natural features and natural landscapes requires objectives, policies and rules; and*
- (e) *including the objectives, policies and rules required by (d) in plans.*

**Policy 17 Historic heritage identification and protection**

*Protect historic heritage in the coastal environment from inappropriate subdivision, use, and development by:*

- (a) *identification, assessment and recording of historic heritage, including archaeological sites;*
- (b) *providing for the integrated management of such sites in collaboration with relevant councils, heritage agencies, iwi authorities and kaitiaki;*

- (c) *initiating assessment and management of historic heritage in the context of historic landscapes;*
- (d) *recognising that heritage to be protected may need conservation;*
- (e) *facilitating and integrating management of historic heritage that spans the line of mean high water springs;*
- (f) *including policies, rules and other methods relating to (a) to (e) above in regional policy statements, and plans;*
- (g) *imposing or reviewing conditions on resource consents and designations, including for the continuation of activities;*
- (h) *requiring, where practicable, conservation conditions; and*
- (i) *considering provision for methods that would enhance owners' opportunities for conservation of listed heritage structures, such as relief grants or rates relief.*

**Policy 18 Public open space**

*Recognise the need for public open space within and adjacent to the coastal marine area, for public use and appreciation including active and passive recreation, and provide for such public open space, including by:*

- (a) *ensuring that the location and treatment of public open space is compatible with the natural character, natural features and landscapes, and amenity values of the coastal environment;*
- (b) *taking account of future need for public open space within and adjacent to the coastal marine area, including in and close to cities, towns and other settlements;*
- (c) *maintaining and enhancing walking access linkages between public open space areas in the coastal environment;*
- (d) *considering the likely impact of coastal processes and climate change so as not to compromise the ability of future generations to have access to public open space; and*
- (e) *recognising the important role that esplanade reserves and strips can have in contributing to meeting public open space needs.*

**Policy 19 Walking access**

- (1) *Recognise the public expectation of and need for walking access to and along the coast that is practical, free of charge and safe for pedestrian use.*
- (2) *Maintain and enhance public walking access to, along and adjacent to the coastal marine area, including by:*
  - (a) *identifying how information on where the public have walking access will be made publicly available;*
  - (b) *avoiding, remedying or mitigating any loss of public walking access resulting from subdivision, use, or development; and*
  - (c) *identifying opportunities to enhance or restore public walking access, for example where:*
    - (i) *connections between existing public areas can be provided; or*
    - (ii) *improving access would promote outdoor recreation; or*
    - (iii) *physical access for people with disabilities is desirable; or*
    - (iv) *the long-term availability of public access is threatened by erosion or sea level rise; or*
    - (v) *access to areas or sites of historic or cultural significance is important; or*
    - (vi) *subdivision, use, or development of land adjacent to the coastal marine area has reduced public access, or has the potential to do so.*
- (3) *Only impose a restriction on public walking access to, along or adjacent to the coastal marine area where such a restriction is necessary:*
  - (a) *to protect threatened indigenous species; or*
  - (b) *to protect dunes, estuaries and other sensitive natural areas or habitats; or*
  - (c) *to protect sites and activities of cultural value to Māori; or*
  - (d) *to protect historic heritage; or*
  - (e) *to protect public health or safety; or*
  - (f) *to avoid or reduce conflict between public uses of the coastal marine area and its margins; or*
  - (g) *for temporary activities or special events; or*
  - (h) *for defence purposes in accordance with the Defence Act 1990; or*
  - (i) *to ensure a level of security consistent with the purpose of a resource consent; or*

- (j) *in other exceptional circumstances sufficient to justify the restriction.*
- (4) *Before imposing any restriction under (3), consider and where practicable provide for alternative routes that are available to the public free of charge at all times.*

**Policy 22 Sedimentation**

- (1) *Assess and monitor sedimentation levels and impacts on the coastal environment.*
- (2) *Require that subdivision, use, or development will not result in a significant increase in sedimentation in the coastal marine area, or other coastal water.*
- (3) *Control the impacts of vegetation removal on sedimentation including the impacts of harvesting plantation forestry.*
- (4) *Reduce sediment loadings in runoff and in stormwater systems through controls on land use activities.*

**Policy 25 Subdivision, use, and development in areas of coastal hazard risk**

*In areas potentially affected by coastal hazards over at least the next 100 years:*

