RUNWAY EXTENSION AND ASSOCIATED WORKS PROJECT AT SANGSTER INTERNATIONAL AIRPORT, MONTEGO BAY, ST. JAMES

Submitted: April 23, 2019

PROJECT BRIEF

Prepared for:
MBJ Airports Limited
Sangster International Airport
Montego Bay, Jamaica

Prepared by:
Environmental Solutions Ltd.
7 Hillview Avenue
Kingston 10
Jamaica

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 Introduction

This project brief has been prepared in support of the Environmental Permit (EP) applications being made by the owner of Sangster International Airport (SIA), the Airports Authority of Jamaica (AAJ), to the National Environment and Planning Agency (NEPA) for the Runway Extension and Associated Works Project at SIA (the Project). The Project is part of the Airport Capital Improvement Plan for SIA proposed by the Airport's Operator, MBJ Airports Limited (MBJ). The planned works include the extension of the airport's runway, the widening of Taxiway 'E', and the installation of a Jet Blast Screen at the expanded Taxiway 'E'. The extension of the runway will allow for the establishment of Runway End Safety Areas (RESAs) at each runway end, meeting the requirements of International Civil Aviation Organization (ICAO) Annex 14, as well as improving the safety of the runway. The widening of Taxiway 'E' and the installation of the Jet Blast Screen will provide increased safety and effective use of the taxiway. In August 2018, the Cabinet of the Government of Jamaica provided approval for the Project, and the use of the Airport Improvement Fund (AIF) as Project funding.

2 Project Site and Situation

The Project Site is located at the Sangster International Airport (SIA) within the Montego Bay city limits, in the parish of St. James (Figure 1). The airport property is approximately 241.68Ha (2,601m^2) with a perimeter of 8,068m. It is bordered by the Caribbean Sea to the north and west, and with residential, commercial and industrial areas to the south and east. The airport is within easy driving distance of all tourist resorts from Negril to Ocho Rios, including the cruise ports of Montego Bay, Falmouth and Ocho Rios.

Figure 1: Location of Sangster International Airport in Montego Bay, St James

The Project Site is located on a coastal platform, approximately 1.2m above sea level. The platform has very low relief consisting of gentle undulations and broad depressions, a number of which have filled with water and created shallow ponds. SIA was constructed on land that was originally a large and extensive mangrove-lined lagoon. Historically, the entire area was characterised by wetlands and mangrove forest, however vegetation was previously cleared and filled with marl to accommodate the construction of the runway and airport terminal. Currently, vegetation, including wetlands, is present largely at the eastern section of the airport, with some areas interspersed with mixed stands of low-lying herbs, grasses and shrubs, and secondary vegetation (Figure 2).

Figure 2: The approximate location of vegetation with the Project Site including wetland areas (orange), secondary forests fragmented by hard structures (green) and lands adjacent to the Runway 07-25 interspersed with shallow ponds, grasses and shrubs (blue)

Currently, the existing land use within and around the Project Site includes the active airfield, Kent Avenue (public road), the Jamaica Defence Force (JDF) military base, White House community (small, residential area) (Figure 3). The White House community and fishing village consists of approximately 120 fisherfolk, who live and fish within the small beach area north of SIA.

There are also a number of business properties including Island Car Rental, IAM Jet Centre, Sandals Resort Montego Bay, Sandals Boat Yard and Villa Maria Montego Bay. Kent Avenue and the Whitehouse Community is located northwards of the airport boundaries, while the North Coast Highway and annexed commercial properties, are located south of the airport. The area to the east of the airport perimeter includes the Sandals Boat Yard and the former Texaco gas station (currently being used by Island Car

Rental as a rental car storage site). The current alignment of Kent Avenue runs through this area along the airport perimeter, connecting to the IAM Jet Centre and the Jamaica Defence Force (JDF) base.

Figure 3: Existing land use around Sangster International Airport (SIA)

3 Proposed Works

Overall, the Project is comprised of six (6) components, that fall under three (3) distinct Project elements (Figure 4, Figure 5) :

1. Airfield Works - include those activities to be undertaken after enabling works are completed, these include the runway extension and the widening of Taxiway Echo. This includes the realignment of the public Kent Avenue and local utilities, and, the perimeter road and the construction of bridge
2. Enabling Works - include those activities that need to be undertaken prior to the Airfield Works.
3. Shoreline Protection Works – involves plans to rehabilitate the shoreline protection infrastructure located at the western end of Kent Avenue, which has become derelict in recent years.

