

# Coastal Works Review

**East End – Construction of a Groyne and Excavation of Swim Areas  
Block: 73A Parcel: 80**



**PREPARED FOR: MINISTRY OF HEALTH, ENVIRONMENT, CULTURE AND HOUSING**

April 30, 2020

Authored by: Technical Review Committee - Department of Environment, on behalf of the Director,  
Department of Environment

# Coastal Works Review

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## East End – Construction of a Groyne and Excavation of Swim Areas Block: 73A Parcel: 80

### Project Proposal

The applicant –Thompson Resorts Ltd. - is seeking permission for the construction of a groyne as shown in Figure 1 and the excavation and cleaning of swim areas 1, 2 and 4 as shown in figure 2 for the use of the guests of the Wyndham Reef Resort in East End.

The works to construct the groyne will affect approximately 7,500 square feet of Crown property, the area of works for the swim area excavation has not been established in the application. The proposed stone groyne which will measure approximately 400ft long and 42ft wide forming a curved shape, as shown in figure 1 below. The height of the groyne emerging from the water at spring high tide level is proposed to be 18inches. The groyne is to be formed of a core of base stone capped with larger stone boulders (2ft+ in diameter) placed on top of a geotextile membrane by an excavator over the existing seabed grade of -0 to -5ft deep below mean sea level. The protected swimming area would be to the immediate west of the groyne, within its curvature, which would also include the existing 150ft long dock in front of the main resort building.

The proposal also includes works to use heavy equipment to excavate three of the existing four previously excavated swim areas (1, 2 and 4 as shown in figure 2 below) to deepen them, sieve the rock from the sand and return the sand to them in order to create deeper, sandy swim areas. Another area, swim area 3, is noted as existing but is not proposed to be altered. The dimensions of the proposed swim areas for excavation and cleaning or the volume of material to be removed has not been determined in the application. The application has also requested a perpetual licence for works to be carried out ‘on an as needed basis’ on the swim areas without a specific timeline.



FIGURE 1: PROPOSED LOCATION OF THE GROUYNE (SHOWN IN ORANGE) (SOURCE: LIS, 2018)



FIGURE 2: LOCATION OF PROPOSED SWIM AREAS 1, 2 AND 4 TO BE EXCAVATED, 3 IS NOT TO BE ALTERED (SOURCE: LIS, 2018)

## Environmental Impacts

The proposed location of the groyne is not within a Marine Protected Area. However, the works are proposed on an active turtle nesting beach with nests being laid on the subject parcel as recently as 2019 and over sensitive marine habitats such as seagrass and beach rock. This coastline has also been identified as critical habitat for sea turtle nesting based on 20 years of DoE monitoring.

### Loss of Benthic Habitats

The seabed in the immediate footprint of the proposed groyne consists of seagrass beds and emergent beach rock (as seen in figure 3 below), important marine habitats for a variety of marine species. Impacts to seagrass beds are a particular concern, as their displacement by the construction of the groyne will result in direct loss of an important feature and contributor to the health of the marine ecosystem which is already heavily impacted by coastal works. Seagrass beds provide living habitat, food and oxygen to marine fauna and also play a vital role in maintaining good water quality and shoreline protection.

### Construction Impacts

Direct environmental impacts will result from the construction of the groyne, mainly through the placement of the geotextile membrane and boulders onto the seabed and from the turbidity caused by carrying out the works. The sand and fine silt of the seagrass beds are easily disturbed and suspended resulting in detrimental sediment plumes which can impact surrounding seagrass communities and marine organisms such as coral that depend on good water quality. The application proposes to mitigate against the introduction of fine material by the washing of the large boulders for the exterior of the groyne. However, silt screens are not proposed to be used due to the wave action and currents in the area and there is no mention of washing the material to be placed to form the core of the groyne structure. The use of an excavator in the construction of the groyne also presents a potential for impact to the area outside of the footprint of the groyne due to the need for access across the beach and along the groyne.

This could also impact turtle nesting on the beach if the works or storage or materials and equipment were to continue during, or overlap with, turtle nesting season. If this application were to be approved, the DOE would recommend mitigation measures be taken by the applicant in order to minimize potential environmental impacts as included in the draft Coastal Works Permit conditions in appendix 1 below.