- (a) *avoid increasing the risk<sup>10</sup> of social, environmental and economic harm from coastal hazards;*
- (b) *avoid redevelopment, or change in land use, that would increase the risk of adverse effects from coastal hazards;*
- (c) *encourage redevelopment, or change in land use, where that would reduce the risk of adverse effects from coastal hazards, including managed retreat by relocation or removal of existing structures or their abandonment in extreme circumstances, and designing for relocatability or recoverability from hazard events;*
- (d) *encourage the location of infrastructure away from areas of hazard risk where practicable;*
- (e) *discourage hard protection structures and promote the use of alternatives to them, including natural defences; and*
- (f) *consider the potential effects of tsunamis and how to avoid or mitigate them.*

**Policy 27 Strategies for protecting significant existing development from coastal hazard risk**

- (1) *In areas of significant existing development likely to be affected by coastal hazards, the range of options for reducing coastal hazard risk that should be assessed includes:*
  - (a) *promoting and identifying long-term sustainable risk reduction approaches including the relocation or removal of existing development or structures at risk;*
  - (b) *identifying the consequences of potential strategic options relative to the option of ‘do-nothing’;*
  - (c) *recognising that hard protection structures may be the only practical means to protect existing infrastructure of national or regional importance, to sustain the potential of built physical resources to meet the reasonably foreseeable needs of future generations;*
  - (d) *recognising and considering the environmental and social costs of permitting hard protection structures to protect private property; and*
  - (e) *identifying and planning for transition mechanisms and timeframes for moving to more sustainable approaches.*
- (2) *In evaluating options under (1):*
  - (a) *focus on approaches to risk management that reduce the need for hard protection structures and similar engineering interventions;*
  - (b) *take into account the nature of the coastal hazard risk and how it might change over at least a 100-year timeframe, including the expected effects of climate change; and*
  - (c) *evaluate the likely costs and benefits of any proposed coastal hazard risk reduction options.*
- (3) *Where hard protection structures are considered to be necessary, ensure that the form and location of any structures are designed to minimise adverse effects on the coastal environment.*
- (4) *Hard protection structures, where considered necessary to protect private assets, should not be located on public land if there is no significant public or environmental benefit in doing so.*



**HDC CLIFTON REVETMENT**  
**RELEVANT REGIONAL POLICY STATEMENT (RPS) &**  
**REGIONAL COASTAL ENVIRONMENT PLAN (RCEP) OBJECTIVES AND POLICIES**

The specific objectives and policies in the regional planning documents that are relevant to the Clifton Revetment are set out below.

## **Regional Policy Statement**

### **3.2 The Sustainable Management of Coastal Resources**

**OBJ 4** *Promotion of the preservation of the natural character of the coastal environment and its protection from inappropriate subdivision, use and development.*

**OBJ 5** *The maintenance and where practicable and in the public interest, the enhancement of public access to and along the coast.*

**OBJ 7** *The promotion of the protection of coastal characteristics of special significance to iwi, including waahi tapu, Tauranga waka, taonga raranga, mahinga kai and mahinga mataitai.*

### **3.13 Maintenance and Enhancement of Physical Infrastructure**

**OBJ 32** *The ongoing operation, maintenance and development of physical infrastructure that supports the economic, social and/or cultural wellbeing of the region's people and communities and provides for their health and safety.*

### **3.14 Recognition of Matters of Significance to Iwi/Hapu**

**OBJ 36** *To protect and where necessary aid the preservation of waahi tapu (sacred places), and tauranga waka (landings for waka).*

**OBJ 37** *To protect and where necessary aid the preservation of mahinga kai (food cultivation areas), mahinga mataitai (sea-food gathering places), taonga raranga (plants used for weaving and resources used for traditional crafts) and taonga rongoa (medicinal plants, herbs and resource).*

**POL 59** *Consultation with tangata whenua should be undertaken in a manner that acknowledges Maori values, with the fundamental approaching in consultation being "kanohi ki te kanohi" (face to face) or personal contact. Other matters necessary to be exercised are:*

- (a) consideration of a consent application not yet finally decided upon*
- (b) listening to what other have to say*
- (c) considering their responses*
- (d) deciding what will be done*
- (e) appropriate timing.*

**POL 62** *The following is the recommended approach for consultation with tangata whenua:*

- (a) Where the issue is at a macro, region-wide level consultation be with iwi.*
- (b) Where the issue is localised, yet non site-specific, consultation be with hapu.*
- (c) Where the issue is site-specific consultation be with whanau.*