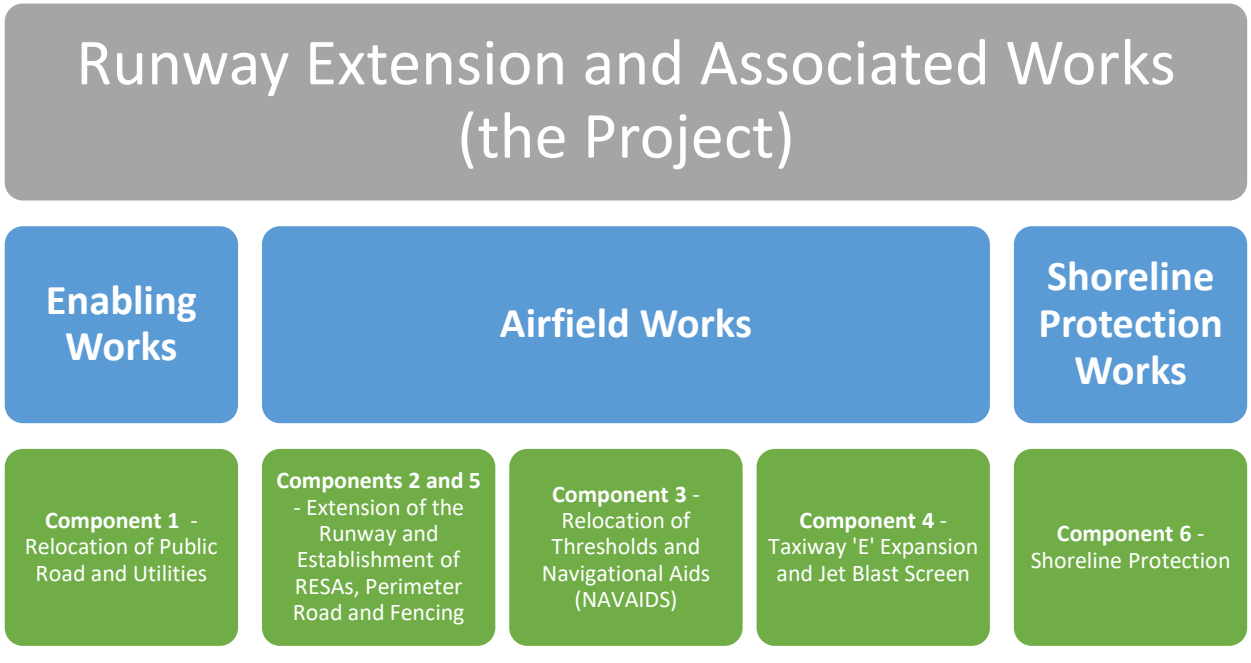

Figure 4: Schematic showing the Project elements and components for the Runway Extension and Associated Works project (the Project) at SIA

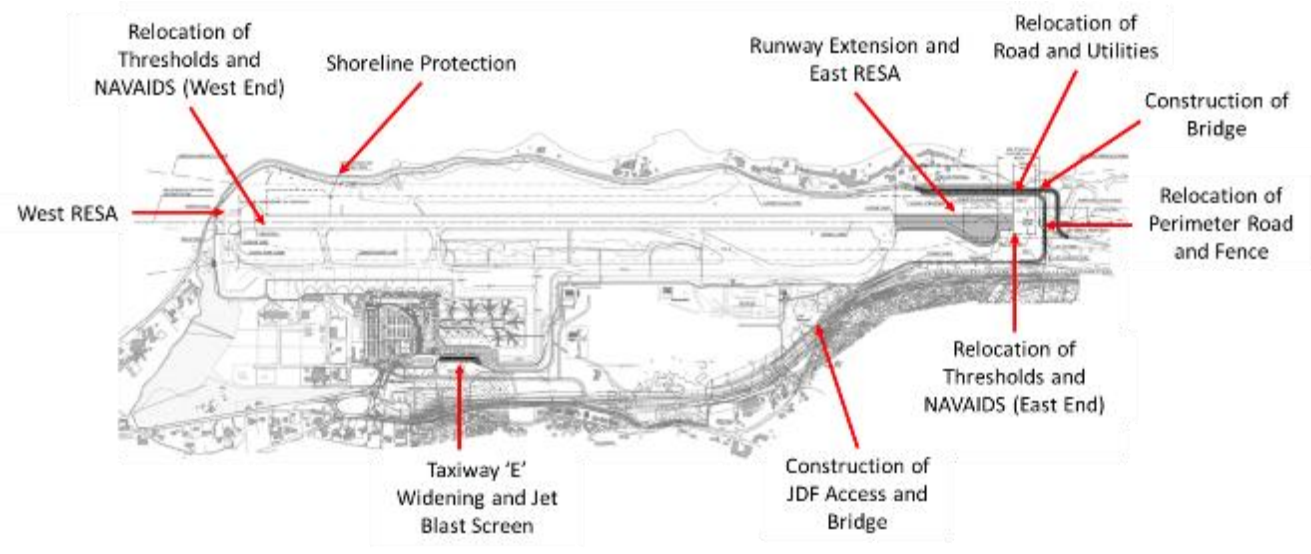

Figure 5: The proposed Runway Extension and Associated Works Project at SIA

3.1 Permit Application Status

A summary of the permit application status for the Project is present in Table 1.

Prior to the submission of this project brief, EP applications, and supporting documents, were submitted for three (3) permits pertaining to the Project's Enabling Works.

A fourth EP application is pending submission for the permit *'expansion of airfield and runways'* relevant to the Airfield Works.

In addition to the EPs mentioned above, a Beach License (BL) application for '*modification of/encroachments on the foreshore and floor of the sea.'* was previously submitted by the AAJ on August 20, 2018 and has been approved by NEPA for the Shoreline Protection works that are being undertaken as part of the Project.

