ENVIRONMENTAL IMPACT STATEMENT (EIS)
MOON PALACE RESORT DEVELOPMENT
PR: 18748 - 60604/20, 254, 255, 497 & 498 AND 60900/269
GRACE BAY BEACH, LEEWARD
PROVIDENCIALES, TURKS AND CAICOS

APPENDICES



THE MOON PALACE COMPANY LIMITED

OCTOBER 2026

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DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS) THE MOON PALACE RESORT DEVELOPMENT – PR. 18748 – 60604/20, 254, 255, 497 & 498 AND 60900/269, GRACE BAY BEACH, PROVIDENCIALES, TURKS AND CAICOS ISLANDS – FOR MOON PALACE COMPANY LIMITED.

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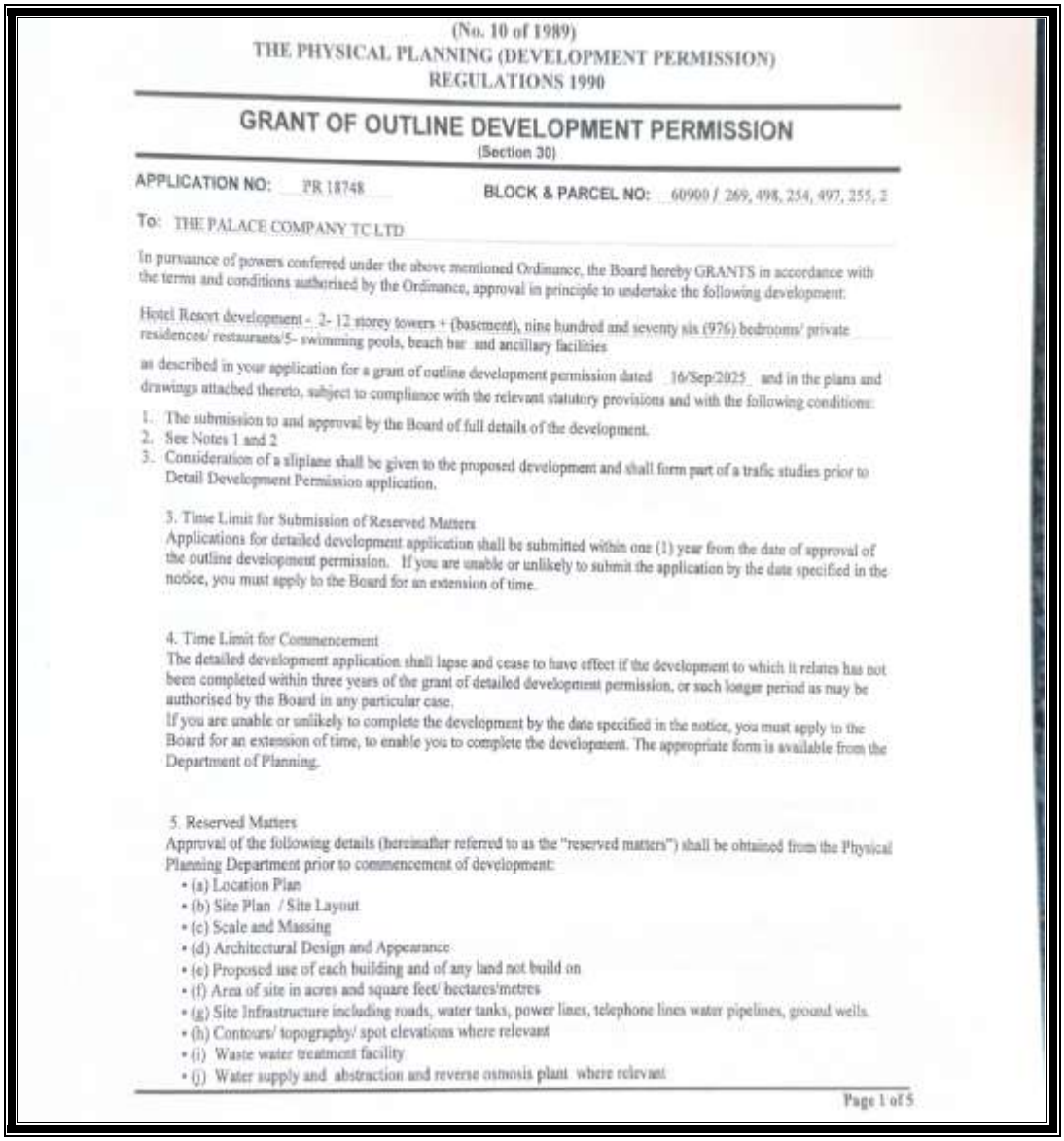
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SECTION IX

9.0 Appendices

9.1 Appendix A – Grant of Outline Development Permission (ODP)



(No. 10 of 1989)
THE PHYSICAL PLANNING (DEVELOPMENT PERMISSION)
REGULATIONS 1990

GRANT OF OUTLINE DEVELOPMENT PERMISSION
(Section 30)

APPLICATION NO: PR 18748 BLOCK & PARCEL NO: 60900 / 269, 498, 254, 497, 255, 2

To: THE PALACE COMPANY TC LTD

In pursuance of powers conferred under the above mentioned Ordinance, the Board hereby GRANTS in accordance with the terms and conditions authorised by the Ordinance, approval in principle to undertake the following development:

Hotel Resort development - 2- 12 storey towers + (basement), nine hundred and seventy six (976) bedrooms/ private residences/ restaurants/5- swimming pools, beach bar and ancillary facilities

as described in your application for a grant of outline development permission dated 16/Sep/2025 and in the plans and drawings attached thereto, subject to compliance with the relevant statutory provisions and with the following conditions:

1. The submission to and approval by the Board of full details of the development.
2. See Notes 1 and 2
3. Consideration of a sliplane shall be given to the proposed development and shall form part of a trafic studies prior to Detail Development Permission application.

3. Time Limit for Submission of Reserved Matters
Applications for detailed development application shall be submitted within one (1) year from the date of approval of the outline development permission. If you are unable or unlikely to submit the application by the date specified in the notice, you must apply to the Board for an extension of time.

4. Time Limit for Commencement
The detailed development application shall lapse and cease to have effect if the development to which it relates has not been completed within three years of the grant of detailed development permission, or such longer period as may be authorised by the Board in any particular case.
If you are unable or unlikely to complete the development by the date specified in the notice, you must apply to the Board for an extension of time, to enable you to complete the development. The appropriate form is available from the Department of Planning.

5. Reserved Matters
Approval of the following details (hereinafter referred to as the "reserved matters") shall be obtained from the Physical Planning Department prior to commencement of development:

- (a) Location Plan
- (b) Site Plan / Site Layout
- (c) Scale and Massing
- (d) Architectural Design and Appearance
- (e) Proposed use of each building and of any land not build on
- (f) Area of site in acres and square feet/ hectares/metres
- (g) Site Infrastructure including roads, water tanks, power lines, telephone lines water pipelines, ground wells.
- (h) Contours/ topography/ spot elevations where relevant
- (i) Waste water treatment facility
- (j) Water supply and abstraction and reverse osmosis plant where relevant

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GRANT OF OUTLINE DEVELOPMENT PERMISSION

(Section 30)

- (k) Access and Circulation
- (l) Landscaping and Coastal Vegetation Plan
- (m) Floor Plans
- (n)Foundation Plan
- (o)Elevation Plans(front, side, rear)
- (p) Sewage treatment Details
- (q) Construction details (cross section, structural, mechanic, plumbing, sanitary details)

6. Restriction on Use

The premises shall be used solely as a hotel or resort (Class C1 equivalent) and for no other purpose, including residential apartments or condominiums, without the prior written consent of the Director of Planning.

7. Coastal Setback and Beach Protection

All buildings, hard structures, and permanent fixtures shall be located landward of the approved coastal setback line as determined by the Department of Environment and Coastal Resources (DECR).

Should the proposal is to place temporary structure on the foreshore written permission shall be obtained from the Crown Land Unit.

No works or installations shall be carried out within the coastal setback area without prior approval from DECR and Crown Land Unit.

8. Environmental Management and Construction Controls

Prior to the commencement of any site works, the developer shall submit and obtain approval for an Environmental Impact Assessment (EIA) prepared in accordance with the Term of Reference (TOR) issued in consultation with DECR.

9. Landscaping and Vegetation Protection

A detailed landscaping and re-vegetation plan using predominantly native species shall be submitted as part of the reserved matters and approved prior to commencement. All approved planting shall be implemented prior to the occupation of the development and maintained thereafter.

10. Access, Parking, and Servicing

No development shall commence until details of vehicular and pedestrian access, internal circulation, parking at the required rate, service areas, and emergency access have been approved by the Planning Department.All approved facilities shall be completed and made operational prior to the occupation of the development.

Reason:To ensure safe and efficient access arrangements in the interests of public safety.

11. Public Beach Access:

Provision shall be made within the development for public pedestrian access to the beach, the location and design of which shall be approved by the Planning Department, Crown Land and DECR.Such access shall be clearly signposted and remain unobstructed at all times.

Reason:To maintain lawful public access to the beach and foreshore in accordance with national policy.

12. Community Project:

The applicant/developer shall liaise with the Director of Planning to prepare and agree upon a Development Plan applicable to the area in which the proposed development is located.This plan shall be prepared and implemented at the expense of the applicant, in accordance with Section 49(3) of the Physical Planning Ordinance 2021.

[illegible] the development of the surrounding community through coordinated

GRANT OF OUTLINE DEVELOPMENT PERMISSION

(Section 30)

13. Drainage and Stormwater Management:
Prior to commencement of construction, a detailed stormwater and drainage plan shall be submitted to and approved by the Planning Department and the Public Works Department. The scheme shall incorporate sustainable drainage techniques and prevent any discharge of surface water or pollutants onto the beach or adjoining land.
Reason:To ensure effective stormwater management and to protect the marine environment.

14. Sewage and Waste Water Management Environmental Health Management:
Prior to commencement, the applicant shall submit for approval a comprehensive Sewage, Wastewater, and Environmental Health Management Plan prepared in consultation with the Department of Environmental Health, DECR, and the Director of Planning.
The plan shall demonstrate:

i. Tertiary wastewater treatment capacity for peak occupancy, with effluent monitoring in compliance with the Public and Environmental Health Ordinance (Cap. 8:04);
ii. A solid waste management strategy, including recycling and hazardous waste handling;
iii. Confirmation of water supply source (e.g., desalination) and conservation measures;
iv. Stormwater drainage design preventing flooding and coastal runoff;
v. Vector control, food safety (HACCP), and staff sanitation provisions;
vi. Compliance with environmental and occupational health standards, including erosion, noise, and air quality control during construction and operation.

15. Fire and Emergency Management
Prior to the commencement of construction, the applicant/developer shall submit to and obtain approval from the Fire and Rescue Department and the Director of Planning a comprehensive Fire and Emergency Management Plan (FEMP).The plan shall include, but not be limited to:

i. Building fire safety design and fire suppression systems;
ii. Fire alarm, detection, and evacuation systems;
iii. Provision for emergency vehicle access and fire hydrant locations;
iv. Emergency response, evacuation routes, and muster points;
v. Staff training and on-site emergency procedures.
vi. All approved fire safety and emergency provisions shall be fully implemented and maintained throughout the life of the development.

16. Building Height and Design
No building or structure shall exceed the maximum building height permitted unless otherwise approved by the Physical Planning Board.The architectural design shall employ materials and finishes appropriate to the tropical coastal environment.
Reason:To preserve the visual character of Grace Bay and ensure a high-quality design response.

17. Sustainability and Energy Efficiency As part of the reserved matters submission, the developer shall provide details of measures to promote sustainability, including:

i. Renewable energy systems (e.g. solar panels or heat pumps)
ii.Energy-efficient lighting and cooling systems
iii Water conservation measures and greywater recycling
iv Waste reduction and recycling systems

18. Lighting and Wildlife Protection:
All external and beachfront lighting shall be designed and positioned to minimize glare and light spill toward the beach in order to protect sea turtles and other coastal wildlife.Lighting specifications shall be approved by DECR prior to installation.
Reason:To protect wildlife and maintain the natural night-time environment of Grace Bay.

GRANT OF OUTLINE DEVELOPMENT PERMISSION

(Section 30)

Construction and site works shall take place only between the hours of 7:00 a.m. and 6:00 p.m. Monday to Saturday.No works shall be carried out on Sundays or public holidays without the prior written consent of the Director of Planning.

20. Wastewater and Solid Waste:
No development shall commence until details of the proposed wastewater treatment system, grease traps, and solid waste storage and collection facilities have been submitted to and approved by the Department of Environmental Health.All approved systems shall be installed prior to occupation and maintained thereafter.
Reason:To prevent pollution and ensure adequate sanitation in accordance with public health standards.

21. Air Quality and Emissions:
Prior to reserved matters submission the applicant shall submit an Air Quality Assessment detailing baseline conditions, predicted emissions from on-site plant and operational sources, odour control, and a mitigation and monitoring plan demonstrating compliance with relevant public health and environmental standards.

22. Airflow, Ventilation and Smoke Control:
Prior to reserved matters submission the applicant shall submit an Airflow and Ventilation Report, including CFD modelling where appropriate, showing that internal spaces and external amenity areas achieve acceptable ventilation, thermal comfort, and that mechanical systems (including smoke control) meet applicable performance standards.

The report shall include system specifications, noise and odour control measures, and maintenance arrangements.

23. Shade, Microclimate and Visual Integration
Prior to reserved matters submission the applicant shall submit a Shade & Microclimate Study and an associated Visual Impact. Note that together demonstrate sun/shade diagrams, mitigation for wind tunnelling or heat island effects, proposed shading/landscape treatments, and screening of plant and service equipment so as not to harm beach views or the coastal character.

24. Archaeology and Cultural Heritage
In the event that any archaeological artefacts or historic remains are discovered during excavation or construction, all work shall cease immediately, and the Department of Culture and Heritage shall be notified.

No further works shall proceed until the Department provides written clearance.

25. Compliance and Monitoring
The developer shall permit officers of the Physical Planning Department and DECR access to the site at all reasonable times for the purpose of monitoring compliance with the conditions of this permission.

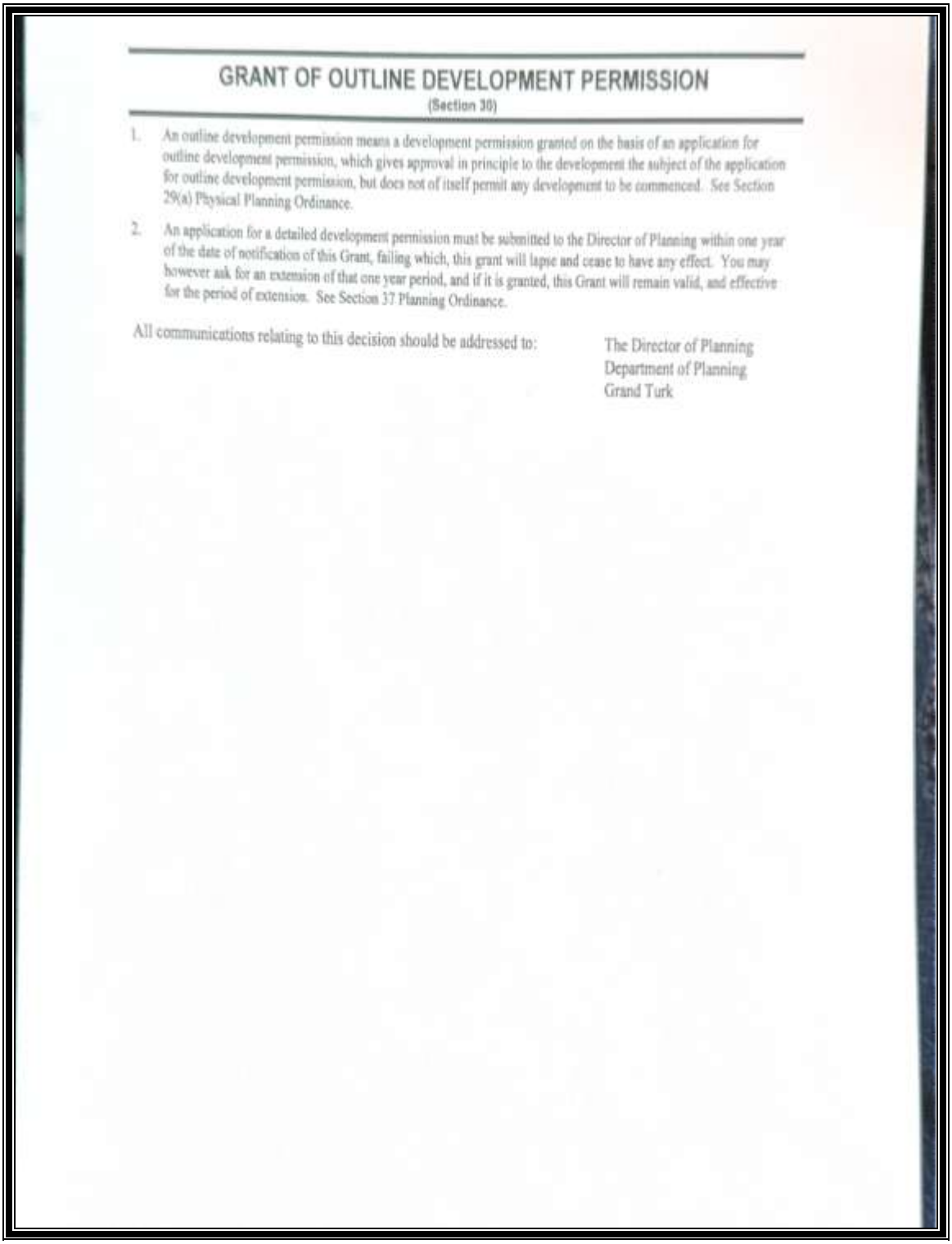
The reason(s) for the imposition of the condition(s) specified (or attached) is/are:

One copy of the application and the accompanying plans and drawings are returned with this Grant.

Dated: DEC 4 2024

Signed: [signature]
DIRECTOR OF PLANNING

NOTES



GRANT OF OUTLINE DEVELOPMENT PERMISSION

(Section 30)

1. An outline development permission means a development permission granted on the basis of an application for outline development permission, which gives approval in principle to the development the subject of the application for outline development permission, but does not of itself permit any development to be commenced. See Section 29(a) Physical Planning Ordinance.

2. An application for a detailed development permission must be submitted to the Director of Planning within one year of the date of notification of this Grant, failing which, this grant will lapse and cease to have any effect. You may however ask for an extension of that one year period, and if it is granted, this Grant will remain valid, and effective for the period of extension. See Section 37 Planning Ordinance.

All communications relating to this decision should be addressed to:

The Director of Planning
Department of Planning
Grand Turk

9.2 Appendix B – The Terms of Reference (ToR)

PLANNING DEPARTMENT
TURKS & CAICOS ISLANDS

MINISTRY OF PHYSICAL PLANNING AND INFRASTRUCTURE DEVELOPMENT
DEPARTMENT OF PLANNING

Terms of Reference for an Environmental Impact Assessment
for
Moon Palace Resort
PR18748

Read carefully as formatting requirements for submission may have updates or changes.

General: The Environmental Impact Assessment (EIA) must be conducted for this development with emphasis on the marine and terrestrial areas directly affected by the proposed project. **This requirement includes all applications for works relevant to the main project that will occur, including applications for ancillary works directly related to the main project.** All applications relevant to the project are expected to be supplied by the issuance of these Terms of Reference. If additional applications relevant to the main project are forthcoming, the applicant shall collate all applications for submission at the same time.

The cumulative impact of all projects in the area must be analysed (with new data and information). All environmental studies/data prior to this application must be re-validated, in consultation with Department of Environment and Coastal Resources (DECR) and Department of Planning (DoP).

Qualification: EIA process shall be carried out by fully qualified consultants in all areas of study as per these Terms of Reference.

Scientific Research Permit: All scientific field research in Turks and Caicos Islands requires a Scientific Research Permit. This includes field research towards an Environmental Impact Assessment, to be licensed with a commercial Scientific Research Permit from the Department of Environment and Coastal Resources. The EIA consultant shall apply for this permit through the Office of the Assistant Director of Environmental Research & Development in DECR using the most current application form.

Process: For an Environmental Impact Statement (EIS) to be deemed credible and acceptable, all site research work must be conducted prior to any physical works on the site that lead to degradation or change to the natural environmental conditions on the site. Environmental Impact Assessment research shall be considered void if it is carried out following site clearance, vegetation disturbance, terraforming, groundworks, or other physical works that alter the conditions of the intact habitats or affect presence of naturally-occurring flora and fauna.

Formatting Requirements: The DECR has multiple offices across the Turks and Caicos Islands and all offices have staff on the EIS review team. Therefore, all documents shall be submitted as digital files to the **Department of Planning** in **electronically shareable format**: that is, either by email or reference to an online website from which the

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documents may be downloaded until review process is complete and by multiple reviewers (not read-online only, nor password-protected, nor time-bound, nor one-time download, nor limited to specific recipients). Any variance from this format, or sending documents that do not open properly, will be cause for delay in review. Temporary and single-addressee file sharing sites are not generally acceptable.

Each document, report, and appendix shall be submitted in either consistently portrait or landscape layout throughout, with all images and sections in parallel alignment and proper, upright orientation (including tables and maps); and with all sections (including text within images) clear and readable. Maps (other than aesthetic representation figures) shall be presented with conventionally representative orientation (north-up). Currently accepted zoological and botanical names shall be used adjacent to common names throughout documents; valid synonyms are acceptable but not required. All documents must be submitted with security settings to allow both internal commenting and copying of text; the use of which will be restricted to within DECR and DoP to internally share comments and extract passages for responses. Documents not submitted within these requirements may be rejected and subject to review delay.

Perspective and Wording: The Environmental Impact Statement (EIS) should present analysed data objectively. Language stating obvious bias towards the development, particularly postulations that a pristine natural area is being "improved" or "enhanced" should be avoided. Lengthy explanations of the merits of the development are unnecessary; these can be deducted from the master plans and proposals included as appendices.

Submission: Complete Environmental Impact Statement (EIS) must be submitted to the **Department of Planning.** Documents may be copied to DECR with this submission but shall not be submitted directly/solely to DECR. All documents shall be submitted digitally in addition to the number of printed copies required by DoP. DoP may request additional or hard copies of documents.

Review and Response: EIS may be accepted, conditionally accepted, or rejected by DECR. For an EIS to be accepted, it will need to minimally but robustly meet the requirements for inclusion of data and analysis as set forth in the Terms of Reference. For an EIS to be accepted, the entire process must be completed (including data collection, analysis, submission, review, comments, and review of responses) **prior to any groundwork occurring on the area of impact –** including but not limited to land clearance and vegetation removal, excavation, filling, levelling or other terraforming, construction, bulldozing of survey lines or access roads, burning, or landscaping. Hand-cut survey lines and hand-cutting of access trails for research are acceptable, but no other impact shall have occurred prior to EIS process being complete for acceptance to occur. If the site is impacted from a previous permitted development, that should be clearly stated. If the site has already been impacted for works relating to the development, including overall or master plan, of which the application is part, this should be clearly stated.

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EIS that are accepted may still be issued with comments that will require response from the consultant and/or proponent. EIS that are conditionally accepted may require resubmission of sections, data, components, imagery, or formatting that do not fulfil the requirements of the Terms of Reference; these resubmissions shall be resubmitted not piecemeal but as parts of a completely revised EIS.

All revisions to EIS in response to comments must be made with indication in the body of the EIS – by way of internal annotation, highlighting, or other differentiation. **Failure to annotate alterations following comments will result in delays in review.**

EIS that are rejected will require rewriting as specified by DECR comments and recommendations prior to resubmission (and resubmission as a new EIS document, not piecemeal sections or responses, with revisions annotated/identified) at which point the DECR will review the EIS again.

Required Components of the EIS:

1. Introduction and Overview

1.1 Reference page with names and contact information of development proponent and EIA contractor; Department of Planning reference number; block and parcel numbers concerned; island and general location; and date completed/ submitted (revisions to include dates of revision submission following original dates).
1.2 Non-technical summary (including aims, objectives and scoping).
1.3 A brief description of the proposed development and its relationship with other development in the area; including adjacent development in the geographic area.
1.4 Aims and objectives of the assessment.
1.5 Overview of the areas/topics to be addressed in this EIA (present the results of scoping exercise).
1.6 Impact Assessment methods/analyses.

2. Baseline Studies

All baseline studies shall be supplemented with date and time metadata for when surveys were conducted.

2.1 Historical overview of the site and existing development- use historical and current aerial maps (time-series visualization) and official TCI generated map (Block/Parcel). Describe the historical ownership and land-use of the proposed development, including the surrounding areas.
2.2 Biological environmental baseline assessment:
2.2.1 Baseline terrestrial environment (including areas that are cleared, bulldozed and disturbed/damaged) – Quantitative description of any terrestrial ecological assets to be directly impacted by the project and a qualitative assessment of assets that may be indirectly impacted, to include:
2.2.1.1 Description and quantification of habitats and ecosystems present (including documentation of historically

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disturbed habitats).

2.2.1.2 Complete list and description of rare, threatened, and endangered species (as per IUCN Red Data List, CITES, and DECR lists)

2.2.1.3 Complete list of flora (plants) species and any identifiable fungi species present. Plant nomenclature shall be presented either as per Correll's Flora of the Bahama Archipelago 1982 or Plants of the World Online https://powo.science.kew.org/.

2.2.1.4 Complete list of bird species with annotation as to season, time of day, and duration of surveys taken; to include any instance of nesting or breeding. Bird surveys shall be taken at appropriate times (within one hour of sunrise and sunset; at intervals throughout daylight, and in over as long a period as possible to capture seasonal variation).

2.2.1.5 Complete list of all reptile and amphibian species present.

2.2.1.6 Complete list of any freshwater fish species present.

2.2.1.7 Complete list of any mammal species present.

2.2.1.8 Representative lists of invertebrates and fungi present.

2.2.1.9 In the case of karst habitats, complete lists of cave biota, both terrestrial and aquatic, from qualified researchers.

2.2.1.10 Qualitative and quantitative study of dune ecosystem and coastal coppice ecosystem on subject parcels.

All above categories 2.2.1.1 – 2.2.1.10 shall be supplemented with descriptions **of dates, times, and durations** when surveys were taken.

2.2.2 Baseline marine environment (including the adjacent anthropogenic canal and banks, and Turtle Lake to which the canal joins) – Quantitative description of marine ecology within all areas to be directly impacted by the project and a qualitative assessment of areas that may be indirectly impacted, to include:

2.2.2.1 Description and quantification of marine habitats and ecosystems present. Map the marine habitats in the area directly affected by the proposed development. The map should be geo-referenced.

2.2.2.2 Complete list and description of rare, threatened, and endangered species (as per IUCN Red Data List, CITES, and DECR lists)

2.2.2.3 Complete list of all marine flora (plants including macroalgae) present.

2.2.2.4 Complete list of all coral species present, including soft corals.

2.2.2.5 Complete list of all seabird species present.

2.2.2.6 Complete list of all marine reptile species present.

2.2.2.7 Complete list of all fish species present.

2.2.2.8 Complete list of all marine mammal species present.

2.2.2.9 Representative list of marine invertebrate species (other than corals) present.

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2.2.2.10 Description sargassum situation in the area.

All above categories 2.2.2.1 – 2.2.1.10 shall be supplemented with descriptions of dates, times, and durations when surveys were taken.

2.3 Physical environmental baseline assessment to include topography, soil type, structure, geotechnical study, sediments and profile:

- 2.3.1 Topography of the area. It is recommended to use drone-imagery and processed by professionals.
- 2.3.2 Bathymetry for affected canal basin, any other underwater areas conceivably affected by the project, extending at least 500 meters each direction in the canal from the entire footprint of proposed project.
- 2.3.3 Geology (check previous EIA or nearby projects, if any, validate when necessary)
- 2.3.4 Hydrology.
- 2.3.5 Sediment analyses, including grain size (canal)and testing for contaminants
- 2.3.6 Climate and meteorology. Meteorological parameters within the area- at least for the last 10 years.

2.4 Baseline aesthetics – this should be supported by drone/UAV imageries plus ground photography and descriptions/characterizations.

- 2.4.1 Existing horizon line of subject area from road, 200 meters out to sea, and from both 500 meters northeast and south by southeast of project area.
- 2.4.2 Review of existing architectural vernacular of developments within 1 km of site.
- 2.4.3 Review of current beach use: Numbers of visitors per day through high and low seasons. Additionally, this data should be analyzed against the projected numbers of beach users during the construction and operation phases.
- 2.4.4 Qualitative study of beach users involving an opinion survey of at least 200 key stakeholders (beach users, operators, vendors etc.): The study should assess perceptions of the proposed project, beach access and the current beach conditions.

2.5 Baseline coastal processes and dynamics (this should be factored in the design of the project and maintenance/operation of the beach, if applicable):

- 2.5.1 Currents, wave action, and tides.
- 2.5.2 Sediment transport.
- 2.5.3 Erosion and accretion, as applicable.

2.6 Water quality from within the area to be directly impacted by the project (e.g. marina, nearshore areas)– parameters to include dissolved oxygen (mg/l), temperature (°C), salinity (ppt), pH, turbidity (NTU), total dissolved solids (mg/l), ammonia (as mgN/l), nitrate/nitrite (as mnN/l), nitrite (as mgN/l), total dissolved phosphorus (mg/l), total chlorophyll (µg/l), pheophytin (µg/l), active chlorophyll (µg/l) and total Coliform. Nutrient loads are to be tested to an ultra-low level.

2.7 Social-economic:

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2.7.1 Demographic.
2.7.2 Employment
- 2.7.2.1 Labor & skills demand at construction; local and foreign workers needed.
- 2.7.2.2 Labor & skills demand at construction and operation; local and foreign workers needed.

2.7.3 Safety/security concerns within the community.
2.7.4 Economic impact: short-term and long-term.
2.7.5 Infrastructure and Public Services - Review the adequacy of existing infrastructure (roads, utilities, water, wastewater, waste management) to support increased demand.
2.7.6 Housing and Community Dynamics - Examine potential impacts on housing availability, affordability, and land values, including risks of displacement or social tension.
2.7.7 Tourism and Recreational Value
2.7.8 Cultural and Heritage Considerations
2.7.9 Local Economy and Cost of Living
2.7.10 Stakeholder Perception and Social License - Summarize key issues raised through consultation and assess overall community support or concern.
2.7.11 Socio-economic activities and stakeholders in proximity to the proposed project that may be impacted.

3. **Legislative and Regulative Context** – To include a discussion of any **aspects of law, regulation and/or policy relevant to the project**, such as, but not limited to the legislation (including limits/ zones designated under any legislation, regulations, or policy relevant to the subject area) listed below.

NB: This section should not be a summary of laws, but rather how the laws pertain to the project.

3.1 TCI Development Plan/Master Plan.
3.2 TCI National Physical Development Plan 2020
3.3 Physical Planning Ordinance and subsidiary legislations.
3.4 TCI Development Manual.
3.5 TCI Building Code.
3.6 National Parks Ordinance
3.7 Coast Protection Ordinance and subsidiary legislations.
3.8 Mineral (Exploration and Exploitation) Ordinance and subsidiary legislations.
3.9 Marine Pollution Ordinance and subsidiary legislations.
3.10 Fisheries Protection Ordinance and subsidiary legislations.
3.11 Wild Bird Protection Ordinance.
3.12 International treaties and conventions.
3.13 Turks and Caicos Islands Vision 2040
3.14 Other relevant laws and regulations.

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This section shall point out the section of the laws that are permissible or otherwise with this proposed development.

4. Project Description and Construction and Operation and alternatives

4.1 Description of the proposed project/components including but not limited to:
- 4.1.1 . Resort – 976 rooms
- 4.1.2 Guest and Service Accesses
- 4.1.3 Swimming pools
- 4.1.4 Bars and Restaurants
- 4.1.5 Private Residences
- 4.1.6 Sports Courts
- 4.1.7 Sales Centre
- 4.1.8 Water Treatment Plant
- 4.1.9 Beach Boardwalks
- 4.1.10 Parking Lots
- 4.1.11 Any housing for employed staff

4.2 Project Justification
- 4.2.1 Socio-economic justification
- 4.2.2 Ecological justification

4.3 How the proposed project will affect coastal dynamics – including consideration of significant increase in beach foot traffic,human use of shallows and any proposed activities on the coastline.

4.4 Coastal/beach development and management including beach access.
- 4.4.1 Dune conservation and management
- 4.4.2 Beach and shallows carrying capacity management

4.5 Solid waste management during construction and operation.

4.6 Surface-run-off management/ Storm water runoff and treatment during construction and operation.

4.7 Traffic flow and safety (marine, coastal).

4.8 Utilities demand and source (construction and operations).
- 4.8.1 Electricity demand and source, construction phase.
- 4.8.2 Electricity demand and source, operation phase.
- 4.8.3 Water demand and source, construction phase.
- 4.8.4 Water demand and source, operation phase.
- 4.8.5 Public roadway vehicular demand and load, construction phase.
- 4.8.6 4.10.5 Public roadway vehicular demand and load, operation phase.

4.9 Landscaping
- 4.9.1 Methodology of conserving and utilizing existing vegetation
- 4.9.2 Landscaping plan including utilization of native species (and sources)
- 4.9.3 Landscaping maintenance and support systems (irrigation, treatment, etc)

4.10 Construction phase activities:
- 4.10.1 Construction methods and programme, including phasing of the development. This includes description of use of any potentially polluting building materials (polystyrene, etc.) and methodology of containment.
- 4.10.2 Site security and hoarding.

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4.10.3 Storage of materials and equipment (including soil and excavated materials).
4.10.4 Beach traffic impact and safety.
4.10.5 Temporary sanitary facilities.
4.10.6 Access and staging.
4.10.7 Solid waste management- those generated during construction, if any.
4.10.8 Liquid waste management, including control of runoff- those generated during construction, if any.
4.10.9 Control of air, dust, water and noise pollution (generated by the project/heavy equipment, if any).
4.10.10 Control/storage of fuels and other dangerous substances, if any.
4.10.11 Emergency mitigation plan.

4.11 Social-economic
4.11.1 Demographics.
4.11.2 Employment – labor & skills demand at construction and operation; availability of local workforce and need for foreign workers.
4.11.3 Safety/security concerns within the community (construction and operation).
4.11.4 Issues raised in the public consultation (written and verbal/oral concerns) as noted in sections 2.4.4, NB: *This is not the public consultation required post-EIA by the Physical Planning Ordinance. A separate public consultation is required as a component of this EIA due to the nature and scale of this development.*
4.11.5 Total projected visitor numbers in high and low seasons.
4.11.6 Total projected increase in population due to internationally-sourced staff.

4.12 Impact to terrain including method of clearing of site and quantified description of natural vegetative cover to be removed, retention of natural vegetation cover, disposal of removed vegetation and soils, and statement of understanding of limitations of wholesale land clearance as per Development Manual and Planning legislation and regulations.

4.13 Potential Alternatives, including but not limited to assessment of building height.

4.14 Others

5. Impact Assessment.

5.1 Impact identification.
5.2 Description of impact:
5.2.1 Potential impacts to the biotic environment, including predicted direct and indirect impacts coastal, and marine assets.
5.2.1.1 Impact of noise on marine organisms attributed toany piling works.
5.2.1.2 Potential impact due to predicted direct and indirect impacts to coastal and near-shore marine assets due to increased human use.

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5.2.2 Potential impact to coastal environment and processes , a distance equivalent to the zone of influence, though a minimum of 500 meters along coast each direction from limits of project site.
- 5.2.2.1 Potential impacts on beach dynamics including changes to sediment transport, erosion, and accretion patterns.
- 5.2.2.2 Potential impact on dune ecosystems and other coastal habitats arising from construction and operational activities.
- 5.2.2.3 Potential impacts on valuable ecosystems within the zone of influence including but not limited to seagrass beds and coral reefs.
- 5.2.2.4 Potential impacts of climate change including rising sea levels and increased storm intensity.

5.2.3 Potential impact of added lighting, including impacts on marine life (specifically, sea turtle nesting), bird life (especially migratory birds), and others.

5.2.4 Potential impact to any species identified as endemic, near-endemic, rare, threatened, or endangered (by either IUCN or CITES listing), and any species uniquely dependent on the site for vital life-cycle phases (e.g., bats in caves, bird nesting, turtle nesting).

5.2.5 Potential impact to any species due to building height and architecture, including impacts to birds (bird strike on windows or painted walls, interruption to flight patterns of land birds and seabirds).

5.2.6 Potential impact to geological environment, particularly taking into consideration any karst, cavern, cave, or solution hole/ sinkhole on site.

5.2.7 Potential impacts to the aesthetic and other built environment, including changes to skyline from landward, seaward, and to neighbours.

5.2.8 Potential impacts to sunlight patterns including shadow-casting due to building height, and description of annual changes in shadow cast of buildings and potential for impacts to right to light to any neighbouring properties or habitats.

5.2.9 Water quality during construction and operation. This includes any effluent from the proposed water treatment plant.

5.2.10 Noise pollution (construction and operation).

5.2.11 Ecosystem and economic analyses (valuation is needed) to determine the best use of the area; including an average per-capita tourist financial impact projected.

5.2.12 Socio-economic impact – Considers socio-economic and cultural baseline (including labor, tourism, public infrastructure, crime, etc.), Predicted impacts (positive and negative- influx of population/ workers, safe & security) to the above baseline. Identification and involvement of stakeholder groups:
- 5.2.12.1 Public beach access – considering that the beach is public in TCI.
- 5.2.12.2 Potential socio-economic and carrying capacity impact to beach including neighbouring property values, visitor use perception, and coastal stability (natural capital) due to increase in user numbers.

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5.2.12.3 Potential impacts to island-wide traffic patterns, particularly on the Leeward Highway and Grace Bay Road traffic corridors between the Howard Hamilton International Airport (PLS) and Grace Bay areas.

5.2.12.4 Potential impacts to general population from significant and sudden increase in population in both the construction and operational phase; and of and tourist numbers during operational phases.

5.2.12.5 Potential impact to neighboring developments, businesses and residential houses; and marine activities.

5.2.12.6 Potential Climate Change impacts, both locally within the Turks and Caicos Islands, and globally (including resulting global transportation changes).

5.2.12.7 Other Impacts.

5.3 Impact assessment, including the cumulative impact of all existing and proposed nearby development in the study area must be analysed (with baseline data and information).

5.4 Derivation of significance level.

Note: Use computer modelling, as appropriate, for wind-wave prediction, wave energy dissipation, waves and currents and sediment transport and shoreline changes, etc. Particular attention should be given to sensitivity and vulnerability of important geomorphological features and processes; how these are likely to respond to particular impact, regardless of whether the effects are temporary, long-term, reversible or permanent.

6. Mitigation and Monitoring

6.1 Proposed actions and schedule to mitigate against any environmental impact (including proposed monitoring activities), including:

6.1.1 Impacts to terrestrial and marine life (displacement).

6.1.2 Impacts to dunes and other coastal ecosystems and habitats

6.1.3 Impacts to water quality.

6.1.4 Impacts of noise, light, and air emissions.

6.1.5 Impacts to natural light and shadow cycles.

6.1.6 Impacts of building height.

6.1.7 Impacts of incursion of invasive species of flora and fauna.

6.1.8 Impacts to resettled wildlife (e.g., bird nesting causing hazards to property or people).

6.2 Proposed actions to mitigate against noise pollution.

6.3 Proposed actions to mitigate against changes to natural light and shadow cycles.

6.4 Proposed actions to mitigate against social and environmental impacts of building height.

6.5 Storm surge analysis and mitigation plan for sea level rise.

6.6 Building around, or rescue and removal of rare, threatened, and endangered species of plants where possible.

6.7 Landscaping/ replanting plan utilizing native species (list species).

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6.8 Proposed techniques and models to mitigate against light pollution, including impacts on nesting sea turtles and migratory birds.

6.9 Proposed techniques and models to mitigate against impact of significant increase in human activity on beach and shallow inshore areas.

6.10 Proposed techniques and models to mitigate against increase traffic demands on adjacent roadways and main tourism transit corridor between Providenciales International Airport and Leeward along Leeward Highway.

6.11 Proposed Climate Change mitigation both locally within Turks and Caicos Islands and globally.

6.12 Financial resources for mitigation.

6.13 Environmental monitoring and financial requirements.

6.14 Public Consultation/social listening/monitoring – including social listening during construction and operational phases.

6.15 An **Environmental Monitoring and Management Plan (EMP)** must be prepared with the following minimum components:

6.8.1 Summary of the potential impacts of the proposal; including but not limited to predicted quantification of the following:

6.8.1.1 Impact on dune areas from construction activities, landscaping (including encroachment by non-native plants), increased foot traffic, equipment storage, and general beach usage.

6.8.1.2 Impact on beach areas and sand from construction activities, landscaping (including encroachment by non-native plants), increased foot traffic, equipment storage, and general beach usage.

6.8.1.3 Impact on groundwater and inshore water from effluent including landscaping irrigation and other wastewater, including consideration of any contaminants including fertilizers, pesticides, detergents, bleach and other chlorine, organic wastes from processed sewerage, and others.

6.8.1.4 Impacts from invasive species including plants used in landscaping, or which respond favourably from soil disturbance, including control of invasive weedy plants (*Casuarina equisetifolia, Scaevola taccada, Leucaena leucocephala*, and *Schinus terenithefolius*) in back-of-house areas where landscaping may not be maintained, and also including animals and plant pests that may be introduced to the site with landscaping plants; or invasive animals that associate closely with anthropogenic landscapes including northern curly-tail *Leiocephallus carinatus*, corn snake *Pantherophis guttatus*, green iguana *Iguana iguana*, marine toad *Rhiella marina*, Cuban knight anole *Anolis equestris*, domestic pigeon *Columba livia*, Mediterranean ring-neck dove *Streptopelia capicola*, house sparrow *Passer domesticus*, and other invasive fauna.

6.8.1.5 Impacts on sand flats, seagrass beds, and shallow inshore reefs from increased human usage of shallow inshore waters, including people swimming and using water activity devices, and boat traffic, if applicable.

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6.8.1.6 Impacts to island-wide traffic patterns, particularly on the Leeward Highway and Grace Bay Road traffic corridors between the Howard Hamilton International Airport (PLS) and Grace Bay areas.

6.8.1.7 Impacts to general population from significant and sudden increase in population in both the construction and operational phase; and of and tourist numbers during operational phases.

6.8.2 Description of the recommended mitigation measures; including:

6.8.2.1 A traffic and transportation plan for mitigation of impact to island-wide traffic patterns by significant increase of traffic, particularly on the Leeward Highway and Grace Bay Road traffic corridors between the Howard Hamilton International Airport (PLS) and Grace Bay areas, taking into consideration flight schedules (weekly and daily), peak travel times (by week, month, and year), and notable areas of existing traffic congestion both current and predicted; and a transportation plan for staff considering peak times, shift hours, and changes in demand seasonally compared with high traffic times. The plan shall take into account possible mass transit options and address the numbers, types, and length of operation of vehicles added to the current traffic level including heavy equipment, large trucks, mass transit vehicles, and personal and company vehicles associated with construction and operational staff (see 6.8.2.2).

6.8.2.2 A housing, transport, and population plan for mitigation of impact to Providenciales population and infrastructure from significant and sudden increase in staff population in both the construction and operational phase; with particular consideration given to impact on housing market in Providenciales; and a detailed transportation plan for construction and operational staff between staff housing and the development/ resort site including options for mass transit, and prediction of number of personal vehicles likely to be added to the existing traffic for both construction and operation phase staff.

6.8.3 Statement of their compliance with relevant standards; including but not limited to the following:

6.8.3.1 Turbidity must be measured daily (work days) before, during and after works in 3 locations: 150 ft upcurrent (control), 150 ft downcurrent (compliance) and within the dredging area (inside the turbidity curtain). If the turbidity at any time in the compliance point is higher than 15 NTU above background (control), dredging and related works must cease immediately and remedial measure(s) must be done. Turbidity must be measure in situ and transmitted electronically (MS Excel format) immediately to qualified DECR officers. Turbidity instruments must be calibrated in accordance with industry standards. The DECR may request on-site calibration.

6.8.4 Allocation of resources and responsibilities for plan implementation, covering all factors as noted under Section 6.8.1;

6.8.5 Schedule of the actions to be taken, covering all factors as noted under Section 6.8.1;

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6.8.6 Programme for surveillance, monitoring and auditing, covering all factors as noted under Section 6.8.1;

6.8.7 Programme for control of invasive species of flora and fauna on the property, including plants used in landscaping, control of invasive/ weedy plants including *Casuarina equisetifolia, Scaevola taccada, Leucaena leucocephala,* and *Schinus terenithefolius*, along shoreline, in landscape, and in back-of-house areas where landscaping may not be maintained; and also including animals and plant pests that may be introduced to the site with landscaping plants; or invasive animals that associate closely with anthropogenic landscapes including northern curly-tail *Leiocephallus carinatus*, corn snake *Pantherophis guttatus*, green iguana *Iguana iguana*, marine toad *Rhiella marina*, Cuban knight anole *Anolis equestris*, domestic pigeon *Columba livia*, Mediterranean ring-neck dove *Streptopelia capicola*, house sparrow *Passer domesticus*, and other invasive fauna; and,

6.8.8 Contingency plan when impacts are greater than expected, covering all factors as noted under Section 6.8.1.

The EMP Environmental Monitoring and Management Plan (EMP) shall be drafted for three phases, including two short-term phases pre-construction and construction phases, and one long-term phase, for operational phase.

7. Recommendations and Conclusions

8. Statement of Understanding EIA recommendations, of Environment Charter (2001), and Climate Change Charter (2022)

8.1 Statement of Understanding of terms of Environment Charter 2001 from proponent, with explanation of how this development approaches best practices towards the protection of biodiversity and the environment as noted in the Charter.

8.2 Statement of Understanding of terms of Climate Change Charter 2022 from proponent, with explanation of how this development approaches best practices toward mitigation, adaptation, and resilience to climate change as noted in the Charter.

8.3 Proponent's Declaration of Intent to guide the development by the recommendations of the EIA consultant, with updated Declaration following response to public or TCIG commentary requesting or requiring alterations to any part of the EIA.

9. Appendices

9.1 The Terms of Reference (ToR) for the EIA, as issued by DoP, TCIG.

9.2 Qualifications of the EIA team of experts and the special requirements and information needed to form the team to conduct the EIA for this project. The contact information (functional phone numbers and email addresses) must be provided. Curricula vitae and résumés should be relevantly abridged to **no more than two pages for each consultant.**

9.3 Government Permits (e.g., work permit, research permit, etc., if required)

9.4 Site Plan, project plans, architectural drawing and other related documents.

9.5 Portable data format (pdf) file of the reports of independent consultants

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involved in the EIA.

9.6 Scientific analyses reports (pdf copy from the Laboratory that analyzed the samples, and the like), if any.

9.7 Standards or protocols and assumptions used in predicting the environmental impacts.

9.8 Public Consultative Meeting and Stakeholders meeting reports. Include evidence of advertisement for Public Consultative Meetings, the names and contact information for those who attended the meetings, issues raised and conclusions.

9.9 Photo documentations (with captions – dates, place, description of the subject of the photo).

9.10 Certification/legal document from the EIA group/company that submits the EIS, that all submitted reports/documents and etc. as part of the EIA report/EIS were first-hand information and if it taken from secondary source, the authors should be properly acknowledged or compensated.