**POL 64** *Activities should not have any significant adverse effects on waahi tapu, or Tauranga waka.*

**POL 65** *Activities should not have any significant adverse effects on taonga raranga, mahinga kai or mahinga mataitai.*

**POL 66** *The importance of coastal, lake, wetlands and river environments and their associated resources to Moari should be recognised in the management of those resources.*

## **Regional Coastal Environment Plan**

### **2 Natural character**

**Objective 2.1** *Preservation of the natural character of the coastal environment, and the protection of the coastal environment from inappropriate subdivision, use and development.*

**Policy 2.1** *To ensure any adverse effects on the natural character of the coastal environment arising from inappropriate use and development within the coastal marine area are avoided.*

**Policy 2.4** *To recognise and provide for appropriate use and development provided any adverse effects on the coastal environment's natural character arising from such use and development are avoided, remedied or mitigated.*

**Policy 2.6** *To recognise that local authorities have statutory functions on behalf of their communities including provision of services for wastewater, stormwater, water supply, parks and recreation, roads, solid waste disposal.*

**Policy 2.7** *To have particular regard to the avoidance of adverse effects of the following dynamic coastal processes on the physical environment:*  
*(a) wave action*  
*(b) tidal flow*  
*(c) currents and sediment transport*  
*(d) natural water quality and*  
*(e) natural substrate composition.*

**Policy 2.8** *To have particular regard to the mitigation of adverse effects of dynamic coastal processes on the physical environment and provision made for remedying those effects where complete avoidance cannot be achieved.*

**Policy 2.9** *To have particular regard to the maintenance or enhancement of the coastal environment's existing amenity values and cultural values.*

### **4 Indigenous species and habitats**

**Policy 4.1** *To ensure adverse effects on ecological systems (including natural movement of biota, natural biodiversity, productivity and biotic patterns) are avoided, including adverse effects on:*  
*(a) fishing grounds*  
*(b) shell fish areas*  
*(c) fish spawning and nursery areas*  
*(d) bird breeding and nursery areas*  
*(e) fish and bird migration*  
*(f) feeding patterns*

- (g) habitats' importance to the continued survival of any indigenous species*
- (h) wildlife and indigenous marine biota*
- (i) dune systems*
- (j) the intrinsic values of ecosystems.*

**Policy 4.2** *To ensure adverse effects on ecological systems (including Significant Conservation Areas) are remedied or mitigated where complete avoidance is not practicable, except to always ensure:*

- (a) Adverse effects on areas containing nationally vulnerable species or nationally outstanding examples of indigenous community types are avoided; and*
- (b) The avoidance or remediation of adverse effects on:*
  - (i) outstanding or rare indigenous community types within an ecological region or ecological district*
  - (ii) habitat important to regionally endangered or nationally rare species and ecological corridors connecting such areas; and*
  - (iii) areas important to migratory species, and to vulnerable stages of common indigenous species, in particular wetlands and estuaries.*

## **5 Public access to and along the coast**

**Objective 5.1** *Maintenance and enhancement of public access to and along the coastal marine area while recognising the need to protect certain areas for ecological, cultural, historic heritage, health, safety, or security (including biosecurity) reasons.*

**Policy 5.1** *To promote appropriate public access to and along the coastal marine area so that public access is restricted only where necessary.*

**Policy 5.9** *To ensure activities and structures occupying space within the coastal marine area are established and operated in a manner that maximises public use and access, except in the Port Management Area or where ecological values, cultural values, health, safety, security (including biosecurity) or other exceptional circumstances require.*

**Policy 5.10** *To ensure activities occupying space within the coastal marine area do not unreasonably restrict or prevent other uses of space within the coastal marine area.*

## **6 Relationship of Maori and the coast**

**Objective 6.1** *The protection of the characteristics of the coastal environment of special spiritual, heritage, historical and cultural significance to tangata whenua.*

**Policy 6.2** *To recognise and provide for the protection of sites within the coastal environment of spiritual, heritage, historical or cultural significance to Maori identified in accordance with tikanga Maori, including waahi tapu, nga toka, tauranga waka, mahinga mataitai, taiapure and taonga raranga.*

**Policy 6.3** *To promote the protection of sites within the Coastal Margin of spiritual, heritage, historical or cultural significance to Maori identified in accordance with tikanga Maori.*