FIGURE 3: SITE VISIT PHOTOS SHOWING THE PROPOSED GROUYNE LOCATION ON THE BEACH AND IRONSHORE COASTLINE WITH SEAGRASS BEDS OFFSHORE (SOURCE: DOE 2020)

### *Excavation and Cleaning of Swim Areas*

The proposed swim areas 1, 2 and 4 for excavation and cleaning (swim area 3 is to remain unchanged) have not been accurately defined in the application in terms of the exact areas to contain the works or the timeframe for the works. No approval should be given for any coastal works which does not have specific dimensions of impact area outlined as there would be no defined area of impact or limitation to the permitted impacts. DOE recommended against the excavation of some of these areas when they were originally applied for in 2001 due to the concerns of anticipated shoreline retreat due to increased beach erosion. Given that the coastline is already suffering from severe beach profile loss the DOE would not recommend further reducing the shoreline profile or deepening the offshore environment which would increase its exposure to wave action.

### *Turtle Nesting*

Although recent beach erosion, caused by inappropriate sargassum beach cleaning, has impacted the beach profile and the suitability for turtle nesting in this location; the subject beach is still an active turtle nesting beach. Impacts of the proposed construction and of the groyne could potentially impact hatching and nesting turtles directly. If Cabinet is minded to grant permission for the construction of the groyne the DOE would recommend that conditions of approval be implemented to mitigate impacts as much as possible. Any works to be undertaken during turtle nesting season (May until November) should only be carried out with permission from the DOE following consultation to check for turtle nesting activity.

## **Sargassum Seaweed Influxes and Beach Erosion**

The primary aim of the groyne is to protect the enclosed area from influxes of sargassum, yet the placement of the proposed groyne very near to the neighboring Morrith's property (only a 10ft setback is proposed from the property boundary) will likely result in the accumulation of sargassum on the Morrith's beachfront side simply diverting the problem of the accumulation to that property. The Report prepared by ATM which accompanies the application also advises that patterns of beach erosion and accretion will likely change due to the placement of the groyne. It suggests that there will be beach erosion on the Morrith's beachfront as shown in figure 4 below. Whilst the report suggests that this could be 'mitigated through small-scale sand replenishment activities' the construction of the proposed structure in an area for the benefit of one landowner should be considered against the cost to another.

Although the application states that the property to the west of the Wyndham Resort 'can be used to dry sand and sargassum for separation so that the sand can be replaced on the beach' to-date little of what has been extracted has been sieved and only a small amount of sand has been replaced leaving a large stockpile of mixed sand and sargassum (as shown in figure 5 below). To sieve and replace the very large volume of sand now presents a very significant and costly challenge. The extraction and mixing of sand and Sargassum in this stockpile is itself the result of inappropriate sargassum removal being used at this property, Currently the Wyndham Reef Resort is using a Bobcat with a normal bucket to remove large amounts of both sand and sargassum, usually daily, from the waterline along their beachfront in order to reduce the impact on guests of the property. This is having a significant impact on the beach profile generally due to the loss of sand and the compaction of the beach by heavy equipment. The DOE have communicated these concerns and made recommendations to the property managers of the Wyndham however they have not yet put into action another plan or more sustainable method of beach cleaning. Recommendations included using a bobcat with a 'rock bucket' to minimise the amount of sand picked up during cleaning, investing in specialised beach cleaning equipment such as a beach rake machine, and sieving the collected sargassum to replace sand continuously rather than accumulating as a large stockpile.



FIGURE 4: A FIGURE FROM THE ATM COASTAL PLANNING ASSESSMENT SHOWING POTENTIAL SHORELINE REACTIONS TO THE PROPOSAL (BLUE=ACCRETION, RED=EROSION) (ATM, 2019)



FIGURE 5: SITE VISIT PHOTOS SHOWING THE USE OF HEAVY MACHINERY FOR BEACH CLEANING AND THE RESULTING SAND REMOVAL IMPACTING THE BEACH PROFILE (SOURCE: DOE 2019)

## EIA Screening

The DOE also carried out an Environmental Impact Screening of this proposal, as a requirement under the National Conservation Law (2013), attached below in appendix 2, the recommendation of which was that an EIA would not be required for this project as the assessment of impacts can be undertaken without a significant further assessment. The National Conservation Council has reviewed this screening opinion and agreed that an EIA is not required.

## Future use of Floating Sargassum Booms

The application documents also include mention of the proposed future use of 50-100ft of sargassum containment booms to be attached to the end of the groyne to aid in the deflection of sargassum along the coastline. These are to be secured in place using flat steel or concrete anchors. However the applicant has confirmed that this proposal is not a part of this application and will require separate minor coastal works approval as with any structure placed on or over the Crown owned seabed. The application information also states that the screens 'will have no effect on the immediate environment' however the DOE is aware of booms used in other areas that have caused direct impacts to seagrass beds; the anchoring system for the booms will also create areas of impact. The DOE previously advised the applicants that the booms required Coastal Works approval to be installed as they were deployed without permission (see figure 6 below) but have since been removed.