9.11 Documentation of schedules of fieldwork; noting dates, times, duration, and purpose, to demonstrate that sufficient seasonal, cyclical, and observational considerations were made for fieldwork.

Checklist of items for EIS	
Cover/ reference page as described in 1.1	
All images and sections in upright orientation, clear and readable	
Maps oriented conventionally, north-up	
Saved in manner to allow for text copying and comments to be inserted	
Files shareable by email or download transfer website, available throughout entire review process, and able to be downloaded by multiple reviewers	
All sections in ToR addressed by EIS	
All appendices attached (may be in separate files) as described in 9	

Prepared by the Department of Planning in collaboration with the Department of Environment and Coastal Resources.

December 10,2025

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9.3 Appendix C – Approval Letter EIA Team

PLANNING DEPARTMENT
TURKS & CAICOS ISLANDS

MINISTRY OF PHYSICAL PLANNING AND INFRASTRUCTURE,
DEVELOPMENT
DEPARTMENT OF PLANNING

27 April 2026

Mr. Oswald Williams
CEDA
Grand Turk
Turks and Caicos Islands

Re: Request for Approval of the EIA Team of Consultants– For PR18748- The Moon Palace Resort Development – 60900/269, 255, 254, 499, 498, 497 and 20, Providenciales, Turks and Caicos Islands.

Dear Mr. Williams

Please be advised that in accordance with the Section 45 (1) (b) of the Physical Planning Ordinance, 2021, and as per your communication dated 22 April 2026, the subject EIA team has been approved.

During the assessment, the applicant shall consult with the relevant Government Departments and agencies. The list of the Team members are as follows:

1. Ezekiel Hall – Environmental All – Geologist/Hydrologist
2. Tanga N. Ferguson – JSS Consulting – Terrestrial Assessment/Terrestrial Biologist
3. Janeen M. Bullard – JSS Consulting – Marine Assessment/Marine Biologist
4. Philip S. Warner – Smith Warner International Ltd – Coastal Engineer
5. Lorne A. Robinson – Paradise Solutions – Public and Environmental Health
6. Clyde B. Robinson – Paradise Solutions – Environmental Planner/EIA Project Coordinator
7. Oswald R. Williams – Caribbean Environmental Design Associates – Environmental Planner/EIA Project Coordinator

Once Completed, three (3) hard copies and one (1) soft copy of the EIA document shall be Submitted to the Department of Planning. Please be advised and guided accordingly. Should you have any queries, please do not hesitate to contact me.

Sincerely,

Ms. Bonita Bernard
Environmental Impact Assessment Specialist For: Director of Planning

EMILY HOUSE, PROVIDENCIALES
TURKS AND CAICOS ISLANDS
EMAIL: BPBERNARD@GOV.TC

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9.4 Appendix D – Scientific Research/Conservation Permit

Department of Environment and Coastal Resources
Ministry of Tourism, Environment, Fisheries, Maritime Affairs, Culture & Heritage, Agriculture, and Religious Affairs.
Turks and Caicos Islands Government
SCIENTIFIC RESEARCH PERMIT 2026

SRP No.: 2026-05-12-28b

Main Title of Research:	Moon Palace Resort Grace Bay, Providenciales (PR.18748)
Principal:	Caribbean Environmental Design Associates (Oswald R. Williams)
Other applicants:	Smith Warner International (Coastal Engineers), JSS Consulting (Janeen Marlo Bullard), Furgson Consultancy (Tanya Furgson) Graham Jervis, Smith-Warner International*
Partners/collaborators in TCI (if any):	Clyde Robinson of Paradise Solutions; Environmental All (Ezekiel Hall) and Lorne Robinson Marsha Pardee, MerAngel*
Type of application:	Comm
Location:	Grace Bay, Providenciales, TCI - (60900/269 and 60604/20, 254, 255, 497 and 498).
Total duration of application:	One Year
Period covered by this application:	01 June 2026 – 31 May 2027
Research Fee:	**$500.00 TCIG Treasury Voucher # 2535711682 (PAID)**

Authorized Approving Officer:

Luc Cierveaux
Director, DECR

Date: 21 May 2026

Not Valid without the Official Seal of the DECR

Note:

This Permit should be presented to authorized DECR Officers or TCIG officials when requested during monitoring activities which may be done anytime throughout the duration of the approved activities.
The Application for Research Permit, Conditions of Approval and required attachments may also be requested.
Renewals must be requested no fewer than 15 working days prior to permit expiration.

9.5 Appendix E – Consultants Contact Information

EIA Team and their contact information

Team Member	Study Area	Nationality	Contact Information	
			Phone	Email
Janeen Bullard JSS Consulting (Environmental)	Terrestrial Avian sub-consultant	Bahamas	242-357-9262	Janeen@JSS Consultants.com
Smith Warner International Ltd Philip Warner Ashley – Jade Grennell	Coastal Processes Coastal Engineering	Jamaicans	1876-9788-8950 1876-9788-8950	philip@smithwarner.com ashley@smithwarner.com
Janeen Bullard JSS Consulting (Environmental)	Marine	Bahamian	242-357-9262	Janeen@JSS Consultants.com
Clyde Robinson Paradise Solutions	Socio-economic	TCI	649-331-3420	Paradise.solutions.tc@gmail.com
Ezekiel Hall EnvironmentalALL	Geology	TCI	649-246-8263	Hallenvironment1@gmail.com
Lorne Robinson	Solid Waste Management	TCI		enviorobin@gmail.com
Oswald R. Williams Caribbean Environmental Design Associates	Legislative & Regulative Context	TCI	649-231-0371	oswaldwilliams51@gmail.com
Oswald R. Williams	Projector Coordinator	TCI	649-231-0371	oswaldwilliams51@gmail.com

9.6 Appendix F – List of Consultants and Sections Assigned

CARIBBEAN ENVIRONMENTAL DESIGN ASSOCIATES
Architects, Planners & Property Appraisers
Grand Turk, Turks and Caicos Islands
649-231-0371 – email Oswaldwilliams51@gmail.com

January 15, 2026

Re: List of Consultants for Environmental Impact Assessment Study for the Moon Palace Resort Development, Grace Bay, Providenciales, Turks and Caicos Islands (PR – 18748 – 60604/20, 254, 255, 497, 498 and 60900/269.

The Team for the EIA Study includes:

1. Caribbean Environmental Design Associates (Oswald R. Williams – TCI Based) – Project Coordinator – Physical Planning, Socio-economic and Culture Heritage Issues.
2. Paradise Solutions (Clyde Robinson – TCI Based) – Co-Project Coordinator – Environmental and Planning Ordinance and Regulations, Planning and National Physical Development Matters.
3. Environmental All – (Zeke Hall Based in Providenciales) – Geologist/Hydrologist
4. Lorne Robinson – (TCI Based) – Public and Environmental Health and Infrastructure including electricity and water demand, sewage and solid waste disposal.
5. JSS Consulting – Environmental Consulting Services (Janeen Bullard – Nassau Based) – Marine Assessment – Maine Biologist.
6. Tanya Consulting Servies (Tanya N. Ferguson – Nassau Based) – Terrestrial Assessment and Ecosystem and Economic Analysis (Ecologist Expert – Wildlife, Plants, and Animals assessment).
7. Smith Warner International (Philip Warner and Kyle Smith – Jamaica with as Establishment in Providenciales) – Coastal Engineering.

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8. Traffic Planner (US Based) – Traffic Planning Surveys of island-wide traffic patterns, Traffic and Transportation Plan.

CONSULTANTS LIST

No.	Areas of EIA Study	Consultants
1.	Geologist/Hydrologist	Environment-All
2.	Terrestrial Assessment and Ecosystem and Economic Analysis (Ecologist Expert – Wildlife, Plants, and Animals assessment).	Tanya Consulting Servies
3	Marine Assessment – Maine Biologist	JSS Consulting – Environmental Consulting Services
4	Coastal Engineers	Smith Warner International
5	Traffic Planning Surveys of island-wide traffic patterns, Traffic and Transportation Plan	Traffic Planner
6	Environmental and Planning Ordinance and Regulations, Planning and National Physical Development Matters. Environmental Management Plan	Paradise Solutions – Clyde Robinson
7	Project Coordinator and Physical Planning, Socio-economic and Culture Heritage Issues. Environmental Management Plan	Caribbean Environmental Design (Oswald R. Williams)
8	Public and Environmental Health and Infrastructure including electricity and water demand, sewage and solid waste disposal.	Lorne Robinson
9	Field Surveys including: • Current Beach Use Survey • Qualitative study of beach users involves an opinion of at least 200 stakeholders. • Survey of Stakeholders in the area to assess their perception and overall support for the development.	Caribbean Environmental Design Associates and Paradise Solutions will Co-ordinate Field Surveys.

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	• Survey of business and venders within the proximity of the proposed development. • Traffic Survey • Housing Survey	
10	Public Consultation Meetings: • Pre-EIA Draft Report Public Consultation Meeting during the collection of baseline information. • Post Draft Report -Public Consultation Meeting to submit the findings of the Draft EIA report.	Caribbean Environmental Design Associates and Paradise Solutions
11	Coordination, compiling, and production of the EIA report and Environmental Report. Also, preparation of reports from interviews with government departments and agencies and private sector stake holders, including reports from both Public Consultation Meetings.	Caribbean Environmental Design Associates
12	Scientific Research Permit and Temporary Work Permit Fees.	Caribbean Environmental Design Associates

9.7 Appendix G – Beach Survey Questionnaire

BEACH USER IMPACT SURVEY FOR EIA MOON PALACE RESORT DEVELOPMENT

Grace Bay Beach, Providenciales, Turks and Caicos Islands

Opinion Survey of 200 Beach Users (local residents, domestic visitors, international tourists, vendors, operators, etc.), Grace Bay Beach, Providenciales, Turks and Caicos Islands.

Introduction: This brief survey is to access/understand the real-time and perceived changes/impacts to spatial capacity, environmental quality, access, user experiences, dynamics, and the overall natural aesthetic within the terrestrial, coastal, and marine environments, which may potentially be caused by a proposed Moon Palace Resort Development - 1,000-bedroom hotel development on the nearby site. The study assesses perceptions of the proposed project, beach access and the current beach conditions. Your feedback is entirely anonymous and will help inform our impact assessment and hence make decisions. It will take less than 5 minutes

Date/Time: _____

Part 1: Beach User Profile & Access

1. **What is Gender of the person being interviewed**
   - Male
   - Female
   - Other

2. **What is your residency status in the Turks and Caicos Islands?**
   - Local Resident (Belonger or Resident Expat)
   - British Overseas Territories Citizens (BOTC)
   - International Tourist
   - Domestic Visitor (From another TCI island)

3. **How often do you visit this specific beach area?**
   - Daily
   - Weekly
   - Monthly
   - Occasionally / First-time visitor

4. **What is your primary reason for visiting the beach? (Select all that apply)**
   - Relaxing / Sunbathing
   - Swimming / Snorkeling

- Walking / Running
- Water sports (Jet skiing, kayaking, boat charters)
- Spending time with family/friends
- Gendering
- Other:_____

5. **How did you access the beach today?**
   - Via a public beach access path
   - Walking along the shore from another area
   - Directly through a hotel or resort property
   - Adjoining/neighbouring property
   - Is the beach easily accessible
   - Other:_____

6. **What beach facilities and amenities are available?**
   - Restrooms
   - Showers
   - Beach chairs
   - Beach umbrella
   - Public parking
   - Trash bins
   - Lifeguards
   - Other:_____

7. **On a scale of 1 to 10 how would you rate the current overall condition of the beach?**
   - 7-10 Very good
   - 4-6 Good
   - 3-5 Fair
   - 0-2 Poor

Part 2: Project Awareness

8. **Have you heard of the proposed 1000-bedroom Hotel proposed for this beach?**
   - Yes
   - No

   If yes, how did you become aware: _____

9. **How might the proposed 1000-bedroom Hotel Development impact the socio-economic and culture heritage aspects of the island?**
   - Positive economic impact
   - Negative economic impact
   - Positive social impact
   - Negative social impact
   - Positive heritage/culture impact
   - Negative heritage/culture impact
   - Other _____

Part 3: Spatial Capacity & Physical Impacts

Please rate your agreement with the following statements based on your experience at this beach:
(1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

10. **Crowding:** There is sufficient beach area for the general beach users or public and hotel guests without feeling overcrowded.
11. **Shadowing:** The buildings will cause shadowing on the beach environment.
12. **Commercial Obstructions:** The placement of hotel lounge chairs, umbrellas, and water sports equipment will restrict my ability to walk or sit freely on the beach.
13. **Erosion:** Occasional beach nourishment may be necessary to prevent narrowing and maintain the size and beauty of the beach.
14. **Dune Degradation:** If wooden suspended boardwalks are implemented over the sand dunes for pedestrian access to the beach, this will lessen the impact of the natural sand dunes and coastal plants in front of or near the hotel.
15. **Setbacks:** If sufficient building setbacks are applied, this will limit the impacts on the coastal environment.
16. **Density:** I am comfortable and confident that this proposal will fit comfortably on the site and with no negative impacts on the beach environment.
17. **Comment:**_____

Part 4: Environmental Quality & Aesthetics

Please rate your agreement with the following statements:
(1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

18. **Water Clarity:** The impact on ocean water quality will be negligible.
19. **Litter & Waste:** The beach and marine environments clean and free of litter/trash and will remain that way.
20. **Noise Levels:** The beach environment is expected to not be significantly greater than ambient noise levels.
21. **Wildlife:** There will be noticeable decline and disruption in marine environment (e.g., fish, rays, sea turtles) or coastal birds in this area.
22. **Visual Appeal:** The massive architectural scale of the 1,000-bedroom hotel takes away from the natural, pristine look of the island's coastline.

Part 5: Experience & Perceptions

23. **Will you be discouraged from using this beach because of the hotel's presence or operations?**
    - Yes
    - No, never

24. **Do you anticipate that the hotel will make the beach experience better?**
    - Much better
    - Somewhat better
    - About the same / No change
    - Somewhat worse

- Much worse

25. **In your opinion, who will benefit most from this beach space upon completion of the hotel?**
    - Exclusively hotel guests
    - Mostly hotel guests, but some public use
    - Shared equally between the public and hotel guests
    - Mostly local residents and general public

Part 6: Open-Ended Feedback

26. **What could be the most significant change or impact (positive or negative) on this beach due to the 1,000-bedroom hotel?**
    (Open text)
    _____
    _____
    _____

27. **What specific rules or action should the government or hotel enforce to keep the beach accessible and healthy?**
    (Open text)
    _____

Field Researcher Observation Guide

To be filled out by the person administering the survey to provide objective context:

- **Current Weather/Sea Condition:** Calm & Clear / Choppy / Seaweed (Sargassum) present
- **Estimated Beach Chair Density:** Low (mostly empty) / Moderate / High (sand completely covered)

9.8 Appendix H – Beach Survey and Team

A survey was carried out on the current beach use fronting and within the vicinity of the proposed site for development. Surveys were completed during the peak of the tourist season and included the number of visitors per day, ascertaining an opinion of 243 key stakeholders (beach users, operators, vendors, etc.).

A team of ten (10) people participated in carrying out the surveys. A photograph of the team can be found in the appendix of this impact statement. The team members included:

Mr. Oswald Williams – EIA Lead Consultant and Coordinator / Surveyor.
Mr. Clyde Robinson – Surveyor and Survey Team Leader.
Mr. Kawa Williams – Surveyor.
Mr. Terine Harvey – Surveyor.
Ms. Rose –Dana Horelien – Surveyor.
Ms. Erianna Swan – TCI Community College – Surveyor.
Mr. Lance Elijah De Los Santos – TCI Community College – Surveyor.
Mr. Keyshawn Tape – TCI Community College – Surveyor.
Mr. Reneson Jean – TCI Community College – Surveyor.
Mr. Pierre Wolf Guerbens – Surveyor.

Students from the Turks and Caicos Islands Community College assisted in carrying out the surveys and were instrumental in ensuring their completion. Without their involvement, youth, and enthusiasm, the task would have been daunting and taken considerably more time. Upon a request for assistance, The Statistical Authority, Turks and Caicos Islands responded by loaning Digital Tablets that made recording, tabulation and manipulation of data easy for the creation of charts, tables, and graphics, which paints a clear picture of beach user dynamics.

Four (4) surveyors performed the surveys on the 24th & 25th of July 2026 (Friday and Saturday) from 9:00am to 5:00pm. The first location chosen was the Shearwater Close beach access lane, which shares a boundary line with the development site. The surveys began immediately and daily at the location. The coastal and marine environments in this locality, although they suffered impacts from previous beach nourishment and the placement of groynes, have emerged as aesthetically pristine and very popular for locals and tourists alike. The anchor activity attracting most visitors to this location during the time of the surveys was the clear bottom kayak photography operations on the beach; many visiting customers were mostly African American females. Others

surveyed were tourists and locals who were scattered along the beaches fronting the site and within the immediate vicinity.

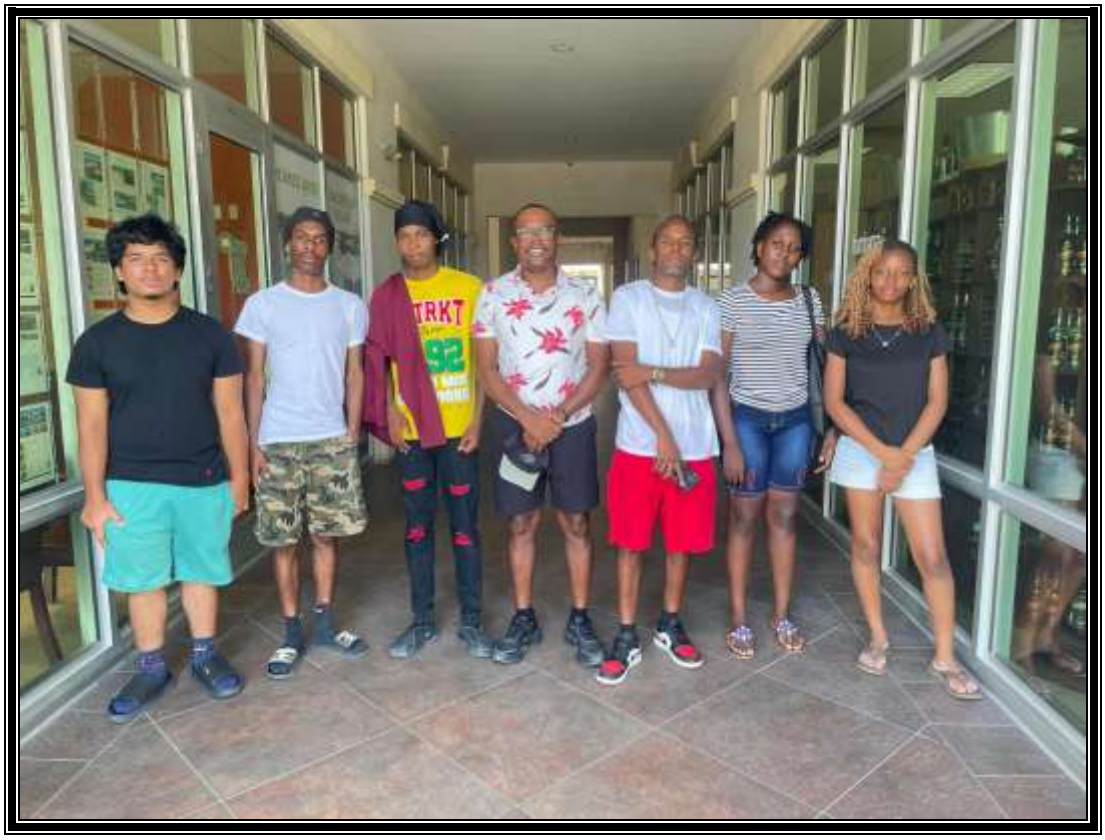


Photo of Beach Survey Team

To reach the minimum number of at least 200 surveys, the survey area had to be extended. This allowed for a consistently high number of respondents, greater local participation in the surveys, and canvassed a wider cross-section of opinions. The second location was selected in the vicinity fronting The Cultural Market Place, which is located at the beach access lane sandwiched between the Ocean Club East and Club Med developments. This location is a short beach walk from the development site. Many beach vendors, boat tour operators, restaurant workers and patrons, locals, and tourists were interviewed at this location.

The number of refusals to participate in the survey was surprising, which were primarily tourists. Locals were always enthusiastic and willing to give their opinions, summarily because of their local awareness. After two days of surveys, it was realized that more surveyors would be needed to complete the task in time given the hot and harsh temperatures.

The survey recommenced (Friday 31st July to Saturday 1st August 2026 from 9:30am to 5:00pm) with the assistance of students from the TCI Community College and a few others as surveyors/interviewers, including those with the ability to speak Haitian creole. It was found that many of the local beach vendors and workers were of Haitian descent. The previous two areas at Shearwater Close and The Market Place were covered during the period. As many respondents from the previous locations had already been interviewed and given the fluctuating peak and off-peak tourists on the beach, the survey area was extended again to include the beach access lanes located at The Seven Stars Resort and The Pinnacle, and the beach access lane known locally as the Rotary Park. Many beach vendors, hotel and resort beach workers, boat tour operators, and tourists were surveyed at these locations.

For the remainder of the survey period 2nd and 3rd August, Sunday and Monday respectively, through to its completion on Saturday 8th August 2026, other areas surveyed were the beachside zones within the Grace Bay area, including The Regent Village, IGA Gourmet Supermarket, and the beach access lane located near The Sands Resort.

9.9 Appendix I – Minutes of Team Meeting with Provo Water Company

Meeting with Provo Water Company – Re: The Proposed Moon Palace Resort
Thursday, 9th July 2026, 10:30am

Present:
Mr. Robert Hall, CEO, Provo Water Company (PWC)
Ms. Kneshia Clarke-Forbes, Customer Service Manager, PWC
Mr. Guy Bouchard, Engineer, PWC
Mr. Lorne Robinson, Environmental Health Consultant
Mr. Clyde Robinson, Development, Environmental and Planning Consultant

Notes

- After presenting that the proposed development would require 2000 cubic meters daily usage of water (530K US gallons/day); and informing PWC that the development is proposed to start construction January 2027 and open November 2029, PWC indicated that they would have no problems with the water supply provisions to the proposed development.
- Upgrading of their water supply system to the Leeward area is expected to begin this summer and to be completed by the end of this year.
- Consumption numbers must be provided to PWC. The design team for the resort to be informed of this.
- An additional pumping system must be provided on the development site to provide the needed water pressure.
- The times for filling of the swimming pools on the site would have to be provided to PWC.
- A 4" pipeline would be provided to the property.
- Daily usage requirements to be provided to PWC.
- Plans for fire hydrants and their locations must be provided to PWC.
- PWC is in the process of providing central wastewater disposal lines and facilities for the Leeward locality as early as next year. Amendments to the Water and Sewerage Ordinance are now being made in anticipation of the aforementioned.

Clyde B. Robinson, Paradise Solutions

9.10 Appendix J – Minutes of Team 's Meeting with Pelican Energy TCI

Meeting with Provo Water Company – Re: The Proposed Moon Palace Resort
Thursday, 9th July 2026, 10:30am

Present:
Mr. Robert Hall, CEO, Provo Water Company (PWC)
Ms. Kneshia Clarke-Forbes, Customer Service Manager, PWC
Mr. Guy Bouchard, Engineer, PWC
Mr. Lorne Robinson, Environmental Health Consultant
Mr. Clyde Robinson, Development, Environmental and Planning Consultant

Notes

- After presenting that the proposed development would require 2000 cubic meters daily usage of water (530K US gallons/day); and informing PWC that the development is proposed to start construction January 2027 and open November 2029, PWC indicated that they would have no problems with the water supply provisions to the proposed development.
- Upgrading of their water supply system to the Leeward area is expected to begin this summer and to be completed by the end of this year.
- Consumption numbers must be provided to PWC. The design team for the resort to be informed of this.
- An additional pumping system must be provided on the development site to provide the needed water pressure.
- The times for filling of the swimming pools on the site would have to be provided to PWC.
- A 4" pipeline would be provided to the property.
- Daily usage requirements to be provided to PWC.
- Plans for fire hydrants and their locations must be provided to PWC.
- PWC is in the process of providing central wastewater disposal lines and facilities for the Leeward locality as early as next year. Amendments to the Water and Sewerage Ordinance are now being made in anticipation of the aforementioned.

Clyde B. Robinson, Paradise Solutions

9.11 Appendix K – Certification/Legal Document from EIA consulting Team.

CARIBBEAN ENVIRONMENTAL DESIGN ASSOCIATES
Architects, Planners & Property Appraisers
Grand Turk, Turks and Caicos Islands
649-231-0371 – email Oswaldwilliams51@gmail.com

Certification/Legal Document from the EIA Consulting Team

For The Moon Palace Resort development

EIA Study

Certification/legal document from the EIA group/company that submits the EIS Report for The Moon Palace Resort development, that all the submitted reports/documents and etc as part of the EIA report/EIS were first-hand information and if taken from secondary sources, the authors have been properly acknowledged or compensated.

TO WHOM IT CONCERN

The EIA consulting team, authors of The Environment Impact Assessment Study for The Moon Palace Resort development, hereby certify that to the best of their knowledge, the contents, including text, illustrations, and graphics of the EIS report for The Moon Palace Resort development are for the most part first-hand information and that in cases where secondary sources were quoted or referenced, the authors were properly acknowledged.

This 14th. Day of October 2026, Oswald R. Williams for and on behalf of the said EIA consulting team.

9.12 Appendix L – Turks and Caicos Endemic Flora and Fauna List and other plant-related information

Department of Environment and Coastal Resources (DECR)
Ministry of Tourism, Environment, Heritage and Culture (MTEHC)
Turks and Caicos Islands Government (TCIG)
Providenciales, Turks and Caicos Islands

The following flora and fauna are protected species because they are endemic, rare and endangered.

THE SCHEDULES

I. Protected Flora & Fungi

A. Turks & Caicos Endemic Plants

1. Turks & Caicos heather *Limonium bahamense*
2. Lucayan pear *Opuntia x lucayana*
3. Britton's buttonbush *Spermacoce brittonii*
4. Capillary buttonbush *Spermacoce capillaries*
5. Stipitate dog-strangle *Metastelma stipitatum*
6. Slender-stemmed peppergrass *Lepidium filicaule*
7. Caicos Encyclia orchid *Encyclia caicensis*
8. Caroline's pink *Stenandrium carolinae*
9. Silvery silverbush *Argythamnia argentea*
10. Broom bush *Evolvulus bahamensis*
11. Hatpin sedge *Eleocharis bahamensis*

B. Endemic and vital species of fungi

1. Ectomychrrhizal species in the genera *Neoboletus, Octaviana, Diplocystis, Melanogaster, Sebacinaceae, Tomentella, Thelophora, Thelophoraceae, Entoloba,* and *Inocybe*
2. Pine truffle *Rhizopogon floscorubens*
3. *Russula littoralis*
4. *Scleroderma bermudense* and other ectomycorrhizal *Scleroderma*
5. *Sullus cothurnatus*
6. *Amanita arenicola*

C. Lucayan Archipelago Endemic Plants

1. Haulbark *Thouinia discolor*
2. Inagua Encyclia orchid *Encyclia inaguensis*
3. Correll's rock orchid *Encyclia correllii* (*ex Encyclia gracilis*)
4. Rufous Encyclia *Encyclia rufa*
5. Inagua gum-elemi *Bursera inaguensis*
6. Frenning's gum-elemi *Bursera frenningae*
7. Sea sage *Lantana involucrata*
8. Inagua silver-top palm *Coccothrinax inaguensis*
9. Nakedback *Euphorbia gymnonota*

TCI protected species/page1 of 10 pages

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Department of Environment and Coastal Resources (DECR)
Ministry of Tourism, Environment, Heritage and Culture (MTEHC)
Turks and Caicos Islands Government (TCIG)
Providenciales, Turks and Caicos Islands

10. Wild thyme *Euphorbia inaguensis*
11. Inagua century plant *Agave inaguensis*
12. Lucayan century plant *Agave millspaughii*
13. Bahama love grass *Eragrostis bahamensis*
14. Nash's pepperwort *Marsilea nashii*
15. Inagua fimbry sedge *Fimbristylis inaguensis*
16. Caicos pine *Pinus caribaea* var. *bahamensis*
17. Brasiletto *Caesalpinia reticulata*
18. Pineyard golden creeper *Ernodea serratifolia*
19. Low ashy heliptrope *Heliotropium nanum*
20. Thyme-leaved buttonbush *Spermacoce thymifolia*
21. Lucayan lobelia *Lobelia lucayana*
22. Lucayan cocobey *Varronia lucayana*
23. Bahama cocobey *Varronia bahamensis*
24. Lucayan silverbush *Argythamnia lucayana*
25. Yellow silverbush *Argythamnia sericea*
26. Bumbo-bush *Lepidaploa arbuscula*
27. False holly *Anastraphia pauciflosculа*
28. Lucayan boneset *Chromalaena lucayana*
29. Rong-bush *Wedelia bahamensis*
30. Heliotrope *Heliotropium diffusum*
31. Nash's heliotrope *Heliotropium nashii*
32. Wilson's pinweed spurge *Euphorbia lecheoides*
33. Bahama milkpea *Galactia bahamensis*
34. Swamp-bush *Pavonia bahamensis*
35. Correll's spider-grass *Aristida correlliae*
36. Catesby's lily-thorn *Catesbaea foliosa*
37. Winder *Clematis plukenetii*
38. Golden creeper *Ernodea millspaughii*
39. Savanna buttonbush *Spermacoce savannarum*
40. Big sage *Lantana balsamifera*
41. Horse pear *Consolea nashii*

D. Native Plants of Special Conservation Concern

1. Tall Encyclia orchid *Encyclia altissima*
2. Britton's shadow-witch orchid *Ponthieva brittonae*
3. Adder's mouth orchid *Malaxis spicata*
4. Spring ladies tresses *Spiranthes vernalis*
5. Green ladies tresses *Spiranthes polyantha*
6. Cuban dune mat *Guilleminea brittonii*
7. Woolly nipple cactus *Mammillaria nivosa*
8. Smooth pear *Opuntia bahamana*
9. Dildo cactus *Pilosocereus royenii*

TCI protected species/page2 of 10 pages

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Department of Environment and Coastal Resources (DECR)
Ministry of Tourism, Environment, Heritage and Culture (MTEHC)
Turks and Caicos Islands Government (TCIG)
Providenciales, Turks and Caicos Islands

10. West Indian mahogany *Swietenia mahagoni*
11. Holy lignum vitae *Guaiacum sanctum*
12. True lignum vitae *Guiaiacum officinale*
13. Mauby *Colubrina elliptica*
14. Brook's cereus *Harrisia brookii*
15. Monkey-fiddle *Euphorbia tithymaloides* var. *bahamensis*
16. Pork-and-doughboy *Acacia acuifera*
17. Leatherleaf casha *Acacia coriophylla*
18. Bahama savia *Savia bahamensis*
19. Brasiletto *Caesalpinia bahamensis*
20. Bloody powderpuff *Calliandra haematomma*
21. Popcorn *Chamaecrista caribaea*
22. Mistletoe *Dendropemon purpureus*
23. Wild hibiscus *Hibiscus clypeatus*
24. Taylor's jujube *Ziziphus taylori*
25. Bahama buttonbush *Spermacoce bahamensis*
26. Mahogany mistletoe *Phoradendron northropiae*
27. Pineyard rat-tail bush *Stachytarpheta fruticosa*

II. Protected Fauna

A. Turks & Caicos Endemic Fauna

1. Turks & Caicos rock iguana *Cyclura carinata*
2. Caicos pygmy trope boa *Tropidophis greenwayi (T. g. greenwayi & T. g. lathanus)*
3. Caicos barking gecko *Aristelliger hechti*
4. Turks snake-doctor *Spondylurus turksae*
5. Caicos snake-doctor *Spondylurus caicosae*
6. Turks dwarf gecko *Sphaerodactylus underwoodi*
7. Caicos dwarf gecko *Sphaerodactylus caicosensis*
8. Dwarf Greater Antillean bullfinch *Loxigilla violacea ofella*
9. Turks & Caicos thick-billed vireo *Vireo crassirostris stalagmium*
10. Cave crustacean *Deevaya spiralis*
11. Cave crustacean *Speonebilia cannoni*
12. Cave crustacean *Bahadzia stocki*
13. Cave crustacean *Lasionectes entrichoma*
14. Cave crustacean *Erebonectoides macrochaetus*
15. Cave crustacean *Fosshagenia ferrarii*
16. Cave crustacean *Pelagomacellicephala iliffei*
17. Cave crustacean *Kaloketos pilosus*
18. Cave crustacean *Godzillius robustus*
19. Cave crustacean *Bahalana caicosana*
20. Cave crustacean *Spelaeonicippe provo*

Department of Environment and Coastal Resources (DECR)
Ministry of Tourism, Environment, Heritage and Culture (MTEHC)
Turks and Caicos Islands Government (TCIG)
Providenciales, Turks and Caicos Islands

B. Protected Birds. List of Turks & Caicos Islands Native, Migratory, and Regionally Vagrant Bird Species.

Flamingos (Phoenicopteriformes)
1. Caribbean Flamingo *Phoenicopterus ruber*

Tropicbirds (Phaethontiformes)
2. White Tailed Tropicbird *Phaethon lepturus*

Petrels (Procellariiformes)
3. Herald petrel *Pterodroma arminjoniana*
4. Black-capped petrel *Pterodroma hasitata*
5. Audubon's shearwater *Puffinus lherminieri*
6. Cory's shearwater *Calonectris borealis*
7. Pelicans, Cormorants, Herons Pelecaniformes
8. Brown pelican *Pelecanus occidentalus*
9. Brown Booby *Sula leucogaster*
10. Masked booby *Sula dactylatra*
11. Northern gannet *Morus bassanus*
12. Red-footed booby *Sula sula*
13. Double Crested Cormorant *Phalacrocorax auritus*
14. Olivaceous Cormorant *Phalacrocorax olivaceus*
15. Magnificent Frigatebird *Fregata magnificens*
16. Great Blue Heron *Ardea herodias*
17. Great Egret *Casmerodius albus*
18. Snowy Egret *Egretta thula*
19. Little Blue Heron *Egretta caerulea*
20. Tricolored Heron *Egretta tricolor*
21. Reddish Egret *Egretta rufescens*
22. Cattle Egret *Bubulcus ibis*
23. Green Heron *Butorides virescens*
24. Black Crowned Night Heron *Nycticorax nycticorax*
25. Yellow Crowned Night Heron *Nyctanassa* violacea
26. American Bittern *Botaurus lentiginosus*
27. Glossy Ibis *Plegadis falcinellus*
28. White ibis *Eudocimus* albus
29. Roseate Spoonbill *Ajaia ajaja*

Rails and Cranes (Gruiformes)
30. Clapper Rail *Rallus longirostris*
31. King rail *Rallus elegans*
32. Sora Rail *Porzana carolina*
33. Purple gallinule *Porphyrio martinicus*
34. Common gallinule *Gallinula galeata*
35. American coot *Fulica americana*
36. Caribbean coot *Fulica caribaea*
37. Sandhill crane *Grus canadensis*

Department of Environment and Coastal Resources Turks & Caicos Islands

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Ministry of Tourism, Environment, Heritage and Culture (MTEHC)
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Providenciales, Turks and Caicos Islands

38. Limpkin *Aramus guarauna*

Geese, Swans and Ducks (Anseriformes)

39. West Indian Whistling Duck *Dendrocygna arborea*
40. Fulvous whistling duck *Dendrocygna bicolor*
41. Green Winged Teal *Anas crecca*
42. White-cheeked Pintail *Anas bahamensis*
43. Blue-winged Teal *Anas discors*
44. Ruddy Duck *Oxyura jamaicensis*
45. Least Grebe *Tachybaptus dominicus*
46. Pied-billed Grebe *Podilymbus podiceps*
47. Greater Scaup *Aythya marila*
48. Lesser scaup *Aythya affinis*
49. Ring-necked duck *Aythya collaris*
50. Hooded merganser *Lophodytes cucullatus*
51. Common merganser *Mergus merganser*
52. Red-breasted merganser *Mergus serrator*
53. Canada goose *Branta canadensis*
54. Masked Duck *Nomonyx dominicus*
55. Redhead *Aythya americana*
56. Northern shoveler *Spatula clypeata*
57. Gadwall *Mareca strepera*
58. American wigeon *Mareca americana*
59. Mallard *Anas platyrhynchos* (excludes domestic breeds)
60. American black duck *Anas rubripes*
61. Northern pintail *Anas acuta*
62. Shorebirds *Charadriiformes*
63. American Oystercatcher *Haemotopus palliatus*
64. Black-necked Stilt *Himantopus mexicanus*
65. American Avocet *Recurvirostra americana*
66. Lesser Golden Plover *Pluvialis dominica*
67. Grey plover *Pluvialus squatarola*
68. Semipalmated Plover *Charadrius semipalmatus*
69. Wilson's Plover *Charadrius wilsonia*
70. Killdeer *Charadrius vociferus*
71. Snowy Plover *Charadrius alexandrinus*
72. Piping Plover *Charadrius melodus*
73. Black-bellied Plover *Pluvialis squatarola*
74. Upland Sandpiper *Bartyramia longicauda*
75. Whimbrel *Numenius phaeopus*
76. Hudsonian Godwit *Limosa haemastica*
77. Ruddy Turnstone *Arenaria interpres*
78. Red Knot *Calidris canutus*
79. Stilt Sandpiper *Calidris himantopus*
80. Sanderling *Calidris alba*

TCI protected species/page5 of 10 pages

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Department of Environment and Coastal Resources (DECR)
Ministry of Tourism, Environment, Heritage and Culture (MTEHC)
Turks and Caicos Islands Government (TCIG)
Providenciales, Turks and Caicos Islands

81. Dunlin *Calidris alpina*
82. Least Sandpiper *Calidris minutilla*
83. White-rumped Sandpiper *Calidris fuscicollis*
84. Pectoral Sandpiper *Calidris melanotos*
85. Semipalmated Sandpiper *Calidris pusilla*
86. Western Sandpiper *Calidris mauri*
87. Short-billed Dowitcher *Limnodromus griseus*
88. Wilson's snipe *Gallinago delicata*
89. Common Snipe *Gallinago gallinago*
90. Spotted Sandpiper *Actitus macularia*
91. Solitary Sandpiper *Tringa solitaria*
92. Willet *Catoptrophorus semipalmatus*
93. Greater Yellowlegs *Tringa melanoleuca*
94. Lesser Yellowlegs *Tringa flavipes*
95. Wilson's phalarope *Steganopus tricolor*
96. Little auk*Alle alle*
97. Pomarine skua *Stercoriarus pomarinus*
98. Brown Noddy *Anous stolidus*
99. Black Skimmer *Rhynchops niger*
100. Bonaparte's gull *Chroicocephalus philadelphia*
101. Black-headed gull *Chroicocephalus ridibundus*
102. Laughing gull *Leucophaeus atricilla*
103. Ring-billed gull *Larus delawarensis*
104. Great black-backed gull *Larus marinus*
105. American herring gull *Larus smithsonianus*
106. Sooty Tern *Sterna fuscata*
107. Bridled Tern *Sterna anaethetus*
108. Least Tern *Sterna antillarum*
109. Gull-billed tern *Gelochelidon nilotica*
110. Caspian tern *Hydroprogne caspia*
111. Black tern *Chlidonius niger*
112. Roseate Tern *Sterna dougallii*
113. Common Tern *Sterna hirundo*
114. Forster's Tern *Sterna* forsteri
115. Sandwich Tern *Sterna sandvicencis*
116. Royal Tern *Sterna maximus*

Pigeons and doves (Columbiformes)

117. White Crowned Pigeon *Columba leucocephala*
118. White-winged Dove *Zenaida asiatica*
119. Zenaida Dove *Zenaida aurita*
120. Mourning Dove *Zenaida macroura*
121. Common Ground Dove *Columbina passerina*
122. Key West Quail Dove *Geotrygon chrysia*

Cuckoos (Cuculiformes)

TCI protected species/page6 of 10 pages

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Department of Environment and Coastal Resources (DECR)
Ministry of Tourism, Environment, Heritage and Culture (MTEHC)
Turks and Caicos Islands Government (TCIG)
Providenciales, Turks and Caicos Islands

123. Yellow-billed Cuckoo *Coccyzus americanus*
124. Mangrove Cuckoo *Coccyzus minor*
125. Smooth-billed Ani *Crotophaga ani*

Hawks (Accipitriformes)

126. Osprey *Pandion heliaetus*
127. Red-tailed hawk *Buteo jamaicensis*
128. Sharp-shinned hawk *Accipter striatus*
129. Northern harrier *Circus cyaneus*
130. Swallow-tailed kite *Elanoides forficatus*

Owls (Strigiformes)

131. Barn Owl *Tyto alba*
132. Short-eared Owl *Asio flammeus*

Nighthawks, swifts, hummingbirds (Caprimulgiformes)

133. Common Nighthawk *Chordeiles minor*
134. Antillean Nighthawk *Chordeiles gundlachii*
135. Chuck-will's- widow *Caprimulgus carolinensis*
136. Black Swift *Cypseloides niger*
137. Chimney Swift *Chaetura pelagica*
138. Antillean palm swift *Tachornis phoenicobia*
139. Lesser Antillean swift *Chaetura martinica*
140. Bahama Woodstar Hummingbird *Calliphlox evelynae*
141. Bee Hummingbird *Mellisuga helenae*
142. Cuban emerald hummingbird *Chlorostilbon ricordii*

Kingfishers (Coriaciiformes)

143. Belted Kingfisher *Ceryle alcyon*

Falcons (Falconiformes)

144. American kestrel *Falco sparverius*
145. Merlin *Falco columbarius*
146. Peregrine falcon *Falco peregrinus*

Woodpeckers (Piciformes)

147. Yellow Bellied Sapsucker *Sphyrapicus varius*
148. Hairy Woodpecker *Picoides villosus*

Perching birds (Passeriformes)

149. Purple Martin *Progne subis*
150. Sand martin *Riparia riparia*
151. Caribbean Martin *Progne dominicensis*
152. Bahama swallow *Tachycineta cyaneoviridis*
153. Tree Swallow *Tachycineta bicolor*
154. Cave swallow *Petrochelidon fulva*
155. Northern Rough- winged Swallow *Stelgidopteryx serripennis*
156. Bank Swallow *Riparia riparia*
157. Cliff Swalow *Hirundo pyrrhonota*
158. Barn Swallow *Hirundo rustica*
159. Eastern Wood Pewee *Contopus virens*

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Turks and Caicos Islands Government (TCIG)
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160. Greater Antillean Pewee *Contopus caribaeus*
161. Eastern Kingbird *Tyrannus tyrannus*
162. Gray Kingbird *Tyrannus dominicensis*
163. Giant kingbird (historical range) *Tyrannus cubensis*
164. La Sagra's flycatcher *Myriacrus sagrae*
165. Hispaniolan wood peewee *Contopus hispaniolensis*
166. Cedar waxwing *Bombycilla cedrorum*
167. Cuban Crow *Corvus nasicus*
168. Blue-gray Gnatcatcher *Polioptila caerulea*
169. Gray-cheeked Thrush *Catharus minimus*
170. American robin *Turdus migratorius*
171. Gray Catbird *Dumetella carolinensis*
172. Northern Mockingbird *Mimus polyglottus*
173. Bahama Mockingbird *Mimus gundlachii*
174. Pearly-eyed Thrasher *Margarops fuscatus*
175. Chipping sparrow *Spizella passerina*
176. White-crowned sparrow *Zonotrichia leucophrys*
177. Savannah sparrow *Passerculus sandwichensis*
178. White-eyed Vireo *Vireo griseus*
179. Thick-billed Vireo *Vireo crassirostris*
180. Yellow-throated Vireo *Vireo flavifrons*
181. Philadelphia Vireo *Vireo philadelphicus*
182. Red-eyed Vireo *Vireo olivaceus*
183. Black-whiskered Vireo *Vireo altiloquus*
184. Blue Winged Warbler *Vermivora pinus*
185. Tennessee Warbler *Vermivora peregrina*
186. Nashville Warbler *Vermivora ruficapilla*
187. Northern Parula Warbler *Parula americana*
188. Yellow Warbler *Dendroica petechia*
189. Chestnut-sided Warbler *Dendroica pensylvanica*
190. Magnolia Warbler *Dendroica magnolia*
191. Cape May Warbler *Dendroica tigrina*
192. Black-throated Blue Warbler *Dendroica caerulescens*
193. Yellow-rumped Warbler *Dendroica coronata*
194. Black-throated Green Warbler *Dendroica virens*
195. Blackburnian Warbler *Dendroica fusca*
196. Yellow-throated Warbler *Dendroica dominica*
197. Kirtland's Warbler *Dendroica kirtlandii*
198. Prairie Warbler *Dendroica discolor*
199. Palm Warbler *Dendroica palmarum*
200. Bay-breasted Warbler *Dendroica castanea*
201. Blackpoll Warbler *Dendroica striata*
202. Cerulean Warbler *Dendroica cerulea*
203. Black-and-white Warbler *Mniotilta varia*

TCI protected species/page8 of 10 pages

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204. American Redstart *Setophaga ruticilla*
205. Prothonotary Warbler *Protonotaria citrea*
206. Worm-eating Warbler *Helmitheros vermivorus*
207. Ovenbird *Seiurus aurocapillus*
208. Townsend's warbler *Stetophaga townsendi*
209. Northern Waterthrush *Seiurus noveboracensis*
210. Louisiana Waterthrush *Seiurus motacilla*
211. Kentucky Warbler *Oporomis formosus*
212. Connecticut Warbler *Oporomis agilis*
213. Mourning Warbler *Oporomis philadelphia*
214. Common Yellowthroat *Geothlypis trichas*
215. Hooded Warbler *Wilsonia citrina*
216. Green-tailed warbler *Microligea palustris*
217. Swainson's warbler *Limnothlypis swainsonii*
218. Bananaquit *Coereba flaveola*
219. Western spindalis *Spindalis zena*
220. Summer Tanager *Piranga rubra*
221. Scarlet Tanager *Piranga olivacea*
222. Rose Breasted Grosbeak *Pheucticus ludovicianis*
223. Blue Grosbeak *Guaraca caerulea*
224. Indigo Bunting *Passerina cyanea*
225. Painted Bunting *Passerina ciris*
226. Dickcissel *Spiza americana*
227. Black-faced Grassquit *Tiaris bicolor*
228. Greater Antillean Bullfinch *Loxigilla violacea ofella*
229. White-crowned Sparrow *Zonotrichia leucophrys*
230. Bobolink *Dolichonyx oryzivorus*
231. Brown-headed Cowbird *Molothrus ater*
232. Shiny cowbird *Molothrus bonariensis*
233. Northern Oriole *Icterus galbula*
234. Buff-bellied pipit *Anthus rubescens*

C. Protected Reptiles and Amphibians

1. Southern Bahamas rainbow boa *Chilabothrus chrysogaster*
2. Mayaguana dwarf gecko *Sphaerodactylus mariguanae*
3. Jamaican slider *Trachemys terrapen*†
4. Inagua slider *Trachemys stejnegeri*†

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5. Thread snake *Typhlops platycephalus?*
6. American crocodile *Crocodylus acutus*‡
7. Green turtle *Chelonia mydas*
8. Hawksbuill turtle *Eretmochelys imbricata*
9. Loggerhead turtle *Caretta caretta*

D. Protected Mammals

1. All bats; all species in order *Chiroptera*
2. All hutias; *Geocapromys* species
3. All whales, dolphins, and porpoises, all members of order *Cetacea*
4. West Indian manatee *Trichechus manatus*
5. All other marine mammals, including vagrant species

E. Protected Terrestrial Invertebrates

1. Turks Island leafwing
2. Drury's hairstreak
3. Cave shrimp *Typhlatya garciai*
4. Cave shrimp *Barbouria cubensis*

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9.13 Appendix M – Hydrogeological Data

Since the geology and landform across the project is similar to surrounding areas, sediment analysis were adopted from previous EIA studies for coastal projects and presented in the table below.