**Policy 6.4** *To ensure adverse effects of activities on sites and areas of significant cultural value to tangata whenua are avoided, remedied or mitigated.*

*Policy 6.7 To enable customary uses and management practices relating to natural and physical resources of the coastal marine area, including mahinga mataitai, waahi tapu, and taonga raranga, in accordance with tikanga Maori.*

## **7 Historic heritage**

**Objective 7.1** *Protection of historic heritage within the coastal environment from inappropriate subdivision, use and development.*

*Policy 7.1 To have particular regard to the avoidance, remediation, or mitigation of adverse effects on historic heritage resources within the coastal marine area.*

*Policy 7.3 To ensure any adverse effects on historic heritage resources within the coastal marine area are avoided, remedied or mitigated.*

*Policy 7.4 To ensure that historic heritage of significance to coastal hapu are protected from inappropriate subdivision, use and development.*

## **15 Coastal Hazards**

**Objective 15.1** *Risks posed to people and property are avoided or mitigated.*

**Objective 15.2** *The avoidance of new and further inappropriate development in areas identified as being currently at risk of coastal erosion or inundation (i.e. those areas within Coastal Hazard Zone 1).*

*Policy 15.1 To manage coastal erosion and inundation risks in accordance with the environmental guidelines set out in Table 15-1.*

**Table 15-1: Environmental Guidelines – Coastal Hazards**

<b>Issue</b>	<b>Guideline</b>
<b>1. Management approach</b>	Coastal hazards will be proactively managed in the following prioritised ways: ... (d) evaluating, then implementing if appropriate, activities which mitigate coastal hazards (for example, beach nourishment); and then (e) evaluating, then implementing if appropriate subject to Guideline 12 [refer below], permanent structures (for example, sea walls, groynes, artificial reefs) to mitigate coastal hazards.
... <b>12. Coastal protection structures</b>	(a) Coastal protection structures should only be used to mitigate coastal hazards when: (i) it is the best practicable option and (ii) no other non-structural alternative is effective or feasible to reduce coastal hazard risk and (iii) the structure is to be located and designed so as to avoid adverse environmental effects to the greatest extent practicable, particularly effects on coastal processes, landscape values and the existing natural character of the coastline and (iv) The structure is to:

	<ul style="list-style-type: none"> <li>• serve a use with a functional need to locate in the coastal marine area or</li> <li>• protect areas of existing development and network utility operations from coastal erosion or inundation risks.</li> </ul>
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## 17 Disturbances, depositions and extractions in CMA

**Objective 17.3** Adverse effects on the environment associated with the deposition of substances within the coastal marine area are avoided, remedied or mitigated.

**Policy 17.1** To manage deposition and extraction of material within the coastal marine area and disturbance of the foreshore and seabed in accordance with the environmental guidelines set out in Table 17-1.

**Table 17-1: Environmental Guidelines – Disturbances, depositions and extractions in the CMA**

<b>Issue</b>	<b>Guideline</b>
<b>1. Deposition of material</b>	... (b) Deposition of substances on the foreshore or seabed not within a Significant Conservation Area may be appropriate where adverse effects on indigenous flora, fauna, benthic organisms and their habitats, are minimised.
... <b>3. Coastal hazards</b>	(a) Disturbance of the foreshore or seabed (in particular removal of sand, shell, gravel or other natural material from the coastal marine area) should not occur in, or adjacent to areas that are, or are likely to be, subject to coastal erosion, unless: (i) it is for a temporary activity and/or (ii) it protects or enhances natural buffers between existing development and the sea and (iii) it presents less than a minor risk of exacerbating coastal erosion or inundation.
... <b>11. Historic heritage</b>	Adverse effects on historic heritage from foreshore and seabed disturbances, and depositions or extractions in the coastal marine area will be avoided, remedied or mitigated.

## 18 Structures and occupation of space in CMA

**Objective 18.1** Adverse effects on the environment arising from the use and development of structures in the coastal marine area are avoided, remedied or mitigated.

**Objective 18.2** Adverse effects on the environment arising from the occupation of space in the coastal marine area are avoided, remedied or mitigated.

**Policy 18.1** To manage structures and any associated occupation of space in the coastal marine area in accordance with the environmental guidelines set out in Table 18-1.