Table 1: Summary of the status of environmental permit (EP) and beach licence (BL) application made in support of the Project

Type	Title	Project Element	Project Component Reference	Status
EP	**Major Road Improvement Project including realignment and drainage**	Enabling Works	Section 3.3	Submitted by ESL on January 14, 2019. Under review by NEPA. **[NEPA Reference no.: 2019-08017-EP00016]**
EP	**Bridge Construction**	Enabling Works	Section 3.3.1	Submitted by ESL on January 14, 2019. Under review by NEPA. **[NEPA Reference no.: 2019-08017-EP00017]**
EP	**Modification, Clearance or Reclamation of Wetlands**	Enabling Works + Airfield Works	Sections 3.3 and 3.4	Submitted by ESL on January 14, 2019. Under review by NEPA. **[NEPA Reference no.: 2019-08017-EP00007]**
EP	**Expansion of Airfield/Runway**	Airfield Works	Sections 3.4, 3.5 and 3.6	Application pending
BL	**Modifications/Encroachments on Foreshore and Floor of Sea**	Associated Works	Section 3.7	Approved by NEPA.

3.2 Project Scope

The scope of work for the Project comprises:

1. Pre-construction vegetation clearing;
2. Extension of Runway 7-25 pavement by 408 meters to the east;
3. Construction of a new runway turn pad for Runway 25;
4. Grading and drainage improvements to the extended runway RESA and strip, including areas within the secure perimeter at the approach end of Runway 25, in compliance with ICAO standards;
5. Relocation of existing Kent Avenue and Route A1, within the future airport perimeter fence, including existing: pavement, bridge structures, curbs, utilities, drainage pipes, fencing, and roadway signs;
6. Demolition of the former Texaco service station near the east end of the extended runway;
7. Demolition of the existing Sandal's boat yard, including buildings, pavement, structures, and utilities;
8. Construction of new perimeter road;
9. Construction of new perimeter fencing;
10. Relocation of navigational aids (NAVAIDS) and thresholds;
11. Construction of a new Omni Directional Approach Light System (ODALS) for Runway 25, including paved service roadway and security fencing; and
12. Realignment and widening of approximately 200 meters of Taxiway Echo and installation of a Jet Blast Screen.
13. Shoreline rehabilitation at north-western end of SIA including construction of 3.5m revetments along Kent Avenue

It should be noted that Component 2 (Extension of Runway and Establishment of RESAs) incorporates the works to be undertaken in Component 5 (Perimeter Road and Fencing), which is the construction of a new airfield perimeter road and fence to accommodate the extension of the runway. Details on the proposed works and construction methodologies for all components are outlined in Sections 3.3 to 3.7 below.

3.3 Component 1 – Relocation of Public Roads and Utilities

To enable the runway extension, Kent Avenue and the surrounding local utilities will be realigned to establish adequate distances between the extended runway and the north airside perimeter (Figure 6, Figure 7, and Figure 8). In order to realign Kent Avenue, the following works will be conducted:

- Acquisition and transfer of lands required for the Project (discussed in Section 7)
- Construction of new alignment of Kent Avenue by the National Works Agency, including:
    - Clearance of the land, including removal of existing site vegetation within the proposed road allowance to accommodate newly aligned road;
    - Excavation for the laying of sub-grade and base and drainage features.
    - Placement of asphaltic concrete on the compacted, base material
- Construction of two (2) bridges:
    - Bridge 1 – Across a large north south drain on the realigned Kent Avenue
    - Bridge 2 – From the North Coast Highway (A1) across a large east-west drain to access the JDF station site and the IAM Jet Centre.
        - Installation of traffic signals.

Figure 6: Aerial photograph displaying the current alignment of Kent Avenue.

