



**Review of the Environmental Impact Assessment (EIA) for
Proposed Princess Hotels and Resorts Development, Cove, Hanover,
Jamaica**

**EIA done by:
CL Environmental Co. Ltd.**

Review prepared by:

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**With technical assistance from
the Scientific Staff at
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Eugene, Oregon
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March 2020

This document contains the professional opinion of the Jamaica Environment Trust (JET). In arriving at our opinion, we made every reasonable attempt to ensure that our resource persons are informed and reliable and experts in the area in which their comment and analysis is sought. JET encourages readers to apply their own critical analysis to the information provided in this document and by others, particularly where JET's opinion differs from those others.

With technical assistance from the Environmental Law Alliance Worldwide (ELAW) in Eugene, Oregon, the Jamaica Environment Trust (JET) reviewed the Environmental Impact Assessment (EIA) and supporting documents for the proposed Princess Hotels and Resorts Development, Cove, Hanover, Jamaica done by CL Environmental Co. Ltd. JET was also represented at the associated public meeting held at Green Island High School, Green Island, Hanover on March 5, 2020 at 5:30pm by JET's Chief Executive Officer, Suzanne Stanley and Deputy Chief Executive Officer, Keisha-Ann Down.

JET has seven major concerns regarding the proposed project. Our review of the EIA is outlined below:

1. A development of this nature is wholly inappropriate for an area which has been afforded several levels of environmental protections, and is well recognised for its diverse and healthy coastal ecosystems

The project site is within an area zoned for conservation by the Negril and Green Island Development Order and has multiple layers of legal protections to safeguard the environment. Page 28 of the EIA states:

The proposed project area falls within the several categories of management and protection; The Negril Environmental Protection Area (Negril EPA), Negril Marine Park (NMP) and the Western section of the site on the boundary of the Environmental Replenishment Zone (Negril ERZ) and the Green Island Fish Sanctuary.

The beaches nearby and along the proposed project area were historically known for nesting and foraging turtles and manatees while the wetland areas are known for crocodiles, whistling ducks, and game birds associated with the significant black mangrove forest and wetland area. Other endemic flora and fauna species have been outlined above in previous studies and anecdotal information.

The seagrass along the nearshore of the proposed project area range from dense, Thalassia dominated beds to extremely sparse areas and areas dominated by macro algae. All three species of seagrass were found in the proposed project; Thalassia testudinum, Syringodium filiforme, and Halodule wrightii. The seagrass bed community is not uniformed, some areas appearing sparse with a short, discoloured blades or areas that lacked typical species such as hard coral species, invertebrates and fish. Some beds were dense with very long blades, epiphytes and macrofauna. The proposed project area is associated with an extensive reef system, including a raised, fringing reef along Negro Bay, varying shallow pavement areas with patch reefs and Buttress with a varying relief, spur and groove formation.

The wetland and mangrove community is currently a healthy, mature and ecologically functional wetland system. The observed ecology of the area supports the expected services of a medium to large mangrove forest

The proposed development relies heavily on coastal engineering and the modification of healthy coastal ecosystems during construction. For example, beach works described on page xxvii of the EIA include:

...the creation of groynes, jetty, submerged breakwaters, revetments, a jetty, some removal of beach rock, sand nourishment and the creation of a flushing channel. It is anticipated that

approximately 3 submerged breakwaters, a jetty, 7 groynes, 3 revetment areas and 4 areas to be dredged. The estimated amount of dredge spoils to be generated is approximately 6,000 m³...Sand for beach works will either be imported from the Bahamas or manufactured sand used.

The project is also estimated to result in the loss of 4.128 hectares (10.18 acres) of mangrove forest, impact approximately 10,676.81 m² of seagrass and approximately 165 hard corals during construction.

A development of this nature is wholly inappropriate in a conservation area and should not be allowed to proceed as proposed, particularly in the context of climate change. The likely impacts of climate change on the site and surrounding community – sea level rise, accelerated coastal erosion, extreme storm surge – make the long term viability of the development questionable. Degradation of the natural coastal protection – wetlands, coral, seagrass – will only serve to make this part of the coastline more vulnerable.

Additionally, the situation of the development in a marine protected area and fish sanctuary is likely to have long-term negative repercussions for the local fishers who depend on a healthy marine environment for their livelihood.

The proponent's description of the development as an eco-resort, is insulting and misleading. The project as proposed by no means meet the first International Ecotourism Society (TIES) principle for eco-tourism included on page xxvii of the EIA, which demands minimal impact on the natural environment. Instead this project has the potential to completely destroy this section of coastline to the detriment of the environment and the plants, animals and people that depend on it for their survival.