**Table 18-1: Environmental Guidelines – Structures and occupation of space in CMA**



<b>Issue</b>	<b>Guideline</b>
<p>...</p> <p><b>2. Functional need</b></p>	<p>...</p> <p>(b) Structures that have a functional need to locate in the coastal marine area may be appropriate where:</p> <ul style="list-style-type: none"> <li>(i) they do not adversely affect navigation and mooring within navigation channels</li> <li>(ii) they do not adversely affect coastal hydrological and geomorphic processes.</li> <li>(iii) they do not contribute to a proliferation of structures in the coastal marine area or do not promote the inefficient use of existing structures, facilities and network utility corridors</li> <li>(v) adverse effects on historic heritage, sites of cultural significance, indigenous flora, fauna, benthic organisms and their habitats, are avoided, or mitigated where avoidance is not practicable.</li> </ul> <p>(c) Erection, placement, use of, and occupation of space by structures that do not have a functional need to locate in the coastal marine area is inappropriate and shall not be provided for.</p>
<p>...</p> <p><b>4. Public access and other uses</b></p>	<p>(a) Structures and activities occupying space in the coastal marine area shall be established and operated in a manner that maximises public use and access, except where public access is inappropriate.</p>
<p>...</p> <p><b>6. Coastal hazards</b></p>	<p>(a) Structures in the coastal marine area should not be located in, or adjacent to areas that are, or are likely to be, subject to coastal erosion, unless:</p> <ul style="list-style-type: none"> <li>(i) it is for a temporary activity and/or</li> <li>(ii) it protects or enhances natural buffers between existing development and the sea and</li> <li>(iii) it presents a less than minor risk of exacerbating coastal erosion or inundation.</li> </ul> <p>(b) Structures should only be used to mitigate coastal hazards when:</p> <ul style="list-style-type: none"> <li>(i) it is the best practicable option and</li> <li>(ii) no other non-structural alternative is effective or feasible to reduce coastal hazard risk and</li> <li>(iii) the structure is to serve a use with a functional need in the coastal marine area or is to protect existing development and network utility operations from current erosion or inundation risks and</li> <li>(iv) the structure is to be located and designed so as to avoid adverse environmental effects to the greatest extent practicable, particularly effects on coastal processes and natural character.</li> </ul>

## HDC CLIFTON REVETMENT

### RELEVANT PROPOSED HASTINGS DISTRICT PLAN OBJECTIVES AND POLICIES

#### Section - 2.7 Coastal Environment Strategy

**POLICY CEP4** *Encourage the provision of public access to the Coastal Environment unless it is in conflict with other cultural or natural values apparent on the coast.*

Explanation

*Public access for the purpose of recreation and enjoyment is an important element in the protection and enhancement of the Coastal Environment. The provisions of the New Zealand Coastal Policy Statement 2010 require Council to recognise and provide walking and vehicle access to and along the coast where appropriate, taking into account the sensitivity of the environment and public safety. The Hastings District Coastal Environment Strategy identifies opportunities to develop levels of public access to the coast where these do not conflict with environmentally sensitive areas that match the recreational opportunities of individual areas along the coastline.*

**POLICY CEP5** *Ensure the protection of the characteristics of significance to tangata whenua and the significant natural and cultural character, heritage and scenic features of the coastal margin identified in the Coastal Environment.*

Explanation

*The District Plan includes provisions through its Landscape, Conservation and Natural Areas, Waahi Tapu, and Heritage provisions which identify and provide for Objectives, Policies and Rules to protect significant elements in the coastal environment. Their continued promotion is important to protect the wider heritage values in the area, and to protect these values for future generations.*

#### Section - 2.8 Rural Resource Strategy

**OBJECTIVE RRSO2** *To enable the efficient and innovative use and development of rural resources while ensuring that adverse effects associated with activities are avoided, remedied or mitigated.*

**OBJECTIVE RRSO4** *To ensure that the natural, physical, and cultural resources of the rural area that are of significance to the Hastings District are protected and maintained.*

#### Section 3.1 - Tangata Whenua and Mana Whenua

**POLICY TW2** *To implement procedures for Tangata Whenua involvement in any development, proposed excavation or construction in and around historic sites of occupation or in the case of the discovery of any burial sites or Maori artefacts, to recognise the special Tangata Whenua relationship that exists. A protocol for the accidental discovery of sites is appended to this section of the Plan.*

#### Section 5.1 – Rural Strategic Management Area

**POLICY RSMP2** *Require that activities and buildings in the Rural SMA are of a scale that is compatible with that environment.*