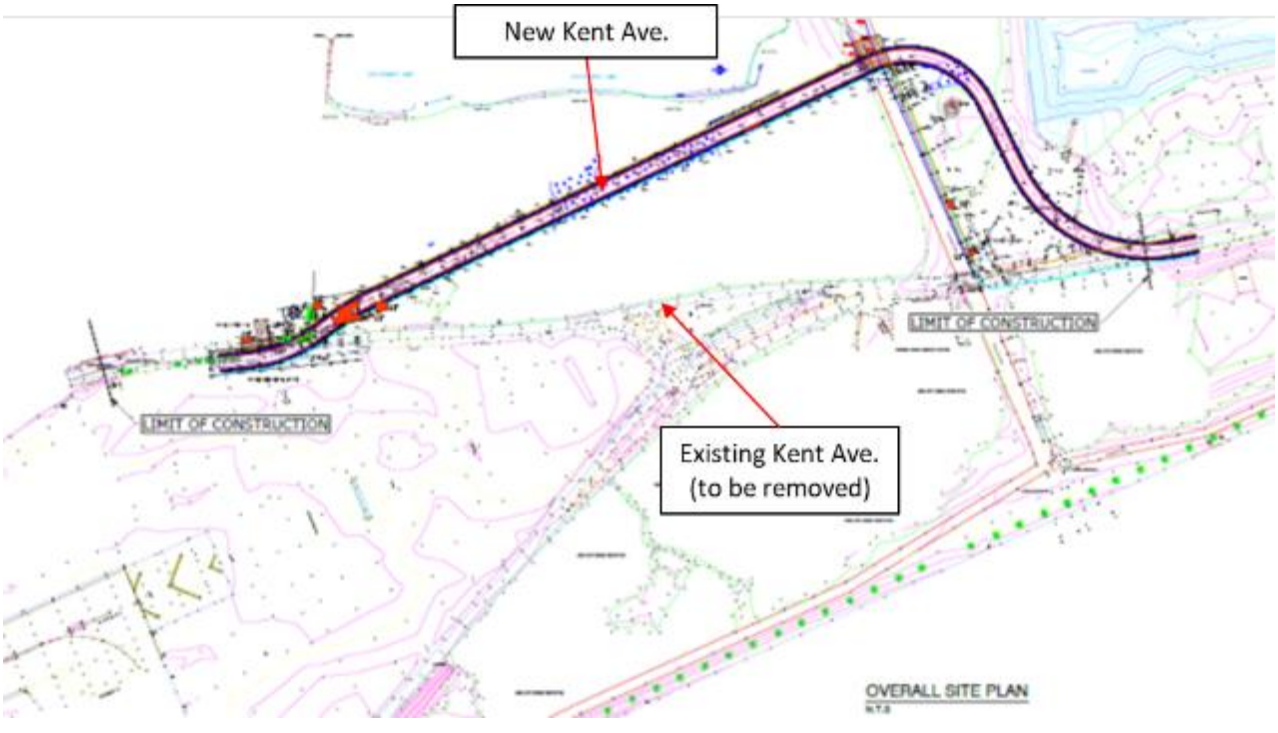

Figure 7: Overall site plan for Kent Avenue showing new and existing road alignment

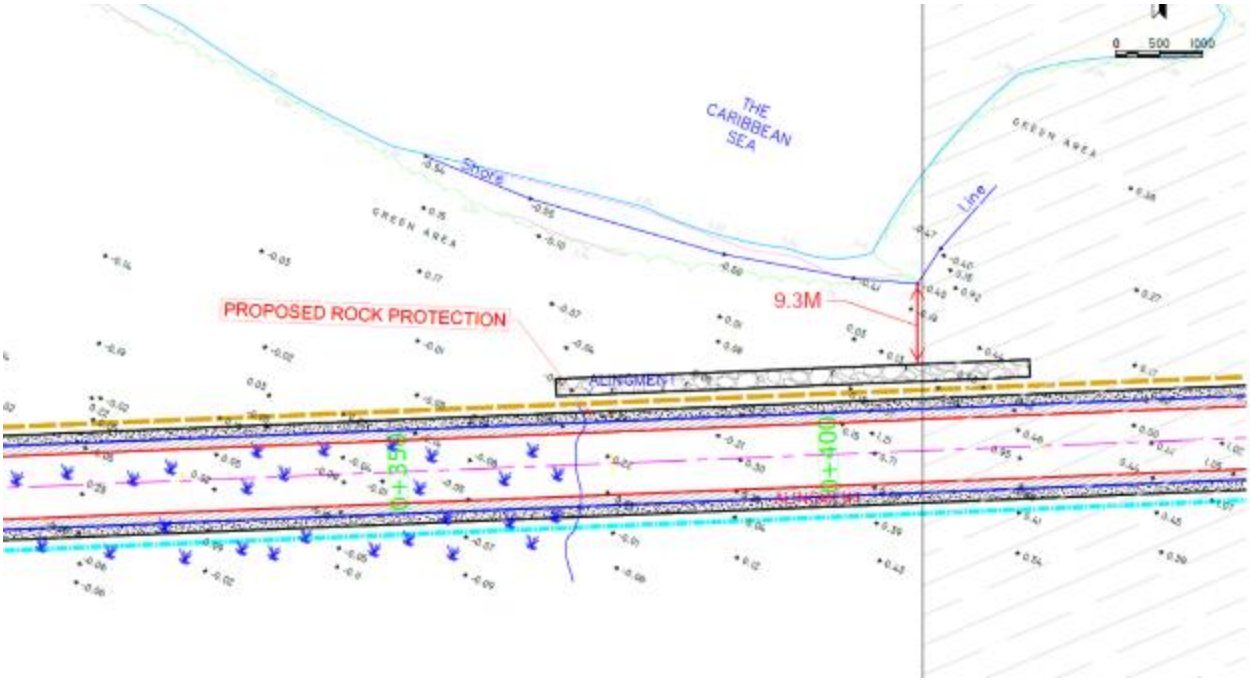

Figure 8: The proximity of the proposed realignment of Kent Avenue to the shoreline

3.3.1 Construction of Bridges

The two bridges to be constructed to support the realignment of Kent Avenue and the surrounding local utilities will be located north-east (Bridge 1) and south-west (Bridge 2) of the proposed runway extension at SIA, as seen on Figure 9 below. Bridge 1 will facilitate the new Kent Avenue passage over the large north-south drain. Bridge 2 will provide a new access into the JDF base and IAM Jet Centre from the existing Flankers intersection, crossing over a large east-west drain. The current access to the JDF Base and IAM Jet Centre will be decommissioned as part of the Project to accommodate the runway extension.