Project Site	D60	D30	D10	C_u	C_c
MOLO Hotel	0.8571	0.7142	0.6190	1.38	0.96
Bassim Dock	0.8602	0.7156	0.6192	1.39	0.96
Romanza Town Houses	0.8701	0.7143	0.6039	1.44	0.97

The C_u values are indicative of particle sizes that are concentrated within a narrow range. They suggest that the sand samples were poorly graded. Since the C_u values were less than 6 and the C_c values were below 1, the soilss did not meet the criteria for well-sorted sand and therefore classified as poorly graded.

9.14 Appendix N – GPS Coordinates for Benthic Assessment.

9.14.1 Appendix N1 – Nearshore GPS Coordinates

Transect	Start				End				Habitat Description
	Waypoint	Latitude	Longitude	Time	Waypoint	Latitude	Longitude	Time	
1	T1 Start	21°48'56.19"N	72° 9'45.04"W	13:33	T1 End	21°48'42.86"N	72° 9'56.71"W	14:10	
	1	21°48'56.17"N	72° 9'45.20"W						Hard Bottom, dusky damselfish, sergeant major, Beaugregory
	2	21°48'55.79"N	72° 9'45.41"W						Bare Sand
	3	21°48'55.51"N	72° 9'45.58"W						Hard Bottom, Rubble
	4	21°48'55.02"N	72° 9'46.04"W						Bare Sand, Great Barracuda
	5	21°48'54.42"N	72° 9'46.69"W						Hard Bottom, Rubble.
	6	21°48'53.97"N	72° 9'47.01"W						Bare Sand
	7	21°48'53.55"N	72° 9'47.66"W						Hard bottom with la thin layer of sand
	8	21°48'53.16"N	72° 9'47.96"W						Hard bottom with la thin layer of sand and rubble
	9	1°48'52.50"N	72° 9'48.64"W						Bare sand
	10	21°48'51.74"N	72° 9'49.43"W						Bare sand
	11	21°48'50.50"N	72° 9'50.58"W						Bare sand
	12	21°48'48.42"N	72° 9'52.81"W						Bare sand
	13	21°48'46.61"N	72° 9'54.31"W						Groyne; Large stony corals, soft corals and invertebrates. Symmetrical Brain Coral, Knobby Brain Coral, Grooved Brain Coral, Mustard Hill, Lesser Starlet. Caribbean Spiny Lobster.
	14	21°48'45.60"N	72° 9'54.90"W						Bare sand
	15	21°48'43.64"N	72° 9'56.30"W						
2	T2 Start	21°48'56.57"N	72° 9'45.73"W	14:11	T2 End	21°48'43.25"N	72° 9'57.52"W	14:42	
	16	21°48'56.60"N	72° 9'45.80"W						Hard bottom, Groyne

Transect	Start				End				Habitat Description
	Waypoint	Latitude	Longitude	Time	Waypoint	Latitude	Longitude	Time	
	17	21°48'55.87"N	72° 9'46.39"W						Bare sand
	18	21°48'54.98"N	72° 9'47.32"W						Sandy bottom with macroalgae. Dead seagrass blades
	19	21°48'54.79"N	72° 9'47.37"W						Bare Sand
	20	21°48'54.58"N	72° 9'47.50"W						Sandy bottom with macroalgae. Dead seagrass blades
	21	21°48'54.47"N	72° 9'47.76"W						Bare sand
	22	21°48'54.16"N	72° 9'47.85"W						Sandy bottom with macroalgae. Dead seagrass blades
	23	21°48'53.58"N	72° 9'48.45"W						Groyne. Small coral, and high fish diversity. Mustard hill, french grunt, silversides, porcupine fish, blueheaded wrasse, Giant Sea anenome, yellowtail parrotfish, lane snapper, yellow tail snapper. blue tang, Ocean Surgeonfish. lesser Starlet, blue crab
	24	21°48'53.00"N	72° 9'49.21"W						Sandy bottom with sparse macroalgae. Dead seagrass blades
	25	21°48'52.65"N	72° 9'49.62"W						Bare sand
	26	21°48'51.89"N	72° 9'50.49"W						Sandy bottom with sparse macroalgae. Dead seagrass blades
	27	21°48'50.97"N	72° 9'51.45"W						Bare sand
	28	21°48'49.98"N	72° 9'52.39"W						Sandy bottom with sparse macroalgae. Dead seagrass blades
	29	21°48'49.29"N	72° 9'52.60"W						Bare Sand. Structure, French Grunts, lane snapper
	30	21°48'48.42"N	72° 9'53.52"W						Bare Sand. Structure
	31	21°48'47.68"N	72° 9'54.29"W						Bare sand
	32	21°48'47.01"N	72° 9'54.88"W						Groyne; Large stony corals, soft corals and invertebrates. Symmetrical Brain Coral, Knobby Brain Coral, Grooved Brain Coral, Mustard Hill, Lesser Starlet.

									Finger Coral, Lane snapper, French Grunt, Silversides, Yellowfin Majorra, Grooved Brain Coral, Blue Headed Wrasse, Coral Encrusting Sponge, Corky Sea Finger, SZEA, Yellow Tail Snapper, Christmas Tree Hydroid, Slippery dick. Giant Sea Anemone,
33	21°48'46.28"N	72° 9'55.56"W							Bare Sand
34	21°48'44.62"N	72° 9'56.70"W							Sandy bottom with macroalgae. Dead Seagrass blades
35	21°48'43.54"N	72° 9'57.35"W							Bare Sand
T3 Start	21°48'43.73"N	72° 9'58.41"W	14:43	T3 End	21°48'56.98"N	72° 9'46.68"W	15:21		

	36	21°48'44.26"N	72° 9'57.86"W						Sandy bottom with macroalgae. Dead Seagrass blades
	37	21°48'45.91"N	72° 9'56.59"W						Bare sand
	38	21°48'47.51"N	72° 9'55.54"W						Bare sand
	39	21°48'49.46"N	72° 9'54.07"W						Sandy bottom with macroalage. Dead seagrass blades
	40	21°48'50.67"N	72° 9'52.58"W						Bare sand
	41	21°48'52.45"N	72° 9'51.33"W						Sandy bottom with macroalage. Dead seagrass blades
	42	21°48'53.75"N	72° 9'50.19"W						Bare sand
	43	21°48'55.17"N	72° 9'48.21"W						Sandy bottom with macroalage. Dead seagrass blades
	44	21°48'56.05"N	72° 9'47.68"W						Bare Sand
	45	21°48'56.29"N	72° 9'46.96"W						Sandy bottom with macroalage. Dead seagrass blades
4	T4 Start	21°48'44.31"N	72° 9'59.28"W	15:22	T4 End	21°48'57.73"N	72° 9'47.44"W	16:05	
	46	21°48'44.68"N	72° 9'58.64"W						Bare sand
	47	21°48'46.96"N	72° 9'57.03"W						Bare sand
	48	21°48'50.53"N	72° 9'53.61"W						Sandy bottom with macroalage. Dead seagrass blades
	49	21°48'51.83"N	72° 9'52.48"W						Sandy bottom with macroalage. Dead seagrass blades
	50	21°48'55.04"N	72° 9'49.69"W						Bare sand
	51	21°48'57.08"N	72° 9'47.78"W						Bare sand

9.14.2 – Appendix N2 – Offshore GPS Coordinates

Transect	Start				End				Habitat Description
	Waypoint	Latitude	Longitude	Time	Waypoint	Latitude	Longitude	Time	
5	T5 Start	21°48'44.60"N	72° 9'59.81"W	10:00	T1 End	21°48'58.32"N	72° 9'48.31"W	10:36	
	52	21°48'44.33"N	72°10'0.10"W						Bare Sand
	53	21°48'48.13"N	72° 9'56.88"W						Bare Sand
	54	21°48'54.05"N	72° 9'52.17"W						Sandy bottom with Rubble
	55	21°48'56.28"N	72° 9'50.19"W						Bare sand
	56	21°48'57.35"N	72° 9'49.20"W						Seagrass – Turtle Grass Sparse
6	T6 Start	21°48'58.68"N	72° 9'49.11"W	10:37	T6 End	21°48'45.08"N	72°10'0.57"W	11:01	
	57	21°48'56.65"N	72° 9'50.43"W						Seagrass – Turtle Grass Sparse
	58	21°48'56.02"N	72° 9'51.51"W						Sandy bottom with macroalgae and rubble
	59	21°48'53.33"N	72° 9'52.92"W						Bare sand
	60	21°48'52.66"N	72° 9'54.67"W						Sandy bottom with macroalgae and rubble
	61	21°48'51.53"N	72° 9'54.62"W						Sandy bottom with macroalgae and rubble
7	T7 Start	21°48'45.59"N	72°10'1.25"W	11:02	T7 End	21°48'59.00"N	72° 9'49.82"W	11:32	
	62	21°48'45.73"N	72°10'1.14"W						Bare Sand
	63	21°48'48.78"N	72° 9'58.05"W						Bare Sand
	64	21°48'51.67"N	72° 9'55.66"W						Sandy bottom with macroalgae and rubble
	65	21°48'52.34"N	72° 9'55.68"W						Sandy bottom with macroalgae
	66	21°48'54.53"N	72° 9'52.97"W						Sandy bottom with macroalgae and rubble
	67	21°48'59.00"N	72° 9'50.11"W						Seagrass, Turtle Grass, Mustard Hill Coral
8		21°48'59.45"N	72° 9'50.58"W	11:33	T8 End	21°48'46.09"N	72°10'1.99"W	12:06	
	68	21°48'59.37"N	72° 9'50.88"W						Seagrass, Turtle Grass

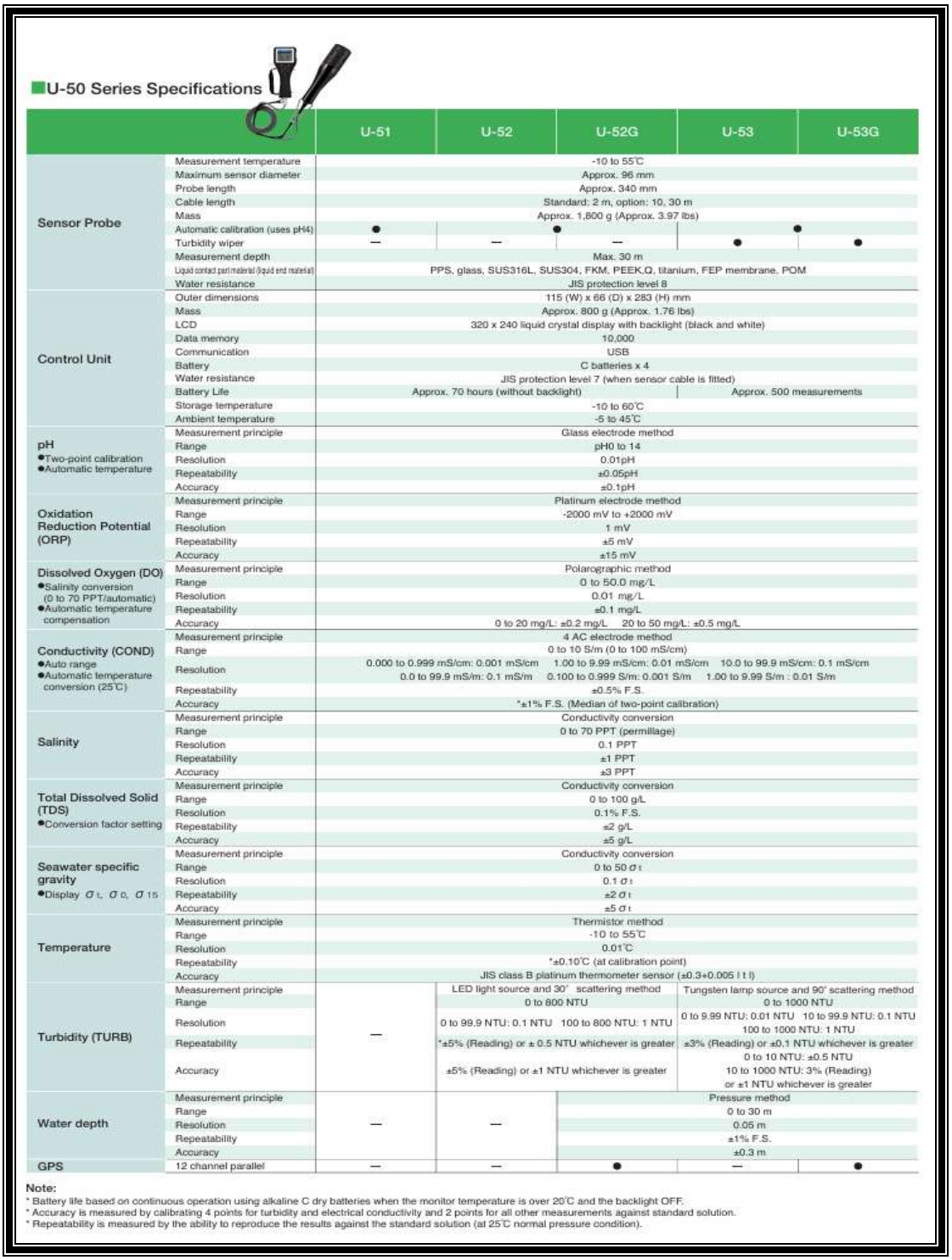
Transect	Start				End				Habitat Description
	Waypoint	Latitude	Longitude	Time	Waypoint	Latitude	Longitude	Time	
	69	21°48'55.18"N	72° 9'53.67"W						Seagrass, Turtle Grass
	70	21°48'55.08"N	72° 9'53.67"W						Seagrass, Turtle Grass
	71	21°48'53.24"N	72° 9'55.93"W						Seagrass, Turtle Grass
	72	21°48'53.11"N	72° 9'56.25"W						Seagrass, Turtle Grass
	73	21°48'52.80"N	72° 9'57.12"W						Seagrass, Turtle Grass
	74	21°48'52.21"N	72° 9'57.02"W						Sandy bottom with macroalgae and rubble
	75	21°48'50.21"N	72° 9'58.45"W						Sandy bottom with macroalgae and rubble
	76	21°48'48.52"N	72° 9'59.98"W						Bare Sand
	77	21°48'48.35"N	72°10'0.32"W						Bare Sand

9.14.3 – Appendix N3 – Spot Check GPS Coordinates

Spot Check	Date	Latitude	Longitude	Time	Habitat Description
SC 1	21/07/2026	21°48'59.62"N	72° 9'54.73"W	12:10	Moderate Seagrass, sparse macroalgae
SC 2	21/07/2026	21°49'3.51"N	72° 9'59.88"W	12:13	Moderate Seagrass, sparse macroalage , Lesser Starlet Coral, Queen Conch, Black Ball Sponge, Mustard Hill Coral
SC 3	21/07/2026	21°48'58.94"N	72°10'0.32"W	12:16	Sparse Seagrass, sparse macroalage Lesser Starlet Coral, Queen Conch,
SC 4	21/07/2026	21°48'54.91"N	72° 9'55.91"W	12:21	Seagrass, sparse macroalage, Stocky Cerith Snails, Black Ball Sponge
SC 5	21/07/2026	21°48'53.28"N	72°10'0.85"W	12:23	Patch of sand between seagrass bed, Fuzzy finger, Halimeda, exposed rhizomes
SC 6	21/07/2026	21°48'55.87"N	72°10'6.43"W	12:30	Hard bottom with Sparse Seagrass and macroalgae. Finger Coral (2 Dead, 1 alive), black ball sponge, giant sea anemone, stinker sponge
SC 7	21/07/2026	21°48'52.20"N	72°10'8.46"W	12:41	Hard bottom with sparse seagrass. Mountainous Star Coral, Finger Coral, Stinker Sponge, Mustard Hill, Squirrelfish, Queen Angelfish, Blue Tang, CZOO, Coral Encrusting Sponge Bar Jack, SZEA, Blue Headed Wrasse, Schoolmaster Snapper, Social Feather Duster Worm, Christmas Tree Worm, Ocean Surgeonfish, Black ball sponge, Yellow headed wrasse, Symmetrical Brain Coral, French Grunt, Caesar Grunt, TSOL, Pink Thicket Algae, Dusky damselfish, yellow tube Sponge, Yellow tail snapper
SC 8	21/07/2026	21°48'51.98"N	72°10'4.25"W	12: 51	Hard Bottom with Sparse Seagrass. Mountainous

Spot Check	Date	Latitude	Longitude	Time	Habitat Description
					Star Coral, Finger Coral, Stinker Sponge, Mustard Hill, Blue Tang, CZOO, Coral Encrusting Sponge Bar Jack, SZEA, Social Feather Duster Worm, Ocean Surgeonfish, Black Ball Sponge, Symmetrical Brain Coral, French Grunt, Branching Fire Coral
SC 9	21/07/2026	21°48'48.35"N	72°10'3.17"W	13:10	Bare sand and a Patch of Hard bottom, Foureye Butterfly Fish, Mustard Hill, Black Ball Sponge, Beaugregory, Lesser Starlet Coral, Stocky Cerith Snails. Bar Jack, Giant Sea Anemone, Blue Tang, yellow Headed Wrasse, Fire Worm, Stinker Sponge, Lane Snapper

9.15 Appendix O – Horiba U-53 G Multiparameter Specifications



■U-50 Series Specifications

		U-51	U-52	U-52G	U-53	U-53G
Sensor Probe	Measurement temperature	-10 to 55℃				
	Maximum sensor diameter	Approx. 96 mm				
	Probe length	Approx. 340 mm				
	Cable length	Standard: 2 m, option: 10, 30 m				
	Mass	Approx. 1,800 g (Approx. 3.97 lbs)				
	Automatic calibration (uses pH4)	●		●		●
	Turbidity wiper	—	—	—	●	●
	Measurement depth	Max. 30 m				
	Liquid contact part material (liquid end material)	PPS, glass, SUS316L, SUS304, FKM, PEEK,Q, titanium, FEP membrane, POM				
	Water resistance	JIS protection level 8				
Control Unit	Outer dimensions	115 (W) x 66 (D) x 283 (H) mm				
	Mass	Approx. 800 g (Approx. 1.76 lbs)				
	LCD	320 x 240 liquid crystal display with backlight (black and white)				
	Data memory	10,000				
	Communication	USB				
	Battery	C batteries x 4				
	Water resistance	JIS protection level 7 (when sensor cable is fitted)				
	Battery Life	Approx. 70 hours (without backlight)			Approx. 500 measurements	
	Storage temperature	-10 to 60℃				
	Ambient temperature	-5 to 45℃				
pH ●Two-point calibration ●Automatic temperature	Measurement principle	Glass electrode method				
	Range	pH0 to 14				
	Resolution	0.01pH				
	Repeatability	±0.05pH				
	Accuracy	±0.1pH				
Oxidation Reduction Potential (ORP)	Measurement principle	Platinum electrode method				
	Range	-2000 mV to +2000 mV				
	Resolution	1 mV				
	Repeatability	±5 mV				
	Accuracy	±15 mV				
Dissolved Oxygen (DO) ●Salinity conversion (0 to 70 PPT/automatic) ●Automatic temperature compensation	Measurement principle	Polarographic method				
	Range	0 to 50.0 mg/L				
	Resolution	0.01 mg/L				
	Repeatability	±0.1 mg/L				
	Accuracy	0 to 20 mg/L: ±0.2 mg/L 20 to 50 mg/L: ±0.5 mg/L				
Conductivity (COND) ●Auto range ●Automatic temperature conversion (25℃)	Measurement principle	4 AC electrode method				
	Range	0 to 10 S/m (0 to 100 mS/cm)				
	Resolution	0.000 to 0.999 mS/cm: 0.001 mS/cm 1.00 to 9.99 mS/cm: 0.01 mS/cm 10.0 to 99.9 mS/cm: 0.1 mS/cm 0.0 to 99.9 mS/m: 0.1 mS/m 0.100 to 0.999 S/m: 0.001 S/m 1.00 to 9.99 S/m : 0.01 S/m				
	Repeatability	±0.5% F.S.				
	Accuracy	*±1% F.S. (Median of two-point calibration)				
Salinity	Measurement principle	Conductivity conversion				
	Range	0 to 70 PPT (permillage)				
	Resolution	0.1 PPT				
	Repeatability	±1 PPT				
	Accuracy	±3 PPT				
Total Dissolved Solid (TDS) ●Conversion factor setting	Measurement principle	Conductivity conversion				
	Range	0 to 100 g/L				
	Resolution	0.1% F.S.				
	Repeatability	±2 g/L				
	Accuracy	±5 g/L				
Seawater specific gravity ●Display σt, σ0, σ15	Measurement principle	Conductivity conversion				
	Range	0 to 50 σt				
	Resolution	0.1 σt				
	Repeatability	±2 σt				
	Accuracy	±5 σt				
Temperature	Measurement principle	Thermistor method				
	Range	-10 to 55℃				
	Resolution	0.01℃				
	Repeatability	*±0.10℃ (at calibration point)				
	Accuracy	JIS class B platinum thermometer sensor (±0.3+0.005 l t l)				
Turbidity (TURB)	Measurement principle	—	LED light source and 30° scattering method		Tungsten lamp source and 90° scattering method	
	Range		0 to 800 NTU		0 to 1000 NTU	
	Resolution		0 to 99.9 NTU: 0.1 NTU 100 to 800 NTU: 1 NTU		0 to 9.99 NTU: 0.01 NTU 10 to 99.9 NTU: 0.1 NTU 100 to 1000 NTU: 1 NTU	
	Repeatability		*±5% (Reading) or ± 0.5 NTU whichever is greater		±3% (Reading) or ±0.1 NTU whichever is greater	
	Accuracy		±5% (Reading) or ±1 NTU whichever is greater		0 to 10 NTU: ±0.5 NTU 10 to 1000 NTU: 3% (Reading) or ±1 NTU whichever is greater	
Water depth	Measurement principle	—	—	Pressure method		
	Range			0 to 30 m		
	Resolution			0.05 m		
	Repeatability			±1% F.S.		
	Accuracy			±0.3 m		
GPS	12 channel parallel	—	—	●	—	●

Note:
* Battery life based on continuous operation using alkaline C dry batteries when the monitor temperature is over 20℃ and the backlight OFF.
* Accuracy is measured by calibrating 4 points for turbidity and electrical conductivity and 2 points for all other measurements against standard solution.
* Repeatability is measured by the ability to reproduce the results against the standard solution (at 25℃ normal pressure condition).

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Date: Feb 7, 2025

NOTIFICATION LETTER

This letter serves as a notification that HORIBA U-50 series (U-51, U-52, U-53 and U-54 probes) are available for measurement of sea water samples as one of the applications to be used by users.

Masahiro Ogura
Water Product Specialist
HORIBA Instruments, Inc.
Phone : 949-4913-5435
masahiro.ogura@horiba.com

M.Ogura

9.16 Appendix P – Adka Laboratory Certification



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Organization of:

Adka Laboratories
East Street North, Nassau, Bahamas

and hereby declares that the Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2017

Whereby, technical competence has been confirmed for the associated scope supplement, in the fields of:

Environmental Testing
(As detailed in the supplement)

Accreditation claims for conformity assessment activities shall only be made from the addresses referenced within this certificate and shall apply solely to those activities identified in the related scope. This Accreditation is granted subject to the Accreditation Body rules governing the Accreditation referred to above, and the Organization hereby commits to observing and complying with those rules in their entirety.

For PJLA:

Tracy Szerszen
President

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
May 14, 2012	January 19, 2026	February 29, 2028

Accreditation No.:	*Certificate No.:*
72247	L26-37

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjlabs.com

Page 1 of 3

PJLA

Certificate of Accreditation: Supplement

Adka Laboratories

East Street North, Nassau, Bahamas
Contact Name: Carol Knowles Phone: 242-325-3808

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF TEST	ITEMS, MATERIALS, OR PRODUCTS TESTED	COMPONENT, CHARACTERISTIC, PARAMETER TESTED	SPECIFICATION OR STANDARD METHOD	TECHNOLOGY OR TECHNIQUE USED	FLEX CODE	LOCATION OF ACTIVITY
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Chloride	SM 4500 Cl- B	Titration	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Salinity	SM 2520 B	Conductivity Meter	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Total Dissolved Solid	SM 2540 C EPA 160.1	Gravimetric	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Conductivity	SM 2510 B EPA 120.1	Conductivity Meter	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	pH	SM 4500 H+ B EPA 150	pH Meter	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Turbidity	SM 2130 B EPA 180.1	Turbidity Meter	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Calcium, Ca as CaCO3	SM 3500 Ca B	Titration	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Magnesium	SM 3500 Mg B	Calculation	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Total Hardness, CaCO3	SM 2340 C	Titration	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Iron	SM 3500 Fe B	Spectrophotometer	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Sulfate	SM 4500 SO4- E ASTM D516-02	Spectrophotometer	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Ammonia-Nitrogen,	SM 4500 NH3-F	Spectrophotometer	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Nitrates	SM 4500 NO3- E EPA 353.2	Spectrophotometer	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	P. Alkalinity	SM 4500 CO2 C	Titration	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Phosphates	SM 4500 P E EPA 365.1	Spectrophotometer	F1, F2	F

Issue: 01/2026 *This supplement is in conjunction with certificate #L26-37* *Page 2 of 3*

PJLA

Certificate of Accreditation: Supplement

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East Street North, Nassau, Bahamas
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FIELD OF TEST	ITEMS, MATERIALS, OR PRODUCTS TESTED	COMPONENT, CHARACTERISTIC, PARAMETER TESTED	SPECIFICATION OR STANDARD METHOD	TECHNOLOGY OR TECHNIQUE USED	FLEX CODE	LOCATION OF ACTIVITY
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Copper	SM 3500 Cu C	Spectrophotometer	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Heterotrophic Plate Count	SM 9215 D	Membrane Filtration	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Total Coliform	SM 9222 B	Membrane Filtration	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Fecal Coliform	SM 9222 D	Membrane Filtration	F1, F2	F
Environmental	Potable water Non-potable water, Pool water, Seawater, Wastewater	Enterococcus	SM 9230 C EPA 1600	Membrane Filtration	F1, F2	F
Environmental	Non-Potable Water, Potable Water Chillers	*Legionella*	CDC Method	Membrane Filtration	F1, F2	F
Environmental	Potable Water Non-Potable Water, Wastewater	*E. coli*	EPA 1604	Membrane Filtration	F1, F2	F

1. Location of activity:

Location	Location
F	Conformity assessment activity is performed at the CABs fixed facility

2. Flex Code:
F0- Fixed scope item. No deviations allowed to the line item as identified, except for updating to the most recent version of an accredited standard method after verification.
F1- Laboratory has the capability to test a new item, material, matrix, or product similar in composition to item, material, matrix, or product identified on the scope
F2- Laboratory has the capability to introduce the newest revision of an accredited authoritative standard method (with no modifications) identified on the scope
F3- Laboratory has the capability to introduce a parameter/component/analyte to an accredited test method identified on the scope
F4- Laboratory has the capability to introduce a new revision of an accredited non-standard method using the same technology or technique identified on the scope
F5- Laboratory has the capability to introduce a validated method that is equivalent to an accredited method (using same technology or technique) identified on the scope

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9.17 Appendix Q – Water Quality Results

9.17.1 Appendix Q1 – Physical Water Quality Analysis

Moon Palace Resort Development Physical Water Quality Results											
Water Sample (WS)	**Date**	**Time**	**Latitude**	**Longitude**	**Temperature (C)**	**pH**	**Salinity (ppt)**	**Dissolved Oxygen (mg/L)**	**Total Dissolved Solids (g/L)**	**Depth (m)**	**Location**
1	21/07/2026	10: 06	21°48'45.72"N	72°10'1.35"W	29.8	7.86	37.8	7.14	34.1	3.2	Offshore
2	21/07/2026	10:11	21°48'44.79"N	72° 9'59.81"W	29.58	7.89	36.49	7.45	33.0	1.9	Offshore
3	21/07/2026	10:15	21°48'48.13"N	72° 9'56.88"W	29.58	7.45	36.49	7.45	33.0	3.2	Offshore
4	21/07/2026	10:18	21°48'54.06"N	72° 9'52.45"W	29.58	7.88	37.07	6.84	33.5	3.1	Offshore
5	21/07/2026	10:21	21°48'57.35"N	72° 9'49.20"W	29.92	7.83	37.67	6.45	34.0	3.1	Offshore
6	21/07/2026	10:26	21°49'0.21"N	72° 9'51.28"W	29.63	7.76	37.17	6.94	33.5	6.3	Offshore
7	21/07/2026	10:30	21°48'55.08"N	72° 9'53.67"W	29.77	7.87	37.06	6.55	33.5	1.9	Offshore
8	21/07/2026	10:34	21°48'48.78"N	72° 9'58.05"W	29.75	7.76	38.22	7.38	34.4	3.0	Offshore
9	21/07/2026	12:48	21°48'49.33"N	72°10'7.30"W	30.09	7.89	36.68	7.82	33.4	2.6	Offshore
10	21/07/2026	12:53	21°48'52.39"N	72°10'5.05"W	30.06	7.86	37.00	7.23	33.4	2.9	Offshore

Moon Palace Resort Development Physical Water Quality Results											
Water Sample (WS)	**Date**	**Time**	**Latitude**	**Longitude**	**Temperature (C)**	**pH**	**Salinity (ppt)**	**Dissolved Oxygen (mg/L)**	**Total Dissolved Solids (g/L)**	**Depth (m)**	**Location**
11	21/07/2026	12:57	21°48'55.06"N	72°10'2.50"W	30.05	7.76	38.17	6.11	34.8	3.5	Offshore
		13:02	12	21/07/2026	30.05	7.83	38.61	7.48	34.7	7.2	Offshore
13	21/07/2026	13:10	21°49'1.94"N	72° 9'55.72"W	29.59	7.76	36.72	7.18	34.2	3.7	Offshore
14	22/07/2026	16:32	21°48'43.81"N	72° 9'56.07"W	29.66	7.76	36.92	7.88	33.4	0.3	Nearshore
15*	22/07/2026	16:36	21°48'46.32"N	72° 9'54.32"W	29.70	7.81	37.20	6.68	33.5	0.5	Nearshore
16	22/07/2026	16:50	21°48'49.01"N	72° 9'52.03"W	29.70	7.8	36.89	6.4	34.3	0.6	Nearshore
17*	22/07/2026	16:56	21°48'51.19"N	72° 9'49.88"W	29.69	7.72	37.42	7.39	33.8	0.8	Nearshore
18	22/07/2026	17:15	21°48'52.97"N	72° 9'47.97"W	29.65	7.6	37.02	6.6	33.4	0.5	Nearshore
19*	22/07/2026	17:20	21°48'54.47"N	72° 9'46.13"W	29.70	7.75	35.3	7.07	32.1	0.8	Nearshore

An asterisk (*) denotes the location in which Chemical water quality samples were conducted.

9.17.2 Appendix – Q2 – Chemical Water Quality Analysis Results

adka
Laboratories & Consultancy Co. Ltd. & Environmental Services
East Street North
opposite Police Headquarters
P.O. Box N-1555 • Nassau, Bahamas
Telephone: (242) 325-3808 / 328-6966
Fax: 328-6951
Email: mail@adkalaboratories.com

Doc No: Form 00001
Revision: 6

DATE: ..... July 31st, 2026
LAB SAMPLE NO: S-26-3145-3
SAMPLE OF: ..... Water Sample
SAMPLE RECEIVED DATE: ..... July 23rd, 2026
SAMPLE COLLECTION DATE: ..... Unknown
SAMPLE START TIME: ..... July 23rd, 2026/16:30
REPORTED TO: ..... Ms. Janeen Bullard
Environmental Specialist
JSS Consultant
Nassau, Bahamas

INDUSTRIAL CHEMISTRY TEST CERTIFICATE

PARAMETERS	(1) mg/L	(2) mg/L	(3) mg/L	DEHS/FDEP/WHO Water Guidelines MCL (ppm=mg/L)	METHODS
TOTAL DISSOLVED SOLIDS	36,000.00	39,920.00	36,100.00	100 – 1,000	SM 2540 C
AMMONIA NITROGEN	0.00	0.00	0.00	-	SM 4500-NH_3F
TURBIDITY	1.17	0.72	0.67	0 – 2.0 NTU	SM 2130 B/EPA 180.1
NITRATE	1.1	1.1	0.9	0-10	SM4500-NO_3 B/ EPA 353.2
NITRITE	0.46	0.37	0.56	0-10	SM 4500-NO_2
ANALYST INTIAL	C.B.	C.B.	C.B.		

DEHS: Department of Environmental Health Service (NAS)
FDEP: Florida Department of Environmental Protection
WHO: World Health Organization

N/A – not analyzed

SAMPLE I.D.

1) MPWQ#2 Water Sample
2) MPWQ #3 Water Sample
3) MPWQ #6 Water Sample

"We have the solution for your pollution"

adka
Laboratories & Consultants Co Ltd. & Environmental Services

East Street North
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Email: mail@adkalaboratories.com

Doc No: Form 00002
Revision: 5

DATE: ..... July 31st, 2026
LAB SAMPLE NO: S-26-3145-3
SAMPLE OF: ..... Water Sample
SAMPLE RECEIVED DATE: ..... July 23rd, 2026
SAMPLE COLLECTION DATE: ..... Unknown
SAMPLE START TIME: ..... July 23rd, 2026/16:30
REPORTED TO: ..... Ms. Janeen Bullard
Environmental Specialist
JSS Consultant
Nassau, Bahamas

INDUSTRIAL MICROBIOLOGY TEST CERTIFICATE

RESULTS	(1) CFU/ 100mL	(2) CFU/ 100mL	(3) CFU/ 100mL	DEHS/FDEP/WHO Water Guidelines MCL	METHODS
TOTAL COLIFORM	200	150	91	0 CFU	9222 B
ANALYST INITIAL	S.D.	S.D.	S.D.		

FIELD SAMPLING PARAMETERS

PARAMETERS	(1)	(2)	(3)	Ideal Range (ppm)
CHLORINE (Cl)	0.0	0.0	0.0	0.5-3.0
SAMPLE METHOD	Grab	Grab	Grab	

DEHS: Department of Environmental Health Service (NAS)
FDEP: Florida Department of Environmental Protection
WHO: World Health Organization
N/A – not analyzed
T-TOO NUMEROUS TO COUNT

SAMPLE I.D

1) MPWQ#2 Water Sample
2) MPWQ #3 Water Sample
3) MPWQ #6 Water Sample

Anthony D. Knowles
Senior Lab Supervisor

Disclaimer
This report is the sole property of the client named on the Adka Laboratory chain of custody. Neither results nor reports will be discussed with or released to any third party without our client's written permission. The information provided in this report applies only to the samples submitted and is relevant only for the date, time, and exact location of sampling. The comments and recommendations provided in this report is based upon the environmental training and education obtained, and should not be utilized to substantiate legal actions or matters against government or private entities.

Page 2 of 2

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9.18 Appendix R – Landscape Restoration Plan

1.0 Introduction

The Landscape Restoration Plan was created to support the conservation of plant biodiversity within Moon Palace by identifying, salvaging, and repurposing suitable native and protected seedlings and saplings that may otherwise be lost during development activities.

The Landscape Restoration Plan aims to incorporate native plant species naturally occurring within The Project site into the proposed landscape design, creating an aesthetically appealing and ecologically appropriate landscape palette that reflects the character of the surrounding environment. The use of locally occurring native species will help retain elements of the site's existing botanical character, support habitat value, and promote biodiversity while reducing the reliance on non-native ornamental species.

The Plan will guide the removal, relocation, establishment, and maintenance of suitable seedlings and saplings within designated recipient areas, thereby contributing to biodiversity conservation and the restoration and enhancement of landscaped areas following development.

2.0 Objectives

- Conserve native and protected plant biodiversity within The Project site.
- Minimize vegetation loss through the relocation and re-establishment of suitable seedlings and saplings.
- Incorporate native species into the landscape design to create an aesthetically appealing, site-appropriate plant palette.
- Enhance habitat value and ecological connectivity within developed areas.
- Promote the long-term survival and establishment of relocated vegetation through appropriate maintenance.
- Restore and enhance disturbed areas using native vegetation.
- Balance landscape aesthetics with the conservation of the Project site's natural botanical resources.

3.0 Methodology

The Landscape Restoration and Plant Relocation Plan was implemented to conserve suitable native and protected seedlings and saplings that may be impacted by development activities. The methodology focused on selecting healthy specimens, minimizing disturbance during extraction, providing appropriate treatment and potting, and ensuring that relocated plants could be monitored and maintained at the recipient nursery.

Plant relocation work should be conducted with a team of supervisors and field personnel. Equipment used to support vegetation removal and preparation included wheelbarrows, small pickaxes, shovels, plastic buckets, pruning handsaws, cutlasses, claw rakes, and pruning clippers.

3.1 Species Selection

Prior to removal, native and protected seedlings and saplings should be assessed to determine their suitability for relocation. Selection will be based primarily on plant health, accessibility, root structure, and the likelihood of successful establishment following transplantation.

The following criteria should apply:

- Plants exhibiting greater than 50% damage from pests, diseases, nutrient deficiencies, storm damage, or human activities will be excluded.
- Plants growing directly within karst topography or hard limestone substrate should be generally excluded where an adequate root ball could not be safely extracted.
- Plants exhibiting greater than 75% damage from storms, nutrient deficiencies, or human activities should be excluded due to their reduced likelihood of survival.
- Preference should be given to healthy, established seedlings and saplings with sufficient root structure to allow successful extraction and transplantation.

3.2 Plant Removal and Preparation

Selected specimens should be carefully excavated using hand tools to minimize damage to the root system. The root ball will be delineated using the plant's drip line as a guide, with efforts made to retain a root ball proportional to the plant's canopy and sufficient to support post-transplant establishment.

Following extraction, damaged or excessive roots should be selectively pruned. Where necessary, above-ground portions, including damaged stems and foliage, were also pruned to reduce transplant stress and address visible pest damage.

Mycorrhizae and rooting powder should be applied to the prepared root system to encourage root development and assist the plants in recovering from transplant shock.

3.3 Potting and Transfer

Following preparation, specimens should be placed into appropriately sized pots ranging from one (1) to five (5) gallons, depending on the size of the root ball and individual plant requirements. Potting media will be amended with cow manure and a balanced fertilizer to provide suitable growing conditions and support plant establishment.

The potted specimens should subsequently have transferred to the designated recipient nursery for acclimatization, monitoring, and maintenance.

3.4 Identification and Inventory

Each relocated specimen should be double-tagged and assigned a unique identification label. This system allows relocated plants to be distinguished from other nursery specimens and supports accurate inventory management, monitoring of plant health and survival, and future relocation or landscape installation activities

4.0 Monitoring and Maintenance Plan

The monitoring and maintenance program will support the successful establishment and long-term survival of relocated native and protected plants. Key activities will include:

- Irrigation: Provide regular watering based on rainfall, soil moisture, plant condition, and seasonal conditions while avoiding overwatering.
- Plant Health: Regularly inspect plants for transplant stress, wilting, discoloration, poor growth, damage, and other signs of declining health.
- Pest and Disease Treatment: Monitor for pests and diseases and apply appropriate treatments when necessary, prioritizing non-chemical methods where practical.
- Fertilization: Assess plants for nutrient deficiencies and apply appropriate fertilizer or soil amendments as required.
- Pruning: Remove dead, damaged, diseased, or infested plant material while minimizing pruning during the initial establishment period.
- Weed Control: Remove competing vegetation to reduce competition for water, nutrients, and sunlight.
- Corrective Measures: Address poorly established plants through adjustments to irrigation, treatment, pruning, soil amendments, or replacement where necessary.
- Monitoring Records: Maintain records of plant condition, irrigation, treatments, maintenance activities, and survival.
- Monitoring Frequency: Conduct more frequent inspections during the initial establishment period and following extreme weather or other conditions that may affect plant health.

5.0 Recommended Native Species

The recommended landscape palette for Moon Palace prioritizes native and locally occurring species identified within the Project site. The selected species provide a combination of trees, shrubs, groundcovers, vines, grasses, and ornamental plants that can support biodiversity while creating an attractive landscape that reflects the natural character of the surrounding environment.

The following species are recommended for incorporation into the landscape design, subject to site conditions, availability, and compatibility with proposed landscape areas.

Common Name	Scientific Name	Recommended Landscape Use
Strongback	*Bourreria succulenta*	Feature tree / shade tree
Seven-year Apple	*Casasia clusiifolia*	Small tree / shrub
Pitch Apple	*Clusia rosea*	Feature tree / screening
Seagrape	*Coccoloba uvifera*	Coastal tree / screening
Buttonwood	*Conocarpus erectus*	Coastal tree / screening
Black Torch	*Erithalis fruticosa*	Shrub / screening
Golden Creeper	*Ernodea littoralis*	Groundcover / low planting
Small-leaved Blolly	*Guapira discolor*	Small tree / screening
Goatsfoot	*Ipomoea pes-caprae*	Groundcover / coastal areas
Beach Iva	*Iva imbricata*	Coastal groundcover / stabilization
Joewood	*Jacquinia keyensis*	Shrub / Small Tree / screening
Sea Sage	*Lantana involucrata*	Shrub / pollinator planting
Bamboo Grass	*Lasiacis divaricata*	Screening / mass planting
Wild Tamarind	*Lysiloma latisiliquum*	Feature tree / shade
Wild Dilly	*Manilkara bahamensis*	Feature tree / shade
Sweet Margaret	*Mosiera longipes*	Shrub / low planting
Darling Plum	*Reynosia septentrionalis*	Small tree / feature planting
Black Ink Berry	*Scaevola plumieri*	Coastal shrub / screening
Coastal Senna	*Senna mexicana var. chapmanii*	Shrub / ornamental planting
Willow Bustic	*Sideroxylon salicifolia*	Tree / screening
Mosquito Bush	*Strumpfia maritima*	Low shrub / coastal planting
White Cedar	*Tabebuia heterophylla*	Feature tree / shade
Buttercup	*Turnera ulmifolia*	Groundcover / ornamental planting
Sea Oat	*Uniola paniculata*	Coastal stabilization / mass planting
Yellowwood	*Zanthoxylum flavum*	Feature tree / canopy planting

6.0 Landscape Palette Considerations:

The final selection and placement of species should consider soil conditions, available sunlight, drainage, salt exposure, mature size, root characteristics, and irrigation requirements. Species should be strategically grouped to create a diverse landscape structure consisting of canopy trees, understory shrubs, groundcovers, grasses, and flowering plants while maintaining the ecological character of The Project site.

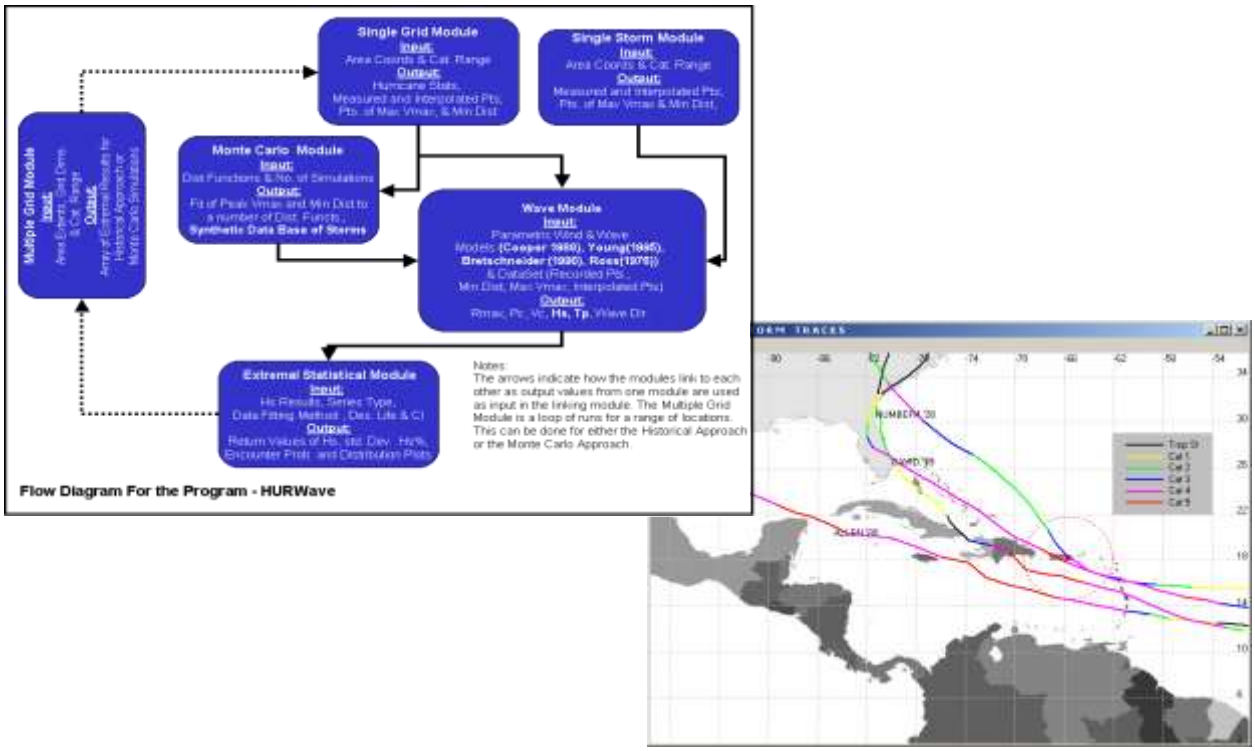
9.19 Appendix S – Model Descriptions

Multiple modelling tools were used to develop the design wave conditions at the site. This appendix describes the tools and how they were used.

A.1 HurWave

A package of Hurricane Parametric Wave Models and Extremal Statistical Analyses by Jamel D. Banton (Banton, 2002). HURWave combines the database of the National Oceanic and Atmospheric Administration (NOAA), of hurricane tracks, with wind and wave distribution algorithms to statistically determine deep-water design wave conditions at any location within the Caribbean and the Gulf of Mexico.

The program consists of six main modules, namely: The Single Grid Module; The Single Storm Module; The Wave Module; The Extremal Statistical Module; The Monte Carlo Module; and The Multiple Grid Module. These are shown in the flow chart following.



HURWave process and a screenshot of a storm track result during analysis

The NOAA database consists of Atlantic hurricane track positions along with wind and pressure conditions at 6-hour intervals since the late 19th century. For any specified location within the North Atlantic Basin, HURWave searches this database for tropical storms and hurricanes that have passed within a specified distance from the point of interest. The program produces a number of statistical descriptions for this result.

Several widely used wind and wave models are applied to produce a hindcast dataset of hurricane wave conditions at the point in question. These models include Cooper (1988) and Young (1995).

The Cooper model was developed by statistically analysing the output from numerical wind and wave models for six Gulf of Mexico hurricanes. The storms covered a wide cross-section of hurricane conditions.

In the case of Young, he first developed an extensive synthetic database by running a numerical wave prediction model for a wide range of hurricane parameters. The data from these numerical experiments were then used to clarify the wave generation process within hurricanes and further to develop the parametric model suitable for wave prediction in deep water. This model was further calibrated with over 100 measurements made by the GEOSAT satellite.