Explanation

*The physical characteristics of the Rural SMA are linked to the identity of the District. Hastings has traditionally been identified with orcharding and cropping on the Plains, and pastoral use and forestry on the hills. While the Council wishes to ensure that*

*there is flexibility of land use in the rural environment, the impacts of these activities on the visual and amenity values of the rural area needs to be considered. Commercial and industrial activities are being provided for in the Zone up to a certain scale so that the impact on rural amenity is safeguarded.*

## **Section 5.2 – Rural Zone**

**OBJECTIVE RZO2** *Retention of the natural and rural character and amenity values of the Rural Zone<sup>1</sup>.*

**POLICY RZP4** *Require that any new development or activity is complementary to the amenity of the Zone which predominantly comprises open pastoral characteristics with low scale and sparsely located buildings.*

### Explanation

*The Rural Zone is a very diverse part of the District and the topography varies significantly. It includes the ranges that separate the east coast from the west and therefore a large area of native vegetation falls within this area. Similarly some of the higher country in this Rural Zone has also been planted in forest providing some diversity in land cover. However the principal land use that contributes to the character of the Zone is the pastoral use of the land. Vast areas of largely rolling hill country farmed as sheep and beef units comprise the larger part of the natural character of the Zone. More recently vineyards have begun to expand off the Plains Zone and into the wider Rural Zone. Any development that is not a traditional component of these land uses should not detract from the amenity and character of the Zone. While horticultural operations are largely located in the Plains production Zone there are some areas in the Rural Zone that are used for horticulture. As technology changes there may be further increases in the extent of horticulture in the Rural Zone.*

## **Section 13.1 – Open Space Zone**

**OBJECTIVE OSEO1** *To provide sufficient open space to meet the present and likely future recreational, conservation and visual amenity needs of the District.*

**OBJECTIVE OSEO2** *To ensure that open space is used and developed in a manner which is compatible with its function and character and to ensure any adverse effects on surrounding activities, particularly residential, are avoided or mitigated.*

**POLICY OSEP2** *Manage the scale, size, design and location of buildings so as to avoid, remedy or mitigate any adverse effects on the amenity of surrounding areas and the function and character of the open space.*

### Explanation

*The Council as landowner needs to ensure that buildings are designed and sited to complement the function and character of the reserve and minimise any nuisance to neighbouring properties.*

## **Section 15.1 – Natural Hazards**

**OBJECTIVE NHO1** *Minimisation of the effects of natural hazards on the community and the built environment.*

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<sup>1</sup> As amended by consent order in relation to the Horticulture New Zealand appeal to the Proposed Hastings District Plan on Objective RZO2.

**OBJECTIVE NHO2** *To avoid increasing the risk to people, property, infrastructure and the environment from the effects of natural hazards.*

**POLICY NHP3** *Adopt and promote the best practicable options (including mitigation or the ‘do nothing’ option) in the management of areas of existing development actually or potentially at risk from natural hazards.*

Explanation

*Council, in assessing land use activities and subdivisions in hazard prone areas, will promote and attempt to adopt the ‘best practicable option’ for each situation but recognises there may be situations where the hazard has a demonstrable negligible effect or where mitigation is suitable to reduce the risks to acceptable levels. There will also be situations where historical development in hazard prone areas (liquefaction and flood hazard areas for example) dictates that avoidance is not possible so mitigation needs to be relied upon to reduce hazard risk.*

### **Section 17.1 – Natural Landscapes and Features**

**OBJECTIVE LSO3** *The values that define the District’s Rural and Coastal Landscape Character Areas are identified and maintained.*

**POLICY LSP10** *To identify, recognise, and maintain the Districts Rural and Coastal Landscape Character Areas, where broad areas are highly valued for their cultural patterns of land use, including rural patterns, rather than their natural landscape values.<sup>2</sup>*

Explanation

*Rural Character Landscapes and Coastal Character Landscapes are identified in appendices 45 and 46. Maintaining the character and amenity values that make an area a Rural or Coastal Landscape Character Areas shall be guided by controlling site development and layout where appropriate, where there may be significant effects or cumulative effects on those values.*

### **Section 18.1 – Heritage Items and Notable Trees**

**OBJECTIVE HO5** *Archaeological sites are protected from damage, modification and destruction that will adversely affect their archaeological value.*

**POLICY HP9** *Identify sites of potential archaeological significance to ensure that the value of these sites continues to be protected.*