Figure 9: Project area and location of the proposed bridge across the large north-south drain on the realigned Kent Avenue (Bridge 1) and the proposed bridge from the North Coast Highway (A1) across the large east-west drain to access the JDF base and IAM Jet Centre (Bridge 2).

Details of the two proposed bridges to be constructed to support the realignment of Kent Avenue are provided below in Table 2.

Table 2: Bridges to be constructed under the Runway Extension and Associated Works Project at SIA.

Bridge Location	Details
Bridge (Box Culvert) 1 – Across the north-south drain on the realigned Kent Avenue	Reinforced concrete triple box culvert.
Bridge (Box Culvert) 2 – The North Coast Highway (A1) across east-west drain to access the JDF base and the IAM Jet Centre.	Reinforced concrete triple box culvert

The scope of works for the construction of the two proposed box culvert bridges includes the following:

a) Site clearance
b) Construction of reinforced concrete triple box culvert
c) Steel Fabrication
d) Concrete Works
e) Traffic management along worksite
f) Bridge approach works- Asphaltic concrete will be placed on the compacted, base material.

3.4 Components 2 and 5 – Extension of Runway and Establishment of RESAs, Perimeter Road and Fencing

Under Component 2, the Runway 25 (East End) pavement will be extended by 408 meters to the east (Figure 10, Figure 11). The width of the runway will remain unchanged (46m), however, there will be 7 m shoulders on each side, reaching a total width of 60 m. The Runway 25 extension works will include the construction of a new runway turn pad, as well as grading and drainage improvements to the extended runway. In addition to the extension of the runway, a 60 m blast pad and 90x92 m Runway End Safety Area (RESA) will be constructed at the Runway 25 end. Relocation of the Runway 07 (West End) threshold 60 m to the east (Component 3, see Section 3.5) will accommodate the development of a 90 m x 92 m RESA at the western end, making Runway 7-25 compliant with the ICAO standards (Annex 14).

For Component 5, the current Airport perimeter road and fence that runs along the airport perimeter will need to be relocated (Figure 10) to facilitate the completion of the Airfield Works. Furthermore, a decommissioned Texaco station, currently owned by AAJ and used as a car rental facility, will need to be demolished to accommodate the Runway 25 extension; a closure plan has already been completed and approved by NEPA on September 14, 2011.

Figure 10: Proposed runway extension, establishment of RESA, and relocation of thresholds and NAVAIDS at Runway 25 end (eastern end of runway, Component 2, Component 3), along with the new perimeter road and fencing (Component 5)

Figure 11: Proposed location for the RESA and relocation of thresholds and NAVAIDS at Runway 07 end (western end of runway)

3.5 Component 3 – Relocation of Thresholds and Navigational Aids (NAVAIDS)

The thresholds on Runway 7-25 must be relocated to the east to accommodate the Runway Extension and Establishment of RESAs (Component 2; Figure 10, Figure 11). In addition, improvements to the runway will incorporate the following:

- The installation of new airfield lights, signs and markings, including runway lights using Omni-directional approach lights (ODALS), and
- The relocation/installation of air navigational equipment

The current approach lights at the western end of runway 7-25 are located in the Montego Bay Marine Park, a designated Special Fishery Conservation Area (SFCA) under the Fishery Act (1976). While these lights will require modifications, is not anticipated that in-water work will be required based on the proposed designs.

3.6 Component 4 – Taxiway 'E' Expansion and Jet Blast Screen

To improve the efficiency and safety of airport operations, the Project proposes to expand the southern section of Taxiway 'E' (also referred to as Taxiway Echo) (Figure 12). The expansion will incorporate approximately 10, 500 m^2 of newly paved area and will require the airfield perimeter road and bus road to be relocated south of their existing locations. A jet blast deflector will also be constructed along the perimeter fence of the expansion to protect surrounding elements from jet blast.

Figure 12: Proposed expansion of Taxiway Echo, as well as new bus road, perimeter road and fence

3.7 Component 6 – Shoreline Protection

Component 6 involves plans to rehabilitate the shoreline protection infrastructure located at the western end of Kent Avenue, which has become derelict in recent years (Figure 13, Figure 14). As previously stated, (Section 3.1), a beach licence (BL) application for '*modification of/encroachments on the foreshore and floor of the sea'* was previously submitted by AAJ on August 20, 2018 and has been approved by NEPA.

Figure 13: Condition of shoreline protection at the western end of Kent Ave.

Figure 14: Location of proposed shoreline protection works (Component 6)

4 Project Timelines and Phasing

The estimated completion date for the Project is January 2021, with construction of Airfield Works projected to begin in September 2019. Details on the timelines, phasing and site clearance requirements for Components 1 to 5 can be found in Table 3. The proposed construction methodology for each is discussed in Section 5.