With the results of these models, a range of extremal statistical analyses may be carried out in HURWave. The extremal methods applied are based on work published by Yoshima Goda in 1988 for statistically analysing extreme events such as hurricane waves. Distribution functions such as Weibull and Fischer Tippet (Type I) are fitted to the model results and the best fit chosen. The results include the values for wind, wave, and water level conditions for various return periods.

Return Wave Heights and Variations

Refresh

Return Values For The Peak Value Series

	FT - I				Weibull															
					k = 0.75				k = 1.00				k = 1.40				k = 2.00			
Rp	Hs	σ	Hs%	EP	Hs	σ	Hs%	EP	Hs	σ	Hs	EP	Hs	σ	Hs%	EP	Hs	σ	Hs%	EP
2	4.15	0.2	4.4	100.0	3.54	0.2	3.8	100.0	3.81	0.2	4.1	100.0	4.09	0.2	4.4	100.0	4.32	0.2	4.6	100.0
5	5.92	0.3	6.2	100.0	5.52	0.4	5.8	100.0	5.82	0.4	6.1	100.0	6.02	0.4	6.3	100.0	6.11	0.3	6.4	100.0
10	7.14	0.4	7.4	99.5	7.25	0.5	7.5	99.5	7.34	0.6	7.6	99.5	7.29	0.4	7.6	99.5	7.18	0.3	7.5	99.5
20	8.33	0.5	8.6	92.3	9.16	0.7	9.5	92.3	8.87	0.8	9.2	92.3	8.47	0.5	8.8	92.3	8.11	0.4	8.4	92.3
25	8.70	0.5	9.0	87.0	9.80	0.8	10.1	87.0	9.36	0.8	9.6	87.0	8.84	0.6	9.1	87.0	8.39	0.4	8.7	87.0
50	9.87	0.6	10.2	63.6	11.89	1.0	12.2	63.6	10.88	1.0	11.2	63.6	9.93	0.6	10.2	63.6	9.20	0.5	9.5	63.6
100	11.03	0.7	11.3	39.5	14.09	1.2	14.4	39.5	12.40	1.2	12.7	39.5	10.97	0.7	11.3	39.5	9.95	0.5	10.2	39.5
CI =	95	%																		
	Cor=	0.996			Cor=	0.867			Cor=	0.951			Cor=	0.991			Cor=	0.998		

Example of resulting wave conditions for a HURWave analysis

A.2 MIKE 21

Coastal processes along the shoreline and within the nearshore of the site were modelled using coupled hydrodynamic and spectral wave modules within MIKE 21. The MIKE 21 model (developed by the Danish Hydraulic Institute) is a professional engineering software package for the simulation of tides, waves, sediments and ecology in rivers, lakes, estuaries, bays, coastal areas, and seas.

The MIKE 21 model uses various modules to simulate hydrodynamic variances in surface elevation and currents (HD) as well as spectral waves (SW). Coupling of the two modes means that the mutual interaction between waves and currents is simulated and results from one module are passed back and forth to the other module to improve the efficiency and accuracy of the simulations. The Spectral Wave (SW) module computes wave conditions throughout the model domain; the Hydrodynamic (HD)

module computes water levels and current speeds and directions and is coupled with the SW module so that wave-induced currents are included. Water levels and currents affecting waves are also passed back to the SW module to improve the accuracy of the wave conditions.

Coupled Model FM

MIKE 21/3 Coupled Model FM is a truly dynamic modelling system for application within coastal and estuarine environments. It is composed of following modules:

- Hydrodynamic Module
- Spectral Wave Module
- Transport Module
- ECO Lab Module
- Mud Transport Module
- Sand Transport Module (only 2D simulations)

The Hydrodynamic Module and the Spectral Wave Module are the basic computational components of the MIKE 21/3 Flow Model FM. Using MIKE 21/3 Coupled Model FM it is possible to simulate the mutual interaction between waves and currents using a dynamic coupling between the Hydrodynamic Module and the Spectral Wave Module. The MIKE 21/3 Coupled Model FM also includes a dynamic coupling between the Mud Transport and the Sand Transport models and the Hydrodynamic Module and the Spectral Wave Module. Hence, full feedback of the bed level changes on the waves and flow calculations can be included.

Application Areas

The application areas are generally problems where flow and transport phenomena are important, with emphasis on coastal and marine applications, where the flexibility inherited in the unstructured meshes can be utilized.

MIKE 21/3 Coupled Model FM can be used for investigating the morphological evolution of the nearshore bathymetry due to the imp act of engineering works (coastal structures, dredging works etc.). The engineering works may include breakwaters (surface-piercing and submerged), groins, shoreface nourishment, harbours etc. MIKE 21/3 Coupled Model FM can also be used to study the morphological evolution of tidal inlets.

Computational features

The main features of the MIKE 21 Coupled Model FM are as follows:

- Dynamic coupling of flow and wave calculations
- Full feedback of bed level changes on flow and wave calculations
- Easy switch between 2D and 3D calculations (hydrodynamic module and process modules)
- Optimal degree of flexibility in describing bathymetry and ambient flow and wave conditions

- using depth-adaptive and boundary-fitted unstructured mesh.

Flexible Mesh Development

The fundamental starting point of the model is the creation of a computational mesh where spatial variances can be determined at each simulation time step. MIKE 21 uses a flexible mesh, based on linear triangular elements that represent the seabed and land elevations (bathymetry and topography of the area). The flexible element mesh is particularly well-suited for modelling large complex areas that, at the same time, require a detailed resolution of specific features or areas.

As discussed, all existing bathymetric and topographic data relevant to the area were merged and used as input to the model to define land and seabed elevations. The mesh configuration used for the coastal modelling is presented below. Within the mesh development routine, interpolation methods are used to fill data gaps thereby create a smoothed surface.



Mesh extents and configurations used in the wave modelling exercise for the Palace property

This was then input to the MIKE Zero mesh developer which then created the flexible mesh to represent the existing conditions as shown below. As shown, smaller mesh elements were used in the areas closest to the project area. Additionally, smaller elements were used around the areas of significant contour change to adequately resolve wave movements and accurately represent the bathymetry with higher resolution in these areas. Smaller elements were also used along the reef face to properly capture the steep change in elevation.

The larger mesh triangles were used to represent the deep-water elements. The elements gradually reduced as the water depth decreased. The smallest mesh elements were put between elevation of 5m

below mean sea level and 4m above. This was done to have proper wave transformation at sea and to properly map possible land inundation on the site.

A.3 XBeach NH+

The XBeach model is an open-source model that has been constantly updating since its original inception in 2005. The program was developed under an US project with a mandate for better water surface predictions following a very devastating hurricane season n in 2004. The program was developed over a series of projects published articles to be able to handle many critical coastal processes associated with high energy wave events such as hurricanes.

Some of the processes that can be simulated by XBeach include the short-wave transformation, infragravity wave transformation, wave-induced set-up, overwash and inundation. The processes listed prior are a part of the hydrodynamic model. Morphodynamic processes exist as well such as dune face avalanching however; these model components were generally not used in this research.

The XBeach model has two long wave resolving modes which have differing computational times. The first mode is the hydrostatic mode which incorporates parallel solving of long waves, currents and morphological change with short waves resolved separately. The drawback here is that the phase of the short wave is not included. The second mode is the non-hydrostatic model which couples all processes thereby providing a more realistic water surface. Instinctively, this model requires more resources. A stationary mode is also available, however long waves are not included in calculations.

Following the first major publication in 2009, Smit, et al. (2010) incorporated the processes necessary to developed the non-hydrostatic model. Another major upgrade occurred when the program was validated for the run-up process associated with the generation and dissipation of infragravity waves over coral reefs (Van Dongeren, et al., 2013). Recently the program was validated for wave run-up with laboratory data (Lashley, et al., 2018). The spread of applications of XBeach and its open source nature have led to routines like the BEWARE model (Pearson, et al., 2017) which is based on a plethora of XBeach runs.

Non-hydrostatic Formulations

The non-hydrostatic mode of XBeach is based on the concepts related to the non-linear shallow water (NLSW) equations particularly the non-hydrostatic pressure. In this mode, the pressure is depth averaged from the surface (where zero pressure is assumed) to the bed. The long wave equations are coupled with the depth-averaged pressure to create a short-wave resolver. The evasive process of wave breaking is induced when a wave exceeds a certain steepness. At this point, the non-hydrostatic pressure term is disabled. The last segment of calculations follows the momentum-conserving shallow water equations. The following subsections detail the formulas used in the non-hydrostatic mode.

Computing the depth-average dynamic pressure (q) is done by first assuming that the advection and diffusive terms are negligible (zero).

$$\frac{\partial w}{\partial t} + \frac{\partial q}{\partial z} = 0$$ Equation

A1

Where:

q	Vertical velocity
z	Vertical coordinate

The vertical velocity (wb) at the bed is determined by the kinematic boundary condition:

$$w_b = u\frac{\partial(\eta - h)}{\partial x}$$ Equation A2

Where:

u	Cross shore (horizontal) velocity
η	Water surface elevation
h	Water depth

Incorporating the Keller-box method, the dynamic pressure at the bed (qb) is found by:

$$q_b = -\frac{h}{2}\left(\frac{\delta q}{\delta z}\Big|_s + \frac{\delta q}{\delta z}\Big|_b\right)$$ Equation A3

Where:

s	Water surface term
b	Seabed term

Substituting equation A3 in equation A1 produces the vertical momentum balance at the surface ($\frac{\delta w_s}{\delta t}$):

$$\frac{\delta w_s}{\delta t} = 2\frac{q_b}{h} - \frac{\delta w_b}{\delta t}$$ Equation A4

Finally, the dynamic pressure is found by substitution and integration to give:

$$\frac{\delta u}{\delta x} + \frac{w_s - w_b}{h} = 0$$ Equation A5

XBeach Model Benefits and Challenges

Some advantages of the non-hydrostatic model include predicting incident-band run-up and overwash which are critical for steeper slopes. The non-hydrostatic mode is also well suited for diffraction of waves since the wave direction is considered, and ship-induced waves.

The non-hydrostatic mode of XBeach does not incorporate the short-wave action balance. This saves computational time in one sense. On the other hand, however the temporal and spatial resolution required is very high which slows down the model.

XBeach Model Justification

The non-hydrostatic model was chosen in the final XBeach model setup. The justification of its use is grounded in prior validation with the model and the median computation time. The concept of run-up would require proper resolving of the water surface as is done in the non-hydrostatic mode. Additionally, a higher degree of accuracy was introduced in the non-hydrostatic+ switch that has been incorporated in XBeach. This mode allows for better resolving over the water depth and is faster than the original non-hydrostatic mode.

9.20 Appendix T – Fire Control Plan

Fire Control Measures

The improper storage, use, and handling of flammable and combustible liquids such as gasoline and diesel can result in fires or explosions. Fire can endanger the lives of workers and others who happen to be on the site. A fire during construction can result in severe structural damage and destruction of machinery, equipment or materials. During construction and operation, hazards inherently associated with building operations are continually being generated.

Fires also have an adverse impact on the environment and their ecosystems. The flames from these fires can destroy the food source and shelter for animals, threatening their survival.

Regardless of its size or resultant damage, every fire should be investigated to determine its cause and to evaluate the effectiveness of its extinguishment. All fires should be reported.

Types of Fires

1. **Class A fires** – occur in wood, rubber, paper, cloth and most plastics. The most effective type of extinguishing agent is water, or solutions containing large concentrations of water. Fire extinguishers suitable for this fire will have a designation of "A" on the label.

2. **Class B fires** – occur in flammable or combustible liquids, such as petroleum products and greases. Use a "blanketing smothering" effect (removing oxygen) is most effective. Extinguishers labelled "Class B" with employ carbon dioxide, dry chemical, halon or foam should be used for these fires.

3. **Class C fires** – fires that involve electrical equipment. To extinguish this type of fire, the extinguishing agent must be non-conductive. Fire extinguishers (Class B extinguishers) that use carbon dioxide, dry chemicals and halon are the normal types used for electrical fires.

4. **Class D fires** – fires that involve combustible metals such as aluminium, magnesium, zirconium and titanium. Note that the use of water and some other conventional types of extinguishing agents are ineffective and may cause a violent reaction. These fires should be extinguished with a D-class rating agents.

All Class extinguishers should be present on-site and should be serviced and inspected monthly.

Fire Control Measures

Some fire control measures include:

- Construction Phase
    - No smoking will be permitted on site.

- Proper use and storage of fuel on site.
- Fires extinguishers should be in areas where fuel and gas are stored. These extinguishers should be of the appropriate Class and serviced regularly.
- Fires extinguishers should be in all heavy machinery, near smaller equipment such as generators and tower lights, in any "Hot work" areas (includes welding areas) and in the site managers' trailer. Signs will be posted identifying the location of all extinguishers.
- Combustible materials should be stored in a safe location and covered with flameproof tarpaulins.
- Fuels, solvents, paints and adhesives require control and safeguarding. Controls include proper storage and adequate ventilation.
- Regular training and fire drills should be carried out on site with personnel to ensure they know procedure to follow in case of a fire. Training should include but is not limited to (training in the proper use of first aid, fire extinguishers and hose systems.

- Operational Phase
  - Fire detection systems with alarms will be installed in guest rooms, kitchens, utility buildings and other appropriate places; and will be maintained.
  - Fire suppression systems such as fire exiting ushers and sprinkler systems will be in high-risk areas (such as kitchen).
  - Routine inspections and maintenance should be carried out of electrical systems.
  - Combustible materials should be stored in a safe location and covered with flameproof tarpaulins.
  - Fuel storage areas should be away from ignition sources.
  - Regular training and fire drills should be carried out on site with personnel to ensure they know procedure to follow in case of a fire. Training should include but is not limited to (training in the proper use of first aid, fire extinguishers and hose systems.

What to Do in Case of a Fire

All employees will immediately report any fires occurring in or near the site. A phone will be available to all employees for emergencies which might occur on site. All emergency numbers will be posted in the office and near the fuelling areas or other hazardous areas.

Upon notification of a fire, the EM/HSO (construction) or resort Management (operations) is responsible for notifying the Fire Department and EM immediately on the discovery or notification of

a Fire, then Emergency arrangements are made, and communication lines are established with relevant agencies and authorities.

All employees and Sub-contractors should meet in the designated Emergency Assembly point. A head count should then be taken. Contact information of all employees should be logged and accessible in case of emergency.

The PM and Resort Management is to ensure that employees on The Project are aware of the emergency telephone numbers, addresses, and response procedures. Furthermore, the PM ensures, either via the local agent or directly, that DECR and the local authorities are made aware of the existence of The Project. All incidents of a fire should be documented include:

- Date and time of fire
- Fire origination
- Damages incurred
- Any injuries occurred
- Measures taken to prevent fires

Who to Contact in Case of a Fire.

In the event of a Fire persons to contact include:

1. Project Management/Resort Management

    a. Project Management include the Developer, Project Manager (PM), Site Engineer (SE), Site Supervisors (SS), Foreman, Health and Safety Officer (HSO), Environmental Manager (EM) and Environmental Monitor (EMO).

    b. Resort Management include the General Manager, Operations Manager, Environmental Officer/Manager, Health and Safety Officer, Engineering/Facilities Manager, Security Personnel,

2. Fire Department (Call 911).

    a. The local fire department should be made aware of construction plans and should be kept up to date during the course of construction regarding items such as access to the site during both working and non-working hours; and the location of standpipe systems, pumper connections, fuel storage, power and fuel shutoffs, emergency generators, and fixed-fire extinguishing systems. Fire departments should be made aware of chemicals or hazardous substances on site.

3. Environmental Agencies

    a. All appropriate governmental agencies should be contacted in the event of a large fire to assess environmental damage.

Containment and Clean-up.

Once the All-Clear is given by the incident commander and relevant authorities, workers can return on site and clean-up should begin. Clean-up and removal of charred and damaged material and contaminated materials will be undertaken after consultation with appropriate governmental agencies to determine the best method(s) for removal. The Contractor will contract with (or consult) a private company to conduct any clean-up. Disposal of the damaged and possibly hazardous material will be in a manner and location as approved by the DECR.

If there is a fire, call the **Fire Department on 911**.

9.21 Appendix U – Solid Waste Management Plan

The purpose of the waste management plan is to clearly define the controls that will be used to manage all waste generated on the Moon Palace project site. Implementing this plan will help to ensure protection for human and environmental health.

This plan will detail the management process for the various waste streams associated with the construction and operational phase. The goal is to ensure that site employs waste reduction and recycling practices to reduce, reuse and recycling where feasible. The plan requires cooperation of all employees and visitors on site. Details of this plan will be communicated to all persons entering the site.

Site Preparation

During the initial stages of the site prior to construction or operation, designated locations for storage of materials should be laid out. All material, if possible, should be stored in an area free from obstruction and with means to cover the material from the elements and to reduce any potential runoff pollution.

Types of Waste

The construction and operational phase will create a wide range of waste with some more harmful to the environment than others. It's important that all personnel are aware of the different types of waste and disposal methods on site. Some examples of the waste generated are:

- Non-hazardous Waste-Wood, Glass, Plastic, Paper, Food etc.
- Hazardous Waste- Adhesive, Aerosol cans, Paint and Paint Thinners, Solvents, Concrete, Lightbulbs, Batteries, etc.

Waste bins should be strategically positioned around the site and designated for different waste generated. This will ensure that waste material that can be recycled remains clean and will reduce the need for sorting. Each bin should be numbered to help with identifying each bin's purpose and monitored to ensure compliance from subcontractors.

Entities are responsible for collecting and disposal of the waste generated from their work activities. They should be made aware of the disposal policies and procedures on site as well as location of bins for appropriate waste material. Once containers are full, they should be handled based on their contents and promptly transported to the landfill to prevent over filling and returned to location. Bins should be checked for any leaks or damages before being utilized again.

The following practices and procedures will be applied:

- Ensure that an adequate number of appropriate waste containers are available on site.
- All spill clean-up material (i.e., used sorbent pads) will be stored in lined containment drums and disposed of at an approved facility.
- Designate a safe area for temporary waste storage with adequate containment, that

is secure and protected from weather until waste bin removal and disposal can be arranged.

- Remove all waste materials from the site as soon as possible.
- Any portable toilet(s) that are on-site should be secured to avoid being knocked over by heavy winds and vandalism. They must be adequately maintained on a regular basis by a licensed contractor. Toilets must be located more than 150ft from the edge of the open water.

Storage Collection and Disposal

During the operational phase (post-construction) adequate number of waste bins should be on the site, including the beach area to provide a location for waste to be discarded. Waste bins on the beach should be lidded and tied down to prevent them from being knocked over during weather events. Waste bins should be emptied regularly to prevent overfilling or prevent the wind from transporting waste into the marine environment.

Hazardous Waste

All work must be completed in a manner that ensures water quality standards are maintained. Hazardous materials such as concrete, paint, solvents and other chemicals may be high in pH and are considered harmful; therefore, there shall be no contact with open water through spillage, hosing off surfaces, rain, cleaning of tools or concrete washout. Hazardous materials will be kept in a covered storage location to prevent the potential for mixing with water and substances being released into the environment. Any excess material shall be removed upon project completion and disposed of at the landfill.

Any waste that falls into the category of hazardous should be collected immediately after being generated and stored safely in a designated area until removal and disposal is arranged. That area should be free from obstruction, structural defects, and only used to store hazardous waste. Appropriate signage should also be used to depict hazards in the area as well as a no smoking sign. All hazardous liquid waste should be in approved containers and stored on spill containment pallets. This area should be monitored, and access limited.

For all waste that will be referenced as e-waste ex. electronic devices, careful consideration will be given to prevent any potential toxic materials from being released into any nearby bodies of water, soil and air. E-waste is hazardous and should also be stored in the hazardous waste area until disposal methods are arranged.

Site Inspections

Weekly routine inspections by the Health and Safety personnel should occur to assist with the management of waste on site. It's important to track and plan, if possible, for the creation of waste and debris. This can help mitigate any potential fire hazards or environmental risks on the site. Monitoring of the bins and the hazardous waste disposal area should be given special attention.

9.22 Appendix V – Invasive Species Management Plan

1.0 Introduction

Four (4) invasive species was observed on The Project site. The occurrence, abundance, and suggested control.

2.0 Purpose

The purpose of this plan is to ensure that potential impacts associated with invasive species removal are addressed. Specifically, this plan aims to:

- Provide guidance on the removal of existing invasive plant species on site;
- Decrease the likelihood of invasive plant species re-emerging after removal and
- Ensure that new and or additional alien invasive species are not introduced through The Project.

3.0 Objective

The objectives of the Invasive Species Management Plan are to:

- Prevent the introduction of invasive plant species and plant pest through landscaping materials.
- Ensure landscaping plants are sourced from reputable and approved suppliers.
- Minimize conditions that encourage invasive species to become established on the property.
- Maintain record of landscaping supplies and activities.
- Train relevant personnel to identify invasive species.
- Ensure invasive species management remains an ongoing component of the development's environmental management.

4.0 Definitions

Alien species – non-native, non-indigenous, foreign, exotic species occurring outside of their natural range and dispersal potential, and includes any part, such as seeds and larvae, that might survive and subsequently reproduce.

Biodiversity - The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. Short for biological diversity.

Control – *Measures to eliminate or reduce the effects of invasive species, including eradicating infestations, reducing populations of invasive species, preventing their spread and mitigating their impact on the economy.*

Intentional introduction – *An introduction made deliberately by humans, involving the purposeful movement of a species outside of its natural range and dispersal potential. Such introductions may be legally or illegally.*

Introduction – *The movement by human agency of a species, subspecies or lower tax on outside its natural range. This movement can be either within a country or between countries.*

Invasive alien species – *Alien species that become established in a new environment, then proliferate and spread in ways that are destructive to native ecosystems, human health, and ultimately human welfare.*

Native species – *A species occurring within its natural range and dispersal potential, i.e., within the range it occupies naturally or could occupy without direct or indirect introduction or by care of humans. Those plants and animals that occurred when Columbus arrived*.

Unintentional introduction – *An unintended introduction made because of a species utilizing humans or human delivery systems as vectors for dispersal outside its natural range*

5.0 Potential Impacts

Potential Impacts associated with invasive species during development & operations include:

- Spread of invasive species from existing individuals on the site.
- Introduction of additional individuals of existing species.
- Introduction of new plant and animal invasive species.

Pathways for introduction and spread of invasive species during construction include:

- Regeneration of plants from improper removal.
- Transfer of seeds and other propagative parts from one location to the next.
- The introduction of invasive plants for landscaping.
- The introduction of invasive animals with the importation of plants for landscaping.

2.OResponsibilities

The following personnel have environmental responsibility for invasive species management on site:

Construction Phase:

- **Project Manager** – Ensure that adequate resources are available to implement the invasive species management plan. Also, they are to liaise with the Environmental Monitor to ensure that appropriate measures are implemented.

- **Environmental Monitor** – will coordinate the implementation of the invasive species management plan, oversee monitoring, investigate occurrences and maintain records. They will liaise with the Project Manager and specialist where necessary to ensure compliance.

Operations

- **Resort Manager** – Ensure that adequate resources are available to implement the invasive species management plan. Also, they are to liaise with the Environmental Officer to ensure that appropriate measures are implemented

- **Environmental Officer** – will coordinate the implementation of the invasive species management plan, oversee monitoring, investigate occurrences and maintain records. They will liaise with the Project Manager and specialist where necessary to ensure compliance.

- **Landscaping Staff** – Ensure that landscaping plant are obtained for reputable sources and that landscaping follows the designated landscaping palette. They are to report suspected invasive species to the **Environ**mental Officer.

3.O Response and Control

Where suspected invasive species are identified the Environmental Monitor (Construction) and the Environmental Officer (operations) will document the location, species, estimated abundance and potential source of introduction. Where identification cannot be confirmed by personnel states above, a qualitied specialist will be consulted.

Control methods will be selected on a case-to-case bases and will comply with applicable Turks and Caicos Island Legislation.

4.O Removal Methodology

4.1 Upland Plant Removal

The following methods will be used to remove trees

- Manual – Juvenile plants can be removed completely by hand or with shovels.
- Mechanical – Plants near native vegetation or close to sensitive environments such as open water, will be removed with chainsaws and the stumps treated with herbicide to prevent sprouting
- Combination – Trees that are above forty centimetres (40 cm.) diameter at breast height (dbh) should be felled manually using chainsaws and the root system excavated with machine or treated with herbicides

4.2 Herbicide Treatment Removal

Chemical removal agents will only be undertaken where necessary and by trained personnel. All measures outlined below will be followed to prevent impacts to the surrounding environment.

Stumps of invasive species should be treated with the herbicide, Pathfinder II® Triclopyr. This product consists of thirteen-point six percent (13.6%) butoxy ethyl ester and eighty-six-point four percent (86.4%) inert ingredients – nonpetroleum natural base oil solvent. While the use of herbicides can enhance native plant communities by removing undesirable species and increasing native species, there is the potential for exposure and impacts to human health, non-target organisms, and the environment. Herbicide applicators generally face the greatest risk and potential for exposure, particularly during mixing and loading. Non-users can be affected by direct contact through spray drift and accidental spills and indirect contact through consumption of contaminated food or water. As herbicides have been designed to target biochemical processes, such as photosynthesis, that are unique to plants they typically are not acutely toxic to animals, however, data indicate that some herbicides can have subtle, but significant, physiological effects on animals, including developmental effects.

Exposure can be from spills or leaks, improperly discarded herbicide containers, and disposal of rinsing water. Contamination can also occur due to surface runoff or leaching of herbicides. Spray drift and volatilization of herbicides can transport the chemical into the atmosphere during and after application, potentially allowing herbicides to reach surface water and groundwater via precipitation.

Improper use or misapplication can increase these risks. To minimize herbicide exposure, follow herbicide label instructions and establish safety procedures for application including:

- The safest and easiest approach is to carefully paint the entire stump top with the herbicide after cutting.
- To increase effectiveness, ensure that herbicide is applied just inside the bark around the entire circumference.
- Cut stump treatments will not be applied when rain is expected within four (4) to six (6) hours.

- Follow the herbicide label and use the required personal protective equipment including eye protection and gloves.
- Avoid leather gloves and leather boots when applying herbicides as they will readily adsorb many herbicides.

8.0 Disposal

8.1 Debris Disposal

Proper disposal of debris from the invasive species removal exercise is critical in preventing the spread of invasive species to other areas of the site. Improper disposal of branches can spread seeds to parts of the island that do not have invasive species. One of the reasons that invasive species are prolific is that many of them reproduce by more than one mechanism. In some instances, like with *Scaevola taccada* (White Inkberry), propagation can occur from all parts of the plants.

All invasive species will be removed, chopped up finely and disposed of at a licenced waste facility.

8.2 Disposal of products

Proper disposal of unused herbicide and cleaning of containers for herbicide mixing is also essential. Containers with unused mix will not be left in the field. All unused portions of herbicide mix will be discarded in a container that is labelled and discarded as hazardous waste. Containers used for mixing will be designated for this task specifically, labelled to identified designated use and discarded as hazardous waste upon completion of the exercise.

9.0 Revegetation

A monitoring program will be implemented immediately following invasive species removal to assess the effectiveness of the removal exercise. The purpose of the monitoring will be to.

1. Determine if there are signs of stump or root sprouting from the original plant removed
2. Examine areas at and around the site of invasive species removal to determine if there are any seedlings emerging and
3. To make recommendations for continued management.

Monitoring will be conducted by a qualified professional experienced in identifying invasive and native species at all stages of development.

10.0 Protocols to prevent introduction of new invasive species

In addition to removing existing invasive species and ensuring that there is no spread of invasive species from the removal exercise, there will be no introduction of new invasive species to the site because of The Project.

10.1 Biosecurity for plants

Biosecurity protocols to prevent introduction of invasive species to the site will involve the following preventive measures:

- No invasive species will be allowed on the landscape palette.
- Local procurement of plants will be a first option.
- Upon arrival and offloading of plants, a plant inventory and inspection will be conducted to ensure that plants present are as per the approved landscape palette.

10.2 Biosecurity of Vehicles and Equipment

Equipment, vehicles, machinery, shipping containers and other material can transport seeds, insects, reptiles, amphibians and other organisms. Biosecurity protocols to prevent introduction of invasive species to the site will involve the following preventive measures:

- Vehicle and equipment will be inspected for animals, nest, eggs or other biological material (excrement).

- Inspection be done to ensure that there is no invasive fauna such as curly tail (*Leiocephallus carinatus*), corn snake (*Pantherophis guttatus*), green iguana (*Iguana iguana*), marine toad (*Rhiella marina*), Cuban knight anole (*Anolis equestris*), and other invasive fauna.

- Any animal or pest discovered will be reported to the Environmental Monitor (construction) and Environmental Officer (operations) for identification, appropriate removal and extermination.

10.3 Prevention of Invasive fauna

- Maintain building and infrastructure to minimize unintended entry or nesting of birds.
- Check landscaping to avoid introduction of invasive species.
- Keep food waste securely contained and remove waste regularly.
- Prohibit the intentional release or feeding of non-native animals on the property

11.0 Monitoring and Early Detection

The Environmental Monitor (construction) or the Environmental Officer (operations) will incorporate invasive species surveillance into routine environmental inspections. This will include:

- Inspection of vehicles, trailers and materials entering the property.
- Inspection of cleared areas (construction).
- Inspection of landscaped areas (operations).
- Inspection of waste and food areas.
- Visual searches of buildings for invasive and non-native nesting birds, reptiles, amphibians.
- Monitoring for emergence of invasive plants
- Documentation of Photographic recording of invasive species where appropriate

Inspections should occur monthly during construction and at least quarterly during operation with additional inspections following times when landscaping material is brought onsite or when invasive species are detected.

11.0 Staff Training and Awareness

All staff during the construction phase and operations staff within the landscaping, housekeeping, maintenance departments should receive training on invasive species prevention and reporting.

Training will include but not be limited to:

- Identification of common invasive species found the property.
- Identification of common invasive fauna.
- Procedures for inspecting landscaping material
- Equipment and vehicles biosecurity
- Proper procedures for reporting invasive species.

All staff should notify the Environmental Monitor (construction)/Environmental Officer (operations) when invasive species are encountered and should not capture, relocate, release, or attempt to eradicate invasive plants or wildlife by themselves.

12.0 Records and Reporting

The following items should be recorded during both the construction and operational phase:

- Landscaping pallet and suppliers.
- Vehicle inspection records.
- Invasive species sighting.
- Species identification and location where found.
- Relative abundance.
- Control and removal activities.
- Staff training.
- Follow-up monitoring.

This plan should be reviewed regularly and updated where monitoring identifies new invasive species, new introduction pathways or changes in regulatory requirements.

13.0 Conclusion

This invasive species removal & control plan is intended to guide the process of invasive species removal from the site and outline measures to prevent reestablishment of new introductions. This document is to be used as a part of the overall landscape management of the site.

9.23 Appendix W – Wildlife Management Plan

1.0 Introduction

The objectives of this plan are to:
This Wildlife Management Plan has been developed for the Moon Palace Development to establish procedures and management protocols for the protection, monitoring, relocation, and management of wildlife encountered during construction activities.

The purpose of this plan is to minimize disturbance, injury, stress, or mortality to terrestrial wildlife resulting from works. The plan also establishes procedures for wildlife encounters, protection of nesting and breeding areas, wildlife incident response, and emergency communication requirements associated with wildlife-related incidents.

This plan has been developed in accordance with applicable environmental legislation and environmental best management practices.

2.0 Objectives

- Establish clear wildlife management procedures and response protocols for The Project site;
- Protect terrestrial and marine wildlife from unnecessary disturbance, injury, displacement, or mortality;
- Ensure that wildlife encounters are managed in a safe, environmentally responsible, and controlled manner;
- Protect sensitive nesting, breeding, and habitat areas from disturbance;
- Prevent harassment, feeding, capture, or intentional harm to wildlife by personnel or contractors;
- Establish procedures for the identification, reporting, and management of wildlife incidents and wildlife emergencies;
- Provide guidance to contractors regarding wildlife protection measures and prohibited activities; and
- Establish environmental awareness among construction personnel.

3.0 Scope

This plan applies to all activities conducted at The Project that may result in interaction with terrestrial wildlife, nesting areas, breeding habitats, or environmentally sensitive wildlife areas.

The requirements of this plan apply to:

- Contractors and Sub- contractors undertaking construction activities;
- Environmental management personnel and Environmental Officers;

4.0 General Wildlife Protection Measures

All personnel and contractors shall exercise caution to minimize disturbance to wildlife and sensitive habitats during construction activities.

The following wildlife protection measures shall be implemented throughout all construction activities:

- Wildlife shall not be intentionally harmed, harassed, captured, handled, or killed unless authorized as part of an approved invasive species management activity or emergency response procedure.
- Feeding wildlife is strictly prohibited under all circumstances.
- Food waste, garbage, and refuse shall be properly secured and managed to avoid attracting wildlife.
- Wildlife sightings, incidents, mortalities, and habitat concerns shall be documented and reported to the Environmental Manager ("EM") or designated environmental personnel.
- Site-specific environmental awareness and wildlife management training shall be provided to contractors.
- Hunting, trapping, collecting wildlife, or possessing wildlife on site shall be strictly prohibited.
- Fishing within the project area, including the inland pond, flushing channel, and adjacent marine waters, shall be prohibited for all project personnel during construction and operation.
- A site map should identify areas prone to wildlife appearance and areas that should be avoided, if possible, to prevent the disturbing of habitat.
- Prior to marine activities, the area will be assessed to ensure that there are no epifauna present within the footprint. Any epifauna observed in the direct footprint will be moved to a similar habitat.

5.0 Wildlife Encounter Procedures

It is important to note that the safest course of action when encountering wildlife is to do nothing and simply wait for the animal to move away. Most animals are not aggressive unless they feel threatened. It is also important to note that some wildlife species are protected under law in The Turks and Caicos Islands, and intentional harming of these animals can lead to fines and prosecution (see Section 3).

Should wildlife be encountered during activities (e.g., nesting birds, sea turtles, marine mammals, sharks, reptiles, juvenile animals, or injured wildlife), personnel shall immediately exercise caution and minimize disturbance within the immediate area. The Environmental Monitoring Officer (EMO) shall be notified to assess the situation and determine the appropriate course of action before construction resumes.

The following procedures shall be implemented during wildlife encounters:

1. Activities within the immediate area shall be slowed, modified, or suspended where necessary to avoid disturbance or injury to wildlife.

2. The EM or designated environmental personnel shall be notified immediately if:
    - Protected species are encountered;
    - Wildlife appears injured, distressed, trapped, or displaced;
    - Nesting or breeding activity is observed; or
    - Wildlife presents a potential risk to personnel.

3. Only trained environmental personnel or authorized wildlife specialists may conduct wildlife handling, temporary containment, or relocation activities.
4. Personnel shall always maintain a safe distance from wildlife.
5. If wildlife naturally relocates away from the area without risk, no intervention shall occur.

Wildlife mortalities or injuries suspected to be associated with construction activities Injured or Dead Wildlife Encountered Procedures If injured, or dead wildlife is encountered, the following procedures shall be implemented:

- Personnel shall only intervene where safe to do so.
- The EM or designated environmental personnel shall be notified immediately.
- Injured wildlife shall only be handled by trained personnel or authorized wildlife specialists.
- Photographs and incident documentation shall be completed where practical.
- shall be investigated.
- Dead wildlife shall only be removed under the direction of environmental management personnel or relevant authorities.

- If a staff member or Sub-contractor is injured on site because of an encounter with wildlife, immediate first aid treatment should be given as some scratches and bites can result in infection or disease transmission. Seek further medical treatment is necessary.

Entanglement
Entanglement is a particular risk for marine animals (e.g., dolphins, manatees, marine turtles and sharks) as they need to be able to surface periodically to breathe or they will drown if trapped underwater. If an animal becomes entangled in marine construction equipment the animals should be freed as quickly as possible. In the event of such an incident, the EM and EMO should be notified immediately so they can quickly contact Department of Environment and Coastal Resources (DECR) for assistance. The marine animal observer and the EMO should periodically check the turbidity curtains to ensure marine wildlife aren't entangled.

6.0 Species-Specific Management Protocols

Birds and Nesting Areas

Bird nesting areas and active nests shall be protected from disturbance wherever practical.

- Active nests, eggs, and nesting areas shall not be disturbed, handled, or intentionally approached.
- No active bird nests shall be intentionally disturbed or removed.
- If an active nest containing eggs or chicks is discovered within the work area, the EMO shall assess the situation and establish an appropriate buffer until nesting activities have concluded or guidance has been obtained from the relevant government authority.
- If found, nests should not be moved or attempted to be moved by workers on site.

Bees and Hives

Bee colonies and hives encountered within working areas shall be managed in a controlled manner to minimize risks workers and to the bees.

Upon encounter of a beehive, the EM and EMO will be contacted. A qualified beekeeper will then be contracted to remove bees in the site using approved non-destructive methods such as:

- Smoking;
- Vacuum extraction;
- Hive trapping; or
- Controlled hive relocation techniques.

Unauthorized disturbance or destruction of bee colonies shall be prohibited unless required for emergency health and safety reasons.

7.0 Responsibilities

Environmental Manager ("EM"):
The EM shall:

- Conduct wildlife and nesting inspections where required;
- Respond to wildlife incidents;
- Liaise with environmental authorities and wildlife agencies;
- Maintain wildlife incident and monitoring records; and
- Coordinate environmental awareness and wildlife management training.

Contractors:

Contractors shall:

- Comply with all wildlife management procedures and protection measures;
- Avoid disturbing wildlife or sensitive habitats;

- Report wildlife encounters, nesting activity, injuries, or mortalities immediately; and
- Participate in required environmental awareness and wildlife management training.

8.0 Training and Awareness

All environmental personnel and contractors shall receive environmental awareness and wildlife management training as part of site induction and toolbox talks.

Training shall include:

- Wildlife encounter procedures;
- Wildlife reporting requirements;
- Wildlife protection measures and prohibited activities;
- Nesting and breeding area protection procedures;
- Marine wildlife awareness;
- Responsibilities under this Wildlife Management Plan.

Site induction and toolbox talk records shall be maintained by environmental management personnel and made available upon request.

9.0 Monitoring and Documentation

Wildlife observations, incidents, relocations, habitat concerns, mortalities, corrective actions, and environmental monitoring activities shall be documented and maintained as part of construction and operational environmental management records.

All wildlife-related documentation shall be maintained on site and made available for inspection upon request.

10.0 Plan Review

This plan shall be reviewed and updated:

- Following wildlife incidents or environmental emergencies;
- Following changes to activities that may impact wildlife;
- Following updates to applicable environmental legislation or regulatory requirements; and
- Where inspections, monitoring, or incident investigations identify deficiencies requiring corrective action.

9.24 Appendix X – Traffic Survey Count Analysis

TABLE B-1
Traffic Counts
Providenciales, Turks and Caicos Islands

Date	Day of Week	Weather	Data Collector	Traffic Count Roadway	Location	Count Period	Traffic Volume	Peak Hour (1)
8/13/2026	Thursday	Sunny/Rainy	EDS	Leeward Hwy	East of Millennium	7:00am to 9:00am	2,508	1,407
8/13/2026	Thursday	Sunny/Rainy	EDS	Leeward Hwy	East of Millennium	4:00pm to 6:00pm	1,853	965
8/13/2026	Thursday	Rainy/Cloudy	EDS	Leeward Hwy	West of Millennium	7:00am to 9:00am	1,544	866
8/13/2026	Thursday	Rainy/Cloudy	EDS	Leeward Hwy	West of Millennium	4:00pm to 6:00pm	2,375	1,236
8/13/2026	Thursday	Sunny/Cloudy	OH	Lower Bight Rd	East of Beaches	7:00am to 9:00am	611	343
8/13/2026	Thursday	Sunny/Cloudy	OH	Lower Bight Rd	East of Beaches	4:00pm to 6:00pm	1,211	630
8/13/2026	Thursday	Sunny/Cloudy	OH	Lower Bight Rd	West of Beaches	7:00am to 9:00am	774	434
8/13/2026	Thursday	Sunny/Cloudy	OH	Lower Bight Rd	West of Beaches	4:00pm to 6:00pm	935	487
8/13/2026	Thursday	Sunny/Cloudy	JM	Grace Bay Road	East of Project Site	7:00am to 9:00am	347	195
8/13/2026	Thursday	Sunny/Cloudy	JM	Grace Bay Road	East of Project Site	4:00pm to 6:00pm	524	273
8/13/2026	Thursday	Sunny/Cloudy	JM	Grace Bay Road	West of Project Site	7:00am to 9:00am	465	261
8/13/2026	Thursday	Sunny/Cloudy	JM	Grace Bay Road	West of Project Site	4:00pm to 6:00pm	440	229
8/13/2026	Thursday	Sunny/Cloudy	AM	Leeward Hwy	East of Allegro Road	7:00am to 9:00am	1,000	561
8/13/2026	Thursday	Sunny/Cloudy	AM	Leeward Hwy	East of Allegro Road	4:00pm to 6:00pm	1,130	588
8/13/2026	Thursday	Sunny/Cloudy	AM	Grace Bay Road	West of Allegro Road	7:00am to 9:00am	935	525
8/13/2026	Thursday	Sunny/Cloudy	AM	Grace Bay Road	West of Allegro Road	4:00pm to 6:00pm	940	489

Source: Turks and Caicos Islands

TABLE B-2
Traffic Counts
Providenciales, Turks and Caicos Islands

Date	Day of Week	Weather	Data Collector	Traffic Count Roadway	Location	Count Period	Traffic Volume	Peak Hour (1)
8/14/2026	Friday	Sunny/Cloudy	ED	Leeward Hwy	East of Millennium	7:00am to 9:00am	2,375	1,332
8/14/2026	Friday	Sunny/Cloudy	ED	Leeward Hwy	East of Millennium	4:00pm to 6:00pm	2,527	1,316
8/14/2026	Friday	Sunny/Cloudy	ED	Leeward Hwy	West of Millennium	7:00am to 9:00am	2,227	1,249
8/14/2026	Friday	Sunny/Cloudy	ED	Leeward Hwy	West of Millennium	4:00pm to 6:00pm	1,576	821
8/14/2026	Friday	Sunny/Cloudy	OH	Lower Bight Rd	East of Beaches	7:00am to 9:00am	856	480
8/14/2026	Friday	Sunny/Cloudy	OH	Lower Bight Rd	East of Beaches	4:00pm to 6:00pm	852	444
8/14/2026	Friday	Sunny/Cloudy	OH	Lower Bight Rd	West of Beaches	7:00am to 9:00am	735	412
8/14/2026	Friday	Sunny/Cloudy	OH	Lower Bight Rd	West of Beaches	4:00pm to 6:00pm	840	437
8/14/2026	Friday	Sunny/Cloudy	JM	Grace Bay Road	East of Project Site	7:00am to 9:00am	344	193
14/082026	Friday	Sunny/Cloudy	JM	Grace Bay Road	East of Project Site	4:00pm to 6:00pm	472	246
8/14/2026	Friday	Sunny/Cloudy	JM	Grace Bay Road	West of Project Site	7:00am to 9:00am	431	242
8/14/2026	Friday	Sunny/Cloudy	JM	Grace Bay Road	West of Project Site	4:00pm to 6:00pm	444	231
8/14/2026	Friday	Sunny/Cloudy	AM	Leeward Hwy	East of Allegro Road	7:00am to 9:00am	1,500	841
8/14/2026	Friday	Sunny/Cloudy	AM	Leeward Hwy	East of Allegro Road	4:00pm to 6:00pm	2,980	1,551
8/14/2026	Friday	Sunny/Cloudy	AM	Grace Bay Road	West of Allegro Road	7:00am to 9:00am	840	471
8/14/2026	Friday	Sunny/Cloudy	AM	Grace Bay Road	West of Allegro Road	4:00pm to 6:00pm	3,000	1,562

Source: Turks and Caicos Islands

TABLE C-1
AM/PM Peak to Peak Period Ratio
Providenciales, Turks and Caicos Islands

Location	2-Hour Period AM Peak	2-Hour Period PM Peak	AM Peak Hour Volume	AM Peak Hour Pk-to-2 hr pk Ratio	PM Peak Hour Volume	PM Peak Hour Pk-to-2 hr pk Ratio
Leeward Hwy - W of Venetian Dr	5,006	5,164	2,915	0.58	2,722	0.53
Leeward Hwy - W of Venetian Dr	5,111	5,602	2,996	0.59	2,945	0.53
Leeward Hwy - W of Saved by Grace	4,951	5,041	2,537	0.51	2,551	0.51
Leeward Hwy - W of Saved by Grace	5,059	5,709	2,608	0.52	3,052	0.53
Leeward Hwy - W of Long Bay Hwy	1,922	1,761	1,081	0.56	884	0.50
Leeward Hwy - W of Long Bay Hwy	1,998	1,384	1,123	0.56	735	0.53
Grace Bay Rd - E of Sunshine Cresc	1,598	1,734	947	0.59	884	0.51
Grace Bay Rd - E of Sunshine Cresc	1,107	1,636	728	0.66	833	0.51
Airport Road - W of Old Airport Rd	1,551	2,102	942	0.61	1,082	0.51
Overall	**28,303**	**30,133**	**15,877**	**0.56**	**15,688**	**0.52**

Source: National Physical Development Plan (Turks and Caicos Islands) - Existing Traffic Conditions - March 2020

	AM Peak		PM Peak	
Leeward Highway	2,764	Year 2020	2,818	Year 2020
(0.5% growth per year)	2,905	Year 2030	2,962	Year 2030
Grace Bay Road	838	Year 2020	859	Year 2020
(0.5% growth per year)	881	Year 2030	903	Year 2030

Traf Tech Engineering Inc.

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Date Start: 12-Feb-20
5-Leeward Hwy W of Venetian Dr

Start Time	12-Feb-20 Wed	Eastbound	Westbound	Combined Total
12:00 AM		57	114	171
01:00		30	48	78
02:00		30	27	57
03:00		18	26	44
04:00		66	43	109
05:00		352	114	466
06:00		766	405	1171
07:00		1197	894	2091
08:00		1560	1355	2915
09:00		1060	1041	2101
10:00		997	955	1952
11:00		1012	997	2009
12:00 PM		1106	1059	2165
01:00		1183	1064	2247
02:00		1271	1147	2418
03:00		1394	1353	2747
04:00		1240	1202	2442
05:00		1260	1462	2722
06:00		873	1016	1889
07:00		620	632	1252
08:00		447	429	876
09:00		407	414	821
10:00		341	440	781
11:00		139	367	506
Total		17426	16604	34030
Percent		51.2%	48.8%	



Traf Tech Engineering Inc.

Date Start: 12-Feb-20
5-Leeward Hwy W of Venetian Dr

Start Time	13-Feb-20 Thu	Eastbound	Westbound	Combined Total
12:00 AM		83	117	200
01:00		40	59	99
02:00		26	38	64
03:00		23	22	45
04:00		63	40	103
05:00		322	126	448
06:00		785	421	1206
07:00		1206	909	2115
08:00		1602	1394	2996
09:00		1103	1061	2164
10:00		1049	986	2035
11:00		1019	1018	2037
12:00 PM		1093	1146	2239
01:00		1161	1102	2263
02:00		1251	1062	2313
03:00		1403	1355	2758
04:00		1356	1301	2657
05:00		1375	1570	2945
06:00		981	1117	2098
07:00		683	641	1324
08:00		413	401	814
09:00		389	401	790
10:00		316	446	762
11:00		105	315	420
Total		17847	17048	34895
Percent		51.1%	48.9%	
Grand Total		35273	33652	
Percentage		51.2%	48.8%	
ADT		ADT 34,462		AADT 34,462



Traf Tech Engineering Inc.