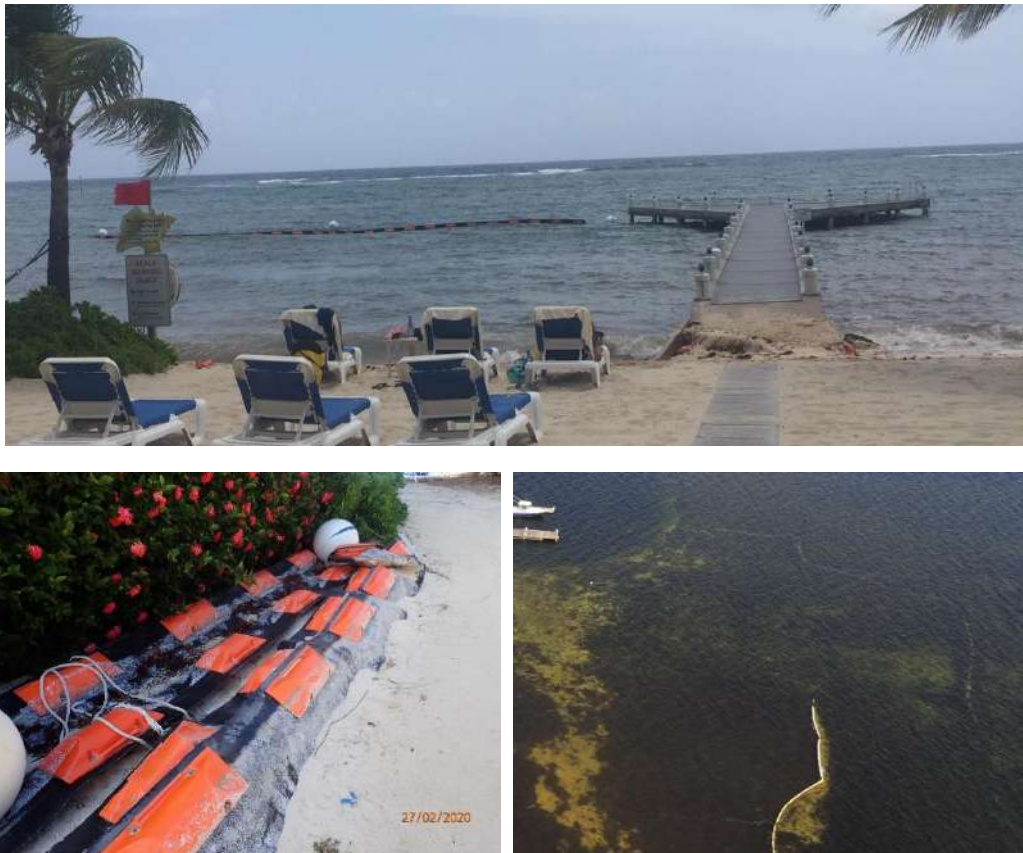


FIGURE 6: SITE VISIT PHOTOS SHOWING THE USE OF SILT SCREENS AT THE WYNDHAM REEF RESORT AND ELSEWHERE WHERE THEY HAVE IMPACTED SEAGRASS BEDS (SOURCE: DOE 2019)

## Comments & Recommendations

The Department of Environment recommends that this application be denied as the approval of this groyne and the excavation of the swim areas would set an environmentally damaging precedent for the construction of others on beaches in response to sargassum influxes. The DoE understands the challenges that the applicant faces with the issue of sargassum impacts to the beach. However, construction of the groyne and the excavation of the swim areas would lead to direct environmental impacts to the offshore environment and to the beach due to the altering of the coastal sand transport system. The potential beach erosion for the Morritt's property and the diversion of sargassum onto this neighbouring property outweighs the potential minor benefit of the creation of the partially enclosed swim area. Instead more suitable measures for shoreline collection of Sargassum should be implemented on the subject property.

**If Cabinet is minded to grant approval, the swim areas to be excavated as a part of the works will need to be established and the DOE highly recommends that the proposed groyne location is revised to eliminate the potential impact to the neighboring Morritt's property.**

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**Technical Review Committee  
For Director of Environment  
On behalf of the National Conservation Council**



## Appendix 1 – EIA Screening



DEPARTMENT OF  
ENVIRONMENT  
CAYMAN ISLANDS GOVERNMENT

### Screening Opinion for the Proposed Wyndham Reef Resort Groyne 7 February 2020

#### Executive Summary

The National Conservation Council's (NCC) Directive for Environmental Impact Assessments (EIAs) notes that all activities listed in Schedule 1 will be considered against the screening criteria outlined in the Directive to determine whether an EIA may be required.