Table 3: Project timelines in chronological order, site clearance requirements and phasing for the Project

Project Component	Project Element	Construction Start	Construction End	Site clearance	Phasing
Component 6 – Shoreline Protection	Shoreline Protection Works	May 2019	October 2019	Scheduled to begin in May 2019 and will be completed within 30 calendar days.	Component to be constructed in a single phase, with the provision that continuous access to residences and businesses will be maintained
Component 1 – Relocation of Public Roads and Utilities (incl. Bridge Construction)	Enabling Works	June 2019	January 2020	Scheduled to begin in June 2019 and will be completed within 30 calendar days.	Component to be constructed in a single phase, with the provision that continuous access to residences and businesses will be maintained
Component 4 –Taxiway Echo Expansion and Jet Blast Screen	Airfield Works	September 2019	May 2020	Scheduled to begin in September 2019 and will be completed within 30 calendar days	Component to be executed in **two phases:** Phase I → will include areas that can be constructed without impacting aircraft operations at Gates 10, 12, and 14. Phase 2 → will be constructed with restricted aircraft operations. The duration of Phase 2 will be limited and may include the requirement for off-peak (night time) work hours.
Components 2 and 5 - Extension of Runway and Establishment of RESAs, Perimeter Road and Fencing	Airfield Works	December 2019	December 2020	Scheduled to begin in December 2019 and will be completed within 60 – 90 calendar days.	Component to be constructed in a single phase.
Component 3 - Relocation of Thresholds and NAVAIDS	Airfield Works	November 2019	January 2021	No site clearing will be required for the NAVAIDs construction. The runway extension Project will accomplish all clearing activities prior to reinstallation of the equipment.	Component to be executed in **two phases:** Phase I → Demolition (to be done early) Phase II → Reinstallation after substantial completion on the runway extension Project. It is anticipated that there will be a substantial period of inactivity between Phase I and Phase II on the NAVAIDs relocation to allow for runway construction activities to proceed without interference or risk of damage to the equipment.

5 Proposed Construction Methodology

The following construction methodology has been proposed for the Project. For each Component, a construction laydown site will be provided to the contractor. The exact arrangement will be determined by the contractor, but it will be required to meet certain specifications, including, but not limited to: construction office, vehicle parking, sanitary facilities, materials storage, and fuel storage. Any fuel stored on site will have secondary containment. The site will be returned to a pre-described, post construction condition. Deposition of construction waste will be at an approved disposal site. A more detailed methodology will be prepared once the contractors have been approved and selected.

5.1 Component 1 – Relocation of Public Roads and Utilities

The road will be constructed utilizing conventional techniques applying an aggregate subbase, bituminous base and wearing course. Portland cement concrete will be used for curbs and drainage structures. The construction equipment to be used for the demolition of any existing structures will include:

- Bull Dozers
- Excavators
- Loaders
- Dump trucks
- Pneumatic jackhammers
- Hydraulic breakers
- Concrete saws

The equipment that will be used for the construction of the new road include:

- Motor graders
- Dump trucks
- Rollers
- Asphalt paving machine
- Backhoe
- Dozer
- Concrete transit mixers
- Light trucks
- Pumps
- Generators

5.2 Components 2 and 5 - Extension of the Runway and Establishment of RESAs, Perimeter Road and Fencing

The methodology for the extension of the runway and establishment of RESAs will, in sequence, consist of the following activities:

- Construct drainage pipes under area for new perimeter road;
- Construct new perimeter road;
- Demolish existing structures in the area;

- Demolish original Kent Avenue;
- Earthworks and leveling;
- New drainage in strip area and RESA;
- Construct new pavement for runway expansion; and
- New airfield ground lighting while maintaining the current configuration.

The materials to be used include:

- Granular fill;
- Road base;
- Asphalt;
- Misc. minor structures;
- Lighting & electrical;
- Fencing; and
- Landscaping materials (i.e. sod, grass, etc.).

The equipment that will be used on site for the demolition of any existing structures will include:

- Dozers;
- Excavators;
- Loaders;
- Dump trucks;
- Pneumatic jackhammers;
- Hydraulic breakers; and
- Concrete saws.

The equipment that will be used for the construction of the extended runway include:

- Motor graders;
- Dump trucks;
- Rollers;
- Asphalt paving machine;
- Backhoe;
- Dozer;
- Concrete transit mixers;
- Light trucks;
- Pumps; and
- Generators.

5.3 Component 3 – Relocation of Thresholds and Navigational Aids (NAVAIDS)

NAVAIDs will be relocated utilizing conventional means. Construction activities will include:

- Removal and salvage of the existing NAVAIDs components
- Demolition of the existing NAVAIDs foundations and footings
- Installation of underground power, communications, and control duct banks and cables
- Construction of new foundations and footings

- Erection of new frangible equipment shelters
- Placement of the glidepath antenna mast
- Placement of the localizer antenna
- Electronic calibration and flight inspection

Construction equipment for the relocation of NAVAIDS will include:

- Dozers
- Excavators
- Loaders
- Dump trucks
- Crane
- Pneumatic jackhammers
- Hydraulic breakers
- Concrete saws

Equipment to be used for the relocation of the NAVAIDs will include:

- Dump trucks
- Backhoe
- Concrete transit mixers
- Auger drilling rig
- Crane
- Hand tools
- Light trucks
- Generators

5.4 Component 4 - Taxiway 'E' Expansion and Jet Blast Screen

The expansion of Taxiway 'E' will be constructed utilizing conventional techniques. Full-strength pavement will be constructed from Portland cement concrete (PCC). The pavement will be jointed and utilize smooth steel dowels for load transfer purposes. At the contractor's option, a slip-form paver may be used to place the PCC pavement. If a slip form is used, an on-site central mix plant will be required. If the contractor elects not to slip form the PCC pavement, the concrete may be delivered to the site by transit mixer from a remotely located batch plant. A cement-treater or asphalt base course will underlie the PCC surface course. Depending upon subgrade conditions, lime, cement, or mechanical stabilization of the existing soils may be required.