2. The proposed overwater rooms do not meet the criteria outlined in the Overwater Structure Planning Guidelines, 2016

The Overwater Structure Planning Guidelines (2016) found on page 55 of the EIA state:

The development of overwater structures will not be permitted in the following areas:

- *Areas within 100m of a coral reef.*
- *Declared public bathing and fishing beaches*
- *Fish sanctuaries*
- *Marine protected areas*
- *Navigational channels*
- *Within 100m of river mouths and drainage features*
- *Areas within 30 m of mangroves and riparian forest*
- *Exposed and high energy coastline*
- *Within 30m of underwater infrastructure e.g. cables and pipelines*
- *Proposed development areas with 30% or more of seagrass coverage*

JET's review of the EIA indicates that the overwater rooms as proposed by the proponents of the Princess Hotels and Resort Development do not meet at least five of the criteria outlined in the aforementioned guidelines. The proposed site of the overwater rooms is within 100m of a coral reef and within 30m of mangroves; and seagrass coverage assessments for the project site report ranges between 68% and 100%. Additionally, the project site is in a fish sanctuary and a marine protected area.

JET is of the position that the 2016 guidelines are entirely appropriate in their restriction of overwater rooms in these circumstances. The guidelines should be adhered to - this aspect of the project should not be approved.

3. The impacts of the proposed overwater rooms have not been adequately addressed

The proposed overwater rooms will have some of the most substantial impacts to the local environment when compared to any other aspect of the project. Not only does their placement appear to result in direct mortality of critical species, but it is likely that their location will affect flow and water quality in the entire cove.

As an example of the direct impact, the distinct shape of dark and white matter and other lighter areas circled in red below on Figure 8-26 look to be permanent features in the water and not artefacts of the image. They appear in nearly every Google Earth image that has been taken since 2003.

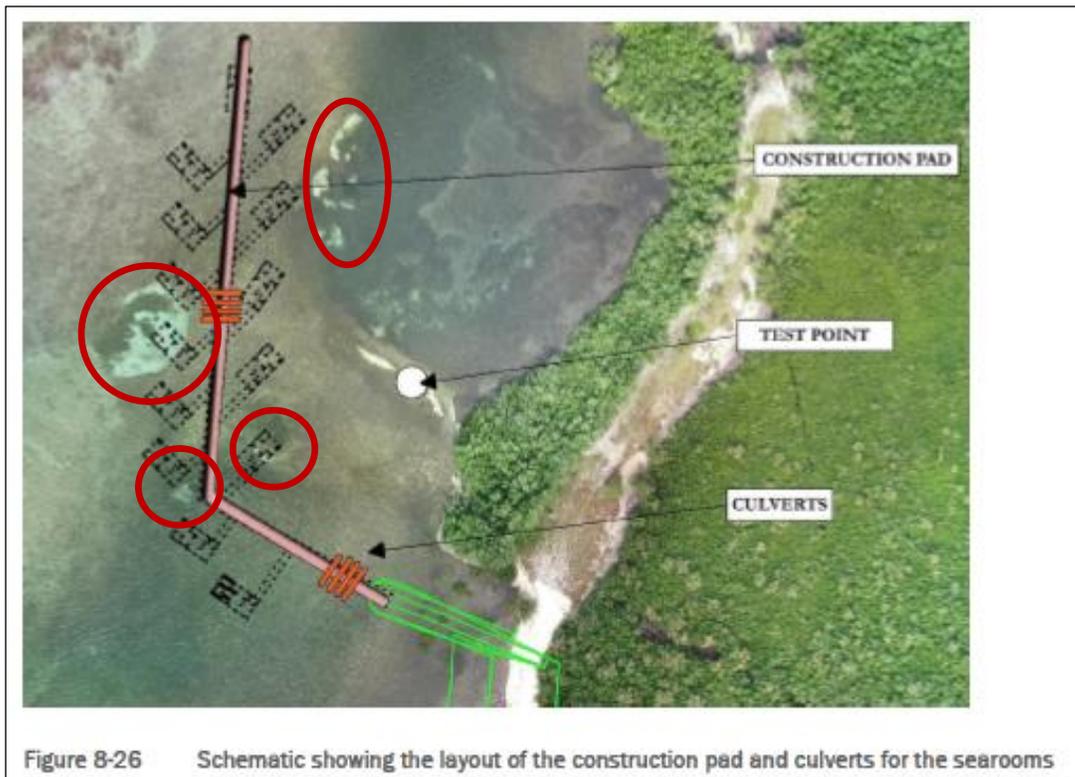


Figure 8-26 p. 586 of the EIA

Below is a Google Earth image of the same area dated April 16, 2009, for comparison:



Google Earth image taken April 16, 2009

Although they are not identified specifically in the surveys conducted for the EIA, those masses are likely to be coral reef structures.