The proposed coastal works comprise a groyne designed to stop the influx of sargassum into the swimming area and onto the beach, as shown in Figure 1, and the excavation and clearing of the swim areas 1, 2 and 4 shown in figure 1 and 4 by removal of the substrate by heavy equipment separation of the sand and other debris and replacement of the sand.

The Wyndham Reef Resort has received significant influxes of Sargassum seaweed in recent years which have impacted their visitor experience due to the accumulation along the shoreline in swimming areas and also stranding on the beach causing an unpleasant sulphurous odour and the attraction of insects. Sargassum removal from beaches by the property management using unsuitable machinery has resulted in significant erosion of the beach due to removal of sand along with the seaweed. Much of the sand remains stockpiled at the northern end of the property but requires sieving to separate it from the Sargassum. Much of the impact to the beach by the Sargassum removal could be addressed by working to replace the sand in this way. The placement of the groyne is likely to significantly interrupt the alongshore sand transport system balance which is likely to alter the pattern of beach accretion and erosion. This may be of particular concern for the neighbouring Morritt's resort due to the threat of beach erosion and increased accumulation of Sargassum on their beachfront.

The coastal works application was considered against the screening criteria outlined in the EIA Directive and there will likely be some adverse effects on the beach and the nearshore marine environment, particularly sea grass beds, and on the neighbouring property (the Morritt's) due to building of the groyne and the clearing of the swim areas. The assessment of the effects on the marine environment can be undertaken utilising information already available to the DoE, but the effects on the Morritt's will require further quantification by way of an update to the Coastal Planning Memorandum prepared by ATM Inc., submitted as part of the coastal works application. There is not a requirement for an EIA to be conducted. If the application is approved by Cabinet then we would also recommend conditions on

the application to include measures to reduce the impact of the spread of turbidity and protect sea turtles during construction.

**The Department of Environment is of the opinion that the Proposed Development does not require an EIA.**

## Introduction

The process for determining whether an Environmental Impact Assessment (EIA) is needed is a statutory process that is governed by the National Conservation Law (NCL). This first stage, where the relevant authorities decide if a development is an EIA development (i.e. requires an EIA) is called screening.

The National Conservation Council's (NCC) Directive for Environmental Impact Assessments (EIAs) issued under section 3(12) (j) and which has effect under section 43(2) (c) of the NCL, notes that all activities listed in Schedule 1 will be considered against the screening criteria outlined in sections 2 to 3 of Schedule 1 of the Directive to determine whether an EIA may be required. The Proposed Development falls within Schedule 1, i.e. coastal works to combat erosion and maritime works capable of altering the coast through the construction, for example, of groynes, jetties, and other sea defence works.

The screening criteria include:

- The type and characteristics of a development;
- The location of a development; and
- The characteristics of the potential impact.

These screening criteria have been considered with respect to the Proposed Development in order to determine whether an EIA is required.

## The Site

The site is located at Block 73A Parcel 80, off Queen's Highway in East End. The site location is shown on Figure 1. The proposed coastal works cover an area of approximately 7,500 square feet which is predominantly seagrass beds, sand and emergent beach rock, similar to the surrounding seabed area. The site is located on a turtle nesting beach, particularly used in the recent past by Loggerhead turtles (*Caretta caretta*). However recent years have seen a significant decrease in turtle nesting activity, with only 1 nest being recorded in 2019, this is at least partly due to the impact of sargassum on the coastline and the impact of beach cleaning on the beach profile. Sea turtles are protected under Schedule 1 Part 1 of the NCL, as species which are protected at all times. **Given the high density of nesting over a 20 year period, the beach at the site is considered as critical habitat under the draft Sea Turtle Species Conservation Plan, which is with Cabinet for approval and has not yet come into effect.**

The site includes approximately 680 feet of sandy beach and ironshore coastline. There is a shallow fringing reef located approximately 350 yards offshore with a channel opening to deeper water which serves as a boat access channel. There is an existing dock on the site measuring approximately 150ft in length which will be partly enclosed by the groyne. The proposal also mentions the use of floating sargassum booms, although not included in the initial works, anchored to concrete or steel blocks to work alongside the groyne to deflect sargassum influxes away from the protected beach and swimming area. The coastline of the site has been significantly modified in recent decades by the resort development. The construction of the groyne and the excavation of the swimming areas in the past has led to direct impact to the nearshore environment causing the shading and direct removal of seagrass beds and other benthic habitats

such as emergent beach rock. The site is bounded by the Morrith's Resort to the immediate south and, the proposed groyne structure is only approximately 6ft from the property boundary.