Non-structural pavements (shoulders) will be constructed from a plant mixed asphalt surface course on a granular base material. It is anticipated that hot mixed asphalt surface course will be delivered to the site by dump trucks for a remotely located asphalt plant. The asphalt will be placed by an asphalt paving machine and compacted with a combination of steel wheel and pneumatic rollers. Stabilization previously described may be required to address subsurface soil conditions.

Two roadway segments will be relocated along with the taxiway. One of the road segments is a secure access road intended for on-airport vehicles. The second access road provides bus access to the arrival lounge area. Both roads will be constructed utilizing the materials described above.

Construction equipment to be used in the relocation of Taxiway Echo will include:

- Dozers
- Excavators
- Loaders
- Dump trucks
- Pneumatic jackhammers
- Hydraulic breakers
- Concrete saws

Equipment to be used for the construction of the relocated taxiway include:

- Motor graders
- Dump trucks
- Rollers (sheep foot, steel wheel, pneumatic)
- Asphalt paving machine
- Concrete slip-form paver or self-propelled triple-tube screed
- Concrete central-mix plant
- Pneumatic drills
- Backhoe
- Dozer
- Concrete transit mixers
- Light plants
- Light trucks
- Pumps
- Generators

5.5 Component 6 – Shoreline Protection

The shoreline protection will consist of the construction of a 3.5m high boulder revetment. Details on the construction methodology for this component are provided in the Engineering Design Report submitted by the AAJ as part of the Beach License (BL) application for '*modification of/encroachments on the foreshore and floor of the sea.'* on August 20, 2018.

6 Site Access

The access to SIA will not change as a result of construction. The current access to the JDF Base and IAM Jet Centre will be decommissioned and new access will be provided as part of the Project.

7 Property Acquisitions

To allow for the realignment of Kent Avenue and local utilities (Component 1 – Relocation of Public Road and Utilities), Sandals Boat Yard, located east of the current runway, (Figure 15) is to be acquired by the Airports Authority of Jamaica (AAJ). The AAJ has undertaken the initial negotiations for the land with the Owner of the lands, Sandals Resorts International, and have now engaged the National Land Agency to finalize the acquisition agreement. The Sandals Boat Yard will be relocated, and the condition of the

current site will be assessed and fully decommissioned as necessary, to the satisfaction of NEPA, as part of the Project Works.

In addition to the Sandals Boat Yard, a portion of lands owned by the NLA and currently occupied under a long-term lease by the Bay Roc Group will need to be released for use by the realigned Kent Avenue (Figure 16). The AAJ has engaged the NLA to finalize the lease amendment negotiations to make the required lands available for the Project.

The AAJ is in possession of the lands required for all Airfield Works within Sangster International Airport, and therefore will not require the acquisition of additional lands from the surrounding area for these aspects of the Project.

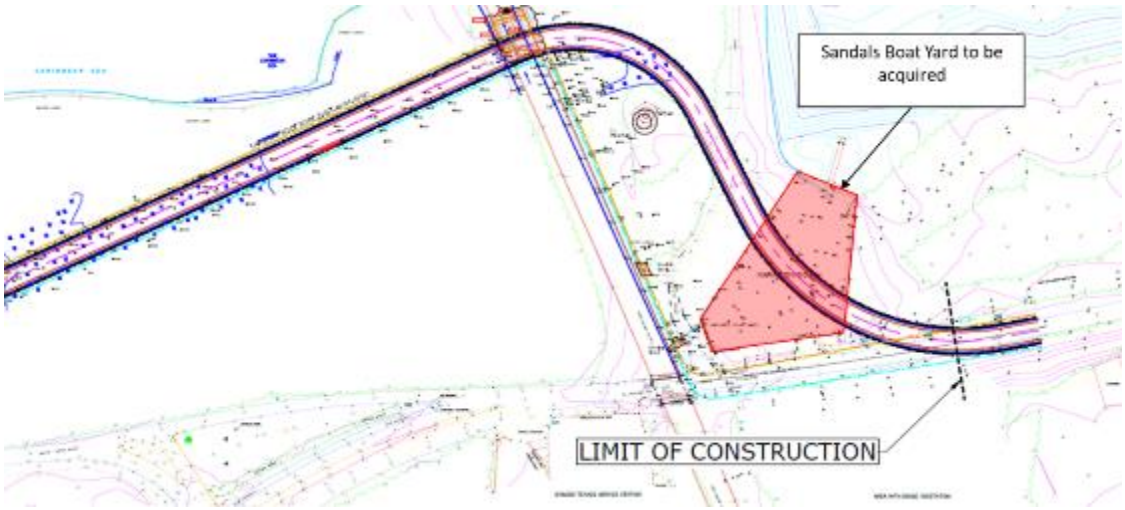

Figure 15: Approximate location of the Sandals Boat Yard (highlighted in red) to be acquired to facilitate Component 1 – Relocation of Public Road and Utilities