The mitigation offered by the project proponents for this area on page xxxvii of the EIA is the simple statement that a:

“Detailed Seagrass and Coral Removal and Relocation Plans, as well as a Post-Relocation Monitoring Plan, must be prepared for approval by NEPA.”

Stating that plans must be prepared means that no sites have been selected or biologically viable protocol established for protecting and transplanting multiple species to other areas. **JET is of the opinion that the EIA should not even be considered by the authority without these critical elements in place.**

The EIA also states on page xi that:

“Searoom pilings provide ecological volume for coral colonization and recruitment.”

However, there is no scientific evidence presented that adding vertical columns in this area will benefit coral recruitment. And even in a best case scenario, providing potential habitat for new recruits is not biologically equivalent to protecting coral reef structures that may be hundreds of years old.

4. The wastewater treatment plant is likely to harm nearshore species

The presentation given at the public meeting on March 5, 2020 for the EIA included these slides:

Project Overview - Wastewater Treatment Plant

- A wastewater treatment plant will be located on Lots 12 & 13.
- It will be a tertiary treatment plant.
- 80% of the treated effluent will be used for irrigation.
- 20% of the treated effluent will be used to enhance the proposed rehabilitation mangrove areas.

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Project Overview - Storm Water Drainage and Hydrology

- Concept allows the proposed site to drain freely into the mangrove forest and maintain its natural drainage pattern.
- This will be done by a series of buried pipes, covered box drains and culverts to maintain hydrologic flows between areas separated by roads or dykes.
- Retention pond areas will be developed and will be reforested with mangroves and wetland species.

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It is concerning that the plan for wastewater is to allow it to drain straight into the proposed mangrove restoration area. Tertiary treatment does not address the following substances potentially found in wastewater:

1. Antibiotics;
2. Pharmaceuticals;
3. Microplastics and plasticizers;
4. Salts;
5. Metals;
6. Solvents;
7. Pesticides, or
8. Surfactants, including potential endocrine disruptors.

All these substances are potentially harmful to mangroves directly, as well as to associated species found within the mangrove habitat. Discharging potentially polluted wastewater into a fragile existing or recovering ecosystem seems ill-advised as a mitigation plan for the mangrove and wetland species.

5. Seagrass and coral reef loss is expected to be extremely high

Page 253 of the EIA states:

“The seagrass beds range from dense, Thalassia dominated beds to extremely sparse areas and areas dominated by macro algae. All three species of seagrass were found in the proposed project; Thalassia testudinum, Syringodium filiforme, and Halodule wrightii. The seagrass bed community is not uniformed, some areas appearing sparse with a short, discoloured blades or areas that lacked typical species such as hard coral species, invertebrates and fish. Some beds were dense with very long blades, epiphytes and macrofauna.”

[...]

“The proposed project area is associated with an extensive reef system, including a raised, fringing reef along Negro Bay, varying shallow pavement areas with patch reefs and Buttress with a varying relief, spur and groove formation. Thickets of the critically endangered Acropora cervicornis were found at several locations. At the time of the surveys the reefs were undergoing a massive bleaching event at all depths during the survey. Hard coral diseases were also common.”

Further, in the presentation given at the public meeting on March 5, 2020, the loss of seagrass is summarized as follows:

Seagrass

- ≈10,676.81 m² of seagrass will be directly impacted by various project features (this includes a 3m buffer area around each feature)
 - 10,579.81 m² Thalassia;
 - 84.46 m² Halodule;
 - 4.96m² mixed bed of Syringodium and Halodule;
 - 4.61m² mixed bed Thalassia and Halodule;
 - 2.77m² Syringodium.
- 6,726.61 m² Suitable for Relocation

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Although the slide refers to relocation, no plan for protecting or translocating any of these species has been developed. Coral communities and seagrasses are both notoriously difficult to transplant, and doing it properly requires a financial investment on the order of hundreds of thousands of US dollars. One group of European researchers summed up their findings in a review of seagrass restoration as follows:

“...restoration should never be considered the first alternative when planning for the mitigation of coastal development projects or to justify mitigation as a compensation measure for economic activities.”¹

It is not clear that enough care will be taken to avoid and mitigate the substantial impacts of losing these habitats.

¹ Cunha, A. H., N. N. Marbá, M. M. van Katwijk, C. Pickerell, M. Henriques, G. Bernard, M. A. Ferreira, S. Garcia, J. M. Garmendia, and P. Manent. 2012. Changing Paradigms in Seagrass Restoration. Restoration Ecology 20(4): 427-430. p. 427.