Date Start: 12-Feb-20
6-Leeward Hwy W of (Saved By Grace)

Start Time	12-Feb-20 Wed	Eastbound	Westbound	Combined Total
12:00 AM		45	82	127
01:00		32	42	74
02:00		26	23	49
03:00		19	31	50
04:00		98	57	155
05:00		334	205	539
06:00		831	510	1341
07:00		1201	1213	2414
08:00		1237	1300	2537
09:00		897	857	1754
10:00		844	820	1664
11:00		895	1005	1900
12:00 PM		961	1001	1962
01:00		1023	965	1988
02:00		1173	1167	2340
03:00		1192	1300	2492
04:00		1160	1330	2490
05:00		1099	1452	2551
06:00		848	941	1789
07:00		587	593	1180
08:00		428	446	874
09:00		420	498	918
10:00		298	520	818
11:00		125	258	383
Total		15773	16616	32389
Percent		48.7%	51.3%	



Traf Tech Engineering Inc.

Date Start: 12-Feb-20
6-Leeward Hwy W of (Saved By Grace)

Start Time	13-Feb-20 Thu	Eastbound	Westbound	Combined Total
12:00 AM		67	96	163
01:00		40	43	83
02:00		20	29	49
03:00		21	27	48
04:00		89	60	149
05:00		345	211	556
06:00		808	539	1347
07:00		1222	1229	2451
08:00		1295	1313	2608
09:00		957	909	1866
10:00		871	877	1748
11:00		890	1002	1892
12:00 PM		913	1034	1947
01:00		975	982	1957
02:00		1144	1145	2289
03:00		1218	1322	2540
04:00		1240	1417	2657
05:00		1168	1884	3052
06:00		892	1148	2040
07:00		628	740	1368
08:00		408	385	793
09:00		420	491	911
10:00		270	499	769
11:00		99	249	348
Total		16000	17631	33631
Percent		47.6%	52.4%	
Grand Total		31773	34247	
Percentage		48.1%	51.9%	
ADT		ADT 33,004		AADT 33,004



Traf Tech Engineering Inc.

Date Start: 12-Feb-20
7-Leeward Hwy W of Long Bay Hwy

Start Time	12-Feb-20 Wed	Eastbound	Westbound	Combined Total
12:00 AM		23	12	35
01:00		12	6	18
02:00		11	7	18
03:00		5	3	8
04:00		13	13	26
05:00		78	53	131
06:00		260	172	432
07:00		401	440	841
08:00		478	603	1081
09:00		284	362	646
10:00		260	286	546
11:00		288	326	614
12:00 PM		333	341	674
01:00		322	316	638
02:00		399	312	711
03:00		440	462	902
04:00		432	445	877
05:00		388	496	884
06:00		384	319	703
07:00		247	182	429
08:00		185	132	317
09:00		179	123	302
10:00		140	82	222
11:00		73	78	151
Total		5635	5571	11206
Percent		50.3%	49.7%	



Traf Tech Engineering Inc.

Date Start: 12-Feb-20
7-Leeward Hwy W of Long Bay Hwy

Start Time	13-Feb-20 Thu	Eastbound	Westbound	Combined Total
12:00 AM		25	21	46
01:00		19	16	35
02:00		7	4	11
03:00		10	4	14
04:00		11	16	27
05:00		74	53	127
06:00		255	179	434
07:00		400	475	875
08:00		505	618	1123
09:00		276	369	645
10:00		312	310	622
11:00		293	375	668
12:00 PM		350	364	714
01:00		339	338	677
02:00		326	353	679
03:00		331	333	664
04:00		316	333	649
05:00		327	408	735
06:00		275	251	526
07:00		237	148	385
08:00		181	97	278
09:00		145	77	222
10:00		125	82	207
11:00		50	74	124
Total		5189	5298	10487
Percent		49.5%	50.5%	



Traf Tech Engineering Inc.

Date Start: 12-Feb-20
7-Leeward Hwy W of Long Bay Hwy

Start Time	14-Feb-20 Fri	Eastbound	Westbound	Combined Total
12:00 AM		22	8	30
01:00		20	15	35
02:00		7	8	15
03:00		7	4	11
04:00		15	16	31
05:00		71	38	109
06:00		258	188	446
07:00		0	0	0
08:00		0	0	0
09:00		0	0	0
10:00		0	0	0
11:00		0	0	0
12:00 PM		0	0	0
01:00		0	0	0
02:00		0	0	0
03:00		0	0	0
04:00		0	0	0
05:00		212	265	477
06:00		374	316	690
07:00		295	242	537
08:00		224	161	385
09:00		183	117	300
10:00		176	119	295
11:00		117	139	256
Total		1981	1636	3617
Percent		54.8%	45.2%	



Traf Tech Engineering Inc.

Date Start: 12-Feb-20
7-Leeward Hwy W of Long Bay Hwy

Start Time	15-Feb-20 Sat	Eastbound	Westbound	Combined Total
12:00 AM		59	29	88
01:00		35	18	53
02:00		41	20	61
03:00		21	7	28
04:00		9	12	21
05:00		74	40	114
06:00		202	164	366
07:00		324	302	626
08:00		346	377	723
09:00		370	389	759
10:00		329	383	712
11:00		355	383	738
12:00 PM		376	402	778
01:00		343	327	670
02:00		363	346	709
03:00		376	376	752
04:00		332	326	658
05:00		392	420	812
06:00		340	354	694
07:00		223	230	453
08:00		182	150	332
09:00		167	113	280
10:00		157	96	253
11:00		102	90	192
Total		5518	5354	10872
Percent		50.8%	49.2%	



Traf Tech Engineering Inc.

Date Start: 12-Feb-20
7-Leeward Hwy W of Long Bay Hwy

Start Time	16-Feb-20 Sun	Eastbound	Westbound	Combined Total
12:00 AM		50	31	81
01:00		34	15	49
02:00		19	17	36
03:00		8	7	15
04:00		10	6	16
05:00		34	28	62
06:00		91	84	175
07:00		206	216	422
08:00		232	242	474
09:00		285	280	565
10:00		252	326	578
11:00		268	267	535
12:00 PM		292	293	585
01:00		264	321	585
02:00		318	245	563
03:00		326	274	600
04:00		270	257	527
05:00		270	344	614
06:00		262	283	545
07:00		233	169	402
08:00		150	115	265
09:00		122	85	207
10:00		123	87	210
11:00		64	66	130
Total		4183	4058	8241
Percent		50.8%	49.2%	



Traf Tech Engineering Inc.

Date Start: 12-Feb-20
7-Leeward Hwy W of Long Bay Hwy

Start Time	18-Feb-20 Tue	Eastbound	Westbound	Combined Total
12:00 AM		24	16	40
01:00		12	12	24
02:00		8	11	19
03:00		5	3	8
04:00		13	16	29
05:00		64	55	119
06:00		277	189	466
07:00		357	415	772
08:00		450	619	1069
09:00		344	335	679
10:00		299	312	611
11:00		295	382	677
12:00 PM		357	339	696
01:00		347	337	684
02:00		356	353	709
03:00		441	399	840
04:00		403	461	864
05:00		480	531	1011
06:00		352	341	693
07:00		240	154	394
08:00		194	101	295
09:00		159	99	258
10:00		119	68	187
11:00		56	66	122
Total		5652	5614	11266
Percent		50.2%	49.8%	
Grand Total		34144	33493	
Percentage		50.5%	49.5%	
ADT		ADT -5,290		AADT -5,290



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Page

Date Start: 14-Feb-2
9-Grace Bay Rd W of Allegro R

Start Time	14-Feb-20 Fri	Eastbound	Westbound	Combined Total
12:00 AM		83	58	141
01:00		68	38	106
02:00		43	21	64
03:00		18	12	30
04:00		4	7	11
05:00		27	23	50
06:00		132	121	253
07:00		182	197	379
08:00		308	420	728
09:00		330	424	754
10:00		352	427	779
11:00		375	387	762
12:00 PM		402	413	815
01:00		405	372	777
02:00		376	381	757
03:00		422	424	846
04:00		399	404	803
05:00		415	418	833
06:00		330	347	677
07:00		308	306	614
08:00		255	240	495
09:00		257	203	460
10:00		239	194	433
11:00		159	168	327
Total		5889	6005	11894
Percent		49.5%	50.5%	
Grand Total		5889	6005	
Percentage		49.5%	50.5%	
ADT		ADT 11,882		AADT 11,882



Traf Tech Engineering Inc.

Pag

Date Start: 18-Feb
10-Airport Rd W of Old Airport

Start Time	18-Feb-20 Tue	Eastbound	Westbound	Combined Total
12:00 AM		40	42	82
01:00		32	33	65
02:00		15	15	30
03:00		1	2	3
04:00		14	13	27
05:00		42	52	94
06:00		134	180	314
07:00		266	343	609
08:00		463	479	942
09:00		480	487	967
10:00		507	508	1015
11:00		545	500	1045
12:00 PM		608	632	1240
01:00		605	618	1223
02:00		500	614	1114
03:00		480	615	1095
04:00		486	534	1020
05:00		526	556	1082
06:00		421	468	889
07:00		323	378	701
08:00		200	241	441
09:00		155	156	311
10:00		142	144	286
11:00		93	72	165
Total		7078	7682	14760
Percent		48.0%	52.0%	
Grand Total		7078	7682	
Percentage		48.0%	52.0%	
ADT		ADT 14,806		AADT 14,806



Grace Bay Road and Main Entrance
AM Peak Hour 09/08/2026

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	473	172	43	522	74	18
Future Vol, veh/h	473	172	43	522	74	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	514	187	47	567	80	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	701	0	1268	608
Stage 1	-	-	-	-	608	-
Stage 2	-	-	-	-	661	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	896	-	186	496
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	514	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	896	-	172	496
Mov Cap-2 Maneuver	-	-	-	-	172	-
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	474	-

Approach	EB	WB	NB
HCM Control Delay, s/veh	0	0.7	37.19
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	172	496	-	-	137	-
HCM Lane V/C Ratio	0.468	0.039	-	-	0.052	-
HCM Control Delay (s/veh)	43.2	12.6	-	-	9.2	0
HCM Lane LOS	E	B	-	-	A	A
HCM 95th %tile Q(veh)	2.2	0.1	-	-	0.2	-

Grace Bay Road and Main Entrance
PM Peak Hour

09/08/2026

Intersection	
Int Delay, s/veh	16.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	489	110	28	440	197	49
Future Vol, veh/h	489	110	28	440	197	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	532	120	30	478	214	53

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	651	0	1130	591
Stage 1	-	-	-	-	591	-
Stage 2	-	-	-	-	539	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	935	-	225	507
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	585	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	935	-	215	507
Mov Cap-2 Maneuver	-	-	-	-	215	-
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	559	-

Approach	EB	WB	NB
HCM Control Delay, s/veh	0	0.54	88.41
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	215	507	-	-	108	-
HCM Lane V/C Ratio	0.995	0.105	-	-	0.033	-
HCM Control Delay (s/veh)	107.2	12.9	-	-	9	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	8.9	0.4	-	-	0.1	-

Grace Bay Road and Main Entrance
PM Peak Hour - With Improvements 09/08/2026

Intersection	
Int Delay, s/veh	12.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Traffic Vol, veh/h	489	110	28	440	197	49
Future Vol, veh/h	489	110	28	440	197	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	532	120	30	478	214	53

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	651	0	1071	532
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	539	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	935	-	245	548
Stage 1	-	-	-	-	589	-
Stage 2	-	-	-	-	585	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	935	-	237	548
Mov Cap-2 Maneuver	-	-	-	-	237	-
Stage 1	-	-	-	-	589	-
Stage 2	-	-	-	-	566	-

Approach	EB	WB	NB
HCM Control Delay, s/veh	0	0.54	66.85
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	237	548	-	-	935	-
HCM Lane V/C Ratio	0.905	0.097	-	-	0.033	-
HCM Control Delay (s/veh)	80.4	12.3	-	-	9	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	7.7	0.3	-	-	0.1	-

9.25 Appendix Y – Beach Survey Data

Survey Charts

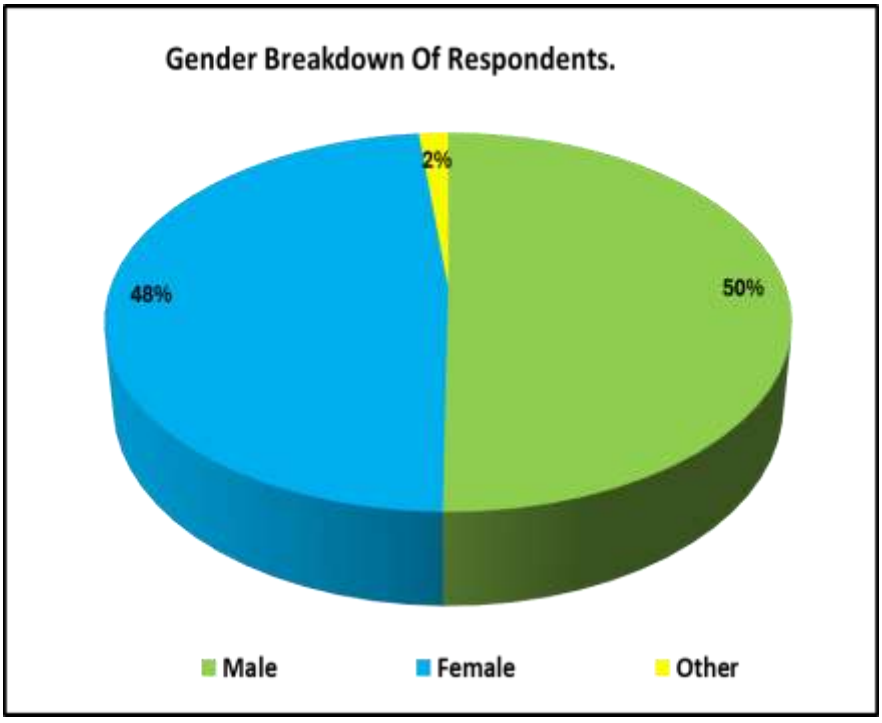


Chart Number 1 – Gender Breakdown of Respondents

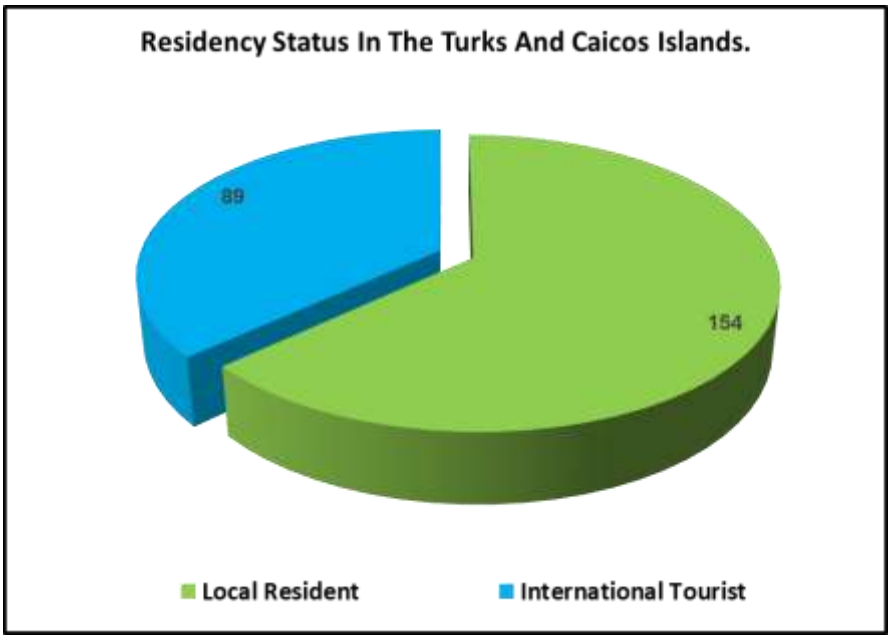


Chart Number 2 – Residency Status in the Turks and Caicos Islands

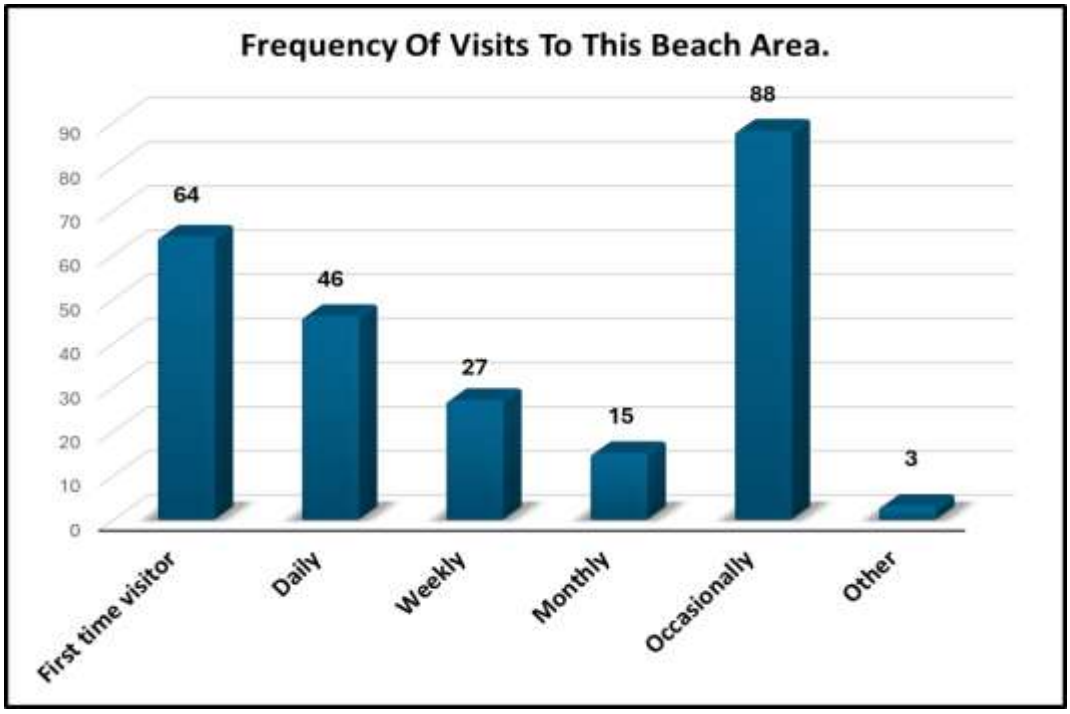


Chart Number 3 – Frequency of Visit to this Beach Area

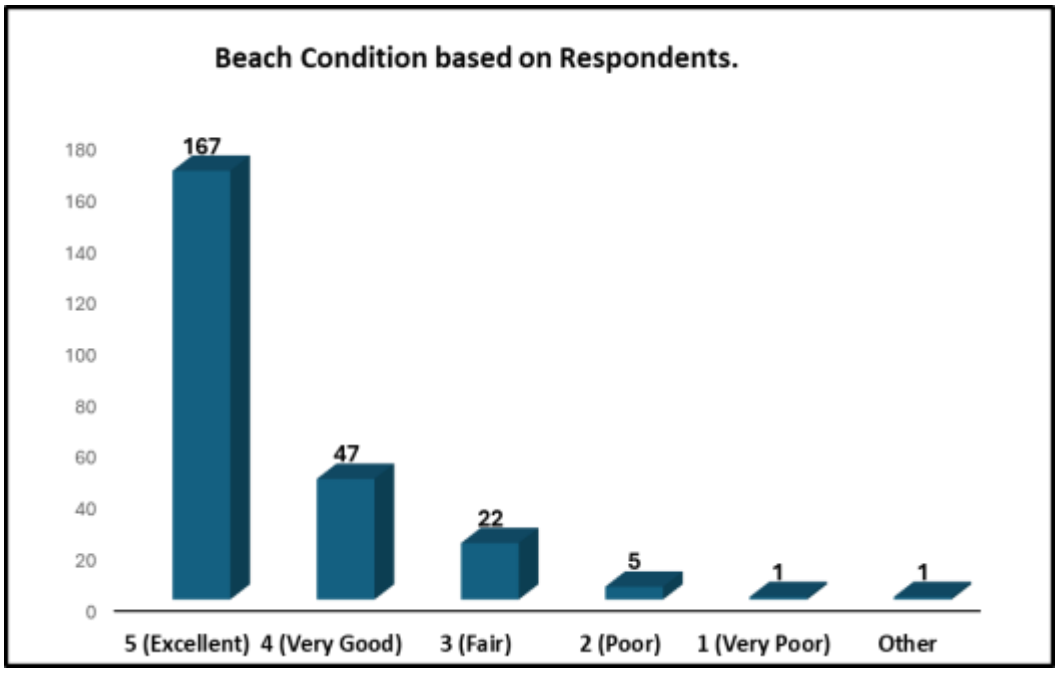


Chart Number4– Beach Condition based on Respondents

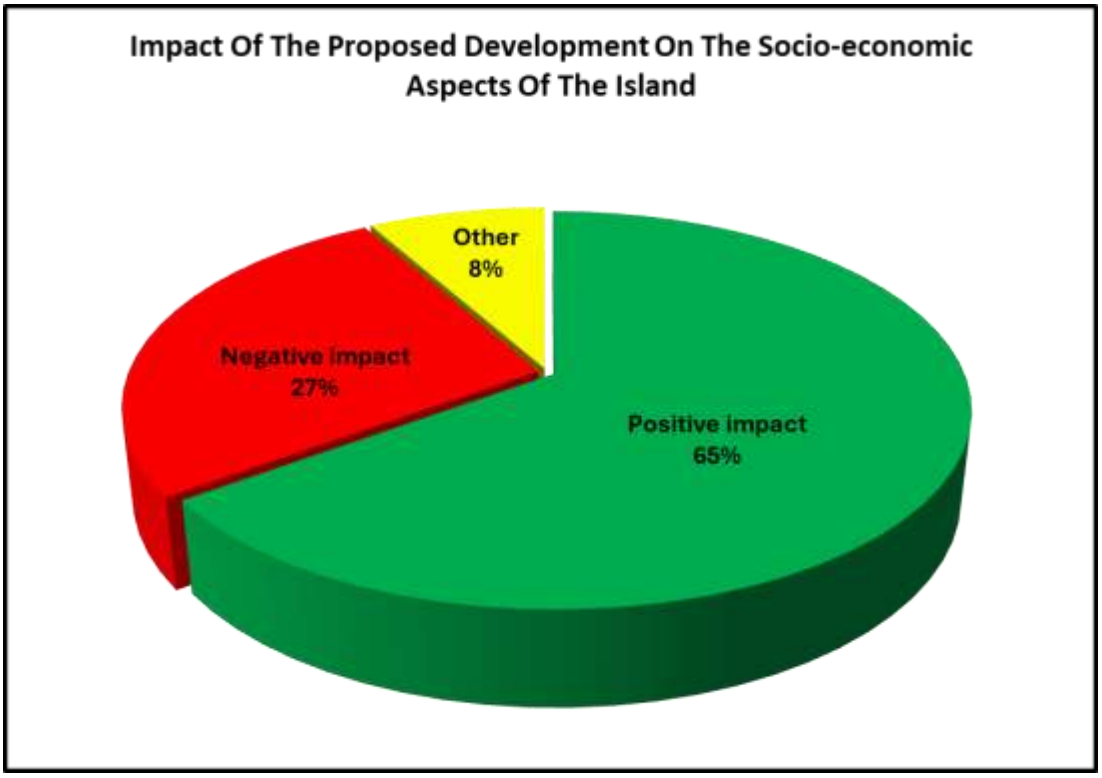


Chart Number5- Impact of the Proposed Development on the Socio-economic aspect of the Islands