## Proposed Development

### Description of the Proposed Development

The proposed development comprises a stone groyne which will measure approximately 400ft long forming a curved shape and 42ft wide, as shown in figure 1 and appendix A below. The height of the groyne emerging from the water at spring tide level is proposed to be 18inches. The groyne is to be formed of a core of base stone capped with larger stone boulders (2ft+ in diameter) placed on top of a geotextile membrane over the existing seabed grade of -0 to -5ft deep below mean sea level. The purpose of the groyne is to provide protection for the beach and a swimming area from Sargassum influxes to a swimming area in front of the existing Wyndham Beach Resort. The protected swimming area would be to the immediate west of the groyne, within its curvature, and would include the existing 150ft long dock in front of the main resort building.

The need for protection of the beach and swimming area has arisen due to the severe influxes of Sargassum during the summer and autumn months on the eastern coastline of Grand Cayman. The Wyndham Reef Resort in particular experiences large influxes which wash up on their beachfront and accumulate in the shallow areas in front of the shoreline. These influxes tend to remain in place for long periods of time due to the direction of the prevailing wind and currents, especially to the northern end of the beach and cause nuisance to guests such as unpleasant odours, insects and blocking off of beach and swimming areas. Efforts to remove the Sargassum from the shoreline using inappropriate methods, such as digging it out using a bobcat with a closed-bucket attachment driven at high speed, have resulted in significant beach compaction and profile loss due to the removal of large amounts of sand along with the Sargassum. The significant volume of mixed sand and Sargassum has been stockpiled at the Northern end of the property (see Fig. 5 below) and needs to be sieved and replaced on the beach in order to reverse the effects of beach loss. The proposed groyne will only provide protection for a small proportion of the resort coastline with much of the worst affected beachfront located in the embayment further northwest of the property.

The application also proposes the clearing of three of the existing swim areas, swim areas 1, 2 and 4 as shown on figure 4 below. The application requests permission, 'on an as needed basis, to use machinery and remove the sand and debris from below the low water mark' in order to 'separate the debris from the sand and replace the sand in the area from which it was removed' in order to improve the swim areas for guest enjoyment. Whilst the application does not accurately delineate the boundaries of these swim areas the previously excavated areas are predominantly sand and loose coral rubble. Prior to the granting of permission these would need to be delineated accurate on plans for approval.

### Planning History

Both the Wyndham Reef Resort and the neighbouring Morrith's Resort have been developed over several phases since the 1990s. Further along the coastline to the north and south there are also several single family beachfront residences. The dock at the Wyndham Resort was built in 2000. Three swim areas, to facilitate easier water access for guests, were also excavated along the resort coastline in phases during 2001-2004 with Coastal Works permission. This excavation is also thought to have attributed to the gradual beach erosion on this coastline. The Wyndham Reef Resort have also utilised floating Sargassum booms in the past in order to try and divert the influxes from their beach areas. This was done without the required Coastal Works permission and following requests by the DOE the booms have been removed while this Coastal Works application is under consideration

## Characteristics of Potential Impact

The baseline conditions, the potential impact of the Proposed Development and any likely significant effects have been qualitatively assessed for each of the below environmental aspects.

### Air Quality

Other than minor impacts during the construction phase and the swim area clearing (due to the use of heavy machinery on the site) there are no anticipated impacts to air quality from this proposal.

### Architectural and Archaeological Heritage

There are no known architectural or archaeological features at the site.

### Climate Change

Climate change is likely to have severe impacts on the Cayman Islands including the site. The Cayman Islands are inherently vulnerable to climate change because of the small size, remoteness, low-lying areas and other environmental factors, demography and economy<sup>1</sup>.

The proposal is unlikely to significantly contribute to climate change during construction and operation. The effects of climate change on the proposed groyne are most likely to be related to storm events and sea level rise. Although the groyne is to be constructed of large stone boulders and it is located within a reef protected shallow lagoon, climate change predictions anticipate more severe storm events in the future. It is likely that a severe storm event could destroy the groyne but this is likely to result in limited impact to its surrounding environment or the development's.

### Ecology

#### Terrestrial

The terrestrial ecology of the site is predominantly man-modified with all of the area of the parcels developed as a beach resort with most of the remaining vegetation being landscaping and much of the beach area disturbed by recreational uses and grooming. Other than minor impacts during the construction phase (due to the use of heavy machinery on the site) there are no anticipated impacts to the terrestrial environment from this proposal. The potential impacts to sea turtle nesting are addressed in the Marine section below.