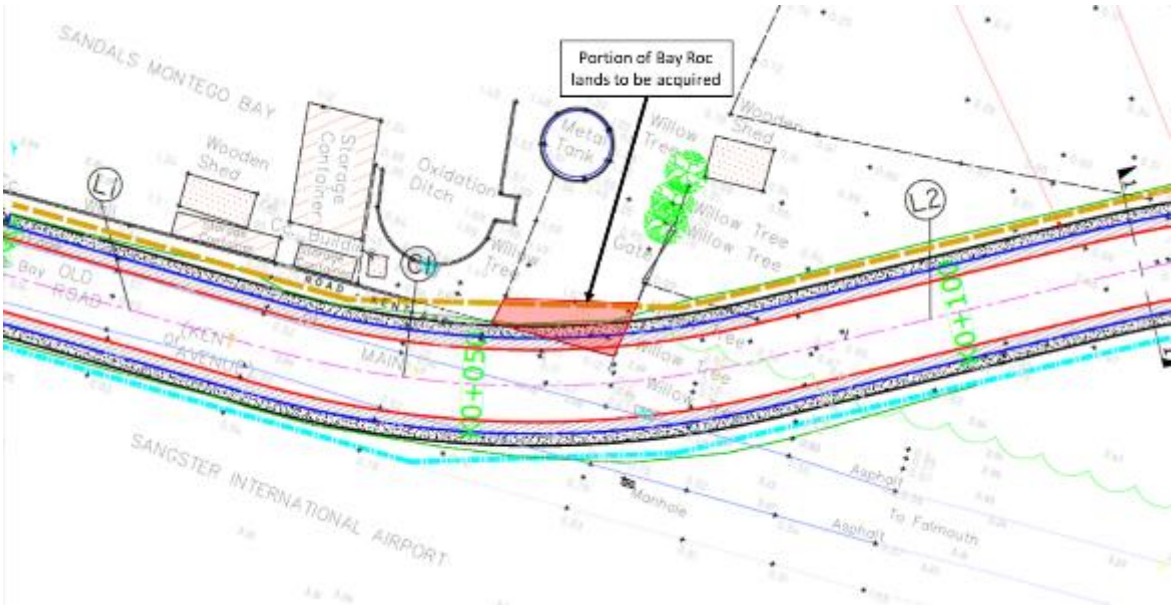

Figure 16: Approximate location of the portion of the Bay Roc lands to be acquired to facilitate Component 1 – Relocation of Public Road and Utilities

8 Vegetation Clearance

As outlined in Section 2, much of the vegetation within the Project Site has been cleared/disturbed during the construction of the airport and associated infrastructure. A Wetland Assessment was completed in November 2018 in support of the EP applications submitted to NEPA on January 14, 2019 (Table 1). The assessment identified wetlands in good, fair and poor condition[1] totalling approximately 12.5 acres (Figure 17) to be impacted by construction. The Project works will involve the removal of close to 8 acres of these identified wetlands.

Figure 17: Condition of wetland areas to be impacted by the Project works (classification: red lines → good; blue lines → fair; green lines → poor).

Of the four (4) wetland areas categorized as being in good condition, 5.23 acres will be removed (wholly or in part) during the construction associated with Components 1 (Relocation of Public Road and Utilities), 2 and 5 (Runway Extension and Establishment of RESAs, Perimeter Road and Fencing) (Figure 17, Figure 18).

[1] **Good** – Functional wetlands (showing high density of mangrove/wetland flora, water retention, filtration and providing habitat, biodiversity evident, low human impact); **Fair** – Disturbed mangrove forest (showing low density of mangrove/wetland flora, minimal standing water or evidence of standing water, low biodiversity, moderate human impact observed); **Poor** – Degraded coastal forests (no mangrove/wetland flora, raised/reclaimed land, no standing water, biodiversity absent, high human impact evidence observed)

Table 4: Size of wetlands in good condition to be cleared for Project works (Source: Wetland Assessment Report, 2018)

	Wetland Size (Acres)	Approximate area to be cleared (Acres)
Wetland 1	0.64	0.64
Wetland 2	4.57	4.03
Wetland 3	1.22	0.40
Wetland 4	1.60	0.05
Total	**8.03**	**5.23**

Figure 18: Wetland areas in good condition to be impacted by the Project Works. Hatched areas represent approximate area of each wetland to be cleared for the Project Works.

For works related to Component 4 – Taxiway 'E' Expansion and Jet Blast Screen, approximately 3.6 acres of secondary forest located south of Taxiway Echo will be cleared for the proposed expansion (see Sections 3.6 and 5.4for area and proposed work reference).