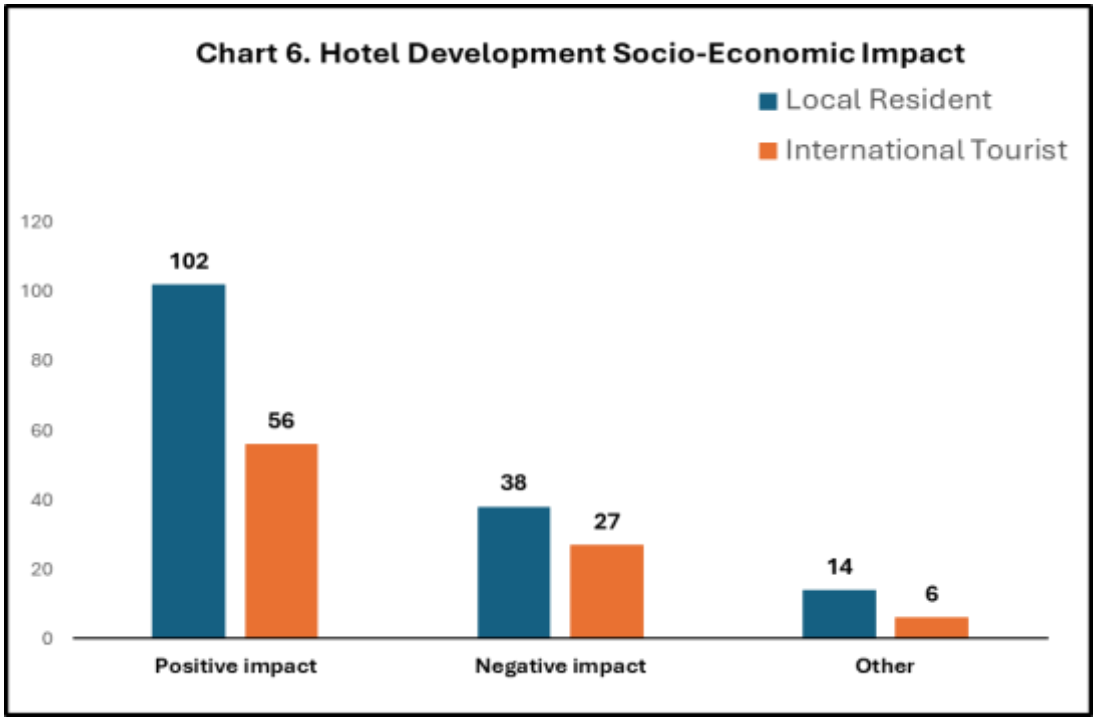


Chart Number 6- Hotel Development Socio-Economic Impact

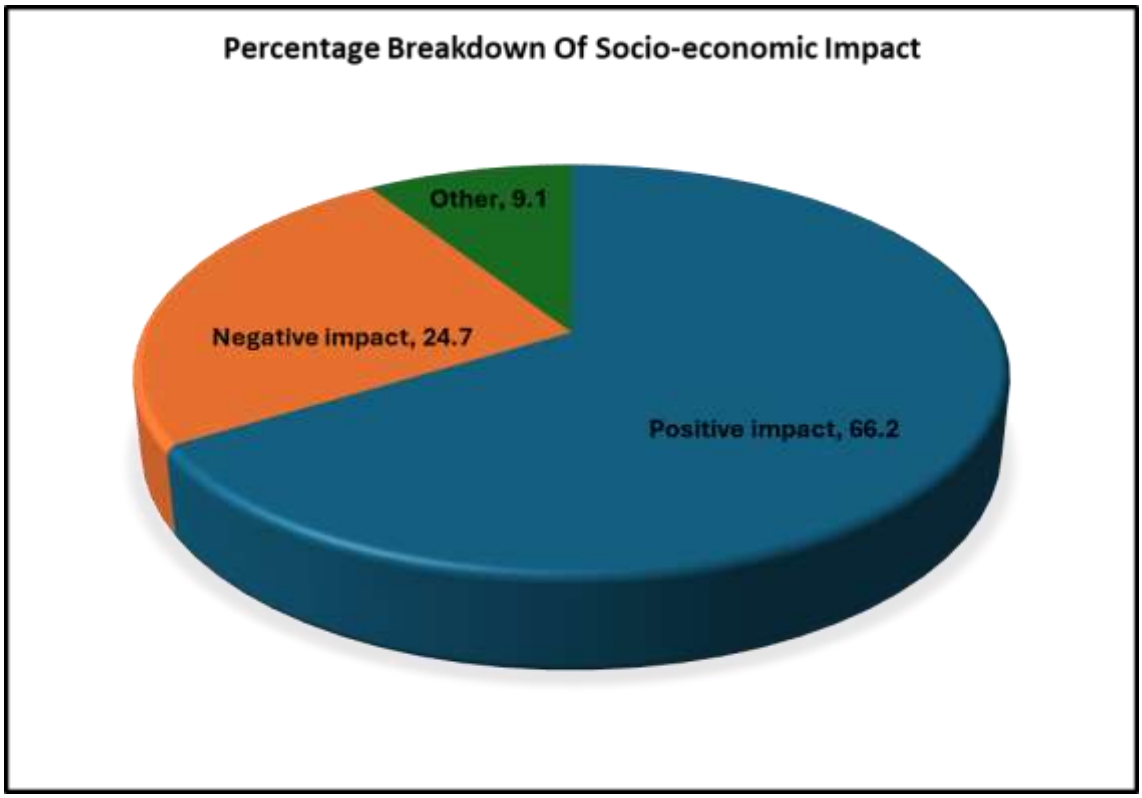


Chart Number 7 – Percentage Breakdown of Socio-economic Impact

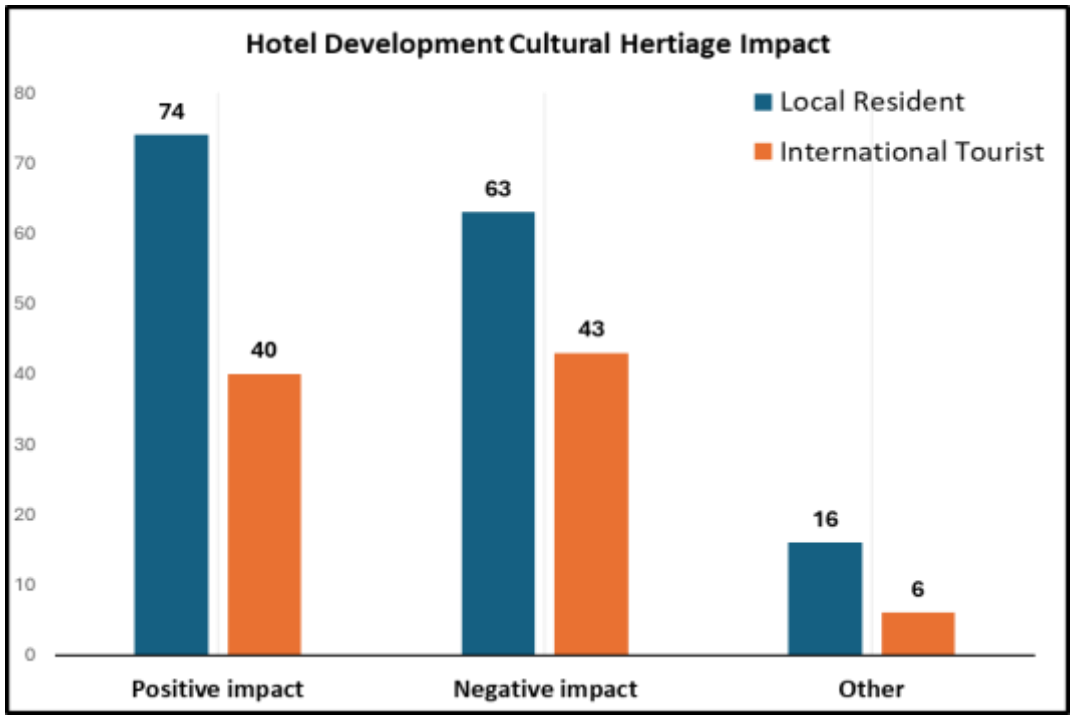


Chart Number 8 – Hotel Development Heritage Cultural Impact

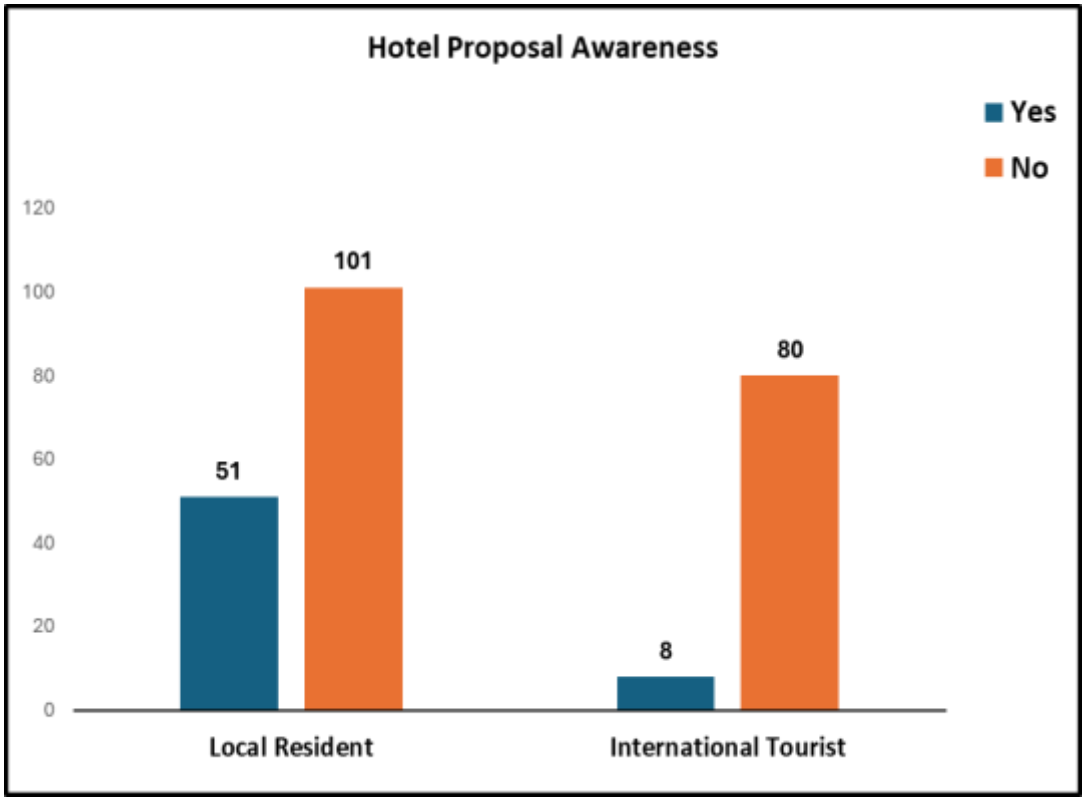


Chart Number 9 – Hotel Proposal Awareness

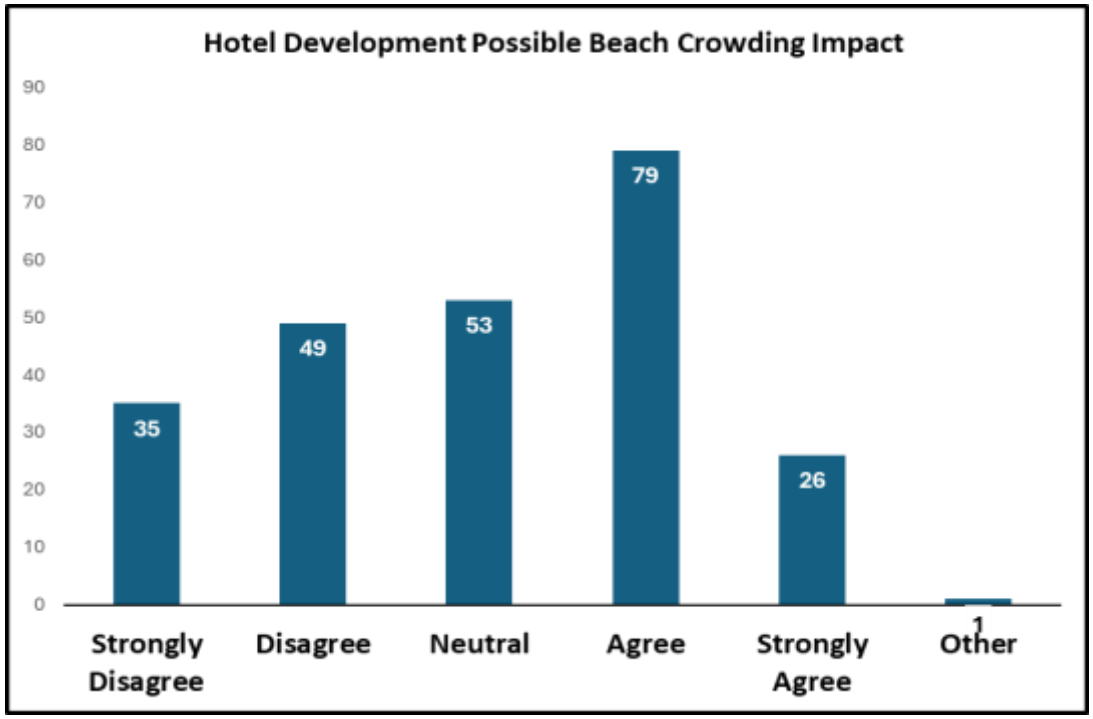


Chart Number 10 – Hotel Development Possible Beach Crowding Impact

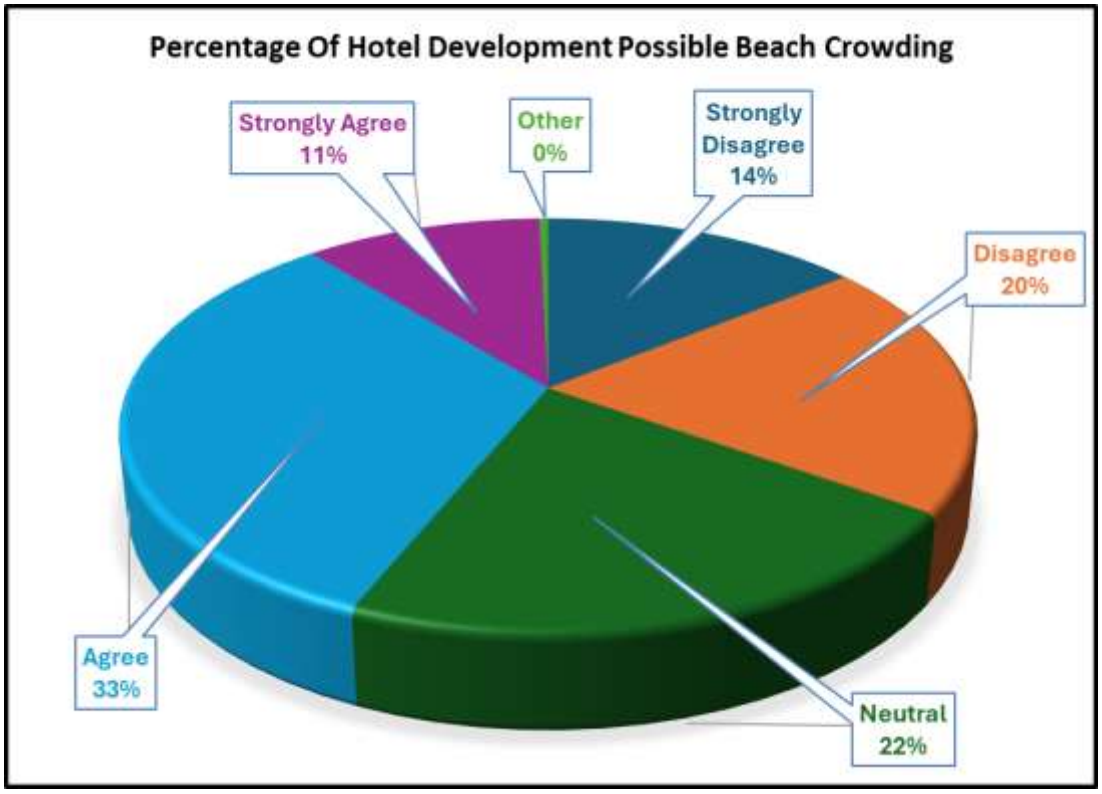


Chart Number 11 – Percentage of Hotel Development Possible Beach Crowding

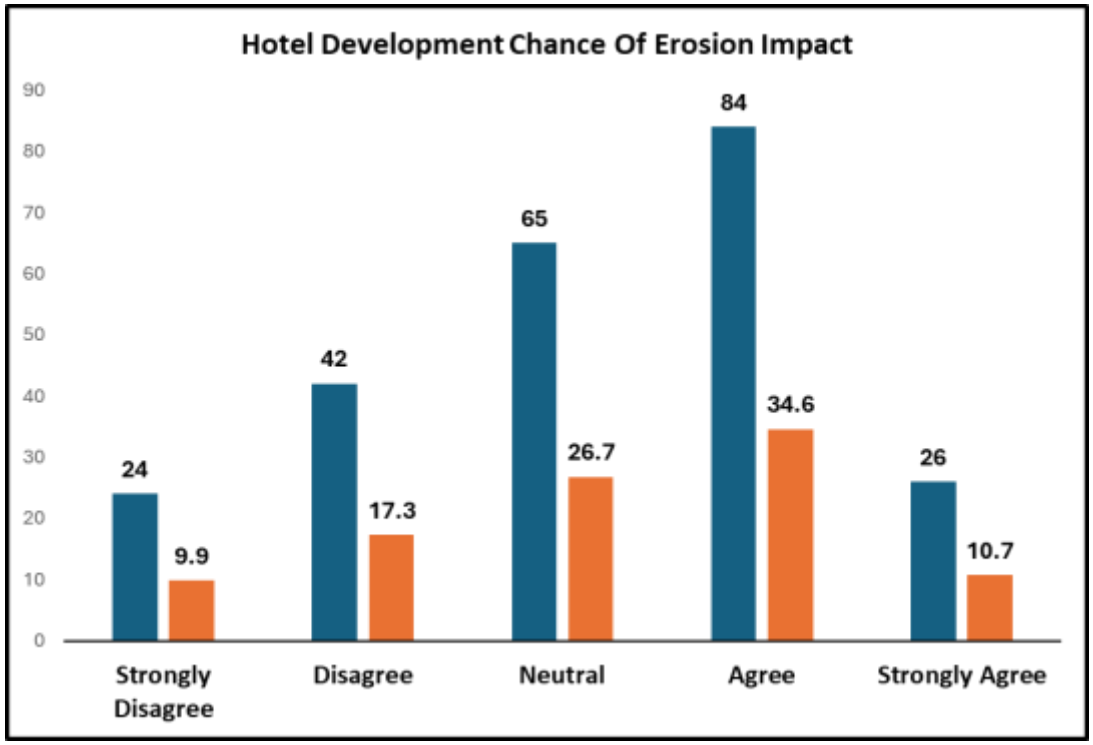


Chart Number 12 – Hotel Development Chance of Erosion Impact

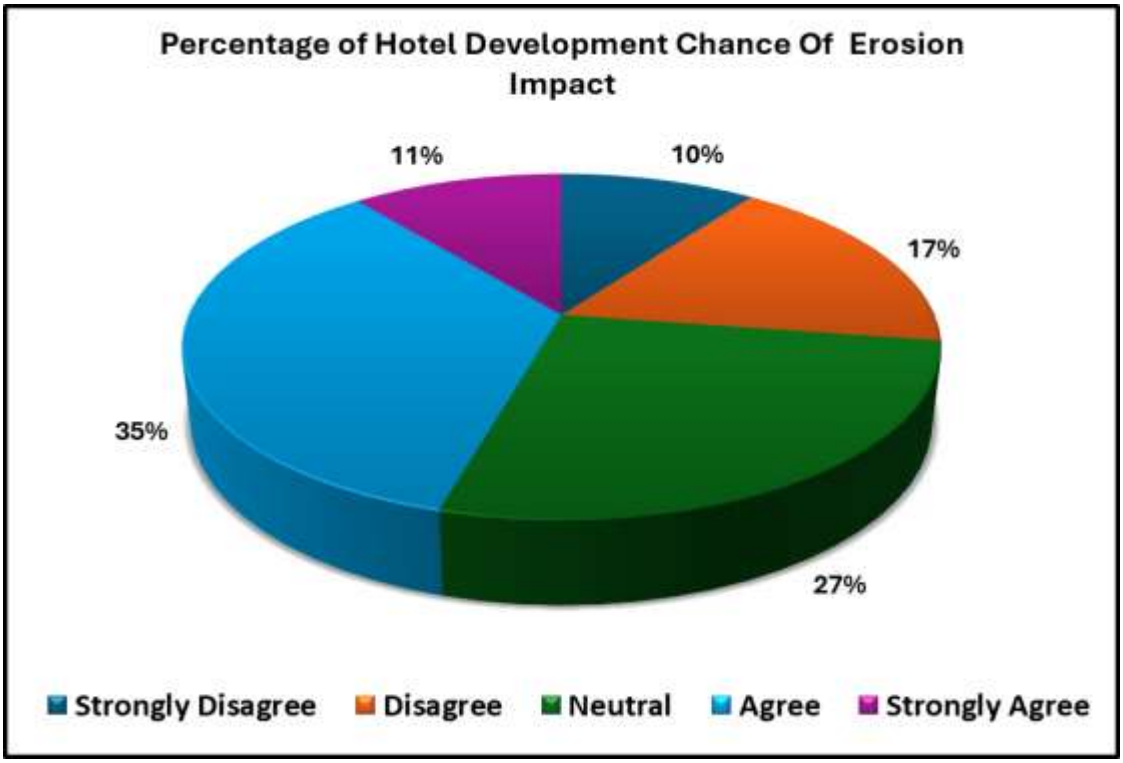


Chart Number 13 – Percentage of Hotel Development Chance of Erosion Impact

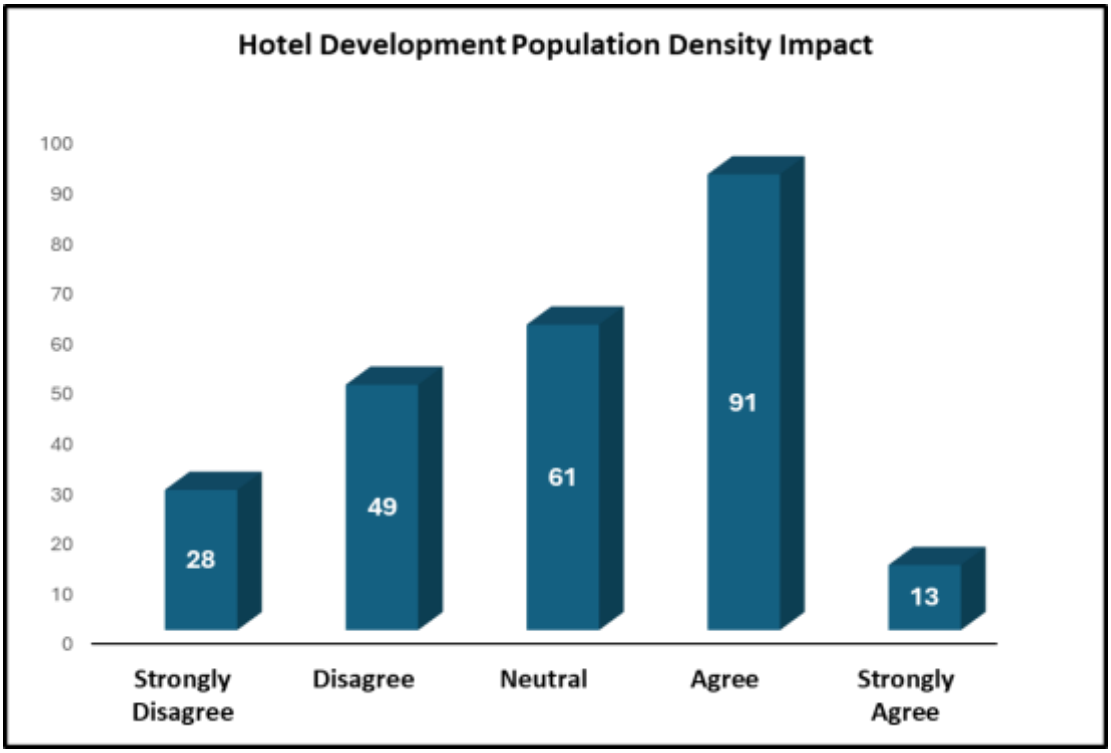


Chart Number 14 – Hotel Development Population Density Impact

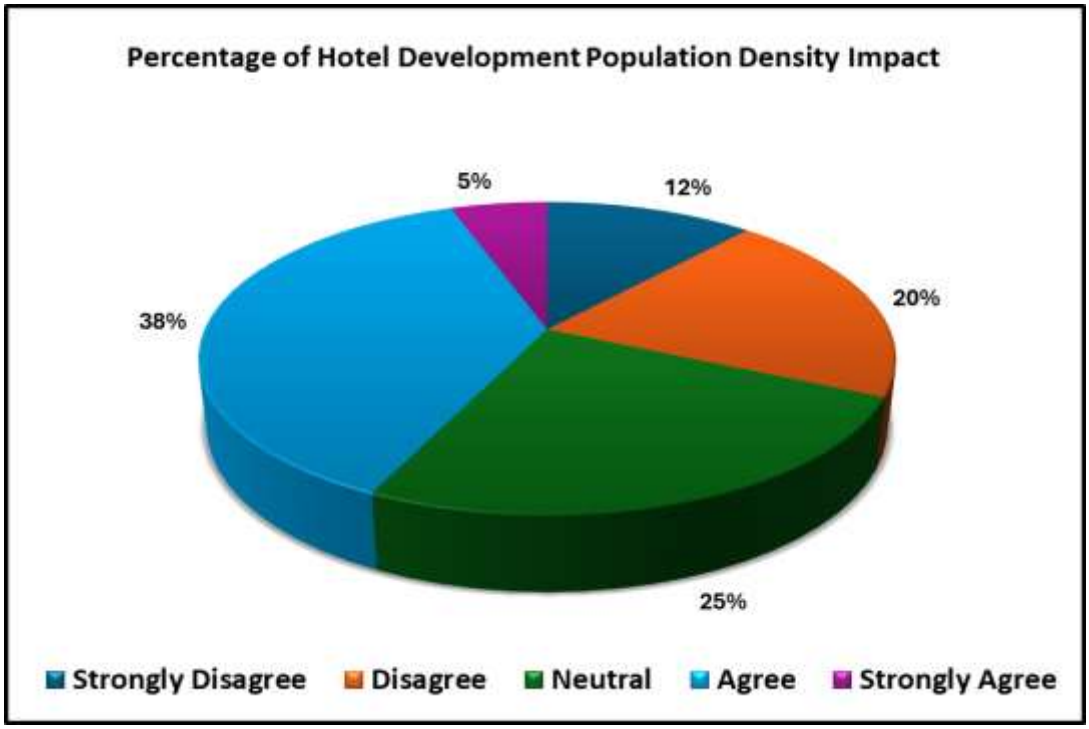


Chart Number 15 – Percentage of Hotel Development Population Density Impact

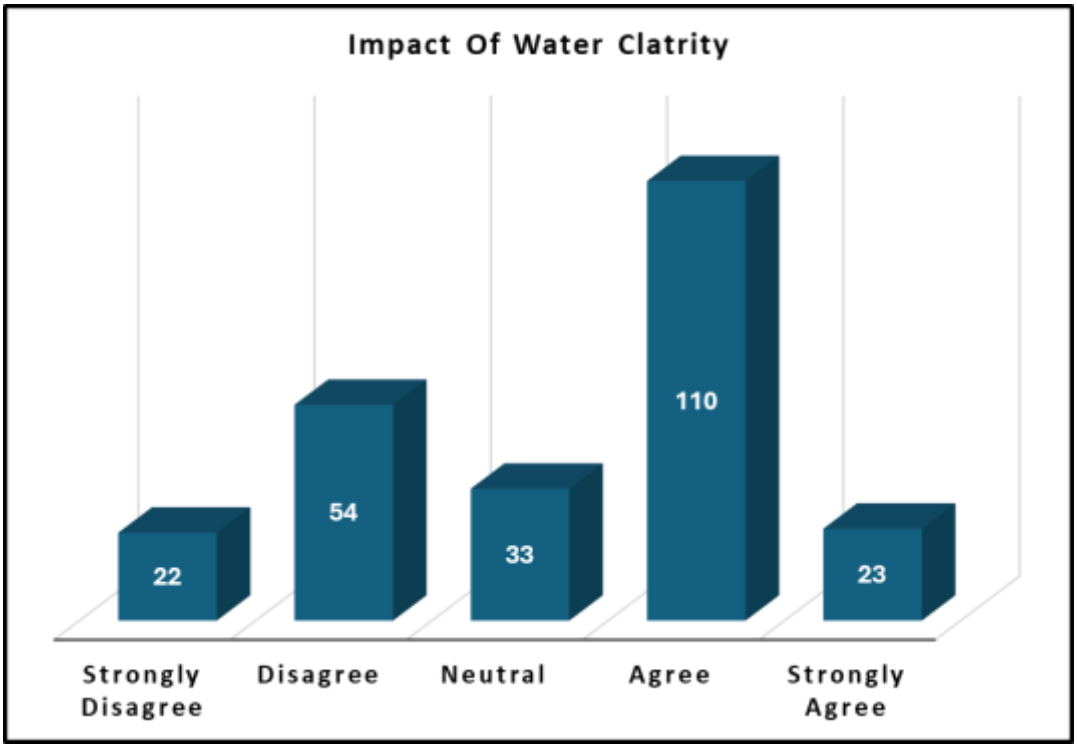


Chart Number 16 – Impact on Water Clarity

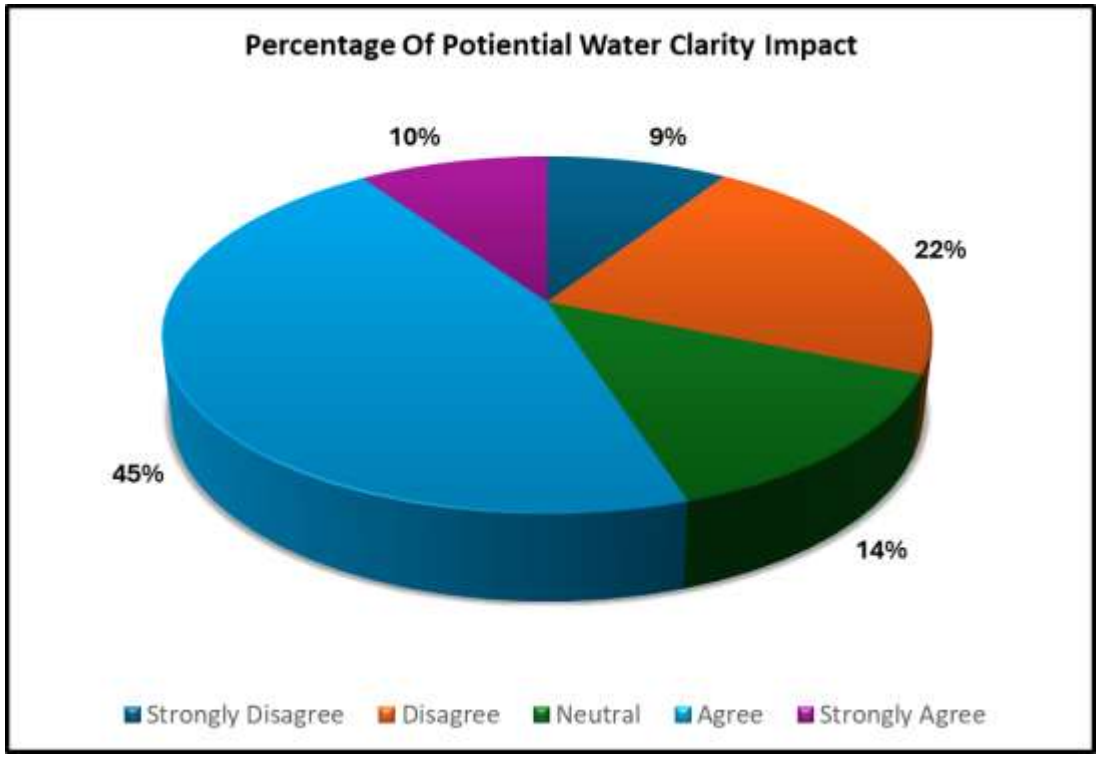


Chart Number 17 -Percentage Potential Impact on Water Clarity

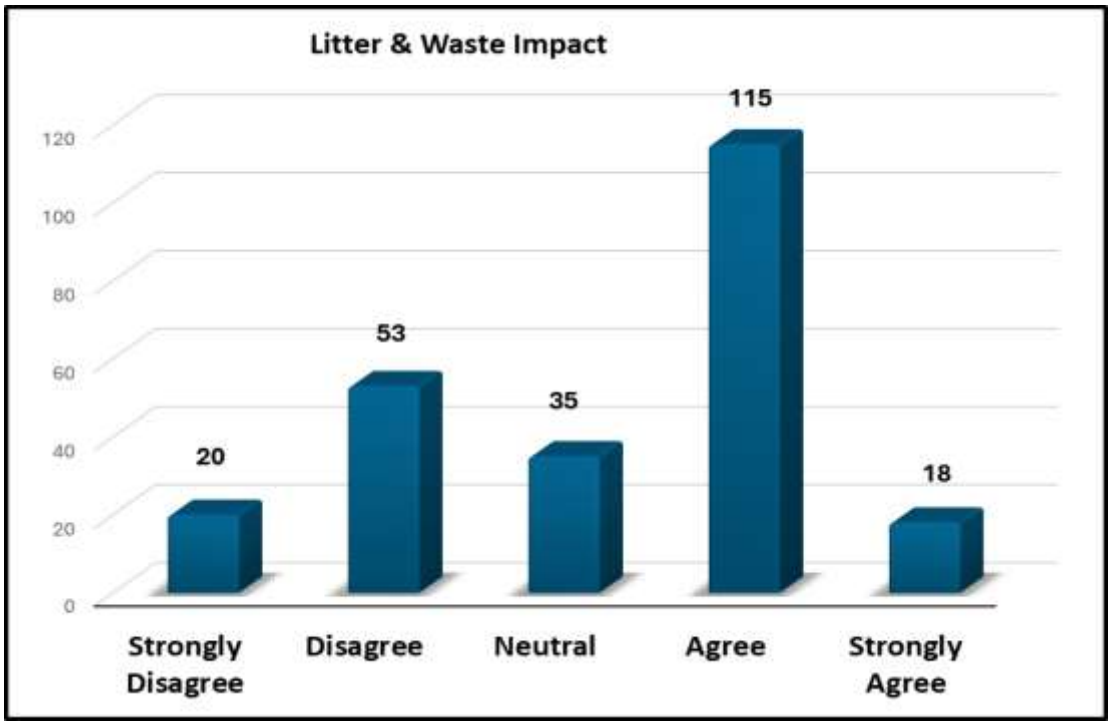


Chart Number 18 -Litter & Waste Impact

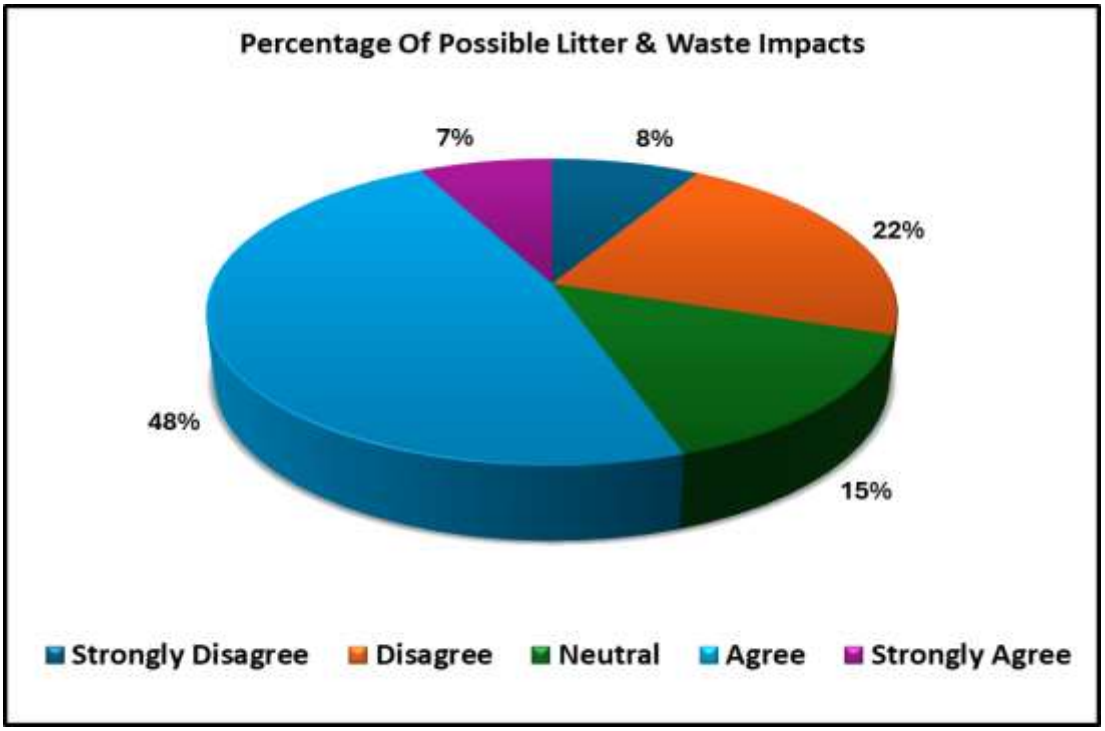


Chart Number 19 -Percentage of Possible Litter & Waste Impact

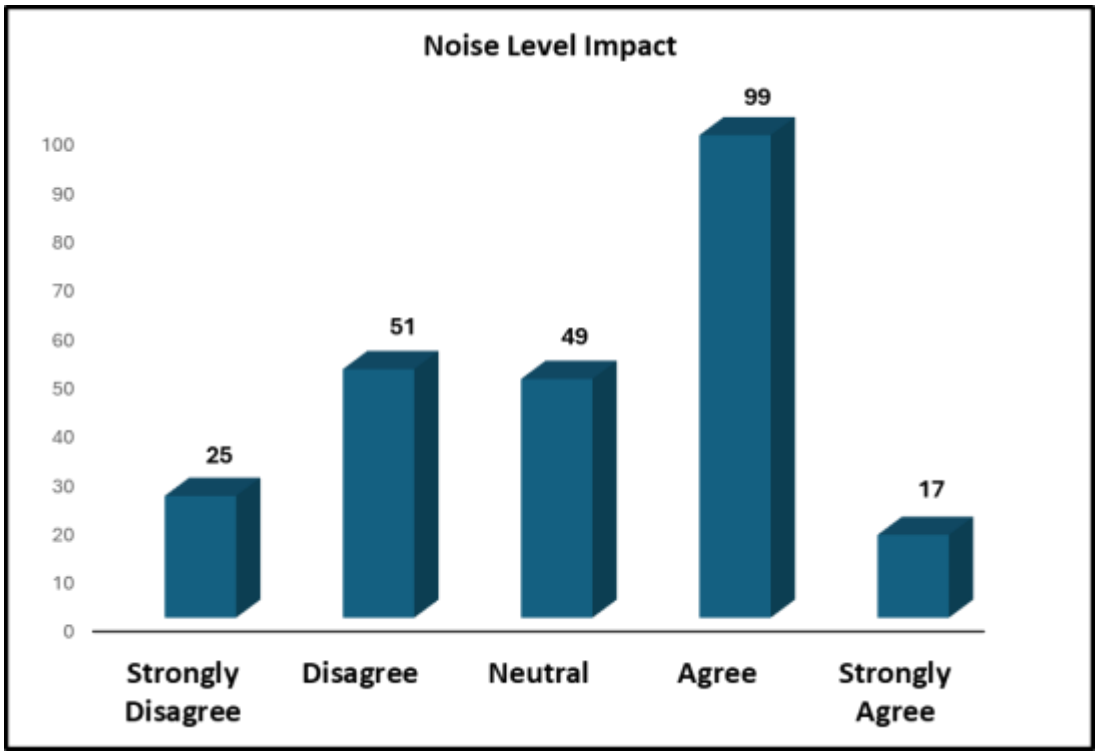


Chart Number 20 – Noise Level Impact

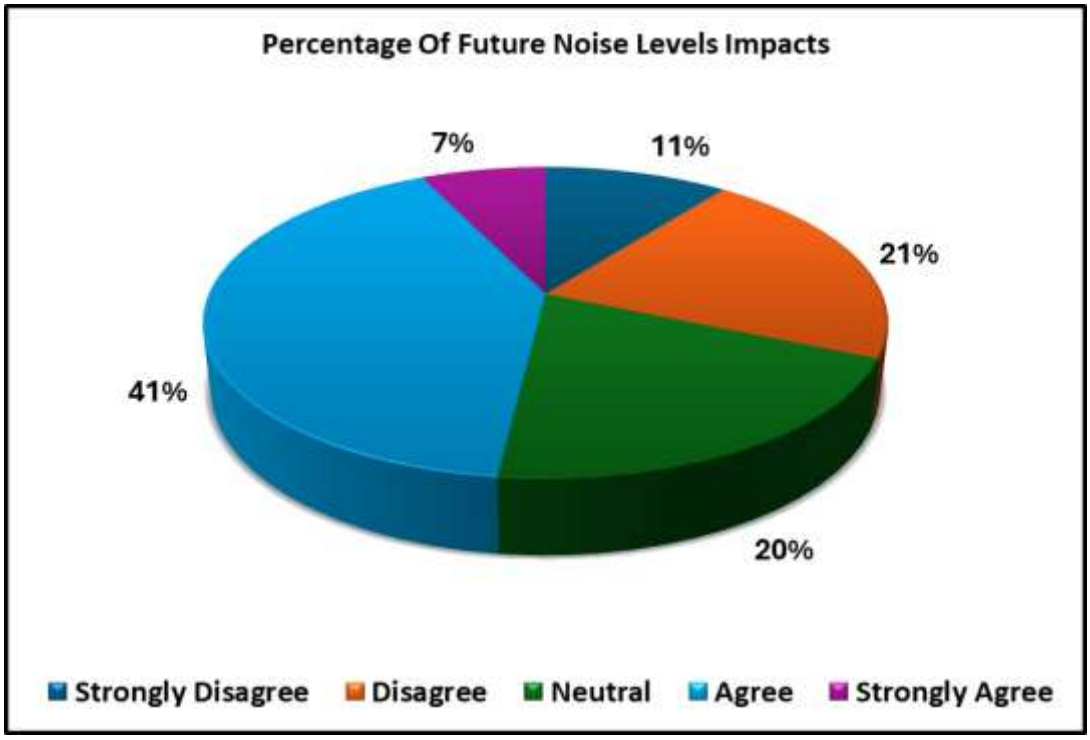


Chart Number 21 – Percentage of Future Noise Levels Impact

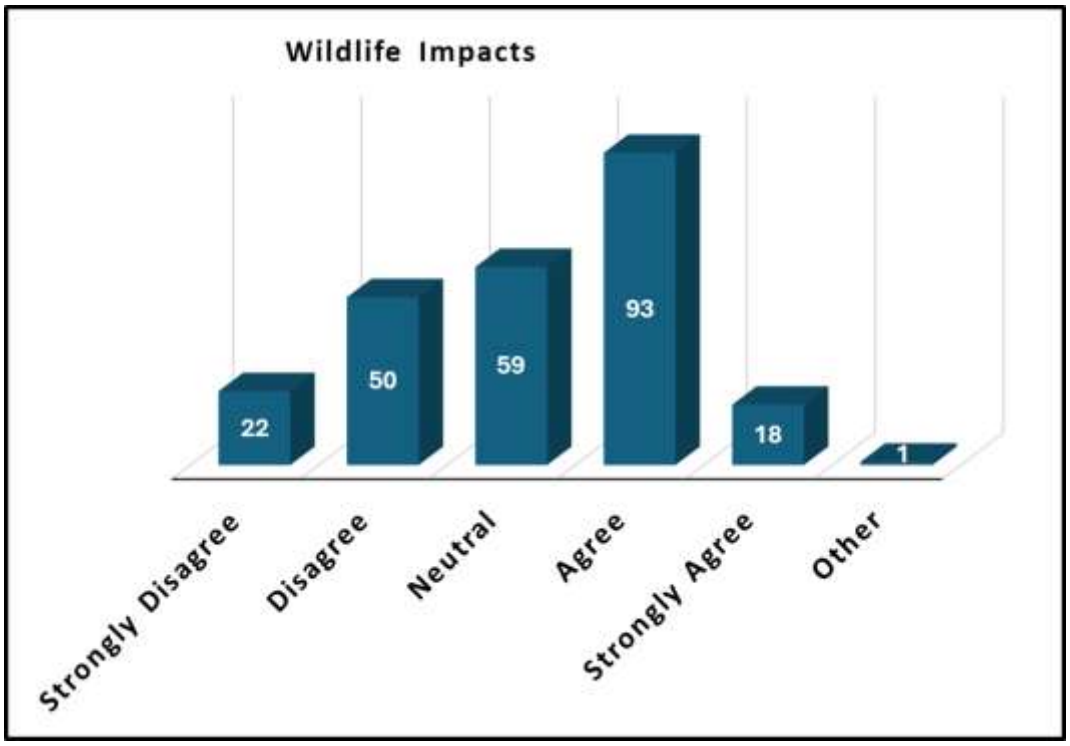


Chart Number 22 – Wildlife Impacts

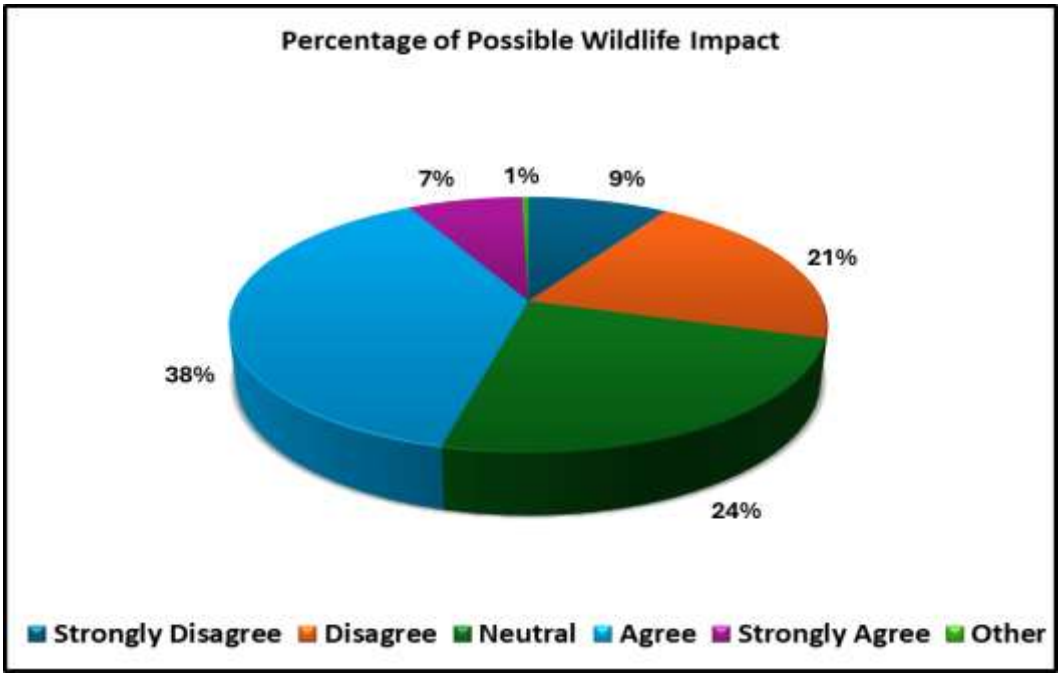


Chart Number 23 – Percentage of Possible Wildlife Impacts

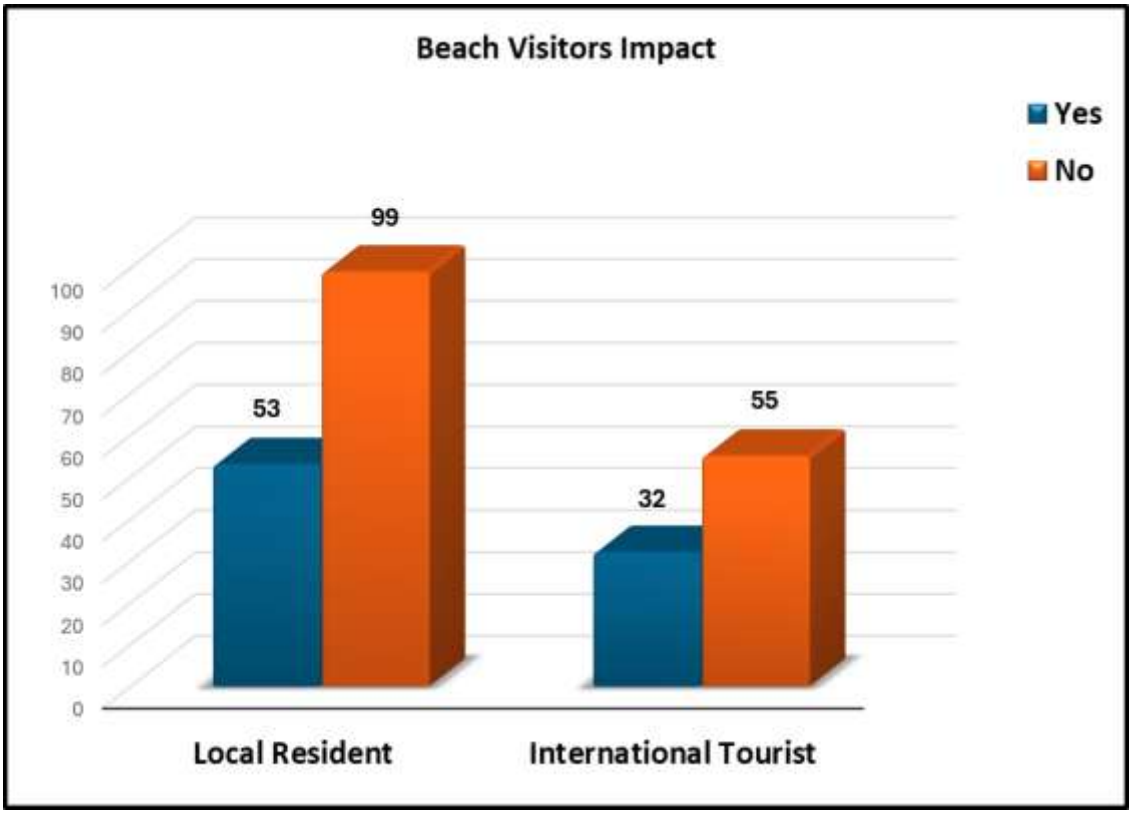
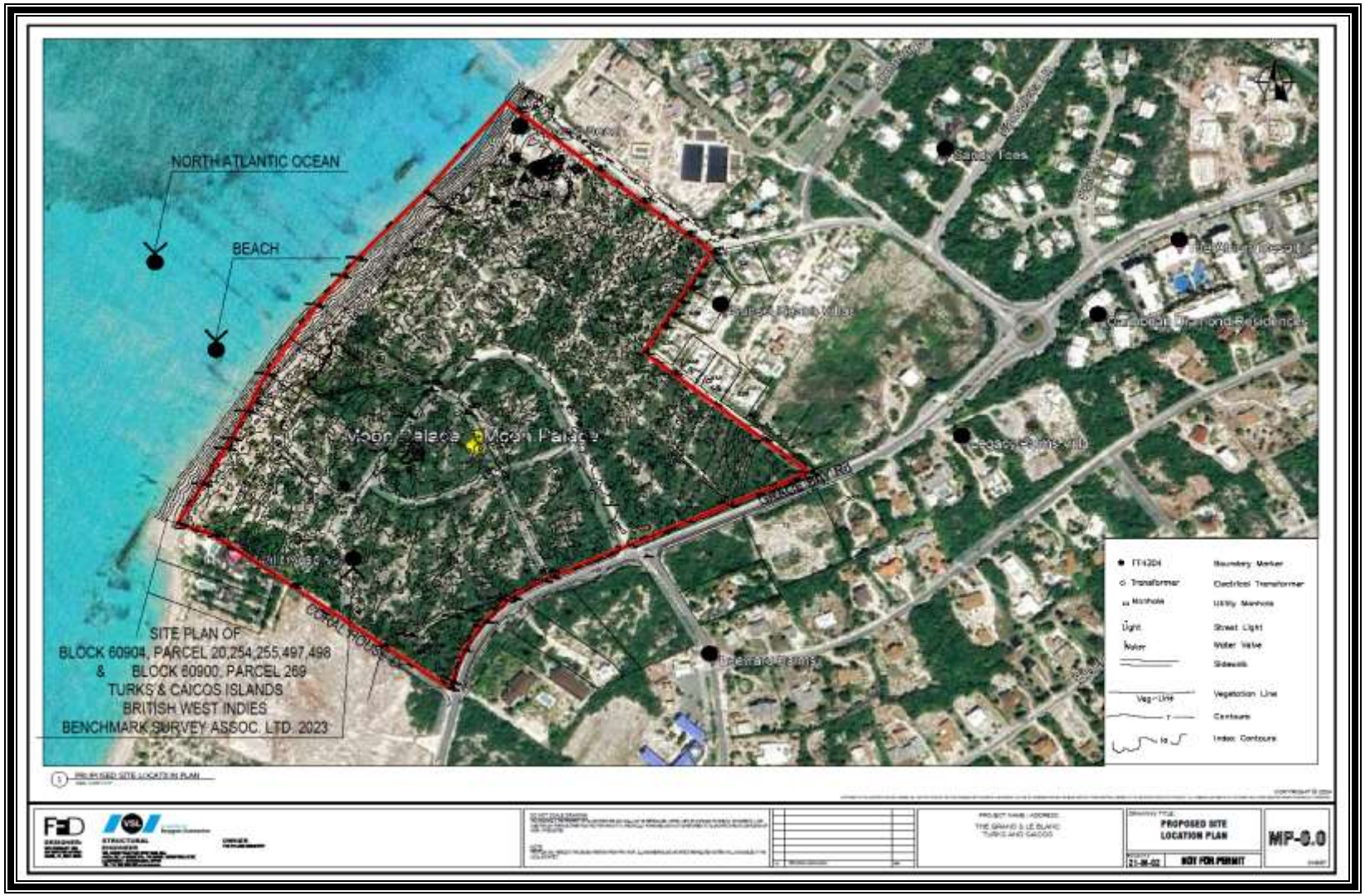


Chart Number 24 – Beach Visitors Impact

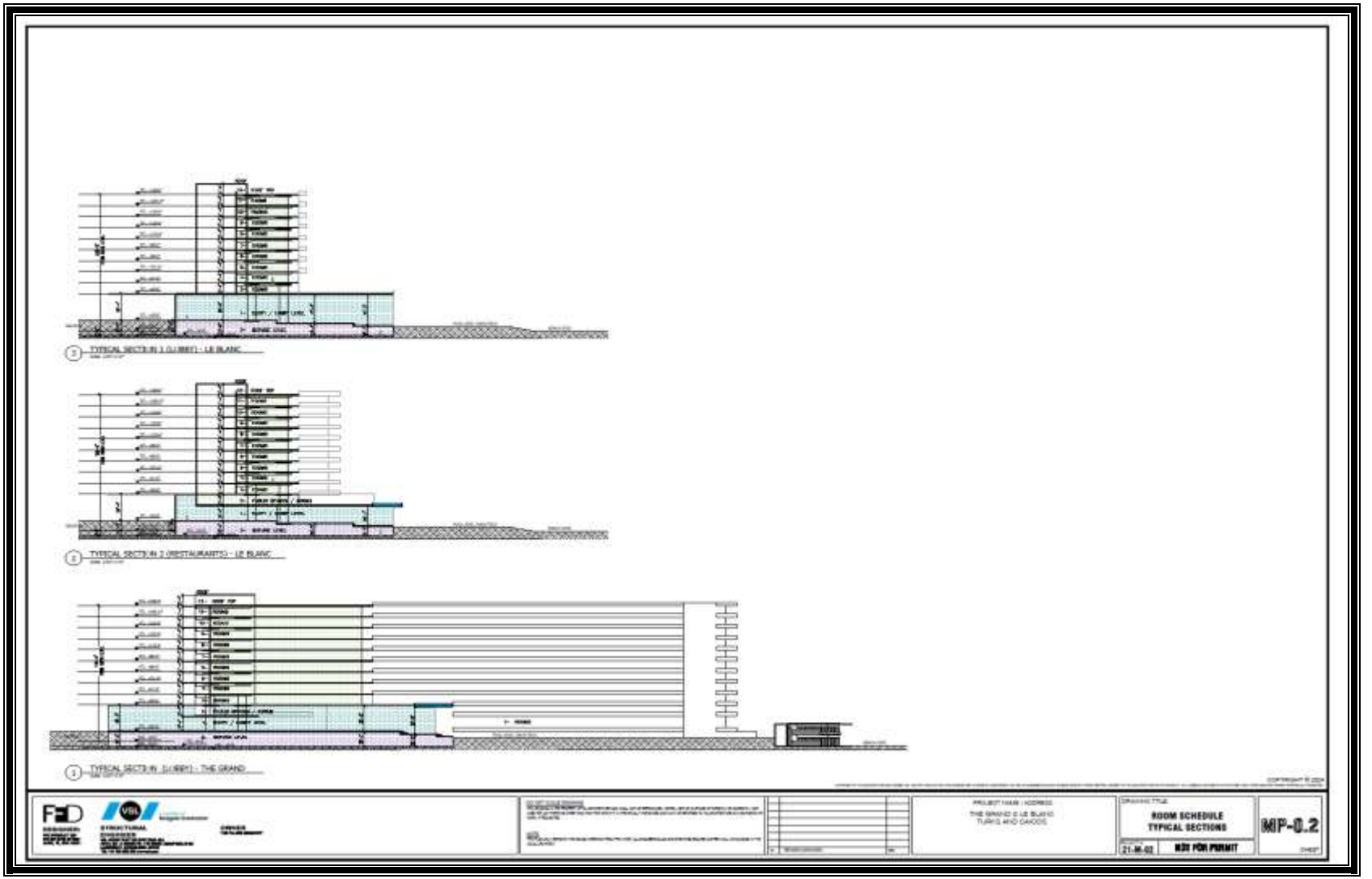
9.26 Appendix Z – Moon Palace Resort Development Plans and Drawings