#### Marine

The seabed in the footprint of the proposed groyne contains seagrass beds, vegetated sand (containing algae) hard bottom seabed, and emergent beach rock (as shown on figure 2 below). The placement of the groyne over these seabed habitats will displace them resulting in the loss of their ecosystem services and habitat functions. Seagrass in particular is an important feature and contributor to the health of the marine ecosystem by providing living habitat, food and oxygen to marine fauna. Seagrass also plays a vital role in maintaining good water quality and providing some coastal buffering to mitigate the erosional effects of wave energy. If Cabinet is minded to approve this application the DOE would recommend the charging of an Environmental Mitigation fee based on the area of impact.

The application site is adjacent to a turtle nesting beach for Loggerhead turtles (*Caretta caretta*) as shown in figure 3 below. In recent years there have been few turtle nests laid on this beach (only one in 2019), this has been attributed to both the accumulation of Sargassum on the coastline, blocking turtle nesting attempts, and the degradation of the

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<sup>1</sup> National Climate Change Committee. (2011). Achieving a Low Carbon Climate-Resilient Economy: Cayman Islands' Climate Change Policy (draft).

beach due to the use of inappropriate beach cleaning measures to remove the Sargassum. The Wyndham Reef Resort have used a Bobcat skid-steer for the last few years to remove large accumulation of Sargassum; whilst this is effective for operating on the beach and allowing the removal of large loads of seaweed it also results in the removal and compaction of the beach sand leading to a profile unsuitable for turtle nesting. The DOE have been in communication with the Wyndham Reef Resort regarding this issue and the stockpile of sand mixed with Sargassum still remains at the Northern end of the site. Other existing impacts to sea turtle nesting from the proposed works include lighting impacts and general disturbance.

If Cabinet is minded to approve the application, the DOE would strongly recommend the following conditions:

- Prior to the commencement of works, the property owner shall contact the DoE to check for the presence of turtle nests; written approval shall be obtained from the DoE that no nests will be impacted by the commencement of works.
- No construction work, vehicle access, storage of equipment/ materials or other operations should take place on the beach during turtle nesting season (1st May – 30th November) without the express consent of the DoE.

Prior to the commencement of works, the property owner shall sieve the sand and Sargassum stockpile on the property and return the separated sand to the beachfront area.

### **Flood Risk and Water Quality**

Other than during the construction phase, when placement of stones to form the groyne may cause turbidity in the sea, and when the swim areas are excavated for clearing there are no anticipated significant impacts to water quality from this proposal. The application indicates that it is planned to wash the stone boulders prior to placement in the sea in order to remove fine material and mitigate the impact of turbidity. They do not however plan to utilise silt screens due to the wave and current conditions in the area which would make them less effective and difficult to keep in place. Despite this, water quality during the works is not likely to be significantly degraded by turbidity for a long period of time as there should not be any fine sediment introduced or released into suspension. The strong currents will likely disperse any turbidity quickly.

### **Ground Conditions**

There are no likely significant effects with respect to ground conditions as a result of the construction of the proposed groyne or swim area clearing.

### **Noise and Vibration**

Other than minor effects during the construction phase there are no anticipated noise or vibration impacts from this proposal.

### **Socio-Economics**

The land use in the area surrounding the proposed groyne consists of tourism land uses (the two resorts, the Wyndham Beach Resort and the Morritt's Resort) and single family residences. The National Tourism Plan (2019-2023)<sup>2</sup> supports growing tourism in the Eastern district, particularly providing a less congested, more diverse and more authentic 'Cayman' experience. The objectives for the Eastern district include:

<sup>2</sup> Department of Tourism. (2018). Cayman Islands National Tourism Plan (2018-2023).

- attracting more repeat visitors and younger demographic groups interested in cultural heritage and nature, generate employment and business development opportunities for eastern district residents;
- improving awareness of the East; and
- enhancing the visitor experience [in the East].

The purpose of the proposed groyne is to protect the Wyndham Reef Resort beachfront and swimming area from the influxes of Sargassum which have been impacting the guest enjoyment of the area. The proposal may have positive socio-economic effects by providing greater tourism attraction to the resort due to an improved guest experience.

Potential negative socio-economic impacts to the coastline from the blocking of Sargassum movement or the interruption of along shore sand transport may also affect the neighbouring Morritt's resort if beach erosion occurs or if more Sargassum is simply diverted to their beachfront.