6. There is inadequate assessment of the cumulative impacts of the proposed development

Despite the acknowledged loss of approximately 2.5 acres of biologically diverse seagrass beds and the nationally and internationally protected coral reef species (*Acropora cervicornis*), the entire Cumulative Impacts section found on page 595 of the EIA reads as follows:

“8.5 CUMULATIVE IMPACTS

8.5.1 Mangrove Forest

There will be additional water drainage into the mangrove forest as a result of the proposed project, as detailed in Section 8.3.1.1.

Drainage into the mangrove swamp from the grounds of the proposed hotel property have the potential to affect water quality in the form of suspended solids, solid waste and oil and grease. Effective surface water management will be necessary to minimize the impact of added runoff into the mangrove forest.

8.5.2 Water Supply

Water consumption is estimated to be 90,138.57m³/month (≈ 23,812,091 US gal/month). This equates to approximately 3,005 m³/day (≈ 800,000 US gal/day). This increase in water demand will need to be fulfilled by the NWC Logwood Treatment Plant, the capacity of which is 7 million gallons per day. Currently the plant supplies between 4 and 5 million gallons of water per day and the Negril area specifically (including parts of Hanover in which the proposed development is located) uses approximately 4 million gallons of water per day. The NWC Logwood Treatment Plant should therefore be able to accommodate the increased water demand of the new development without overburdening the public water supply system.

8.5.3 Solid Waste

Construction debris, raw materials and packaging materials etc. associated with construction activities will add to the amount of solid waste generated in the area to be collected and disposed of. During operations, increased hazardous waste from fuel and chemical containers etc. will add to the amounts of solid waste being generated. Potential accidental spills of hazardous material should also be taken into account and its possible effect on water, air and soil resources.”

The Master Plan for the project on page 94 of the EIA is below:



Figure 5-1 p. 94 of the EIA

When the cumulative impact list is presented alongside this master plan figure, it becomes evident that the proponents' efforts to address the impacts are woefully inadequate. Additionally, the cumulative impact section of the EIA includes no mention of the massive seaworks and earthworks required to construct the groins, drainage areas, channels, new beaches, walkways, buildings, roads, and other elements of this project.

7. The impacts of the development on water supply in the area have not been adequately addressed

JET also resonates the concerns voiced by several residents at the public consultation on March 5, as it relates to water supply to the development. Residents say that they are already subject to low water pressure and water restrictions, and a 2000+ room resort is likely to make water scarcity even worse. Page 572 of the EIA states:

Potable water for the development will be sourced from the National Water Commission (NWC). Water consumption is estimated to be 90,138.57m³/month (≈ 23,812,091 US gal/month). This equates to approximately 3,005 m³/day (≈ 800,000 US gal/day).

There is the potential for the hotel to further burden the water supply in the area in the event of drought conditions. In order to alleviate any potential burden on water supply in the area particularly during times of drought, it is recommended that various storage and conservation measures be put in place at the hotel such as:

- *Low flow fixtures*
- *Dual flush toilets*
- *Faucets fitted with aerators*
- *Electronic spigots and flush valves*

The EIA is extremely optimistic in describing the hotel as having the *potential* to further burden water supply, as the development will most certainly negatively impact water supply in the area. The demand-side measures recommended in the EIA are likely to do very little to alleviate this burden

General Comment on the EIA Public Meeting

Whilst JET appreciates the professionalism with which the public meeting associated with the EIA on March 5, 2020 was conducted and chaired, the positioning of political representatives on the panel at the front of the room was concerning. Both Member of Parliament, Mr. Ian Hayles and Councillor for the Green Island Division, Marvell Sewell remained seated at the front of the room for the duration of the meeting, beside the meeting chair, panel of EIA consultants and project proponents. As has worryingly become the norm at such public consultations, Mr. Hayles was allotted time at the beginning of the meeting agenda and voiced his strong support for the project. Additionally, the conduct of Councillor Sewell during the question and answer segment of the meeting, was disruptive. His commentary was delivered from the podium and sought to rile up the meeting attendees situated at the back of the room, who began heckling those asking questions. This outburst required the intervention of the chair. The meeting had been up to that point, a professional and civil gathering.

JET is of the opinion that the situation of politicians on the panels of EIA public consultations is inappropriate. This sends entirely the wrong message to meeting participants, who are seeking a safe

space where they will feel comfortable asking questions about a project that could have serious impacts on their community.

JET restates our long-standing objections to the way in which such public meetings are convened and executed. As stated in JET's letter to NEPA on July 16, 2019 regarding the Port Royal Cruise Pier in Kingston, public interest should be NEPA's major consideration in such matters. JET is deeply concerned with what appears to be the erosion of effective public consultation surrounding environmental decision-making processes in Jamaica.

Jamaica Environment Trust

March 27, 2020