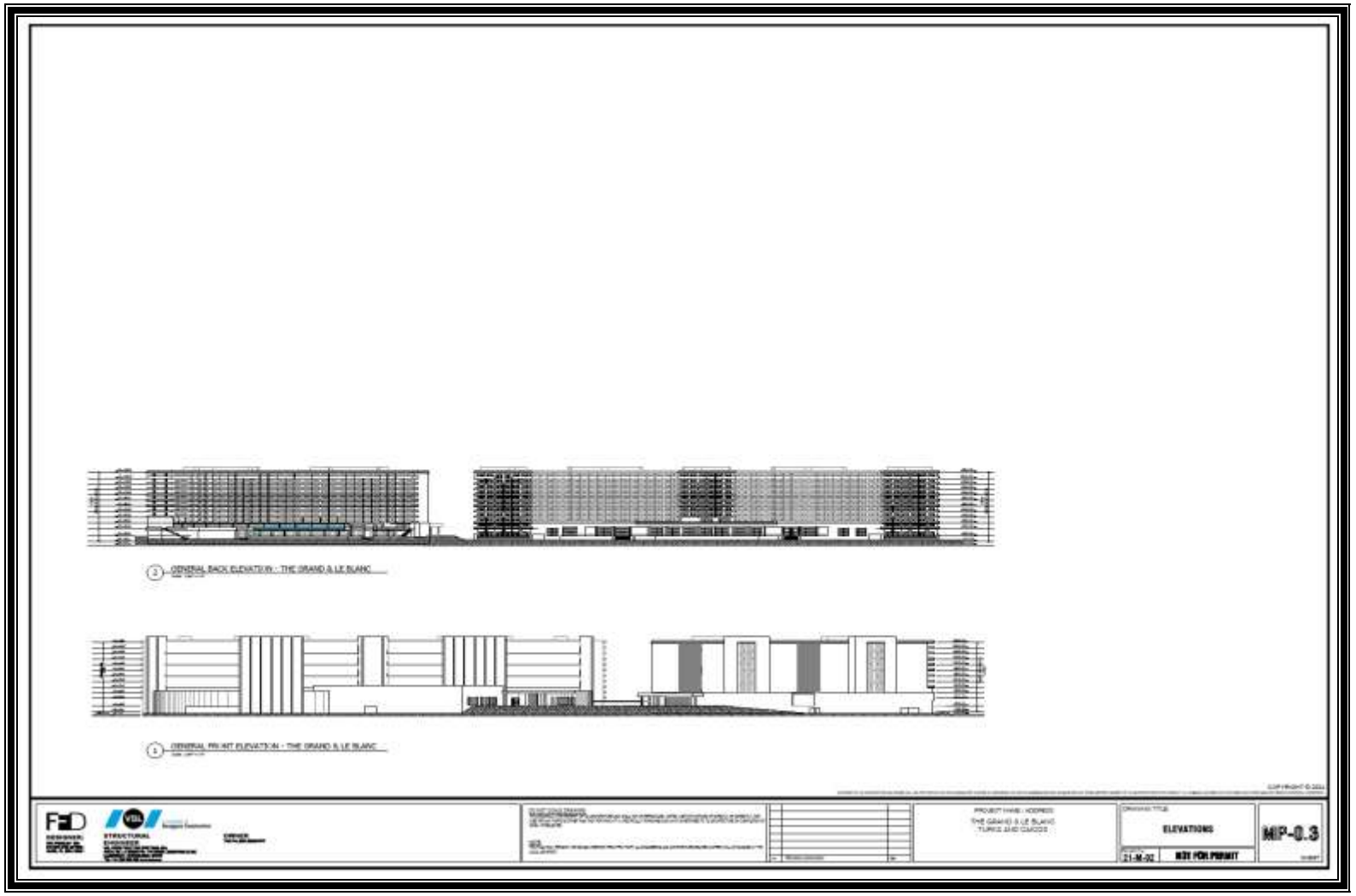
Floor Plans Moon Palace Resort



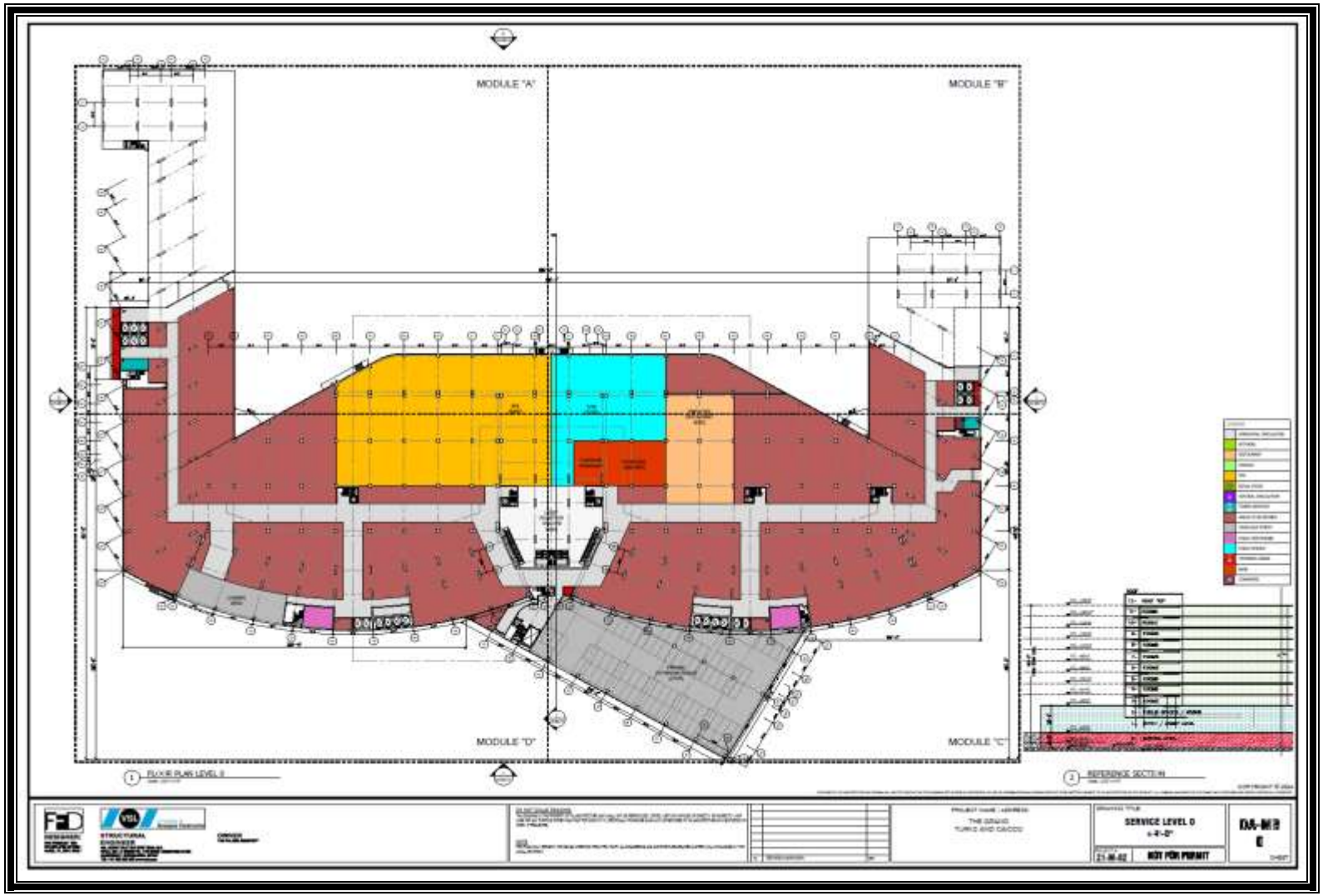
Site Location Plan Moon Palace Resort



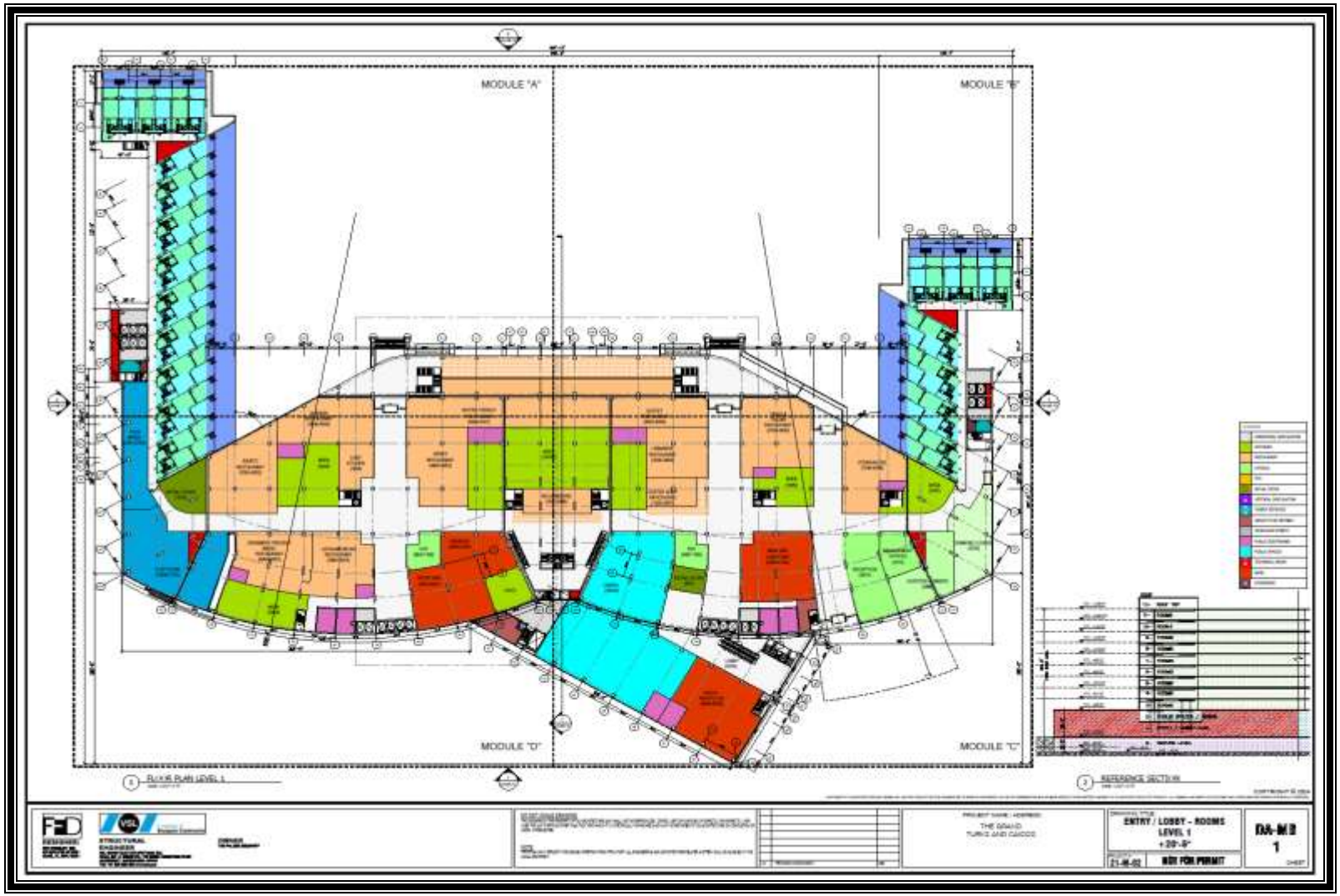
Elevation Plans Moon Palace Resort



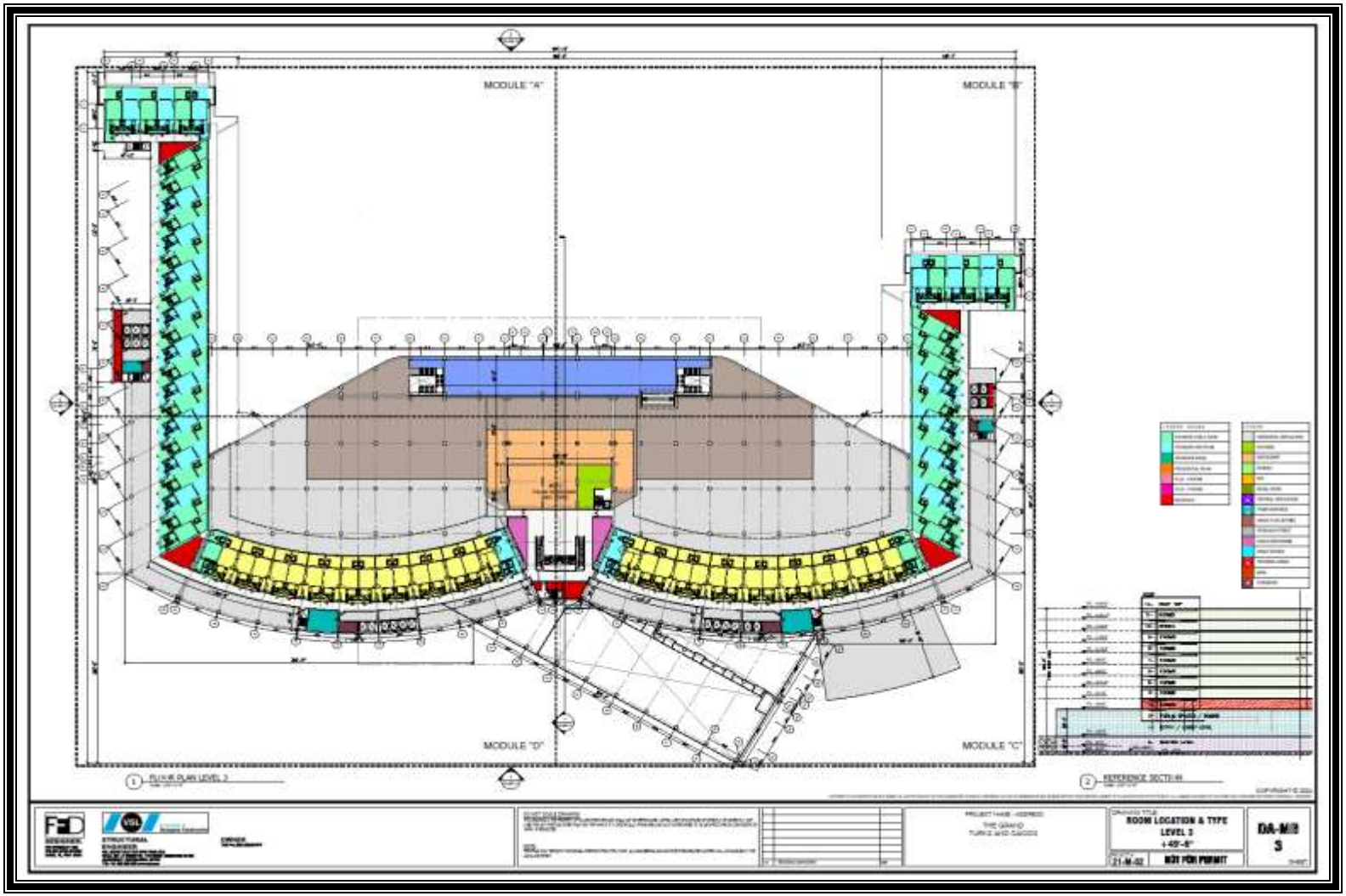
Elevation Plans Moon Palace Resort



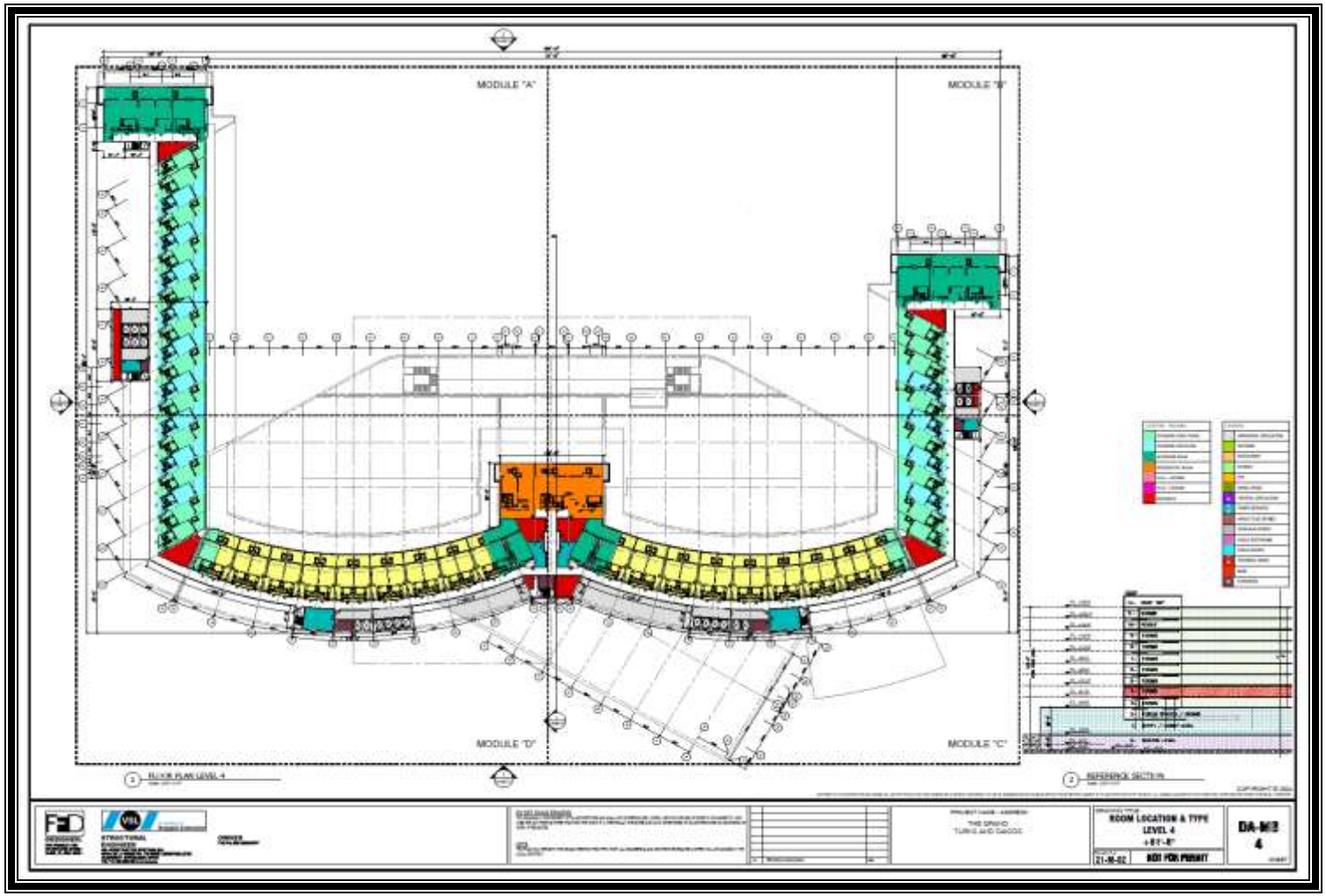
Elevation Plan Moon Palace Resort



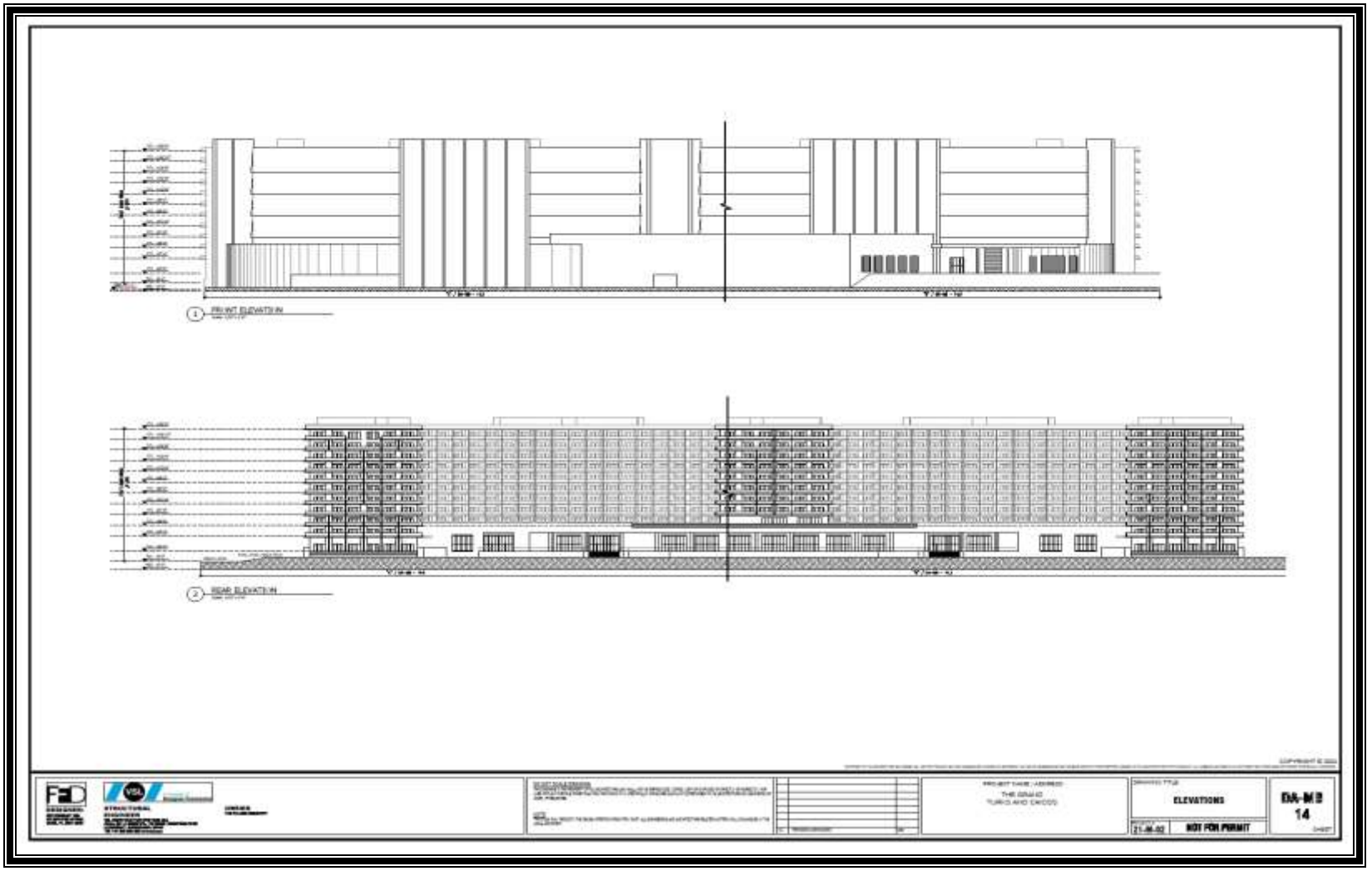
Layout Plan Moon Palace Resort



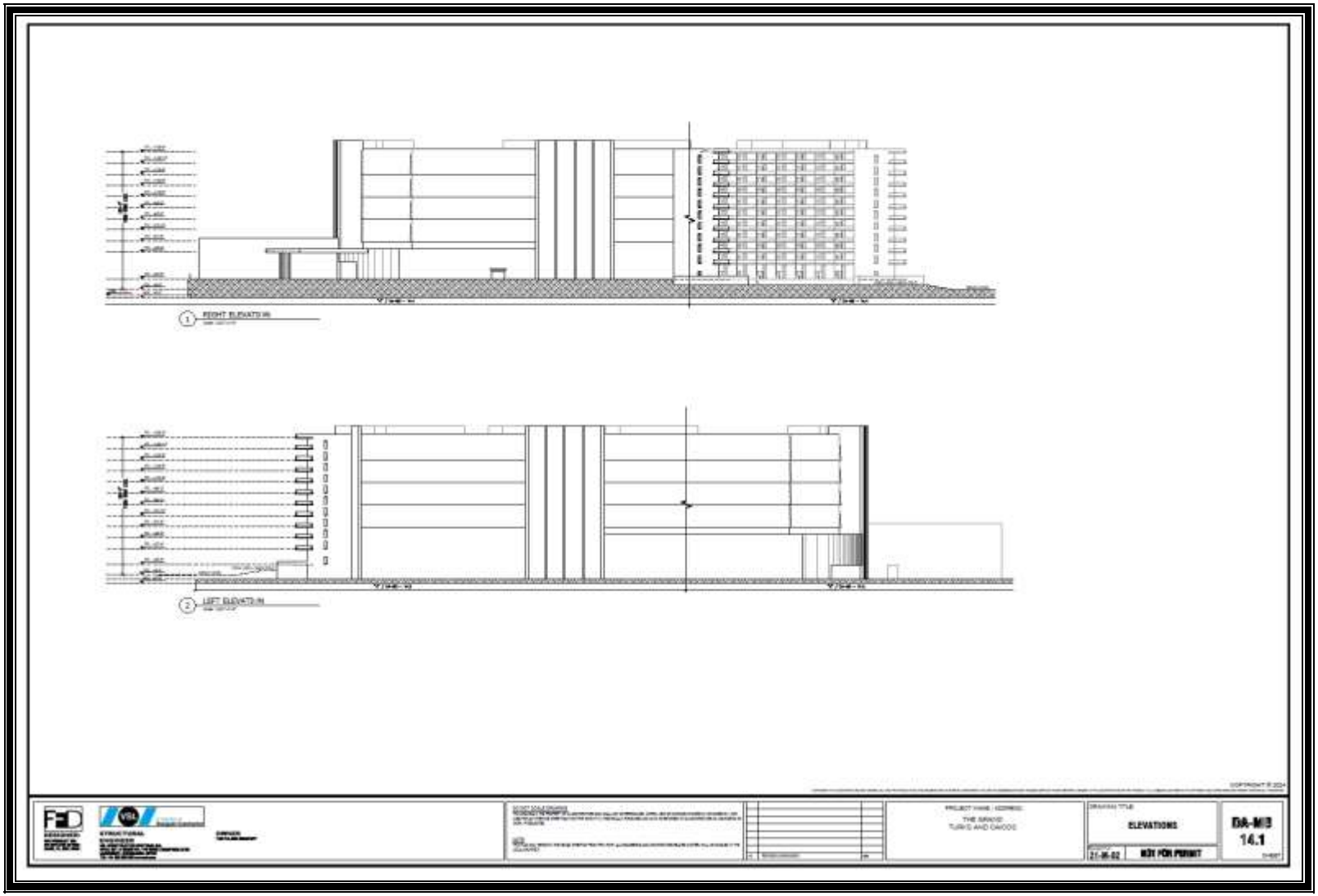
Layout Plan Moon Palace Resort



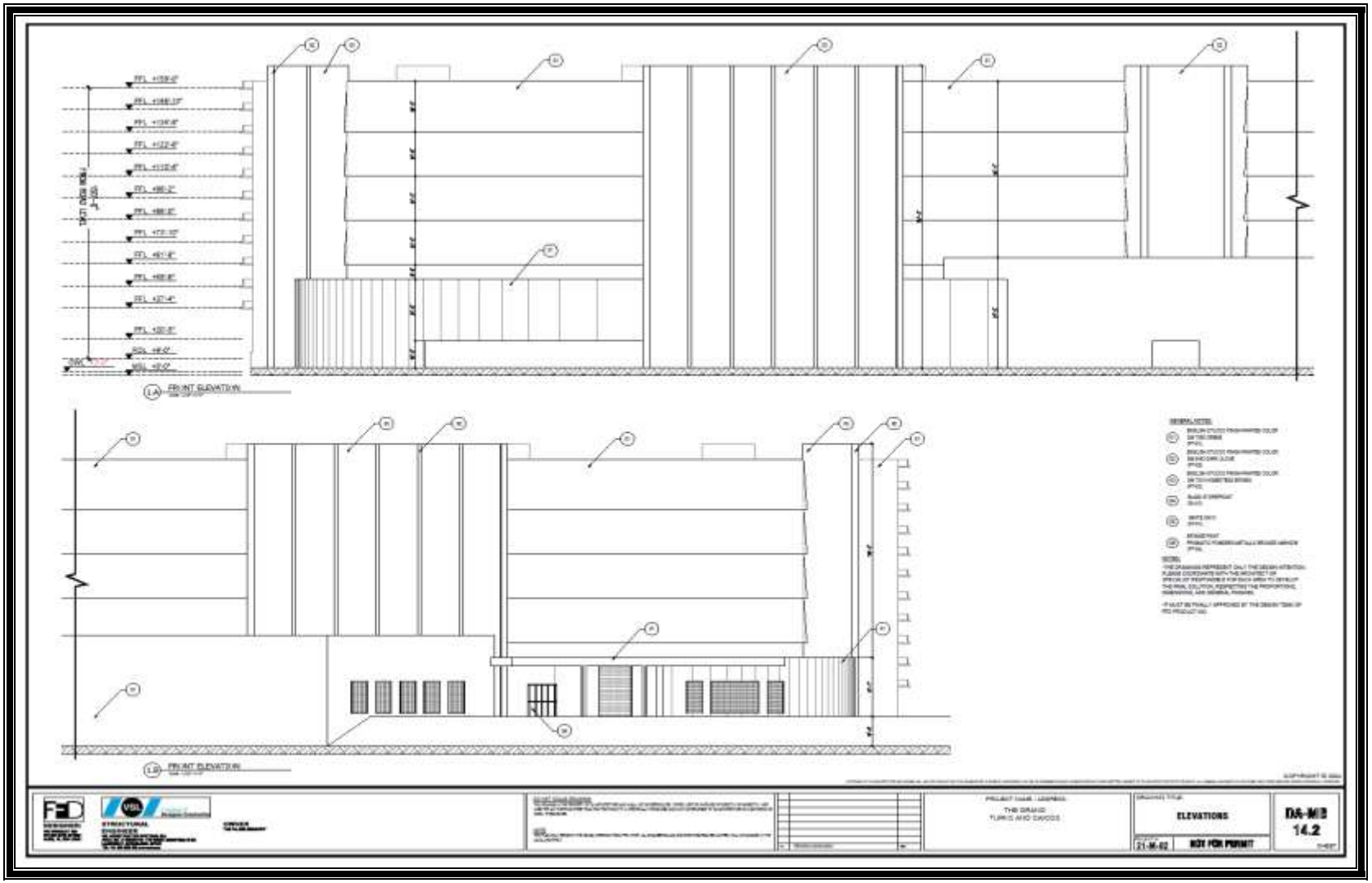
Layout Plan Moon Palace Resort



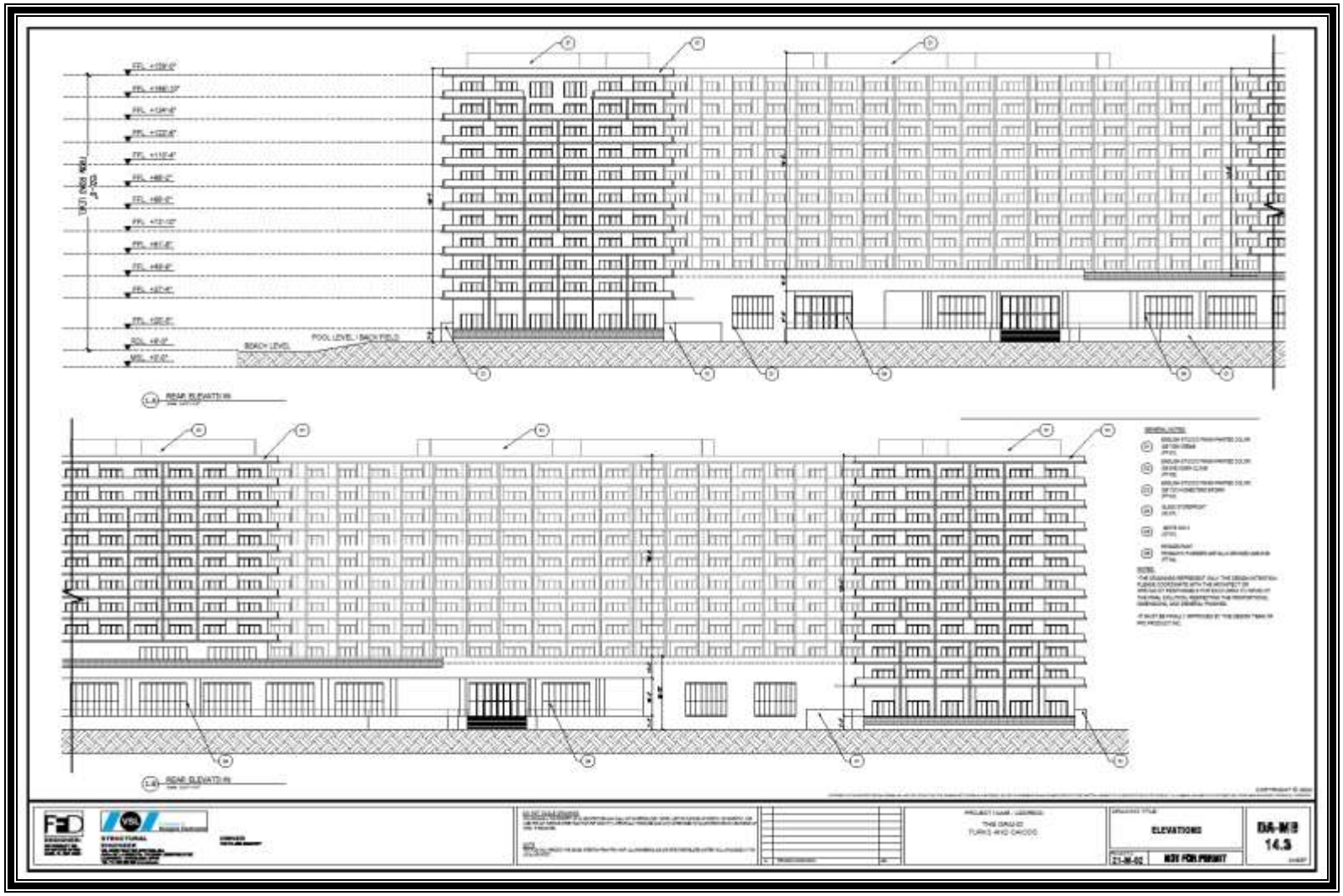
Elevation Plans Moon Palace Resort Development



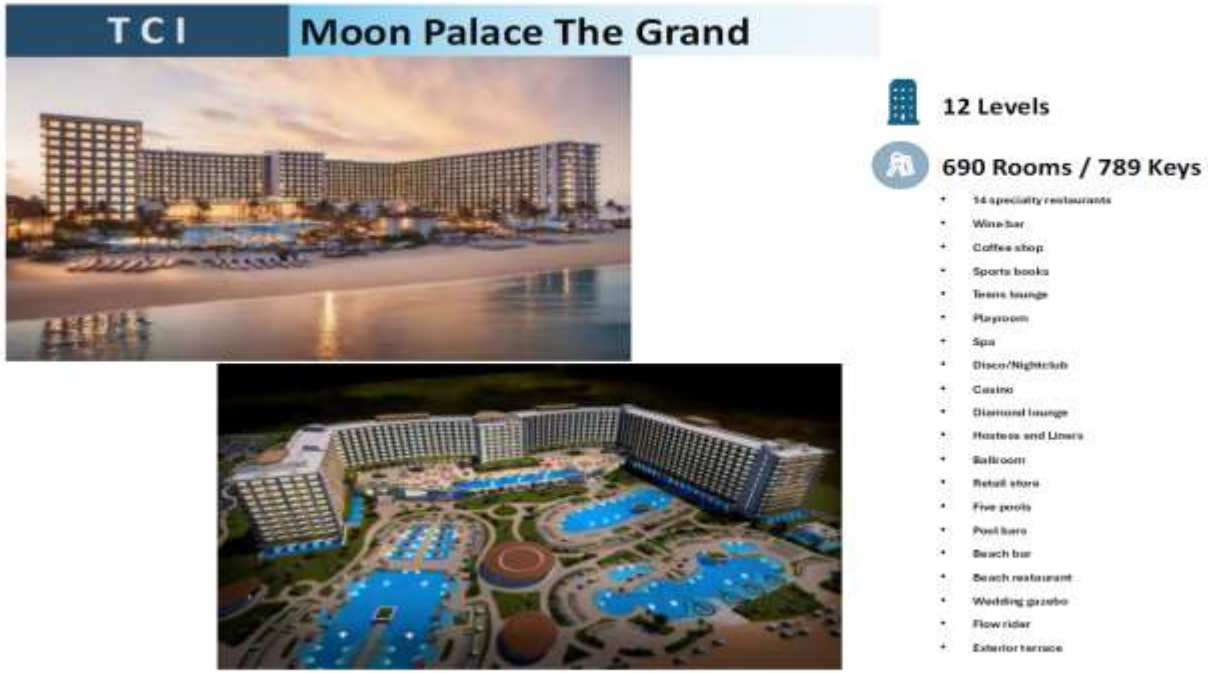
Elevation Plans Moon Palace Resort Development



Elevation Plans Moon Palace Resort Development



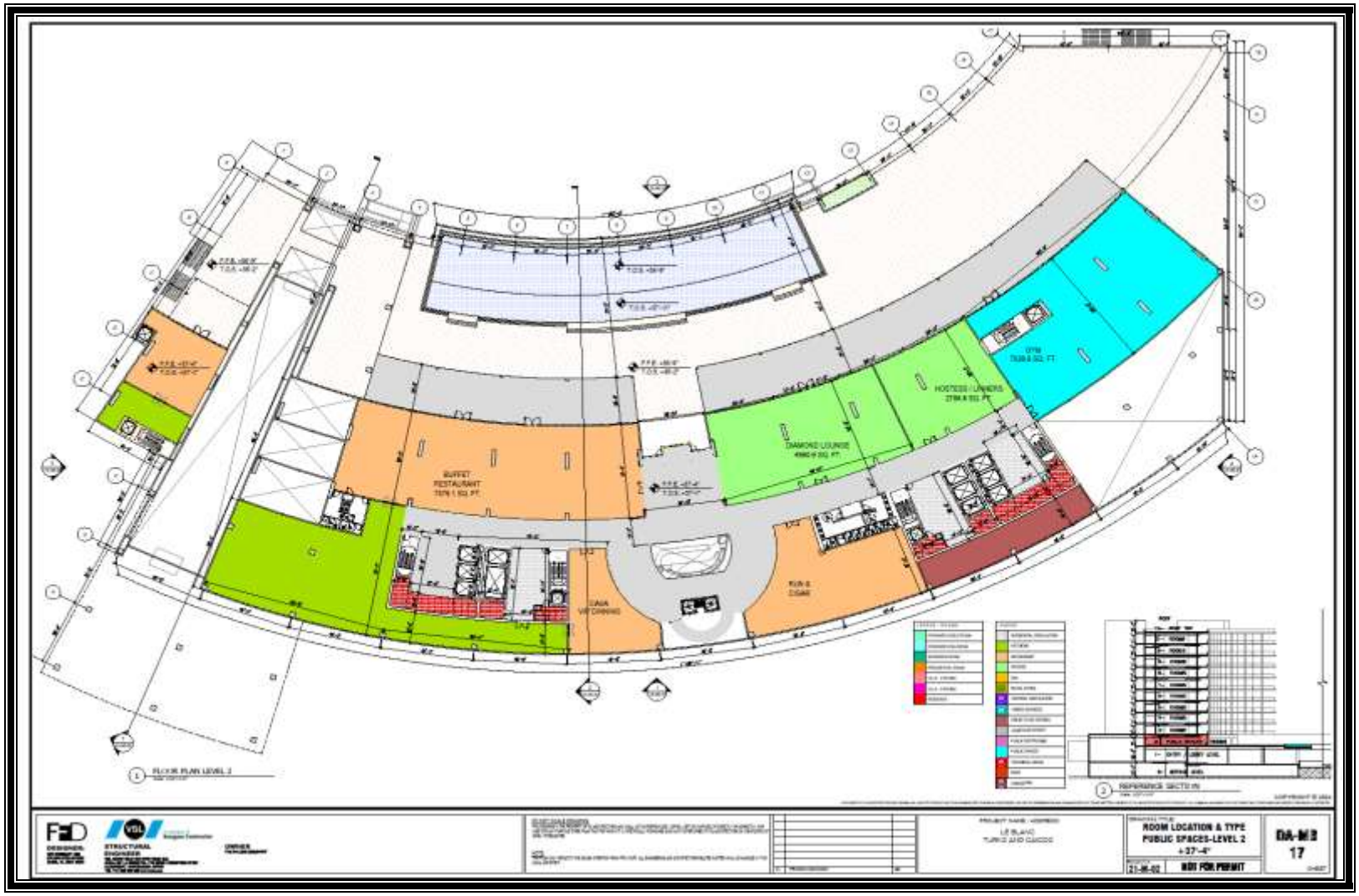
Elevation Plans Moon Palace Resort Development



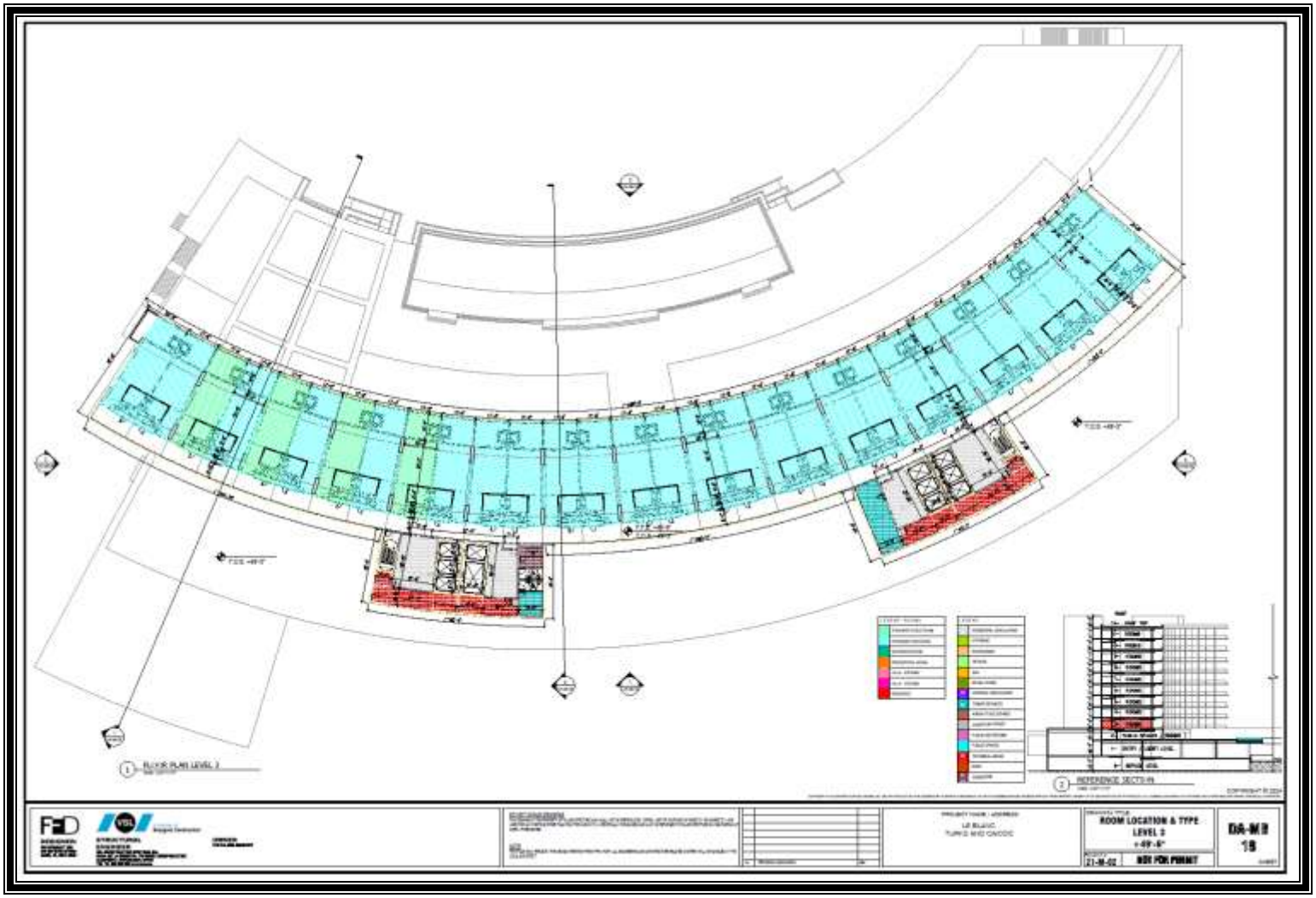
Elevation Plans Moon Palace Resort



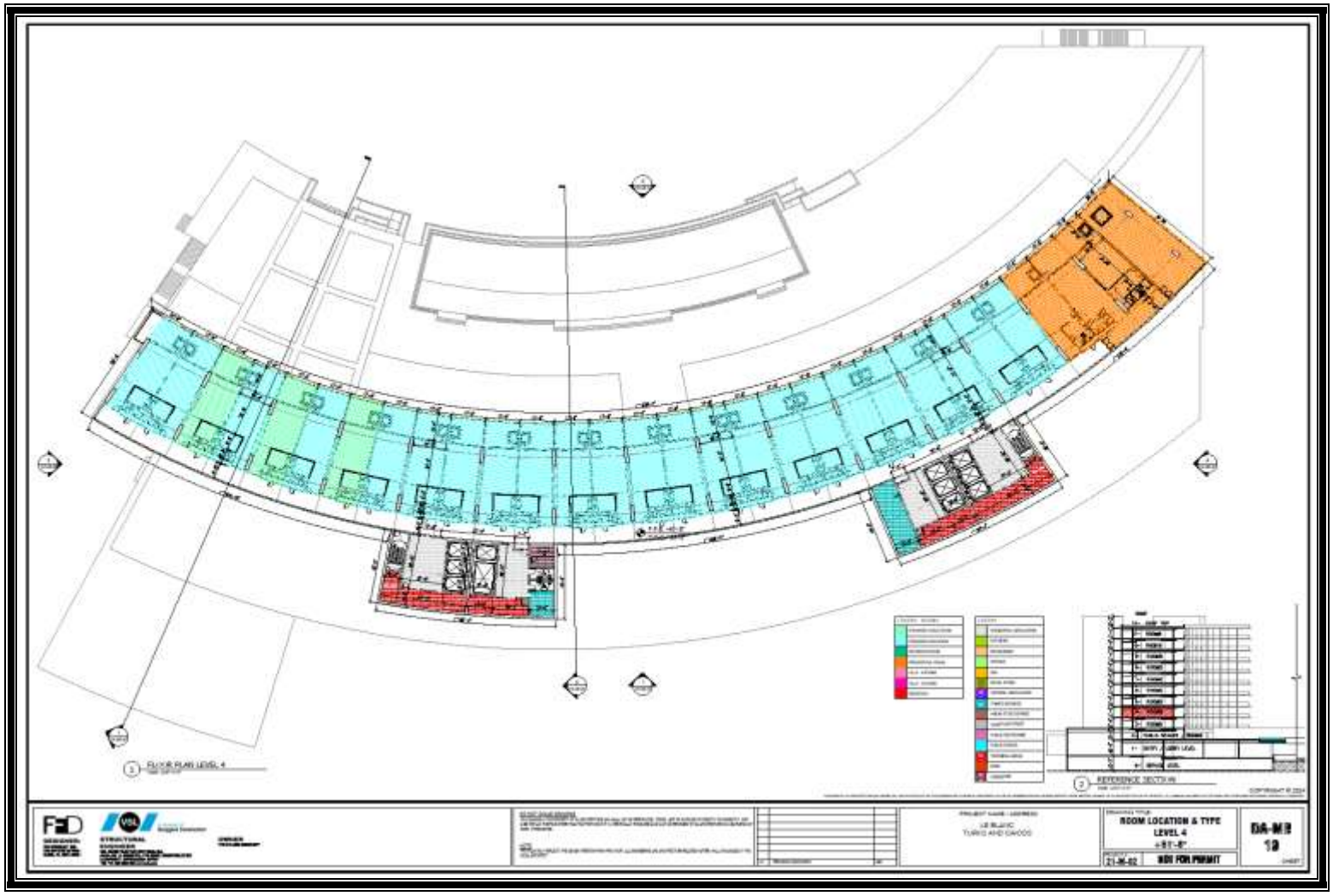
Elevation Plans Moon Palace Resorts



Layout Plan Moon Palace Resort



Layout Plan Moon Palace Resort



Layout Plan Moon Palace Resort

9.27 Appendix *AA – Resumes*

Ezekiel E. Hall, MSc, IAH
Consulting Hydrogeologist – Environmentalist
#6 Flame Tree Circle
Long Bay Hills, Providenciales
Turks and Caicos Islands, B.W.I.
Tel: 649.246.8263
Email: hallenvironment1@gmail.com

Summary

Ezekiel Hall is a practicing environmentalist with over 25 years experience working in Small Oceanic Islands environments in the Bahamas and Turks and Caicos Islands. Mr. Hall's experience includes consultative services for private utility companies, government agencies, property owners and tourism developers who wish to design, construct and manage operation facilities with a focus on protection of natural resources and compliance with applicable Ordinances, Regulations and environmental best practices.

Education

1991 – 1992: Mr. Hall attended the University of Birmingham, UK and obtained a Master of Science Degree in Hydrogeology, specializing in the Hydrogeology of Small Oceanic Islands.

1981 – 1985: Mr. Hall attended St. Lawrence University, Canton, New York, USA and obtained a Bachelor of Science Degree in Geology.

Employment

December 2012 – Present: Operations Manager, Grand Bahama Utility Company[GBPA]

Mr. Hall holds management responsibility for the daily operations of the Water Company including the direct supervision of 21 members of staff, seven water plants and one sewerage plant.

April 2012 – August 2012: Deputy Permanent Secretary, Ministry of Border Control & Labour [Turks and Caicos Islands Government]

Mr. Hall held a leadership role and was responsible for establishing Policy, Guidelines and Procedures for Immigration and Labour enforcement. Mr. Hall had daily responsibility for a staff compliment of 68 Immigration Officers including Senior Officers & Line Staff. A list of responsibilities included work task planning, tracking work progress, performance evaluations, customer service management, budget preparation, public awareness program and report writing.

July 1997 – Present: Hydrogeologist-Environmentalist, EnvironmentALL TCI.

Mr. Hall is the Principal of EnvironmentALL Ltd and provides Environmental and Geotechnical Consulting Services throughout the Bahamas and Turks and Caicos Islands. The scope of services includes Environmental Impact Assessments, Geotechnical Evaluations, Drilling and Well Design, Pump Tests & Injection Well Tests, Groundwater Resources Evaluation, Water & Wastewater Quality Monitoring and Testing, Evaluation of Water & Sewerage Plant Operations, Wellfield Design, Wellfield Construction, Wellfield Management, Sewerage Disposal Well Design/Construction/Management, Stormwater Disposal Well Design/Construction/Management, Terrestrial Assessment, Marine Assessments, Socio-economic & Cultural Assessments, Hydrogeological Assessments, Hydrographic & Bathymetric Surveys, Coastal Processes Evaluation and Building Permit Processing.

1986 - 1997: Assistant Hydrologist, Bahamas Water & Sewerage Corporation, Nassau, New Providence, Bahamas.

Mr. Hall applied his hydrogeological experience and knowledge of the natural environment in support of various freshwater resources evaluations, wellfield designs, Sewerage and Stormwater deep disposal well designs and evaluations, pump tests and water & wastewater quality testing throughout all inhabited islands of the Bahamas.

CERTIFICATIONS & PROFESSIONAL MEMBERSHIP

PADI Certified SCUBA Diver: Dive Master.

Member of the International Association of Hydrogeologists.

NASTeC Certified Major Appliance Repair Technician [B981174]

GCAP Graduate Technician Certified Appliance Technician [Reg #: TC21727]

PUBLICATION(S)

"Saltwater Intrusion in the Bahamas: A case study of the Grand Lucayan Waterway, Grand Bahama, The Commonwealth of the Bahamas." *Proceedings of the AWRA Conference (1989), Puerto Rico.*

"An appraisal of the Application of Surface and Borehole Geophysical Techniques to Groundwater assessment in Wellfields in The Bahamas." *Proceedings of the WMO/IDB Conference (1995), Costa Rica.*

PROJECTS AND STUDIES

1. Water Quality Monitoring: Providenciales Hospital Project, TCI, 2009.
2. Environmental Impact Assessment: The Shore Club, Providenciales, TCI, 2008-09
3. Environmental Impact Assessment: East Bay Resort and Marina, South Caicos, TCI, 2008-09
4. Environmental Impact Assessment: Terrestrial and Hydrogeological Input into EIA for CMK Developments at South Caicos Islands, TCI 2008 to present.
5. Hydrogeological Assessment: Input into the Environmental Impact Assessment for PPC Limited Bulk Fuel Storage Facility, Providenciales, TCI 2008
6. Seawater Quality Monitoring: Carnival Cruise Lines (Grand Turks Cruise Port), Grand Turks Island, TCI 2008-2009.
7. Environmental Impact Assessment: Leeward Lake; Providenciales, TCI, 2008
8. Environmental Impact Assessment: Leeside Canals; Providernciales, TCI 2008
9. Seawater Quality Monitoring: Carnival Cruise Lines (Grand Turks Cruise Port), Grand Turks Island, TCI 2007-2008.
10. Seawater Quality Monitoring: Carnival Cruise Lines (Grand Turks Cruise Port), Grand Turks Island, TCI 2006-2007.
11. Feedwater and Disposal Wells design and construction: Beaches Resort – Italian Village, Providenciales, Turks and Caicos Islands, 2008
12. Environmental Impact Assessment: Bone Fish Point, Providenciales, TCI, 2007

13. Hyrogeological, Terrestrial and Marine Assessments: CMK Tourism Developments, South Caicos Island, Turks and Caicos Islands 2007 – ongoing.
14. Environmental Impact Assessment Update: Ritz-Carlton Hotel, West Caicos Island, TCI, 2006
15. Seawater Quality Monitoring: Carnival Cruise Lines (Grand Turks Cruise Port), Grand Turks Island, TCI 2005-2006.
16. Seawater Quality Monitoring: Leeward Marina (Johnston International Ltd.), Providenciales Island, TCI 2006.
17. Hydrogeological Assessment: EIA for the Albany House Marina [Park Ridge Securities Group], Nassau, Bahamas, 2005
18. Solid Waste Management Project: Project Coordination and Management; Hydrogeological and Legal Assessments, Turks and Caicos Islands Government, Turks and Caicos Islands, 2005.
19. Environment Impact Assessment: Royal Reef Resort, North Caicos Island, TCI, 2005.
20. Marine Assessment (Seagrass Removal for Blue Resort), Blue Hills, TCI, 2005
21. Hydrogeological Evaluation: Mare Bello Tourism Development, East Bay, TCI, 2004.
22. Environmental Impact Assessment: The Tuscany, Providenciales, TCI, 2004
23. Groundwater Resources Evaluation: New Providence Development Co., Nassau, Bahamas, 2004.
24. Environmental Impact Assessment: Ritz-Carlton Hotel, West Caicos, TCI, 2004.
25. Hydrographic Survey: Grand Turk Cruise Ship Facility, Grand Turk, TCI 2004.
26. Bathymetric Survey: Grand Turk Cargo Pier, Grand Turk, TCI, 2004.
27. Environmental Consultant: St James Development, Providenciales, 2003
28. Environmental Consultant [EIA]: Leeward Marina/Condo Development, Providenciales, TCI 2003 – ongoing.
29. Hydrogeological Assessment: Inland Marina Basin for Pericles Maillis' property, Adelaide, New Providence, Bahamas.
30. Environmental Consultant [EIA]: Beach Oasis Development, Providenciales, TCI 2002
31. Environmental Consultant [EIA]: Grand Turk Cruise Port, Grand Turk, TCI, 2002.
32. Environmental Consultant: Sand Mining and Dredging, Sand Pit, Providenciales, TCI 2002.
33. Environmental Consultant: Bahamas Electricity Corporation Cooling Water Wells Project, New Providence, Bahamas, 2002.
34. Consultant for EIA: West Caicos Island-wide Development, West Caicos, TCI, 2001- present.
35. Consultant for EIA: West Caicos Marina, West Caicos, TCI 2000-'01.

36. Consultant for EIA: Hawksbill Marine Basin, Providenciales, TCI, 2001.
37. Consultant for EIA: Somerset Hotel Development, Providenciales, TCI, 2001
38. Consultant for EIA: Leeward Canal Extension, Providenciales, TCI, 2000.
39. Consultant for EIA: Babaloo Beach Resort, Providenciales, TCI, 1999.
40. Consultant for EIA: Cooper Jack Marina, Providenciales, TCI, 1999.
41. Consultant for EIA: Grand View Condominium, Providenciales, TCI, 1999
42. Consultant for EIA: Discovery Beach Club, Providenciales, TCI, 1999
43. Consultant for EIA: Ocean Club West, Providenciales, TCI, 1999.
44. Consultant for EIA: Newport Harbour & Bulk Fuel Storage Facility, Providenciales, TCI, 1998.
45. Implementation of National Parks System: Coastal Resources Management Project/ Chief Park Warden, Providenciales, TCI, 1998-'99.
46. Rehabilitation of Deep Cooling Wells for Power Generation Plant: Bahamas Electricity Corporation, New Providence, Bahamas, 1997.
47. Design, construction and evaluation of feedwater wells for R.O. plant: Half Moon Cay, Bahamas, 1997.
48. Groundwater Resources Exploration for Bahamas Water & Sewerage Corporation: Andros Island Potable Water Supply, 1986-97Groundwater
49. Resources Exploration for Bahamas Water & Sewerage Corporation: Mayaguana Potable Water Supply, Mayaguana, Bahamas, 1997.
50. Groundwater Resources Exploration for Bahamas Water & Sewerage Corporation: Inagua Potable Water Supply, Inagua, Bahamas, 1996.
51. Groundwater Resources Exploration for Bahamas Water & Sewerage Corporation: Abaco Potable Water Supply Expansion, Abaco Bahamas, 1995.
52. Groundwater Resources Exploration for Bahamas Water & Sewerage Corporation: Exuma Potable Water Supply, Exuma, Bahamas,1986-'95
53. Groundwater Resources Exploration for Bahamas Water & Sewerage Corporation: Rehabilitation of Old Southwest Wellfield, New Providence, Bahamas, 1993.
54. Groundwater Resources Exploration for Bahamas Water & Sewerage Corporation: Long Island Potable Water Supply, Long Island, Bahamas, 1986 - '97.
55. Groundwater Resources Exploration for Bahamas Water & Sewerage Corporation: Rehabilitation of Windsor Wellfield, New Providence, Bahamas, 1993 - '97.
56. Groundwater Resources Exploration for Bahamas Water & Sewerage Corporation: Rehabilitation of Government Wellfields, Grand Bahama, Bahamas, 1986-'97.
57. Groundwater Resources Exploration for Bahamas Water & Sewerage

Corporation: Eleuthera Potable Water Supply, Eleuthera, Bahamas, 1986 - '97.