### Transport

There are no anticipated impacts to transport from this proposal.

### Cumulative Effects

There is a potential for a precedent to be set by this proposal for using hard structures such as groynes for coastline protection against sargassum. Proliferation of hard engineered solutions such as groynes and seawalls has been seen along other coastlines due to their interruption to the balance of sediment transport along beaches. The DOE would generally recommend against the use of hard engineering structures over other solutions due to their tendency for greater environmental impact.

### Conclusions

The Proposed Development does not require an EIA. Whilst there will be some adverse effects on seagrass beds offshore, from the placement of the stone groyne overtop of the area, these are not likely to be significant and do not warrant an EIA. There may be significant effects on the beach profile on either side of the groyne due to the interruption of the along shore drift of sand, particularly to the south-east direction which is the beachfront of Morritt's Beach Resort. These effects will be discussed in the Coastal Works Review and also do not warrant an EIA.

There are no other significant effects considered likely.

**After considering the Screening Opinion detailed above, the NCC is required to issue its decision to the originating entity on the requirement for an EIA, pursuant to Section 43 (1).**



Figure 1. Site Location Plan showing the proposed groyne (outlined in orange) (LIS, 2018 and DOE, 2020).

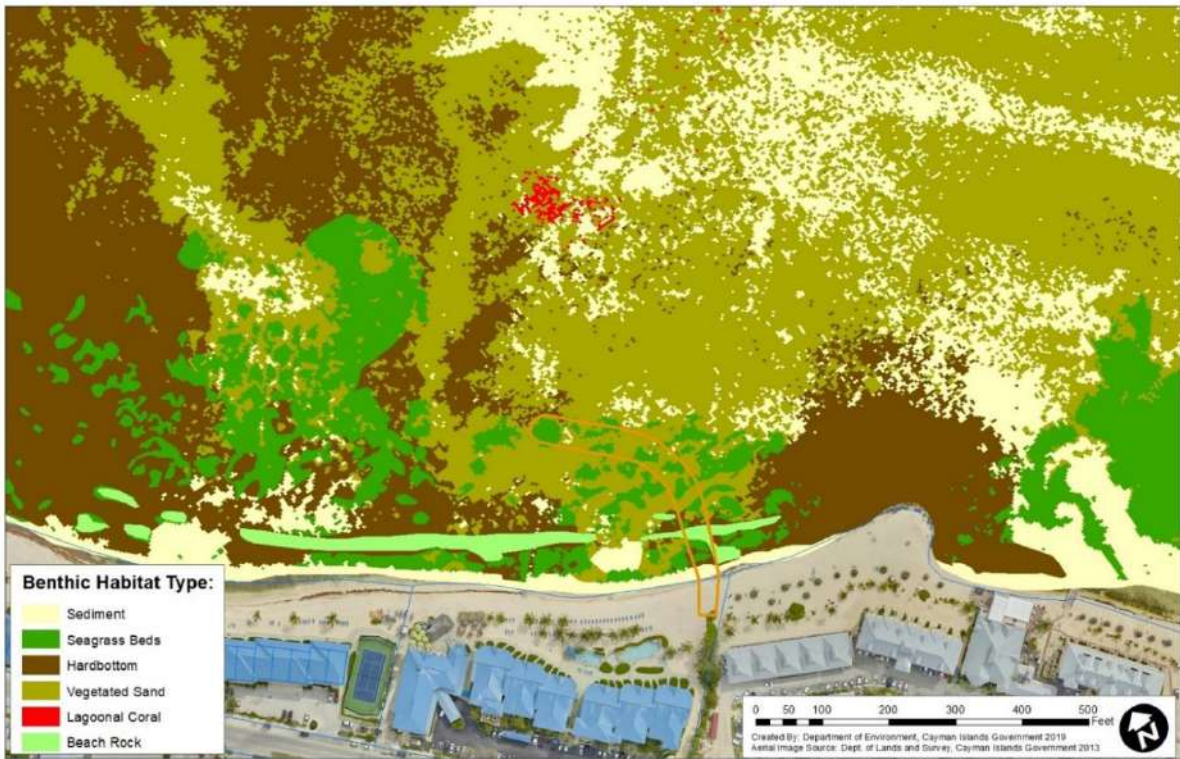


Figure 2. Environmental Context Plan showing benthic habitat in the lagoon area of the proposal (DOE, 2012).



Figure 3. Environmental Context Plan showing turtle nests and turtle nesting beach designation (DOE, 2019).