Explanation

*Recorded archaeological sites are mapped by the New Zealand Archaeological Association (NZAA), and this data is available to the public on the Council’s GIS system. Recorded archaeological sites are also mapped on the District Plan Maps. The Heritage New Zealand Pouhere Taonga Act 2014 (HNZ Act) protects all archaeological sites regardless of whether or not they have been recorded by NZAA and regardless of whether they are included in the District Plan by way of schedule or mapped on the District Plan Maps.*

*An Archaeological site includes any place that is associated with human activity prior to 1900 or that could provide evidence relating to the history of New Zealand through research and investigation. Under the HNZ Act it is an offence to modify, disturb, or destroy an archaeological site without an archaeological authority from HNZ. The HNZ Act contains penalties for unauthorised damage to archaeological*

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<sup>2</sup> As amended by consent order in response to Federated Farmers of New Zealand’s appeal to the Proposed District Plan.

sites. Any proposal to undertake works involving a Heritage Item should address the potential to disturb archaeological sites, including where subdivision or earthworks are to be carried out. This may require an archaeological assessment to be carried out by an experienced archaeologist.

At the least, any Resource Consent for work on a Heritage Item listed in this District Plan must show that the applicant has checked with the Heritage New Zealand as to whether any archaeological sites are registered, and also checked the NZAA's records to determine if there are any recorded archaeological sites on the subject land or in the vicinity of the subject land.

Council's GIS database should also be checked Council seeks to promote a precautionary approach to development and activity on properties with recorded archaeological sites. The Council will work in tandem with Heritage New Zealand in relation to any archaeological authority processes required and will notify Heritage New Zealand upon receipt of proposals for work in the vicinity of recorded archaeological sites.

Archaeological conditions and/or advice notes (as appropriate) will be placed on resource consents and/or building consents granted for development or activity on properties where known archaeological sites exist. Such conditions or advice notes would set out the protocol to be followed to minimise effects on any recorded archaeological sites or in cases where unidentified archaeological sites are discovered, standard protocols in respect of accidental discovery of archaeological sites.

Through these methods the management of any effects of activities or development on the archaeology of the District can be mitigated in consultation with HNZ, landowners and developers.

## **Section 25.1 - Noise**

**OBJECTIVE NSO1** To manage the emission and mitigate the adverse effects of noise so as to maintain or enhance the acoustic environment.<sup>3</sup>

**POLICY NSP5** Noisy construction and demolition activities will be allowed subject to restrictions to ensure the protection of the community from unreasonable noise.

### Explanation

Many construction and demolition activities are inherently noisy but methods are available which can minimise the emission and impact of such noise. Noise experienced during construction and demolition is generally of a temporary nature and, provided on-going noise at inconvenient times can be mitigated or avoided, reasonable levels of construction noise will be accommodated. Compliance with the construction noise standard NZS 6803:1999 will be required.

## **27.1 – Earthworks, Mineral, Aggregate and Hydrocarbon Extraction**

**OBJECTIVE EMO1** To enable earthworks within the Hastings District while ensuring that the life-supporting capacity of soils and ecosystems are safeguarded and adverse effects on landscapes and human health and safety are avoided, remedied or mitigated.

**POLICY EMP5** Control earthworks, exploration and mining activities to ensure that any adverse effects on the natural and physical environment, and the amenity of the community,

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<sup>3</sup> As amended by consent order in relation to Meridian Energy Limited's appeal to the Proposed Hastings District Plan.



*adjoining land uses and culturally sensitive sites are avoided, remedied and mitigated.*

*Explanation*

*Large scale earthworks, exploration and mining activities are recognised as having the potential to cause significant adverse effects on the environment, including the safety of people and property, and on the visual amenity and character of the area where it occurs.*

**OBJECTIVE EM05** *To ensure that earthworks and mineral extraction do not compromise outstanding natural features, historic heritage and cultural heritage features (including archaeological sites).*

**POLICY EMP14** *Historic Heritage Features will be protected from the effects of earthworks and mining activities.*

*Explanation*

*Prevention measures are required to ensure historic heritage sites are not destroyed by earthworks and mineral extraction activities. While controls can be created around known historic heritage areas, land disturbance and vegetation clearance can often unveil archaeological and cultural heritage sites/remains. If any new archaeological sites are located, particular care must be undertaken to protect the heritage items and notify New Zealand Historic Places Trust.*