58. Groundwater Resources Exploration for Bahamas Water & Sewerage Corporation: Ragged Island Potable Water Supply, Ragged Island, Bahamas, 1986 - '97.
59. Groundwater Resources Exploration for Bahamas Water & Sewerage Corporation: Black Point, Exuma Potable Water Supply, Exuma, Bahamas, 1986 - '97.
60. Groundwater Resources Exploration for Bahamas Water & Sewerage Corporation: Bimini Water Supply, Bimini, Bahamas, 1986 - '97.
61. Rehabilitation and expansion of the Bogue Wellfield, North Eleuthera for Bahamas Water and Sewerage Corporation: Eleuthera, Bahamas, 1989.
62. Evaluation of New Providence Sewerage Treatment facility, Bahamas Water & Sewerage Corporation !995- 1997
63. Rehabilitation of Deep Sewerage Disposal Well: Pinewood Gardens, Nassau, Bahamas, 1987-'96.
64. Rehabilitation of Deep Sewerage Disposal Well: Flamingo Gardens, Nassau, Bahamas, 1993-'96.
65. Design, Construction and Evaluation of Deep Sewerage Disposal Wells: Yellow Elder Gardens, Nassau, Bahamas, 1990-'92.
66. Design, Construction and Evaluation of Deep Sewerage Disposal Well: Malcolm's Park, Nassau, Bahamas, 1990-'91.
67. Saltwater Encroachment: Grand Lucayan Waterway, Grand Bahama, Bahamas, 1987-'91.
68. Fuel Spill Assessment and Recovery: Bahamas Electricity Corporation, Nassau, Bahamas, 1987-'95.
69. Fuel Spill Assessment: Burma Oil, East End, Grand Bahama, Bahamas/ Water & Sewerage Corporation 1989.
70. Fuel Sill Assessment: Carmichael Road/BEC, Nassau, Bahamas/ Water & Sewerage Corporation, 1995.
71. Fuel Spill Assessment & Recovery: Nassau International Airport, 1988, Water & Sewerage Corporation.
72. Hydrogeological Maps of The Bahamas for inclusion the Hydrogeological Atlas of the Caribbean; UNESCO, 1986-'87.
73. Electro Magnetic Ground Conductivity Profiling: Bahamas Water & Sewerage Corporation / Groundwater Exploration Exercises. All inhabited islands of the Bahamas, 1988-'1997.

JANEEN MARLO BULLARD

Phone: (242) 357-9262
Jmbullard2109@gmail.com

25 Turnquest Alley
Nassau, Bahamas

With over 15 years of experience in the scientific and environmental field I can bring forth a plethora of skill sets that arrange from multi-tasking, planning and coordination, management of personnel and time as well as confidential handling of sensitive information and resources. I am dedicated and hardworking, with a passion for excellence. I possess skills in project management, educational & public outreach and research & development.

EDUCATION

MS Tuskegee University, Biology (Concentration in Plant and soil Science) 2004
Thesis: The Effects of Superoptimal CO2 on the Growth, Yield, Gas Exchange, Stomatal Conductance and Starch of Sweet Potato and Peanut.

BS Tuskegee University, Marine Biology 1999

EXPERIENCE

Environmental Specialist (2011 – Present) Principal of JSS Consulting Ltd (On The Bahamas Department of Planning and Protection approved Environmental Consultant List 2019 - present)

Projects

- Disney Lighthouse Point Cruise Port Development, Eleuthera, Bahamas Environmental Management (EM)
- Adelaide Creek Development Project: Nassau, The Bahamas Environmental Impact Assessment (EIA) and Marine Assessment
- Exuma International Airport Infrastructure Project, Exuma, The Bahamas Environmental & Social Baseline Assessment (ESBA) and Environmental & Social Management Plan (ESMP)
- North Eleuthera International Airport Infrastructure Project ESBA & ESMP
- Community Based Conch Management in the Family Islands, Conch Farm Feasibility Study and Environmental Baseline Assessment (EBA)
- Rose Island Development: Rose Island, The Bahamas Marine Assessment for EIA
- Paradise Island, Royal Caribbean, The Bahamas, Marine Assessment for EIA
- Coco Cay Island Development, Coco Cay, The Bahamas Environmental Management (EM), Botanical, Marine and Avian Assessment EIA, EBA), Environmental Management Services (EMS) and EMP
- Ocean Cay, Bimini, The Bahamas; EMS, Coral Relocation Monitoring, Public Outreach, Rapid Ecological Assessment (REA)
- Big Pond National Park Development, EMP & EMS

- The Harbor View Marina Project, Nassau, The Bahamas EBA, EMP
- The Staniard Creek Bridge and Causeway Replacement Central Andros, The Bahamas, EMP
- Briland Residence and Marina, Harbour Island, The Bahamas, and Marine Assessment for EIA
- South Andros and Cat Island Water Improvement Project, EMP, EMS
- Barbuda Airport, Antigua and Barbuda, Herpetological Assessments for EIA
- North Windermere Island, Eleuthera, The Bahamas; Marine Assessment for EIA
- The Pointe Marina Development: Nassau, The Bahamas; EMP, EMS
- The Big Pond Park Development Project, New Providence, The Bahamas EMS
- Orchid Bay; Abaco, The Bahamas; Marine Assessment for EIA
- Airport Gateway Project, New Providence, The Bahamas; EMS
- White Bay Cay, Exuma Cays, The Bahamas; Marine Assessment
- Stocking Island, Exuma Cays, The Bahamas; Botanical, Avian and Marine Assessment for EIA
- February Point, Exuma, The Bahamas; Avian and Marine Assessments for EIA
- Deep Water Cay, Grand Bahama, The Bahamas; Wetland Assessment
- Matt Lowe Cay, Abaco Cays, The Bahamas; Avian Assessment for EIA
- Governor's Harbour Amy Base, Eleuthera, The Bahamas; Avian for EIA
- Abaco Forestry, Abaco, The Bahamas; Botanical Assessment for EIA
- The Pointe, New Providence, The Bahamas; Marine Assessment for EIA
- Norman's Cay, Exuma Cays, The Bahamas; Botanical and Avian Assessment for EIA
- Ocean Cay, Bimini, The Bahamas, Avian Assessment for EIA & EMS
- LNG Pipeline, New Providence, The Bahamas; Marine Assessment for EIA
- White Bay Cay, Exuma, The Bahamas; Marine Assessment for EIA
- Old Fort Bay Town Center, New Providence, The Bahamas; Avian Assessment, EIA and EMP
- Bimini Bay, Bimini, The Bahamas, Marine Assessment for EIA
- Hurricane Hole Marina, Paradise Island, The Bahamas; Marine and Stakeholder Assessment, EBA, oral relocation and monitoring & EMS
- Sandals, Exuma, The Bahamas, Avian Assessment for EIA
- Finley Cay, New Providence, The Bahamas; Marine Assessment EIA
- Elbow Cay, Abaco, The Bahamas, Marine Assessment for EIA
- Hermitage, Exuma, The Bahamas; Botanical and Avian Assessment for EIA
- Governor's Harbour Army Base, Eleuthera, The Bahamas; Avian Assessment for EIA
- Bahamar Back of House, New Providence, The Bahamas; Botanical Assessment and Protected Trees Survey
- Witches Point, Abaco, The Bahamas, Marine Assessment for EIA
- Buttonwood Reserve, Eleuthera, The Bahamas, Botanical assessment for EIA
- Master Harbor, Exuma, The Bahamas, Botanical Assessment for EIA
- Hog Cay, Exuma, The Bahamas; Botanical and Avian Assessment for EIA
- Exuma Highway, Exuma, The Bahamas; Botanical Assessment for Highway Feasibility Study
- University of the Bahamas, New Providence, The Bahamas, Avian Assessment for EIA and EIA
- Caribbean Global Timber, Abaco and Andros, The Bahamas, EIA

Janeen Bullard - 2

Project Coordinator

- Cane Toad Eradication, Lyford Cay, Nassau, The Bahamas
- Cane Toad Eradication, Marsh Harbour, Abaco, The Bahamas

Parks Planner and Community Liaison Officer (2006-2011) Bahamas National Trust,Nassau, Bahamas Duties

- Develop proposals to government for the establishment of new National Parks.
- Grant writing
- Develop General Management Plans for existing National Parks.
- Work with surrounding communities to gain support for the importance of establishing new National Parks.
- Project Management for the establishment of the Leon Levy Native Plant Preserve, Eleuthera, The Bahamas.
- Manage all daily details and education of staff for educational programs.
- Organize all special events for the Education Department.
- Liaise with corporate sponsors to further fund educational programs.
- Develop marine education lesson plans and activities (on and off site) for grade levels K-12 and college students.
- Attendance and professional presentations at events both locally and abroad.
- Development of the National High School Marine Science Curriculum.

Research Assistant (2001-2004) Tuskegee University, Tuskegee, AL

- Developed and maintained research projects in conjunction with Tuskegee University and NASA.
- Aided in the daily maintenance and running of a greenhouse.
- Organized and taught Environmental and General Biology courses.

Marine Mammal Trainer (1999-2001) Dolphin Encounters, Blue Lagoon, Bahamas

- Trained Atlantic Bottlenose Dolphins in educational and interactive programs.
- Assisted in developing marine conservation and educational programs.

AUTHOR

Conch Farming Feasibility Study (present)

The Bahamas Sixth National Report on Biological Biodiversity to The Convention on Biological Diversity (2019)

Co-Author of the "Andros Sustainable Development Masterplan" (2014)

Author of the "Critical Situation Analysis of Invasive Alien Species for The Bahamas" (2013)

PRESENTATIONS AND INVITED LECTURES

Policies, Strategies and Best Practices for Managing Invasive Alien Species (IAS) in the Insular Caribbean March 31st – April 4th, 2014, Trinidad. Port of Spain, Trinidad & Tobago. The Cane Toad Invasion: Its Origin, Status and The Bahamas' Response to prevent spread.

Policies, Strategies and Best Practices for Managing Invasive Alien Species (IAS) in the Insular Caribbean March 31st – April 4th, 2014, Trinidad. Port of Spain, Trinidad & Tobago. Developing a National IAS Strategy focused on IAS prevention – a case study of the Bahamas' 2003 -2013 experience.

Bahamas Natural History Conference 2016 The Cane Toad Invasion: Its Origin, Status and The Bahamas' Response to prevent spread

Bahamas Natural History Conference 2018 Citizen Science and Community Involvement can help! Invasive Cane Toads (*Rhinella marina*) control in The Bahamas continues.

PROFESSIONAL TRAINING

2019 IDB Principles of the Review of Environmental Impact Assessments

2019 The Perry Institute of Marine Science, AGRRA Benthic Survey Techniques

2018 Georgia Tech Professional Education Center – OSAHA Approved Trainer

2017 Conservation Training Introduction to Resilience for Development

2017 Inter-American Development Bank Project Management Techniques for Development Professionals

2015 IICA, Efficient use of Rainwater and Runoff in Agricultural Activities, Chitre, Panama

2015 IICA, Agro-Eco Tourism Training Workshop

2014 Commercial Training Center of Department of Commerce, Hainan Province, China Climate Change on Tropical Island and Economic Development for Developing Countries

2013 The Nature Conservancy, Coral Reef Restoration

2013 The Nature Conservancy, AGRRA Coral Surveys

2010 The Bahamas National Trust, Business Writing

2010 The Bahamas National Trust, Public Presentation

2009 The Nature Conservancy, Invasive Species Management

2009 College of The Bahamas, Mangrove Forest Ecology, Management and Restoration

2008 International Fund for Animal Welfare, Certificate of Completion for Whale Watch Guide Training

2006 National Association of Interpretation, Certified Interpretive Guide 2006 Tuskegee University, 1st Place Graduate Oral Presentation Sigma Xi 2005 Tuskegee University, Certificate of Effective Leadership

1995 Auburn University, NAUI Scuba Certified

PROFESSIONAL AFFILIATIONS

SEEDS-Ecological Society of America

Sigma Xi Scientific Research Society

Beta Kappa Chi Honor Society

National Association for Interpretation

National Marine Educators Association Name of Organization

REFERENCES

Available upon request

SWIL CVs

Philip S. Warner

Name of firm	Smith Warner International
Project position	Coastal Engineer
Name of person	Philip Warner
Email	philip@smithwarner.com
Profession	Coastal Engineer
Years of professional experience & career summary	Philip is a senior civil engineer with wide experience in coastal engineering design and oceanographic studies. He has design, inspection, and appraisal experience for coastal protection, marine structures and oceanographic studies, in addition to the development and operation of numerous civil, structural, coastal and hydraulic engineering computer programs. He also has field experience in marine structures construction supervision and inspection, hydrographic surveys and the deployment of oceanographic field equipment. His experience includes work done throughout the Caribbean region and internationally.
Date of birth	03 July, 1964
Nationality	Canadian/Jamaican
Education (state from highest achieved and include year of award)	M.Sc. Research thesis in Coastal Engineering, Queen's University at Kingston, Ontario, 1993, Thesis Topic: Measurement and Prediction of Flow Characteristics within the Swash Zone. B.Sc.(Hons) Civil Engineering, First Class Honours, Queen's University at Kingston, Ontario, 1986.
Professional licenses/key qualifications	Professional Engineers Registration Board

Membership in professional societies	Member Jamaica Institution of Engineers, Member of Professional Engineers of Ontario.				
Skills (including software and engineering codes)	MIKE 21 SW by DHI	MIKE 21 HD by DHI	MIKE 21 ST by DHI	MIKE 21 MT by DHI	MIKE 21 SM by DHI
	MIKE 3 HD by DHI				
Period of employment	1995 to Present				
Company name	Smith Warner International				
Location	Kingston, Jamaica				
Position(s)	Executive Director, Coastal Engineer				
Project description & location	Name of assignment: Regional Disaster Vulnerability Reduction Project: Georgetown Sea Defense Coastal Zone Investigations and Feasibility Studies Year: 2013-2016 Location: St Vincent Client: Government of St Vincent and the Grenadines Main Project Features: The shoreline near Georgetown has suffered significant erosion due to recent hurricanes, and severe winter swells and damaging storms exacerbate the problem. The Government of St. Vincent wishes to stabilize the area to mitigate further loss of coastal lands and protect and prepare the area for Commercial zone construction investments. Positions held: Coastal Engineer Activities Performed: Data collection (waves, currents, tides, bathymetry, topography and historical shoreline positions), wave, sediment, and hydrodynamic modeling; identify and evaluate shoreline protection options, erosion				

	control and beach accretion interventions; model and evaluate the performance of the proposed engineering interventions and identify and propose alternatives based on modeled findings and engineering experience; EIA; training of local government engineers in coastal zone analysis and exposure to the technologies and techniques involved; training workshops in coastal zone analysis and data collection, coastal zone modeling, and engineering design and feasibility analysis using modeling tools. Name of assignment or project: Grand Cayman Cruise Berth EIA Year: 2014-2015 Location: Grand Cayman Procuring Entity: Port Authority, Government of Cayman Islands Main project features: Full environmental impact assessment of a proposed cruise ship berth. Data collection, detailed assessment of impacts, including coastal, environmental, and socio-economic as well as extensive stakeholder consultation and presentation of findings to community. Positions held: Coastal Engineer, numerical modeling expert Activities performed: Coordinated data collection including several current/wave recorders, seabed probes, bathymetric and topographic surveys. Detailed analysis of shoreline change trends and positions along Seven Mile Beach using GPS-mapped data. Analysis and validation of various numerical models for waves, currents, sediment and dredging and disposal activities to determine and quantify impacts. Name of assignment or project: North Shore Integrated

	Coastal and Watershed Stabilization Project Year: 2015-2016 Location: British Virgin Islands Procuring Entity: Organization of Eastern Caribbean States Main project features: Data collection, coastal and hydrologic modeling of watersheds leading to engineering designs of shoreline protection structures and water quality improvements. Tendering, evaluation, and construction supervision currently underway. Positions held: Coastal Engineer, numerical modeling expert Activities performed: Analysis of results from wave, hydrodynamic and morphological modeling, which was done to investigate the existing and proposed shoreline. The model results helped in determining the critical spots where protection would be required. Technology transfer to government staff through data collection and modeling procedures. Engineering designs, costs, quantities, and drawings were prepared and presented to stakeholders. Name of assignment: Tsunami and Storm Surge Modeling and Mapping – British Virgin Islands Year: 2011 Location: BVI Client: UNDP R3I Administered Project for European Commission Main Project Features: As part of a wide-reaching Regional Risk Reduction Initiative SWIL and Deltares undertook the storm surge and tsunami modeling of the four main island of BVI. In conjunction with stakeholders an approach and methodology were developed and executed. Data collection activities were required,

	procured, commissioned, evaluated and approved. Results were prepared in GIS compatible formats for on-going use by the Office of Disaster Preparednesss. Positions held: Storm Surge Modeling Expert Activities Performed: Project management, oceanographic and bathymetric data review; preparation of data collection program, including procurement of LiDAR, single and multi-beam bathymetric surveys and GPS-derived topography; numerical model selection, set-up, validation, interpretation and reporting for storm surge components. Name of assignment or project: Studies for the Preparation of the Barbados Coastal Risk Assessment and Management Program Year: 2011 Location: Barbados Procuring Entity: IADB (beneficiary CZMU- Barbados) Main project features: Barbados CZMU was provided with Technical Assistance to prepare for the multi-year CRAMP. Evaluations were completed of institutions, procedures, tools and personnel to determine capabilities and needs. Assessments were done of several investment phase engineering projects. Detailed TOR's written for CRAMP components including Baseline (Coastal Zone LiDAR, Nearshore Waves, Circulation and Water Quality, Sediment Transport Geotechnical Surveys and Shoreline Change) Studies; Integrated Coastal Risk Information Platform. Procurement plans and input for IADB loan documents were also prepared. Positions held: Coastal Engineer Activities performed: Analysis, evaluation and prioritization of engineering designs for Infrastructure Program. Review of data collection monitoring and

	modeling activities; assess and prioritize needs for Baseline Surveys, updated Risk Monitoring Programs, Information Management systems and modeling capabilities. Prepare detailed TOR, budgets and schedules for baseline studies, information management system, and waterfront improvements (including eco-system based approaches).
Five main duties/ responsibilities	(1) Coastal engineering design, (2) computer modeling of waves, currents, and sediments, (3) oceanographic and nearshore data collection and survey procurement, (4) shoreline change monitoring and analysis, (5) report preparation and project management.

Philip will investigate baseline coastal processes and dynamics including currents, tides, Sediment transport and erosion/accretion. Using available information, a numerical model of the project site and environs will be developed in order to understand the existing tides, currents, wave patterns, and sediment movement. This information will be developed for a range of environmental conditions including baseline day-to-day averages as well as extreme storm/hurricane conditions.

Renée McDonald

1	Name of firm	Smith Warner International Limited
2	Project position	Marine Ecologist
3	Name of person	Renée McDonald
7	Email	renee@smithwarner.com
8	Profession	Environmental Specialist & Geologist
9	Years of professional experience & career summary (max 300 words)	5 Years experience in Earth and Marine Sciences. Career began at the Petroleum Corporation of Jamaica in the Special Projects/Oil & gas department. Continued post- graduate school with environmental consulting firms. Current role as Environmental Specialist and Geologist at SWI
10	Date of birth	11/11/1989
11	Nationality	Jamaican

12	Education (state from highest achieved and include year of award)	MSc Marine Environment and Resources (2013) BSc Geology (2010)
13	Professional licenses/key qualifications	Post-graduate diploma in Environmental Management (2016) Certificate in Principles of Project Management (2014) PADI Open Water Diver certification (2014)
14	Membership in professional societies	Geological Society of Jamaica, AAPG, SEG, Jamaica Institute of Environmental Professionals
15	Training (software, FIDIC, etc.)	International Seabed Authority At-Sea training programme (2015)
16	Seminars attended	Caribbean Coastal Conference 2016, Barbados SEG Annual Conference 2013, Houston TX, USA (presenter)
17	Skills (including software and engineering codes)	• Wordpress website development • ArcGIS
18A	Period of employment	2016-present
18B	Company name	Smith Warner International Limited
18C	Location	Kingston, Jamaica
18D	Position(s)	Environmental Specialist and Geologist
18E	Project description & location	Name of Assignment: Royalton Resorts Beach Development (Jamaica, St. Lucia) Year: 2016-2018 Location: Jamaica, St. Lucia Client: Royalton Resorts Main project features: Beach creation and enhancement along rocky and eroding coastal areas Position held: Marine Environmental Specialist Activities Performed: Marine Benthic surveys prior to construction activities. Marine benthic surveys post-construction. Relocation of sensitive organisms (coral &

		seagrass) from construction impact areas. Monitoring of relocated organisms. Supervision of electrification of artificial reef (Biorock) structures and installation of fish havens. Name of Assignment: Falmouth Cruise Ship Pier Dredging Year:2017 Location: Falmouth, Jamaica Client: Port Authority of Jamaica (PAJ) Main Project Features: SWI was contracted by the Port Authority of Jamaica (PAJ) to perform an impact analysis on the widening of the berth pocket and a section of the entrance channel of the Falmouth Cruise Ship East Berth. Of concern were the impacts on the surrounding benthos and the marine and coastal processes in the area. Position held: Marine Environmental Specialist Activities Performed: Survey of the proposed dredge site. Development of relocation plan for coral and other sensitive organisms. Name of Assignment: Magdalena Grand Beach & Golf Resort Year:2017 Location: Tobago Client: Evolving TecKnologies and Enterprise Development Company Ltd. (eTeck) Main Project Features: Project is intended to develop a comprehensive understanding of the coastal processes leading to the erosion of the Magdalena beachfront, as well as the best mechanism for curbing the erosion. Position held: Marine Environmental Specialist Activities Performed: Conducted benthic survey. Assisted with bathymetric survey.

		Name of Assignment: Paradise Found Resort Development- Baseline study and preliminary drainage plan. Year: 2016 Location: Barbuda Client: Paradise Found Development Main Project Features: Waterfront development on 400acre coastal property. The project involved preliminary environmental assessment to integrate master planning and existing ponds and wetlands, climate change risk with respect to storm surge and long term coastal erosion, inland flooding and storm water management. Scope required working with development team of master planners, architects, archeologists and sustainability consultants. Position Held : Environmental Specialist/Geologist Activities performed: Benthic surveys, Geophysical survey, Water Quality sampling, Soil sampling. Data analysis & report preparation.
18F	Five main duties/ responsibilities	• Marine benthic surveys; • Ecological surveys within the coastal zone; • Working with associates and subs in areas of environmental assessments and climate resilience; • Participation in integrated coastal environmental engineering within the coastal zone (ridge to reef); • Geophysical surveys and geological interpretation of findings; • Proposal and report preparation and project coordination

Shawna S. Smith

Address: Pinewood Gardens, Nassau Bahamas | **Phone**: (242) 822-5166 | **Email**: Shawna@jssconsultants.com

Profile

A dedicated and detail-oriented Botanical and Avian Specialist with over two years of experience in environmental monitoring, plant relocation, assisting with marine assessments. Skilled in botanical and wildlife identification, habitat evaluation, environmental compliance monitoring, and protected tree surveys. Demonstrates strong analytical, organizational, and reporting abilities while working effectively both independently and within multidisciplinary environmental teams to support sustainable project development and environmental conservation initiatives.

Education

University Bahamas, The Bahamas.
Bachelor of Science in Biology with a minor in Chemistry.

Skills

Professional Skills	Critical Thinking| Presentation Skills | Team Support | Public Speaking | Decision Making | Communication Skills | Analytical
Technical Skills	Proficient in Microsoft Suite | Google Earth | Water Quality Sampling & Analysis | Botanical Survey| Protected Tree Survey| Environmental Reporting | Avian Surveys| Ariel Drone Operation | Research & Data Collection | Tree Relocation

Work Experience

JSS Consulting LTD

- Sun Cay
  Botanical & Avian Specialist –February 2026 - Present
  - Support Environmental Baseline Assessment
  - Liaison with the Department of Environmental Planning and Protection
- ALCO
  Botanical & Avian Specialist –July 2026 - Present
  - Support Environmental Baseline Assessment
  - Developed Environmental Management Plan
  - Liaison with the Department of Environmental Planning and Protection
- Arawak Cay LNG Plant Project
  Botanical & Avian Specialist –October 2025 -Present
  - Support Environmental Baseline Assessment
- Andrew Hannah, Athol Island

Botanical & Avian Specialist –September 2024 – November 2025
- Oversee Environmental Site Inspections
- Liaison with the Department of Environmental Planning and Protection

- Black Point Clinic
  Botanical & Avian Specialist –August 2024 – December 2024
  - Support For Environmental Baseline Assessment

- Brickwell Square
  Botanical & Avian Specialist – August 2024 – December 2024
  - Avian Assessment

- Carmichael Road Gas Station
  Botanical & Avian Specialist –April 2026 - Present
  - Oversee Environmental Site Inspections

- Cat Island Solar Microgrid
  Botanical & Avian Specialist –June 2025 – August 2025
  - Lead Environmental Baseline Assessment
  - Developed the Environmental Management Plan

- Great Harbor Cay Beach Club
  Botanical & Avian Specialist –April 2025 – March 2026
  - Environmental Baseline Assessment

- Goat Cay
  Botanical & Avian Specialist –March 2025 - Present
  - Support For Environmental Baseline Assessment

- Chub Cay
  Botanical & Avian Specialist –August 2025 – Present
  - Lead Environmental Baseline Assessment
  - Developed Environmental Management Plan
  - Liaison with the Department o Forestry

- Halls Pond
  Botanical & Avian Specialist – August 2024 -Present
  - Lead Environmental Baseline Assessments

- Lee Stocking Island
  Botanical & Avian Specialist – July2025 -Present
  - Assisted the Environmental Baseline Assessment

- Little Hermitage
  Botanical & Avian Specialist –September 2024
  - Lead Environmental Baseline Assessments

- Palm Grove
  Botanical & Avian Specialist –July 2025 - Present
  - Lead Environmental Baseline Assessment
  - Liaison with the Department of Forestry
  - Facilitated a Tree Relocation

- Bahamas Hospital

Botanical & Avian Specialist – October 2025
- Lead Environmental Baseline Assessment
- Liaison with the Department of Forestry
- Facilitated a Tree Relocation

- The Nature Conservancy
  Botanical & Avian Specialist –May 2024
  - Work with a team to create the policy and framework for the Co-Management of Marine Protected Areas in The Bahamas.
    - Conducted surveys in the community
    - Assisted with field surveys
    - Conducted desktop research
    - Data analysis

- The Bahamas Hospital
  Botanical & Avian Specialist - October 2022- June 2024
  - Created the Environmental Impact Assessment and the Environmental Management Plan for the Project

- San Salvador Road Rehabilitation
  Botanical & Avian Specialist - August 2025 – Present
  - Lead Environmental Baseline Assessment
  - Liaison with the Department of Forestry
  - Oversee Environmental Site Inspection

- San Salvador Marina
  Botanical & Avian Specialist – August 2025 - Present
  - Oversee Environmental Site Inspection

BRON
Summer Intern- 2023
- Studied environmental laws in The Bahamas
- Assisted with Environmental Management Plans
- Conducted site inspections

Bahamas National Trust
Intern-Summer 2024
- Studied local flora and fauna
- Facilitated Mangrove restoration
- Studies GIS

Leon Levy Native Plant Preserve
Intern- Summer 2022
- Studies native, invasive and endemic flora in The Bahamas
- Facilitated presentations

Professional Certification

- Osha 30-Hour Construction/ General Industry Safety & Health Certification
  - Organization: Occupational Safety and Health Administration (Osha)
  - Present

Professional Training

- Methods in Tree Relocations
- Methods in conducting avian surveys

Field and Lab Experience

University od The Bahamas – Soil research lab
Research assistant- 2024
- Conducted qualitive and quantities soil analysis.

The Royal Bahamas Police Force Forensic Lab
Data Collector – July 2023
- Organized data samples
- Lab assistant

CLYDE BRADLEY ROBINSON

70 Old Grace Drive, Long Bay, Providenciales, Turks and Caicos Islands
E-mail: paradise.solutions.tci@gmail.com
Mobile: 649 331 3420
649 231 3420

PERSONAL STATEMENT

During these global changing times, it is my goal to work tirelessly within my community to ensure a sense of place, environmental sustainability, social responsibility and economic prosperity for all, whilst simultaneously maintaining a personal life with family and friends.

WORK EXPERIENCE

2012 – Present **Owner,** Paradise Solutions
Sales Associate, Century 21
Development and Planning Consultant/Adviser, Beach Enclave Resorts

2010 – 2012 **Under Secretary,** Ministry of the Environment and District Administration, Turks and Caicos Islands Government, Turks and Caicos Islands

2003 - 2010 **Director of Planning,** Department of Planning, Turks and Caicos Islands Government, Turks and Caicos Islands

2000 – 2003 **Deputy Director of Planning,** Department of Planning, Turks and Caicos Islands Government, Turks and Caicos Islands

1995 – 2000 **Assistant Director of Planning,** Department of Planning, Turks and Caicos Islands Government, Turks and Caicos Islands

1991 – 1995 **Assistant Planning Officer,** Department of Planning, Turks and Caicos Islands Government, Turks and Caicos Islands

1990 – 1991 **Junior Planning Officer,** Department of Planning, Turks and Caicos Islands Government, Turks and Caicos Islands

1986 – 1990 **Trainee Technician,** Department of Planning, Turks and Caicos Islands Government, Turks and Caicos Islands

EDUCATION

1994 – 1995 Oxford Brookes University, Oxford, England
***Postgraduate Diploma in Town and Country Planning**
Specialization: ***Environmental Impact Assessment and Management***

1991 – 1994 Oxford Brookes University, Oxford, England
***B.A. (Hons) Town and Country Planning**
Specialization: ***Environmental Design***

1988 – 1990 Central Manchester College of Technology, Manchester, England
BTEC National Diploma in ***Land Administration

TRAINING

2010 – 2021	Century 21 Online courses and training in Real Estate
1996 – 2010	Extensive and invaluable experience gained from managing the phenomenal growth of the Turks and Caicos Islands, one of the fastest growing economies within the Caribbean
2004, March 21 – 26	"White Water to Blue Water Conference", Miami, Florida, USA
2000, November 20 – 24	Certificate course in "Introduction to Environmental Health Impact Assessment", Castries, St. Lucia, Sponsored by CEHI, Centre Hospitalier Universitaire de Quebec, Health Canada
2000, July 16 – 20	Planning Workshop 2000, Caribbean Conference for Town & Country Planning, Barbados
1998, March 09-11	Certificate course in "Advanced Topics in Environmental Impact Assessment", Taught by L.W. Canter and S.F. Atkinson, Irving, Texas, USA
1998, May 18 –22	Workshop on "Siting and Design of Tourism Facilities", Tobago, Trinidad and Tobago, sponsored by UNEP/USAID and organized by Caribbean Hotel Association
1991, March 04 – 22	Certificate course in "Public Sector Investment Planning, Programming and Management", Grand Cayman, Cayman Islands, sponsored by Caribbean Development Bank

MAJOR PUBLICATIONS

- *Turks and Caicos Islands Development Manual (1996 to 2010), most notably:*
  - *Introduction of the Standards and Procedures for EIA.*
  - *Development of typical/mandatory conditions that may be placed on various types of development.*
  - *Planning Standards for various residential locations on the Islands.*
- *"Architectural Heritage of the Turks and Caicos Islands"*, Turks and Caicos Islands 2002-2003 Annual Visitors Guide
- *Various Publications on* ***Paradise Solutions' Facebook page***
- *Presenter at many Seminars on Planning and the Environment, including "Introduction of EIA into the Planning Process – 1995"*
- *A Dissertation with Distinction: "The Impacts of development on the landscape of the Turks and Caicos Islands. To what extent has there been a change." Supervised by* ***Ms. Riki Therival****, Lecturer, Author and one of the World's leading experts in EIA and SEA.*

MAJOR PROJECTS

- 2008 – 2010 Preparation of ***"Turks and Caicos Islands National Sustainable Development Plan (2008 – 2018)"***
- *Introduction of Environmental Impact Assessment (EIA) and Procedures into the TCI Development Manual*
- *Overseen the period of the greatest physical development within the Turks and Caicos Islands as Director of Planning.*

- *Environmental Impact Statement (EIS), Shrimp Facility, Parcels 60514/5,9 and 11 (109 acres), Providenciales, Turks and Caicos Islands, 2015.*
- *Environmental Impact Statement (EIS), Large Dwelling Home and Groyne on Parcels 61005/28,29, Providenciales, Turks and Caicos Islands, 2013.*
- *Environmental Impact Statement (EIS), Groyne and Beach Creation, Parcel 60506/42, Providenciales, Turks and Caicos Islands, September 2013.*
- *Environmental Impact Statement (EIS), Construction of a Service Road to Access Parcel 60606/77 (Cay), September 2014.*
- *Environmental Impact Statement (EIS), Infill Development & Beach Enhancement, Parcels 61002/105-108, 111-113, May 2013.*
- *Environmental Impact Statement (EIS), Service Station, Leeward Highway, Parcel 60812/12, November 2014.*
- *Environmental Impact Statement (EIS), Service Station, Parcel 60810/10, Providenciales, Turks and Caicos Islands, December 2015.*
- *Environmental Impact Statement (EIS), Service Station, Parcel 60707/183, Providenciales, Turks and Caicos Islands, March 2019.*
- *Report of the State of Leeside Estates, Long Bay, Providenciales, Turks and Caicos Islands, December 2014.*
- *Environmental Impact Statement (EIS), Boutique Hotel Development, Long Bay Beach, Parcels 61113/410 and 411, August 2021.*
- *Master Plan, The Port at Bellefield Landing, North Caicos, Turks and Caicos Islands, November 2021.*
- *Environmental Impact Statement (EIS), EP Hotel, The Lower Bight, Providenciales, 60813/17,18,32, June 2023.*
- *Environmental Impact Assessment (EIS), School of Medicine & Medical Centre, Parcel 60804/147, The Bight, Providenciales, April 2023.*
- *Environmental Impact Assessment (EIS), Hotel Development, Parcels 10503/118,121, January 2024.*

AFFILIATIONS

Turks and Caicos Real Estate Association (TCREA)

REFERENCE: MR. OSWALD WILLIAMS
Planning Consultant/Former Director of Planning
Tel. 649 231 0371

CARIBBEAN ENVIRONMENTAL DESIGN ASSOCIATES
OSWALD R. WILLIAMS, BSc. MA. MRTPI
Osborne Road, East Backsalina, Grand Turk, Turks & Caicos Islands, B.W.I
Telephone: (649) 231 0371
Email: Oswaldwilliams51@gmail.com

PROFESSIONAL PROFILE

Oswald R. Williams is an Architect/Planner and was previously Director of Planning, Turks and Caicos Government. Presently he heads his own Architectural and Planning Consultancy, operating under Caribbean Environmental Design Associates. Mr. Williams holds a bachelor's degree in architectural technology and a Master's Degree in Town Planning. He has been involved in many civic organizations and government boards. He has a passion for environmental quality.

A well tested, goal oriented, determined individual who is committed to ongoing professional development and constantly looking for new life challenges and experiences. Excellent interpersonal skills, accompanied by hands on experience at all levels of the planning, architectural and construction management sectors, as well as the business arena. An outstanding team player, efficient independent worker with a sharp eye for details who is committed to meeting organizational objectives and deadlines. Brings to the team an enthusiastic personality, dedication and leadership skills that allow him to confidently communicate at all levels and to get the task accomplished in a timely manner.

OBJECTIVE

Keenly strives to maximize all skills and experiences to serve both public and private sector clients effectively and efficiently in the areas of Architecture, Planning, Environmental Impact Assessment Studies and Property Appraisals.

EDUCATION/QUALIFICATIONS

Masters in Environmental Planning 1987-1989 - University of Nottingham, Nottingham, UK

BSc. Architectural Technology 1980-1983 – New York Institute of Technology, New York, USA – (Which included Construction Technology, Material Take-Off, Cost Estimating and Property Evaluation).

Certificate in Environmental and Sustainable Development 1992 – The Banff Centre for Management, Barbados, BWI.

Certificate in Environmental Assessment and Management 1991 – Centre for Environmental Management and Planning, University of Aberdeen, Scotland. England.

Certificate in Tourism Planning 1979 – Project Planning Center, University of Bradford, England.

Certificate in Regional Tourism Planning 1978 – Caribbean Tourism Research Center, Barbados, BWI

Diploma in Physical Planning 1972-1974 – United Nations Development Programme, Planning Training Center, Castries, St. Lucia, BWI.

EMPLOYMENT HISTORY/PROFFRDDIONAL EXPERIENCES

- **Coordinator National Physical Sustainable Development Plan for the Turks and Caicos Islands**. Coordinate commence the process of preparation of a 10 year (**2009-2019**) development plan for the Turks and Caicos Islands.

- **Deputy Chairman, Physical Planning Board 2003 – 2005** – A statutory body of the Turks and Caicos Government with sole responsibility for reviewing and approving development applications, Master Development Plans and Environmental Impact Assessment

- **Architect/ Environmental Consultant 1995 – Present.** Operating under Caribbean Environmental Design Associates, a Turks and Caicos based company specializes in Architecture, Environmental Planning and Physical Planning.

- **1989 – 1995, Director of Planning, Turks and Caicos Government**. Responsible for the overall management and direction of Physical Development in the Turks and Caicos Islands, including the formulation of physical development policies. Advise government on development proposals and appropriate conservation policies and measures to ensure sustainable development.
- Supervised and managed a sixteen – men (16) Physical Planning Department, with headquarters in the capital island of Grand Turk and a branch office on Providenciales. Review physical planning applications and carried out periodical building inspection along with the Department's Building Engineer to ensure

compliance with the Physical Planning Ordinance and Regulations, and with the Turks and Caicos Islands Building Code. Carried out financial appraisals of planning applications to ensure that the appropriate application fees were collected.

- **1983 – 1987, Physical Planner, Turks and Caicos Government.** Prior to being appointed to the post of Director of Planning in July of 1989, I held several junior and senior positions within the Department of planning, including:

  1983 - 1985, Secretary Physical Planning Board.
  1984 - 1978, Physical Planning Officer.
  1974 -1976, Physical Planning Technician.

  During these early years a wealth of experience was gained in the wide range of physical planning related areas. This experience has later proven useful during my tenure as Director of Planning.

PROFILE ON CARIBBEAN ENVIRONMENTAL DESIGN ASSOCIATES

Caribbean Environmental Design Associates (**CEDA)** is a consulting firm established in 1995. It offers a wide range of architectural, environmental planning and project appraisal services to the public and private sectors in the Turks and Caicos Islands. The firm is staffed by Oswald R. Williams, the principal employee.

CEDA is owned and operated by a Turks and Caicos Islander. The company engages in work throughout the Turks and Caicos Islands.

PROJECT WORK EXPERIENCE

CEDA has provided architectural design, technical supervision and construction management services on the following recent projects:

Private Sector Projects

- Expansion T & C National Museum, Front Street, Grand Turk
- Two story commercial building, Church Folly, Grand Turk
- Retail stores, car wash and restaurant complex, Lighthouse Road, Grand Turk, under construction.

- Forty-eight (48) room hotel, with central facilities, Cockburn Harbour, South Caicos, under construction.
- Over 50 Dwelling houses – Grand Turk, South Caicos and Providenciales.
- Site Supervision and Management during the construction of Conch World Facility, Materson's Point, Grand Turk.
- Architectural and Construction Management and Supervision Expansion of Conch Farm, Providenciales.
- Special Inspector Leeward Canal Expansion Project - 2015

European Union Micro Projects

- Basketball courts on Grand Turk.
- Basketball court South Caicos
- Basketball Court Providenciales
- Upgrading sports track on North Caicos
- Farmer's assistance Programme North Caicos.

Caribbean Development Bank Basic Needs Trust Fund sub-projects throughout the Turks and Caicos Islands, which included -

- Day Care Center for the Handicapped, Blue Hills, Providenciales.
- Marjorie Basden High School Fencing, South Caicos.
- Repairs and Renovation of Public Library, South Caicos.
- Two-Story Classroom Block Ianthe Pratt Primary School, The Bight, Providenciales.
- Repairs & Renovations Soroptimist Day Care Center, Grand Turk.
- Renovation Disabled Center, South Caicos.
- Five Cays Primary School Fencing, Providenciales.
- Kew Clinic Extension and Renovation, North Caicos.
- Sandy Point Clinic Renovation, North Caicos.
- Multi-Purpose Outdoor Court, Raymond Gardiner High School, Bottle Creek, North Caicos.

- Improvements Christian Academic Primary School, Grand Turk.
- Improvements New Testament Day Care Center, Grand Turk.
- Repairs and renovations Day Care Center, Grand Turk.
- Canteen Building Ona Glinton Primary School, Grand Turk,
- Renovation and Remodeling to Middle Caicos Clinic in Conch Bar, Middle Caicos
- Consultant Early Childhood Center Ona Glinton Primary School, Grand Turk, TCI

- Consultant or contributing consultant on a number of Environmental Impact Assessment studies for tourism related development projects in the Turks and Caicos Islands.

- Commercial and residential property appraisals for lending institutions in the Turks and Caicos.

- Technical inspection reports on commercial and residential projects for lending institutions in the Turks and Caicos Islands.

- Site Supervision and Management during the construction of Conch World Facility, Materson's Point, Grand Turk.

Sub-projects Settlement Upgrade Grand Turk and Salt Cay

During the period 2003 – 2008 performed the role as project officer to Grand Turk Settlement Upgrade Committee, where I designed, prepared contract documents and supervised and managed some three hundred (300) sub-projects throughout settlements in Grand Turk and Salt Cay.

PLANNING AND ENVIRONMENTAL IMPACT ASSESSMENT PROJECT EXPERIENCES

CEDA has been the lead environmental consultant to government and private sector developers on many major projects throughout the Turks and Caicos Islands and ha carried has carried out environmental studies for the following projects:

- Counter Part Physical Planner, National Physical Development Plan, Turks and Caicos Islands, 1985 – 1987.

- Settlement Upgrading Study, Grand Turk, Turks and Caicos Government 1991.

- Settlement Upgrading Study, South Caicos, Turks and Caicos Government 1996.

- Environmental Impact Assessment, Greenwich Beach Development, Grace Bay, Providenciales, 1995.

- Environmental Impact Assessment, Royal Crown Colony Development, Halfway Creek, Middle Caicos, Contributing Consulting Environmental Planner/Coordinator, 1996.
- Environmental Impact Assessment, Crystal Bay Beach Resort, Northwest Point, Providenciales, 1996, Contributing Consultant Environment Planner.

- Environmental Impact Assessment, Point Grace Development, Grace Bay Providenciales, Contributing Consultant, Economic and Social Impact.
- Environmental Impact Assessment, the Sands, Grace Bay, Providenciales, Economic and Social Impact.

- Environmental Impact Assessment, Babula Beach resort and Villas, Cheshire Hall and Richmond Hill, Providenciales, 1999, Contributing Consultant/Coordinator.

- Environmental Impact Assessment, WACO Resort Development, Turtle Cove Marina, Providenciales, 1999, Contributing Consultant/Coordinator.

- Environmental Impact Assessment, Beaches Jetty, Grace Bay, Providenciales, 1999, Contributing Consultant/Coordinator.

- Environmental Impact Assessment, Leeward Temporary Floating Dock, Leeward Marina, Providenciales, 2000, Contributing Consultant/Coordinator.

- Environmental Impact Assessment, Leeward Canal Residential Development, Leeward Development, Providenciales, HallTech 2000, Contributing Consultant, Economic and Social Impact.

- Environmental Impact Assessment, the Somerset on Grace Bay, Grace Bay, Providenciales, 2001, Contributing Consultant/Coordinator.

- Environmental Impact Assessment, Grand View Hotel, Grace Bay, Providenciales, Contributing Consultant, Economic and Social Impact.

- Environmental Impact Assessment, Walkin Marine Dock Project, Leeward Going Through, Providenciales 2001, Contributing Consultant/Coordinator.

- Environmental Impact Assessment, West Caicos Development, HallTech 2001, Contributing Consultant, Economic and Social Impact.

- Environmental impact Assessment, Cruise Ship Dock, Grand Turk, HallTech 2003, Contributing Consultant.

- Environmental Impact Assessment, Cruise Ship Dock Grand Turk, Turks and Caicos Islands, Team Coordinator and Contributing Consultant February 2004.

- Environmental Impact Assessment, Leeward Beach Creation Project, Leeward Marina, Providenciales – April 2005 - Coordinator and Contributing Consultant.

- Environmental Impact Assessment, Leeward Havens Canal Project, Providenciales – December 2005 - Coordinator and Contributing Consultant.

- EIA Turtle Cove Marina Land-Infill/Reclamation Project – 2015

- Consultant/Coordinator – EIA Leeward Going-Through Channel Maintenance Dredging 2015

- Consultant/Coordinator – EIA Ritz Carlton Resort & Residence 2017

NATIONAL PHYSICAL DEVELOPMENT PLANS FOR THE TURKS & CAICOS ISLANDS

Mr. Williams, of CEDA was counterpart planner for the outdated 1987-97 National Physical Development Plans prepared by United National Development Planning for the Turk and Caicos Islands government in 1987. More recently he was coordinator for the Village Habitat Team out of Atlanta that was engaged in the process of preparing the 2010 Revised National Physical Development Plans for the Turks and Caicos Islands prior to the suspension of the constitution and imposition of direct rule by the British Government.

CEDA PROPERTY APPRAISALS AND VALUATIONS

CEDA carried out over 1,000 property appraisals throughout the Turks and Caicos Islands since 1995 for Scotia Bank, First Caribbean International Bank, Turks and Caicos Banking and Turks and Caicos Investment Agency (TCInvest), which includes:

- Residential Domestic
- Land Only Domestic
- Residential/Commercial Development
- Land Only/Commercial Development
- Commercial Office
- Commercial Mixed Use

9.28 Appendix AB – Reference and Literature Cited

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Hayward J. Stuart, Gomez H. Vichi and Sterre Wolfgand, 1982, – Bermuda's *Delicate Balance- People and the Environment, The Bermuda National Trust*

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Hall, E.E. (1992). The application of borehole logging, electromagnetic surveying and surface resistivity to the evaluation of groundwater resources on the western half of New Providence, Bahamas. School of Earth Science, Hydrogeology Department, University of Birmingham

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Oswald R. Williams, 1989, – Planning *for Tourism: Its Environmental Impacts Providenciales.*

Oswald R. Williams, 1974, – A *Guide to Tourism Development in the Turks and Caicos* Islands: United Nations Training Programme, Castries, St. Lucia.

Oswald R. Williams, 1995 – Assessment *of the Environmental Impact of Tourism Resort Development, Grace Bay, Providenciales, TCI*

Pattullo, Polly, 1996 – Last *Resorts - The Cost of Tourism in the Caribbean*

Ralph M. Fields Associates Inc., 1985, – Ecological *Study for the Turks and Caicos Islands*

Raffaele, H.A. and J.W. Wiley. 2014. Wildlife of the Caribbean. 304 pp.

Redfern, Colin. Bahamian Seashells. Bahamianseashells.com, Inc. Publishers, Boca Raton, FL. 501 pp.

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Smith, D.A.Y., Warner, P.S. and Banton, J.D., 2002. Long Term Variability of Hurricane Trends and a Monte Carlo Approach to Design, Proceedings of 28th Coastal Engineering Conference, Cardiff (Wales).

Shaw, E.M. (1983). Hydrology in Practice. Second Edition.

Sutty, Lesley. 1990. Seashells of the Caribbean. Macmillan Publishers, 106 pp.

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Turks and Caicos Islands National Beach Policy

Turks and Caicos Islands Constitution

TCI Physical Planning Ordinance

TCI Development Manual

TCI Building Code

Coast Protection Ordinance

Minerals (Exploration and Exploitation) Ordinance

Marine Pollution Ordinance

Fisheries Protection Ordinance

Immigration Ordinance

The Overseas Territories (Security, Success and Sustainability), FCO, June 2012

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Strategic Environmental Impact Assessment, Riki Therivel

Guidance on EIA, Scoping – European Commission, June 2001

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Belonger Business Opportunities in Protected Areas, April 2005

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Offshore Medical Universities Provide Economic Benefit to Caribbean Host Countries, 27 September 2017. Economic Commission for Latin America and the Caribbean (ECLAC).

The Pros and Cons of Medical Tourism, By Stephanie Buga, September 24, 2020, Healthcare.

TCI Climate Change Charter, 22nd April 2022.

A Strategic Plan for 1998-2001 Tourism inti the 21st Century, August 1998, Turks and Caicos Tourist Board.