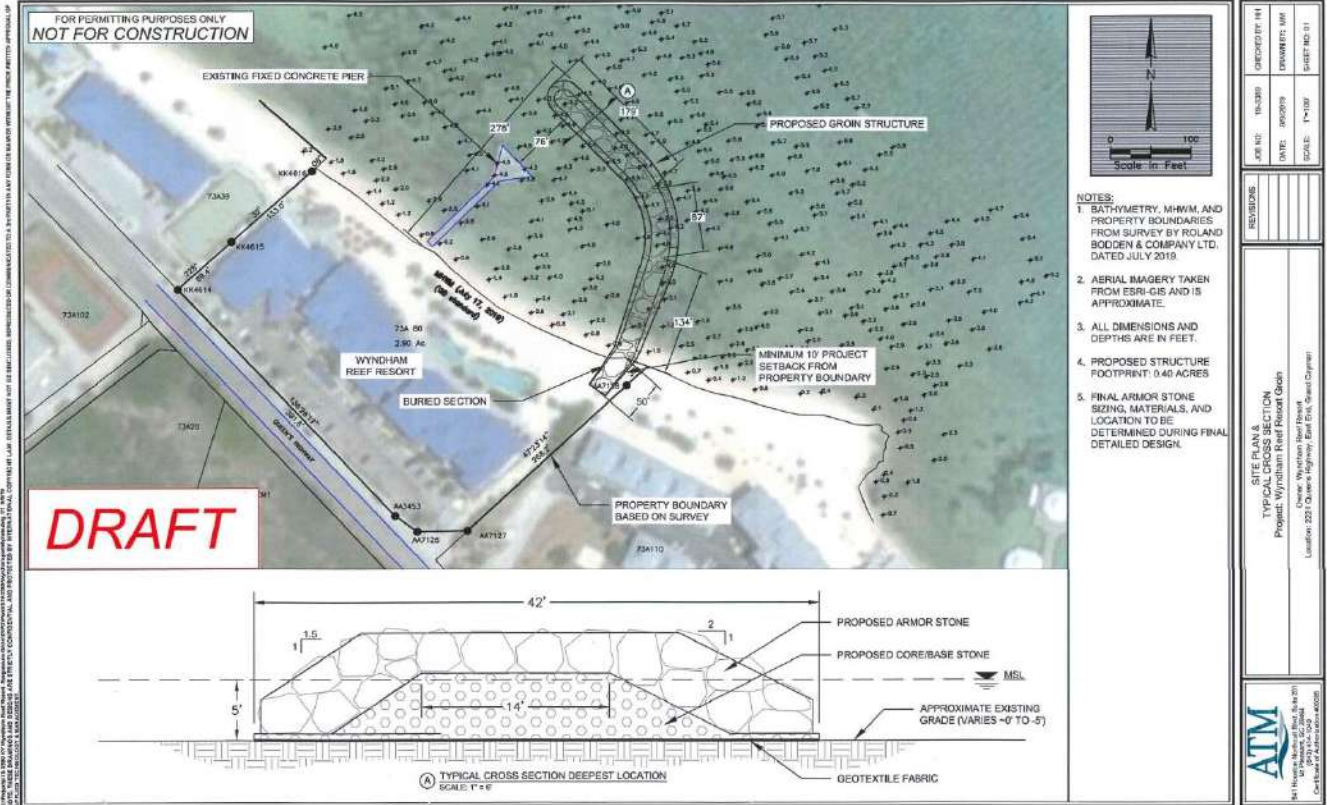
Figure 4. Site Location Plan showing the swim areas outlined in the application (LIS, 2018 and DOE, 2020).





*Figure 5. Site visit photos showing the sand and Sargassum stockpile at the northern end of the property (DOE, 2019).*

# Appendix A: Proposed Groyne Plans





### **Approval of Wyndham Groyne Screening Opinion**

- 1) The Wyndham Resort applied to install a groyne to address sargassum build up in front of its East End property. The application was received and reviewed by the Department of Environment under delegated authority of the National Conservation Council.
- 2) At its preparatory workgroup session of 12 February 2020 the Council considered the Department of Environment's review of the application.
  - a. There was a precedent concern in this case, that if the Wyndham was allowed to install such a groyne that other beachfront properties might wish to do the same.
  - b. DoE technical experts had some concerns about the data provided on the applicant's behalf by a Florida-based consultant group.
  - c. However, DoE advised that the need for an EIA on the project could be avoided if additional information can be provided.
- 3) Council agreed that an EIA was not required for this proposal. And that this agreement would need to be ratified at the next suitable General Meeting.

**John Bothwell** – Manager, Legislation Implementation & Coordination Unit  
Secretary, National Conservation Council



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